



















Z  
7991  
Z87  
NHREF

THE  
**ZOOLOGICAL RECORD**

VOLUME THE FORTY-SECOND

BEING

RECORDS OF ZOOLOGICAL LITERATURE

RELATING CHIEFLY TO THE YEAR

1905.

By D. SHARP, R. LYDEKKER, R. BOWDLER SHARPE, IGERNA B. J. SOLLAS,  
W. T. CALMAN, E. R. SYKES, E. A. SMITH, HELEN M. KEMP, F. SILVESTRI,  
A. R. HIRST, MARGARET GRANT, CORA B. SANDERS, E. A. MINCHIN, AND  
H. M. WOODCOCK.

EDITED (FOR THE ZOOLOGICAL SOCIETY OF LONDON) BY

DAVID SHARP, M.A., F.R.S., F.Z.S., &c.

*Curator in Zoology, University Museum of Zoology, Cambridge.*

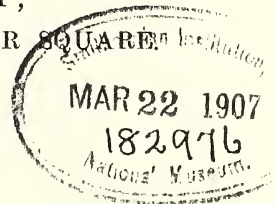
Explorate solum: sic fit via certior ultrà.

LONDON:

PRINTED FOR THE SOCIETY;

SOLD AT THEIR HOUSE IN HANOVER SQUARE

M.DCCCXVI.





# XIII. INSECTA.

By D. SHARP.

## CONTENTS.

	Page		Page
INTRODUCTION . . . . .	3	BIOLOGY— <i>continued.</i>	
I. TITLES . . . . .	5	2. Insular, incl. N. Zealand	100
II. BIOLOGY: SUBJECT-INDEX.		3. Palæarctic region (a.	
Anatomy and Physiology . . . . .	86	collective) . . . . .	101
Ethology . . . . .	89	b. Europe (collective)	102
Development . . . . .	92	c. British Islands . . . . .	102
General Subjects:—		d. North Europe,	
Variation & Teratology . . . . .	92	Siberia . . . . .	106
Hybrids . . . . .	93	e. Centr. & East.	
Colour . . . . .	93	Europe . . . . .	107
Protection . . . . .	94	f. France . . . . .	109
Resemblance . . . . .	94	g. South. Europe and	
Phylogeny, Evolution,		Mediterranean . . . . .	110
Heredity . . . . .	94	h. Caucasus & West	
Galls . . . . .	95	& Central Asia . . . . .	112
Insects & Flowers & Plants	95	4. Africa . . . . .	113
Collections, Preservation,		5. Madagascar, etc. . . . .	115
Museums, Nomenclature	95	6. Tropical & East. Asia . . . . .	116
Bibliography . . . . .	96	7. Asiatic Archipelago . . . . .	118
Biography . . . . .	96	8. Australia & Tasmania	120
Obituary Notices . . . . .	96	9. North America . . . . .	121
Economic Entomology . . . . .	97	10. Central America . . . . .	124
Faunistic:—		11. Antilles . . . . .	125
General . . . . .	100	12. South America . . . . .	126
1. Arctic & Antarctic . . . . .	100	Palæo-entomology . . . . .	128

## III. SYSTEMATIC INDEX. . . . . 130

### (a) COLEOPTERA (incl. STREPSIPTERA).

	Page		Page		Page
General . . . . .	130	Mycetophagidæ . . . . .	147	Tenebrionidæ . . . . .	164
Cicindelidæ . . . . .	131	Thorictidæ (vacant)		Cistelidæ . . . . .	168
Carabidæ . . . . .	132	Dermestidæ . . . . .	147	Melandryidæ . . . . .	168
Haliplidæ . . . . .	135	Byrrhidæ . . . . .	147	Lagriidæ . . . . .	168
Dytiscidæ . . . . .	135	Parnidæ, Georys-		Anthicidæ, Xylo-	
Gyrinidæ (vacant)		sidæ and Hetero-		philidæ . . . . .	168
Hydrophilidæ . . . . .	136	ceridæ . . . . .	147	Rhipiphoridæ . . . . .	169
Staphylinidæ . . . . .	136	Lucanidæ . . . . .	147	Stylopidæ . . . . .	169
Pselaphidæ, Paus-		Passalidæ . . . . .	148	Mordellidæ . . . . .	170
sidæ, Platypsyl-		Scarabæidæ . . . . .	150	Cantharidæ . . . . .	170
lidæ, Scydmae-		Buprestidæ . . . . .	155	Pyrochroidæ (vacant)	
nidæ . . . . .	143	Throscidæ and		[Ægialitidæ]Pythi-	
Silphidæ . . . . .	144	Eucnemidæ . . . . .	157	dæ, (Ædemeridæ	170
[Trichopterygidæ]		Elateridæ . . . . .	157	Curculionidæ . . . . .	170
Scaphidiidæ . . . . .	144	Cebrionidæ . . . . .	160	Scolytidæ . . . . .	178
Histeridæ . . . . .	145	Rhipiceridæ and		Brenthidæ (vacant)	
Phalacridæ (vacant)		Dascillidæ (vacant)		Anthribidæ . . . . .	179
Nitidulidæ . . . . .	145	Malacodermidæ . . . . .	160	Cerambycidæ . . . . .	180
Monotomidæ (vacant)		Cleridæ . . . . .	162	Bruchidæ . . . . .	183
Trogositidæ . . . . .	146	Cupesidæ (vacant)		Chrysomelidæ . . . . .	183
Colydiidæ . . . . .	146	Ptinidæ . . . . .	163	Erotylidæ . . . . .	187
Rhysodidæ (vacant)		Lymexylonidæ,		Endomychidæ . . . . .	187
Cucujidæ . . . . .	146	Bostrychidæ &		Coccinellidæ . . . . .	187
Cryptophagidæ . . . . .	146	Cioidæ . . . . .	164		
Lathridiidæ . . . . .	146				

## (b) HYMENOPTERA.

	Page		Page		Page
General . . . . .	189	Hymenoptera		Chalcididae . . . . .	219
Aculeata—		parasitica . . . . .	206	Proctotrypidæ . . . . .	221
Apidae . . . . .	189	Ichneumonidæ . . . . .	207	Cynipidæ . . . . .	225
Masaridæ, Ves-		Braconidæ . . . . .	214	Sessiliventres—	
pidæ, etc. . . . .	196	Evaniidæ . . . . .	218	Cephidæ, Siri-	
Fossoria . . . . .	198	Stephanidæ, Mo-		cidæ, Ory-	
Formicidæ . . . . .	202	galyridæ . . . . .	218	sidæ . . . . .	226
Chrysidæ . . . . .	206	Trigonalidæ . . . . .	219	Tenthredinidæ . . . . .	226

## (c) LEPIDOPTERA.

	Page		Page		Page
General . . . . .	228	Rhopalocera—		Heterocera—	
Rhopalocera—		Satyridæ . . . . .	234	Noctuidæ . . . . .	255
General . . . . .	228	Erycinidæ, etc. . . . .	235	Geometridæ,	
Papilionidæ . . . . .	229	Lycanidæ . . . . .	236	Epiplemidæ,	
Pieridæ . . . . .	229	Hesperiidæ . . . . .	237	Uraniidæ . . . . .	263
Danaidæ and		Heterocera—		Pyrilidæ, Thy-	
Ithomiidæ . . . . .	230	Castniidæ . . . . .	239	rididæ . . . . .	273
Acræidæ, Heli-		Sphingidæ . . . . .	239	Pterophoridæ . . . . .	278
coniidæ . . . . .	231	Sesiidæ . . . . .	239	Tortricidæ . . . . .	278
Nymphalidæ . . . . .	232	Bombyces, etc. . . . .	240	Tineidæ . . . . .	279
Morphidæ, etc. . . . .	233				

## (d) DIPTERA.

	Page		Page		Page
General . . . . .	285	Stratiomyidæ,		Pipunculidæ . . . . .	296
Cecidomyiidæ . . . . .	285	Scenopinidæ . . . . .	293	Syrphidæ . . . . .	296
Mycetophilidæ . . . . .	286	Tabanidæ . . . . .	293	Conopidæ . . . . .	296
Chironomidæ . . . . .	287	Leptidæ and The-		Phoridæ . . . . .	297
Culicidæ . . . . .	288	revidæ . . . . .	294	Æstridæ . . . . .	297
Psychodidæ . . . . .	292	Asilidæ, Mydaidæ . . . . .	294	Muscidæ calyp-	
Simuliidæ, Bibio-		Bombyliidæ, Acro-		trata . . . . .	297
nidæ . . . . .	293	cæridæ . . . . .	295	Muscidæ acalyp-	
Dixidæ, Blepharo-		Empidæ . . . . .	295	trata . . . . .	298
ceridæ (vacant)		Dolichopidæ . . . . .	296	Pupipara . . . . .	300
Tipulidæ, Rhyphi-		Platypozidæ (vacant)		Aphaniptera . . . . .	300
dæ . . . . .	293				

## (e)

## HEMIPTERA OR RHYNCHOTA.

	Page		Page		Page
General . . . . .	302	Hem.-Heteroptera—		Hem.-Homoptera—	
Hemiptera-Hetero-		Hydrometridæ . . . . .	307	Fulgoridæ . . . . .	315
ptera—		Hebridæ (vacant)		Membracidæ . . . . .	317
Pentatomidæ . . . . .	302	Reduviidæ etc. . . . .	308	Cercopidæ . . . . .	317
Coreidæ . . . . .	304	Anthocoridæ, etc. . . . .	309	Jassidæ . . . . .	318
Lygæidæ . . . . .	305	Polyctenidæ (vacant)		Psyllidæ . . . . .	319
Pyrrhocoridæ . . . . .	306	Capsidæ . . . . .	309	Aphidæ . . . . .	320
Tingidæ . . . . .	306	Saldidæ (vacant)		Aleoroididæ . . . . .	321
Berytidæ, Ara-		Hydrocorisæ . . . . .	310	Coccidæ . . . . .	321
didæ . . . . .	307	Hem.-Homoptera—		Anoplura . . . . .	323
Phymatidæ (vacant)		Cicadidæ . . . . .	311		

## (f) NEUROPTERA s. l. (incl. THYSANOPTERA).

	Page		Page		Page
Trichoptera . . . . .	324	Termitidæ . . . . .	329	Ephemeridæ . . . . .	331
Planipennia . . . . .	328	Embiidæ . . . . .	330	Odonata . . . . .	331
Psocidæ . . . . .	328	Perlidæ . . . . .	330	Thysanoptera . . . . .	332
Mallophaga . . . . .	329				

## (g) APTEA.

Thysanura . . . . .	333	Collimbola . . . . .	334
---------------------	-----	----------------------	-----

## (h) ORTHOPTERA.

Forficulidæ . . . . .	335	Mantidæ . . . . .	337	Locustidæ . . . . .	338
Blattidæ, Hemi-		Phasmidæ . . . . .	337	Acridiidæ . . . . .	339
meridæ . . . . .	336	Gryllidæ . . . . .	337		

## INTRODUCTION.

THE number of titles this year is 1669, contrasting with 1549 last year.

KELLOGG's Introduction to North American entomology (834) is the only work of very wide scope we have to notice this year. BLANCHARD's work (124) on mosquitoes is intended specially for those who are not general entomologists, and will be found very useful by medical officers and others who have to do with *Culicidæ*.

In the monograph of *Heliconidæ* by STICHEL & RIFFARTH (1452) a most complicated nomenclature is introduced; the species are arranged in Sections and Cohorts, each one of which has a name. As the name has a plural termination we may presume that it cannot be considered as a subgenus and we have therefore not specially recorded these terms, they being merely substitutes—and it would appear of a superfluous nature—for the numerals and letters ordinarily used in the arrangement of species. Besides this a trinomial or a quadrinomial nomenclature is used for each of the species.

The second part of the late Prof. PACKARD's Bombycine moths (1131) calls for special notice: though ostensibly devoted to the *Ceratocampinæ*, it includes some introductory chapters containing much matter of great general interest; the wealth of illustration gives an additional charm to the work.

The first Volume of the butterflies of the Fauna of British India has appeared and is highly spoken of; BINGHAM (119). Another Volume of the British Museum Catalogue of *Lepidoptera* has appeared; HAMPSON (715). ALDRICH's catalogue of N. American *Diptera* (14) and BECKER & BEZZI's catalogue of Palaearctic flies are very valuable. LEWIS' catalogue of *Histeridæ* (951) shows that the described species have more than doubled in number since 1868, the date of the corresponding Volume of the Munich catalogue of *Coleoptera*.

M. THÉRY's work on Madagascar Buprestidæ describes many new species, and includes a discussion on the origin of the fauna of Madagascar. ENDERLEIN's (497) revision of two divisions of *Psocidæ* is another good contribution; and JOHANNSEN gives us an important work on N. American *Chironomidæ* (820). ESCHERICH's study of *Lepismatidæ* shows the extraordinary development of knowledge that has occurred in the past 30 years. LASS's paper on the flea (918) is of more general interest than its title would lead one to expect; besides its anatomical interest it also deals with metamorphosis and habits.

VERHOEFF (1539) has given us an important paper on the morphology of the head, based on a study of the lower orders.

Voss's memoir (1555) on the thorax of *Gryllus* contains much matter of morphological importance concisely stated: it is lengthy but it touches on many points. He has a good phylogenetic table of the winged Insects: and promises a paper in which development is to be dealt with.

In anatomy HOFFMANN's study (753) of the mouth-parts of *Tomocerus*, and KULAGIN's (901) of *Culicidæ* are each valuable. The second of these memoirs is accompanied by some very thoughtful considerations as to a great polyphylism in Insects. WANDOLLECK (1565) contributes a study of the abdomen of the ♀ in *Coleoptera*; although not based on a very large number of examples, it is in other respects of considerable value. We have a summary of the structure and function of Malpighian tubes from VENEZIANI, together with new observations and elucidations (1536). SCOTT

gives (1371) a very interesting sketch of the tracheal system, including the anal structures, of a developing Libellulid dragon fly.

Of two papers on the sense organs, the one by RÖHLER (1288) deals with the subject in general, and contains much interesting matter, while that by SEILER (1375) discusses the Ocelli of *Ephemeridæ*. Both touch also on the question of function, though rather lightly. PHILLIPPS contributes a valuable paper on the compound eye (1164). POPOVICI-BAZNOȘANU (1211) has studied the structure of the dorsal vessel in *Chironomus* and a few other insects. RÁDL (1230) has an interesting discussion of the sense of hearing.

FABRE'S new volume (533) is chiefly devoted to spiders, but it includes two short chapters on *Coccidæ*. BUTTEL-REEPEN has an article on Insect-sociology (224). We owe to DOFLEIN a most interesting account of the proceedings of *Ecophylla smaragdina*, the weaver-ant (436), while HUBER'S account (791) of the mode of establishing a colony in the case of the leaf-cutting ants is quite fascinating. The origin of slavery in ants is discussed at length by WHEELER (1619) and WASMANN (1579, 1580). FERTON gives us some valuable notes on the habits of *Hymenoptera*; the case of parasitism in a *Pompilus* being of special interest (558). Some very interesting information as to the Natural History of a Singhalese species of *Termitidæ* is given by DOFLEIN (437). Dr GOELDI has published a very considerable contribution to the Natural History of Brazilian mosquitoes (672).

GROSS (699) has written on the ovaries of *Mallophaga* and *Anoplura*, and finds them to be extremely similar. He discusses the classification of these groups, and concludes that there is but little ground for placing *Anoplura* with *Hemiptera*.

BORDAGE has produced a very interesting treatise on autotomy and regeneration (135), and THIENEMANN (1491) makes an important contribution by his sketch of the biology of the pupa of *Trichoptera*, and accompanies it with a very complete bibliographic list.

SILVESTRI gives a preliminary account (1393) of an extraordinary case of germinogony, accompanied by larval dimorphism. HEYMONS (745) gives a brief sketch of the peculiar embryology of *Machilis*. Miss FIELDE (559) contributes a valuable set of observations on the progeny of virgin—chiefly worker—ants.

Miss STEVENS (1449) gives us a number of interesting observations as to the very earliest processes of ontogeny in those extraordinary creatures *Aphidæ*.

In Variation we have an important memoir from ENTEMAN on the colour and pattern of *Polistes* (518). PICTET has given the results of his experiments as to the variation produced by changing the food of Lepidopterous larvæ (1198). He experimented with 4 or 5000 individuals of 21 species of Swiss *Lepidoptera*. The part of his work relating to humidity is less conclusive.

The memoir by PETERSEN (1155) on the sexual organs, requires careful consideration from all Lepidopterists, as he is far from considering previous work exhaustive, and makes various suggestions having a very wide bearing. He also has a paper (1156) to exemplify his views as to the origin of species by physiological isolation, by the case of *Hadena adusta*; the variation of the male genitalia being illustrated by photographs.

JORDAN'S work (822) should be read in conjunction with PETERSEN'S; he discusses geographical and nongeographical variation. The two works emphasise the necessity of a thorough study of the variation of sexual organs, both writers apparently taking it for granted, that disparity in the copulatory organs prevents copulation. A hypothesis which is by no means established, though the assumption is far from new.

The most remarkable of the Economic work of the year, is the series produced as Report of the Hawaiian Sugar Planters' Association by

PERKINS (1149-1154) and others. They include a great deal of matter of interest to the Naturalist as well as to the Economist. Mr WASHBURN'S (1577) plan of devoting an annual Economic report to the insects of one Order will prove of value if completed, as it would soon provide a Manual of Economic entomology for the State, in place of the desultory repetitions that now abound in this department of Entomology. This system he says was inaugurated by his predecessor. The part published this year is a good brief guide to the study of *Diptera*.

SCHUCHERT & BUCKMAN (1353) have promulgated a system of nomenclature of types, which is unnecessarily complex, owing to their having confounded three categories, under the term type.

HANDLIRSCH has given us an interesting sketch of BRAUER'S scientific career (724).

The Recorder has nowhere met with a new entomological periodical in Bohemia called *Casopis České Společnosti entomologické*. An account of its contents for the year 1905 is given in *Zool. Zentrbl.* 1905, p. 809.

The question of "publication" is one that calls for serious consideration. Does the printing and selling of two or three copies constitute of itself publication? And if not, where is the line to be drawn between this and an authoritative list of recognised channels of communication between Zoologists? The number of doubtful publications is now so great that every Recorder would be glad to know that they are not to be encouraged, as he finds it impossible to get a sight of many such.

## I. TITLES.\*

1. ABEILLE DE PERRIN, E. DE. Description d'un *Trechus* (*Anophthalmus*) nouveau de France. *Bull. Soc. ent. France* 1905, p. 19. [*Coleoptera*.]
2. ——. Description d'un *Bythinus* nouveau de France. *T. c.* p. 42. [*Coleoptera*.]
3. ——. Descriptions de trois *Buprestides* méditerranéens nouveaux. *T. c.* pp. 207, 208. [*Coleoptera*.]
4. ——. Description d'un nouveau *Coléoptère* aveugle de France. *T. c.* p. 208.
5. ——. Notes biologiques sur *Siettitia balsetensis*. *T. c.* pp. 225-227. [*Coleoptera*.]
6. ADAMS, C. F. On the North American species of *Oscinis*. *Ent. News Philad.* xvi, pp. 108-111. [*Diptera*.]
7. ADAMSON, C. H. E. Catalogue of butterflies collected in Burmah by Lt.-Col. C. H. E. Adamson, C.I.E., up to the end of 1895 and presented by him to the Museum of the Natural History Society of Northumberland, Durham and Newcastle-upon-Tyne. *Tr. Northumb. Soc.* i, pp. 155-189. [*Lepidoptera*.]
8. ADELUNG, N. VON. *Symbola nova ad cognitionem Blattodeorum (Orthoptera) Africæ orientalis*. *Annuaire Mus. St. Petersb.* ix, pp. 417-489.
9. ——. *Symbola ad cognitionem faunæ Orthopterorum Rossicæ*. *Op. cit.* x, pp. i-v.

\* An asterisk prefixed to a quotation indicates that the recorder has not seen the Journal or Work referred to.

10. [ADELUNG, N. v.]. [Review of] Verhoeff; zur vergleichenden Morphologie und Systematik der *Embiiden*, zugleich 3. Beitrag zur Kenntnis der Thorax der Insecten. Zool. Zentrbl. 1905, pp. 580-585.
11. ADIE, J. R. & ALCOCK, A. On the occurrence of *Anopheles (Myzomyia) listoni* in Calcutta. P. R. Soc. London 1905, pp. 319-321. [*Diptera*.]
12. AIGNER-ABAFI, L. v. Über *Aporia crategi* L. Zeitschr. Insbiol. i, pp. 204-209. [*Lepidoptera*.]
13. —. Die Tagfalter Ungarns. Rov. Lapok. 1905, pp. 4-12 etc. [*Lepidoptera*.]  
Tables in Hungarian.
14. ALDRICH, J. M. A catalogue of North American *Diptern* (or two-winged flies). No. 1444. Smithson. Collect. (pt. of Vol. xlvii), 680 pp. Noticed Nature lxxii, p. 317. Reviews: by MELANDER, Ent. News Philad. xvi, pp. 241-243; by BRUES, Science xxii, p. 176; by DE MEJERE, Zool. Zentrbl. 1905, p. 755; by C. W. J., Psyche xii, pp. 77, 78.
15. —. A contribution to the study of American *Dolichopodidae*. Tr. Amer. ent. Soc. xxx, pp. 269-286. [*Diptera*.]
16. ALFKEN, J. D. Die von P. Knuth auf seiner 1898-99 unternommenen Reise nach Java, Japan und Kalifornien gesammelten *Lepidopteren* und *Hymenopteren* und die von diesen besuchten Pflanzen. Abh. Ver. Bremen xviii, pp. 132-138.
17. —. Zur Kenntnis einiger nordwestdeutscher Bienen. T. c. pp. 69-76. [*Hymenoptera*.]
18. —. Die Förstersche Monographie der Bienen-Gattung *Hylaeus* F. (Latr.)=*Prosopis* F. und die *Prosopis*-Sammlung Försters. T. c. pp. 108-124. [*Hymenoptera*.]
19. —. Über einige Bienen-Arten Thomson's. T. c. pp. 125-128. [*Hymenoptera*.]
20. —. Die Gruppe der *Andrena varians* K. T. c. pp. 129-131. [*Hymenoptera*.]
21. —. Neue und wenig bekannte *Prosopis* Arten. Zeitschr. Hym. Dipt. v, pp. 91-95. [*Hymenoptera*.]
22. —. *Melitta nigricans* n. sp., eine neue deutsche Biene. T. c. pp. 95, 96. [*Hymenoptera*.]
23. —. Ueber einige afrikanische *Prosopis*-Arten. T. c. pp. 146-150. [*Hymenoptera*.]
24. ANDRÉ, E. *Mutillides* nouveaux ou peu connus de l'Ancien monde et de l'Australie. Zeitschr. Hym. Dipt. v, pp. 201-216, 265-277. [*Hymenoptera*.]
25. —. Nouvelles espèces de *Mutillides* d'Amérique. T. c. pp. 361-376 (incomplete). [*Hymenoptera*.]
26. —. Description d'un genre nouveau et le deux espèces nouvelles de fourmis d'Australie. Rev. Ent. franc. 1905, pp. 205-208. [*Hymenoptera*.]
27. —. Diagnoses de deux espèces nouvelles de *Mutilles* du Transvaal. Bull. Soc. ent. France 1905, pp. 24, 25. [*Hymenoptera*.]
28. —. Catalogue analytique et raisonné des *Lépidoptères* de Saone-et-Loire et des départements limitrophes. Deuxième partie. *Sphingés, Bombyces*. Bull. Soc. Autun xvii, pp. 177-267, pls. viii bis-xii.



29. ANNANDALE, N. The egg and early larval stages of a *Coreid* bug, probably *Dalader acuticosta* Amyot and Serv.; with a note on its *Hymenopterous* parasite. Tr. ent. Soc. London 1905, pp. 55-59, pl. viii.
30. ARROW, G. J. On some Oriental *Aphodiid* *Coleoptera* of the *Rhyparus* group, with description of a new genus. Ann. Nat. Hist. (7) xv, pp. 534-539.
31. ASHMEAD, W. H. Additions to the recorded *Hymenopterous* fauna of the Philippine Islands, with descriptions of new species. P. U. S. Mus. xxviii, No. 1413, pp. 957-971.
32. —. New *Hymenoptera* from the Philippines. Op. cit. xxix, No. 1416, pp. 107-119.
33. —. New genera and species of *Hymenoptera* from the Philippines. T. c. No. 1424 pp. 397-413.
34. —. New *Hymenoptera* from the Philippine Islands. Canad. Ent. 1905, pp. 3-8.
35. —. A new *Pezomachus* from Italy. T. c. p. 142. [*Hymenoptera*.]
36. —. A skeleton of a new arrangement of the families, subfamilies, tribes and genera of the ants, or the superfamily *Formicoidea*. T. c. pp. 381-384. [*Hymenoptera*.]
37. —. A new *Thrips* from the Philippine Islands. Ent. News Philad. xvi, p. 20. [*Thysanoptera*.]
38. —. Two new *Mymaridæ* from Russian Turkestan. T. c. pp. 213, 214. [*Hymenoptera*.]
39. AUER, H. Messungen an *Lepidopteren* (1905). Zeitschr. Insbiol. i, pp. 499-502.
40. AURIVILIUS, C. New African *Lasiocampidæ* in the British Museum. Tr. ent. Soc. London 1905, pp. 313-326, pl. xvi. [*Lepidoptera*.]
41. —. Lieutenant A. Schultzes Sammlung von *Lepidopteren* aus West-Afrika. Arkiv Zool. ii, No. 12, 47 pp., 5 pls.
42. —. Fam. *Curculionidæ*. Jägerskiöld exp. No. 10a pp. 16, 17. [*Coleoptera*.]
43. —. *Hymenoptera*, Fam. 3-6 (*Vespidæ*, *Mutillidæ*, *Scoliidæ*). Ent. Tidskr. xxvi, pp. 209-240.
44. AUSTAUT, J. L. Notice sur une nouvelle espèce du genre *Satyrus*, ainsi que sur deux genres nouveaux de la famille des *Sphingides*. Ent. Zeitschr. Guben xix, pp. 25, 26. [*Lepidoptera*.]
45. AUSTEN, E. E. The distribution of the Tsetse-flies (Genus *Glossina* Wiedemann, as at present known). Rep. Sleeping Sickness Comm. Royal Soc. No. vi (1905), pp. 278-282, map.
46. —. Supplementary notes on the Tsetse-flies (Genus *Glossina* Wiedemann). Thompson Yates Lab. Rep. vi, pp. 101-112. [Reprint from Brit. Med. J. 1904.]
47. —. A new subspecies of *Glossina palpalis* Rob.-Desv., the disseminator of sleeping sickness. Ann. Nat. Hist. (7) xv, p. 390. [*Diptera*.]
- 47A. —. Two additional British species of the *Dipterous* genus *Erigone* Rob.-Desv. Ent. Mag. 1905, pp. 57-60.
48. —. A *Dipterous* enemy of English hothouse grapes. T. c. pp. 276-278.

49. AXELSON, W. M. Einige neue *Collembolen* aus Finland. Zool. Anz. xxviii, pp. 788-794.
50. BACCHI, P. & RAZZANTI, A. C. Contribuzione allo studio della teratologia entomologica. Riv. Ital. Sci. Nat. xxv, p. 131. [*Coleoptera*.]
51. BAGNALL, R. S. Notes on some additions, etc., to the *Coleoptera* of the Northumberland and Durham district. Tr. Soc. Northumb. i, pp. 224-247.
52. —. *Triplax bicolor* Gyll. a species of *Coleoptera* new to the British Catalogue. Ent. Mag. 1905, pp. 86, 87.
53. BAKER, C. F. The classification of the American *Siphonaptera*. P. U. S. Mus. xxix, No. 1417, pp. 121-170.
54. —. Fleas and disease. Amer. Natural. xxxix, pp. 507, 508.
55. —. Fleas and disease. Ent. News Philad. xvi, pp. 143, 144. [*Aphaniptera*.]
56. —. *Homoptera*. On the *Gnathodus* species of the *abdominalis* group. Invert. pacif. i (1903), pp. 1, 2.
57. —. A new genus of the *Typhlocybini*. T. c. p. 2. [*Homoptera*.]
58. —. The genus *Erythria* in America. T. c. p. 3. [*Homoptera*.]
59. —. New *Typhlocybini*. T. c. pp. 5-9. [*Homoptera*.]
60. —. Notes on *Macropsis*. T. c. pp. 9-12. [*Homoptera*.]
61. —. Reports on Californian and Nevadan *Diptera*, I. T. c. pp. 17-39.  
I believe the numerous new species are all by COQUILLET.
62. —. Two new *Siphonaptera*. Op. cit. (1904), pp. 39, 40.
63. —. Second report on Pacific slope *Orthoptera*. Op. cit. (1905), pp. 71-83.  
Includes descriptions by REHN of three new species.
64. —. Notes on *Neuropteroid* Insects of the Pacific coast of North America, with descriptions of new species by NATHAN BANKS. Op. cit. i, pp. 85-91.
65. —. New Western *Mutillide*, I. T. c. pp. 93-98. [*Hymenoptera*.]
66. —. New Western *Mutillide*, II. T. c. pp. 111-119. [*Hymenoptera*.]
67. —. Fleas and disease. Science xxii, pp. 340-342.  
Reference is made to a paper by HERZOG in Bull. Lab. Manila, No. 23, not seen by the Recorder.
68. BALDUCCI, E. Nota intorno all' *Arpyia vinula* Ochsen. Bull. Soc. ent. Ital. xxxvi, pp. 117-122, 1 pl. [*Lepidoptera*.]
69. BALL, E. D. Some new *Homoptera* from the South and South-west. P. Soc. Washington xviii, pp. 117-120.
70. —. New species of *Phlepsius* and related genera. Canad. Ent. 1905, pp. 209-212. [*Homoptera*.]
71. BANKS, N. Descriptions of new species of *Neuropterous* insects from the Black Mountains, N. C. Bull. Amer. Mus. xxi, pp. 215-218.
72. —. New *Trichoptera* from Japan. P. ent. Soc. Washington vii, pp. 106-112.

73. [BANKS, N.] New genera and species of *Perlidae*. *Psyche* xii, pp. 55-57.  
 —. [See also BAKER (64).]
74. BARBER, H. S. Illustrations of an undetermined *Coleopterous* larva. *P. ent. Soc. Washington* vii, pp. 117-120.
75. —. Note on *Phengodes* in the vicinity of Washington. *T. c.* p. 196. [*Coleoptera*.]
76. BARGAGLI, P. Stefano Bertolini. *Bull. Soc. ent. Ital.* xxxvi, pp. 233-239.
77. BARNES, W. New species of North American *Lepidoptera*. *Canad. Ent.* 1905, pp. 193-196, 213-216.
78. BARRETT, C. G. [The late]. The *Lepidoptera* of the British Islands, parts cxiii-cxix. [*Tortricidae*.]
79. BARUS, C. Alpheus Spring Packard. *Science* xxi, pp. 404-406.
80. BASTELBERGER, —. Neue *Geometriden* aus meiner Sammlung. *Ent. Zeitschr. Guben* xix, p. 5. [*Lepidoptera*.]
81. —. Beschreibung neuer und Besprechung weniger bekannten *Geometriden* aus meiner Sammlung. *T. c.* pp. 22, 76. [*Lepidoptera*.]
82. —. Beschreibung drei neuer *Dysphania*- (früher *Euschema*) Arten aus meiner Sammlung. *Op. cit.* xviii, pp. 115, 116. [*Lepidoptera*.]
83. —. Neue *Dysphaniinae* aus meiner Sammlung und kritische Bemerkungen zu einigen Arten dieser Familie. *Stettin. Ent. Zeit.* lxvi, pp. 201-224. [*Lepidoptera*.]
84. BARTEL, M. Neue aethiopische *Rhopalocera* des kgl. Museums für Naturkunde in Berlin. *Nov. Zool.* xii, pp. 129-152.
85. BATTLE, A. U. The colours of insects. *Rep. E. Kent. Soc.* (2) iv, pp. 4-6. [*Lepidoptera*.]
86. BAUMGARTNER, W. J. Observations on some peculiar habits of the mole-crickets. [Abstract.] *Science* xxi, p. 855. [*Orthoptera*.]
87. BEARE, T. HUDSON. Notes on some *Coleoptera* from the Flannan Islands. *Ann. Scott. Nat. Hist.* 1905, pp. 20-22.
88. BECKER, E. *Pseudachorutides bogoyawlensky* n. g., n. sp. *Zool. Anz.* xxix, p. 72. [*Collembola*.]
89. BECKER, T. Diagnose d'un *Diptère* recueilli par l'expédition Antarctique belge. *Ann. Soc. ent. Belgique* 1905, p. 192.
90. — & BEZZI, M. Katalog der paläarktischen Diptera. Band iv. *Cyclorrhapha schizophora*; *Holometopa*, *Pupipara*. Budapest 1905, 328 pp.  
 Vol. III is not yet published.
91. BEDEL, L. Indications de quelques genres de *Coléoptères* européens retrouvés récemment en Barbarie. *Bull. Soc. ent. France* 1905, pp. 289, 290.
92. —. Description de deux *Coléoptères* hétéromères nouveaux de la côte occidentale du Maroc. *T. c.* p. 272.
93. BEGUIN-BILLECOQ, L. Description d'une espèce nouvelle d'*Apion* Herbst de Madagascar. *Bull. Soc. ent. France* 1905, p. 45. [*Coleoptera*.]

94. [BEGUIN-BILLECOQ, L.] Diagnoses d'espèces nouvelles d'*Apionidae* provenant de la région Malgache et recueillies par MM. Alluaud, Decorse, Mocquerys, Perrier et Sicard. Ann. Soc. ent. France 1905, pp. 134-159. [*Coleoptera.*]
95. BENGTSOON, S. Zur Morphologie des Insektenkopfes, Zool. Anz. xxix, pp. 457-476.  
Abstract by DE MEIJERE, Zool. Zentrbl. 1906, p. 176.
96. BENHAM, W. B. The aquatic larva of the fly *Ephydra*. Tr. N. Zealand Inst. xxxvii, pp. 308-312, pl. xvii. [*Diptera.*]
97. BERGROTH, E. On stridulating *Hemiptera* of the subfamily *Halyinae*, with descriptions of new genera and species. P. Zool. Soc. London 1905, ii, pp. 146-154.
98. ——. *Rhynchota* æthiopica, iv. Ann. Soc. ent. Belgique 1905, pp. 368-378.
99. ——. *Rhynchota* neotropica. Rev. Ent. franc. 1905, pp. 104-112.
100. —— & SCHOUTEDEN, H. Note sur les *Hémiptères* recueillis à Kinchaosa par M. Waelbroeck. Ann. Soc. ent. Belgique 1905, pp. 379, 389.
101. BERLESE, A. Apparecchio per raccogliere presto ed in gran numero piccoli Artropodi. Redia ii, pp. 85-89.  
Also in Bull. Soc. ent. Ital. xxxvi, pp. 227-232.
102. BERNHAUER, M. 13 Folge neuer *Staphyliniden* der paläarktischen Fauna, nebst Bemerkungen. Verh. Ges. Wien 1905, pp. 580-596. [*Coleoptera.*]
103. ——. Neue exotische *Staphyliniden*. Deutsche ent. Zeitschr. 1905, pp. 9-21. [*Coleoptera.*]
104. ——. Neue *Staphyliniden* aus Südamerika. T. c. pp. 177-187. [*Coleoptera.*]
105. ——. Neue *Aleocharinen* aus Nordamerika. T. c. pp. 249-256. [*Coleoptera.*]
106. BERTHOUMIEU, —. Le genre *Triptognathus* Bert. et les variétés de *T. uniguttatus* Gr. Echange xxi, pp. 123-126, 131-133. [*Hymenoptera.*]
107. BETHUNE, C. J. S. Bibliography of Canadian entomology for the year 1903. Tr. R. Soc. Canada x, Sect. iv, pp. 147-152.
108. BETHUNE-BAKER, G. T. Notes on a small collection of *Heterocera* from the Fiji Islands, with descriptions of some new species. P. Zool. Soc. London 1905, i, pp. 88-95, pl. viii, ix.
109. ——. A monograph of the genus *Ogyris*. Tr. ent. Soc. London 1905, pp. 269-292, pl. xv. [*Lepidoptera.*]
110. ——. On two new *Leucaniæ* from British New Guinea. Ann. Nat. Hist. (7) xv, pp. 196, 197. [*Lepidoptera.*]
111. ——. Description of a new *Leucania* from British New Guinea. T. c. p. 324. [*Lepidoptera.*]
112. ——. Notes on some of *Lycænidæ* collected by Doherty on the Kikuyu escarpment, now in the Tring Museum. Nov. Zool. xii, pp. 492-496. [*Lepidoptera.*]
113. BEZZI, M. *Clinocera* tres novae ex Europa. Ann. Mus. Hungar. iii, pp. 362-365. [*Diptera.*]

114. [BEZZI, M.] *Empididae* neotropicæ musci nationalis hungarici. T. c. pp. 424-460. [*Diptera*.]
115. —. Il genere *Systropus* Wied. nella fauna paleartica. Redia ii, pp. 262-279. [*Diptera*.]  
— [See also BECKER & BEZZI (90).]
116. BIGNELL, C. C. The *Aphides*, with their food-plants. Rep. Cornwall Soc. 1904, pp. 55-89.
117. BILLARD, G. & BRUYANT, C. Sur un mode particulier de locomotion de certains *Stenus*. C.R. Soc. Biol. lix, p. 102. [*Coleoptera*.]
118. BILLET, A. Aire de dispersion de l'*Anopheles chaudoyei* Theob. en Algérie et en Tunisie. C.R. Soc. Biol. lviii, pp. 380-382. [*Diptera*.]
119. BINGHAM, C. T. The Fauna of British India including Ceylon and Burma. Butterflies i, London 1905, 8vo, xxii+511 pp., illustrations and x pls. [*Lepidoptera*.]  
Review, Nature lxxii, p. 290.
120. BIRÓ, L. Insektenfang mit den Käfersieb in Neu-Guinea. Rov. Lapok 1905, pp. 1-4, etc.  
In Hungarian with summary in German.
121. BLACHIER, C. Descriptions sommaires d'espèces et de variétés nouvelles de *Lépidoptères* paléarctiques. Bull. Soc. ent. France 1905, pp. 52-54.
122. —. Descriptions de *Lépidoptères* nouveaux du Maroc. T. c. pp. 212-214.
123. BLACKBURN, T. Further notes on Australian *Coleoptera*, with descriptions of new genera and species. xxxv. [*Lamellicornia*.] Tr. R. Soc. S. Austral. xxix, pp. 270-332.
124. BLANCHARD, R. Les Moustiques. Histoire naturelle et médicale. Paris 1905, 8vo, xiii+673 pp., 316 illustrations.  
Reviews; by H. PIÉRON, Rev. Scient. (5) iv, pp. 237, 238; by J. GUIART, Rev. gen. Sci. xvi, p. 532; by DE MEIJERE, Zool. Zentrbl. 1905, p. 756; Lancet 1905, ii, p. 1482.
125. —. Sur une chenille du Soudan. Bull. Soc. zool. France pp. 127-129. [*Lepidoptera*.]
126. BOILEAU, H. Description de *Coléoptères* nouveaux. Naturaliste 1905, pp. 17-19, 38, 47, 60, 71, 147, 176, 200, 285.
127. BOLIVAR, J. *Ortópteros* acridioideos de la Guinea española. Mem. Soc. espan. i, pp. 209-240.
128. —. Les blattes myrmécophiles. Mt. Schweiz. ent. Ges. xi, pp. 134-141. [*Orthoptera*.]
129. —. *Conocéphalides* de la Nouvelle-Guinée appartenant au Musée de Budapest. Ann. Mus. Hungar. iii, pp. 388-395. [*Orthoptera*.]
130. —. Notas sobre los Pírgomórfidos (*Pyrgomorphidae*). Bol. Soc. espan. v, pp. 105-115, 196-217, 278-289, 298-307.
131. —. Nueva especie de *Xiphidium* de las Azores. T. c. p. 180. [*Orthoptera*.]
132. —. Sobre algunos *Dectícinos* africanos. T. c. pp. 343-348.
133. —. Nueva especie de *Gryllomorpha* de Marruecos. T. c. pp. 349-351.

134. BONNIER, G. L'accoutumance des abeilles et la couleur des fleurs. C.R. Ac. Sci. cxli, pp. 988-994.
135. BORDAGE, E. Recherches anatomiques et biologiques sur l'autotomie et la régénération chez divers Arthropodes. Bull. Sci. France Belgique xxxix, pp. 307-454, pl. vi.
136. BORDAS, L. Sur les glandes (salivaires, céphaliques et métathoraciques) de quelques *Hémiptères*. C.R. Ac. Sci. cxl, pp. 595-597.
137. —. Glandes annexes ou accessoires de l'appareil séricigène des larves d'*Io irene* Boisd. Op. cit. cxli, pp. 690, 691. [*Lepidoptera*.]
138. —. Sur quelques points d'anatomie du tube digestif des *Nepidae* (*Nepa cinerea* L.). C.R. Soc. Biol. lviii, pp. 169, 170. [*Hemiptera*.]
139. —. Les organes reproducteurs male de la Nèpe cendrée (*Nepa cinerea* L.). T. c. pp. 382-384. [*Hemiptera*.]
140. —. Structure du jabot et du gésier de la *Xylocope* (*Xylocopa violacea*). T. c. pp. 636-638. [*Hymenoptera*.]
141. —. Morphologie et structure histologique des glandes mandibulaires des larves d'*Arctiidae*. T. c. pp. 876-878. [*Lepidoptera*.]
142. —. Les glandes défensives de quelques *Coléoptères*. Naturaliste 1905, pp. 173-176.
143. —. Der Kropf und Kaumagen einiger *Vespidæ*. Zeitschr. Insbiol. i, pp. 325-329, 361-370, 415-417. [*Hymenoptera*.]
144. BORELLI, A. Sur quelques *Forficules* des Pyrénées. Feuille Natural. xxxv, pp. 49-51.
145. —. *Forficole* raccolte nel Paraguay dal Sig. A. Bertoni de Winkelreid. Boll. Mus. Torino xx, No. 516, 12 pp. [*Orthoptera*.]
146. BORN, P. *Carabus morbillosus* Fabr. und seine Formen. Mt. Schweiz. ent. Ges. xi, pp. 75-81. [*Coleoptera*.]
147. —. Eine hybride *Caraben*form. T. c. pp. 129-134. [*Coleoptera*.]
148. BÖRNER, C. *Hadena secalis* (L.) als Roggenschädling. Arb. Biol. Abt. Land.-Forstwirtschaft. v, pp. 90-97. [*Lepidoptera*.]
149. BOSTOCK, L. & SIMPSON, C. B. Report of the mosquito survey of the Eastern line of railway of the C. S. A. R. Gerniston, 1905, fol., 35 pp.
150. BOURGEOIS, J. *Malacodermes* de la Guinée espagnole. Mem. Soc. Espan. i, pp. 189-196. [*Coleoptera*.]
151. —. Les *Lycides* du Muséum d'histoire naturelle de Paris. II. Ann. Soc. ent. France 1905, pp. 109-126. [*Coleoptera*.]
152. —. Voyage du Dr W. Horn à Ceylan. *Malacodermes* et *Lymexylonides*. T. c. pp. 127-133. [*Coleoptera*.]
153. —. Description d'une nouvelle espèce de *Malthodes* de la faune française. Bull. Soc. ent. France 1905, p. 21. [*Coleoptera*.]
154. —. Description d'un nouveau *Malacoderme* d'Algérie appartenant au sous-genre *Absidia*. T. c. p. 106. [*Coleoptera*.]
155. —. *Malthodes* et *Podistrina* (deuxième note). T. c. pp. 238-241. [*Coleoptera*.]
156. —. Description d'une nouvelle espèce de *Lycide* de la faune barbaresque. T. c. p. 291. [*Coleoptera*.]

157. [BOURGEOIS, J.] Description de quatre espèces nouvelles de *Lycides* du Bengale. Ann. Soc. ent. Belgique 1905, pp. 46-48. [*Coleoptera*.]
158. —. Sur la périodicité triennale des années à Hannetons. Mt. Schweiz. ent. Ges. viii, pp. 74, 75. [*Coleoptera*.]
159. \*BOURROUL, C. Mosquitoes do Brasil. Bahia 1904. [*Diptera*.]  
This is said by DYAR, P. ent. Soc. Washington 1905, p. 188, to include a paper by LUTZ on classification of *Culicidæ*.
160. BOUSSAC, H. Le Scarabée sacré. Naturaliste 1905, pp. 137, 138, 149-152.
161. BOUTAN, L. Un ennemi du café au Tonkin: le *Xylotrechus* du bambou sec. C.R. Ac. Sci. cxl, pp. 1654-1656.
162. BOUVIER, E. L. Sur un *Japyx* gigantesque du Thibet. Bull. Soc. ent. France 1905, p. 30. [*Thysanura*.]
163. —. Sur la nidification d'une colonie d'abeilles à l'air libre. Bull. Soc. Philom. (9) vii, pp. 186-206. [*Hymenoptera*.]
164. —. Notice sur M. Henride Saussure. Bull. Mus. Paris 1905, pp. 223-225.
165. BOVIE, A. Catalogue des *Anthribides*. Ann. Soc. ent. Belgique 1905, pp. 218-334. [*Coleoptera*.]
166. BRADLEY, J. C. Notes on *Evaniidæ*. Zeitschr. Hym. Dipt. v, p. 26. [*Hymenoptera*.]
167. —. A new species of the *Hymenopterous* genus *Megalyra* Westwood. Tr. ent. Soc. London 1905, pp. 395, 396.
168. —. *Cenocephus* in America. Canad. Ent. 1905, p. 363. [*Hymenoptera*.]
169. —. *Ropronia*, an anomalous *Hymenopteron*. Ent. News Philad. xvi, pp. 14-16.
170. BRAEM, W. Description d'un *Goliathidæ* nouveau. Ann. Soc. ent. Belgique 1905, p. 43. [*Coleoptera*.]
171. BRANTS, A. Nederlandsche Vlinders beschreven en afgebeeld. Derde Serie van Sepps' Nederlandsche Insecten. Afl. 1, 2. 'S-Gravenhage, 4to, ii + 16 pp., 2 pls.
172. BRAUNER, A. Remarques sur les *Libellules* du gouvernement de Kherson et de la partie septentrionale de la Crimée. [In Russian.] Zapiski Novoross. Obshch. xxiv (3), pp. 73-102. [*Odonata*.]
173. BRAUNS, HANS. *Masaridæ* von Südafrika. Ann. Mus. Hungar. iii, pp. 219-234. [*Hymenoptera*.]
174. —. Zur Kenntnis der Bienengattung *Fidelia* Friese. Verh. Ges. Wien 1905, pp. 493-497. [*Hymenoptera*.]
175. —. Eine neue *Serapis*. Zeitschr. Hym. Dipt. v, p. 75. [*Hymenoptera*.]  
— [See also FRIESE (604).]
176. BRAUNS, S. Zwei neue *Mesostenus* aus Brasilien. Zeitschr. Hym. Dipt. v, pp. 129-131. [*Hymenoptera*.]
177. —. Eine neue *Delomerista*. T. c. p. 131. [*Hymenoptera*.]
178. —. Die Gattung *Lampronota* Hal. T. c. pp. 132-134. [*Hymenoptera*.]

179. [BRAUNS, S.] *Listrocryptus* nov. genus (*Phygadeuonini*). T. c. pp. 134, 135. [*Hymenoptera*.]
180. BREDDIN, G. *Rhynchota Heteroptera* aus Java gesammelt von Prof. K. Kraepelin 1904. Mt. Mus. Hamburg xxii, pp. 109-159.
181. —. Versuch einer *Rhynchotenfauna* der Malayischen Insel Banguay. T. c. pp. 201-226.
182. —. Rhynchotographische Beiträge. I. Wien. ent. Zeit. xxiv, pp. 263-266. [*Hemiptera*.]
183. —. Neue *Scutellerinen*. Soc. ent. xix, pp. 186, 187. [*Hemiptera*.]
184. —. Neue *Rhynchoten*. Op. cit. xx, pp. 12, 26, 27.
185. —. Übersicht der javanischen *Micronecta*-Arten. T. c. p. 57. [*Hemiptera*.]
186. BRESSLAU, E. Der Samenblasengang der Bienenkönigin. Zool. Anz. xxix, pp. 299-323. [*Hymenoptera*.]
187. BRÈTHES, J. *Hymenopteros nuevos ó poco conocidos parásitos del bicho de cesto (Æceticus platensis Berg.)*. An. Mus. Buenos Aires (3) iv, pp. 17-24.
188. —. Insectos de Tucumán. T. c. pp. 329-347.
189. —. Biología del *Dasyscelus normalis* Brunn. Op. cit. v, pp. 67-73. [*Orthoptera*.]
190. —. Descripción de un género y de una nueva especie de *Clavicornio* de Buenos Aires. An. Soc. Argent. lix, pp. 76-79. [*Coleoptera*.]
191. BRIGGS, ELLA MARION. The life history of case bearers. I. *Chlamys plicata*. Cold Spring Mon. iv, 12 pp., 1 pl. [*Coleoptera*.]
192. BRITTON, W. E. Some new or little known *Aleyrodide* from Connecticut. Ent. News Philad. xvi, pp. 64-66, pl. iv.
193. —. The chief injurious scale-insects of Connecticut. Bull. 151 (Entomological series 12) Connecticut Agric. exp. Stat. 16 pp. [*Coccidæ*.]
194. BROUN, T. Descriptions of a new genus and four species of *Coleoptera* from New Zealand. Ann. Nat. Hist. (7) xv, pp. 543-546.
195. —. Notes on fruit-flies, with a description of a new species (*Dacus xanthodes*). Tr. N. Zealand Inst. xxxvii, p. 325-328. [*Diptera*.]
196. BROWNE, F. B. A study of the Aquatic *Coleoptera* and their surroundings in the Norfolk Broads districts. Tr. Norfolk Soc. viii, pp. 58-82.
197. BRUCH, C. Algunas observaciones sobre los enemigos del Bicho de cesto (*Æceticus platensis Berg.*). Revist. Jard. Buenos Ayres (2) i. pp. 117-120. [*Hymenoptera*.]
198. BRUES, CHAS. T. Notes on the life history of the *Stylopidae*. Biol. Bull. viii, pp. 290-295, 2 text-figg.
199. —. Notes and descriptions of North American parasitic *Hymenoptera*. Bull. Wisconsin Soc. iii, No. 4, pp. 183-188.
200. —. A collection of *Phoridae* from Peru. Ann. Mus. Hungar. iii, pp. 396-400. [*Diptera*.]



201. [BRUES, CHAS. T.] *Phoridae* from the Indo-Australian region. T. c. pp. 541-555. [*Diptera*.]  
 —. [See also QUAINANCE & BRUES (1226).]
202. BRUMPT, E. La maladie du sommeil. Arch. parasit. ix, pp. 205-224, 1 map. [Distribution of *Glossina*.]
203. BRUNELLI, G. Sulla struttura dell' ovario dei *Termitidi*. Rend. Acc. Lincei xiv, ii, pp. 121-126.
204. —. Sulla distruzione degli oociti nelle regine dei *Termitidi* infette da Protozoi. T. c. pp. 718-721.
205. BRUNER, L. Two new South American grasshoppers. Ent. News Philad. xvi, pp. 214, 215. [*Orthoptera*.]
206. —. Two remarkable new Costa Rican Locusts. T. c. pp. 313-316, pl. xi. [*Orthoptera*.]  
 BRUYANT, C. [See BILLARD & BRUYANT (117).]
207. BUCHNER, P. Über "Belastungsteile" und Anpassung bei Larvengehäusen von *Trichopteren*. Zeitschr. Insbiol. i, pp. 374-378.
208. BUENO, J. R. DE LA TORRE. *Nerthra stygica* Say and some notes on the family *Gelastocoridae*. Ohio Natural. v, pp. 287-291. [*Hemiptera*.]
209. —. The genus *Notonecta* in America north of Mexico. J. N. York Ent. Soc. xiii, pp. 143-167, pl. vii. [*Hemiptera*.]
210. —. Notes on *Hydrometra martini* Kirk. Canad. Ent. 1905, pp. 12-15. [*Hemiptera*.]
211. —. The tonal apparatus of *Ranatra quadridentata* Say. T. c. pp. 85-87. [*Hemiptera*.]
212. —. Practical and popular entomology, No. 4. Notes on collecting, preserving and rearing aquatic *Hemiptera*. T. c. pp. 137-142.
213. —. The three *Ranatras* of the North-eastern United States. T. c. pp. 187, 188. [*Hemiptera*.]
214. BUGNION, E. Les œufs pédiculés et la tarière de *Rhyssa persuasoria*. C.R. Congr. Zool. vi, pp. 511-521, 1 pl. [*Hymenoptera*.]
215. —. La polyembryonie et le déterminisme sexuel. Arch. Sci. Nat. xx, pp. 699-702.  
 Account of the paper published by Paul Marchal last year.
216. —. L'estomac du Xylocope violet (*Xylocopa violacea* Fab.). Mt. Schweiz. ent. Ges. xi, pp. 109-128, pls. iii-vi. [*Hymenoptera*.]
217. BULLER, A. P. Notes on the occurrence of some rare species of *Lepidoptera*. Tr. N. Zealand Inst. xxxvii, pp. 331-333.
218. BURDON, E. R. The pine-apple gall of the Spruce: a note on the early stages of its development. P. Cambridge Soc. xiii, pp. 12-19.
219. BURR, M. Notes on the *Forficulària*. ix. On new species with synonymic notes. Ann. Nat. Hist. (7) xvi, pp. 486-496. [*Orthoptera*.]
220. —. Descriptions of five new *Dermaptera*. Ent. Mag. 1905, pp. 84-86.
221. —. Earwigs of the Indian Museum, with descriptions of new species. J. P. Asiat. Soc. Bengal i, pp. 27-31. [*Orthoptera*.]

222. [BURR, M.] Una especie nueva de *Opisthocosmia* (*Dermápteros*). Boll. Soc. espan. v, p. 530.
223. BUTTEL-REEFEN, H. V. Soziologisches und Biologisches vom Ameisen- und Bienenstaat. Wie entsteht eine Ameisenkolonie. Arch. Rassen ii, pp. 20-35. [*Hymenoptera*.]  
Abstract, Zeitschr. Insbiol. i, p. 510.
224. ——. Biologische und soziologische Momente aus den Insektenstaaten. C.R. Congr. Zool. vi, pp. 462-482. [*Hymenoptera*.]
225. ——. Die Ursachen der Geschlechtsbestimmung bei der Honigbiene u. die analytisch-statistische Methode. Zeitschr. Insbiol. i, pp. 441-445.  
Criticism of BACHMETJEW, 1903 papers.
226. BUYSSON, H. DU. Sur quelques *Élatérides* du Muséum. Bull. Mus. Paris 1905, pp. 16-18. [*Coleoptera*.]
227. ——. Description d'une espèce nouvelles d'*Élatérides*. Bull. Soc. ent. France 1905, p. 110. [*Coleoptera*.]
228. ——. Descriptions d'espèces nouvelles d'*Élatérides*. T. c. pp. 209-211. [*Coleoptera*.]
- 228A. ——. Faune Gallo-rhénane. *Élatérides*, pp. 369-416. [Suppl. to Rev. Ent. franc. 1905.]
229. BUYSSON, R. DU. Monographie des *Vespides* du genre *Nectarinia*. Ann. Soc. ent. France 1905, pp. 537-566, pls. xi, xii. [*Hymenoptera*.]
230. ——. Sur quelques *Hyménoptères* d'Amérique. Bull. Soc. ent. France 1905, pp. 9, 10.
231. ——. Espèce nouvelle de *Vespide*. T. c. p. 126. [*Hymenoptera*.]
232. ——. Descriptions d'*Hyménoptères* nouveaux. T. c. pp. 256, 257.
233. ——. Description d'*Hyménoptères* nouveaux. T. c. pp. 281, 282.
235. BYATT, H. A. *Pseudacraea poggei* and *Limnas chrysippus*: the numerical proportion of mimic to model. With a note by Professor E. B. POULTON. Tr. ent. Soc. London 1905, pp. 263-268, pl. xiv. [*Lepidoptera*.]
236. CALVERT, P. P. C. The Biologia Centrali-Americana. Ent. News Philad. xvi, pp. 317-322.
237. CAMERON, M. Description of a new species of *Ocladius* from Perim. Ent. Mag. 1905, p. 179. [*Coleoptera*.]
238. CAMERON, P. Descriptions of new species of *Sphegidae* and *Ceropalidae* from the Khasia hills. Ann. Nat. Hist. (7) xv, pp. 218-228, 415-423, 467-477. [*Hymenoptera*.]
239. ——. A new genus and species of *Cynipidae* from South Africa, representing a new subfamily. Op. cit. xvi, pp. 20-22. [*Hymenoptera*.]
240. ——. On some new genera and species of parasitic *Hymenoptera* from Borneo. T. c. pp. 159-169.
241. ——. Descriptions of a new genus and some new species of East Indian Hymenoptera. [Cont. from 1904.] Entomologist 1905, pp. 14-17.
242. ——. A new genus and species of *Larridae* from Central America. T. c. p. 21. [*Hymenoptera*.]

243. [CAMERON, P.] New species of *Hymenoptera* (*Aculeata*, *Ichneumonidæ* and *Braconidæ*) from India. T. c. pp. 83-85, 105-107.
244. —. Descriptions of two new Aculeate *Hymenoptera* from the Transvaal. T. c. pp. 153, 154.
245. —. Descriptions of three undescribed genera of *Ichneumonidæ* from Borneo. T. c. pp. 170-172. [*Hymenoptera*.]
246. —. Description of a new species of *Pseudagenia* (*Hymenoptera*, *Pompilidæ*) from Natal. T. c. p. 223.
247. —. Description of a new species of *Gasteruption* (*Evaniidæ*) from Cape Colony. T. c. p. 227. [*Hymenoptera*.]
248. —. A new genus of *Hemitelini* (*Ichneumonidæ*) from Cape Colony. T. c. pp. 249, 250. [*Hymenoptera*.]
249. —. Description of a new genus and species of *Braconidæ* from Cape Colony. T. c. pp. 268, 269. [*Hymenoptera*.]
250. —. Descriptions of new genera and species of *Hymenoptera* from Mexico. Tr. Amer. ent. Soc. xxx, pp. 251-267.
251. —. Descriptions of new species of neotropical *Hymenoptera*. Op. cit. xxxi, pp. 373-388.
252. —. Descriptions of four new species of *Odynerus* from Mexico. T. c. pp. 389-391. [*Hymenoptera*.]
253. —. On a new genus and some new species of *Ichneumonidæ* from the Sikkim Himalaya. Zeitschr. Hym. Dipt. v, pp. 77-88, 142-144. [*Hymenoptera*.]
254. —. Description of a new species of *Philomides* (*Chalcididæ*). T. c. p. 150. [*Hymenoptera*.]
255. —. Description of a new genus and three new species of *Chalcididæ* from South Africa. T. c. pp. 230-232. [*Hymenoptera*.]
256. —. A new species of *Chirotica* (*Ichneumonidæ*, *Hemitelini*) from Cape Colony. T. c. p. 232. [*Hymenoptera*.]
257. —. Descriptions of some new species of parasitic *Hymenoptera*, chiefly from the Sikkim Himalaya. T. c. pp. 244-248, 278-285. [*Hymenoptera*.]
258. —. On some undescribed genera and species of parasitic *Hymenoptera* from Cape Colony and Transvaal, South Africa. T. c. pp. 338-343.
259. —. Descriptions of two species of *Eurytomini* (*Chalcididæ*) from Cape Colony. T. c. pp. 344, 345. [*Hymenoptera*.]
260. —. A new genus and species of *Joppini* (*Ichneumonidæ*) from Natal. T. c. p. 346. [*Hymenoptera*.]
261. —. On the *Hymenoptera* of the Albany Museum, Grahamstown. (Second paper.) Rec. Albany Mus. i, pp. 185-244.
262. —. On the *Hymenoptera* of the Albany Museum. (Third paper.) T. c. pp. 297-314.
263. —. On some new genera and species of *Hymenoptera* collected by the Rev. J. A. O'Neil, S.J., chiefly at Dunbrody, Cape Colony. T. c. pp. 245-265.

264. [CAMERON, P.] On some new species of *Hymenoptera* collected by the Rev. J. A. O'Neil, S.J., at Dunbrody, Cape Colony. T. c. pp. 315-330.
265. —. On some Australian and Malay parasitic *Hymenoptera* in the Museum of the R. Zool. Soc. "Natura artis magistra" at Amsterdam. Tijdschr. Ent. xlviii, pp. 33-47.
266. —. On the Malay fossorial *Hymenoptera* and *Vespidæ* of the Museum of the R. Zool. Soc. "Natura artis magistra" at Amsterdam. T. c. pp. 48-78.
267. —. Descriptions of new species of *Iphiaulax* and *Chaolta* (*Bracconidæ*) from Sarawak, Borneo. J. Straits Asiat. Soc. xlii, pp. 23-52 and corrigenda, op. cit. xliv, p. 229. [*Hymenoptera*.]
268. —. A new species of *Chalcis* from Borneo. T. c. p. 52. [*Hymenoptera*.]
269. —. A third contribution to the knowledge of the *Hymenoptera* of Sarawak. Op. cit. xliv, pp. 93-168.
270. —. On the phytophagous and parasitic *Hymenoptera* collected by Mr E. Ernest Green in Ceylon. (First paper.) Spolia Zeylan. iii, pp. 67-97.  
Includes an introductory note by E. E. GREEN.
271. —. On the phytophagous and parasitic *Hymenoptera* collected by Mr E. Ernest Green in Ceylon. (Second paper.) T. c. pp. 98-142.
272. —. New *Hymenoptera*, mostly from Nicaragua. Invert. pacif. i, pp. 46-69.
273. —. On some *Hymenoptera* collected by Prof. C. F. Baker in Nicaragua. T. c. pp. 99-104.
274. —. Descriptions of new species of *Tiphidiæ* from Nevada and Southern California. T. c. pp. 105-109. [*Hymenoptera*.]
275. —. On some *Hymenoptera* (chiefly undescribed) collected by Prof. C. F. Baker in Nevada and Southern California. T. c. pp. 120-132.
276. CANNAVIELLO, F. E. Contribution à une monographie des *Lepidoptères* du genre *Deilephila*. Miscell. ent. xiii, pp. 11-15, 21-25.
277. CARL, J. & LEBEDINSKY, J. Materialien zur Höhlenfauna der Krim. II Aufsatz. Ein neuer typus von Höhlenapterygoten. Zool. Anz. xxviii, pp. 562-565. [*Collembola*.]
278. CARPENTER, F. W. The reactions of the pomace fly (*Drosophila ampelophila* Loew) to light, gravity and mechanical stimulation. Amer. Natural. xxxix, pp. 157-171. [*Diptera*.]
279. CARPENTER, G. H. Notes on the segmentation and phylogeny of the Arthropoda, with an account of the maxillæ in *Polyxenus lagurus*. Quart. J. Micr. Sci. xlix, pp. 469-491, pl. xxviii.
280. —. Injurious insects and other animals observed in Ireland during the year 1904. Econ. P. Dublin Soc. i, pp. 281-305, pls. xxiii-xxvi.
281. CARPENTIER, L. Nervations anormales de *Paphalara picta* Zett. (*Hem.*). Mem. Soc. Nord France xi, pp. 11-24, 1 pl.
282. CARRET, A. Description d'un nouveau *Carabide* appartenant à la faune syrienne. Bull. Soc. ent. France 1905, p. 122. [*Coleoptera*.]

283. [CARRET, A.] Description d'un nouveau *Bembidion*. Echange xxi, p. 109. [*Coleoptera*.]
284. CARTER, H. J. Descriptions of new species of Australian *Coleoptera*. Pt. I. P. Linn. Soc. N. S. Wales xxx, pp. 177-189.
285. CASEY, T. L. A revision of the American *Pæderini*. Tr. Ac. St. Louis xv, pp. 17-248.
286. ——. A new *Carabus* and *Cychrus*, with miscellaneous notes on *Coleoptera*. Canad. Ent. 1905, pp. 160-164.
287. CAUDELL, A. N. On a collection of *Orthoptera* from southern Arizona, with descriptions of new species. P. U. S. Mus. xxviii, No. 1403, pp. 461-477.
288. ——. Kirby's catalogue of *Orthoptera*. P. ent. Soc. Washington vii, pp. 84-88.
289. ——. The species of the genus *Chimarocephala*, and descriptions of two new species of Californian *Orthoptera*. T. c. pp. 123-126.
290. ——. A new species of the *Locustid* genus *Amblycorypha* from Kansas. J. N. York Ent. Soc. xiii, p. 50. [*Orthoptera*.]
291. ——. *Aplopus mayeri* n. sp. T. c. pp. 83-85. [*Orthoptera*.]
292. ——. A new *Bacuncululus* from Indiana. T. c. p. 212. [*Orthoptera*.]
293. ——. A new roach from Porto Rico. Canad. Ent. 1905, p. 237. [*Orthoptera*.]
294. ——. *Orthoptera* from South-western Texas collected by the Museum Expeditions of 1903, 1904. Bull. Brooklyn Inst. i, pp. 105-116, pl. vi.
295. CECCONI, G. Note di entomologia forestale. (Seconda parte.) Bull. Soc. ent. Ital. xxxvi, pp. 103-116.
296. CHAIGNON, H. DE. Sur la *Luciola lusitanica* (Motschulsky). Bull. Soc. Autun xvii, pp. 163-165. [*Coleoptera*.]
297. CHALMERS, A. J. *Anophelinae* found in Ceylon. Spolia Zeylan. ii, pp. 165-178. [*Diptera*.]
298. CHAMPION, G. C. *Malachius barnevillei* Puton, an addition to the British list. Ent. Mag. 1905, p. 15. [*Coleoptera*.]
299. ——. *Malachius spinosus* Er., an addition to the British list. T. c. p. 66. [*Coleoptera*.]
300. — & CHAPMAN, T. A. Another entomological excursion to Spain, with descriptions of two new species of *Hemiptera* by Prof. O. M. Reuter. Tr. ent. Soc. London 1905, pp. 37-54, pl. vii.
301. \*CHANTEMESSE, A. & BOREL, F. Moustiques et fièvre jaune. Paris 1905, 96 pp.  
Review, Bull. Inst. Pasteur iii, p. 586.
302. CHAPMAN, T. D. A. On *Erebia palarica* n. sp., and *Erebia stygne*; chiefly in regard to its association with *E. evias*, in Spain. Tr. ent. Soc. London 1905, pp. 9-35, pls. ii-vi. [*Lepidoptera*.]
303. ——. On the matrivorous habit of the species of *Heterogynis*. T. c. pp. 177-184. [*Lepidoptera*.]
304. ——. On the pupal suspension of *Thais*. T. c. pp. 203-218, pl. xii. [*Lepidoptera*.]

305. [CHAPMAN, T. A.] The earlier stages of *Cataglyphis lemna* L. Entomologist 1905, pp. 1-5, 38-43, pl. i. [*Lepidoptera.*]
306. —. Are the attacks of *Lepidopterous* larvæ beneficial to the plants they attack? Tr. City London Soc. 1904, pp. 28-32.
307. CHITTENDEN, F. H. On the species of *Sphenophorus* related to *pertinax* Ol. with descriptions of other forms. P. ent. Soc. Washington vii, pp. 50-64. [*Coleoptera.*]
308. —. New species of *Sphenophorus*, with notes on described forms. T. c. pp. 166-182. [*Coleoptera.*]
309. CHOBAUT, A. Un *Hydroporus* nouveau pour la faune française. Bull. Soc. ent. France 1905, p. 156. [*Coleoptera.*]
310. —. Description d'une espèce nouvelle de *Longicorne* de l'Algérie méridionale. T. c. p. 157. [*Coleoptera.*]
311. —. Sur l'aire de dispersion de *Bathyscia aubei* Kies. T. c. pp. 293-303. [*Coleoptera.*]
312. —. Un *Staphylinide* nouveau pour la faune française. T. c. p. 273. [*Coleoptera.*]
313. CHOLODKOVSKY, N. Über den Bau des *Dipterenhodens*. Zeitschr. wiss. Zool. lxxxii, pp. 389-410, pls. xxii, xxiv.
314. —. Neue Versuche über künstliche Variationen von *Vanessa urtica*. Zeitschr. Insbiol. i, pp. 117, 118. [*Lepidoptera.*]
315. —. Über die Speicheldrüsen von *Chermes*. T. c. pp. 167-169. [*Aphidæ.*]
316. CHRÉTIEN, P. Les chenilles du *Rhamnus infectorius*. Naturaliste 1905, pp. 29-31 & 242. [*Lepidoptera.*]
317. —. Le genre *Artenacia* et les genres des *Hyponomeutinae*. T. c. pp. 65-67. [*Lepidoptera.*]
318. —. Les chenilles des Santolines. T. c. pp. 89-91, 113, 114, 129-131, 143, 144. [*Lepidoptera.*]
319. —. Histoire naturelle de la *Promasia ataxella* Chrét. T. c. pp. 257-259. [*Lepidoptera.*]  
CHRISTY, C. [See DUTTON and others (469).]
320. CIAMPI, P. Specie di *Coleotteri* romani non citati come tali od omessi nel nuovo Catalogo Bertolini. Boll. Soc. zool. Ital. xiv, pp. 231-246.
321. CLARK, A. H. Notes on the butterflies of Margarita Island, Caracas, and Carupano, Venezuela. Psyche xii, pp. 1-12, pl. i. [*Lepidoptera.*]
322. CLAVAREAU, H. Descriptions de deux *Megalopides* nouveaux. Ann. Soc. ent. Belgique 1905, pp. 110, 111. [*Coleoptera.*]  
— [See also JACOBY & CLAVAREAU (812, 813).]
323. CLÈVES, V. DE. Un insecta à ponte paradoxale. Naturaliste 1905, pp. 161-164. [*Hymenoptera.*]  
Summary of Marchal's paper of last year on *Encyrtus*.
324. COCKERELL, T. D. A. American *Hymenoptera*: new Bees and a new *Proctotrypid*. Ann. Nat. Hist. (7) xv, pp. 200-204.
325. —. Some bees of the genus *Melissodes* from the Rocky Mountain region. T. c. pp. 521-528. [*Hymenoptera.*]

326. [COCKERELL, T. D. A.] Descriptions and records of bees. I. Op. cit. xvi, pp. 216-224. [*Hymenoptera.*]
327. —. Descriptions and records of bees. II. T. c. pp. 292-301. [*Hymenoptera.*]
328. —. Descriptions and records of bees. III. T. c. pp. 301-307. [*Hymenoptera.*]
329. —. Descriptions and records of bees. IV. T. c. pp. 392-403. [*Hymenoptera.*]
330. —. Descriptions and records of bees. V. T. c. pp. 465-476. [*Hymenoptera.*]
331. —. Descriptions and records of bees. VI. T. c. pp. 477-485. [*Hymenoptera.*]
332. —. Some American *Halictine* bees in the British Museum. Entomologist 1905, pp. 33-37. [*Hymenoptera.*]
333. —. New and little-known American bees. T. c. pp. 145-148. [*Hymenoptera.*]
334. —. New Australian bees of the genus *Nomia*. T. c. pp. 217-223. [*Hymenoptera.*]
335. —. New Australian bees in the collection of the British Museum. T. c. pp. 270-273, 302-304. [*Hymenoptera.*]
336. —. Notes on some bees in the British Museum. Tr. Amer. ent. Soc. xxxi, pp. 309-364. [*Hymenoptera.*]
337. —. Three new bees from the Southwest. Ent. News Philad. xvi, pp. 81-83. [*Hymenoptera.*]
338. —. Three new South American *Coccidæ*. T. c. pp. 161-163.
339. —. New bees from Colorado. T. c. pp. 270-272. [*Hymenoptera.*]
340. —. A new bee of the genus *Perdita* from Texas. T. c. p. 331. [*Hymenoptera.*]
341. —. Une nouvelle Abeille du Mexique. Bull. Mus. Paris 1905, p. 165. [*Hymenoptera.*]
342. —. *Diadasia* Patton: a genus of bees. Amer. Natural. xxxix, pp. 741-745. [*Hymenoptera.*]
343. —. Some bees of the genus *Nomada* from Wisconsin. Canad. Ent. 1905, pp. 189-191. [*Hymenoptera.*]
344. —. Some bees collected by the Rev G. Birkmann at Fedor, Texas. T. c. pp. 265-267, 334, 335. [*Hymenoptera.*]
345. —. New bees of the genera *Osmia* and *Andrena*. T. c. pp. 370-372. [*Hymenoptera.*]
346. —. Tables for the separation of some bees of the genera *Celiioxys* and *Colletes*. Psyche xii, pp. 85-90. [*Hymenoptera.*]
347. —. Some new Eucerine bees from the West. T. c. pp. 98-104. [*Hymenoptera.*]
348. —. The bees of Southern California. VI. Bull. S. Calif. Ac. iii, pp. 159-162. VII. Op. cit. iv, pp. 13-15. VIII. T. c. pp. 28-33, 99-106. [*Hymenoptera.*]

Some previous parts of this series have not been seen by the Recorder.

349. [COCKERELL, T. D. A.] New American bees. P. Soc. Washington xviii, pp. 177-184. [*Hymenoptera.*]
350. —. Contributions to the natural history of the Rocky Mountains. I. Univ. Colorado Stud. iii, pp. 45-50.
351. —. Do birds eat butterflies? Nature Study Rev. i, pp. 209-212. [*Lepidoptera.*]
352. —. A gall on bearberry (*Arctostaphylos*). Canad. Ent. 1905, pp. 391, 392. [*Aphidæ.*]
353. —. A lacustrine *Aphid.* Science xxii, p. 764.
354. —. Three new *Coccidæ* from Colorado. Canad. Ent. 1905, pp. 135, 136.
355. —. A new scale-insect on the rose. Zool. Anz. xxix, p. 514. [*Coccidæ.*]
356. —. A table to facilitate the determination of the Mexican scale-insects of the genus *Aspidiotus*. Amer. Natural. xxxix, pp. 45, 46. [*Coccidæ.*]
357. —. A new Lac-insect. Ent. News Philad. xvi, p. 52. [*Coccidæ.*]
358. —. The origin of variations in animals and plants. Nature lxxiii, p. 197.  
— [See also LOVELL & COCKERELL (979) and RÜBSAAMEN (1315).]
359. COLLINGE, W. E. The effect of change of food and temperature on the development of *Abraaxas grossulariata* Steph. J. econ. Biol. i, pp. 14-16. [*Lepidoptera.*]
360. —. The life-history of the pear midge, *Diptosis pyrivora* Riley. Rep. econ. Zool. No. 2, 8 pp.
361. COLLINS, P. Mimicry among insects. Knowledge 1905, pp. 239-242.
- 362\*. COOK, M. S. [Insect galls.] Rep. Indiana Geol. xxix, pp. 801-867, 52 figg.  
Noticed by BESSEY, Science xxii, pp. 507, 508, and by BAKER, t. c. p. 720.
363. COOK, O. F. Progress in the study of the kelep. Science xxi, pp. 552-554. [*Hymenoptera.*]
364. COOLEY, R. A. Second annual report of the State entomologist of Montana. Bull. 55 Montana Agric. exp. Station, pp. 127-180.
365. COQUILLET, D. W. The Linnæan genera of *Diptera*. P. ent. Soc. Washington vii, pp. 66-68.
366. —. New Nematoceros *Diptera* from North America. J. N. York Ent. Soc. xiii, pp. 56-69.
367. —. A new *Culex* from Australia. Ent. News Philad. xvi, p. 116. [*Diptera.*]
368. —. A new *Cecidomyiid* on cotton. Canad. Ent. 1905, p. 200. [*Diptera.*]
369. —. A new subapterous *Tipulid* from New Mexico. T. c. p. 347. [*Diptera.*]
370. —. A new *Dexiid* parasite of a Cuban beetle. T. c. p. 362. [*Diptera.*]



371. [COQUILLET, D. W.] New *Culicidæ* from the West Indies and Central America. P. ent. Soc. Washington 1905, pp. 182-186. [*Diptera*.]  
 —. [See also BAKER (61).]
372. CORTI, A. Di una nuova galla d' *Apion pubescens* Kirby, e die *Coleotteroecidi* in genere. Riv. Col. ital. i, pp. 178-182.
373. COVERDALE, G. Variation in *Callimorpha*. Ent. News Philad. xvi, p. 154, pl. vii. [*Lepidoptera*.]
374. CRAMPTON, H. E. On a general theory of adaptation and selection. J. exp. Zool. ii, pp. 425-430.
375. CRAWSHAY, G. A. A large community of *Vespa vulgaris*. Ent. Mag. xli, pp. 8-10. [*Hymenoptera*.]
376. CROMBRUGGHE DE PICQUENDAËLE. Note sur quelques *Microlépidoptères* de la faune Belge. Ann. Soc. ent. Belgique 1905, pp. 100-107.
377. CSIKI, E. Conspectus generum *Mycetainarum*. Ann. Mus. Hungar. iii, pp. 573, 574. [*Coleoptera*.]
378. —. *Coleoptera nova ex Hungaria*. T. c. pp. 575-582.
379. —. Beiträge zur Kenntniss von *Myrmecophila acervorum* Panz. Allatt. Kozl. Magyar Tars. iv, pp. 97-100, pl. iv. [*Orthoptera*.]  
 In Hungarian, brief abstract in German, p. 113, t. c.
- 380\*. —. Magyarország bogárfaunája. (Die Kaferfauna von Ungarn.) Heft. i. Budapest 1905. [*Coleoptera*.]  
 In Hungarian: cf. Rov. Lapok 1905, p. 11 of abstracts.
381. CUÉNON, L. Y'a-t-il une relation entre le sexe et la taille des œufs chez les *Lépidoptères*? Arch. zool. exp. Notes (4) iii, pp. xvii-xxi.
382. —. La prétendue relation entre la taille des œufs et le sexe chez le ver à soie. C.R. Soc. Biol. lviii, p. 133. [*Lepidoptera*.]
383. CURRIE ROLLA, P. A new *Myrmeleonid* from the United States. P. ent. Soc. Washington 1905, pp. 186-188. [*Neuroptera*.]
384. —. Catalogue of the exhibit of economic Entomology at the Lewis and Clark centennial exposition, Portland, Oregon, 1905. Bull. U. S. Dep. Agric. Ent. No. 53, 127 pp.
385. DAECHE, E. Notes on *Prionapteryx nebulifera* Steph. Ent. News Philad. xvi, pp. 12-14, pl. ii. [*Lepidoptera*.]
386. —. Two new species of *Diptera* from New Jersey. T. c. pp. 248, 249.
387. DANIEL, K. Revision der *Phytocia*-Untergattung *Pilemia* Fairm. München. Kol. Zeitschr. iii, pp. 55-64. [*Coleoptera*.]
388. DASSONVILLE, C. & DASSONVILLE, G. Le pétrole n'exercerait-il pas une influence attractive sur les moustiques et sur d'autres *Diptères*? C.R. Soc. Biol. lix, pp. 334, 335.
389. DAVIDSON, A. An enemy of the trap door spider. Ent. News Philad. xvi, pp. 233, 234. [*Hymenoptera*.]
390. DAVIS, W. T. The red-headed *Orchelimum* and some other New Jersey *Orthoptera*. Canad. Ent. 1905, pp. 288, 289.
391. DEL GUERCIO, G. Contribuzione alla conoscenza delle forme e della biologia del *Paraletus cimiciformis* Heyden. Redia ii, pp. 90-98, pl. viii. [*Aphidæ*.]

392. [DEL GUERGIO, G.] Contribuzione alla conoscenza delle *Sipha* Pass. ed alla loro posizione nella famiglia degli *Afidi*. T. c. pp. 127-151, pls. xiii, xiv.
393. —. Contribuzione alla conoscenza delle metamorfosi della *Sciara analis* Egger, con notizie intorno alla *Sc. analis* var. *bezzii* var. n. ed ai loro rapporti con alcuni sporozoari ed entomozoari parassiti. T. c. pp. 280-305. [*Diptera*.]
394. —. Sulle differenze esistenti fra la *Schizoneura reaumuri* Kalt. ed il *Pachypappa vesicalis* Koc. T. c. pp. 306-315. [*Aphidæ*.]
395. DELL, J. A. The structure and life history of *Psychoda sexpunctata* Curtis. Tr. ent. Soc. London 1905, pp. 293-311. [*Diptera*.]
396. DELPINO, F. Sulla funzione vessillare presso i fiori delle angiosperme. Mem. Acc. Bologna (6) i, pp. 49-80.
397. DEMAISON, L. Observations sur la *Lythria purpuraria* L. Bull. Soc. Reims xiv, pp. 30-32. [*Lepidoptera*.]
398. DESBROCHERS DES LOGES, J. Faunule des *Coleoptères* de France et de Corse *Carabiques Anchomenidæ*. Frelon xiii, pp. 1-124.
399. —. Monographie des *Coleoptères Curculionides* d'Europe et confins appartenant au genre *Magdalis* Germ. T. c. pp. 1-64 spec. pag.
400. DESNEUX, J. Un nouveau Pausside de l'Inde. Ann. Soc. ent. Belgique 1905, p. 194. [*Coleoptera*.]
401. —. Variétés *Termitologiques*. T. c. pp. 336-360.
402. —. *Isoptera* of New Guinea collected by L. Biró. Ann. Mus. Hungar. iii, pp. 367-377.
403. —. Genera insectorum. *Coleoptera Adepaga*, Fam. *Paussidæ*. Wytzman, Gen. ins. Fasc. xxxv, 34 pp., 2 pls.
404. DE STEFANI PEREZ. Brève descrizione dei Zoocecidii Siciliani sino ad oggi conosciuti. Natural. Sicil. pp. 104-116 (incomplete).
405. —. Mimismo di una galla. Marcellia iii, pp. 66-70. [*Hymenoptera*.]
406. —. Contributo all' entomofauna dei cecidii. I Nota. Op. cit. iv, pp. 36-40.
407. —. Contributo all' entomofauna dei cecidii. T. c. pp. 113, 114. [*Hymenoptera*.]
408. DEVILLE, J. SAINTE-CLAIRE. Description d'un *Harpalide* nouveau des Pyrénées. Bull. Soc. ent. France 1905, pp. 113-115. [*Coleoptera*.]
409. —. Description d'un *Bathyscia* nouveau des Pyrénées. T. c. p. 160. [*Coleoptera*.]
410. —. Notes sur les *Hydraena* d'Algérie. Echange, No. 248, Suppl., 4 pp. [*Coleoptera*.]
411. DEWITZ, J. Über Fangversuche angestellt mittelst Acetylenlampen an den Schmetterlingen von *Tortrix pilleriana*. Zeitschr. Insbiol. i, pp. 106-116. [*Lepidoptera*.]
412. —. Beobachtungen die Biologie der Traubenmotte *Cochylis ambiguella* Hübn. betreffend. T. c. pp. 193-199, 237-248, 281-285, 338, 347, pl. i. [*Lepidoptera*.]
413. —. Über das Zustandekommen der Färbung bei Schmetterlingkokons. T. c. pp. 503-509. [*Lepidoptera*.]

414. [DEWITZ, J.] Die Bekämpfung der ampelophagen *Mikrolepidopteren* in Frankreich. Centrbl. Bakter. xv, pp. 449-467.
415. DICKEL, O. Bisherige Veränderungen der Fauna Mitteleuropas durch Einwanderung und Verbreitung schädlicher Insekten. Zeitschr. Insbiol. i, pp. 321-325, 371-375, 401-404, 445-450.
416. ——. Literatur-Referate. Über die Biologie der Zelle und der Zellcomplexe. T. c. pp. 80-91.
417. ——. Literatur-Referate. Über die Biologie der Insekten. T. c. pp. 224-232, 267-278.
418. ——. Literatur-Referate. Neuere Arbeiten über die Biologie nützlicher und schädlicher Insekten, unter besonderer Berücksichtigung des Gebietes des Pflanzenschutzes. T. c. pp. 394-400, 428-432, 468-482.
419. DIETZ, W. G. Revision of the genera and species of the *Tineid* subfamilies *Amydriinæ* and *Tineinæ* inhabiting North America. Tr. Amer. ent. Soc. xxxi, pp. 1-96, pls. i-vi. [*Lepidoptera*.]
420. DISQUÉ, H. Die *Tortriciden*-Raupen der Pfalz. Iris xvii, pp. 209-256. [*Lepidoptera*.]
421. DISTANT, W. L. Three undescribed *Coleoptera* from Natal. Ann. Nat. Hist. (7) xv, pp. 204-208.
422. ——. Rhynchotal notes, xxix. T. c. pp. 58-70.
423. ——. Rhynchotal notes, xxx. T. c. pp. 304-319.
424. ——. Rhynchotal notes, xxxi. T. c. pp. 379-387.
425. ——. Rhynchotal notes, xxxii. T. c. pp. 478-486.
426. ——. Rhynchotal notes, xxxiii. Op. cit. xvi, pp. 22-35.
427. ——. Rhynchotal notes, xxxiv. T. c. pp. 203-216.
428. ——. Rhynchotal notes, xxxv. T. c. pp. 265-280.
429. ——. Rhynchotal notes, xxxvi. T. c. pp. 553-567.
430. ——. Rhynchotal notes, xxxvii. T. c. pp. 668-673.
431. ——. Additions to a knowledge of the *Homopterous* family *Cicadidæ*. Tr. ent. Soc. London 1905, pp. 191-202, pl. xi.
432. ——. Description of a new species of *Cicadidæ*. Entomologist 1905, p. 121. [*Homoptera*.]
433. ——. Description of a new species of *Lygæidæ* from South Africa. T. c. p. 169. [*Hemiptera*.]
434. ——. Description of a new species of *Aradidæ* from Ceylon. T. c. p. 194. [*Hemiptera*.]
435. ——. On South African *Tingididæ* and other *Heteropterous Rhynchota*. Tr. S. African Soc. xiv, pp. 425-436, pl. viii.
436. DOFLEIN, F. Beobachtungen an den Weberameisen (*Ecophylla smaragdina*). Biol. Centrbl. xxv, pp. 497-507. [*Hymenoptera*.]
437. ——. Die Pilzkulturen der *Termiten*. Verh. Deutsch. zool. Ges. 1905, pp. 140-149. [*Neuroptera*.]
438. DOGNIN, P. Hétérocères nouveaux de l'Amerique du Sud. Ann. Soc. ent. Belgique 1905, pp. 61-90. [*Lepidoptera*.]

439. [DOGNIN, P.] *Hétérocères* nouveaux de l'Amérique du Sud. T. c. pp. 148-151. [*Lepidoptera*.]
440. —. Descriptions de *Lépidoptères* nouveaux de l'Amérique du Sud. Naturaliste 1905, pp. 9, 10.
441. —. *Hétérocères* nouveaux de l'Amérique du Sud. T. c. p. 120.
442. —. Papillons nouveaux de l'Amérique du Sud. T. c. p. 214. [*Lepidoptera*.]
443. DOHRN, H. *Orthopterologisches* aus dem Stettiner Museum. I. Neue und ungenügend bekannte *Conocephaliden* des indo-malayischen Gebietes. Stettin Ent. Zeit. lxvi, pp. 237-246.
444. DONCASTER, L. On the maturation and early development of the unfertilized egg in certain sawflies (*Tenthredinidae*). P. Cambridge Soc. xiii, pp. 103-105.
445. DONISTHORPE, H. St J. *Oxygoda sericea* Heer, a species of *Coleoptera* new to Britain. Ent. Rec. xvii, p. 67.
446. —. *Dinarda hagensi* Wasmann, a species of myrmecophilous *Coleoptera* new to Britain. T. c. pp. 181, 182.
447. —. The myrmecophilous *Coleoptera* of Great Britain. Rep. 29 Lancash. Chesh. ent. Soc. pp. 35-44.
448. DÖNITZ, W. Über eine neue afrikanische Fliege mit parasitisch in der Haut von Ratten lebenden Larven, *Cordylobia murium* Dö. SB. Ges. naturf. Berlin 1905, pp. 245-254, 1 pl. [*Diptera*.]
449. DOP, P. Sur un nouveau champignon parasite des *Coccides* du genre *Aspidiotus*. Bull. Sci. France Belgique pp. 135-140.
450. DRAUDT, M. Mitteilungen über zwei bisher nicht bekannte Raupen. Iris xvii, pp. 257- , pl. v. [*Lepidoptera*.]
451. DREYLING, L. Beobachtungen über die wachsabscheidenden Organe bei den Hummeln, nebst Bemerkungen über die homologen Organe bei Trigonen. Zool. Anz. xxix, pp. 563-573. [*Hymenoptera*.]
452. —. Die wachsbereitenden Organe bei den gesellig lebenden Bienen. Zool. Jahrb. Anat. xxii, pp. 289-330, pls. xvii, xviii. [*Hymenoptera*.]
453. DRUCE, H. Descriptions of some new *Noctuidæ* from Tropical South America. Ann. Nat. Hist. (7) xv, pp. 372-375. [*Lepidoptera*.]
454. —. Descriptions of some new species of *Syntomidæ* and *Arctiadæ* from Tropical South America. T. c. pp. 460-467. [*Lepidoptera*.]
455. —. Descriptions of seven new species of *Notodontidæ* from Tropical South America. T. c. pp. 540-542. [*Lepidoptera*.]
456. —. Descriptions of two new species of diurnal *Lepidoptera* belonging to the subfamily *Nymphalinaæ*. Op. cit. xvi, pp. 549, 550.
457. —. Descriptions of some new species of diurnal *Lepidoptera*, collected by Mr Harold Cookson, in Northern Rhodesia, in 1903 and 1904. *Lycænidæ* and *Hesperidæ* by HAMILTON H. DRUCE. Tr. ent. Soc. London 1905, pp. 251-262, pl. xiii.
458. DRUCE, H. H. Notes on the synonymy of *Thecla spurina* Hew., and *Thecla ericusa* Hew. Ann. Nat. Hist. (7) xv, pp. 194-196. [*Lepidoptera*.]
459. —. Report on the *Lycænidæ*. Fascic. Malay. Zool. part iii, 13 pp.

460. DUCKE, A. Supplemento alla revisione dei *Crisididi* dello stato brasiliano del Parà. Bull. Soc. ent. Ital. xxxvi, pp. 99-102. [*Hymenoptera*.]
461. —. Nouvelles contributions à la connaissance des *Vespidés* sociaux de l'Amérique du Sud. Rev. Ent. franc. 1905, pp. 1-24, pl. i. [*Hymenoptera*.]
462. —. Zur Kenntnis der *Diploptera* vom Gebiete des unteren Amazonas. Zeitschr. Hym. Dipt. v, pp. 170-173. [*Hymenoptera*.]
463. —. Zur Abgrenzung der neotropischen Schmarotzerbiengattungen aus der nächsten Verwandtschaft von *Melissa* Sm. T. c. pp. 227-229. [*Hymenoptera*.]
464. —. Biologische Notizen über einige sudamerikanische *Hymenoptera*. Zeitschr. Insbiol. i, pp. 175-177.
465. DUDGEON, G. C. Description of new species of moths from India and Burma. J. Bombay Soc. xvi, pp. 399-405. [*Lepidoptera*.]
466. DUFOUR, G. Note sur la faune halophile de l'Auvergne. Feuille Natural. xxxv, pp. 51-53. [*Coleoptera*.]
467. DU ROSELE, F. Organes génitaux des *Sarcophaga* et nécessité de leur examen pour la détermination des espèces. Mem. Soc. Nord France xi, pp. 5-10, pls. i, ii.
468. DUSMET Y ALONSO, J. M. Los *Apidos* de España i. Bol. Soc. espan. v, pp. 149-163. [*Hymenoptera*.]
469. DUTTON, J. E., TODD, J. L. & CHRISTY, C. The Congo floor-maggot. A blood-sucking *Dipterous* larva found in the Congo Free State. Thompson Yates Lab. Rep. vi, pp. 49-54, pl. iii.
470. DYAR, H. G. A descriptive list of a collection of early stages of Japanese *Lepidoptera*. P. U. S. Mus. xxviii, No. 1412, pp. 937-956.
471. —. New genera of South American moths. Op. cit. xxix, No. 1419, pp. 173-178. [*Lepidoptera*.]  
For species described by SCHAU in the paper (1329).
472. —. A list of American Cochlidian moths, with descriptions of new genera and species. T. c. No. 1423, pp. 359-396. [*Lepidoptera*.]
473. —. Our present knowledge of North American *Corethrid* larvæ. P. ent. Soc. Washington vii, pp. 13-16. [*Diptera*.]
474. —. New North American *Lepidoptera* and synonymical notes. T. c. pp. 29-39.
475. —. Remarks on genetical genera in the *Culicidæ*. T. c. pp. 42-49. [*Diptera*.]
476. —. A few notes on the Strecker collection. T. c. pp. 92-94. [*Lepidoptera*.]
477. —. A synoptic table of North American mosquito larvæ. J. N. York Ent. Soc. xiii, pp. 22-26. [*Diptera*.]
478. —. Brief notes on mosquito larvæ. T. c. pp. 26-29. [*Diptera*.]
479. —. Illustrations of the abdominal appendages of certain mosquitoes. T. c. pp. 53-56, 185-188, pls. iv, v, viii. [*Diptera*.]
480. —. A new mosquito. T. c. p. 74. [*Diptera*.]
481. —. Brief notes on mosquitoes. T. c. pp. 107-109. [*Diptera*.]

482. [DYAR, H. G.] A review of the *Hesperiidae* of the United States. T. c. pp. 111-141.
483. ——. A new *Oncocnemis* from Nevada. T. c. p. 211. [*Lepidoptera.*]
484. ——. On the classification of the *Culicidae*. P. ent. Soc. Washington 1905, pp. 188-190. [*Diptera.*]
485. DZIĘDZIELEWICZA, J. Bielotki Galicyi i Śląska. (*Coniopterygidae* Halicidae et Silesiae.) Kosmos polski. xxx, pp. 377-385, 1 pl. [*Neuroptera.*]
486. DZIURZYŃSKI, C. Über neue *Zygänen*. Jahresber. Wien. ent. Ver. 1903, pp. 45-55, pl. ii. [*Lepidoptera.*]
487. ——. *Zygæna mitisi*. Op. cit. 1905, p. 89. [*Lepidoptera.*]
488. EAST, A. The unfolding of the wings of insect emerging from the pupæ state. Knowledge 1905, pp. 78-80.
489. EICHELBAUM, F. Die Larve von *Cryphalus grothii* Hagl. Zeitschr. Insiol. i, pp. 248-250. [*Coleoptera.*]
490. ELLIS, H. W. Additions to our latest list of British *Coleoptera*. Ent. Rec. xvii, p. 270.
491. ELOT, A. Note sur le *Physopus rubrocincta* Giard, insecte nuisible au Cacaoyer à la Guadeloupe. C.R. Soc. Biol. lix, pp. 100, 101.  
ELWES, H. J. [See MEADE-WALDO (1022).]
492. EMERY, C. Sur l'origine des fourmillières. C.R. Congr. Zool. v, pp. 459-462. [*Hymenoptera.*]
493. ——. Note mirmeccologica. I. Revisione del gruppo dei generi affini a *Cerapachys* F. Sm. II. Specie nuove di *Ponerinae*. Rend. Acc. Bologna (n. s.) vi, pp. 22-34.
494. ——. Intorno ad alcune specie di *Camponotus* dell' America meridionale. Op. cit. vii, pp. 62-81. [*Hymenoptera.*]
495. ——. Studi sul polimorfismo e la metamorfosi nel genere "*Dorylus*." Mem. Acc. Bologna ix, pp. 183-201, pls. i, ii. [*Hymenoptera.*]
496. ——. Deux fourmis de l'ambre de la Baltique. Bull. Soc. ent. France 1905, pp. 187-189. [*Hymenoptera.*]
497. ENDERLEIN, G. Morphologie, Systematik und Biologie der *Atropiden* und *Troctiden*, sowie Zusammenstellung aller bisher bekannten recenten und fossilen Formen. Jägerskiöld exp. No. 18, 58 pp., 4 pls.
498. ——. Neue *Braconiden* aus dem indischen und afrikanischen Gebiet. Stettin Ent. Zeit. lxvi, pp. 227-236. [*Hymenoptera.*]
499. ——. Die *Braconiden*-Subfamilie *Mimagathidinae* m. Zool. Anz. xxviii, pp. 449-454. [*Hymenoptera.*]
500. ——. Über die Klassifikation der *Stephaniden*. T. c. pp. 473-477. [*Hymenoptera.*]  
CHOLODKOVSKY remarks on this paper, op. cit. xxix, p. 149.
501. ——. Läusestudien III. Zur Morphologie des Läusekopfes. T. c. pp. 626-638. [*Anoplura.*]
502. ——. Zur Klassifikation der *Evaniiden*. T. c. pp. 699-716. [*Hymenoptera.*]
503. ——. Die Laufkäfer der Crozet-Inseln, nach dem material der Deutschen Südpolar-Expedition. T. c. pp. 716-722. [*Coleoptera.*]

504. [ENDERLEIN, G.] Die *Plecopteren* Feuerlands. T. c. pp. 809-815.
505. —. Eine neue Fliegengattung von den Falklands-Inseln. Op. cit. xxix, pp. 69-71. [*Diptera*.]
506. —. *Pringleophaga*, ein neue Schmetterlingsgattung aus dem antarktischen Gebiet. T. c. pp. 119-125. [*Lepidoptera*.]
507. —. Eine neue *Copeognathe* von den Falklands-Inseln. T. c. p. 126.
508. —. Ein neuer Floh vom dreibindigen Gürteltier. T. c. p. 139. [*Aphaniptera*.]
509. —. Läusestudien iv. Über einen auffälligen Sexualdimorphismus bei *Polyplax spinulosa* Burm. T. c. pp. 192-194. [*Anoplura*.]
510. —. *Rhamnura*, eine neue *Braconidengattung* mit ausserordentlich langen Legerohr des Weibchens. T. c. pp. 195-198. [*Hymenoptera*.]
511. —. Einige Bemerkungen zur Kenntniss der *Trigonaliden*. T. c. pp. 198-200. [*Hymenoptera*.]
512. —. Klassifikation der Neuropten-Familie *Coniopterygidae*. T. c. pp. 225-227. [*Neuroptera*.]
513. —. Zwei neue beschuppte *Copeognathen* aus dem Bernstein. T. c. pp. 576-580.
514. —. Ein neuer zu den *Coniopterygiden* gehöriger *Neuropteren*-Typus aus der Umgebung von Berlin. Wien. ent. Zeit. xxiv, pp. 197, 198.
515. —. *Thripomorpha paludicola* n. g., n. sp. eine neue deutsche fluglose Fliege. Zool. Jahrb. Syst. xxi, pp. 447-450, pl. xxii. [*Diptera*.]
516. ENGEL, H. Collecting moths in the autumn and winter. Canad. Ent. 1905, pp. 102-111. [*Lepidoptera*.]
517. —. A new species of *Xylina*. T. c. p. 143. [*Lepidoptera*.]
518. ENTEMAN, WILHELMINE M. Coloration in *Polistes*. Publ. Carnegie Inst. xix, 88 pp., 6 pls. [*Hymenoptera*.]
519. ENTZ, G. Az állatok színe és a mimicry. III. Termes. Kozl. Magyar Tars. xxxv, pp. 97-137, 201-221.  
An account of this essay is given by Dr Gorka in Rov. Lapok 1905, pp. 199-201, with an abstract in German, pp. 21, 22 of abstracts.
520. —. A mimicry és a megesodálás. T. c. pp. 460-464.
521. —. Az állatok színe és a mimicry. III. Szín- és alakmájmolás, álrüházkodás. Allatt. Kozl. Magyar Tars. iv, pp. 49-52, with German translation, pp. 58-60.
522. ERNST, C. Einige Beobachtungen an künstlichen Ameisennestern. Biol. Centrbl. xxv, pp. 47-51. [*Hymenoptera*.]
523. ESCALERA, M. M. DE LA. Sistema de las especies ibéricos del gen. *Asida* Latr. Bol. Soc. espan. v, pp. 377-402, 430-450.
524. —. Una nuova especie de *Eulipus* Woll. (*Tentyrini*) de Rto de Oro. T. c. pp. 467, 468.
525. ESCHERICH, K. Das System der *Lepismatiden*. Zoologica xviii, Heft 43, 164 pp., 4 pls. [*Thysanura*.]
526. —. Über Ameisen und Ameisengäste. Literatur-Referate. Zeitschr. Insbiol. i, pp. 33-48.

527. [ESCHERICH, K.] [A collection of notices of recent works on Ants.] Zool. Zentrbl. 1905, pp. 37-49.
528. EVANS, W. The *Odonata* (dragon-flies) of the Forth area. P. Phys. Soc. Edinb. xvi, pp. 87-96.
529. ——. *Lepidoptera* from the Edinburgh (or Forth) district: further records. Ann. Scott. Nat. Hist. 1905, pp. 153-160.
530. ——. Additions to Scott and Lindsay's list of animals found in the Upper Elf loch. T. c. pp. 215-218.
531. EVERTS, J. E. Derde lijst van soorten en variëteiten nieuw voor de Nederlandsche fauna sedert de mitgave der "*Coleoptera neerlandica*" bekend geworden. Tijdschr. Ent. xlviii, pp. 245-247.
532. EYSELL, A. Sind die *Cuticiden* eine Familie? Ins. Börse 1905, pp. 51, 52, 55, 56. [*Diptera*.]  
Also in Arch. Schiffs- und Tropen-Hygiene ix, 1905.
533. FABRE, J. H. Souvenirs entomologiques. Neuvième série. Paris, 1905 [no date], 8vo, 374 pp.
534. FAIRMAIRE, L. Matériaux pour la faune *Coléoptérique* malgache. 19<sup>e</sup> note. Ann. Soc. ent. Belgique 1905, pp. 114-138.
535. ——. Description de *Coléoptères* Hétéromères de la République Argentine. Ann. Soc. ent. France 1905, pp. 289-303.
536. ——. Description d'un *Prione* nouveau de la faune paléarctique. Bull. Soc. ent. France 1905, p. 79. [*Coleoptera*.]
537. ——. Description d'un nouveau genre de *Cétonides*. T. c. p. 91. [*Coleoptera*.]
538. FALL, H. C. Revision of *Ptinidæ* of boreal America. Tr. Amer. ent. Soc. xxxi, pp. 97-295, pl. vii. [*Coleoptera*.]
539. ——. Notes on some Californian *Buprestidæ*. Ent. News Philad. xvi, pp. 71-74. [*Coleoptera*.]
540. ——. Two new species of *Aphodius*. T. c. pp. 129-131. [*Coleoptera*.]
541. ——. On the affinities of the genus *Tachycellus*, with descriptions of new species from the Western United States. J. N. York Ent. Soc. xiii, pp. 169-178. [*Coleoptera*.]
542. ——. New species of *Coleoptera*, chiefly from the South-west. Canad. Ent. 1905, pp. 270-276.
543. FAUCONNET, L. & VITURAT, —. Catalogue analytique et raisonné des *Coléoptères* de Saone-et-Loire et des départements limitrophes. 6. *Nécrophages*. Bull. Soc. Autun xvii, pp. 283-470.
544. FAUVEL, A. *Staphylinides* de Java recueillis par M. le Dr K. Kraepelin et M. le Dr Koningsberger en 1904. Mt. Mus. Hamburg xxii, pp. 75-86. [*Coleoptera*.]
545. ——. Sur une tribu nouvelle de *Staphylinides*. Rev. Ent. franc. 1905, pp. 98-100. [*Coleoptera*.]
546. ——. *Staphylinides exotiques* nouveaux. 3<sup>e</sup> partie. T. c. pp. 113-147. [*Coleoptera*.]
547. ——. *Staphylinides* nouveaux de Madagascar. T. c. pp. 149-184.
548. ——. Sur quelques *Dromius* de Madère et des Canaries. T. c. pp. 190, 191. [*Coleoptera*.]



549. [FAUVEL, A.] Trois *Staphylinides* nouveaux de Barbarie. T. c. pp. 192, 193. [*Coleoptera*.]
550. ——. *Staphylinides* nouveaux d'Afrique tropicale. T. c. pp. 194-198. [*Coleoptera*.]
- 550A. ——. Faune analytique des *Coléoptères* de la Nouvelle Calédonie. T. c. pp. 209-244.
551. FEDERLEY, H. Sound produced by *Lepidopterous* larvæ. J. N. York Ent. Soc. xiii, pp. 109, 110.  
Abstract by VON LINDEN, Zool. Zentrbl. 1905, p. 351.
552. ——. Über zwei in Finland gefangene Temperaturaberrationen von *Rhopaloceren*. Medd. Soc. Faun. Fenn. xxx, pp. 75-81.
553. FELT, E. P. May flies and midges of New York. Third report on aquatic Insects. Bulletin 86 (Entomology 23) N. York State Mus.  
See NEEDHAM (1091-1093), MORTON (1075), JOHANNSEN (820):
554. ——. *Culex brittoni* n. sp. Ent. News Philad. xvi, p. 79. [*Diptera*.]
555. FERNALD, C. H. A new species of North American *Proteoteras*. Canad. Ent. 1905, p. 16. [*Lepidoptera*.]
556. ——. North American *Tortricidæ*. T. c. pp. 399, 400. [*Lepidoptera*.]
557. ——. On the dates of Jacob Hübner's Sammlung europäischer Schmetterlinge and some of his other works. May 1905 [?separate publication], 14 pp. [*Lepidoptera*.]  
— ——. [See also HEINDEL (735).]
558. FERTON, CH. Notes détachées sur l'instinct des *Hyménoptères* mellifères et ravisseurs (3<sup>e</sup> série), avec la description de quelques espèces. Ann. Soc. ent. France 1905, pp. 56-104, pls. iii, iv.
559. FIELDE, ADELE M. Observations on the progeny of virgin ants. Biol. Bull. ix, pp. 355-360.
560. ——. Temperature as a factor in the development of ants. With further observations on ants deprived of food. T. c. pp. 361-367.
561. ——. The progressive odor of ants. Op. cit. x, pp. 1-16.
562. FINK, G. H. Similarity in nature of some of the morphological characters and habits of insects. J. trop. Medicine viii, pp. 263, 264. [*Diptera*.]
563. FIORI, A. Descrizione di una nuova specie di *Histeride* italiano. Natural. Sicil. xviii, pp. 4-7. [*Coleoptera*.]
564. ——. Caccie nuove e vecchie. Riv. Col. ital. i, pp. 153-166. [*Coleoptera*.]
565. ——. Studio critico dei *Dyticidi italiani*. Op. cit. ii, pp. 186-205. [*Coleoptera*.]  
*Haliphidæ* only; not *Dytiscidæ*.
566. ——. Ancora sui caratteri sessuali secondarii di alcuni *Coleotteri*. T. c. pp. 233-253, 1 pl.
567. ——. Studio sistematico degli *Alophus* Schönh. d' Italia e regioni finitime. Op. cit. iii, pp. 55-67. [*Coleoptera*.]
568. ——. Descrizione di un *Dasytidæ* nuovo e di un altro poco conosciuto in Italia. T. c. pp. 81-89. [*Coleoptera*.]

569. [FIORI, A.] Descrizioni di due specie credute nuove dei dintorni di Bologna. T. c. pp. 131-139. [*Coleoptera.*]
570. —. Revisione delle specie italiane a me note del genere *Malthodes* Kiesw. T. c. pp. 221-252, 2 pls. (incomplete). [*Coleoptera.*]
571. FISCHER, C. E. C. The Casuarina-bark-eating caterpillar (*Arbelu tetraonis* Moore). Indian Forest. xxxi, pp. 9-18.
572. FISHER, G. E. Practical and popular entomology. No. 1. The pear-tree *Psylla* and how to deal with it. Canad. Ent. 1905, pp. 1, 2. [*Homoptera.*]
573. FISKE, W. F. *Catogenus rufus*, a *Coleopterous* parasite. P. ent. Soc. Washington vii, pp. 90-92.
574. FLACH, K. *Troglogorhynchus paganettii* n. sp. Wien. ent. Zeit. xxiv, p. 318. [*Coleoptera.*]
575. FLEISCHER, A. Kritische Studien über *Liodes*-Arten. Wien. ent. Zeit. xxiv, pp. 269-273. Teil II, t. c. pp. 313-316. [*Coleoptera.*]
576. FLETCHER, F. Notes on some Egyptian insect pests. Bombay, 1905, 12mo, 140 pp.
577. FLETCHER, J. Practical and popular entomology. No. 3. How do insects pass the winter? Canad. Ent. 1905, pp. 79-84.
578. —. Practical and popular entomology. No. 9. The Buffalo carpet beetle. T. c. pp. 333, 334. [*Coleoptera.*]
579. FLETCHER, W. H. B. *Tortrix pronubana* Hb.: a species new to the British list in Sussex. Ent. Mag. 1905, p. 276. [*Lepidoptera.*]
580. FLEUTIAUX, E. Voyage de M. Maurice Maindron dans l'Inde meridionale (1901), *Elateridae*. Ann. Soc. ent. France 1905, pp. 319-330. [*Coleoptera.*]
581. —. Description d'un *Sternotomis* nouveau de Mohéli. Bull. Soc. ent. France 1905, p. 7. [*Coleoptera.*]  
—, [See also MAINDRON (1002).]
582. FLOERSHEIM, C. Some notes on the earlier stages of *Papilio machaon*, particularly with regard to the colour dimorphism of its pupa. Ent. Rec. xvii, pp. 277-279. [*Lepidoptera.*]
583. FLÖGEL, J. H. L. Monographie der Johannisbeeren-Blattlaus, *Aphis ribis* L. [contin. and conclusion]. Zeitschr. Insbiol. i, pp. 49-63 etc. [*Aphidae.*]
584. FOERSTER, F. Libellen von Tonkin. Wien. ent. Zeit. xxiv, pp. 19-24. [*Odonata.*]
585. FOKKER, A. J. F. Twee voor onze Fauna nieuwe *Hemiptera-Heteroptera*. Tijdschr. Ent. xlviii, pp. 248, 249.
586. FORÉL, A. Einige neue Ameisen aus Süd-Angola. [in] Warburg-Kunene-Sambesi Expedition, H. Baum, 1903, pp. 559-564. [*Hymenoptera.*]
587. —. Sklaverei, Symbiose und Schmarotzertum bei Ameisen. Mt. Schweiz. ent. Ges. xi, pp. 85-89. [*Hymenoptera.*]
588. —. Einige biologische Beobachtungen des Herrn Prof. Dr E. Göldi au brasilianischen Ameisen. Biol. Centrbl. xxv, pp. 170-181.
589. —. Einige neue biologische Beobachtungen über Ameisen. C.R. Congr. Zool. vi, pp. 449-456. [*Hymenoptera.*]

590. [FOREL, A.] A revision of the species of the *Formicidæ* (ants) of New Zealand. Tr. N. Zealand Inst. xxxvii, pp. 353-355. [*Hymenoptera*.]
591. —. Miscellanea myrmécologiques II. Ann. Soc. ent. Belgique 1905, pp. 155-185. [*Hymenoptera*.]
592. —. Ameisen aus Java. Gesammelt von Prof. Karl Kraepelin 1904. Mt. Mus. Hamburg xxii, 26 pp., sep. pag. [*Hymenoptera*.]
593. FORMÁNEK, R. Zur näheren Kenntniss der Gattung *Brachysomus* Stephens. Wien. ent. Zeit. xxiv, pp. 169-193. [*Coleoptera*.]
594. —. Eine neue Art der Rüssler-Gattung *Ptochus* aus Dalmatien. T. c. p. 261. [*Coleoptera*.]
595. FÖRSTER, F. Neotropische *Libellen*. II. Ins. Börse 1905, pp. 75, 76. [*Odonata*.]
596. FRANCÉ, R. Az "állati lelek." Potfuz. Termes. Kozl. 1905, pp. 49-82. Popular article in Hungarian on insect intelligence.
597. FRANKLIN, H. J. A new species of *Entomobrya*. Ent. News Philad. xvi, p. 77, pl. v. [*Collembola*.]
- 597A. FREDERICQ, LÉON. Influence de la température sur la distribution géographique de *Colias palæno* L. Arch. int. Physiol. ii, p. 210.
598. FREKE, P. E. Stray notes on Aculeates. Entomologist 1905, pp. 149-152. [*Hymenoptera*.]
599. FRIEDRICHS, K. Zur Kenntniss einiger Insekten u. Spinnentiere von Villafranca (Riviera di Ponente). Zeitschr. Insbiol. i, pp. 455-461, 493-499.
600. FRIESE, H. Neue afrikanische Bienenarten. Zeitschr. Hym. Dipt. v, pp. 1, 18, 19. [*Hymenoptera*.]
601. —. Neue *Crocisa*-Arten der Tropen. T. c. pp. 2-12. [*Hymenoptera*.]
602. —. Neue Bienen der orientalischen Region. T. c. p. 17. [*Hymenoptera*.]
603. —. Neue *Tetralonia*-Arten der äthiopischen Region. T. c. pp. 20-23. [*Hymenoptera*.]
604. —. Die Wollbienen Afrikas. Genus *Anthidium*. T. c. pp. 65-75. [*Hymenoptera*.]  
Includes several n. spp. by HANS BRAUNS.
605. —. Neue Bienenarten aus Chile. T. c. pp. 137-141. [*Hymenoptera*.]
606. —. Neue *Anthophora*-Arten aus Afrika. T. c. pp. 233-242. [*Hymenoptera*.]
607. —. Eine *Panurgus*-Art mit gelben Zeichnungen. T. c. p. 308. [*Hymenoptera*.]
608. —. Die *Crocisa*-Arten Afrikas. Verh. Ges. Wien 1905, pp. 171-180. [*Hymenoptera*.]
609. —. Die Keulhornbienen Afrikas. Genus *Ceratina*. Wien. ent. Zeit. xxiv, pp. 1-18. [*Hymenoptera*.]
610. —. Ein Bienenest mit Vorratskammern (*Lithurgus dentipes* Sm.). Zeitschr. Insbiol. i, pp. 118, 119. [*Hymenoptera*.]
611. —. Neue oder wenig bekannte Hummeln des Russischen Reiches. Annuaire Mus. St. Petersb. ix, pp. 507-523. [*Hymenoptera*.]

612. FROGGATT, W. W. The insects of the Kurrajong (*Brachychiton populneum*). Agric. Gaz. N. S. W. xvi, pp. 226-234, 2 pls.
613. —. Locusts and grasshoppers. Part iv. The *Gryllidae* and wingless *Locustidae*. T. c. pp. 477-481, 1 pl. [*Orthoptera*.]
614. —. Stick or leaf insects. T. c. pp. 515-520. [*Orthoptera*.]
615. —. White ants (*Termitidae*) with suggestions for dealing with them in houses and orchards. T. c. pp. 632-656, 753, 774, illustrations and 2 pls.
616. —. Domestic insects: Ants: with catalogue of Australasian species. T. c. pp. 861-866, 1 pl. (incomplete). [*Hymenoptera*.]
617. —. Domestic insects: mosquitoes. T. c. pp. 1082-1087, 1 pl. [*Diptera*.]
618. —. *Aphis* attacking wheat. T. c. pp. 1180-1184, 1 pl.
619. FRUHSTORFER, H. Neue *Tenaris*-Formen und Übersicht der bekannten Arten. Wien. ent. Zeit. xxiv, Teil I, pp. 57-89, pls. i, ii, Teil II, pp. 119-128. [*Lepidoptera*.]
620. —. Beitrag zur Kenntnis einiger *Prepona*-Arten und Übersicht der bekannten Arten dieser Gattung. Iris xvii, pp. 271-312, pls. vi-ix. [*Lepidoptera*.]
621. —. Seltene *Hesperiden*. Soc. ent. xx, p. 140. [*Lepidoptera*.]
622. —. Neue *Rhopaloceren*. Ins. Börse 1905, p. 36.
623. —. Neue *Tenaris*. Ent. Zeitschr. Guben xviii, pp. 118, 119. [*Lepidoptera*.]
624. FUCHS, F. *Larentia eximiata* Fuchs ein neuer Schmetterling aus dem Rheingau. Ent. Zeitschr. Guben xviii, No. 32, Beilage. [*Lepidoptera*.]
625. FUCHS, G. Ein neuer Bastkäfer: *Hylesinus orni*. Munchen. Kol. Zeitschr. iii, pp. 51-55. [*Coleoptera*.]
626. \* —. Etwas über primäre Borkenkäferangriffe. Naturw. Zeitschr. Land. Forst. ii, pp. 193-198.  
Abstract Munchen. Kol. Zeitschr. iii, p. 114.
627. FULMEK, L. Beiträge zur Kenntnis des Herzens der *Mallophagen*. Zool. Anz. xxix, 619-621.
628. FUSCHINI, C. Le galle filloseriche corrose dalla *Phaneroptera quadripunctata* Burm. Redia ii, pp. 121-126. [*Orthoptera*.]
629. GABRIEL, —. Drei neue Varietäten. Deutsche ent. Zeitschr. 1905, pp. 141, 142. [*Coleoptera*.]
630. GADEAU DE KERVILLE, H. Note sur la présence, dans les cavernes, du *Triphosia dubitata* L. et du *Scoliopteryx libatrix* L. Bull. Soc. ent. France 1905, p. 54. [*Lepidoptera*.]
631. —. Les insectes *Odonates* de la Normandie. Bull. Soc. Rouen 1904 (2) pp. 165-174, pl. i.
632. —. Note sur les fonctions de la pince des insectes *Orthoptères* de la famille des *Forficulidés*. Bull. Soc. zool. France 1905, pp. 55-63.
633. GAL, J. Ponte du *Bombyx mori*. Bull. Soc. Nîmes xxxii, pp. 68-71. [*Lepidoptera*.]

634. GALLI, I. Una invazione di cavallette a Velletri. Atti Acc. Pont. Lincei lviii, pp. 17-23: and ii, t. c. pp. 189-203. [*Orthoptera.*]
635. GALLI-VALMIRIO, B. Einige Parasiten von *Arvicola nivalis*. Zool. Anz. xxviii, pp. 519-522. [*Anoplura.*]
636. — & ROCHAZ DE JONGH. Ueber die Wirkung von *Aspergillus niger* und *A. glaucus* auf die Larven von *Culex* und *Anopheles*. Centrbl. Bakter. xxxviii (1), pp. 174-177. [*Diptera.*]
637. GANGLBAUER, L. Ein neuer *Trechus* vom Schafberg im Salzkammergut. Munchen. Kol. Zeitschr. iii, p. 11. [*Coleoptera.*]
638. —. *Laria* oder *Bruchus*. T. c. pp. 65-68. [*Coleoptera.*]
639. GARCÍA MERCET, R. Una *Bembex* de Río de Oro. Bol. Soc. espan. v, p. 342. [*Hymenoptera.*]
640. —. *Bembex* nuevas de África. T. c. pp. 352-355.
641. —. Un *Gorytes* y una *Bembex* de Marruecos. T. c. pp. 464-466.
642. —. *Mutilidos* nuevos de España. T. c. pp. 488-494.
643. GASPÀR, A. Curiosas observaciones realizadas por M. P. Cesnola, sobre el valor de la homocromia como media de defensa. Bol. Soc. Aragon. iv, pp. 254, 255. [*Orthoptera.*]
644. GEBIEN, H. Bemerkungen zu dem Tenebrionidenkatalog von Gemminger und Harold Band VII und Champions Nachtrag zu demselben. Wien. ent. Zeit. xxiv, pp. 252-260. [*Coleoptera.*]
645. —. Bemerkungen zu Klug's: Insekten Madagaskar's. Deutsche ent. Zeitschr. 1905, pp. 22, 23. [*Coleoptera.*]
646. —. Fam. *Tenebrionidæ*. Jägerskiöld exp. No. 10a, pp. 12-15. [*Coleoptera.*]
647. GEDOELST, L. Contribution à l'étude des larves cuticoles de *Muscides* africaines. Arch. parasit. ix, pp. 568-592. [*Diptera.*]
648. GEISSLER, G. Verzeichnis der in Bremen und Umgegend vorkommenden *Libellen*. Abh. Ver. Bremen xviii, pp. 267-273. [*Odonata.*]
649. GESTRO, R. Materiali per lo studio delle *Hispidæ*. Bull. Soc. ent. Ital. xxxvi, pp. 171-178. [*Coleoptera.*]
650. GIACOMELLI, E. Apuntes sobre el mimetismo y los colores protectores en la región Riojana. An. Soc. Argent. lx, pp. 114-121.
651. GIARD, A. La pœcilogonie. C.R. Congr. Zool. vi, pp. 617-646.
652. GIBSON, A. Practical and popular entomology. No. 7. Granary insects. Canad. Ent. 1905, pp. 233-235.
653. —. Notes on the earlier stages of some Canadian tiger-moths of the genus *Apantesis*. T. c. pp. 337-347. [*Lepidoptera.*]
654. GILES, G. M. A revision of the *Anophelinæ*, being a first supplement to the second edition of "a handbook of the gnats or mosquitoes." London, 1904, 8vo, 48 pp., illustr.
655. —. Mouth-parts of biting flies—preliminary note. J. trop. Medicine viii, pp. 363, 364. [*Diptera.*]
656. GILLANDERS, A. T. Further notes on arboreal insects. Tr. Manchester Micr. Soc. 1904, pp. 68-66.
657. —. Forest entomology, mites, green-fly, and scale-insects. Trans. Highland Agric. Soc. Scotland (5) xvii, pp. 19-57, 6 pls.

658. GILLETTE, C. P. & JOHNSON, S. A. Beet worms and their remedies. Bull. 98 Agric. exp. Stat. Colorado, 22 pp. [*Lepidoptera.*]
659. ——. The Western cricket. Op. cit. No. 101, 16 pp. [*Orthoptera.*]
660. GILLMER, M. Uebersicht der von Herrn E. Busack bei Schwerin und Waren gefangenen Grossschmetterlinge [continuation]. Arch. Ver. Mecklenb. lviii, pp. 64-99. Berichtigungen und Zusätze. Op. cit. lix, pp. 47-120. [*Lepidoptera.*]
661. GIRAULT, A. A. A bibliography of entomological glossaries. Ent. News Philad. xvi, pp. 105-108. II. Supplementary and emendatory. T. c. pp. 221-230.
662. ——. *Anaphes conotracheli*, sp. nov. T. c. p. 220. [*Hymenoptera.*]
663. ——. Descriptions of two new *Hymenopterous* egg-parasites. T. c. pp. 287-289.
664. ——. Oviposition of *Bibio femorata* Wied. and ovipositing females. Canad. Ent. 1905, pp. 322-330. [*Diptera.*]
665. ——. Notes on short experiments bearing on the relation of larval to adult legs. Psyche xii, pp. 44, 45. [*Lepidoptera.*]
666. ——. The bed-bug, *Clinocoris* (= *Cimex* = *Acanthia* = *Klinophilos*) *lectularia* Linnaeus. T. c. pp. 61-74. [*Hemiptera.*]
667. ——. The bed-bug, *Clinocoris lectularius* (Linnaeus) and the fowl-bug, *Clinocoris columbarius* (Jenyns): host relations. T. c. pp. 117-123. [*Hemiptera.*]
668. ——. Two new *Mymaridæ*. T. c. pp. 91, 92. [*Hymenoptera.*]
669. GOBERT, E. Notice nécrologique sur Louis Pandellé. Ann. Soc. ent. France 1905, pp. 287, 288.
670. GODMAN, F. D. Biologia centrali-americana, Parts clxxxvi, clxxxvii, London 1905 [includes]  
*Coleoptera*, Vol. ii, part 1, pp. 689-717+i-xii and title page by D. SHARP, completing Vol.  
*Coleoptera*, Vol. iv, part 4, pp. 441-600, pls. xxii-xxix: by G. C. CHAMPION.  
*Coleoptera*, Vol. iv, part 6, pp. 281-298, pl. ix: by W. F. H. BLANDFORD.  
*Hemiptera Homoptera*, Vol. i, pp. 125-147 and i-x, pl. xiii: title page completing the Vol. by DISTANT & FOWLER.  
*Orthoptera*, Vol. ii, pp. 105-176, pl. ii: by L. BRUNER.  
*Neuroptera*, pp. 145-212, pls. vi-viii.  
 For an account of this work see CALVERT (236).
671. ——. Descriptions of some new species of *Satyridæ* from South America. Tr. ent. Soc. London 1905, pp. 185-190, pl. x. [*Lepidoptera.*]
672. GOELDI, E. A. Os mosquitos no Pará. Reunião de quatro trabalhos sobre os mosquitos indigenas, principalmente as especies que molestan o homem. Mem. Mus. Gældi iv, 154 pp., 144 figg. and 5 pls. [*Diptera.*]  
 Review by DE MEIJERE, Zool. Zentrbl. 1905, pp. 757, 758. Noticed Nature lxxii, p. 607.
673. ——. *Stegomyia fasciata*, der das Gelbfieber übertragende Mosquito und der gegenwärtige Stand der Kenntnisse über die Ursache dieser Krankheit. C.R. Congr. Zool. vi, pp. 193-203.
674. ——. Beobachtungen über die erste Anlage einer neuen Kolonie von *Atta cephalotes*. T. c. pp. 457, 458. [*Hymenoptera.*]

675. [GOELDI, E. A.] Myrmecologische Mitteilung das Wachsen des Pilzgartens bei *Atta cephalotes* betreffend. T. c. pp. 508, 509. [*Hymenoptera*.]
676. GORHAM, H. S. On new *Coleoptera* from South Africa collected by Dr H. Brauns and others—*Serricornia*, *Endomychidæ*, *Erotylidæ*. P. Zool. Soc. London 1905, ii, pp. 271-280.
677. GOUNELLE, E. Contribution à l'étude des mœurs d'*Hypocephalus armatus*. Ann. Soc. ent. France 1905, pp. 105-108, pl. vi. [*Coleoptera*.]
678. —. Concordance des variations locales de coloration chez les *Lycides* et les insectes qui les miment. Bull. Soc. ent. France 1905, pp. 132-134.
679. —. Description d'un *Cerambycide* nouveau appartenant au genre *Coremia* et tableau synoptique de ce genre. T. c. pp. 227, 228. [*Coleoptera*.]
680. —. Description d'un *Cerambycide* nouveau appartenant au genre *Parozodes* Aurivillius. T. c. pp. 293, 294. [*Coleoptera*.]
681. GOURY, G. & GUIGNON, J. Les insectes parasites des Nymphéacées. Feuille Natural. xxxv, pp. 37-39.
682. — & —. Insectes parasites des Papaveracées et des Fumariacées. T. c. pp. 105-109, 119-121.
683. — & —. Deux *Hyménoptères* nouveaux. T. c. pp. 200-202.  
The descriptions are by Abbé KIEFFER.
684. GRABHAM, M. Notes on some Jamaican *Culicidæ*. Canad. Ent. 1905, pp. 401-411. [*Diptera*.]  
Includes two n. spp. by THEOBALD.
685. GRAEFFE, E. Ueber zwei neue *Cynips*-Arten und deren Gallen. Verh. Ges. Wien 1905, pp. 370-373. [*Hymenoptera*.]  
Includes a description by KIEFFER.
686. GRAENICHER, S. On the habits of two Ichneumonid parasites of the bee *Ceratina dupla* Say. Ent. News Philad. xvi, pp. 43-49. [*Hymenoptera*.]
687. GREEN, E. E. Supplementary notes on the *Coccidæ* of Ceylon. Part III. J. Bombay Soc. xvi, pp. 340-357, pls. H-K.
688. —. On some Javanese *Coccidæ*: with descriptions of new species. Ent. Mag. 1905, pp. 28-33.
689. —. Some new Victorian *Coccidæ*. Victorian Natural. xxii, pp. 3-8, 2 pls.
690. —. On *Toxorhynchites immisericors* (Walker), the elephant mosquito. Spolia Zeylan. ii, pp. 159-164, 1 pl. [*Diptera*.]  
— [See also CAMERON, (270).]
691. GRIFFINI, A. Studi sui *Lucanidi*. 1°. Considerazioni generali sulla grande variazione di caratteri nei maschi dei *Lucanidi*. Torino 1905, 8vo, 40 pp. [*Coleoptera*.]  
Abstract by ZANG, Deutsche ent. Zeitschr. 1905, p. 339.
692. —. Sui *Lucanidi* e sulla grande variabilità dei loro maschi. Boll. Naturalista xxv, No. 2 etc., 22 pp. [*Coleoptera*.]
693. GRIMSHAW, P. H. On the terminology of the leg-bristles of *Diptera*. Ent. Mag. 1905, pp. 173-176.

694. [GRIMSHAW, P. H.] On the British species of *Hydrotæa*. T. c. pp. 239-247. [*Diptera*.]
695. ——. *Diptera scotica*. iv. Orkney and Shetland. Ann. Scott. Nat. Hist. 1905, pp. 22-35.
696. ——. On the *Diptera* of the Flannan Islands. T. c. pp. 218-220.
697. GRINNELL, F. Two new butterflies from Mt. Tamalpais, California. Ent. News Philad. xvi, pp. 33-35. [*Lepidoptera*.]
698. ——. *Lycæna emigdionis* n. sp. T. c. p. 115. [*Lepidoptera*.]
699. GROSS, J. Untersuchungen über die Ovarien von *Mallophagen* und *Pediculiden*. Zool. Jahrb. Anat. xxii, pp. 347-386, pls. xx, xxi.
700. ——. Bemerkungen über den Bau des Ovarium von *Ceratopsyllus canis*. Zool. Anz. xxix, pp. 229-232.
701. GROSSBECK, J. A. New species of *Culicidæ*. Canad. Ent. 1905, pp. 359, 360. [*Diptera*.]  
— ——. [See also SMITH & GROSSBECK (1422).]
702. GROSSER, W. Einige Schädlinge unserer Kulturpflanzen. Jahresber. Schlesisch. Ges. lxxxii, pp. 3-5.
703. GROUVELLE, A. Description d'un *Colydien* du groupe des *Cerylon*. Bull. Soc. ent. France 1905, p. 109. [*Coleoptera*.]
704. ——. Description d'un *Læmophlaus* nouveau de Madagascar. T. c. p. 142. [*Coleoptera*.]
705. GRÜNBERG, K. Zur Kenntnis der *Culiciden*fauna von Kamerun und Togo. Zool. Anz. xxix, pp. 377-390. [*Diptera*.]
706. ——. James & Liston; monograph of *Anopheles* mosquitoes in India. Biol. Centrbl. xxv, pp. 428-431. [*Diptera*.]  
Abstract of Title (760), Zool. Rec. 1904, INS.
707. ——. The Congo floor-maggot. T. c. pp. 431, 432. [*Diptera*.]  
Abstract of DUTTON, etc., Zool. Rec. 1904, INS. Titles (419).
708. GUÉDEL, ——. Considérations sur les *Coléoptères* de la faune alpine. C.R. Ass. Franc. 1904, pp. 868-872.
709. GUÉRIN, J. Matériaux pour servir à l'histoire des *Hémiptères* de la faune alpine. C.R. Ass. Franc. 1904, pp. 874-882.
710. GUTIÉRREZ, MARTIN D. Algunos *Ortopteros* de Olmedo (Valladolid). Bol. Soc. espan. v, pp. 140-143.
711. HABICH, O. *Pseudophia häfæ* nov. spec. Verh. Ges. Wien 1905, p. 21. [*Lepidoptera*.]
712. HAENSCH, R. Neue sudamerikanische *Ithomiinæ* meiner Sammlung. Berlin. ent. Zeitschr. 1, pp. 142-182. [*Lepidoptera*.]
713. HAGEDORN, M. Enumeratio *Scolytidarum* e Guyana, Venezuela et Columbia natarum Musei historico-naturalis Parisiorum, descriptionibus specierum novarum adjectis. Bull. Mus. Paris x, pp. 545-550. [*Coleoptera*.]
714. ——. Über *Scolytoptatypus* Schauf. Ins. Börse 1905, p. 63. [*Coleoptera*.]
715. HAMPSON, Sir G. F. Catalogue of the *Noctuidæ* in the collection of the British Museum [being Vol. v, *Hadeninæ*]. Cat. Lep. Phalaenæ Brit. Mus. London 1905, 8vo, xvi + 634 pp., pls. lxxviii-xcv. [*Lepidoptera*.]  
Review of Vols. iv, v, DYAR, Science xxii, pp. 247, 248.



716. [HAMPSON, Sir G. F.] Descriptions of new genera and species of *Syntomidæ*, *Arctiadæ*, *Agaristidæ* and *Noctuidæ*. Ann. Nat. Hist. (7) xv, pp. 425-452. [*Lepidoptera*.]
717. —. Descriptions of new species of *Noctuidæ* in the British Museum. Op. cit. xvi, pp. 369-386, 533-549, and 577-604. [*Lepidoptera*.]
718. —. On three remarkable new genera of *Microlepidoptera*. Tr. ent. Soc. London 1905, pp. 245-249.
719. —. The moths of India. Supplementary.... Series III, Part III (continued). J. Bombay Soc. xvi, pp. 193-216, 434-461, 700-719. [*Lepidoptera*.]  
— [See also HOLLAND (755).]
720. HANCOCK, J. L. The habits of the striped meadow cricket (*Ecanthus fasciatus* Fitch). Amer. Natural. xxxix, pp. 1-11. [*Orthoptera*.]  
Abstract, Zool. Zentrbl. 1906, p. 82.
721. HANDLIRSCH, A. Notiz über die Phylogenie der Arthropoden. Anz. Ak. Wiss. 1905, pp. 466-470.
722. —. Phylogenetisches über Insekten. Zool. Anz. xxviii, pp. 664-670.
723. —. Über fossile Insekten und die Entwicklung des Insektenstammes. Mt. Naturk. Österr. Tourist.-Kl. xvii, pp. 25-30.
724. —. Friedrich Moritz Brauer. Verh. Ges. Wien 1905, pp. 129-166, portrait and full bibliography.
725. HARRIS, J. A. The influence of *Apidæ* upon the geographical distribution of certain floral types. Canad. Ent. 1905, pp. 353-357, 373-380, 393-398.
726. HARTMANN, F. Drei weitere neue *Niphades*-Arten. Deutsche ent. Zeitschr. 1905, pp. 267-269. [*Coleoptera*.]
727. —. Ein neuer *Megarhinus* aus Westafrika. T. c. p. 270. [*Coleoptera*.]
728. —. Observations on the habits of some solitary wasps of Texas. Bull. Univ. Texas, No. 65; also Contr. Zool. Lab. Texas, No. 67, 72 pp., 4 pls. [*Hymenoptera*.]
729. \*HAURY, — & NICKERL, —. Catalogus insectorum faunæ bohemicæ. VII. Geradflügler. Prag. 1905, 14 pp. [From Wien. ent. Zeit. xxiv, p. 320.]
730. HEATH, E. A. Descriptions of three new beetles from the Gold Coast and Angola, West Africa. Entomologist 1905, pp. 74-76. [*Coleoptera*.]
731. —. Descriptions of two new beetles from Angola. T. c. pp. 97, 98. [*Coleoptera*.]  
HEBARD, M. [See REHN & HEBARD (1242).]
732. HEIDEMANN, O. Description of a new *Anasa* from North America. P. ent. Soc. Washington vii, p. 11. [*Hemiptera*.]
733. —. A new genus and species of the *Hemipterous* family *Ceratocombidæ* from the United States. T. c. pp. 192-194.
734. —. A list of *Cupsids* from the State of New York, with the description of a new species. J. N. York Ent. Soc. xiii, pp. 48-50. [*Hemiptera*.]

735. HEINDEL, R. L. Ecology of the willow cone gall. Amer. Natural. xxxix, pp. 859-873.  
Includes description of a new moth by FERNALD.
736. HELLER, K. M. Die Arten der Gattung *Pantorhytes* Faust. Wien. ent. Zeit. xxiv, pp. 305-310. [*Coleoptera.*]
737. —. Zehn neue Käfer aus Neu-Guinea. Deutsche ent. Zeitschr. 1905, pp. 65-76. [*Coleoptera.*]
738. HENDERSON, R. *Tipulide* in Shetland and Kircudbright. Ann. Scott. Nat. Hist. 1905, pp. 86-89. [*Diptera.*]
738. HENNEGUY, F. Sur le prétendu dimorphisme sexuel chez les *Heliconia*. Bull. Soc. ent. France 1905, p. 147. [*Lepidoptera.*]  
Correction of an error on p. 188 of this author's "Les insectes."
740. HERMANN, F. Beitrag zur Kenntnis der *Asiliden*. Berlin. ent. Zeitschr. 1, pp. 14-42. [*Diptera.*]
741. \*HERZOG, M. Suctorial and other insects as plague carriers. A new species of rat flea. Amer. J. Sci. 1905, cxxix, pp. 504-520, 10 figg. [*Aphaniptera.*]  
From J. econ. Biol. i, p. 99.  
— . See also BAKER (67).]
742. HEYDEN, L. VON. Beiträge zur Kenntnis der *Hymenopteren*-Fauna der weiteren Umgegend von Frankfurt a. M. Ber. Senckenb. Ges. 1905, pp. 75-87.
743. HEYMONS, R. [Review of] Verhoeff, über vergleichende Morphologie des Kopfes niederer Insecten mit besonderer Berücksichtigung der *Dermapteren* und *Thysanuren*, etc. (1904). Zool. Zentrbl. 1905, pp. 539-543.
744. —. Drei neue Arbeiten über Insectenkeimblätter. Eine zusammenfassende Besprechung unter Berücksichtigung der wichtigsten Literatur. T. c. pp. 677-690.
745. — & HEYMONS, HELENE. Die Entwicklungsgeschichte von *Machilis*. Verh. Deutsch. zool. Ges. 1905, pp. 123-135. [*Aptera.*]
746. HEYN, K. *Pieris continentalis* n. sp. Ent. Zeitschr. Guben xviii, p. 57. [*Lepidoptera.*]
747. HILL, J. A. Fights between two species of ants. Victorian Natural. xxii, pp. 35, 36.
748. HINDS, W. E. A new tobacco *Thrips*. P. Soc. Washington xviii, pp. 197-200.  
— . [See also HUNTER & HINDS (798, 799).]
749. HINE, J. S. New species of North American *Chrysops*. Ohio Natural. vi, pp. 391-393. [*Diptera.*]
750. HINTZ, E. Neue *Cleriden* aus Westafrika. Deutsche ent. Zeitschr. 1905, pp. 305-314. [*Coleoptera.*]
751. HIRSCHKE, H. Eine neue *Noctuide* aus Spanien. Jahresber. Wien. ent. Ver. 1903, pp. 41, 42. [*Lepidoptera.*]
752. HODDER, W. M. The destruction of mosquitoes. J. trop. Medicine viii, pp. 74-77, 93, 94.
753. HOFFMANN, R. W. Über die Morphologie und die Funktion der Kauwerkzeuge von *Tomocerus plumbeus*. II. Beitrag zur Kenntnis der *Collembolen*. Zeitschr. wiss. Zool. lxxxii, pp. 638-663, pl. xxxiv.

754. HOLDHAUS, C. & WAGNER, H. Nuovi *Coleotteri* della Toscana. Diagnosi preliminari. Riv. Col. ital. iii, pp. 29-39.
755. HOLLAND, W. J. A new *Noctuid* from Sierra Leone. Ann. Nat. Hist. (7) xvi, pp. 18, 19. [*Lepidoptera*.]  
The description is by HAMPSON.
756. HOLMGREN, N. Zwei neue *Termitomastiden* aus Südamerika. Zool. Anz. xxix, pp. 529-536. [*Diptera*.]
757. HOMMELL, R. Anatomie et physiologie de l'abeille domestique (suite). Microgr. prep. xiii, pp. 15-25, 60-67.
758. HOPKINS, A. D. Notes on some Mexican *Scolytidæ*, with descriptions of some new species. P. ent. Soc. Washington vii, pp. 71-81. [*Coleoptera*.]
759. —. Notes on *Scolytid* larvæ and their mouth parts. T. c. pp. 143-149, pls. iv, v. [*Coleoptera*.]
760. —. The Black hills beetle, with further notes on its distribution, life history and methods of control. Bull. U. S. Dep. Agric. Ent. No. 56, 24 pp. [*Coleoptera*.]
761. HORMUZAKI, C. v. Zur Definition des Artbegriffes mit besonderer Anwendung auf die Untergattung *Morphocarabus* Gehin. Zeitschr. Insbiol. i, pp. 155-167. [*Coleoptera*.]
762. HORN, W. Systematischer Index der *Cicindeliden*, 56 pp. [*Coleoptera*.]  
Published in connection with Deutsche ent. Zeitschr. 1905, Heft. 2.
763. —. Ein zweiter Beitrag zur *Cicindeliden*-Fauna von Vorder-Indien (incl. Ceylon). Deutsche ent. Zeitschr. 1905, pp. 59-64. [*Coleoptera*.]
764. —. Zwei neue Ostafrika-*Cicindeliden*. T. c. pp. 143, 144. [*Coleoptera*.]
765. —. Die Gattungen *Oxygonia* und *Odontochila*. T. c. 1905, pp. 145-149. [*Coleoptera*.]
766. —. Zur Kenntnis der *Cicindeliden*-Fauna von Kamerun und seiner Hinterländer. II. T. c. pp. 150-152. [*Coleoptera*.]
767. —. Eine neue *Derocrania* (*Tricondyla*) aus Vorder-Indien. T. c. p. 152. [*Coleoptera*.]
768. —. Ueber die Verwandtschaft der *Cicindela*-Formen: *hybrida* L., *songorica* Mannrh., *transbaicalica* Motsch., *przevalskii* Dokht. und *tricolor* Adams. T. c. pp. 153-158. [*Coleoptera*.]
769. —. *Cicindela excisilabris* nov. spec. T. c. p. 160. [*Coleoptera*.]
770. —. Neue *Collyris*-Arten. T. c. pp. 293-296. [*Coleoptera*.]
771. —. 5 neue *Cicindeliden*-Arten. Stettin Ent. Zeit. lxvi, pp. 276-282. [*Coleoptera*.]
772. —. Two new species of *Cicindelidæ*. Notes Leyden Mus. xxv, pp. 219, 220. [*Coleoptera*.]
773. HORVÁTH, G. Sur les cornicules ou nectaires des *Aphidiens*. C.R. Congr. Zool. vi, pp. 421-424.
774. —. *Berytidæ* novæ. Ann. Mus. Hungar. iii, pp. 56-60. [*Hemiptera*.]

775. [HORVÁTH, G.] Species generis *Ommatidiotus* Spin. T. c. pp. 378-387. [*Homoptera.*]
776. —. *Hémiptères nouveaux de Japon.* T. c. pp. 413-423.
777. —. *Tingitidæ novæ vel minus cognitæ e regione palaeartica.* T. c. pp. 556-572. [*Hemiptera.*]
778. —. A tévesztö, színek szerepe az állatvilágban. Allatt. Kozl. Magyar Tars. iv, pp. 165-170, and Abstract in German, p. 244.
779. —. Descripciones de algunos *Hemipteros* nuevos del centro de España. Bol. Soc. espan. v, pp. 272-277.
780. HOUARD, C. Sur une *Lépidoptéroécidie* intéressante du *Scabiosa columbaria* L. Marcellia iv, pp. 31-35.
781. —. Sur la galle du fruit de *Veronica anagallis* L. T. c. pp. 41-51. [*Coleoptera.*]
782. —. Sur un *Diptéroécidie* nouvelle du *Daphne laureola* L. T. c. pp. 59-64.
783. HOULBERT, C. Les chênes du Thabor et le *Liparis chrysorrhea.* Bull. Soc. sci. med. Ouest France xiv, pp. 113-118. [*Lepidoptera.*]
784. — & BÉTIS, L. Faune entomologique Armoricaïne. 65<sup>e</sup> famille. *Meloides* (Vésicants). Suppl. to Bull. Soc. sci. med. Ouest France xiii, 36 pp. [*Coleoptera.*]
785. — & MONNOT, E. Faune entomologique Armoricaïne. 1<sup>o</sup> famille *Cicindélides.* T. c. 11 pp. [*Coleoptera.*]
786. — & —. .... 2<sup>e</sup> famille *Carabides.* Op. cit. 18 pp. (incomplete). [*Coleoptera.*]
787. HOWARD, L. O. Concerning the geographic distribution of the yellow fever mosquito. Public health reports xviii, 1903, No. 46, revised to September, 1905; Washington, 9 pp., map. [*Diptera.*]
788. —. Les principaux Insectes nuisibles importés d'Europe aux États-Unis. Bull. Soc. ent. France 1905, pp. 231-233.
789. —. Breeding beneficial insects. Science xxii, pp. 466-468.
790. HUBER, G. Monographische Studien im Gebiete der Montigglerseen (Sudtirol) mit besonderer Berücksichtigung ihrer Biologie. Arch. Hydrobiol. i, pp. 1-81, & 123-210.  
*Insecta*, pp. 69-72.
791. HUBER, J. Über die Koloniengründung bei *Atta sexdens.* Biol. Centrbl. xxv, pp. 606-619, 625-635. [*Hymenoptera.*]
792. HUDSON, G. V. Notes on the entomology of Mount Holdsworth Tararua range. Tr. N. Zealand Inst. xxxvii, pp. 334-342.
793. —. On *Macrolepidoptera* observed during the summer of 1903-4, including a note on the occurrence of a hawk-moth new to New Zealand. T. c. pp. 358-360.
794. —. On some new species of *Macro-lepidoptera* in New Zealand. T. c. pp. 355-358.
795. HUEBER, T. Deutschlands Wasserwanzen. Jahresh. Ver. Wurttemb. lxi, pp. 91-175. [*Hemiptera.*]
796. HUNTER, J. S. Studies in Grasshopper control. Bull. Agric. exp. Stat. California, No. 170, 23 pp., 17 text-figg.

797. HUNTER, W. A research into epidemic and epizootic plague. J. trop. Medicine viii, pp. 7-9.
798. HUNTER, W. D. & HINDS, W. E. The Mexican Cotton boll weevil. Bull. U. S. Dep. Agric. Ent. No. 45, 116 pp., xvi pls. [*Coleoptera*.]
799. — & —. The Mexican Cotton boll weevil. A revision and amplification of Bull. 45. T. c. No. 51, 181 pp., xxiii pls. [*Coleoptera*.]
800. IHERING, R. VON. As *Vespas sociaes* do Brazil. Revist. Mus. Paulista vi, pp. 97-309, pls. iii-vii. [*Hymenoptera*.]
801. —. Biologia das abelhas solitarias do Brazil. T. c. pp. 461-481. [*Hymenoptera*.]
802. \*IHLE, P. & LANGE, M. Grossschmetterlinge Deutschlands, deren Eier, Raupen, Puppen, sowie Nahrungspflanzen. Gotha, 1904. Review, Zeitschr. Insbiol. i, p. 269.
803. IMHOF, O. E. Entomologica. C.R. Congr. Zool. vi, pp. 509-511.
804. —. Zur Kenntnis des Baues der Insektenflügel insbesondere bei *Cicadiden*. Zeitschr. wiss. Zool. lxxxiii, pp. 211-223.
805. JACOBI, A. Studien über die *Homopterenfamilie* der *Cercopiden*. Mt. Mus. Berlin iii, pp. 1-24, pl. i.
806. —. Zur Kenntnis der *Cicadenfauna* von Tonking. Zool. Jahrb. Syst. xxi, pp. 425-446, pl. xxi. [*Homoptera*.]
807. —. Vorbericht über eine *Homopterenfauna* der Anden nebst Diagnosen neuer Arten. SB. Ges. naturf. Berlin 1905, pp. 163-188.
808. JACOBI, M. Diè Fichtenwurzellaus (*Rhizomaria piceæ*). Tharauder forst. Jahrb. lv, pp. 177-197, pl. ii. [*Aphidæ*.]
809. JACOBSON, G. Bemerkungen zu den "Internationalen Regeln der zoologischen Nomenclatur." Zool. Anz. xxix, pp. 150, 151.
810. JACOBY, M. Diagnoses of Phytophagous *Coleoptera*. Fasc. malay. Zool. App. ii, vii pp.
811. —. Redescriptions of some new species of *Phytophagous Coleoptera* from Madagascar collected by E. & B. Perrot in the collection of R. Oberthür. Ann. Soc. ent. Belgique 1905, pp. 186-189. Originally in Novitat. Coleopt. 1895, p. 1.
812. — & CLAVAREAU, H. *Coleoptera Phytophaga*. Fam. *Megascelidæ*. Wytzman Gen. Ins. fasc. xxxii, 6 pp., 1 pl.
813. — & —. .... Fam. *Megalopidæ*. Op. cit. fasc. xxxiii, 19 pp., 2 pls.
814. JANET, A. Description d'une nouvelle espèce de *Lepidoptères* de l'Indo-Chine. Bull. Soc. ent. France 1905, p. 215.
815. JANSON, O. E. Descriptions of new *Coleoptera* of the family *Cetoniidæ* from British New Guinea. Ann. Nat. Hist. (7) xvi, pp. 11-18.
816. JAPHA, —. Über tonerzeugende Schmetterlinge. Schr. Ges. Königsb. 1905, pp. 132-136. [*Lepidoptera*.]
817. JEANNEL, R. Note sur une anomalie antennaire observée chez *Carabus splendens* Fabr. Bull. Soc. ent. France 1905, p. 143. [*Coleoptera*.]

818. [JEANNEL, R.] Contribution à l'étude de la faune de la grotte de Camou (Basses-Pyrénées). T. c. pp. 158-160.
819. JEHEBER, E. Observations on *Papilio turnus* var. *glaucus*. Ent. News Philad. xvi, pp. 111, 112. [*Lepidoptera*.]
820. JOHANNSEN, O. A. Aquatic *Nematoceros* *Diptera*. II. Bull. N. York Mus. lxxxvi, pp. 76-327, pls. xvi-xxxvii; and additions and corrections, 2 pp. unnumbered.  
For part I see Zool. Rec. 1903, INS. Titles (790).
821. JOHNSON, C. W. Synopsis of the *Tripulid* genus *Bittacomorpha*. Psyche xii, pp. 75, 76. [*Diptera*.]
822. JORDAN, K. Der Gegensatz zwischen geographischer und nichtgeographischer Variation. Zeitschr. wiss. Zool. lxxxiii, pp. 151-210. [*Lepidoptera*.]
823. —. Note on a peculiar secondary sexual character found among *Geometridæ* at the sensory organ situated at the base of the abdomen. Nov. Zool. xii, pp. 506-508. [*Lepidoptera*.]
824. JOY, N. H. Three species of *Coleoptera* new to Britain. Ent. Mag. 1905, pp. 274, 275.
825. JUNOD, H. A. La faune entomologique de Delagoa. Bull. Soc. Neuchatel xxvii, pp. 176-251, 4 pls. [*Lepidoptera*.]
826. KARAWIEW, W. Versuche an Ameisen in bezug auf das Übertragen der Larven in die Dunkelheit. Zeitschr. Insbiol. i, pp. 215-224, 257-266. [*Hymenoptera*.]
827. —. Versuche über die internationalen Beziehungen einiger *Antenophorus*arten nebst einigen systematischen Bemerkungen. T. c. pp. 485-493.
828. KAYE, W. J. Transparency in wings of *Lepidoptera*. Ent. Rec. xvii, pp. 83-86, 115-121, pl. iii.  
Includes 2 spp. n.
829. KEARFOTT, W. D. North American *Tortricidæ*. Tr. Amer. ent. Soc. xxx, pp. 287-299, pls. xix, xx. [*Lepidoptera*.]
830. —. Descriptions of new species of *Tortricid* moths from North Carolina, with notes. P. U. S. Mus. xxviii, No. 1398, pp. 349-364. [*Lepidoptera*.]
831. —. Assiniboia *Microlepidoptera*, collected by Mr T. N. Willing. Canad. Ent. 1905, pp. 41-48, 89-93, 119-125.
832. —. New *Tortricids*. T. c. pp. 9-11. [*Lepidoptera*.]
833. —. A new *Gelechiid* from Ontario. T. c. p. 15. [*Lepidoptera*.]
834. KELLOGG, V. L. American insects. New York, 8vo, vii + 674 pp., 812 illustrations and 13 pls.  
Reviews: Canad. Ent. 1905, p. 336; by MARLATT, Science xxii, pp. 563, 564; by COCKERELL, The Dial xxxix, p. 164.
835. KERREMANS, C. H. Monographie des *Buprestides*. Livraison 3-14 = pp. 65-432, pls. i-vi. [*Coleoptera*.]
836. KERSHAW, J. C. W. The life history of *Gerydus chinensis* Felder. Tr. ent. Soc. London 1905, pp. 1-4, pl. i. [*Lepidoptera*.]
837. —. Butterfly-destroyers in Southern China. T. c. pp. 5-8. [*Lepidoptera*.]

838. KERTÉSZ, K. A *Hypoderma*-lárvák vándorlásának kérdése. Termes. Kozl. Magyar Tars. 1905, pp. 513-517. [*Diptera*.]
839. KHEIL, N. M. *Lepidópteros* de la Guineá española. Mem. Soc. Espan. i, pp. 161-181.
840. KIEFFER, J. J. *Proctotrypides*, pp. 65-288, pls. iv-xii, vol. ix of André Spec. Hum. Eur. [*Hymenoptera*.]
841. —. Description de nouveaux *Proctotrypides* exotiques. Ann. Soc. Bruxelles xxix, pp. 95-142, i pl. [*Hymenoptera*.]
842. —. Ueber neue myrmekophile *Hymenopteren*. Berlin. ent. Zeitschr. i, pp. 1-10.
843. —. Über die sogenannten *Pedes raptorii* der *Dryiniden*. Zeitschr. Insbiol. i, pp. 6-13. [*Hymenoptera*.]
844. —. Étude sur les *Cécidomyies* gallicoles. Ann. Soc. Bruxelles xxviii, pp. 329-350. [*Diptera*.]
845. —. Nouvelles *Cécidomyies* xylophiles. T. c. pp. 367-410, 1 pl. [*Diptera*.]
846. —. Étude sur de nouveaux insectes et *Phytoptides* gallicoles du Bengale. Op. cit. xxix, pp. 143-199, i pl.
847. —. Descriptions of some new *Hymenoptera* from California and Nevada. Invert. pacif. i, pp. 41-45.
848. — & PABLO, H. Über Gallen und Gallenerzeuger aus Chile. Zeitschr. Insbiol. i, pp. 63-66.
849. — & TROTTER, A. *Cécidomyes* nouvelles d'Italie. Marcellia iii, pp. 64, 65. [*Diptera*.]  
— [See also GOURY & GUIGNON (683).]
850. KINGSLEY, J. S. *Alpheus* Spring Packard. Science xxi, pp. 401-404.
851. KIRBY, W. F. List of a collection of *Neuroptera Odonata* (Dragon-flies) formed by G. A. K. Marshall, Esq., at Salisbury, Mashonaland, with descriptions of a new genus and two new species. Ann. Nat. Hist. (7) xv, pp. 190-193.
852. —. List of a small collection of *Odonata* (Dragon-flies) from Ceylon, collected by Mr E. Ernest Green, with notes on the genus *Zygonidia* and its allies, and descriptions of new species of *Zygonidia* Kirby, and *Onychothemis* Brauer, from Ceylon and Tonkin. T. c. pp. 270-278.
853. —. Description of a new species of *Palophus* (*Phasmidae*) from West Africa. T. c. pp. 279, 280.
854. —. [Obituary of] George Bowdler Buckton. Nature lxxii, pp. 587, 588.
855. KIRCHOFFER, O. Untersuchungen über eucöne Käferaugen. SB. Ges. naturf. Berlin 1905, pp. 149-153.
856. KIRKALDY, G. W. Memoir on the *Rhynchota* collected by Dr Arthur Willey, F.R.S., chiefly in Birara (New Britain) and Lifu. Tr. ent. Soc. London 1905, pp. 327-363, pl. xvii.
857. —. Bibliographical notes on the *Hemiptera*. No. 4. Entomologist 1905, pp. 76-79.
858. —. Neue und wenigbekannte *Hemiptera*. Wien. ent. Zeit. xxiv, pp. 266-268.

859. [KIRKALDY, G. W.] Quelques *Tingides* nouveaux ou peu connus. Bull. Soc. ent. France 1905, pp. 216, 217. [*Hemiptera*.]
860. —. Catalogue of the genera of the *Hemipterous* family *Aphidae*, with their typical species, together with a list of the species described as new from 1885 to 1905. Canad. Ent. 1905, pp. 414–420.
861. —. Two new *Homoptera* of the family *Chermidae*, one of economic importance. T. c. pp. 290–292.
862. —. Five new species of *Micronecta* Kirkaldy. Ent. News Philad. xvi, pp. 260–263. [*Hemiptera*.]
863. —. The historical method in type-fixation. P. ent. Soc. Washington vii, pp. 27, 28.
864. KITCHIN, V. P. Notes on variation in *Melitea aurinia* (*artemis*). Tr. Hertfordsh. Soc. xii, pp. 165–167, pl. iv. [*Lepidoptera*.]
865. KĽAPÁLEK, F. Euroské druhy čeledě *Dictyopterygidae*. Rozp. Ceske Ak. Praze xiii, No. 17, 10 pp. [*Perlidae*.]
866. —. *Plecopteren* und *Ephemeriden* aus Java. Mt. Mus. Hamburg xxii, pp. 101–107.
867. —. Die Hummeln Böhmens. Arch. Landesdf. Bohmen xii, No. 3, 57 pp. [*Hymenoptera*.]
868. —. Zpráva o výsledcích cesty do Transsylvanských Alp a Vysokých Tater. Vestník ceske Ak. xiii, pp. 719–730.
869. KLEINSCHMIDT, O. Ueber Erfolge und Ziele zoogeographischer Forschungen, insbesondere über die Zeichnung der Vogelfedern und Schmetterlingsflügel. C.R. Congr. Zool. vi, pp. 573–587.
870. KNAB, F. A new species of *Donacia*. P. ent. Soc. Washington vii, p. 122. [*Coleoptera*.]
871. —. Observations on *Lampyridae*. Canad. Ent. 1905, pp. 238, 239. [*Coleoptera*.]
872. —. A *Chironomid* inhabitant of *Saracenia purpurea*, *Metricnemus knabi* Coq. J. N. York Ent. Soc. xiii, pp. 69–73, pl. vi. [*Diptera*.]
873. KOHAUT, R. A bolhák. Termes. Kozl. Magyar Tars. xxxvii, pp. 369–386. [*Aphaniptera*.]
874. KOHL, F. F. Palaearktische *Crabronen*. Zeitschr. Hym. Dipt. v, pp. 217–226. [*Hymenoptera*.]
875. —. *Hymenopterentypen* aus der neotropischen Fauna. Verh. Ges. Wien 1905, pp. 338–366.
876. —. Zur Kenntnis der *Hymenopterengattung Passaloecus* Shuck. T. c. pp. 517–529.
877. —. Zoologische Ergebnisse der Expedition der Kais. Akademie der Wissenschaften nach Südarabien und Sokotra im Jahre 1898/1899. *Hymenopteren*. Anz. Ak. Wiss. 1905, pp. 432, 433. [Preliminary announcement.]
878. KOLBE, H. J. Über die Lebensweise und die geographischen Verbreitung der coprophagen *Lamellicornier*. Zool. Jahrb. Suppl. viii, pp. 475–594, pls. xvii–xix. [*Coleoptera*.]
879. —. *Dynastiden* aus Kamerun, gesammelt von Herrn Professor Dr Yngve Sjöstedt. Arkiv Zool. ii, No. 18, 20 pp. [*Coleoptera*.]



880. KONOW, F. W. Fam. *Lydidae*. Wytsman Gen. Ins. fasc. xxvii, 27 pp., 1 pl. [*Hymenoptera*.]
881. —. *Hymenoptera*. Fam. *Siricidae*. T. c. fasc. xxviii, 14 pp., 1 pl.
882. —. *Hymenoptera*. Fam. *Tenthredinidae*. T. c. fasc. xxix, 176 pp., 3 pls.
883. —. De *Tenthredinibus* miscellanea. Zeitschr. Hym. Dipt. v, pp. 151–157. [*Hymenoptera*.]
884. —. Neue exotische *Tenthrediniden*. T. c. pp. 157–166. [*Hymenoptera*.]
885. —. Drei neue *Syzygoniides* aus Australien. T. c. pp. 166–169. [*Hymenoptera*.]
886. —. Zwei neue *Amasis*-Arten. T. c. pp. 242, 243. [*Hymenoptera*.]
887. —. *Chalastogastra*. T. c. pp. 289–392 (spec. pag.). [*Hymenoptera*.]
888. KRAMER, H. Artgrenze von *Sarcophaga carnaria* Meig. (L.) und zwei neue *Sarcophaga*-Arten. Zeitschr. Hym. Dipt. v, pp. 12–16. [*Diptera*.]
889. —. Zur Gattung *Sarcophaga*. T. c. pp. 329–332. [*Diptera*.]
890. KRASSILTSCHIK, J. Sur une affection parasitaire des *Lépidoptères* produite par un Sporozoaire nouveau (*Microklossia prima*). C.R. Soc. Biol. lviii, p. 656.
891. KRAUSBAUER, T. Beiträge zur Kenntnis der *Collembola* in der Umgegend von Weilburg a. Lahn. Ber. Oberhess. Ges. xxxiv, pp. 29–104, 2 pls.
892. KRAUSS, H. A. Beitrag zur *Orthopteren*-Fauna Montenegro's mit Beschreibung einer neuen *Forficula*-Art. SB. Bohmisch. Ges. 1904, No. 10, 6 pp.
893. —. Weitere Beiträge zur Kenntnis der Käferfauna der untersteirischen Höhlen. Mt. Ver. Steiermark xli, pp. xciii–xcvii. [*Coleoptera*.]
894. KRAUSZE, H. Zwei neue *Conocephaliden*arten. Ent. Zeitschr. Guben. xviii, p. 43. [*Orthoptera*.]
895. KRIEGER, R. Ueber die *Ichneumonidengattung* *Neotheronia* Krieger. Zeitschr. Hym. Dipt. v, pp. 286–307, 333–338. [*Hymenoptera*.]  
KROHN, A. [See PETTIT & KROHN (1158, 1159).]
896. KRONE, W. Über die bisher unbekanntesten ersten Stände einiger *Microlepidopteren*. Jahresber. Wien. ent. Ver. 1904, pp. 93–103, pl. i.
897. —. Neues über *Microlepidopteren*. Op. cit. 1905, pp. 83–85.
898. KUHLGATZ, T. Beitrag zur Kenntnis der Metamorphose geflügelter *Heteropteren*. Zool. Jahrb. Suppl. viii, pp. 595–616.
899. —. Schädliche Wanzen und Cicaden der Baumwollständen. Mt. Mus. Berlin iii, pp. 31–115, pls. ii & iii. [*Hemiptera*.]
900. —. Über Wanderheuschrecken. Schr. Ges. Danzig xi, pp. 125, 126.  
— [See also LUCAS, WANDOLLECK & KUHLGATZ (983).]
901. KULAGIN, N. Der Kopfbau bei *Culex* und *Anopheles*. Zeitschr. wiss. Zool. lxxxiii, pp. 285–335, pls. xii–xiv. [*Diptera*.]

902. [KULAGIN, N.] Zur Frage über die Struktur der Zellkerne der Speicheldrüsen und des Magens bei *Chironomus*. Zeitschr. Insbiol. i, pp. 409-414. [*Diptera*.]
903. KÜNCKEL D'HERCULAI, J. Les *Lépidoptères Psychides* et leurs plantes protectrices. C.R. Soc. Biol. lviii, pp. 603-605.
904. ——. Les *Lépidoptères Psychides* et leurs plantes protectrices. Bull. Mus. Paris 1905, pp. 225-227.
905. ——. Le *Monodontomerus phormio* Walker, parasite de la *Psyche* (*Chalia*) *kunckelii* Heylaerts. T. c. pp. 227, 228. [*Hymenoptera*.]
906. ——. Les *Lépidoptères Limacodides* et leurs *Diptères* parasites, *Bombylides* du genre *Systropus*. Adaptation parallèle de l'hôte et du parasite aux mêmes conditions d'existence. Bull. Sci. France Belgique xxxix, pp. 141-151, pls. iii, iv.
907. ——. Les *Lépidoptères Limacodides* et leurs *Diptères* parasites, *Bombylides* du genre *Systropus*-signification morphologique des pointes frontales de la chrysalide de l'hôte et de la nymphe du parasite. C.R. Ass. Franc. 1904, pp. 872, 873.
908. KUTHY, D. Insecta heptapotamica, a DD. Almasy et Stummer-Trauenfels collecta. II. *Orthoptera*. Ann. Mus. Hungar. iii, pp. 215-218.
909. LALOY, L. Les Odynères. Naturaliste 1905, pp. 273-275. [*Hymenoptera*.]
910. LAMEERE, A. Revision des *Prionides*. Onzième mémoire. *Hoptoderes*. Ann. Soc. ent. Belgique 1905, pp. 361-367. [*Coleoptera*.]
911. LAMPA, S. Berättelse till Kungl. Landtbruksstyrelsen angående verksamheten vid statens entomologiska anstalt under år 1904. Ent. Tidskr. xxvi, pp. 1-57.
912. ——. Lökflugan (*Anthomyia antiqua* Mg.). T. c. pp. 60-64, pl. i. [*Diptera*.]
913. LAPOUGE, G. DE. Note sur les *Carabes* et *Calosomes* recueillis par M. Chaffanjon dans le nord de la Mongolie. Bull. Mus. Paris 1905, pp. 301-306. [*Coleoptera*.]
914. ——. *Carabes* and *Calosomes* du Japon, envoyés par M. Harmand. T. c. pp. 306-309. [*Coleoptera*.]
915. ——. Méthodes d'élevage des larves de *Carabes*. Bull. Soc. sci. med. Ouest France xiii, pp. 614-628. [*Coleoptera*.]
916. ——. Tableaux de détermination des larves de *Carabes* et de *Calosomes*. Echange xxi, pp. 159, 160, 164, 165, 171-173. [*Coleoptera*.]
917. ——. Phylogénie des *Carabus*. (Suite.) Trav. Univ. Rennes iii, pp. 51-64 & 269-282. [*Coleoptera*.]
918. LASS, M. Beiträge zur Kenntnis des histologisch-anatomischen Baues des weiblichen Hundeflohes (*Pulex canis* Dugès, *P. serraticeps* Taschenberg). Zeitschr. wiss. Zool. lxxix, pp. 73-131, pls. v, vi. [*Aphaniptera*.]  
Abstract by DE MEIJERE, Zool. Zentrbl. 1905, p. 759.
919. LAUFFER, G. Neue Arten und Varietäten von *Coleopteren* der pyrenäischen Halbinsel. Bol. Soc. espan. v, pp. 403-407.

920. LAURENT, P. Notes from a diary made during a collecting trip to the Rocky Mountains of Colorado and Utah. Ent. News Philad. xvi, pp. 99-105.
921. LAUTERBORN, R. Zur Kenntniss der *Chironomiden*-Larven. Zool. Anz. xxix, pp. 207-217. [*Diptera*.]  
Abstract, Zool. Zentrbl. 1905, p. 759.
922. LAVERAN, A. Sur des *Culicides* de la Guinée française et sur l'index endémique du paludisme dans cette région. C.R. Soc. Biol. lviii, pp. 562-564. [*Diptera*.]
923. —. Observations au sujet de la communication de M. Cazalbou. T. c. p. 565. [*Diptera*.]
924. LEA, A. M. Revision of the Australian *Curculionidæ* belonging to the subfamily *Cryptorhynchides*. P. Linn. Soc. N. S. Wales xxx, pp. 235-258. [*Coleoptera*.]
925. —. Descriptions of Australian *Curculionidæ*, with notes on previously described species. Tr. R. Soc. S. Austral. xxix, pp. 209-236. [*Coleoptera*.]
926. —. The blind *Coleoptera* of Australia and Tasmania. Tr. ent. Soc. London 1905, pp. 365-368.
927. —. Notes on some remarkable Tasmanian invertebrates. P. Soc. Tasmania 1902, pp. 81, 82, 1 pl. [*Orthoptera*.]
928. —. On *Nepharis* and other Ants' nest beetles taken by Mr J. C. Goudie at Birchip. P. Soc. Victoria 1905, pp. 371-385, pl. xxvii. [*Coleoptera*.]
929. LEBEDINSKY, J. Zur Höhlenfauna der Krym. [In Russian.] Zapiski Novoross. Obshch. xxv (2), pp. 75-88, pl. i.  
— [See also CARL & LEBEDINSKY (277).]
930. LÉCAILLON, A. Sur la ponte des oeufs et la vie larvaire des *Tabanides*, particulièrement du Taon à quatre taches. Ann. Soc. ent. France 1905, pp. 20-27, pl. ii. [*Diptera*.]
931. —. Sur un puceron (*Aphis papaveris* Fabr.) ennemi de la betterave. Bull. Soc. ent. France 1905, pp. 258-260. [*Aphidæ*.]
932. LE COMTE, G. Description d'une *Cetonia* nouvelle d'Europe. Bull. Soc. ent. France 1905, p. 274. [*Coleoptera*.]
933. —. Tableaux de détermination des *Cétonides* de France. Bull. Soc. Nimes xxxii, pp. 76-85. [*Coleoptera*.]
- 933A. LEFROY, H. MAXWELL. Report of the Entomologist to the Government of India. Rep. Imp. Dep. Agric. India 1904-05, pp. 89-98.
934. LEINBERG, A. Über die finnischen *Episernus*-Arten. Medd. Soc. Faun. Fenn. xxx, pp. 16-22. [*Coleoptera*.]
935. LEISEWITZ, W. Über die wirtschaftliche Bedeutung unserer Spechte. Verh. Ornith. Ges. Bayern v, pp. 64-76.
936. LEONARDI, G. Generi e specie di *Diaspiti*. Saggio di sistematica delle *Mytilaspides*. Ann. Scuol. Agric. Portici v, 114 pp. sep. copy. [*Coccidæ*.]
937. —. Generi e specie di *Diaspiti*. Saggio di sistematica delle *Parlatoriæ*. T. c. 59 pp. sep. copy. [*Coccidæ*.]

938. [LEONARDI, G.] Sulla pretesa antica presenza in Italia della *Diaspis pentagona* Targ. Riv. Agraria Napoli xv, No. 44. [*Coccidæ.*]
939. —. Sulla *Leucaspis riccæ* Targ. Ann. Scuol. Agric. Portici v (1903), 18 pp., 1 pl. [*Coccidæ.*]
940. LESNE, P. Diagnoses de *Bostrychides* africains nouveaux. Bull. Soc. ent. France 1905, pp. 275, 276. [*Coleoptera.*]
941. —. Les relations des Fourmis avec les *Hémiptères-Homoptères* de la famille des *Fulgoridés*; domestication des *Tettigometra*. T. c. pp. 161-164.
942. —. Notes sur les moeurs et sur l'habitat du *Platyparea pæcilo- ptera* Schrank et de l'*Agromyza* de l'asperge. T. c. pp. 12-14. [*Diptera.*]
943. —. Deux *Curculionides* nuisibles aux Rosiers. T. c. pp. 177, 178. [*Coleoptera.*]
944. —. Les relations des fourmis avec les *Hemiptères-Homoptères* de la famille des *Fulgorides*. Domestication des *Tettigometra*. C.R. Soc. Biol. lviii, pp. 1005-1007.
945. —. *Bostrychides* de la Guinée espagnole. Mem. Soc. Espan. i, pp. 197-200.
946. LEVANDER, K. M. Über *Anopheles claviger* Fabr. in Finland in den Jahren 1902 und 1903. Medd. Soc. Faun. Fenn. xxx, pp. 52-60. [*Diptera.*]
947. LÉVEILLÉ, A. Études sur la famille des *Temnochilides*. II. Ann. Soc. ent. France 1905, pp. 29-50. [*Coleoptera.*]
948. —. Diagnoses de *Temnochilides* nouveaux. Bull. Soc. ent. France 1905, pp. 92, 93. [*Coleoptera.*]
949. —. Description de deux *Temnochilides* nouveaux. T. c. p. 179. [*Coleoptera.*]
950. \*MENDEL, LEVI W. A catalogue of the *Encyridæ*. Pennsylvania, 1905, 161 pp. [*Lepidoptera.*]
951. LEWIS, G. A systematic catalogue of *Histeridæ*. London, 1905, 8vo, 81 pp. [*Coleoptera.*]
952. —. On new species of *Histeridæ* and notices of others. [Part 24.] Ann. Nat. Hist. (7) xv, pp. 301-303. [*Coleoptera.*]
953. —. On new species of *Histeridæ* and notices of others. [No. 25.] Op. cit. xvi, pp. 340-349, pl. x. [*Coleoptera.*]
954. —. On new species of *Histeridæ* and notices of others. [No. 26.] T. c. pp. 604-611. [*Coleoptera.*]
955. LICHTWARDT, B. *Dipterologische* Bemerkungen. Zeitschr. Hym. Dipt. v, pp. 309-311.
956. LIE-PETTERSEN, O. J. Entomologiske bidrag til skaergaardsfaunaen i det vestlige Norge. Bergens Mus. Aarbog 1904, No. 11, 25 pp.
957. LINDEN, GRÄFIN M. VON. Physiologische Untersuchungen an Schmetterlingen. Zeitschr. wiss. Zool. lxxxii, pp. 411-444, pl. xxv. [*Lepidoptera.*]
- Abstract by the author, Zool. Zentrbl. 1906, pp. 185-188.
958. —. Die Veränderung der Färbung und Zeichnung der Schmetterlinge durch anormale Lebensbedingungen während der Puppenperiode. SB. niederrhein. Ges. 1904 (2), pp. 25-33. [*Lepidoptera.*]

959. [LINDEN, GRÄFIN M. VON.] Ueber den Einfluss der Sauerstoffentziehung während des Puppenlebens auf die Gestaltung der Schmetterlinge. C.R. Congr. Zool. vi, pp. 491-497. [*Lepidoptera*.]
960. —. Ueber den Einfluss der Sauerstoffentziehung während des Puppenlebens auf die Gestaltung der Schmetterlinge. Mt. Schweiz. ent. Ges. xi, pp. 82-85. [*Lepidoptera*.]
961. —. L'assimilation de l'acide carbonique par les chrysalides de *Lépidoptères*. C.R. Ac. Sci. cxli, pp. 1258-1260.
962. —. L'assimilation de l'acide carbonique par les chrysalides de *Lépidoptères*. C.R. Soc. Biol. lix, pp. 692-694.
963. —. Comparaison entre les phénomènes de l'assimilation du carbone chez les chrysalides et chez les végétaux. T. c. pp. 694-696.
964. —. L'augmentation du poids des chrysalides n'est pas due à l'absorption de l'eau. T. c. p. 696.
965. —. [Account of Pictet's works on the influence of food in determining form.] Arch. Rassen ii, pp. 424-428.
966. LINDINGER, L. Zwei neue Arten der *Coccidengattung Leucaspis*. Zool. Anz. xxix, pp. 252-254.
967. —. Zwei neue Schildläuse aus Asien. Ins. Börse 1905, pp. 131, 132. [*Coccidæ*.]
968. —. Eine Variation des sogenannten Minirens bei Schildläusen. Zeitschr. Insbiol. i, pp. 291, 292. [*Coccidæ*.]
969. LISTON, W. G. Plague, rats and fleas. J. Bombay Soc. xvi, pp. 253-274.
970. LOEW, E. Alte und neue Ziele der Blütenökologie. Zeitschr. Insbiol. i, pp. 1-6.
971. LOISELLE, A. De la variation accidentelle de certains caractères génériques chez les *Tenthredinidæ*. Feuille Natural. xxxv, pp. 199, 200. [*Hymenoptera*.]
972. LONGSTAFF, G. B. Notes on the butterflies observed in a tour through India and Ceylon, 1903-4. Tr. ent. Soc. London 1905, pp. 61-144. [*Lepidoptera*.]
973. —. On the scents of the males of some common English butterflies. Ent. Mag. 1905, pp. 112-114. [*Lepidoptera*.]
974. —. A new *Geometer* from Hong Kong. T. c. p. 184. [*Lepidoptera*.]
975. LOUNSBURY, C. P. Natural enemies of the fruit fly. Cape Good Hope Dep. Agric. No. 2, 1905. Reprinted from Agric. Journ. Jan. 1905.
976. —. The codling moth. Notes on the life cycle and remedies. Cape Good Hope Dep. Agric. No. 23, 1904. Reprinted from Agric. Journ. Oct. 1904.
977. LOVELL, J. H. Four new species of *Halictus* from Maine. Canad. Ent. 1905, pp. 39, 40. [*Hymenoptera*.]
978. —. Some Maine species of *Halictus*. T. c. pp. 299, 300. [*Hymenoptera*.]
979. — & COCKERELL, T. D. A. The Nomadine and Epeoline bees of Southern Maine. Psyche xii, pp. 39-42. [*Hymenoptera*.]

980. LOWER, O. B. New Australian *Lepidoptera*, No. 22. Tr. R. Soc. S. Austral. xxix, pp. 103-115.
981. —. Descriptions of new Australian *Lepidoptera*, with synonymic notes, No. 23. T. c. pp. 173-180.
982. LUCAS, D. Notes sur quelques *Lépidoptères*. Ann. Soc. ent. France 1905, pp. 51-55, pl. v.
983. LUCAS, R., WANDOLLECK, B. & KUHLGATZ, TH. Bericht über die wissenschaftliche Leistungen im Gebiete der Entomologie während des Jahres 1900. Zweite Hälfte. Zweite Lieferung. *Hymenoptera* — *Apterygogenea*. Berlin, 1905, pp. 945-1471.
984. LUDLOW, C. S. Mosquito notes, No. 3. Canad. Ent. 1905, pp. 94-102, 129-135. [*Diptera*.]
985. —. A new North American *Teniorhynchus*. T. c. p. 231. [*Diptera*.]
986. —. Mosquito notes, No. 4. T. c. pp. 385-388. [*Diptera*.]
987. LUFF, W. A. The insects of Herm. Rep. Guernsey Soc. 1904, pp. 374-387.
988. —. The insects of Jethon. T. c. pp. 388-390.
989. —. The fauna and flora of the Sarnian Islands. T. c. pp. 400-405.
990. LUIGIONI, P. Coleotteri del Lazio, notati od omessi nel Catalogo dei *Coleotteri* del. Dott. Stefano Bertolini. Riv. Col. ital. iii, pp. 253-278.
991. LUSHINGTON, P. M. The insect pests of *Swietenia macrophylla*. India Forest. xxxi, pp. 74-77.  
LUTZ, —. [See BOURROUL (159).]
992. LUZE, G. Revision der paläarktischen Arten der *Staphyliniden*-Gattung *Olophrum* Er. Verh. Ges. Wien 1905, pp. 33-47. [*Coleoptera*.]
993. —. Revision der paläarktischen Arten der *Staphyliniden*-Gattung *Lathrimæum* Er. T. c. pp. 53-68. [*Coleoptera*.]
994. —. Revision der paläarktischen Arten der *Staphyliniden*-Gattung *Acidota* Steph. T. c. pp. 69-79. [*Coleoptera*.]
995. —. Die paläarktischen Arten der *Staphyliniden*-Gattungen *Deliphrum* Er., *Phyllodrepoidea* Ganglb. und *Mannerheimia* Mäkl. T. c. pp. 241-256. [*Coleoptera*.]
996. LYMAN, H. H. Further notes on types and other specimens in the British Museum. Canad. Ent. 1905, pp. 29-32. [*Lepidoptera*.]
997. —. New *Gortynas*. T. c. pp. 305-312, pl. vii. [*Lepidoptera*.]
998. MACDOUGALL, R. S. The turnip mud-beetle. [*Helophorus rugosus*.] J. Board Agric. xii, pp. 102-104. [*Coleoptera*.]
999. —. Gall-gnats on osiers and willows. T. c. pp. 499-503. [*Diptera*.]
1000. —. On some injurious insects of 1904. Trans. Highland Agric. Soc. Scotland (5) xvii, pp. 212-228, figg. 32-41.  
MAIGNON, F. [See VANEY & MAIGNON (1528, 1529).]

1001. MAINDRON, M. Matériaux pour servir à l'histoire des *Cicindelides* et des *Carabiques*. II. Notes sur divers *Carabides*. Ann. Soc. ent. France 1905, pp. 331-336. [*Coleoptera*.]
1002. — & FLEUTIAUX, E. Voyage de M. Maurice Maindron dans l'Inde méridionale. *Cicindelides*. T. c. pp. 1-19. [*Coleoptera*.]
1003. MALLY, C. W. The fruit fly. Cape Good Hope Dep. Agric. No. 28, 1904. Reprinted from Agric. Journ. Dec. 1904. [*Diptera*.]
1004. MANDERS, N. Notes on Marlborough butterflies. Rep. Marlbor. Soc. liii, pp. 48-52. [*Lepidoptera*.]
1005. MARCHAL, P. Sur quelques Cochenilles nouvelles. Bull. Mus. Paris x, pp. 448-459. [*Coccidæ*.]
1006. —. Observations biologiques sur un parasite de la Galéruque de l'Orme le *Tetrastichus xanthomelænxæ* (Rond.). Bull. Soc. ent. France 1905, pp. 64-68. [*Hymenoptera*.]
1007. MARCHOUX, E. & SIMOND, P.-L. La transmission héréditaire du virus de la fièvre jaune chez le *Stegomyia fasciata*. C.R. Soc. Biol. lix, pp. 259, 260. [*Diptera*.]
1008. MARKOFF, M. Matériaux pour servir à la faune *Macrolepidoptères* du gouvernement de Poltawa. Trudui Kharkov. Univ. xxxvii, pp. 257-272.
1009. MARLATT, C. L. The giant sugar-cane borer. Bull. U. S. Dep. Agric. Ent. No. 54, pp. 71-73. [*Lepidoptera*.]
1010. MARSHALL, G. A. K. On the South-African *Curculionidæ* of the genus *Cossonus* Clairv. Ann. Nat. Hist. (7) xv, pp. 392-404. [*Coleoptera*.]
1011. MARSHALL, W. S. The reproductive organs of the female Maia moth *Hemileuca maia* (Drury). Tr. Wisconsin Ac. xv, 14 pp. (sep. copy), pls. i, ii. [*Lepidoptera*.]
1012. — & DERNEHL, P. H. Contributions toward the embryology of *Polistes pallipes* (*Hymenopteron*). I. The formation of the Blastoderm and the first arrangement of its cells. Zeitschr. wiss. Zool. lxxx, pp. 122-154, pls. x, xi.
1013. — & VORHIES, C. T. The repair and rebuilding of the larval case of *Platyphylax designatus* Walk. (*Phryganid*). Biol. Bull. ix, pp. 232-244.
1014. \*MARTINI, E. Insekten als Krankheitsüberträger. Berlin, 1904, 39 pp.
1015. MATUSOVITZ, P. Maikäferflug in Liptónjvar 1905. Rov. Lapok 1905, pp. 156-161. [*Coleoptera*.]  
In Hungarian, with brief abstract in German, p. 19 abstracts.
1016. MAYET, V. Le *Lucasianus levaillanti* Lucas, sa découverte en France et ses mœurs. Bull. Soc. ent. France 1905, pp. 277-279. [*Coleoptera*.]
1017. MAYR, G. *Hymenopterologische* Miscellen. IV. Verh. Ges. Wien 1905, pp. 529-575, pl. ii.
1018. McCLUNG, C. C. The chromosome complex of Orthopteran spermatocytes. Biol. Bull. ix, pp. 304-340, 21 text-figg.
1019. McCracken, Isabel. A study of dichromatism in *Lina lapponica*. 1 pl. [*Coleoptera*.]

1020. MCINTOSH, W. The *Diptera* of New Brunswick. Bull. Soc. N. Brunswick xxi, pp. 123-128.
1021. MEAD, A. D. [Obituary notice of Packard, A. S.] Pop. Sci. Month. lxvii, pp. 43-48.
1022. MEADE-WALDO, E. G. B. On a collection of butterflies made in Marocco, in 1900-01-02. Tr. ent. Soc. London 1905, pp. 369-393, pls. xviii, xix. [*Lepidoptera*.]  
Annotated by H. J. ELWES.
1023. MEI, L. Res italicæ xviii. *Ortotteri* del Friuli. Boll. Mus. Torino xx, No. 510, 6 pp.
1024. MEIJERE, J. C. H. DE. *Siphonella fucicola* n. sp., eine neue Javanische *Dipteren*-Art. Notes Leyden Mus. xxv, pp. 160-162.
1025. MEISSNER, H. Über einige parasitische Flöhe. Soc. ent. xx, pp. 68, 69, 74, 75. [*Aphaniptera*.]
1026. MEIXNER, A. Eine neue Präparationsmethode der Schmetterlingsflügel für Untersuchungen des Rippenverlaufs. Ins. Börse 1905, p. 60. Cf. COURVOISIER, t. c. p. 68.
1027. MELANDER, A. L. The wormy apple. Bull. 68 exp. Stat. Washington, 16 pp. [*Lepidoptera*.]
1028. MELDOLA, R. The Bates-Müller hypothesis of mimicry: a question of historical accuracy. [Letter.] Nature lxxiii, p. 100.
1029. MELICHAIR, L. Beitrag zur Kenntnis der *Homopteren*fauna Deutsch-Ost-Afrikas. Wien. ent. Zeit. xxiv, pp. 279-304.
1030. —. Genera tria *Fulgoridarum* mundi antiqui. Ann. Mus. Hungar. iii, pp. 473-477. [*Homoptera*.]
1031. MERLIN, A. A. C. E. Supplementary note on the foot of the house-fly. J. Quekett Club (2) ix, pp. 167, 168. [*Diptera*.]
1032. MERRIFIELD, F. President's address. P. ent. Soc. London 1905, pp. lxxxiii-cxi.
1033. —. Experiments on variation of *Lepidoptera* by environment. Nature lxxii, pp. 632-634.  
Refers to the work of PICTET (1198).
1034. MEUNIER, F. Monographie des *Cecidomyiidae*, des *Sciaridae*, des *Mycetophilidae* et des *Chironomidae* de l'ambre de la Baltique [continued]. Ann. Soc. Sci. Bruxelles xxviii, pp. 93-264, 16 pls.  
*Cecidomyiidae* and *Sciaridae* were recorded last year.
1035. —. Monographie des *Psychodidae* de l'ambre de la Baltique. Ann. Mus. Hungar. iii, pp. 235-255, pls. vi, vii. [*Diptera*.]
1036. —. Nouvelles recherches sur quelques *Diptères* and *Hyménoptères*. Rev. Sci. Bourbonnais 1905, pp. 204-209, pl. i.
1037. —. Sur deux *Mymaridae* de l'ambre de la Baltique. Miscell. ent. xiii, pp. 1-4. [*Hymenoptera*.]
1038. —. Contribution à la faune des *Acalyptères Agromyzinae* de l'ambre. Ann. Soc. Bruxelles xxix, pp. 89-94, 1 pl. [*Diptera*.]
1039. —. Sur un curieux *Psychodidae* de l'ambre de la Baltique. Miscell. ent. xiii, pp. 49-51. [*Diptera*.]
1040. —. Sur quelques *Diptères* (*Cecidomyiidae*, *Tachininae*, *Chloropinae*, *Phoridae*) et un *Hyménoptère* (*Chalcididae*) du copal récent de Madagascar. T. c. pp. 89-94, pl. i.



1041. MEYRICK, E. Notes on New Zealand *Lepidoptera*. Tr. ent. Soc. London 1905, pp. 219-244.
1042. —. Occurrence of *Argyresthia illuminatella* Zell. in Britain. Ent. Mag. 1905, p. 226. [*Lepidoptera*.]
1043. —. Descriptions of Indian *Micro-Lepidoptera*. I. J. Bombay Soc. xvi, pp. 580-619.
1044. MINCHIN, E. A. Report on the anatomy of the Tsetse-fly (*Glossina palpalis*). P. R. Soc. London lxxvi, pp. 531-547. [*Diptera*.]
1045. MINGAUD, G. Nouvelles captures de *Platypsyllus castoris* Rits. Feuille Natural. xxxv, pp. 161, 162. [*Coleoptera*.]
1046. MIRANDE, M. Sur la présence d'un "corps reducteur" dans le tégument chitineux des Arthropodes. Arch. anat. micr. vii, pp. 207-231.
1047. —. Sur une nouvelle fonction du tégument des Arthropodes considéré comme organe producteur de sucre. T. c. pp. 232-238.
1048. MjöBERG, E. *Cicindelidæ* and *Carabidæ*. Jägerskiöld exp. No. 10 a, pp. 1-5.
1049. —. Biologiska och morfologiska studier ofver Fåröns insekt-fauna. Arkiv Zool. ii, No. 17, 86 pp., 1 pl.
1050. —. En för Skandinavien ny *Hydrometra*-Art. Ent. Tidskr. xxvi, pp. 67, 68. [*Hemiptera*.]
1051. —. Några för vårt land nya *Coleoptera*. T. c. pp. 199, 200.
1052. M'LACHLAN, W. A. Abstract of paper on "The communication of disease by flies." P. Phil. Soc. Glasgow xxx (1899), p. 307. Previously overlooked.
1053. MÖBIUS, E. [and others]. Die Grossschmetterlings-Fauna des Königreiches Sachsen. Heft. 1. Iris xviii, pp. 1-235, pls. i, ii. [*Lepidoptera*.]
1054. MÖBIUS, K. Die Formen und Farben der Insekten ästhetisch betrachtet. SB. Ak. Berlin 1905, pp. 159-166.
1055. MOCSÁRY, A. *Rhyssa* sociarumque species in collectione Musei nationalis hungarici. Ann. Mus. Hungar. iii, pp. 1-20. [*Hymenoptera*.]
1056. MOLLANDIN DE BOISSY, R. Description d'un *Copris* nouveau d'Algérie. Bull. Soc. ent. France 1905, p. 110. [*Coleoptera*.]
1057. MÖLLENKAMP, W. Beitrag zur Kenntnis der *Lucaniden*. Ins. Börse 1905, pp. 7 & 168. [*Coleoptera*.]
1058. MONTANDON, A. L. Espèces nouvelles ou peu connues du genre *Ranatra*. Bull. Soc. Bucarest xiv, pp. 389-398. [*Hemiptera*.]
1059. —. Trois nouvelles espèces d'*Hémiptères* cryptocérates des collections du Musée national hongrois. Ann. Mus. Hungar. iii, pp. 403-406.
1060. MONTGOMERY, T. H. The spermatogenesis of *Syrbula* and *Lycosa*, with general considerations upon chromosome reduction and the heterochromosomes. P. Ac. Philad. lvii, pp. 162-205, pls. ix, x.
1061. MOODIE, R. L. A new *Milesia* from Arizona with notes of some Wyoming *Syrphidæ*. Ent. News Philad. xvi, pp. 138-143. [*Diptera*.]
1062. MOORE, F. *Lepidoptera indica*. Parts lxx-lxxiii. Vol. VI was completed by Part LXXII.

1063. MOORE, J. E. S. & ROBINSON, L. E. On the behaviour of the nucleolus in the spermatogenesis of *Periplaneta americana*. Quart. J. Micr. Sci. xlviii, pp. 571-583, pls. xlv, xlv. Brief abstract, Zool. Zentrbl. 1905, p. 442.
1064. MORGAN, T. H. An alternative interpretation of the origin of gynandromorphous insects. Science xxi, pp. 632-634.
1065. MORICE, F. D. Three new British sawflies. Ent. Mag. 1905, pp. 63, 64. [*Hymenoptera*.]
1066. MORLEY, B. Notes on the melanism of *Larentia multistrigaria* in the neighbourhood of Skelmansthorpe (Huddersfield). Ent. Rec. xvii, pp. 170, 171. [*Lepidoptera*.]  
Cf. TUTT, t. c. p. 172.
1067. MORLEY, C. On the Ichneumonidous group *Tryphonides schizodonti* Holmgr., with descriptions of new species. Tr. ent. Soc. London 1905, pp. 419-438. [*Hymenoptera*.]
1068. —. The beetles of the Eastern Counties. Essex Natural. xiv, pp. 57-61. [*Coleoptera*.]
1069. \*—. The *Hemiptera* of Suffolk. Plymouth, 1905, ix+34 pp.
1070. MORRILL, A. W. Report on a Mexican cotton pest, the "Conchuela." Bull. U. S. Dep. Agric. Ent. No. 54, pp. 18-34. [*Hemiptera*.]
1071. \*—. The greenhouse white fly (*Aleyrodès vaporariorum* Westw.). Circ. 57 U. S. Dep. Agric. Ent. 1905, 9 pp., 5 figg.
1072. MORSE, A. P. Some Bahama *Orthoptera*. Psyche xii, pp. 19-24.
1073. MORTON, K. J. *Odonata* collected by Miss Margaret E. Fountaine in Algeria, with description of a new species of *Ischnura*. Ent. Mag. 1905, pp. 145-149.
1074. —. A new species of *Trichoptera* from Western Finland, *Leptocerus excisus*. Medd. Soc. Faun. Fenn. xxx, pp. 67-69.
1075. —. North American *Hydroptilidæ*. Bull. N. York Mus. lxxxvii, pp. 63-75. [*Trichoptera*.]
1076. MOSER, J. Neue *Cetoniden*-Arten. Ann. Soc. ent. Belgique 1905, pp. 210-216. [*Coleoptera*.]
1077. MÜLLER, G. W. Die Metamorphose von *Ceratopogon mulleri* Kieff. Zeitschr. wiss. Zool. lxxiii, pp. 224-230, pl. vii. [*Diptera*.]
1078. MÜLLER, J. Vier neue Höhlenkäfer aus dem österr. Litorale. Wien. ent. Zeit. xxiv, p. 32. [*Coleoptera*.]
1079. —. Die Rassen des *Dorcadion arenarium* Scop. T. c. pp. 129-153. [*Coleoptera*.]
1080. MÜNSTER, T. Nye norske *Coleoptera*. Nyt. Mag. Naturv. xli, pp. 239-258.  
Cf. STRAND, op. cit. xlii, pp. 180-182.
1081. MURTFELDT, MARY E. A new species of *Bucculatrix*. Canad. Ent. 1905, p. 219. [*Lepidoptera*.]
1082. \*NAGANO, K. Icones japonicorum insectorum. Vol. I. *Lepidoptera*, *Sphingidæ*. Yokohama, 1905, fol., 5 pls.  
Text in Japanese and in English.
1083. NAUFOCK, A. & PREDOTA, K. Beitrag zur *Lepidopteren*-Fauna des Kronlandes Nieder-Österreich. Die Raupen und deren Futterpflanzen Jahresber. Wien. ent. Ver. 1904, pp. 25-87.

1084. NAVÁS, LONGINOS. Notas zoológicas VII. Insectos orientales nuevos ó poco conocidos. Bol. Soc. Aragon. iv, pp. 49-55, pl. ii. [*Neuroptera*, *Orthoptera*.]
1085. —. ...VIII. Mis excursiones durante el verano de 1904. T. c. pp. 107-131.
1086. —. Notas zoológicas. IX. Rectificaciones. T. c. pp. 271-276. [*Orthoptera*.]
1087. —. Notas entomológicas. XII. *Neuropteros* de Pozullo de Calatrava. (Ciudad Real.) Bol. Soc. espan. v, pp. 502-508.
1088. —. Observaciones sobre el orden de los *Neuropteros*. 1. Preliminares. Mem. Ac. Barcelona v, No. 13, 21 pp.
1089. NÆRDHAM, J. G. New genera and species of *Perlidae*. P. Soc. Washington xviii, pp. 107-110.
1090. —. A new genus and species of *Libellulinae* from Brazil. T. c. pp. 113-116.
1091. —. The summer food of the bullfrog (*Rana catesbiana* Shaw) at Saranac Inn. Bull. N. York Mus. lxxxvi, pp. 9-15.
1092. —. Systematic notes on *Hemerobiidae*. T. c. pp. 15-17, pls. ii, iii. [*Neuroptera*.]
1093. —. *Ephemeridae*. T. c. pp. 17-62, pls. iv-xii.
1094. NERESHEIMER, E. Literatur-Referate. Neuere Arbeiten über die Biologie der Insekten. Zeitschr. Insbiol. i, pp. 432-440.
1095. \*NEUMANN, L. G. Les teignes des animaux domestiques. Veterinaire 1905, pp. 160 etc.  
From J. econ. Biol. i, p. 39.
- 1095A. \*NEUREUTER, F. Die Lebensdauer der Insekten. Naturw. Wochenschr. xix, pp. 289-292.
1096. NEVEU-LEMAIRE. Mission du Bourg de Bozas. Description d'une nouvelle espèce de *Stegomyia* recueillie par le Dr Brumpt à Harar. Bull. Soc. zool. France xxx, pp. 8-11. [*Diptera*.]
1097. —. Sur un nouveau Moustique appartenant à la sous-famille des *Anophelinae* (*Nyssorhynchus bozasi* n. sp.). C.R. Soc. Biol. lix, p. 32. [*Diptera*.]
1098. NEWBERY, E. A. *Quedius variabilis* Heer., an addition to the British list of *Coleoptera*. Ent. Mag. 1905, p. 197.
1099. NEWSTEAD, R. The felted beech *Coccus*. J. Board Agric. London xi, pp. 755-760.
1100. NIELSEN, J. C. Über die Entwicklung von *Agromyza carbonaria* Zett., der Urheber der "Markflecken." Zool. Anz. xxix, pp. 221, 222. [*Diptera*.]
1101. —. Beiträge zur Biologie der Gattung *Cryptocampus*. Zeitschr. Insbiol. i, pp. 383 etc. [*Hymenoptera*.]
1102. NIETSCH, V. Das Tracheensystem der Insekten. Mt. Ver. Steiermark xli, pp. lxxxv-lxxxvii.
1103. NOBRE, A. Fauna de Portugal. *Coleopteros*. Annuar. Ac. Porto 1897-98, pp. 78-122.
1104. NÔC, F. Du rôle des puces dans la propagation de la peste. État actuel de la question. Arch. parasit. ix, pp. 300-304.

1105. NOÉ, G. Un nuovo genere appartenente alla famiglia *Chironomidae*. Rend. Acc. Lincei xiv, ii, pp. 114-120. [*Diptera*.]
1106. —. Contribuzione alla conoscenza del sensorio degli insetti. T. c. pp. 721-727. [*Diptera*.]
1107. NOEL, P. Étude sur le moucheron des cuves. Naturaliste 1905, p. 13. [*Diptera*.]
1108. NONFRIED, A. F. Neue *Lucaniden*. Berlin. ent. Zeitschr. 1, pp. 11-13. [*Coleoptera*.]
1109. NORDENSTRÖM, H. Om några fynd af sällsyntare parasitsteklar från Hallandsås och sydöstra Östergötland åren 1903 och 1904. Ent. Tidskr. xxvi, pp. 201-208. [*Hymenoptera*.]
1110. \*NÜSIMA, Y. On some Japanese species of *Scolytini*. J. Sapporo Agric. Coll. ii, pp. 67-74. [*Coleoptera*.]
1111. \*NÜSSLIN, O. Leitfaden der Forstinsektenkunde. Berlin, 1905, xvi + 454 pp., 356 figg.  
Review, by ESCHERICH, Zool. Zentrbl. 1905, pp. 401-403; also Zeitschr. Insbiol. i, pp. 279, 280.
1112. NUTTALL, G. H. F. Note on the presence of *Anopheles*. J. Hygiene v, pp. 485-487. [*Diptera*.]
1113. OBERTHÜR, C. Variations de *Lépidoptères*. Bull. Soc. ent. France 1905, pp. 55-59.
1114. OBST, R. Die *Buprestiden*-Ausbeute aus Deutsch und Englisch Ost-Afrika von Oscar Neumann in den Jahren 1893-1894. Zool. Jahrb. Syst. xxii, pp. 421-432. [*Coleoptera*.]
1115. OHAUS, F. Beiträge zur Kenntnis der *Ruteliden*. Deutsche ent. Zeitschr. 1905, pp. 81-99. [*Coleoptera*.]
1116. —. Revision der Amerikanischen *Anoplognathiden* (*Coleoptera Lamellicornia*) (Schluss). Stettin Ent. Zeit. lxvi, pp. 120-167, pl. v.
1117. —. Beiträge zur Kenntniss der Amerikanischen *Ruteliden*. T. c. pp. 283-329. [*Coleoptera*.]
1118. —. Kurze Uebersicht über die *Spodochlamiiden* (*Coleoptera Lamellicornia, Rutelidae*). T. c. pp. 260-276.
1119. — [and others]. *Scarabæide*. Jagerskiöld exp. No. 10a, p. 6. [*Coleoptera*.]
1120. OLFERS, — VON. Flügellose Arthropoden des Bernsteins in ihrer Beziehung zur Descendenztheorie. Schr. Ges. Königsb. 1905, pp. 100-104.
1121. OLIVIER, E. Fam. *Malacodermide*. Jagerskiöld exp. No. 10a, pp. 9, 10. [*Coleoptera*.]
1122. —. Essai sur la division du genre *Photinus* Casteln. *Macrolampis* Motsch. Ann. Soc. ent. France 1905, pp. 311-318. [*Coleoptera*.]
1123. —. Descriptions de *Lampyrises* nouveaux. Ann. Soc. ent. Belgique 1905, pp. 206-209. [*Coleoptera*.]
1124. ORBIGNY, H. D'. *Orthophagides* provenant du voyage de M. Alluaud dans l'Afrique orientale, et description d'autres espèces africaines nouvelles. Ann. Soc. ent. France 1905, pp. 381-536. [*Coleoptera*.]

1125. OSBORN, H. Descriptions of new North American *Fulgoride*. Ohio Natural. v, pp. 373-376. [*Hemiptera*.]
1126. —. Report of progress on study of the *Hemiptera* of Ohio and description of new species. T. c. pp. 273-276.
1127. OSBURN, R. C. The *Odonata* of British Columbia. Ent. News Philad. xvi, pp. 184-196.
1128. OUDEMANS, J. T. Faunistische en biologische aantekeningen betreffende Nederlandsche *Macrolepidoptera*. Tijdschr. Ent. xlviii, pp. 1-21, pls. i-v.
1129. P—. Fourmis bâtisseuses, fileuses et agronomes. Rev. Scient. (5) iv, pp. 310-312, figg. 30-33.
1130. —. La genèse de l'instinct esclavagiste de certaines espèces de fourmis. T. c. pp. 820-823.  
PABLO, H. [See KIEFFER & PABLO (848).]
1131. PACKARD, A. S. Monograph of the *Bombycine* moths of North America, including their transformations and origin of the larval markings and armature. Part II. Family *Ceratocampidae*, subfamily *Ceratocampinae*. Mem. Ac. Washington lx, 272 pp., lxi pls.  
[PACKARD, A. S. Biographical notices, see KINGSLEY (850), MEAD (1021), BARUS (79).]
1132. PANDELLÉ, L. Note sur les *Cheilosia* de France. Rev. Ent. franc. 1905, pp. 25-44. [*Diptera*.]
1133. —. Contribution à l'étude du genre *Asilus* L. T. c. pp. 44-98. [*Diptera*.]  
[PANDELLÉ, L. Obituary, see GOBERT (669).]
1134. PANDIANI, A. Aggiunte all' entomologia Valdostana. Atti Soc. Ligustica xvi, pp. 208-218.
1135. PANGELLA, G. *Passalidi* di Costa Rica. Boll. Mus. Torino xx, No. 498, 12 pp. [*Coleoptera*.]
1136. —. Viaggio del Dr Alfredo Borelli nel Paraguay e nella Repubblica Argentina. T. c. No. 508, 16 pp. [*Coleoptera*.]
1137. PAOLI, G. Le *Forficule* della provincia di Roma. Boll. Soc. zool. Ital. xiv, pp. 263-272.
1138. PARANT, G. Un procédé de destruction des mouches. Bull. Soc. Autun xvii, pp. 118-124. [*Diptera*.]
1139. PASSERINI, N. Sopra la luce emessa dalle Lucciole (*Luciola italica*). Bull. Soc. ent. Ital. xxxvi, pp. 181-183. [*Coleoptera*.]
1140. PATTON, W. S. The *Culicid* fauna of the Aden Hinterland, their haunts and habits. J. Bombay Soc. xvi, pp. 623-637, 4 pls., 1 map. [*Diptera*.]
1141. PAXSON, O. S. Mimicry and protective coloration. Ent. News Philad. xvi, pp. 327-330.
1142. PEARSON, R. F. The genus *Venusia* and its included species. Canad. Ent. 1905, pp. 125-128. [*Lepidoptera*.]
1143. \*PECKHAM, G. W. & PECKHAM, ELIZABETH G. Wasps, social and solitary. London, 1905, xv+311 pp.  
A revised edition of the work published in 1898. Noticed Ent. News Philad. xvi, p. 200, and Nature lxxii, p. 395.

1144. PÉNEAU, J. Excursions entomologiques sur le littoral de l'embouchure de la Loire. Bull. Soc. Ouest France v, pp. 1-12. [*Coleoptera.*]
1145. PERAZZO, U. Ricerche sulla variazione dell *Hydrophilus piceus* Linn. Atti Acc. Torino xl, pp. 885-899, plate, 1089-1106. [*Coleoptera.*]
1146. PÉREZ, J. *Hyménoptères* recueillis dans le Japon central, par M. Harmand, Ministre plénipotentiaire de France à Tokio. Bull. Mus. Paris 1905, pp. 23-39, 79-87, 148-157.
1147. ——. *Hyménoptères* nouveaux du Mexique. T. c. pp. 39-41.
1148. PERLINI, R. Forme di *Lepidotteri* esclusivamente italiane. Bergamo, 1905, 4to, 76 pp., 6 pls.
1149. PERKINS, R. C. L. Report of the Experiment Station Committee of the Hawaiian Sugar Planters' Association 1905, pp. 29-38. Honolulu, 1905.
1150. ——. Leaf-Hoppers and their natural enemies. Part I. *Dryinidæ*. Bull. exp. Stat. Hawaii i, pp. 1-69. [*Hymenoptera.*]  
Abstract of this and of Part II by v. LINDEN, Zool. Zentrbl. 1906, pp. 89-92.
1151. ——. Leaf-Hoppers.... Part II. *Epipyropidæ*. T. c. pp. 75-85. [*Lepidoptera.*]
1152. ——. Leaf-Hoppers.... Part III. *Stylopidæ*. T. c. pp. 90-111, 4 pls. [*Coleoptera.*]
1153. ——. Leaf-Hoppers.... Part IV. *Pipunculidæ*. T. c. pp. 112 etc., pls. v-vii. [*Diptera.*]  
———. [For part v see TERRY (1475).]
1154. ——. Leaf-Hoppers.... Part VI. *Myrmariidæ*, *Platygasteridæ*. T. c. pp. 187-205, pls. xi-xiii.
1155. PETERSEN, W. Die Morphologie der Generationsorgane der Schmetterlinge und ihre Bedeutung für die Artbildung. Mem. Ac. St. Petersb. (8) xvi, No. 8, 84 pp., 64 figg. [*Lepidoptera.*]
1156. ——. Über beginnende Art-Divergenz. (*Hadena adusta* Esp. *Lepidoptera.*) Arch. Rassen ii, pp. 641-662.
1157. PETRI, K. Bestimmungs-Tabelle der mir bekannt gewordenen Arten der Gattung *Lixus* Fab. aus Europa und den angrenzenden Gebieten. Wien. ent. Zeit. xxiv, pp. 33-48, 101-117, 155-167. [*Coleoptera.*]
1158. PETTIT, A. & KROHN, A. Sur la structure de la glande salivaire du *Notonecta* (*Notonecta glauca* L.). Arch. anat. micr. vii, pp. 351-368, pl. xiii. [*Hemiptera.*]
1159. — & —. Sur l'évolution des cellules des glandes salivaires du *Notonecta glauca* L. Bull. Mus. Paris 1905, pp. 113, 114. [*Hemiptera.*]
1160. PEYERIMHOFF, P. DE. Découverte en Algérie des genres *Acidota* Steph. et *Cylindropsis* Fauvel. Bull. Soc. ent. France 1905, pp. 186, 187. [*Coleoptera.*]
1161. ——. Nouveaux *Coléoptères* du Nord-Africain. T. c. pp. 229, 230.
1162. ——. Étude sur les *Bathyscia* du groupe d'*aubei* Kiesw. T. c. pp. 297-303. [*Coleoptera.*]

1163. FRANKUCH, K. Einige seltene Schlupfwespen aus Bremens Umgegend. Abh. Ver. Bremen xviii, pp. 139-142. [*Hymenoptera*.]
1164. PHILLIPPS, E. F. Structure and development of the compound eye of the honey-bee. P. Ac. Philad. lvii, pp. 123-157, pls. vi-viii.
1165. —. Correlation and variation in the honey-bee. [Abstract.] Science xxi, p. 374.
1166. —. The rearing of Queen-bees. Bull. U. S. Dep. Agric. Ent., No. 55, 32 pp. [*Hymenoptera*.]
1167. PHILPOTT, A. On some new species of *Lepidoptera*. Tr. N. Zealand Inst. xxxvii, pp. 328-331, pl. xx.
1168. PHISALIX, C. Sur le changement de coloration des larves de *Phyllodromia germanica*. C.R. Soc. Biol. lix, pp. 17, 18. [*Orthoptera*.]
1169. —. Sur la présence de venin dans les œufs d'Abeilles. Bull. Soc. ent. France 1905, pp. 201-203. [*Hymenoptera*.]
- 1169A. —. Sur la présence de venin dans les œufs d'Abeilles. C.R. Ac. Sci. cxli, pp. 275-278. [*Hymenoptera*.]
1170. PIC, M. Notes sur diverses espèces d'*Anthicoides* de Motschulsky et descriptions de plusieurs nouveautés du même groupe. Annuaire Mus. St. Petersb. ix, pp. 490-494. [*Coleoptera*.]
1171. —. Observations et renseignements complémentaires sur le Genera Insectorum (*Phytophaga*). Bull. Soc. zool. France xxx, pp. 39, 40. [*Coleoptera*.]
1172. —. Deux *Formicomus* africains nouveaux des collections du Muséum de Paris. Bull. Mus. Paris 1905, pp. 242, 243. [*Coleoptera*.]
1173. —. Diagnoses de *Longicornes* asiatiques recueillis par M. J. de Morgan. T. c. pp. 300, 301. [*Coleoptera*.]
1174. —. Les *Dasycerus* algériens. Rev. Ent. franc. 1905, pp. 101-103. [*Coleoptera*.]
1175. —. Étude dichotomique sur divers *Anobiides* pouvant rentrer dans le genre *Petalium* Lec. (*Rhadine* Baudi). T. c. pp. 185-189, 201, 202. [*Coleoptera*.]
1176. —. Contribution à l'étude générale des *Hylophilidae*. Deuxième partie (Faune d'Asie, Afrique, Amérique et Océanie). Ann. Soc. ent. France 1905, pp. 181-286, pl. vii. [*Coleoptera*.]
1177. —. Notes entomologiques diverses. Bull. Soc. ent. France 1905, pp. 47, 48. [*Coleoptera*.]
1178. —. Description de deux *Anthicus* nouveaux. T. c. p. 99. [*Coleoptera*.]
1179. —. Notes sur le genre *Adoretus* Lap. et description d'une espèce de ce genre. T. c. pp. 199, 200. [*Coleoptera*.]
1180. —. *Melyride* africain nouveau. T. c. p. 303. [*Coleoptera*.]
1181. —. Matériaux pour servir à l'étude des *Longicornes*, 5<sup>me</sup> Cahier, 1<sup>re</sup> partie, Mai 1904, pp. 1-22, 83-86. 2<sup>me</sup> partie, Avril 1905, pp. 1-38. [*Coleoptera*.]
1182. —. Descriptions de *Coleoptères* exotiques nouveaux. Naturaliste 1905, pp. 92, 93.

1183. [PIC, M.] Note sur deux *Lamellicornes* exotiques. T. c. p. 131. [*Coleoptera.*]
1184. —. Espèces et variétés nouvelles de *Coléoptères* paléarctiques. Echange xxi, pp. 97-99.
1185. —. Un *Anaglyptus* nouveau de Grèce. T. c. p. 153. [*Coleoptera.*]
1186. —. Diagnoses de trois *Laius* des Indes néerlandaises. T. c. p. 104. [*Coleoptera.*]
1187. —. Descriptions abrégées et notes diverses. T. c. pp. 105-107, 113-115, 121, 122, 129-131. [*Coleoptera.*]
1188. —. *Coléoptères* Américains nouveaux. T. c. pp. 115, 116.
1189. —. Diagnoses de *Coléoptères* algériens. T. c. pp. 145-148.
1190. —. Nouveaux *Coléoptères* d'Algérie et d'Asie occidentale. T. c. pp. 153-156.
1191. —. *Coléoptères* nouveaux provenant de France, Grèce, Algérie et Turquie d'Asie. T. c. pp. 161-163.
1192. —. Captures diverses, noms nouveaux et diagnoses (*Coléoptères*). T. c. pp. 169-171.
1193. —. Espèces et variétés nouvelles de *Coléoptères* de France et Turquie d'Asie. T. c. pp. 177-179.
1194. —. Sur le genre *Phyllacerus*. T. c. pp. 180-182. [*Coleoptera.*]
1195. —. Notes entomologiques et descriptions. T. c. pp. 185-187. [*Coleoptera.*]
1196. —. *Hylophilides* nouveaux de la Guinée espagnole. Mem. Soc. Espan. i, pp. 201-208. [*Coleoptera.*]
1197. PICARD, F. Le rôle de la déshydratation dans la métamorphose d'*Ocneria dispar*. Feuille Natural. xxxv, pp. 186, 187. [*Lepidoptera.*]
1198. PICTET, A. Influence de l'alimentation et de l'humidité sur les variations des papillons. Mem. Soc. Geneve xxxv, pp. 45-128, pls. i-v.  
Cf. MERRIFIELD (1033). Abstract by v. LINDEN, Zool. Zentrbl. 1906, pp. 188-191.
1199. —. L'influence de l'alimentation sur la détermination du sexe chez les *Lépidoptères*. Arch. Sci. Nat. xix, pp. 102-105.
1200. —. La selection naturelle chez les *Lépidoptères*. T. c. pp. 410-413. [About colour.]
1201. —. Des variations des Papillons provenant des changements d'alimentation de leurs chenilles et de l'humidité. C.R. Congr. Zool. vi, pp. 498-507. [*Lepidoptera.*]
1202. —. Observations sur le sommeil chez les insectes. Summary by A. Binet. Année Psychol. xi, pp. 681 & 682.
1203. PIEPERS & SNELLEN. Enumération des *Lépidoptères*, *Hétérocères* de Java. v. Tijdschr. Ent. xlviii, pp. 181-201, pls. vi, vii.
1204. PIÉRON, H. Contribution à l'étude du problème de la reconnaissance chez les fourmis. C.R. Congr. Zool. vi, pp. 482-491. [*Hymenoptera.*]



1205. [PIÉRON, H.] Étude sur la position de repos chez les lépidoptères. Amsterdam, 8vo, 90 pp., 39 figg., 11 pls.  
Review by OUDEMANS, Rev. Scient. (5) iii, pp. 78, 79.
1206. PIĘSZCZEK, A. Über die Variabilität von *Colias myrmidone* Esp. Verh. Ges. Wien 1905, pp. 401-423, pl. i. [*Lepidoptera*.]
1207. FIGORINI, L. Note sperimentali sulla parziale disinfezione dell'alimento proprio al *Bombix mori*. Boll. Soc. zool. Ital. xiv, pp. 169-172. [*Lepidoptera*.]
1208. PLANET, L. Description d'un *Lucanide* nouveau. Naturaliste 1905, p. 212. [*Coleoptera*.]
1209. ——. Araigné et Forficules. T. c. pp. 239, 240. [*Orthoptera*.]
1210. PLATEAU, F. Note sur l'emploi d'une glace étamée dans l'étude des rapports entre les insectes et les fleurs. Bull. Ac. Belgique 1905, pp. 403-422.
1211. POPOVICI-BAZNOȘANU, A. Beiträge zur Kenntnis des Cirkulations-systems der Insekten. Jena. Zeitschr. xxxiii, pp. 667-697, pl. xxviii.
1212. PORTA, A. Revisione delle specie italiane appartenenti al genere *Abax*. Riv. Col. ital. i, pp. 135-144, 183-198. [*Coleoptera*.]
1213. ——. *Atheta (Liogluta) Certolinii*, n. sp. Op. cit. ii, p. 130. [*Coleoptera*.]
1214. ——. Revisione degli *Stafilinidi* italiani. II<sup>a</sup> parte. *Trichophyini*, *Habrocerini*, *Tachyporini*. Op. cit. iii, pp. 159-204.
1215. PORTIER, P. La vie dans la nature à l'abris des microbes. C.R. Soc. Biol. lviii, pp. 605-607. [*Lepidoptera*.]  
PRATT, F. C. [See TITUS & PRATT (1498).]
1216. PRESSAT, A. Le paludisme et les moustiques (prophylaxie). Paris, 1905, 8vo, viii + 180 pp., xi pls.  
Synopsis of *Culicidæ*, with anatomy, etc.
1217. PROUT, L. B. Notes on the wave moths (Genus *Acidalia* auct.). Entomologist 1905, pp. 6-11, 43-48. [*Lepidoptera*.]
1218. ——. *Venusia cambrica* and its allies. Tr. City London Soc. 1904, pp. 33-45. [*Lepidoptera*.]
1219. PROWAZEK, J. Insektenbeobachtungen. Zeitschr. Insbiol. i, pp. 66, 67.
1220. PUCCIONI, N. Della filogenesi dei *Coleotteri* e della probabile posizione sistematica della famiglia *Lamellicornia*. Riv. ital. Sci. nat., pp. 82-87.
1221. PÜNGELER, R. Neue palaearktische *Macrolepidopteren*. Iris Dresden xvii, pp. 265-270.
1222. ——. *Mamestra impia*, n. sp. Soc. ent. xix, p. 153. [*Lepidoptera*.]
1223. ——. *Sesia seiti* Püng., n. sp., aus Algerien. Op. cit. xx, p. 129. [*Lepidoptera*.]
1224. ——. *Tephroclystia dissertata*, n. sp., aus dem Wallis. T. c. p. 138. [*Lepidoptera*.]
1225. QUAIL, A. *Epalxiphora avenana* Meyr.: a species of *Lepidoptera* scarce in New Zealand. Tr. N. Zealand Inst. xxxvii, pp. 343-350, pl. xxi.

1226. QUAINANCE, A. L. & BRUES, C. T. The cotton bollworm. Bull. U. S. Dep. Agric. Ent. No. 50, 155 pp., xxv pls. [*Lepidoptera.*]
1227. \*QUAJAT, E. Sulla partenogenesi artificiale della uova del bom-bice del gelso. Padova, 1905.  
Summary, Bull. Soc. ent. Ital. xxxvi, p. 245. Abstract, by MAAS, Zool. Zentrbl. 1906, p. 108.
1228. QUAYLE, H. J. Spraying for scale insects. Bull. Agric. exp. Stat. California, No. 166, 24 pp., 2 figg.
1229. QVIGSTAD, J. Lappiske navne paa Pattedyr, Krybdyr og Padder, Fiske, Leddyr og lavere Dyr. Nyt. Mag. Naturv. xlii, pp. 339-385.
1230. RÁDL, E. Über das Gehör der Insekten. Biol. Centrbl. xxv, pp. 1-5.
1231. RAGUSA, E. Catalogo dei *Lepidotteri* di Sicilia esistenti nella collezione di Enrico Ragusa. Natural. Sicil. xvii, pp. 145-164, and xviii, pp. 10-23.
1232. RAINBOW, W. J. Notes on Australian *Siphonaptera*. Rec. Austral. Mus. vi, pp. 101-109, pl. xxiii.
1233. REED, E. C. Sobre el género *Chiasognathus*. Revist. chilena viii, pp. 181-188. [*Coleoptera.*]
1234. RÉGIMBART, M. Materiali per lo studio della fauna eritrea raccolti nel 1901-03 del Dr A. Andreini. II. *Dytiscidae, Gyridae et Hydrophilidae*. Bull. Soc. ent. Ital. xxxvi, pp. 201-226. [*Coleoptera.*]
1235. —. Note sur le *Siettitia balseensis*. Bull. Soc. ent. France 1905, p. 252. [*Coleoptera.*]
1236. REH, L. Die Rolle der Zoologie in der Phytopathologie. Zeitschr. Insbiol. i, pp. 299-307.
1237. REHN, J. A. G. Notes on exotic *Forficulids* or earwigs, with descriptions of new species. P. U. S. Mus. xxix, No. 1432, pp. 501-515. [*Orthoptera.*]
1238. —. A contribution to the knowledge of the *Acrididae* (*Orthoptera*) of Costa Rica. P. Ac. Philad. lvii, pp. 400-454.
1239. —. Notes on the *Orthoptera* of Costa Rica, with descriptions of new species. T. c. 1905, pp. 790-843.
1240. —. Records of some Paraguayan *Orthoptera* with the description of a new genus and species. Ent. News Philad. xvi, pp. 37-42.
1241. —. Notes on a small collection of *Orthoptera* from the Lesser Antilles, with the description of a new species of *Orphulella*. T. c. pp. 173-176.
1242. — & HEBARD, M. A contribution to the knowledge of the *Orthoptera* of South and Central Florida. P. Ac. Philad. lvii, pp. 29-55, pl. i.  
— [See also BAKER (63).]
1243. REICHENAU, W. VON. Einiges... [cf. Zool. Rec. 1904, INS. (1140)] zweiter Teil: Die Eulen und Spanner. Jahrb. nassau. Ver. lviii, pp. 241-294. [*Lepidoptera.*]
1244. REITTER, E. Bestimmungstabelle der *Tenebrioniden*-Unterfamilien *Lachnogyini, Akidini, Pedinini, Opatrini* und *Trachyscelini* aus Europa und den angrenzenden Ländern. Verh. Ver. Brunn xlii, pp. 25-189. [*Coleoptera.*]

1245. [REITTER, E.] Bestimmungs-Tabelle der europäischen *Coleopteren* lvi. *Elateridae*, 1 Theil *Elaterini*, Subtribus *Athouina*, aus der paläarktischen Fauna. Mit einer Uebersicht der Familiengruppe der *Sternoxia* und der Gattungen der *Elateridae*. Op. cit. xliii, pp. 1-122.
1246. —. Acht neue *Coleopteren* aus der paläarktischen Fauna. Wien. ent. Zeit. xxiv, pp. 90-94.
1247. —. Über die *Stenichnus*-Arten von der Insel Cypern. T. c. pp. 98, 99. [*Coleoptera*.]
1248. —. Übersicht der mir bekannten Arten der *Coleopteren*-Gattung *Epicauta* Redt. aus der paläarktischen Fauna. T. c. pp. 194-196.
1249. —. Neun neue *Coleopteren* aus der paläarktischen Fauna. T. c. pp. 201-206.
1250. —. Zur systematischen Gruppeneinteilung des *Coleopteren*-Genus *Leistus* Fröllich, und Übersicht der mir bekannten Arten. T. c. pp. 209-225.
1251. —. Übersicht der Arten der *Coleopteren*-Gattung *Proteinus* Latr. aus Europa und dem Kaukasus. T. c. pp. 226-228.
1252. —. Zur systematischen Gruppeneinteilung des *Coleopteren*-Genus *Dromius* Bonelli und Übersicht der mir bekannten Arten. T. c. pp. 229-239.
1253. —. Übersicht der Arten der *Coleopteren*-Gattung *Pilemia* Fairm. aus der paläarktischen Fauna. T. c. pp. 239, 240.
1254. —. Sechzehn neue *Coleopteren* aus der paläarktischen Fauna. T. c. pp. 241-251.
1255. —. Drei neue *Coleopteren* aus der paläarktischen Fauna. T. c. pp. 311, 312.
1256. —. Die Arten der Gattung *Bothynoderes* Schönh. Ein nachtrag zur Revision der Gruppe *Cleonides* vrais von J. Faust. Deutsche ent. Zeitschr. 1905, pp. 193-205. [*Coleoptera*.]
1257. —. Ueber die paläarktischen *Coleopteren*-Arten der Gattung *Reichenbachia* s. str. T. c. pp. 206-210.
1258. REUTER, E. Tidigt uppträdande af *Perliden Teniopteryx nebulosa* L. Medd. Soc. Faun. Fenn. xxx, pp. 99, 100.
1259. REUTER, O. M. *Capsidae* in prov. Sz'tschwan Chinae a DD. G. Potanin et M. Beresowski collectae. Annuaire Mus. St. Petersb. 1905, pp. 1-81. [*Hemiptera*.]
1260. —. Ein neues Warmhaus-*Thysanopteron*. Medd. Soc. Faun. Fenn. xxx, pp. 106-109.
1261. —. *Urostylis instructivus*, a new species of the family *Urostylidae*. Ent. Mag. 1905, pp. 64, 65. [*Hemiptera*.]  
Cf. DISTANT, t. c. p. 94.
1262. —. Trois *Capsides* nouveaux pour la faune française. Bull. Soc. ent. France 1905, p. 8. [*Hemiptera*.]
1263. RIBAGA, C. La partenogenesi nei *Copeognati*. Redia ii, pp. 33-36.
1264. —. Descrizione di nuovi *Copeognati*. T. c. pp. 99-110, pls. ix, x.
1265. RIBEIRO, A, DE M. *Basilia ferruginea* genero novo e especie nova da familia das Nycteribias. Arch. Mus. Rio Jan. xii, pp. 175-179, 1 pl. [*Diptera*.]

1266. RICARDO, GERTRUDE. Notes on the *Tabani* from the Palæarctic region in the British Museum collection. Ann. Nat. Hist. (7) xvi, pp. 196-202. [*Diptera*.]
- RIFFARTH, H. [See STICHEL & RIFFARTH (1452).]
1267. RIMSKY-KORSAKOW, M. Beitrag zur Kenntnis der *Embiiden*. Zool. Anz. xxix, pp. 433-442.
1268. RIS, F. Ein unbekanntes Organ der *Phryganiden* *Oecetis notata* und *Oecetis testacea*. Vierteljahrschr. Ges. Zurich xlix, pp. 370-374, pl. xii.
1269. —. Ueber ein unbekanntes Organ der *Phryganiden* *Oecetis notata* und *Oe. testacea*. Mt. Schweiz. ent. Ges. xi, pp. 63-65. [*Trichoptera*.]
1270. —. Zwei Notizen über schweizerische *Perliden*. T. c. pp. 93-97.
1271. RITSEMA, C. Four new species of the *Melolonthid* genus *Apogonia* from Borneo. Notes Leyden Mus. xxv, pp. 103-109.
1272. —. Second supplementary list of the described species of the *Melolonthid* genus *Apogonia*. T. c. pp. 111-116. [*Coleoptera*.]
1273. —. Eight new Asiatic species of the *Coleopterous* genus *Helota*. T. c. pp. 117-132. [*Coleoptera*.]
1274. —. A new West-African species of the *Coleopterous* genus *Helota*. T. c. pp. 163-165.
1275. —. A new species of the *Rhynchophorous* genus *Cryptoderma*. T. c. pp. 169, 170. [*Coleoptera*.]
1276. —. The hitherto known African species of the genus *Helota*. T. c. pp. 203-215. [*Coleoptera*.]
1277. —. Second supplementary list of the genus *Helota*. T. c. pp. 216-218. [*Coleoptera*.]
1278. RIVERA, M. J. Desarrollo i costumbres de algunos insectos de Chile. Act. Soc. Chili xiv, pp. 21-73. [*Coleoptera*.]
1279. —. Nuevas observaciones sobre algunos *Coleópteros* cuyas larvas atacan el trigo. T. c. pp. 74-94.
1280. —. Cambios producidos en la vegetation por las siembras de trigo i por larvas de *Lamellicornios*. T. c. pp. 97-102.
1281. RÖBER, J. Die sogen. "Schwanze" der *Lepidoptera*. Stettin Ent. Zeit. lxvi, pp. 247-259.
1282. ROBERTS, C. H. The distinctive characters of the Eastern species [N. American] of the genera *Dytiscus* and *Cybister*. J. N. York Ent. Soc. xiii, pp. 103-106. [*Coleoptera*.]
1283. ROBERTSON, C. Synopsis of *Euceridæ*, *Emphoridæ* and *Anthophoridæ*. Tr. Amer. ent. Soc. xxxi, pp. 365-372. [*Hymenoptera*.]
1284. —. Some new or little-known bees. v. Canad. Ent. 1905, pp. 236, 237. [*Hymenoptera*.]
1285. ROBINSON, H. C. Report on *Termes gestroi* as affecting Para rubber (*Hevea brasiliensis*). J. Fed. Malay Mus. i, pp. 2-12.
- ROBINSON, L. E. [See MOORE & ROBINSON (1063).]
1286. ROBSON, J. E. A catalogue of the *Lepidoptera* of Northumberland, Durham and Newcastle-upon-Tyne. Nat. Hist. Tr. Northumb. xv, pp. 1-106.

1287. RODZIANKO, W. N. Ueber den Parasitismus der Larven von *Hyppostena setiventris* Macquart (*Diptera*) im Innern der Larven von *Tettix bipunctatus* Linn. (*Orthoptera*). C.R. Congr. Zool. vi, pp. 696, 697.
1288. RÖHLER, E. Beiträge zur Kenntnis der Sinnesorgane der Insecten. Zool. Jahrb. Anat. xxii, pp. 225-288, pls. xv, xvi.  
Abstract by HESSE, Zool. Zentrbl. 1905, pp. 177, 178.
1289. ROMAN, A. Om Laplands Alpina *Ichneumonid*fauna. Ent. Tidskr. xxvi, pp. 177-188. [*Hymenoptera*.]
1290. RONCHETTI, V. Caso di polimelia in un *Pterostichus multipunctatus* Dej. Riv. Col. ital. iii, pp. 139-143, pl. i. [*Coleoptera*.]
- 1290A. ROSS, E. H. On the habits of the Marine Mosquito (*Acartomyia zammitii* Theobald). Thompson Yates Lab. Rep. vi, pt. 2, pp. 139-141.
1291. ROSS, R. The logical basis of the sanitary policy of mosquito reduction. Science xxii, pp. 689-699.
1292. ——. The possibility of reducing mosquitoes. Nature lxxii, p. 151.
1293. ——. Los Mosquitos (Zancudos) y el Paludismo. An. Mus. Salvador ii, pp. 745-758.
1294. ROSSUM, A. J. VAN. Proven met gekleurd voedsel. Ent. Ber. Nederland. ii, pp. 23-27.
1295. ——. Werking van haren der processie-rups op de menschelijke huid. Tijdschr. Ent. xlviii, Versl. pp. lxxvii, lxxviii. [*Lepidoptera*.]
1296. ——. Parthenogenesis bij bladwespen. T. c. pp. xii-xvii and lix-lxv. [*Hymenoptera*.]
1297. ROSTAGNO, F. Contributo allo studio della fauna della Campagna romana. Boll. Soc. zool. Ital. xiv, pp. 90-92. [*Lepidoptera*.]
1298. ——. Classificazione descrittiva dei *Lepidotteri* italiani. T. c. pp. 106-114. [Introduction only.]
1299. ROTHSCHILD, N. C. On North American *Ceratophyllus*, a genus of *Siphonaptera*. Nov. Zool. xii, pp. 153-174, pls. vi-ix.
1300. ——. Some further notes on *Pulex canis* Curtis and *Pulex felis* Bouché. T. c. pp. 192, 193. [*Aphaniptera*.]
1301. ——. Some new *Siphonaptera*. T. c. pp. 479-491, pls. xiii, xiv.
1302. ——. Notes on *Stephanocircus dasyuri* Skuse and *S. simpsoni* sp. n. Ent. Mag. 1905, pp. 60-62, pl. i. [*Aphaniptera*.]
1303. ——. A new British flea: *Ceratophyllus farreni* spec. nov. T. c. p. 255, pl. viii. [*Aphaniptera*.]  
— — —. [See also WARREN & ROTHSCHILD (1576).]
1304. ROTHSCHILD, Hon. W. Some undescribed *Lepidoptera*. Nov. Zool. xii, pp. 78, 79.
1305. ——. *Papilio steinbachi* spec. nov. Entomologist 1905, p. 125. [*Lepidoptera*.]
1306. —— & JORDAN, K. *Lepidoptera* collected by Oscar Neumann in North-east Africa. Nov. Zool. xii, pp. 175-191. [Continued from vol. x, 1903, p. 542.]
1307. —— & ——. On some new *Lepidoptera* discovered by A. S. Meek in British New Guinea. T. c. pp. 448-478.

1308. ROUBAL, C. J. Notizen zur Biologie von *Tettigometra atra* Hagenb. Wien. ent. Zeit. xxiv, pp. 167, 168. [*Homoptera.*]
1309. —. Několik nových zříd u *Coleopter* pozorovaných. SB. Bohmisch. Ges. 1904, No. 30, 6 pp., 1 pl.  
Abstract: Zool. Zentrbl. 1905, p. 665.
1310. ROUGEMONT, F. DE. Catalogue des *Lépidoptères* du Jura neuchatelois. Bull. Soc. Neuchatel xxix, pp. 252-409, and op. cit. xxxi, pp. 3-208, pls. i, ii.  
Review by A. PICTET, Arch. Sci. Nat. xix, pp. 622-624, and by RÄTZER, pp. 141-145, Mt. Schweiz. ent. Ges. xi.
1311. —. Quelques espèces de *Lépidoptères* nouveaux pour la faune suisse. T. c. pp. 410-414.
1312. —. Quelques notes entomologiques sur la vallée de Tourtemagne. Arch. Sci. Nat. xx, pp. 692-694. [*Lepidoptera.*]
1313. ROUSSEAU, E. Description de *Carabides* nouveaux de l'Afrique tropicale. Ann. Soc. ent. Belgique 1905, pp. 202-204. [*Coleoptera.*]
1314. —. *Coleoptera Adepaga*, Fam. *Carabidæ*, Subfam. *Anthiinae*. Wytzman Gen. Ins. fasc. xxxviii, 8 pp., 2 pls.
1315. RÜBSAAMEN, E. H. Beiträge zur Kenntnis aussereuropäischer Zoocecidien. I. Gallen vom Bismarck-Archipel. Marcellia iv, pp. 1-25, 129-138. [*Psyllidæ*, *Aphidæ*, *Coccidæ*.]  
Includes a new Coccid by COCKERELL.
1316. —. .... II. Beitrag: Gallen aus Brasilien und Peru. T. c. pp. 65-85, 115-128.
1317. RUDOW, —. Die Wohnungen der honigsammelnden Bienen (*Anthophiliden*). Ins. Börse 1905, pp. 35 etc. [*Hymenoptera.*]
1318. SALING, T. Notizen über Parthenogenese bei *Tenebrio molitor* L. Zool. Anz. xxix, pp. 587-590. [*Coleoptera.*]
1319. SANDER, L. Die Tsetse Fliege. Leipzig, 1905, 8vo, 79 pp., 1 pl. [*Diptera.*]
1320. \*SASAKI, C. On the wax producing Coccid, *Ericerus pe-la* Westwood. Bull. Coll. Agric. Tokyo vi, 1904, 13 pp., 2 pls.
1321. SAUNDERS, E. *Hymenoptera aculeata* collected in Algeria by the Rev. A. E. Eaton and the Rev. Francis David Morice. Part II. *Diptera*. Tr. ent. Soc. London 1905, pp. 399-417.
1322. SAUNDERS, H. S. Practical and popular Entomology. No. 2. Entomology in schools. Canad. Ent. 1905, pp. 33, 34, pl. ii.
1323. SCHAEFFER, C. Additions to the *Coleoptera* of the United States, with notes on some known species. Bull. Brooklyn Inst. i, pp. 123-140.
1324. —. Some additional new genera and species of *Coleoptera* found within the limit of the United States. T. c. pp. 141-179.
1325. —. List of Bombycine moths...collected on the Museum expedition of 1905 in the Huachuca Mountains, Arizona. T. c. pp. 181-183. [*Lepidoptera.*]
1326. —. Three new species of the genus *Statira* Latr. J. N. York Ent. Soc. xiii, pp. 179-181. [*Coleoptera.*]

1327. SCHAPOSCHNIKOW, C. A new explanation of the red colour in the hind wing of *Catocala* Schr. Ann. Nat. Hist. (7) xvi, pp. 445-452. [*Lepidoptera*.]  
Translation, by E. E. AUSTEN, of paper of last year, cf. Zool. Rec. INS. (1222).
1328. SCHAUFUSS, C. Borkenkäferstudien II. Ins. Börse 1905, pp. 8, 11, 12, 15, 18, 19, 71, 79, 87, 103. [*Coleoptera*.]
1329. SCHAUS, W. Descriptions of new South American moths. P. U. S. Mus. xxix, No. 1420, pp. 179-345. [*Lepidoptera*.]
1330. \*SCHEWYREUV, I. L'enigme des *Scolytiens*. St. Petersburg, 1905, 90 pp. [*Coleoptera*.]  
In Russian; full abstract by v. ADELUNG, Zool. Zentrbl. 1905, pp. 665-670.
1331. SCHILSKY, J. Die Käfer Europas. Heft 41. Nürnberg, 1905, 100 leaves. [*Coleoptera*.]  
This Heft is devoted to *Bruchidae*; it includes an Index to the previous ten parts, and also two leaves of explanation as to *Attelabidae*.
1332. SCHMIDT, E. Die *Ricaniiden* des Stettiner Museums. Stettin Ent. Zeit. lxvi, pp. 168-198. [*Homoptera*.]
1333. —. Beitrag zur Kenntnis der *Fulgoriden*. T. c. pp. 332-383. [*Homoptera*.]
1334. SCHMIEDEKNECHT, O. Opuscula ichneumonologica. Fasc. viii-xi, vol. ii, pp. 563-882.
1335. SCHNEIDER, J. Untersuchungen über die Tiefsee-Fauna des Bielersees mit besonderer Berücksichtigung der Biologie der Dipterenlarven der Grund-Fauna. Mt. Ges. Bern 1904, pp. 165-195. [*Diptera*.]
1336. SCHNEIDER, J. S. *Lepidopterologiske meddelelser fra Tromsø stift*. Tromsø Mus. Aarsh. xxvi, pp. 21-35.
1337. —. Sydherø. Et lidet bidrag til Kundskaben om den arktiske skjaergaards malakologiske og entomologiske fauna. Op. cit. xxvii, pp. 170-205.
1338. SCHOLZ, R. Der Tonapparat von *Scolytus ratzeburgi* Janson und die Entwicklung des Tonapparates bei einigen *Scolytus*-Arten. Ins. Börse 1905, pp. 143, 144. [*Coleoptera*.]
1339. SCHOUTEDEN, H. *Heteroptera* fam. *Pentatomidæ* subfam. *Graphosomatinae*. Wytsman Gen. Ins. fasc. xxx, 46 pp., 3 pls.
1340. —. Monographie du genre *Coleotichus*. Ann. Mus. Hungar. iii, pp. 317-361, pls. viii, ix. [*Hemiptera*.]
1341. —. Escursion del Dott. Achille Tellini nell' Eritrea. *Hemiptera*. Ann. Soc. ent. Belgique 1905, pp. 6-10.
1342. —. Expédition du Baron C. von Erlanger en Abyssinie et au pays des Somalis. *Hémiptères-Hétéroptères*. T. c. pp. 11-14.
1343. —. Note sur le genre *Garsauria* Walk. T. c. pp. 49-51. [*Hemiptera*.]
1344. —. Description de *Graphosomiens* nouveaux. T. c. pp. 141-147. [*Hemiptera*.]
1345. —. Les *Hyponecrodes* sud-américains. T. c. pp. 195-199. [*Coleoptera*.]

1346. [SCHOUTEDEN, H.] Neue *Pentatomiden* aus Afrika und Madagaskar, nebst synonymischen Bemerkungen. Wien. ent. Zeit. xxiv, pp. 51-55. [*Hemiptera.*]
1347. —. Faune entomologique de l'Afrique tropicale. T. 1, fasc. 2. Rhynchota aethiopica. II. *Arminæ* et *Tesseratominæ*, pp. 133-277. [Forms part of Ann. Mus. Congo, called also Ann. Mus. Tervueren.]
1348. —. Notes on Ceylonese *Aphides*. Spolia Zeylan. ii, pp. 181-188, 1 pl.  
— [See also BERGROTH & SCHOUTEDEN (100).]
1349. SCHRÖDER, C. Eine Kritik der Erklärungsversuche der lebhaften Hinterflügel-färbung im Genus *Catocala* Schr. Biol. Centrbl. xxv, pp. 51-61. [*Lepidoptera.*]
1350. SCHROTTKY, C. Enumeration des *Hyménoptères* connus jusqu'ici de la republique Argentine, de l'Uruguay et du Paraguay. An. Soc. Argent. lv, pp. 80-91, 118-124, 176-186.
1351. —. Contribución al conocimiento de los *Himenópteros* del Paraguay. An. cient. Paraguay. No. 4, pp. 1-14.
1352. —. Das Verhalten von Insekten zu Kulturpflanzen. Ins. Börse xxii, 3 pp.
1353. SCHUCHERT, C. & BUCKMAN, S. S. The nomenclature of types in natural history. Science xxi, pp. 899-901.
1354. — & —. The nomenclature of types in natural history. Ann. Nat. Hist. (7) xvi, pp. 101-104.
1355. SCHÜLKE, —. Die Abänderung der *Vanessen* und ihre Beziehungen zur Entstehung der Arten. Schr. Ges. Königsb. 1905, pp. 142-145. [*Lepidoptera.*]
1356. SCHULTZ, O. Übersicht über die bisher bekannt gewordenen Fälle von Gynandromorphismus bei palaeart. *Macrolepidopteren*. Verzeichnis der Familien, Gattungen und Species. Nyt. Mag. Naturv. xliii, pp. 123-136.
1357. SCHULTZE, A. Zur Kenntnis der bis jetzt beschriebenen *Ceuthorrhynchidius*-Arten des paläarktischen Gebiets. München. Kol. Zeitschr. iii, pp. 1-10. [*Coleoptera.*]
1358. SCHULZ, A. [Mimikry.] C.R. Congr. Zool. vi, pp. 584-586.
1359. SCHULZ, E. A. *Hymenopteren*-Studien. Leipzig, 1905, 8vo, 147 pp. Consists of three Memoirs: Beiträge zur Kenntnis der Hymenopteren-Fauna Afrikas, pp. 1-68; Neue Gattungen und Arten der Trigonaliden, pp. 69-104; Hymenopteren Amazoniens ii, pp. 105-143. Review, Zeitschr. Hym. Dipt. v, pp. 173-175.
1360. SCHULZ, W. A. Neue Beobachtungen an südbrasilianischen *Meliponiden*-Nestern. Zeitschr. Insbiol. i, pp. 199-204, 250, 253. [*Hymenoptera.*]
1361. —. Das Nest von *Polistes hebraeus* (F.). Verh. Ges. Wien 1905, pp. 490-493. [*Hymenoptera.*]
1362. SCHUSTER, L. Über den Massenfrass der Kiefernblattwespe (*Lophyrus pini*) im Gonsenheimer Wald. Zool. Garten xlvi, pp. 16-20; also t. c. p. 343. [*Hymenoptera.*]
1363. —. *Ephippigera vitium*. T. c. pp. 81-85. [*Orthoptera.*]



1364. SCHUSTER, W. Die Reblaus (*Phylloxera vastatrix*) in Hessen (Hessen-Nassau und Rheinhessen) seit Beginn ihres Auftretens (1878) bis zur Gegenwart (1902): ihre gefahrdrohende Verbreitung, ihre Bekämpfung u. s. w. Ber. Oberhess. Ges. xviii, pp. 105-127. [*Aphidæ.*]
1365. \*SCHÜTTE, H. Insekten-Büchlein. Die wichtigsten Feinde und Freunde der Landwirtschaft aus der Klasse der Insekten. Mit e. Anh.: Die Malaria u. die *Anopheles*-mücke. Stuttgart, 16°, 1905, 240 pp., illustrations and xx pls.
1366. SCHÜTZE, —. Mitteilungen über einige Kleinschmetterlinge. Iris Dresden xvii, pp. 192-208. [*Lepidoptera.*]
1367. SCHWANGART, F. Zur Entwicklungsgeschichte der *Lepidopteren*. Biol. Centrbl. xxv, pp. 721-729, 777-789.
1368. SCHWARZ, E. A. The insect-catching grass of Cuba. P. ent. Soc. Washington vii, pp. 5-9, pl. i.
1369. SCHWARZ, O. Neue *Elateriden* aus der Malayischen Zone. Deutsche ent. Zeitschr. 1905, pp. 257-266. [*Coleoptera.*]
1370. —. Neue *Elateriden* aus Madagaskar und Afrika. T. c. pp. 273-292. [*Coleoptera.*]
1371. SCOTT, G. G. The distribution of tracheæ in the nymph of *Plathemis lydia*. Biol. Bull. ix, pp. 341-354, 8 text-figg.
1372. SCRIBA, E. Ein neuer *Haliphus*. Deutsche ent. Zeitschr. 1905, p. 337. [*Coleoptera.*]
1373. SEIDLITZ, G. Bericht über die wissenschaftliche Leistungen im Gebiete der Entomologie während des Jahres 1903. Erste Lief. Insecta allgemeine, und Coleoptera. Berlin, 1905, 356 pp.
1374. SEIFERT, O. Contributions to the knowledge of North American *Arctiide*. Canad. Ent. 1905, pp. 73-78, pl. iii. [*Lepidoptera.*]
1375. SELLER, W. Beiträge zur Kenntnis der Ocellen der *Ephemeriden*. Zool. Jahrb. Anat. xxii, pp. 1-40, pls. 1, 2.  
Abstract, by HESSE, Zool. Zentrbl. 1906, p. 179.
1376. SEILLIÈRE, G. Sur une diastase hydrolysant la xylane dans le tube digestif de certaines larves de *Coleoptères*. C.R. Soc. Biol. lviii, p. 940.
1377. SEITZ, A. Das neue Insektenhaus im zoologischen Garten zu Frankfurt-a-M. Zool. Garten lxvi, pp. 2-6.
1378. \*SELOUS, E. The romance of insect life: interesting descriptions of the strange and curious in the insect world. London, 352 pp.  
Review, Nature lxxiii, p. 172.
1379. SEMICHON, L. Signification physiologique des cellules à urates chez les Mellifères solitaires. C.R. Ac. Sci. cxl, pp. 1715-1717. [*Hymenoptera.*]
1380. —. La formation des réserves dans le corps adipeux des Mellifères solitaires. Bull. Mus. Paris x, pp. 555-557. [*Hymenoptera.*]
1381. —. Glandes latéro-abdominales chez quelques Mellifères. Bull. Soc. ent. France 1905, pp. 127, 128. [*Hymenoptera.*]
1382. SERGENT, E. & SERGENT, E. Nouvelle espèce de *Culicide* algérien (*Grabhamia subtilis*). Bull. Mus. Paris 1905, pp. 240-242. [*Hymenoptera.*]

1383. [SERGENT, E. & SERGENT, E.] Sur un *Culicidae* nouveau, très commun à Biskra (*Grabhamia subtilis*). C.R. Soc. Biol. lviii, p. 673. [*Diptera*.]
1384. — & —. *Anopheles algeriensis* et *Myzomyia hispaniola* convoient le paludisme. Op. cit. lix, pp. 499, 500. [*Diptera*.]
1385. SHARP, D. The genus *Criocephalus* with notes on the habits of *Asemum striatum* and *Criocephalus ferus*, by F. GILBERT SMITH. Tr. ent. Soc. London 1905, pp. 145-176, pl. ix. [*Coleoptera*.]
1386. —. The species of *Tetropium* that have been found in Britain. Ent. Mag. 1905, pp. 271-274. [*Coleoptera*.]
1387. —. An overlooked work. Ann. Nat. Hist. (7) xv, p. 520.
1388. —. Insecta. Zoological Record 1904, No. 13, 362 pp.
1389. SHARP, W. E. *Amara anthobia* Villa, a British insect. Ent. Mag. 1905, p. 87. [*Coleoptera*.]
1390. SHURAWSKY, A. Ueber die Fauna des westlichen Theiles der Bolschaja Zemlja. Ergebnisse der Reise durch die Tundra im Sommer 1903. Trudui St. Petersburg. Obshch. xxxv (2), pp. 65-100. In Russian, with German summary, pp. 96-100.
1391. SICH, A. Notes on the genus *Coleophora*. P. South London Soc. 1904-5, pp. 1-11. [*Lepidoptera*.]
1392. —. Aid to the study of *Lepidopterous* leaf-miners. Tr. City London Soc. 1904, pp. 45-53.
1393. SILVESTRI, F. Un nuovo interessantissimo caso di germinogonia (poliembriologia specifica) in un *Imenottero* parassita endofago con particolare destino dei globuli polari e dimorfismo larvale. Rend. Acc. Lincei xiv, ii, pp. 534-542.
1394. —. *Thysanura* [in] Plate's Fauna chilensis [being] Zool. Jahrb. Suppl. vi, pp. 773-806, pls. 38-44.
1395. —. Über die *Projapygiden* und einige *Japyx*-Arten. Zool. Anz. xxviii, pp. 638-643. [*Thysanura*.]  
VERHOEFF replies on a personal point raised by this paper. Op. cit. xxix, pp. 163-165.
1396. —. Nuova contribuzione alla conoscenza dell' *Anajapyx vesiculosus* Silv. (*Thysanura*). Ann. Scuol. Agric. Portici vi, 15 pp. sep. copy.  
Abstract, by VON ADELUNG, Zool. Zentrbl. 1905, pp. 405, 406.
1397. —. Materiali per lo studio dei *Tisanuri*. vi. Redia ii, pp. 111-120, pl. xii.
1398. —. Contribuzione alla conoscenza della metamorfosi e dei costumi della *Lebia scapularis* Fourc. con descrizione dell' apparata sericipare della larva. T. c. pp. 68-84, pls. iii-vii. [*Coleoptera*.]
1399. —. L'Ocnogina *betica*. Bull. Scuol. Agric. Portici (2), No. 10, 12 pp. [*Lepidoptera*.]
1400. —. Elenco dei Miriapodi, *Tisanuri*, *Termitidi* ed *Embiidi* raccolti all' isola d' Elba e di Pianosa. Boll. Mus. Torino xx, No. 501, 2 pp.  
SIMOND, P.-L. [See MARCHOUX & SIMOND (1007).]  
SIMPSON, C. B. [See BOSTOCK & SIMPSON (149).]

1401. SIMROTH, H. Über einige Folgen des letzten Sommers für die Färbung von Tieren. Biol. Centrbl. xxv, pp. 216-226.
1402. SITOWSKI, M. L. Biologische Beobachtungen über Motten. Bull. Ac. Cracovie 1905, pp. 534-548, pl. xv. [*Lepidoptera*.]  
Abstract, by v. LINDEN, Zool. Zentrbl. 1906, pp. 92-94.
1403. SJOSTEDT, Y. Übersicht der Ergebnisse einer zoologischen Reise in Kamerun, West Afrika 1890-1892. Stockholm, 1905, 99 pp.
1404. —. Über eine *Termitensammlung* aus Kongo und anderen Teilen von Afrika. Arkiv Zool. ii, No. 16, 20 pp. [*Neuroptera*.]
1405. —. De afrikanska vändringsgräshopporna, deras utveckling och biologi. Ent. Tidskr. xxvi, pp. 80-85. [*Orthoptera*.]
1406. SKINNER, H. A new *Crinodes* from Arizona. Ent. News Philad. xvi, p. 209, pl. ix. [*Lepidoptera*.]
1407. —. A new *Megathymus* from Arizona. T. c. p. 232. [*Lepidoptera*.]
1408. —. Descriptions of new *Coleoptera* from Arizona, with notes on other species. T. c. pp. 289-292.
1409. \*SLADEN, F. W. L. Queen-rearing in England and notes on a scent-producing organ in the abdomen of the worker bee, the honey bees of India and enemies of the bee in South Africa. London, 1905.  
Review, Nature lxxii, p. 126.
1410. SLOANE, T. G. Revisional notes on Australian *Carabidæ*. Part II. P. Linn. Soc. N. S. Wales. xxx, pp. 103-135.
1411. —. Five new species of *Cicindela* from tropical Australia. T. c. pp. 229-234. [*Coleoptera*.]
1412. —. Australian *Carabidæ*. Check-list. Part I. Subfamily *Carabinae*. P. Linn. Soc. N. S. Wales, No. 117, Suppl. to Vol. xxx, pp. 1-18. [*Coleoptera*.]
- 1412A. SLY, F. G. Report of the officiating Inspector-General of the Imperial Department of Agriculture of India. Rep. Imp. Dep. Agric. India 1904-05.  
Entomology, pp. 13-15.
1413. SMITH, F. G. The habits of *Asemum striatum* and *Criocephalus ferus*. Tr. ent. Soc. London 1905, pp. 165-176.
1414. SMITH, J. B. The entomological work of Dr A. S. Packard. Psyche xii, pp. 33-35, portrait pl. ii.
1415. —. New *Noctuidæ* for 1905. No. 1. Canad. Ent. 1905, pp. 65-71. [*Lepidoptera*.]
1416. —. New species of *Noctuidæ* for 1905. No. 2. T. c. pp. 201-204, 257-261. [*Lepidoptera*.]
1417. —. New species of *Noctuidæ* for 1905. No. 3. J. N. York Ent. Soc. xiii, p. 188-211. [*Lepidoptera*.]
1418. —. Report of the entomological department of the New Jersey Agricultural College Experiment Station for the year 1904. Pp. 557-652, Rep. N. Jersey exp. Stat. 1904.
1419. —. Insects injurious to shade trees and ornamental plants. Bull. 181 New Jersey Agric. exp. Stat. 50 pp.
1420. —. The mosquito investigation in New Jersey. Pop. Sci. Month. lxvi, pp. 281-286, 2 illustrations.

1421. [SMITH, J. B.] How does *Anopheles* bite? *Science* xxi, pp. 71, 72. [*Diptera.*]  
 Cf. WASHBURN, t. c. p. 228.
1422. — & GROSSBECK, J. A. Descriptions of some mosquito larvæ, with notes on their habits. *Psyche* xii, pp. 13–18. [*Diptera.*]
1423. SNELLEN, P. C. T. Aanteekeningen over Nederlandsche *Lepidoptera*. *Tijdschr. Ent.* xlviii, pp. 22–32.  
 —. [See also PREPERS & SNELLEN (1203).]
- 1423A. SNETHLAGE, E. Über die Frage vom Muskelansatz und der Herkunft der Muskulatur bei den Arthropoden. *Zool. Jahrb. Anat.* xxi, pp. 495–514, pls. xxix, xxx.  
 Abstract, *Zool. Zentrbl.* 1905, p. 337.
1424. SNODGRASS, R. E. A revision of the mouth-parts of the *Corrodentia* and the *Mullophaga*. *Tr. Amer. ent. Soc.* xxxi, pp. 297–306, pl. viii.
1425. —. The Coulee cricket of Central Washington (*Peranabrus scabricollis* Thomas). *J. N. York Ent. Soc.* xiii, pp. 74 etc., pls. i, ii. [*Orthoptera.*]
1426. SOPP, E. J. B. The callipers of earwigs. *Rep. Lancashire ent. Soc.* 1904, pp. 38–43.
1427. —. A preliminary list of the *Orthoptera* of Lancashire and Cheshire. *T. c.* pp. 44–56.
1428. SORHAGEN, L. *Ornix sauberiella* n. sp. *Zeitschr. Insbiol.* i, pp. 256, 257. [*Lepidoptera.*]
1429. SOUTH, R. A new species of *Nodaria* from Japan and Corea. *Entomologist* 1905, p. 74. [*Lepidoptera.*]
1430. SPAETH, F. Beschreibung neuer *Cassididen* nebst synonymischen Bemerkungen. *Verh. Ges. Wien* 1905, pp. 79–118. [*Coleoptera.*]
1431. SPEISER, P. Beziehungen faunistischer Untersuchungen zur Tiergeographie und Erdgeschichte. *Schr. Ges. Königsb.* 1905, pp. 150–156.
1432. —. Einen für unsere Fauna neu aufgefundenen *Tabanus* und die Familie der *Tabaniden* im allgemeinen. *T. c.* pp. 161–164. [*Diptera.*]
1433. —. Die Schwärmer (*Sphingiden*) Ostpreussens. *T. c.* pp. 174–177. [*Lepidoptera.*]
1434. —. Die Minierfliege des Leberblümchens. *T. c.* pp. 194–196. [*Diptera.*]
1435. —. Eine zweite Rattenlaus aus Abessinien. *Centrbl. Bakter.* xxxviii (1), p. 318. [*Anoptura.*]
1436. —. Schröder, Chr.: Die Zeichnungsvariabilität von *Abraxas grossulariata* L., zugleich ein Beitrag zur Deszendenztheorie. *Biol. Centrbl.* xxv, pp. 30–32.
1437. —. Beiträge zur Kenntnis der *Hippobosciden*. *Zeitschr. Hym. Dipt.* v, pp. 347–360. [*Diptera.*]
1438. —. Ergänzungen zu Czwalinas "Neuem Verzeichniss der Fliegen Ost- und Westpreussens." iv. *Zeitschr. Insbiol.* i, pp. 405–408, 461–467. [*Diptera.*]
1439. —. Neuere Arbeiten über Gallbildungen gallenerzeugende Insekten und Schildläuse. *T. c.* pp. 516–520.

1440. SPRÖNGERTS, J. A. Streifzüge in den Ostpyrenäen. Iris xvii, pp. 169-191. [*Lepidoptera*.]
1441. SSILANTJEW, A. A. Zur Biologie und Systematik des türkischen Reben-Rüssel-Käfers, *Otiorrhynchus turca* Boh. Zool. Jahrb. Syst. xxi, pp. 491-502. [*Coleoptera*.]
1442. —. Über einen sicher konstatierten Fall der Parthenogenese bei einem Käfer (*Otiorrhynchus turca* Boh.). Zool. Anz. xxix, pp. 583-586. [*Coleoptera*.]
1443. \*STANTON, W. S. J. Notes on insects affecting the crops in the Philippines. [in] Philippine weather Bureau 1904, 6 pp., 6 figg. Review, Zeitschr. Insbiol. i, pp. 318-320.
1444. STAUFFACHER, H. Zur Kenntnis des statischen Organs bei *Phylloxera vastatrix*. Zeitschr. wiss. Zool. lxxxii, pp. 379-388, pl. xxii. [*Aphidæ*.]
1445. STEBBING, E. P. A further note on the preservation of bamboos from the attacks of the bamboo beetles [*Dinoderus minutus* and *pilifrons*] or shot-borers. Indian Forest. xxxi, pp. 249-253.
1446. —. On the *Cecidomyiæ* (*Cecidomyia*? sp.) forming the galls or pseudo-cones on *Pinus longifolia*. T. c. pp. 429-434, pl. xxxviii.
1447. STEPHENS, J. W. W. Two cases of intestinal myiasis. Thompson Yates Lab. Rep. vi, pp. 119-121. [*Diptera*.]
1448. — & CHRISTOPHERS, S. R. The practical study of malaria and other blood parasites. London, 1904, pp. 396 + xlv. This is largely devoted to *Culicidæ* from the medical stand-point.
1449. STEVENS, Miss N. M. A study of the germ cells of *Aphis rosæ* and *Aphis cenotheæ*. J. exp. Zool. ii, pp. 314-333, 4 pls. Brief abstract, Zool. Zentrbl. 1905, p. 809.
- 1449A. —. Studies in spermatogenesis with especial reference to the "accessory chromosome." Publ. Carnegie Inst. No. 36, 32 pp., 7 pls.
1450. STICHEL, H. *Lepidoptera Rhopalocera*. Fam. *Nymphalidæ*, Subfam. *Discopterinæ*. Wytzman Gen. Ins. fasc. xxxi, 14 pp., 1 pl.
1451. —. *Lepidoptera Rhopalocera*. Fam. *Nymphalidæ*, Subfam. *Hyantinae*. Op. cit. xxxix, vii pp., 1 pl.
1452. — & RIFFARTH, H. Das Tierreich. Lief. 22, *Heliconiida*. Berlin 1905, xv + 290 pp., 50 figg. [*Lepidoptera*.]
1453. STRAND, E. Beitrag zur Schmetterlingsfauna Norwegens. III. Nyt. Mag. Naturv. xlii, pp. 109-179. [*Lepidoptera*.]
1454. \*STRAWSON, G. F. Insects and fungi injurious to plants with remedial treatment. London, 1905, xii + 201 pp. Noticed J. econ. Biol. i, p. 38.
1455. STROBL, P. G. Neue Beiträge zur *Dipterenfauna* der Balkanhalbinsel. Wiss. Mitt. Bosnien ix, pp. 519-581.
1456. SWENK, M. H. The North American species of *Cuterebra*. J. N. York Ent. Soc. xiii, pp. 181-185. [*Diptera*.]
1457. —. New species of *Colletes*. Canad. Ent. 1905, pp. 301-304. [*Hymenoptera*.]
1458. SWEZEY, O. H. Leaf-hoppers and their natural enemies. (Pt. vii, *Orthoptera*, *Coleoptera*, *Hemiptera*.) Rep. exp. Stat. Hawaii. i, pt. 7, pp. 211-238, pls. xiv-xvii.

1459. SWINHOE, C. New species of Eastern *Heterocera* in the National collection. *Ann. Nat. Hist.* (7) xv, pp. 149-167. [*Lepidoptera.*]
1460. —. Notes on Eastern *Heterocera*, with descriptions of new genera and species. *T. c.* pp. 495-505. [*Lepidoptera.*]
1461. —. Notes on Eastern and Australian *Heterocera*, with descriptions of one new genus and thirteen new species. *Op. cit.* xvi, pp. 142-155. [*Lepidoptera.*]
1462. —. On new and little-known species of Eastern and Australian *Lepidoptera*. *T. c.* pp. 612-629.
1463. SYKES, M. L. Protective resemblance in the Insecta. *P. Manchester Club* i, pp. 183-233, 10 pls. [*Lepidoptera.*]  
Review, *Nature* lxxi, pp. 520, 521.
1464. SYSLOVA, S. O phagotsitozye v'idyatel'n'ikh orghanakh i serdcseye nyekotor'ikh nasyekom' ikh. (*Pterygota*). *Trudui St. Petersb. Obshch.* xxx (4) pp. 77-128, pls. 1, 2. [*Orthoptera.*]
1465. SZÉPLIGETI, G. W. *Hymenoptera Ichneumonidae* (Gruppe *Ophionidae*), subfam. *Pharsaliinae-Porizontinae*. *Wytsman Gen. Ins.* fasc. xxxiv, 71 pp., 2 pls.
1466. —. Exotische *Braconiden* aus den aethiopischen, orientalischen und australischen Regionen. *Ann. Mus. Hungar.* iii, pp. 25-55. [*Hymenoptera.*]
1467. —. Übersicht der paläarktischen *Ichneumoniden*. 1 Theil. *T. c.* pp. 508-540. [*Hymenoptera.*]
1468. —. Beiträge zur Kenntniss der Insektenfauna von Kamerun. No. 29, *Braconidae*. *Arkiv Zool.* ii, No. 14, 11 pp. [*Hymenoptera.*]
1469. —. Übersicht der Gattungen und Arten der paläarktischen *Braconiden*. *Math. naturw. Ber. Ungarn* xx, pp. 55-64. [*Hymenoptera.*]  
Same paper as recorded in *Zool. Rec.* xl, INS. (1506).
1470. SZILÁDY, Z. An Insekten lebende Milben und Fliegen. *Rov. Lapok* 1905, pp. 23, 24. [*Diptera.*]  
In Hungarian: abstract in German, p. 3 suppl.
1471. TEMPÈRE, J. Les œufs d'insectes leur recherche, leur preparation. *Microgr. prep.* xiii, pp. 34, 35, pl. iii.
1472. —. Les *Thysanoures* et leurs écailles. *T. c.* pp. 254-260, pls. xxvii, xxviii.
1473. TEPPER, J. G. O. Insects collected in the Northwestern region of South Australia proper by H. Basedow; with descriptions of new species of *Mantidae* and *Phasmida*. *Tr. R. Soc. S. Austral.* xxix, pp. 237-245. [*Orthoptera.*]
1474. TER HAAR, D. Iets over het weerstands- en aanpassingsvermogen van insecten in verband met *Xystophora palustrella* Dougl. en de langsame ontwikkeling van met sluipwespen bezette rupsen. *Tijdschr. Ent.* xlviii, pp. 79-82.
1475. TERRY, F. W. Leaf-hoppers and their natural enemies. Pt. v. *Forficulidae, Syrphidae* and *Hemerobiidae*. *Bull. exp. Stat. Hawaii* i, pt. v, pp. 163-181, pls. lviii-lx.  
For other parts of this series see PERKINS (1150-1154).
1476. THEOBALD, F. V. [In] *Wytsman Genera Insectorum* 26<sup>me</sup> fasc. *Culicidae*, 50 pp., 2 pls. [*Diptera.*]

1477. [THEOBALD, F. V.] A catalogue of the *Culicidæ* in the Hungarian National Museum, with descriptions of new genera and species. Ann. Mus. Hungar. iii, pp. 61-120, pls. i-iv. [*Diptera*.]
1478. —. New *Culicidæ* from India, Africa, British Guiana and Australia. J. econ. Biol. i, pp. 17-36, pls. iii, iv. [*Diptera*.]
1479. —. A new *Ficalbia* from West Africa. Ann. Nat. Hist. (7) x, p. 199. [*Diptera*.]
1480. —. Some new mosquitoes from Ceylon. J. Bombay Soc. xvi, pp. 237-250, pls. A, B. [*Diptera*.]
1481. —. A new genus of *Culicidæ*. Entomologist 1905, pp. 52-55. [*Diptera*.]
1482. —. New *Culicidæ* from the West coast of Africa. T. c. pp. 101-103, 154-157. [*Diptera*.]
1483. —. A new *Stegomyia* from the Transvaal. T. c. pp. 224, 225. [*Diptera*.]
1484. —. The mosquitoes or *Culicidæ* of Jamaica. Jamaica, 1905, 40 pp., 9 pls.  
A publication of the Institute of Jamaica.
1485. —. Report on economic Zoology for the year ending April 1st, 1905. London, 1905, 123 pp.
1486. —. Flies and ticks as agents in the distribution of disease. P. Ass. econ. Biol. i, pp. 1-10 (sep. copy).
1487. \* —. Insect life. A short account of the habits and classification of insects. Second edition. Revised. London, 1905, xi+235 pp.  
Review, Nature lxxii, p. 150.  
— [See also GRABHAM (684).]
1488. THÉRY, A. Revision des *Buprestides* de Madagascar. Paris, 1905, 8vo, 186 pp., 7 pls. [*Coleoptera*.]
1489. —. Description d'un *Buprestide* nouveau. Naturaliste 1905, p. 152. [*Coleoptera*.]
1490. THIEME, O. Monographie der Gattung *Pedaliodes* Butl. Berlin. ent. Zeitschr. l, pp. 43-141, pls. i-iii. [*Lepidoptera*.]
1491. THIENEMANN, A. Biologie der *Trichopteren*-Puppe. Zool. Jahrb. Syst. xxii, pp. 489-574, pls. xvi-xx.
1492. —. *Trichopteren*-Studien. Zeitschr. Insbiol. i, pp. 285-291.
1493. THIERRY-MIEG, P. Description des *Lépidoptères* nouveaux. Naturaliste 1905, pp. 181, 182, 191-193.
1494. TILLYARD, R. J. On dimorphism in the female of *Ischnura heterosticta* Burm. P. Linn. Soc. N. S. Wales xxx, pp. 302-306. [*Odonata*.]
1495. —. On the supposed numerical preponderance of the males in *Odonata*. T. c. pp. 344-349.
1496. TITUS, E. S. G. The sugar-cane beetle (*Ligyris rugiceps* Lec.). Bull. U. S. Dep. Agric. Ent. No. 54, pp. 7-18. [*Coleoptera*.]
1497. —. Some notes on the Provancher *Megachilidæ*. P. ent. Soc. Washington vii, pp. 149-165. [*Hymenoptera*.]

1498. [TIFUS, E. S. G.] & PRATT, F. C. Catalogue of the exhibit of economic entomology at the Louisiana Purchase exposition, St Louis, Mo., 1904. Revised edition. Bull. U. S. Dep. Agric. Ent. No. 47, 155 pp.  
TODD, J. L. [See DUTTON & others (469).]
1499. TOMLIN, J. R. LE B. *Silvanus mercator* Fauvel, a species of *Coleoptera* new to Britain. Ent. Mag. 1905, p. 37.
1500. TONGE, A. E. *Lepidopterous ova*. S. Eastern Natural. 1905, pp. 52-54.
1501. TORKA, V. *Tettigometra obliqua* Panz. Zeitschr. Insbiol. i, pp. 451-455. [*Homoptera*.]
1502. TROTTER, A. Osservazioni e ricerche sulla "malsania" del Nocciolo in provincia di Avellino e sui mezzi atti a combatterla. Redia ii, pp. 37-67.
1503. —. Miscellanea cecidologiche. II. Marcellia iv, pp. 54-59.  
— [See also KIEFFER & TROTTER (849).]
1504. TULLGREN, A. Ur den moderna, praktist entomologiska. Litteraturen. III. Ent. Tidskr. xxvi, pp. 161-171.
1505. —. Om fluglarver på spenat. T. c. pp. 172-176. [*Diptera*.]
1506. —. *Hymenopterologiska notiser*. T. c. pp. 251, 252.
1507. TURNER, J. K. A csíkbogár (*Cybister laterimarginalis* De Geer) hímivarkészülékének morphológiája és véérének osmotikus nyomása. Allatt. Kozl. Magyar Tars. iv, pp. 14-38, 3 pls.  
Summary in German, pp. 56, 57. Abstract, by GORKA, Zool. Zentrbl. 1906, p. 95.
1508. TURATI, E. Alcune nuove forme di *Lepidotteri*. Natural. Sicil. xviii, pp. 25-48, pls. i-x.
1509. TURNER, A. J. A preliminary revision of the Australian *Thyrididae* and *Pyralidae*. Part II. P. Soc. Queensland xix, pp. 39-63. [*Lepidoptera*.]
1510. TUTT, J. W. A natural history of the British butterflies, their world-wide variation and geographical distribution. London, 1905, 8vo, pp. 1-12, and 1-144 (incomplete). [*Lepidoptera*.]
1511. —. *Lepidoptera* of the Val d'Hérens, Arolla. Ent. Rec. xvii, pp. 1-6, & 208-210.
1512. —. Types of the genera of the Agdistid, Alucitid and Orneodid plume moths. T. c. pp. 34-37. [*Lepidoptera*.]
1513. —. Hybrid *Lepidoptera*. T. c. pp. 282-284.
1514. \*—. Practical hints for the field Lepidopterist. Part III. London, 1905.  
Review, Ent. Mag. 1905, p. 73.
1515. UHLER, P. R. Recognition of two North American species of *Cicada* Latr. Ent. News Philad. xvi, pp. 74-76. [*Homoptera*.]
1516. ULE, E. Blumengärten der Ameisen am Amazonenstrom. Vegetationsbilder iii, 1905, pls. i-vi, and letterpress unpagged.
1517. ULMER, G. Zur Kenntniss aussereuropaischer *Trichopteren*. (Neuer *Trichopteren* des Hamburger und Stettiner Museums und des zoologischen Instituts in Halle, nebst Beschreibungen einiger Typen Kolenati's und Burmeister's.) Stettin Ent. Zeit. lxvi, pp. 1-119, pls. i-iv.



1518. [ULMER, G.] Neue und wenig bekannte *Trichopteren* der Museen zu Brüssel und Paris. Ann. Soc. ent. Belgique 1905, pp. 17-41.
- 1518A. ——. Neue und wenig bekannte aussereuropäische *Trichopteren*, hauptsächlich aus dem Wiener Museum. Ann. Hofmus. Wien xx, pp. 59-98.
1519. ——. *Trichopteren* aus Java. Mt. Mus. Hamburg xxii, pp. 87-100.
1520. ——. Über die geographische Verbreitung der *Trichopteren*. Zeitschr. Insbiol. i, pp. 16-32, 68-80, 119-126.
1521. UNDERWOOD, W. L. Mosquitoes and suggestions for their extermination [in Bermuda]. London, 2nd ed., 1904, 8vo, 21 pp., illustrations. [*Diptera*.]
1522. URIARTE, L. Sur la classification des *Pulicides* des rats. Rectification à une note antérieure. C.R. Soc. Biol. lviii, p. 98.
1523. V—. La sélection naturelle chez les papillons. Rev. Scient. (5) iv, pp. 152, 153.
1524. VACHAL, J. *Manuelia*, un nouveau genre d'*Hyménoptères* mellifères. Bull. Soc. ent. France 1905, p. 25.
1525. ——. Les insectes actuels témoins des révolutions du globe. T. c. pp. 68-70.
1526. ——. *Lonchopria*, un nouveau genre d'*Hyménoptères* de la famille *Apidae*. T. c. p. 204.
1527. VAN DUZEE, E. P. Notes on Australian *Pentatomidae*, with descriptions of a few new species. Bull. Amer. Mus. xxi, pp. 187-214, pl. viii. [*Hemiptera*.]
1528. VANEX, C. & MAIGNON, F. Variations subies par le glucose, le glycogène, la graisse et les albumines solubles au cours des métamorphoses du Ver à soie. C.R. Ac. Sci. cxl, pp. 1192-1195. [*Lepidoptera*.]
1529. — & ——. Influence de la sexualité sur la nutrition du *Bombyx mori* aux dernières périodes de son évolution. Localisation du glycogène, des graisses et des albumines solubles au cours de la nymphose. T. c. pp. 1280-1283, and correction p. 1428.  
Abstract, by VON LINDEN, Zool. Zentrbl. 1906, p. 264.
1530. VANGEL, E. Beiträge zur Insektenfauna von Ungarn. *Lepidopteren*. Rov. Lapok 1905, pp. 32-35, etc.
1531. VAN ROON, G. Naamlijst der *Lucaniden* welke tot heden beschreven zijn. Tijdschr. Ent. xlviii, pp. 83-180. [*Coleoptera*.]  
VAN ROSSUM. See ROSSUM, VAN.
1532. VARELA, A. G. *Redúvidos* nuevos ó pocos conocidos de la región etiopica (Guinea). Bol. Soc. espan. v, pp. 97-99. [*Hemiptera*.]
1533. ——. Contribución al estudio del genero *Margatus* Stål. T. c. pp. 145-149. [*Hemiptera*.]
1534. VASSILIEW, J. Beitrag zur Biologie der Gattung *Anthrax* Scop. Zeitschr. Insbiol. i, p. 174. [*Diptera*.]
1535. VÁZQUEZ FIGUEROA, A. Nuevas especies de *Lepidópteros* de España. Bol. Soc. espan. v, pp. 115-122.
1536. VENEZIANI, A. Valore morfologico e fisiologico dei Tubi malpighiani (contributo alla conoscenza del meccanismo dell' escrezione). Redia ii, pp. 177-230, pls. xviii-xx.

1537. VENTRILLON, E. Description de *Culicides* de Madagascar. Bull. Mus. Paris x, pp. 550-554. [*Diptera*.]
1538. —. *Culicides* nouveaux de Madagascar. Arch. parasit. ix, pp. 441-450. [*Diptera*.]
1539. VERHOEFF, K. W. Über vergleichende Morphologie des Kopfes niederer Insekten mit besonderer Berücksichtigung der *Dermapteren* und *Thysanuren* nebst biologisch-physiologischen Beiträgen. Acta Ac. German. lxxxiv, No. 1, pp. 1-144, pls. i-viii.
1540. VÉRITY, R. Description et métamorphose d'une nouvelle *Orgyia*. Bull. Soc. ent. France 1905, pp. 59-61. [*Lepidoptera*.]
1541. —. Elenco di *Lepidotteri* raccolti sul litorale del Lucchese. Bull. Soc. ent. Ital. xxxvi, pp. 123-170.
1542. —. *Rhopalocera palaeartica*. Part 1, 16 pp., 3 pls. Firenze, 1905.  
Review, Bull. Soc. ent. Ital. xxxvi, pp. 249, 250.
1543. VERNEY, L. Les caractères nouveaux et le darwinisme. [Mimicry.] Naturaliste 1905, pp. 182-184.
1544. VERNON, E. Zur Entwicklung des Verdauungskanal bei *Bombyx mori*. Zeitschr. wiss. Zool. lxxxii, pp. 523-600, pls. xxx-xxxiii, [*Lepidoptera*.]
1545. —. Manifestazioni rigenerative nelle zampe toracali del *B. mori*. Atti Ist. Veneto lxiv, pp. 431-469.
1546. —. Dei segni esterni atti a rivelare *Bombyx m.* il sesso della larva. T. c. pp. 497-501. [*Lepidoptera*.]
1547. VETH, H. J. Description of a new species of the Rhynchophorus genus *Cryptoderma* (*Oxyrrhynchus* olim). Tijdschr. Ent. xlviii, pp. 202-204. [*Coleoptera*.]
1548. VIEHMEYER, H. Kleinere Beiträge zur Biologie einiger Ameisengäste. II. Zeitschr. Insbiol. i, pp. 292-294.
1549. VIERECK [and others]. Synopsis of bees of Oregon, Washington, British Columbia and Vancouver. iv. Canad. Ent. 1905, pp. 277-287, 313-321. [*Hymenoptera*.]
1550. VILLENEUVE, J. Les types de Meigen au Muséum de Paris. Ann. Soc. ent. France 1905, pp. 304-310. [*Diptera*.]
1551. —. Contribution au Catalogue des *Diptères* de France. (Notes complémentaires et rectificatives.) Feuille Natural. xxxv, pp. 58-61.
1552. —. Coup d'œil sur la faune *Diptérologique* des Alpes françaises. C.R. Ass. Franc. 1904, pp. 883-889.
1553. VITALE, A. G. Le somiglianze protettive nei *Curculionidi* (cont.). Riv. ital. Sci. Nat. xxv, pp. 119-123.
1554. —. Specie e varietà nuove di *Curculionidi siciliani*. Riv. Col. ital. i, pp. 21-24, 42-45, ii, pp. 125-129, iii, pp. 205-207. [*Coleoptera*.]
- VORHIES, C. T. [See MARSHALL & VORHIES (1013).]
1555. VOSS, F. Über den Thorax von *Gryllus domesticus* mit besonderer Berücksichtigung des Flügelgelenks und dessen Bewegung. (Ein Beitrag zur Vergleichung der Anatomie und des Mechanismus des Insektenleibes, insbesondere des Flügels). Zweiter Teil. Die Muskulatur. Zeitschr. wiss. Zool. lxxviii, 355-521. Dritter Teil. Die Mechanik. T. c. pp. 645-696, pl. xxiv. Vierter Teil. Vergleich der *Orthopteren*, besonders des *Gryllus domesticus* mit den übrigen höheren Insektenordnungen. T. c. pp. 697-759.  
Part 1 of this work was recorded last year.

1556. WAGNER, H. Beiträge zur Kenntniss der Gattung *Apion* Herbst. II. München. Kol. Zeitschr. iii, pp. 13-34. [*Coleoptera*.]
1557. WAGNER, W. VON. Ueber die Genesis und die Entwicklung der Geselligkeit im Tierreiche. C.R. Congr. Zool. vi, pp. 674-689. [*Hymenoptera*.]
1558. WAHL, B. Literatur-Referate. Zur Morphologie und Anatomie der Insekten. Zeitschr. Insbiol. i, pp. 126-140.
1559. WAHLGREN, E. Svensk Insektfauna. Elfte Ordningen. Tvåvingar. *Diptera*. I. Ent. Tidskr. xxvi, pp. 89-154.
1560. ——. Diagnosen neuer schwedischen *Polyneuren*. T. c. pp. 69-72. [*Diptera*.]
1561. WAINWRIGHT, C. J. Notes on *Tachinidæ*. No. 1. Ent. Mag. 1905, pp. 199-207. [*Diptera*.]
1562. WALKER, E. M. Notes on the *Locustidæ* of Ontario (continuation). Canad. Ent. 1905, pp. 34-38, 113-119, pls. iv, v.
1563. WALKER, J. J. Antipodean field notes. III. A sketch of the entomology of Sydney, N.S.W. Ent. Mag. 1905, pp. 216-220, etc.
1564. WALSHINGHAM, The Lord. Algerian *Microlepidoptera* (continued). Ent. Mag. 1905, pp. 37-41, 124-128.
1565. WANDOLLECK, B. Zur vergleichenden Morphologie des Abdomens der weiblichen Käfer. Zool. Jahrb. Anat. xxii, pp. 476-576, pl. xxviii. [*Coleoptera*.]  
— —. [See also LUCAS, WANDOLLECK & KUHLGATZ (983).]
1566. WARBURTON, C. Report for 1905 of the Zoologist of the Royal Agricultural Society of England, 1905, (C) Dept. Agric. & C., pp. 178-191, 2 text-figg.
1567. \*WARD, J. J. Nature's ways, being chapters on insects, plant and minute life. London, 1905, xviii + 302 pp.  
Review by R. L., Nature lxxi, p. 512.
1568. WARREN, W. Some new South American moths. P. U. S. Mus. xxix, No. 1421, pp. 347-352. [*Lepidoptera*.]
1569. ——. New species of *Thyrididæ*, *Uraniidæ* and *Geometridæ* from the Oriental region. Nov. Zool. xii, pp. 6-15. [*Lepidoptera*.]
1570. ——. New species of *Geometridæ* from the Aethiopian region. T. c. pp. 34-40. [*Lepidoptera*.]
1571. ——. New *Thyrididæ*, *Uraniidæ* and *Geometridæ* from South and Central America. T. c. pp. 41-72. [*Lepidoptera*.]
1572. ——. New American *Thyrididæ*, *Uraniidæ* and *Geometridæ*. T. c. pp. 307-379. [*Lepidoptera*.]
1573. ——. New African *Thyrididæ*, *Uraniidæ* and *Geometridæ*. T. c. pp. 380-409. [*Lepidoptera*.]
1574. ——. New species of *Thyrididæ*, *Uraniidæ* and *Geometridæ* from the Oriental region. T. c. pp. 410-438. [*Lepidoptera*.]
1575. ——. *Lepidoptera* collected by W. R. Ogilvie-Grant on the Azores and Madeira in 1903. T. c. pp. 439-447.
1576. — & ROTHSCHILD, Hon. N. C. *Lepidoptera* from the Sudan. T. c. pp. 21-23, pl. iv.

1577. WASHBURN, F. L. Tenth annual report of the State entomologist of Minnesota. Minnesota, 1905, xvi+168 pp., 2 pls., 164 illustrations. An account of the *Diptera* of Minnesota.
1578. —. Laboratory experiments with CS<sub>2</sub> to determine the least amount of gas and the least time required to kill certain insect representatives of various families. *Science* xxii, pp. 800-802.
1579. WASMANN, E. Ursprung und Entwicklung der Sklaverei bei den Ameisen. *Biol. Centrbl.* xxv, pp. 117-127, 193-216, 256-270, 273-292.  
Abstract: *Zeitschr. Insbiol.* i, pp. 510-512.
1580. —. Nochmals zur Frage über die temporär gemischten Kolonien und den Ursprung der Sklaverei bei den Ameisen. *T. c.* pp. 644-656. [*Hymenoptera.*]
1581. —. Beobachtungen ueber *Polyrhachis dives* auf Java, die ihre Larven zum Spinnen der Nester benutzt. [Briefliche Mittheilung von Herrn Edw. Jacobson zu Semarang (Java) an Herrn C. Ritsema Leiden, übersetzt und mit Bemerkungen versehen.] *Notes Leyden Mus.* xxv, pp. 133-140.
1582. —. Ameisenarbeiterinnen als Ersatzköniginnen. *Mt. Schweiz. ent. Ges.* xi, pp. 67-73. [*Hymenoptera.*]
1583. —. Die phylogenetische Umbildung ostindischer Ameisengäste in Termitengäste. *T. c.* p. 66. [*Coleoptera.*]
1584. —. Die phylogenetische Umbildung ostindische Ameisengäste in Termitengäste. *C.R. Congr. Zool.* vi, pp. 436-449.
1585. —. *Termitusa*, nouveau genre d'*Aleochariens* termitophiles. *Rev. Ent. franc.* 1905, pp. 199, 200. [*Coleoptera.*]
1586. —. Versuche mit einem brasilianischen Ameisennest in Holland. *Tidschr. Ent.* xlvi, pp. 209-213, pl. viii. [*Hymenoptera.*]
1587. —. Zur Myrmecophagie des Gruenspechts. *T. c.* pp. 214-220. [*Hymenoptera.*]
1588. —. Zur Lebensweise einiger in- und ausländischen Ameisengäste. *Zeitschr. Insbiol.* i, pp. 329-336, 384-389, 418-427.
1589. WATERHOUSE, C. O. Three new *Coleoptera* from E. Africa belonging to the *Lucanidae* and *Cetoniidae*. *Ann. Nat. Hist.* (7) xv, pp. 375-377.
1590. —. Observations on *Coleoptera* of the family *Buprestidae*, with descriptions of new species. *T. c.* pp. 577-584.
1591. —. Note on some British *Culicidae*. *Op. cit.* pp. 674-676. Descriptions by THEOBALD.
1592. WEBB, J. L. Description of a new species of *Desmocerus*, with a synoptic table of the genus. *P. ent. Soc. Washington* vii, pp. 104, 105. [*Coleoptera.*]
1593. WEBSTER, F. M. A new enemy of timothy. *P. ent. Soc. Washington* vii, pp. 114-116.
1594. WEEKS, A. G. Illustrations of diurnal *Lepidoptera*. Boston, 1905, 8vo, xii+117 pp., 45 pls.
1595. WEELE, H. W. VAN DER. Eine neue *Ancylopteryx*-Art aus Liberia. *Notes Leyden Mus.* xxv, pp. 166-168.

- 1595A. WEINLAND, ERNST. Über die Stoffumsetzungen während der Metamorphose der Fleischfliege (*Calliphora vomitoria*). Zeitschr. Biol. xlvii, pp. 186-231, 8 text-figg.
- 1595B. —. Über die Ausscheidung von Ammoniak durch die Larven von *Calliphora*, und über eine Beziehung dieser Tatsache zu dem Entwicklungsstadium dieser Tiere. Zeitschr. Biol. xlvii, pp. 232-250.
1596. WEISE, J. Fam. *Chrysomelidæ* and *Coccinellidæ*. Jägerskiöld exp. No. 10a, pp. 18-20. [*Coleoptera*.]
1597. —. Neue afrikanische *Chrysomeliden* und *Coccinelliden*. Deutsche ent. Zeitschr. 1905, pp. 33-54. [*Coleoptera*.]
1598. —. *Chrysomeliden* aus Yola. T. c. pp. 77-80. [*Coleoptera*.]
1599. —. Zweites Verzeichnis der *Hispinen* und *Cassidinen* aus Vorder-Indien. T. c. pp. 113-129. [*Coleoptera*.]
1600. —. Aufzählung mexicanischer *Hispinen*. T. c. pp. 130-135. [*Coleoptera*.]
1601. —. *Tetropium gabrieli* Weise, n. sp. T. c. p. 136. [*Coleoptera*.]
1602. —. Ueber *Coccinellen*. T. c. pp. 137, 138. [*Coleoptera*.]
1603. —. *Coccinelliden* aus Erythræa. T. c. pp. 139, 140. [*Coleoptera*.]
1604. —. *Chilocorus reinecki*. T. c. p. 140. [*Coleoptera*.]
1605. —. *Chirida mimica* n. sp. T. c. p. 210. [*Coleoptera*.]
1606. —. Ueber die Gattung *Potaninia* Ws. T. c. p. 216. [*Coleoptera*.]
1607. —. Ueber *Coccinelliden*. T. c. pp. 217-220. [*Coleoptera*.]
1608. —. *Dactylispa plagiata* n. sp. T. c. p. 248. [*Coleoptera*.]
1609. —. *Stilpnaspis* nov. gen. T. c. p. 298. [*Coleoptera*.]
1610. —. Eine neue *Brontispa* und deren Larve. T. c. pp. 299-302. [*Coleoptera*.]
1611. —. Bemerkungen über *Hispinen*. T. c. pp. 317-320 & 336. [*Coleoptera*.]
1612. —. Ueber *Chrysomeliden* und *Coccinelliden* aus Rhodesia. T. c. pp. 321-335. [*Coleoptera*.]
1613. WELCH, FRANCIS H. Mosquitoes and malarial fever [Letter]. Lancet 1905, i, p. 461. [Known in the 6th century in Ceylon.]
1614. WERLIER, I. Regeneration des exstirpierten Fühlers und Auges beim Mehlkäfer (*Tenebrio molitor*). Arch. Entwicklmech. xix, pp. 259, 260, pl. xiv.
1615. WERNER, F. Über eine neue Gattung aus der *Orthopteren*-Familie der Mantodeen. Anz. Ak. Wiss. 1904, pp. 403-405.
1616. WESCHÉ, W. The genitalia of the Tsetse fly, *Glossina palpalis*. J. Quekett Club (2), ix, pp. 233-238, pl. xv. [*Diptera*.]
1617. —. An addition to the British list of *Diptera*. Ent. Mag. 1905, p. 227.
1618. WHEELER, W. M. Some remarks on temporary social parasitism and the phylogeny of slavery among ants. Biol. Centrbl. xxv, pp. 637-644. [*Hymenoptera*.]

1619. [WHEELER, W. M.] An interpretation of the slave-making instinct in ants. Bull. Amer. Mus. xxi, No. 1, pp. 1-16. [*Hymenoptera.*]
1620. —. The ants of the Bahamas, with a list of the known West Indian species. T. c. No. 8, pp. 79-135, pl. vii. [*Hymenoptera.*]
1621. —. New species of *Formica*. T. c. No. 15, pp. 267-274. [*Hymenoptera.*]
1622. —. The North American ants of the genus *Dolichoderus*. T. c. No. 19, pp. 305-319. [*Hymenoptera.*]
1623. —. The North American ants of the genus *Liometopum*. T. c. No. 20, pp. 321-333. [*Hymenoptera.*]
1624. —. An annotated list of the ants of New Jersey. T. c. No. 23, pp. 371-403. [*Hymenoptera.*]
1625. —. Worker ants with vestiges of wings. T. c. No. 24, pp. 405-408, pl. xiv. [*Hymenoptera.*]
1626. —. How the queens of the parasitic and slave-making ants establish their colonies. Amer. Mus. J. v, pp. 144-148. [*Hymenoptera.*]
1627. —. Dr O. F. Cook's 'Social organisation and breeding habits of the cotton-protecting Kelep of Guatemala.' Science xxi, pp. 706-710.
1628. —. Ants from the summit of Mount Washington. Psyche xii, pp. 111-114. [*Hymenoptera.*]
1629. WICKHAM, H. F. The North American species of *Cotalpa*. J. N. York Ent. Soc. xiii, pp. 1-4. [*Coleoptera.*]
1630. —. New species of *Coleoptera* from the Western United States. Canad. Ent. 1905, pp. 165-171.
1631. WIELÓWIEYSKI, H. v. Über nutritive Verbindungen der Eizellen mit Nährzellen im Insektenovarium und amitotische Kernprozesse. (Vorläufige Mitteilung.) SB. Ak. Wien cxiii, pp. 677-687, pls. i, ii. Abstract by GARBOWSKI, Zool. Zentrbl. 1905, p. 404.
1632. WILLEY, A. Illustrations of Ceylon *Orthoptera*. Spolia Zeylan. ii, pp. 198-200, 3 pls.
1633. WILLIAMS, F. X. & GRINNELL, F. A trip to Mt. Diabolo in search of *Lepidoptera*: with description of a new species. Ent. News Philad. xvi, pp. 235-238.
1634. —. Notes on the life history of *Hepialus sequiolus* Behrens. T. c. pp. 283-287. [*Lepidoptera.*]
1635. WILLIAMSON, E. B. Itinerary of a collecting trip, made especially in search of dragonflies, in Central America. Ent. News Philad. xvi, pp. 299-306. [*Odonata.*]
1636. WILSON, E. B. Studies on chromosomes. I. The behaviour of the idiochromosomes in *Hemiptera*. J. exp. Zool. ii, pp. 371-405. Abstract by R. GOLDSCHMIDT, Zool. Zentrbl. 1905, p. 810.
1637. —. The chromosomes in relation to the determination of sex in insects. Science xxii, pp. 500-502.
1638. —. Studies on Chromosomes. II. The paired microchromosomes, idiochromosomes and heterotropic chromosomes in *Hemiptera*. J. exp. Zool. ii, pp. 507-545, 4 figg.

1639. WIMMER, A. Dipterologische Studien. Bull. Ceska Ac. ix, pp. 28-31, 2 pls.  
Apparently an abstract in German of the paper in Bohemian in Rozpr. Ceske Ak. Praze xiii, No. 1, 10 pp., 2 pls.
1640. WOOD, J. H. The occurrence in Herefordshire of *Callimya elegantula* Fall., and *Agathomyia boreella* Zett. Ent. Mag. xli, pp. 5-7. [Diptera.]
1641. —. Herefordshire Diptera. The *Platypezidae*, *Pipunculidae* and *Syrphidae*. Tr. Woolhope Club 1902-1904, pp. 363-375.
1642. WIZE, K. F. O chorobach owadów. (Sur les maladies d'insectes.) Kosmos polski xxx, pp. 386-391.
1643. \*WRIGHT, W. G. The butterflies of the West coast of the United States, San Francisco. [Review] Ent. News Philad. xvi, pp. 336-340.
1644. WYTSMAN, P. Genera Insectorum. [See THEOBALD (1476), KONOW (880-882), SCHOUTEDEN (1339), STICHEL (1450, 1451), JACOBY & CLAVAREAU (812, 813), SZÉPLIGETI (1465), DESNEUX (403).]
1645. XAMBEU, —. Mœurs et métamorphoses de l'*Exorista aristella* Rondani Diptère du groupe des *Tachinaires*. Naturaliste 1905, pp. 57, 58.
1646. YEARSLEY, M. A contribution to the study of the function of the antennæ in Insects. P. Zool. Soc. London 1905, i, pp. 85-88. [Hymenoptera.]
1647. YORK, H. H. A new *Aspidiotus* from *Aesculus glabra*. Ohio Natural. v, p. 325. [Coccidae.]
1648. YOUNG, L. C. H. The common butterflies of the plains of India. Part I. J. Bombay Soc. xvi, pp. 570-579, pl. A. [Lepidoptera.]
1649. ZAITZEV, P. Zwei neue *Hydroporus*-Arten. (Coleoptera, Dytiscidae.) Rev. Russe Ent. 1905, pp. 25, 26.
1650. —. Notizen über Wasserkäfer (Coleoptera aquatica). T. c. pp. 37-41.
1651. —. Beiträge zur Kenntniss der Lepidopterenfauna des Gouvernement Novgorod. Trudui pryevnov. biol. obsh. St. Petersburg. ii, 19 pp. In Russian, brief German summary.
1652. —. Catalogus præcursorius Coleopterorum faunæ provinciae Novgorodensis. T. c., 64 pp.
1653. ZANDER, E. Der männliche Genitalapparat der *Butaliden*. Zeitschr. wiss. Zool. lxxix, pp. 308-340. [Lepidoptera.]  
Summary by v. LINDEN, Zool. Zentrbl. 1906, p. 94.
1654. ZANG, R. *Passalidarum* Synonymia. Kritische Revision der von Kuwert und anderen Autoren aufgestellten Gattungen und Arten. I. Notes Leyden Mus. xxv, pp. 221-232. [Coleoptera.]
1655. —. Zwei neue *Passaliden* aus den Gattungen *Comacupes* Kp. und *Aceræus* Kp. T. c. pp. 233-238. [Coleoptera.]
1656. —. Änderungen in der Nomenclatur der *Passaliden*. Zool. Anz. xxix, pp. 154, 155. [Coleoptera.]
1657. —. Über *Coleoptera Lamellicornia* aus dem baltischen Bernstein. SB. Ges. naturf. Berlin 1905, pp. 197-205, 1 pl.

1658. [ZANG, R.] *Coleoptera Longicornia* aus der Berendtschen Bernsteinsammlung. T. c. pp. 232-245, 1 pl.
1659. —. Die *Passaliden*-Gattung *Analaches* Kuw. Deutsche ent. Zeitschr. 1905, pp. 24-32. [*Coleoptera.*]
1660. —. Ueber einige von Hrn. Fruhstorfer in Tonkin gesammelte *Passaliden*. T. c. pp. 100-104. [*Coleoptera.*]
1661. —. Bemerkenswerte *Passaliden* aus der Sammlung der zoologischen Instituts in Strassburg. T. c. pp. 105-112. [*Coleoptera.*]
1662. —. *Lucaniden* und *Passaliden* gesammelt auf Ceylon von Dr W. Horn 1899. T. c. pp. 161-164. [*Coleoptera.*]
1663. —. Neotropische und indo-australische *Passaliden*. T. c. pp. 164-167, 189-192. [*Coleoptera.*]
1664. —. Ueber einige *Lucaniden* des Deutschen entomologischen National-Museums. T. c. pp. 211-216. [*Coleoptera.*]
1665. —. Dreizehn neue *Passaliden*. T. c. pp. 225-246. [*Coleoptera.*]
1666. —. Eine neue Art des *Passaliden*-Genus *Leptaulacides* Zg. von Ceylon. T. c. pp. 246, 247. [*Coleoptera.*]
1667. —. Diagnosen neuer *Passaliden*. T. c. pp. 315, 316. [*Coleoptera.*]
1668. ZAVATTARI, E. *Imenotteri* dell' isola d' Elba e di Pianosa. Boll. Mus. Torino xx, No. 493, 4 pp.
1669. —. Viaggio del Dr E. Festa in Palestina, nel Libano e regioni vicine. xvi. *Imenotteri*. T. c., No. 518, 9 pp.

## II. BIOLOGY.

### SUBJECT-INDEX.

#### 1. ANATOMY AND PHYSIOLOGY.

N.B. The arrangement in the subsections is of little importance, as each of them is not complete in itself.

Abstracts of recent works, WAHL (1558).

Biology of cell, some abstracts, DICKELE (416).

##### a. Morphology. (See also b.)

Morphology of head and mouth-parts, VERHOEFF (1539).

Morphology of the head, BENGTTSSON (95); HEYMONS (743).

Morphology of thorax, and wings, VOSS (1555).

b. General (comprehensive) and External. (See also the other subsections for special systems or organs.)

Morphology of Lepismatidæ, corei, gonopods, etc., ESCHERICH (525).

Morphology of head and trophi, *Anoplura*, ENDERLEIN (501).

Morphology of thorax, structure of *Embiidæ*, abstract of Verhoeff's last year's paper, ADELUNG (10).

Structure and metamorphosis of *Pulex*, and specially of ovaries, LASS (918); GROSS (700).

Anatomy of *Glossina*, SANDER (1319); anatomy, internal, *Glossina*, MINCHIN (1044).



- Anatomy of *Psychoda seipunctata* and larva, DELL (395).  
 Anatomy of *Aphis*, FLÖGEL (583).  
 Anatomy of *Anajapyx*, SILVESTRI (1396).  
 Anatomy of *Campodea*, and abdomen of *Machilidæ*, SILVESTRI (1394).  
 Mouth-parts of Insecta, structure of head, imago, pupa and larva, *Culicidæ*, KULAGIN (901).  
 Mouth-parts, *Diptera*, GILES (655); WIMMER (1639).  
 Trophi of *Tomocerus*, structure and function, HOFFMANN (753).  
 Mouth-parts of *Mallophaga* and *Corrodentia*, SNODGRASS (1424).  
 Hypopharynx of *Psocidæ*, ENDERLEIN (497).  
 Cuticula, connective fibres, PROWAZEK (1219).  
 Skin of *Thestor ballus* pupa, CHAPMAN, p. 145, pl. v, Ent. Rec. xvii.—  
 Skin of pupa, *Chrysophanus phlæas*, CHAPMAN, p. 172, pl. vi, t. c.—Skin  
 and hairs of larva of *Nisionades tages*, CHAPMAN, Ent. Rec. xvii, p. 281,  
 pl. xi.  
 Hair of foot, *Musca domestica*, MERLIN (1031).  
 Abdomen ♀, *Coleoptera*, morphology, WANDOLLECK (1565).  
 Abdomen ♂, *Butalidæ*, ZANDER (1653).  
 Structure of wing, *Cicadidæ*, IMHOF (804).  
 Structure and function of foot of ♀ *Dryinidæ*, KIEFFER (843).  
 Static organ, *Phylloxera*, STAUFFACHER (1444).  
 Phagocytic organs, *Orthoptera*, SYSLOV (1464), entirely in Russian.  
 Structure of pupa of *Trichoptera*, THIENEMANN (1491).  
 Eggs of *Rhyssa*, BUGNION (214).  
 Scent-organ in worker-bee, SLADEN (1409).

**c. Nervous System, Sense-Organs.** (For Senses, Psychology etc., see p. 89.)

- Sense-organs of Insects in general, RÖHLER (1288).  
 Sense-organs in wings of *Diptera*, NOÉ (1106).  
 Eyes, Leinemann's last year's work, abstract of, Zool. Zentrbl. 1906,  
 p. 191.  
 Eucone eyes, *Coleoptera*, KIRCHOFFER (855).  
 Compound eye, structure and development, bee, PHILLIPS (1164).  
 Structure and function of Ocelli in *Ephemeridæ*, SEILER (1375).  
 Sensory organ *Lepidoptera* at base of abdomen, and a distributor of  
 scent in ♂ *Geometridæ*, JORDAN (823).

**d. Muscular System.**

- Insertion of muscles, SNETHLAGE (1423A).

**e. Nutritive System and Glands** (incl. Circulatory and Respiratory Organs, Excretion).

- Alimentary canal, crop and gizzard, *Xylocopa*, BORDAS (140).  
 Crop and gizzard, *Vespidæ*, BORDAS (143).  
 Stomach, *Xylocopa*, BUGNION (216).  
 Alimentary canal, *Nepa*, BORDAS (138).  
 Dorsal vessel, POPOVICI-BAZNOȘANU (1211).  
 Heart of Mallophaga, FULMEK (627).  
 Tracheal system, NIETSCH (1102).  
 Respiration of larvæ of *Chironomidæ* in deep water, SCHNEIDER (1335).  
 Glands in *Hemiptera*, BORDAS (136).  
 Mandibular glands, larvæ, *Arctidæ*, BORDAS (141).  
 Salivary glands, *Chermes*, CHOLODKOVSKY (315).  
 Salivary gland, *Notonecta*, histology, PETTIT & KROHN (1158, 1159).  
 Nucleus salivary glands, *Chironomus*, KULAGIN (902).  
 Lateral abdominal glands, *Apidæ*, SEMICHON (1381).  
 Spinning-glands, feet of *Embiidæ*, RIMSKY-KORSAKOW (1267).

Accessory silk-glands, glands of Filippi or of Lyonnet, *Lep.*, BORDAS (137).

Wax-glands, *Apidæ*, DREYLING (451, 452).

Fat-body, globes of reserve, SEMICHON (1380).

Malpighian tubes, structure and function, VENEZIANI (1536).—Malpighian tubes, *Lebia*, SILVESTRI (1398).

Digestion and nutrition, *Tineola*, SITOWSKI (1402).

#### f. Sexual organs and Sex (incl. Hermaphrodites).

Sex distinctions, *Trichoptera*, RIS (1269).

Sex, physiological distinctions during metamorphosis, silkworm, VANEY & MAIGNON (1529).

Sex; size of egg and sex of resulting individual, *Lep.*, CUÉNOT (381, 382).

Distinctions of sex in larva of silkworm, VERNON (1546).

Sex-organs, ♂ and ♀ *Lepidoptera*, PETERSEN (1155).

Genitalia, *Glossina*, WESCHÉ (1616).

♂ genitalia, *Sarcophaga*, DU ROSELLE (467).

Testis of *Diptera*, CHOLODKOVSKY (313).

Male organs, primary, *Nepa*, BORDAS (139).

♂ abdominal organs, *Oecetis*, RIS (1268).

Male organs, histology, osmotic pressure, *Cybister*, TUNNER (1507).

Anatomy and histology female sex organs, *Hemileuca*, MARSHALL (1011).

Ovaries, *Mallophaga*, GROSS (699).

Spermatheca and duct, queen bee, BRESSLAU (186).

Ovary of *Termitidæ*, BRUNELLI (203).

Spermatogenesis, *Periplaneta americana*, MOORE & ROBINSON (1063).

Spermatogenesis, accessory chromosome, McCCLUNG (1018).

Spermatogenesis, peculiarity of, in certain *Hemiptera*, WILSON (1636).

Chromosomes in *Hemiptera*, WILSON (1638).

Chromosomes as determinants of sex, *Hemiptera*, WILSON (1637).

Spermatogenesis, *Termopsis*, *Stenopelmatus*, *Blattella*, *Tenebrio*, *Aphis*; STEVENS (1449A).

Spermatogenesis, *Acridiidæ*, MONTGOMERY (1060).

Ovaries of *Aphaniptera*, LASS (918); GROSS (700).

Oogenesis, *Nepa* and *Notonecta*, WICLOWIEYSKI (1631).

Determination of sex in bee, criticism of Bachmetjew, BUTTEL-REEPEN (225).

Determination of sex by food, *Lep.*, PICTET (1199).

Gynandromorphism, explanation, MORGAN (1064).

Gynandromorphic *Lep.*, cat. of palæarctic, SCHULTZ (1356).

Gynandromorph. *Melitea* and *Argynnis*, TURATI (1508).—Gynandrous *Cyaniris argiolus*, CLUTTERBUCK, p. 90, Entomologist 1905.—*Colias edusa* hermaph., pl. i, f. 2, SEMANSKY, p. 39, Jahresber. Wien. ent. Ver. 1903.—Gynandromorph. *P. atalanta*, SCHULTZ, p. 90, Jahresber. Wien. ent. Ver. 1904.—Hermaph. *Lycæna icarus*, SCHNECK, p. 5, pl. ii, figg. 5, 6, Jahresber. Wien. ent. Ver. 1904.—*Argynnis paphia* hermaphrodite, METZGER, p. 27, Verh. Ges. Wien 1905.—Hermaphrodite *Diapria*, CHITTY, p. lxxv, P. ent. Soc. London 1905.

Scents of male butterflies, LONGSTAFF (973).—Scent of ♂ *Pierids*, LONGSTAFF (972), also P. ent. Soc. London, pp. xxxv-xli.

#### g. Physiology. (See also subsections b—f, and sections 2, 3.)

Differentiation by physiological isolation, PETERSEN (1156).

Physiology of metamorphosis, silkworm, VANEY & MAIGNON (1528, 1529).

Tegument, "reducing substance," producer of sugar, MIRANDE (1046, 1047).

Xylanase, digestive of wood in *Cerambycidæ*, SEILLIÈRE (1376).

Account of experiments in forcing *Lepidoptera*, MERRIFIELD (1032).

Monochromatic light, or warmth, and production of colour varr., *Vanessa urticae*, CHOLODKOVSKY (314).

Weight of larva increased by disinfection of food, FIGORINI (1207).

Physiology of coloration of young larva of *Phylldromia germanica*, PHISALIX (1168).

Infertility in *Calotermes* due to Protozoa, BRUNELLI (204).

Urate cells, larvæ of *Hymenoptera*, SEMICHON (1379).

Poison in egg of bee, PHISALIX (1169, 1169A).

Parthenogenesis, *Psocidae*, RIBAGA (1263).

Artificial parthenogenesis, silkworm eggs, QUAJAT (1227).

Progeny of virgin ants, parthenogenesis and sex, FIELDE (559).

Parthenogenesis, *Otiorrhynchus*, SSILANTJEW (1442); *Tenebrio*, SALING (1318).—Parthenogenesis, *Tenthredinide*, DONCASTER (444), VAN ROSSUM (1296).

Regeneration of legs, *Bombyx mori*, VERNON (1545).

Regeneration, larva of *Tenebrio*, WERBER (1614).

Longevity, CHIRTY, p. iv, P. ent. Soc. London 1905.—Longevity of *Coleoptera*, *Akis lusitanica*, 7 years, BUDBERG, p. 65, Soc. ent. xx.

## 2. ETHOLOGY. HABITS, INSTINCT, including SENSES, PSYCHOLOGY. (Organs of Sense, see 1c.)

Abstracts of recent works on habits etc., DICKEL (417), NERESHEIMER (1094).

Popular work, SELOUS (1378).

Intelligence, FRANÇÉ (596).

Sense of hearing, RÁDL (1230).

Mode of attraction by flowers, PLATEAU (1210).

Autotomy and regeneration of limbs, BORDAGE (135).

Social *Hymenoptera*, BUTTEL-REEPEN (223, 224).

Habits and instinct of Aculeate *Hymenoptera*, FERTON (558).—Habits of *Hymenoptera*, PECKHAM & PECKHAM (1143).

Solitary wasps, Texas, habits, HARTMAN (728).

*Pompilus* and trap-door spider, DAVIDSON (389).

*Nectarinia*, honey-wasp, DU BUYSSON (229).

Habits of ants, recent works, ESCHERICH (527).

Habits of ants, KARAWIEW (826).

Ants and *Antennophorus*, KARAWIEW (827).

Weaver-ants, *Oecophylla*, at work, DOFLEIN (436).

Spinning larvæ, *Polyrhachis*, WASMANN (1581).—Spinning ants, P. (1129).

Ant-gardens, ULE (1516).

Specific odour, ants, FIELDE (561).

Mode of recognition among ants, PIÉRON (1204).

Slavery, symbiosis, parasitism, ants, FOREL (587).

Nest-founding, parasitic and slave-making ants, WHEELER (1626).

Slavery in ants, origin of, WASMANN (1579).

Slave-making instinct, ants, WHEELER (1618, 1619).

Slavery in ants, account of recent views, P. (1130).

Establishing colonies, slave-making and parasitic ants, WHEELER (1626).

Founding nest, ants, EMERY (492).

Establishing colony, *Atta*, HUBER (791), GOELDI (674).

Founding colony, *Lasius flavus*, ERNST (522).

Habits of *Dolichoderus*, WHEELER (1622), of *Liometopum*, id. (1623).

Social life of *Bombi*, WAGNER (1557).

Brazilian Bees, habits, IHERING (800).

*Apis mellifica*, account, HOMMELL (757).

- Apis mellifica*, nesting at large, BOUVIER (163) and p. 144, Bull. Soc. ent. France 1905.
- Nesting-habits, *Anthophilid* bees, RUDOW (1317).—Bees-nests, *Lithurgus dentipes*, FRIESE (599).—Nests, *Melipona*, *Trigona*, SCHULZ (1360).
- Nest-habits, *Euglossa* and S. American *Vespidae*, DUCKE (464).
- Nests of S. American *Vespidae*, classification, DUCKE (461).
- Antennæ function of, *Vespa*, experiments, YEARSLEY (1646).
- Census of a nest of *Vespa vulgaris*, CRAWSHAY (375).
- Nest, *Polistes hebraeus*, SCHULZ (1361).
- Nests of Brazilian Social *Vespidae*, IHERING (800).
- Habits of *Lepismatidae*, ESCHERICH (525).
- Lep.* choosing suitable situations, HAMM and others, P. ent. Soc. London 1905, pp. lxxiii-lxxvi.
- Dimorphic form of *Telea polyphemus* cocoons, SOULE, p. 275, Ent. News Philad. xvi; DYAR, t. c. p. 310.
- Leaf-mining *Lep.* larvæ, SICH (1392).
- Gerydus chinensis*, larval food-habits, ants etc., KERSHAW (836).
- Swarm of *Corisa* "water boatmen," LANGE, p. 364, Canad. Ent. 1905.
- Stridulation, *Ranatra*, BUENO (211).
- Sound production, *Lep.* larvæ, FEDERLEY (551).
- Sound-producing *Lepidoptera*, JAPHA (816).
- Stridulation of *Scolytus*, SCHOLZ (1338).
- Stridulating *Pentatomidae*, BERGROTH (97).
- Habits of *Dorthesia* and *Kermes*, parental, and early life, FABRE (533).
- Oviposition, *Tabanus*, LÉCAILLON (930).
- Copula and oviposition, *Dasyscelus*, BRËTHES (189).
- Oviposition, *Bibio*, GIRAULT (664).—Oviposition, *Bombyx mori*, GAL (663).
- Courtship, copula, oviposition, *Oecanthus*, HANCOCK (720).—Pairing of *Aceridiidae*, TUTT, pp. 95 & 133, Ent. Rec. xvii.
- Parasitic habits, larva of *Catogenus rufus*, FISKE (573).
- Hemimerus*, habits, MACLAUD, p. 175, Bull. Soc. ent. France 1905.
- Parasitism of *Anthrax*, VASSILIEW (1534).
- Clinocoris lectularia*, habits, feeding, life etc., GIRAULT (666, 667).
- Hosts, guests etc., gall of *Rhabdophaga brassicoides*, HEINDEL (735).
- Food-plants and parasites, *Aphide*, BIGNELL (116).
- Gall-dwellers, DE STEFANI PEREZ (406).—Parasites of gall-insects, DE STEFANI PEREZ (407).
- Bee-parasites, *Ichnemonidae*, GRAENICHER (686).
- Combat of *Forficula* with *Atypus*, PLANET (1209).
- Ants, combat, HILL (747).
- Aculeata*, Hym., fighting etc., FREKE (598).
- Habits, fossorial and combative, *Hypocephalus*, GOUNELLE (677).
- Fulgoride* and ants, LESNE (941).—Ants and *Tettigometra*, LESNE (944).
- TORKA, *Tettigometra obliqua* (1501).—Symbiosis, *Tettigometra* and *Lasius*, ROUBAL, p. 168, Wien. ent. Zeit. xxiv.
- Atydus* (*Hemipt.*) and ants, MjöBERG (1049).
- Ants and ants-nest insects, collection of abstracts of recent literature, ESCHERICH (526).
- Ants' nest insects, VIEHMAYER (1548).—Experiments with *Claviger* and a Brazilian *Cremastogaster*, WASMANN (1586).
- Ants' nest insects, WASMANN (1588).—Ants' nest *Coleoptera*, DONISTHORPE (446, 447), LEA (928).—Myrmecophilous *Blattidae*, BOLIVAR (128).—Myrmecophilous *Lepismatidae*, ESCHERICH (525).—Ants' nest *Hymenoptera*, KIEFFER (842).—Myrmecophilous *Proctotrypidæ*, KIEFFER (841).
- Myrmecophilous and Termitophilous *Col.*, WASMANN (1583).
- Myrmecophilous insects becoming termitophilous, WASMANN (1584).
- Termitophilous *Staphylinide*, WASMANN (1585).—Termitophilous *Diptera*, HOLMGREN (756).

- Termites, subterranean passages etc., DESNEUX (401).  
 Mushroom culture and other habits, *Termitidæ*, DOFLEIN (437).  
 Cave insects, ABEILLE (1, 2).—Cave *Collembola*, CARL & LEBEDINSKY (277).—Cave insects, Crimea, LEBEDINSKY (929).—Cave *Coleoptera*, MÜLLER (1078), REITTER (1255), DEVILLE (409).—Cave *Lepidoptera*, GADEAU (630).—Cave insects, JEANNEL (818).—Cavern *Col.* of Lower Styria, KRAUSS (893).  
 Blind and cave *Col.*, LEA (926).  
 Subterranean water-beetle, ABEILLE (5).  
 Case-bearing larvæ of *Chironomidæ*, LAUTERBORN (921).  
 Habits of *Trichoptera* early stages, THIENEMANN (1491).—*Phryganeid.* repairing cases, MARSHALL & VORHIES (1013).—Cases of *Trichoptera*, utility of details etc., BUCHNER (207).  
 Case-making, *Chlamys*, BRIGGS (191).  
 Tube-forming, *Lep.* larva, DAECHE (385).  
 Cocoon of *Oeneria* dispensed with, PICARD (1197).  
*Acidalia* larvæ, generations etc., PROUT (1217).  
 Habits and movements of *Drosophila*, CARPENTER (278).  
 Locomotion on water, *Stenus*, BILLARD & BRUYANT (117).  
 Swimming, *Arctia caja*, larva, SMALLMAN, p. 184, Ent. Rec. xvii.  
 Movements, pupal, *Macrothylacia rubi*, REID, Ent. Rec. xvii, p. 185.  
 Suspension of *Lep.* pupæ, KAYE, p. xxxii, P. ent. Soc. London 1905.—  
 Pupal suspension, *Thais*, CHAPMAN (304).  
*Forficula* use of forceps, GADEAU DE KERVILLE (632).  
 Earwigs, habits, TERRY (1475).  
 Submersion, resistance to, TER HAAR (1474).  
 Worker ants as temporary queens, WASMANN (1582).  
 Pseudogyne ant in amber, ÉMERY (496).  
 Hot Summer, effect of on *Coleoptera* in Europe, WEISE (1602).  
 Luminescence, intermittent, of *Luciola*, DE CHAIGNON (296).  
 Light of *Photuris* and *Phengodes*, KNAB (871).  
 Ethology of *Psychidæ*, KÜNCKEL (903).—*Psychidæ*, seek protective plants, KÜNCKEL (904).  
 Tree insects various, England, GILLANDERS (656).  
 Hibernation, FLETCHER (577).  
 Matrivorous habit of *Heterogynis* larva, CHAPMAN (303).  
 Viviparous *Forficulid*, BURN, p. xxxi, P. ent. Soc. London 1905.  
 Heliotropism, *Rhopalocera*, LONGSTAFF, p. xxviii, P. ent. Soc. London 1905.  
*Eucheira socialis*, common habitations, DIXEY, pp. xix-xxi, P. ent. Soc. London 1905.  
*Odynerus*, larval habits, LALOY (909).  
 Parasite pricking and sucking egg, MARCHAL (1006).  
*Bombus* and *Volucella*, LIE-PETERSEN (956).  
 Larval habits of asparagus-fly, LESNE (942).  
 Locustid, cannibal, migratory, SNODGRASS (1425).  
 Position of *Anopheles* in biting, SMITH (1421).  
*Grylotalpa borealis*, peculiar habits, BAUMGARTNER (86).  
*Stylopidæ*, habits, BRUES (198).  
*Scolytidæ*, habits, SCHEWYREUV (1330).  
*Cataclysta lemnata*, habits, early stages, CHAPMAN (305).  
*Diptera*, attracted by petrol, DASSONVILLE (388).  
 Acetylene lamps, moths, percentage of sexes etc., DEWITZ (411).  
 Insect-catching grass, *Cenchrus tribuloides*, SCHWARZ (1368).  
 Habits of *Lebia*, SILVESTRI (1398).  
 Chironomid in *Sarracenia*, KNAB (872).  
 Habits of coprophagous *Lamellicornia*, KOLBE (878).  
 Xylopineous *Cecidomyiids*, KIEFFER (845).  
 Tame dragon-flies, JOHNSTON, Irish Natural. 1905, p. 43.  
 "Jumping-bean" larval movements, ROLLO, p. 158, Ent. Mag. 1905.

## 3. DEVELOPMENT. (See also 1 g, Physiology.)

- Reproduction of *Aphis*, STEVENS (1449).  
 Germ-layers, recent literature, HEYMONS (744).  
 Blastoderm formation, *Polistes*, MARSHALL & DERNEHL (1012).  
 Polyembryony, account of Marchal's paper of last year, BUGNION (215).  
 Germinogony, and larval dimorphism, SILVESTRI (1393).  
 Yolk-cells, entoblast, earliest processes, origin of sex-cells, embryonic membranes, *Lepidoptera*, *Endromis*, etc., SCHWANGART (1367).  
 Embryology of *Machilis*, proamnion and proserosa, HEYMONS (745).  
 Development of alimentary canal, *Bombyx mori*, VERNON (1544).  
 Unfolding wings, *Aeschna*, EAST (488).  
 Anomalies in the metamorphosis of *Lepidoptera*, TROST, Mt. Ver. Steiermark xli, pp. lxxviii-lxx.  
 Hypermetamorphosis, *Lebia*, SILVESTRI (1398).  
 Relation of larval and imaginal leg, *Lep.*, GIRAULT (665).  
 Temperature in development of ants, fasting, FIELDE (560).  
 Larval stages of *Heteroptera*, KUHLGATZ (898).

## 4. GENERAL SUBJECTS.

## Variation and Teratology.

- Pœcilogony, GIARD (651).  
 Geographical variation, examples and importance of, JORDAN (822).  
 Variation in genitalia of *Lep.*, not correlative with other variation, but corr. with geographical wing variation, JORDAN, p. xxxiv, P. ent. Soc. London 1905.  
 Variation of ♂ genitalia, *Hadena adusta*, PETERSEN (1156).  
 Influence of summers, 1903, 1904, on colour of Insects, SIMROTH (1401).  
 Origin of variations, COCKERELL (358).  
 Physiology of variation, experiments with carbonic acid and oxygen, on *Lep. pupæ*, LINDEN (958-964).—Experiments as to food and moisture, PICTET (1198), MERRIFIELD (1033).  
 Worker ants, with wing-vestiges, WHEELER (1625).  
 Variation of *Abraxas* due to food, COLLINGE (359).  
 Melanism and its origin, MORLEY & TUTT (1066).  
 Forms of *Carabus*, HORMUZAKI (761).—Variation of ♂ characters, *Carabus*, BORN (147).—Variation of *Carabus morbillosus*, BORN (146).  
 Variation in *Hydrophilus piceus*, measurements etc., PERAZZO (1145).  
 Variation of ♂ *Lucanida*, general discussion, GRIFFINI (692, 693).  
 Polymorphism of ♀ (pœcilogony) *Malthodes*, BOURGEOIS (155).  
 Variation and correlation, honey-bee, PHILLIPS (1165).  
 Variation of colour and pattern, *Polistes*, ENTEMAN (518).  
 Variation in *Dorylus*, EMERY (495).  
 Variation of *Bombi*, HOFFER, Mt. Ver. Steiermark xli, pp. lxxv-lxxvii.  
 Variation wing-nerves, *Tenthredinidæ*, LOISELLE (971).  
 Melanotic females of *Rhopalocera*, SLEVOGT, p. 81, Soc. ent. xx.  
 Aberrations, 25, of European *Lep.*, FRINGS, pp. 139, 140, Soc. ent. xx.  
 Italian varr. of *Lep.*, described and figured, PERLINI (1148).  
 Variations of European *Lep.* (additional ocellate marks), ÖBERTHÜR (1113).  
*Papilio turnus*, dimorphism and food, JEHEBER (819).  
 Variation of *Melitæa aurinia*, KITCHIN (864).  
 Measurements, *Pieris brassicæ* 1905, AUEL (39).  
 Var. in wing-length, *Aporia*, AIGNER-ABAFI (12).  
*Aporia crategi* melanic var., REBEL, p. 273, Verh. Ges. Wien 1905.

Varr. of *Pieris rapae* in Austria, SCHAWERDA, pp. 515, 516, Verh. Ges. Wien 1905.

Proportions of *Col. edusa* and *helice* reared from one ♀, and of *Amphidasys betularia doubledayaria*, MAIN & HARRISON, p. vi, P. ent. Soc. London 1905.

*Colias myrmidone* variation, PIESZCZEK (1206).

*Dilina tiliae*, reared varr., KOLISKO, pp. 167-171, Verh. Ges. Wien 1905.

*Arctia proxima* variation, SEIFERT (1374).

Variation *Callimorpha colona*, COVERDALE (373).

Var. of *Euchelia jacobaeae*, FORSYTHE, Entomologist 1905, p. 185.

Var. of *Euchelia jacobaeae*, SOUTH, p. 265, cut, Entomologist 1905.

*Acronycta leporina*, melanic, MANSBRIDGE, p. 289, cut, Entomologist 1905.

Variation of *Lythria purpuria* at Reims, DEMAISON (397) and pp. 125, 126, Bull. Soc. ent. France 1905.

*Abraxas grossulariata*, varr., PORRITT, p. 211, Ent. Mag. 1905.

Melanic *Aspilates gilvaria*, VINALL, p. 61, Entomologist 1905.—Melanic *Larentia multistrigaria*, HARRISON, p. 133, Ent. Rec. xvii.—Melanic forms, *Tephrosia* and *Boarmia*, PORRITT, p. xxvii, P. ent. Soc. London 1905.—Melanism in *Hastula hyerana*, CHAPMAN, Ent. Mag. 1905, p. 132.

Seasonal forms, *Lep.*, Africa, DIXEY, pp. xiv-xvi, P. ent. Soc. London 1905.

Temperature var. *Pyrameis atalanta*, MERRIFIELD, p. xi, P. ent. Soc. London 1905.

Variation in nervures of *Aphalara picta*, CARPENTIER (281).

Dimorphism, ♀ *Ischnura heterosticta*, TILLYARD (1494).

Variation of forceps of *Forficula auricularia* ♂, SOPP (1426).

Wing-dimorphism in *Xiphidium*, SWEZEY (1458).

Variability and inheritance of variation, *Abraxas*, SPEISER (1436).

Crossing varieties, *Lep.*, RAYNOR, p. 253, Ent. Rec. xvii.

Heredity in varr. of *Hemerophila*, HARRIS, p. lxiii, P. ent. Soc. London 1905.—Heredity *Triphana comes* var., BACOT, pp. lxxvii-lxxi, P. ent. Soc. London 1905.

Cross-breeding dimorphic forms, *Lina lapponica*, McCracken (1019).

Monstrosities of *Coleoptera*, ROUBAL (1309).—Antenna triple, *Carabus*, JEANNEL (817).—Polymely *Pterostichus*, tarsus, RONCHETTI (1290).—*Cetonia aurata*, additional leg, CHARNIER, p. 111, Feuille Natural. xxxv.—Supernumerary legs, *Cyria imperialis*, WALKER, p. lxxvii, P. ent. Soc. London 1905.—Abnormal clytra, *Hydrophilus*, *Oryctes*, BACCHI & RAZZANTI (50).—*Criocephalus rusticus*, aberration of structure, SHARP (1385).—Malform. antenna *Helops striatus*, PRISKE, p. vi, P. ent. Soc. London 1905.—Tarsus *Lochmæa suturalis*, BEDWELL, p. xxxi, P. ent. Soc. London 1905.—*L. chrysippus* with a 5th wing, BYATT & POULTON (235).

### Hybrids.

Hybrid *Lepidoptera*, list, TUTT (1513).

Hybrid *Smerinthus ocellatus* and *populi*, ARKLE, Entomologist 1905, p. 164.

—Hybrid *Notodonta ziczac dromedarius*, ENOCK, p. iii, P. ent. Soc. London 1905.—Hybrid *Saturniæ*, DIXEY, pp. vii-xi, P. ent. Soc. London 1905.

### Colour.

Colour and form, æsthetically, MÖBIUS (1054).

Colour and its uses, KELLOGG (834).

Colour and pigment in *Polistes*, variation and ontogenesis, ENTEMAN (518).

—Colour-dimorphism, *P. machaon* pupa, FLOERSHEIM (582).

Colour in *Lepidoptera*, uses, BATTLETT (85).

Transparency in wings of *Lep.*, KAYE (828).

Coloration of cocoons, DEWITZ (413), VAN ROSSUM, Tijdschr. Ent. xlviii, Versl. p. lxvi.

Colour produced in larvæ and cocoons by feeding larvæ with coloured food, VAN ROSSUM (1294).

Colour of *Catocala* hind-wing, SCHRÖDER (1349).

### Protection.

Review of Oudemans' work on position in *Lepidoptera*, PIERON (1205).

Limited operation of protection, FRIEDRICH (599).

Misleading colour, HORVÁTH (778).

Coloration and protective attitudes, larvæ and imagines of *Notodontidæ*, PACKARD (1131).

Terrifying markings, *Sphingidæ* larvæ, POULTON, p. xxii, P. ent. Soc. London 1905.

Attack on non-vital parts, BACOT, p. xviii, P. ent. Soc. London 1905.

Enemies of butterflies, LONGSTAFF (972).

Enemies of butterflies, China, KERSHAW (837).

Birds eat butterflies?, COCKERELL (351).

Position assumed by *Kallima*, GREEN, p. 370, J. Bombay Soc. xvi.

Protection of mining larvæ from microbes, PORTIER (1215).

The coloured wings of *Catocala*, SCHAPOSCHNIKOW (1327).

*Moma orion*, prot. res., CRAWSHAY, p. 46, Ent. Rec. xvii.

Cryptic coloration, *Melitæa* larva, CHAPMAN, p. 73, cut, Entomologist 1905.

Homœochromism as defence of *Mantis*, GASPARD (643).

*Asilidæ* and bugs, COCKERELL, p. 236, Entomologist 1905.

### Resemblance.

Mimicry, COLLINS (361), ENTZ (519, 520, 521), PAXSON (1141), SCHULZ (1358), SYKES (1463), VERNEY (1543), GADOLLA, Mt. Ver. Steiermark xli, pp. lxxxi-lxxxiv; TROST, t. c. p. lxxxv.

Mimicry, a correction of PACKARD, MELDOLA (1028).

Mimicry, adaptive pigmentation, KLEINSCHMIDT (869).

Isochromism of *Lycidæ* and their local resemblers, GOUNELLE (678).

Protective resemblance, *Curculionidæ*, VITALE (1553).

*Pseudacraea poggei* and *L. chrysippus*, numerical proportion, BYATT & POULTON (235).

Mimicry in galls, DE STEFANI PEREZ (405).

Pupa *Pieris brassicæ* and lichen, IMAGE, p. 218, Ent. Rec. xvii.

Chrysomelid with *Trigona*, JACOBY, p. xviii, P. ent. Soc. London 1905.

Of butterfly to head of mouse, KAYE, p. ii, P. ent. Soc. London 1905.

*Kallima* and leaves attacked by fungus, POULTON, p. xxxii, P. ent. Soc. London 1905.

Resemblances between certain bees, MORICE, p. lii, P. ent. Soc. London 1905.

*Lycus* beetle and *Triprocris* moth, SKINNER, p. 23, Ent. News Philad. xvi.

*Conops* and *Systropus*, KÜNCKEL (906).

Mimicry or protective resemblance in Brazil, GIACOMELLI (650).

Dimorphic mimicry, *Rhopalocera*, Anon., pp. 1-3, Knowledge (n. s.) ii.

### Phylogeny, Evolution, Heredity.

Phylogeny of the Orders, HANDLIRSCH (722).

Phylogeny of winged Insects, VOSS (1555).

Wingless insects in amber and Phylogeny, VON OLFERS (1120).

Relation of Insecta with other *Arthropoda*, CARPENTER (279), HANDLIRSCH (721).

Homœopraxy, dynamical convergence, KÜNCKEL (907).



Natural selection among *Lepidoptera*, V. (1523).  
 Selection and adaptation, pupa of *Philosamia cynthia*, CRAMPTON (374).  
 Sex-organs and the origin of species, PETERSEN (1155).  
 Phylogeny of Bombycine *Lep.*, PACKARD (1131).  
*Vanessa* varieties and origin of species, SCHÜLKE (1355).  
 Phylogeny of *Carabus*, LAPOUGE (917).  
 Tails of the wings of *Lepidoptera*, RÖBER (1281).

### Galls.

Bibliography of gall literature, see Marcellia iv, Bibl.

BURDON (218), COCKERELL (352), COOK (362), CORTI (372), DE STEFANI PEREZ (404-407), GRAEFFE (685), HEINDEL (735), HOUARD (780-782), KIEFFER (844), KIEFFER (846, 847), KIEFFER & TROTTER (849), MAYR (1017), NIELSEN (1101), RÜBSAAMEN (1315, 1316), SPEISER (1439), TROTTER (1503).

Galls from Chile, KIEFFER & PABLO (848).

### Insects and Flowers and Plants. (See also 2, Ethology.)

Insects and flowers, KELLOGG (834), FERTON (558).

The position of the study of Insects and flowers, LOEW (970).

Bees and distribution of flowering plants, HARRIS (725).

Bees and flowers, BONNIER (134), BOUVIER (164A).

The vexillary function of flowers, DELPINO (396).

Mode of attraction, experiments, PLATEAU (1210).

Ants and plants, recent observations, FOREL (589).

Insects of *Nymphaeaceæ*, GOURY & GUIGNON (681); of *Papaveraceæ* and *Fumariaceæ*, iid. (682).

*Rhamnus infectorius*, insects of, CHRÉTIEN (316).

*Santolina*, *Lep.* of, CHRÉTIEN (318).

Ferns, *Diptera* etc., living in, DE MEIJERE, pp. lvi-lviii, Verslag, Tijdschr. Ent. 1905.

Plants visited by *Hymenoptera* in Paraguay, SCHROTTY (1352).

### Collections, Preservation, Museums, Nomenclature.

Measuring instruments, BUENO, p. 269, Canad. Ent. 1905.

School collection, SAUNDERS (1322).

Deutsche ent. National-Museum, account of; Deutsche ent. Zeitschr. 1905, pp. 7, 8, and 170, 171.

Geneva Museum, collections in, Mt. Schweiz. ent. Ges. xi, pp. 100-103.

Insect-house in Frankfort Zoological Garden, SEITZ (1377).

Mason coll. Brit. *Lep.*, prices, Entomologist 1905, pp. 112-114, and 136; H. E. P., p. 159, Ent. Rec. xvii.

Collections of Pandellé and Gobert to Soc. ent. France; Bull. Soc. ent. France 1905, p. 105.

Collections of aquatic *Hemiptera*, BUENO (212).

Capture by aid of automobile, NORMAND, p. 148, Echange xxi.

Apparatus for entrapping *Histeridae* etc., NORMAND, p. 141, Echange xxi.

Observation-nest for ants, KARAWIEW (826).

Apparatus for obtaining small creatures, BERLESE (101).

Preparing *Lep.* wings for work at nervures, MEIXNER & COURVOISIER (1026).

Rearing larvæ of *Carabidae*, LAPOUGE (915).

Fixing types of genera, KIRKALDY (863).

Types system of nomenclature, SCHUCHERT & BUCKMAN (1353, 1354).

Fabricius types of *Formicidae* at Copenhagen, FOREL (591).

Types, FERNALD, pp. 196-198, Ent. News Philad. xvi.

Generic types, PROUT & DYAR, J. N. York Ent. Soc. xiii, pp. 213-215.

Family and superfamily names, orthography, JACOBSON (809).

Lapp names for certain insects, QVIGSTAD (1229).

**Bibliography.**

- Introductory work, THROBALD (1487).  
 Popular work, WARD (1567).  
 Record of Insecta for 1904, SHARP (1388).  
 Record of Insecta, General and *Coleoptera*, 1903, SEIDLITZ (1373).  
 Record of Insecta for 1900: part 2, *Hymenoptera to Apterygogenea*,  
 LUCAS, WANDOLLECK & KUHLGATZ (983).  
 Work by Crotch, 1871, overlooked, new *Coleoptera*, SHARP (1387).  
 Bibliography of entomological glossaries, GIRAULT (661).  
 Bibliography of N. American *Diptera*, ALDRICH (14).  
 Jacob Hübner, dates of, FERNALD (557).  
 Bibl. Canadian entomology 1903, BETHUNE (107).  
 See also Obituary Notices.

**Biography.**

- Darwin's view on mimicry, MELDOLA (1028).  
 Fabre, J. H., receives the Prix Gegner of the Paris Academy, C.R. Ac. Sci. cxli, p. 137.  
 Packard, Alpheus Spring, biography, KINGSLEY (850); Appreciation, BARUS (79). See also obituary notices.  
 Dzierson, Dr Johann, on his 93rd birthday, with portrait, KRANCHER, p. 6, *Ins. Börse* 1905.  
 Motschulsky, Victor von, with portrait, *Ins. Börse* 1905, p. 4.

**Obituary Notices (arranged alphabetically).**

- Barrett, Charles Golding, F. D. W., Tr. Norfolk Soc. viii, pp. 152-154; *Ent. Mag.* 1905, pp. 25-27; *Entomologist* 1905, p. 32.  
 Beaumont, Alfred, G. T. P., *Ent. Mag.* 1905, pp. 95-97.  
 Bertolini, Stefano, BARGAGLI (76); *Riv. Col. ital.* iii, p. 105; *Wien. ent. Zeit.* xxiv, p. 208.  
 Bode, Otto, with portrait, *Berlin. ent. Zeitschr.* i, pp. 183-185.  
 Brauer, Friedrich Moritz, with portrait and complete bibliography, HANDLIRSCH (724).—Brauer, Dr F. M., HANDLIRSCH, pp. 173, 174, *Deutsche ent. Zeitschr.* 1905; *Ent. Mag.* 1905, p. 73.  
 Brenske, Ernst, *Deutsche ent. Zeitschr.* 1905, p. 173.  
 Buckton, George Bowdler, KIRBY (854); *Ent. Mag.* 1905, p. 282.  
 Daltry, Thomas William, portrait, Rep. North Staffordsh. Club xxxix, pp. 37-48; *Ent. Mag.* 1905, p. 215.  
 Delpino, Federico, *Boll. Naturalista* xxv, p. 49.  
 Douglas, J. W., E. S., pp. 221, 222, *Ent. Mag.* 1905; *Ent. Rec.* xvii, pp. 246-248.  
 Du Roselle, Dr E. J. B. F., with portrait, HAUTEFEUILLE, pp. 131-136, *Bull. Soc. Nord France* xvii.  
 Fry, Alexander, *Ent. Mag.* 1905, p. 119.  
 Greder, Vincent, *Deutsche ent. Zeitschr.* 1905, p. 173.  
 Hilgendorf, Dr, *Deutsche ent. Zeitschr.* 1905, p. 173.  
 Hopffgarten, Georg Maximilia von, with portrait, *Ins. Börse* 1905, p. 1; von HAUPT, *Deutsche ent. Zeitschr.* 1905, pp. 174-176; HUBENTHAL, p. 97, *Wien. ent. Zeit.* xxiv.  
 Hutton, F. W., H. B. W., *Nature* lxxiii, p. 32.  
 Johnson, W., CAPPER, p. 237, *Ent. Mag.* 1905; *Ent. Rec.* xvii, p. 248.  
 Landois, Prof. Dr H., with portrait, p. 21, *Ins. Börse* 1905.  
 Martin, Joanny, BOUVIER, p. 221, *Bull. Soc. ent. France* 1905.  
 McLachlan, Robert, E. S., P. R. Soc. London lxxv, pp. 367-370.  
 Mitis, Heinrich von, *Verh. Ges. Wien* 1905, pp. 266-269.  
 Packard, Alpheus Spring, MEAD (1021), BARUS (79), KINGSLEY (850).—Packard, A. S., with portrait, SMITH (1414).—Packard, A. S., with portrait, *Ent. News Philad.* 1905, p. 97; *Canad. Ent.* 1905, pp. 111, 112; HOLLAND,

- Ent. Mag. 1905, pp. 140, 141; W. F. K., Entomologist 1905, pp. 143, 144.  
 Pandellé, Louis, GOBERT (669).  
 Philippi, Prof. R. A., Deutsche ent. Zeitschr. 1905, p. 173.  
 Pickard-Cambridge, F. O., BANKES, p. 97, Ent. Mag. 1905.  
 Preston, Rev. T. A., Rep. Marlbor. Soc. liii, pp. 101-104.  
 Quail, —, Entomologist 1905, p. 264.  
 Rybinski, Michael, Wien. ent. Zeit. xxiv, p. 118.  
 Saussure, Henri de, BOUVIER (164); with portrait, M. B., Ent. Rec. xvii,  
 pp. 167-170, pl. vii.  
 Sikora, Franz, with portrait, p. 33, Ins. Börse 1905.  
 Voigts, Hans, Wien. ent. Zeit. xxiv.  
 Walker, Rev. Francis, Ent. Mag. 1905, p. 97.  
 Warne, Norman Dalziel, Entomologist 1905, p. 288.

## ECONOMIC ENTOMOLOGY.

N.B. This section is drawn up primarily for the Entomologist; special attention is therefore only given to articles that may contain new matter. In some cases articles are not referred to because scientific names are not used at all in them.

- Reports : England, 1905, WARBURTON (1566).—Hawaii, PERKINS (1149).  
 —Ireland, CARPENTER (280).—Kent and Surrey, THEOBALD (1485).—  
 Minnesota, WASHBURN (1577).—Montana, COOLEY (364).—New Jersey,  
 1904, SMITH (1420).—Scotland, 1904, MACDOUGALL (1000).—Sweden,  
 LAMPA (911).  
 List of vernacular names recommended by Ass. econ. Entom., Ent. News  
 Philad. xvi, pp. 157, 158.  
 The scope of economic entomology, REH (1236).  
 Abstracts of recent works, DICKEL (418).  
 General work, SCHÜTTE (1365).  
 Work on economic entomology, NÜSSLIN (1111).  
 Economic manual, STRAWSON (1454).  
 Experimental Station Record, Vols. xv, xvi, contains many notes on  
 papers on economic entomology.  
 Catalogue of exhibit at Portland, Oregon, CURRIE (384).  
 Catalogue of exhibit, St Louis, TITUS & PRATT (1498).  
 Imported from Europe to N. America, injurious Insects, HOWARD (788).  
 Primary and secondary Insect attacks on trees, etc., FUCHS (626).  
 Forestry insects, NÜSSLIN (1111).—Forest insects, Italy, CECCONI (295).—  
 Forest insects, Scotland, GILLANDERS (657).  
 Tree insects, England, GILLANDES (656).  
 Importance of attacks of *Lep.* larvæ, CHAPMAN (306).  
 Notes on injurious insects, TULLGREN (1504).  
 Breeding beneficial insects (a personal point), HOWARD (789).  
 Caprification, summary and explanation, TRABUT, Naturaliste 1905,  
 p. 13.  
 Chile, injurious *Coleoptera*, RIVERA (1278-1280).  
 Egypt, elementary work, FLETCHER (576).  
 Europe, injurious *Lep.* of, GADOLLA, Mt. Ver. Steiermark xli, pp. lxx-lxxv.  
 Philippines, injurious insects, STANTON (1443).  
 Bamboo and *Dinoderus*, STEBBING (1445).  
 Beet and *Aphis papaveris*, LÉCAILLON (931).  
 Beet worms, *Lep.*, GILLETTE & JOHNSON (658).  
 Blackberry crown borer, *Bembecia* in Washington, LAWRENCE, pp. 117-  
 119, Ent. News Philad. xvi.  
*Brachychiton populneum*, insects of, FROGGATT (612).  
 Carpet beetle, *Anthrenus*, FLETCHER (578).  
 Casuarina attacked by *Arbela*, FISCHER (571).

- Cocoa and *Thrips*, Guadeloupe, ELOT (491).  
 Coffee, Tonkin, *Xylotrechus*, BOUTAN (161).  
 Cotton trees, insects injurious to, in the Bismarek Archipelago and German East Africa, KUHLGATZ (899).  
 Cotton and kelep ant, COOK (363).  
 Cotton pest, Mexico, *Pentatoma ligata*, MORRILL (1070).  
 Cotton boll worm, *Heliothis obsoleta*, QUAINANCE & BRUES (1226).  
 Fir-trees injured by *Rhizomaria piceæ*, JACOBI (808).  
 Fruit-flies, LOUNSBURY (975), MALLY (1003).  
 Fruit-fly, new, injurious in New Zealand, BROUN (195).  
 Grapes and *Drosophila melanogaster*, AUSTEN (48).  
 Nut bushes, enemies of, Italy, TROTTER (1502).  
 Orchids and ferns injured by *Curculionidae*, MEYER, p. 50, Soc. ent. xx.  
 Pear-tree *Psylla*, FISHER (572).  
*Persea gratissima*, *Trioza* injurious to, KIRKALDY (861).  
*Pinus longifolia*, India, and *Cecidomyiidae*, STEBBING (1446).  
 Rice and maize injured by *Plodia interpunctella*, REBEL, p. 166, Verh. Ges. Wien 1905.  
 Roses injured by *Rhynchites hungaricus* and *Anthonomus rubi*, LESNE (943).  
 Rubber injured by *Termes*, ROBINSON (1285).  
 Rye and *Hadena secalis*, BÖRNER (148).  
 Shade trees and ornamental plants, injurious insects of, SMITH (1419).  
 Sugar-cane injured by *Castnia*, MARLAT (1009).—Sugar-cane *Homoptera*, foes of, Hawaii, PERKINS (1149-1154), SWEZEY (1458), TERRY (1475).—  
 Sugar-cane beetle, *Ligyrrus rugiceps*, TITUS (1496).  
*Sweetenia macrophylla*, injurious insects of, LUSHINGTON (991).  
 Timber insects and woodpeckers in Germany, LEISEWITZ (935).  
 Timothy, *Isosoma* injurious to, WEBSTER (1593).  
 Tobacco, new *Thrips* injurious to, HINDS (748).  
 Wood, "Markflecken" in, and *Agromyza*, NIELSEN (1100).  
 Vine, *Lepidoptera* of, DEWITZ (414).—Vines, *Tortrix podana vice foersterana*, ALDERSON, p. 135, Entomologist 1905.—Vine and *Otiorynchus turca*, Black Sea, SSILANTJEW (1441).  
 Wax-producing *Coccid*, *Ericerus*, SASAKI (1320).  
*Anthonomus grandis*: see cotton boll weevil.  
*Brontispa* injurious to palms in Mauritius, WEISE (1610).  
 Cotton-boll weevil, *Anthonomus grandis*, HUNTER & HINDS (798, 799).—  
 Cotton-boll weevil, spread of, MORGAN, pp. 246, 247, Ent. News Philad. xvi.  
*Anthonomus* in France, Bull. Soc. Autun xvii, pp. 101-104.  
*Dendroctonus ponderosæ* and Pines, HOPKINS (760).  
*Scolytidae*, habits, SCHEWYREUV (1330).  
*Trogosita mauritanica* in Sweden, LAMPA, pp. 57-59, Ent. Tidskr. xxvi.  
 Ants as food of woodpeckers, WASMANN (1587).  
 Kelep, *Ectatomma tuberculatum* and cotton, WHEELER (1627).  
*Lophyrus pini*, Germany, SCHUSTER (1362).  
*Cochylis ambiguella*, DEWITZ (412).  
 Codling-moth, MELANDER (1027).—Codling-moth, life-cycle in S. Africa, LOUNSBURY (976).—Codling-moth in N. America, LOCHHEAD, pp. 197-199, Canad. Ent. 1905.  
*Euproctis chrysorrhæa*, injurious in Hungary, AIGNER-ABAFI, pp. 39, 40, Rev. Lapok 1905.  
*Oenogyra beticum* in Italy, SILVESTRI (1399).  
*Pieris brassicæ* injurious in Meath, BATTERSBY, p. 238, Entomologist 1905.  
*Spodoptera mauritia* injuring paddy at Jaffna, GREEN, p. 196, Spolia Zeylan. ii.  
*Tortrix pilleriana*, destruction of by the aid of Acetylene lamps, DEWITZ (411).

*Anthomyia conformis*, *Aphis papaveris*, injuries in Germany, GROSSER (702).—*Anthomyia dissimilipes*, TULLGREN (1505).—*Anthomyia antiqua*, LAMPA (912).

*Diplosis pyrivora*, COLLINGE (360).

*Phylloxera* in Hesse-Nassau, history, SCHUSTER (1364).

*Phylloxera* galls attacked by *Phaneroptera*, FUSCHINI (628).

*Siphonophora granaria*, in Australia, FROGGATT (618).

*Aleyrodes vaporariorum*, in America, MORRILL (1071).

*Coccidæ* injurious in Connecticut, BRITTON (193).

*Cryptococcus fagi*, NEWSTEAD (1099).

*Diaspis pentagona* in Italy, LEONARDI (938).

*Mytilaspis citricola*, destroyer of, BRÈTHES (190).

*Heliothrips hæmorrhoidalis*, injuries of, LEONARDI, Boll. Ent. agrar. 1902,

4 pp, sep. copy.

*Anabrus simplex*, Western cricket, GILLETTE & JOHNSON (659).

Migratory locusts, KUHLGATZ (900).—Migratory locusts at Velletri, GALLI (634).

*Periplaneta australasiæ*, injurious in greenhouses, SKINNER, p. 183, Ent. News Philad. xvi.

*Schistocerca peregrina* in Africa, SJÖSTEDT (1405).

*Acridiidæ*, remedies against, HUNTER (796).

Diseases of insects (in Polish), WIZE (1642).

Insect-food of *Corvus frugilegus*, SCHENK, p. 183–186, Rov. Lapok 1905.

Insect food of the bull-frog, NEEDHAM (1901).

Fungus destroying *Aspidiotus*, DOP (449).

Sporozoon destroying an invasion of *Botys*, KRASSILTSCHIK (890).

Experiments as to assistance to CS<sub>2</sub>, WASHBURN (1578).

*Coccidæ*, spraying, QUAYLE (1228).

Queen bees, rearing, PHILLIPS (1166).

#### Insects and disease in Man.

Insects and man, BOSTOCK & SIMPSON (149).

Insects and disease, BRUMPT (202), HERZOG (741), HUNTER (797), KELLOGG (834), MARTINI (1014).

Flies and ticks as distributors of disease, THEOBALD (1486).

*Musca domestica*, mode of destroying, PARANT (1138).

House-fly and typhoid fever, M'LACHLAN (1052).

*Simuliidæ* in disease, FINK (562).

*Tabanidæ* communicators of disease, LAVERAN (923).

Bed-bugs and disease, GIRAULT (666).

Fleas and disease, BAKER & HERZOG (67).

Fleas and plague, LISTON (969), NOC (1104).

Fleas and leprosy, BAKER (54).—Leprosy bacillus found in fleas, BAKER (55).

Fleas that will bite man, MEISSNER (1025).—Fleas that bite man and rats, URIARTE (1522).

Congo floor maggot, DUTTON, TODD & CHRISTY (469); GRÜNBERG (707).

Subcutaneous larvæ, man and animals, in Africa, GEDOELST (647).

*Nitidula bipustulata* in human intestine, FRENCH, p. 420, Canad. Ent. 1905.

Intestinal myiasis, *Muscidæ*, STEPHENS (1447).

Synopsis, medical, of *Culicidæ*, PRESSAT (1216).

Mosquitos and malaria, relation known in Ceylon in 6th century, WELCH (1613).

Mosquitoes and disease, HODDER (752).

*Culicidæ* and disease, CHANTEMESSE & BOREL (301).

*Culicidæ* and malaria, work for medical men, STEPHENS & CHRISTOPHERS (1448).

- Malaria and mosquitoes, GRÜNBERG (706).  
*Culicidæ* that convey malaria, SERGENT (1384).  
 Mosquitoes and disease in Brazil, GOELDI (672).  
*Stegomyia* and yellow fever, GOELDI (673).  
*Stegomyia fasciata* in N. America, HOWARD (787).  
 Transmission of infection by heredity in *Stegomyia*, MARCHOUX & SIMOND (1007).  
 Habits of *Anopheles* at Aden, PATTON (1140).  
 Mosquito destruction, HODDER (752).  
 ROSS (1293), mosquitoes, preventive instructions.—Reducing mosquitoes, ROSS (1291, 1292).  
 Mosquito extermination, SMITH (1420).  
 Mosquito-control, UNDERWOOD (1521).  
 Destruction of mosquito larvæ, GALLI-VALERIO (636).

### FAUNISTIC: GEOGRAPHICAL DISTRIBUTION.

N.B.—The numbers in brackets refer to "Titles"; by their means it is intended to give a reference to every memoir containing a notice affecting the entomological fauna of each of the twelve regions here adopted. But synonymical notes and changes of systematic position are not included in these references. In addition to giving references to titles of works that actually add to the faunistic record of a region, there are also comprised references to a large number of works on local faunæ, or "stations." In such cases the reference is, as a rule, made direct to the original work, not to our title-numbers, many of these local faunistic notes not being included at all in our list of titles.

In this Faunistic division varieties are not included: neither is a new genus (unless it is also a n. sp.), nor synonymy. When no subordinate locality is mentioned in connection with a memoir, it is to be understood that it refers to several divisions of the region indicated by the immediate subheading.

### GENERAL.

- Importance of distribution, SPEISER (1431).  
 Insects as evidence of geographical and climatic changes, VACHAL (1525).  
 Distribution of *Lepismatidæ*, ESCHERICH (525).  
 Geographical distribution of *Trichoptera*, ULMER (1520).  
 Distribution of *Coprophagous Lamellicorns*, KOLBE (878).  
 No locality. *Col.*, see *Passalidæ*, *Gonatas cetioides*.

### 1. ARCTIC AND ANTARCTIC.

HAMPSON (715); Arctic America, Novaya Zembla, *Hadeninæ* n. spp.

### 2. INSULAR (including NEW ZEALAND).

- Azores. *Lepidoptera*, *Noctuidæ*, 2 spp. n., *Geometr.*, 2 spp. n., *Scoparia*, 4 spp. n., WARREN (1575). *Orthoptera*, BOLÍVAR (131), *Xiphidium* n. sp.  
 Madeira: *Coleoptera*, FAUVEL (548), *Dromius*, 2 spp. n.; REITTER (1244) n. g. *Tenebrionidæ*. *Hymenoptera*, *Diapria* n. sp., KIEFFER (842).  
*Lepidoptera*, HAMPSON (715), *Hadeninæ* n. sp.; *Tephroclystia* sp. n., WARREN (1575).  
 Canary Ids.: *Coleoptera*, SHARP (1385), *Criocephalus pinetorum*.  
*Lepidoptera*, HAMPSON (716) n. g. *Arctiidæ*. *Orthoptera*, BURR (219), *Forficula* n. sp.  
 St Helena: *Lepidoptera*, HAMPSON (715), *Hadeninæ* n. sp.

- Galápagos: *Lepidoptera*, *Sericosema* n. sp., WARREN (1572).  
 Liou-Kiou Ids.: *Coleoptera*, BOILEAU (126) *Nigidius* n. sp.  
 Bonin Ids.: *Homoptera*, DISTANT (422), *Diceropyga* n. sp.  
 Hawaiian Ids.: *Hymenoptera*, PERKINS (1154), *Polynema* n. sp.  
*Lepidoptera*, HAMPSON (715), *Hadenina* n. sp. *Diptera*, PERKINS (1153),  
*Pipunculus*, 5 spp. *Orthoptera*, SWEZEY (1458), *Xiphidium* n. sp.  
 Marianne Ids.: *Hemiptera*, SCHOOTEDEN (1340), *Coleotichus* sp. n.  
 Caroline Ids.: *Hymenoptera*, FRIESE (602), *Megachile* sp. n.  
 Louisiade Arch.: *Coleoptera*, ARROW (30), *Rhyparus* sp. n.; LEWIS (954),  
*Platysoma* sp. n.  
 Woodlark Id., S. E. Island: *Coleoptera*, HELLER (736), *Pantorhytes*,  
 2 spp. n. *Lepidoptera*, HAMPSON (717), *Gyrtona* sp. n.; SWINHOE (1461),  
*Pidorus* n. sp.  
 Solomon Ids.: *Lepidoptera*, HAMPSON (716), *Asura*, 3 spp. n.; HAMPSON  
 (717), *Stictoptera* n. sp., *Cacyparis* n. sp.; *Sphingidae*, ROTHSCHILD (1304),  
*Macroglossum* sp. n.; *Zethes* sp. n., SWINHOE (1459); SWINHOE (1460),  
*Euchromia*, 3 spp. n.; SWINHOE (1461), *Blenina* n. sp.; WARREN (1569),  
*Thyrididae*, *Epiplemidæ*, *Geometridæ*, 10 spp. n.; *Geometridæ*, 18 spp. n.,  
*Epiplema*, 7 spp. n., *Banisia* and *Striglina* sp. n., WARREN (1574).  
*Hemiptera*, BREDDIN (183), *Calliphara* n. sp. *Homoptera*, DISTANT  
 (429), *Diceropyga* n. sp.  
 New Pomerania: *Lepidoptera*, SWINHOE (1460), *Euchromia* sp. n.  
 New Britain: *Coleoptera*, LEWIS (953), *Plæstus* n. sp. New Britain  
 and Lifu: *Hemiptera*, KIRKALDY (856), 20 n. spp.  
 Bismarck Arch.: SZÉPLIGETI (1466), *Iphiaulax* sp. n. *Hemiptera*,  
*Tibicen* n. sp., KUHLGATZ (899). *Homoptera*, RÜBSAAMEN (1315), Galls,  
*Psyllidæ*, *Aphidæ*, *Coccidæ* n. sp. *Pyrgomorphidæ*, BOLÍVAR (130),  
*Desmoptera* sp. n.  
 Fiji Ids.: *Coleoptera*, PIC (1178), *Anthicus* n. sp. *Lepidoptera*,  
 BETHUNE-BAKER (108), *Sphingidæ*, *Hepialidæ*, *Dasychira*, *Argyrothripa*,  
*Geometridæ*, *Locastra* spp. n.; HAMPSON (717), *Barasa* n. sp., *Carea* n. sp.  
 Loyalty Ids.: *Coleoptera*, PIC (1176), *Hylophilus* n. sp.  
 New Caledonia: *Coleoptera*, BOILEAU (126), *Syndesus* n. sp.; FAUVEL  
 (550A). *Orthoptera*, BOLÍVAR (130), *Orthacrina*, 2 spp. n.  
 New Zealand: *Insecta*, HUDSON (792), Mount Holdsworth, list chiefly  
*Lep. Coleoptera*, BROUN (194), *Metaglymma*, 2 spp. n., *Cilibe* n. sp.,  
*Curculion.* Auckland Ids. n. g. *Hymenoptera*, FOREL (590), *Formicidæ*,  
 revised list, 19 spp. *Lepidoptera*, BULLER (217), brief list, 1 novelty;  
 HAMPSON (715), *Hadenina* n. spp.; HAMPSON (716), *Morrisonia*, 2  
 spp. n.; HUDSON (793), *Charocampa celerio*; HUDSON (794), 5 spp. n.;  
 MEYRICK (1041), many spp. n.; PHILPOTT (1167), *Melanchnra*, *Leucania*,  
*Xanthorhoe.* *Diptera*, BROUN (195), *Dacus* n. sp. *Coccidæ*, LEONARDI  
 (936), *Mytilaspis* n. sp.  
 Falkland Ids.: *Diptera*, ENDERLEIN (505), *Limnobiidæ* n. g. *Psocidæ*,  
 ENDERLEIN (507), *Philotarsus* n. sp.  
 Crozet Ids.: *Coleoptera*, ENDERLEIN (503), *Carabidæ*, 2 n. genn.,  
*Trechini.* Crozet Ids. and Kerguelen: *Lepidoptera*, ENDERLEIN (506),  
*Tineinæ* g. n., 2 spp. n.

### 3. PALÆARCTIC REGION.

- (a.) Collective: i.e. papers referring to more than one of  
 the following sub-divisions, c—h:

China, with the exception of Mongolia, is included in "Asia," as is also Japan.

*Coleoptera.* Statistics of Koltze's coll. of palæarctic *Coleoptera*, Deutsche  
 ent. Zeitschr. 1905, pp. 55, 56. Pp. 35–45 Munchen Kol. Zeitschr. iii

give localities for a very large number of species European *Coleoptera*, by numerous authors. BERNHAUER (102), *Staphylinidae*, 18 spp. n. DU BUYSSON (226), Mantchuria, *Agriotes* n. sp. DESBROCHERS (399), *Magdalis*, revision. LAPOUGE (913), North Mongolia, *Carabus*, short list. LUZE (993), *Lathrinæum*, 4 spp. n. LUZE (994), *Acidota*, 3 spp. n. PETRI (1157), *Lixus*, table, 4 spp. n. PIC (1181), *Cerambycidae* n. spp. PIC (1173), Persia, *Polyarthron*, *Leptura*, *Dorcadion* sp. n. PIC (1184), *Limnichus*, *Acmaeodera*, *Stenosis*, *Abdera*, *Galerucella* sp. n., *Curculionidae*, 5 spp. n. PIC (1187), numerous localities, various families, 21 spp. n. PIC (1191), Algeria, *Prionolixus* sp. n., W. Asia, *Desimia*, *Rhagonycha*, *Hymenalia*, *Tychius* sp. n. PIC (1195), Greece, Palestine, Turkestan, *Eriotomus*, *Dictyoptera*, *Rhagonycha*, *Anthicus*, *Cyclomias*, *Collimus* sp. n. REITTER (1244), *Tenebrionidae* n. gen., n. spp. REITTER (1245), *Elateridae*, tables, *Athouina*, 36 spp. n. REITTER (1248), *Epicauta*, table. REITTER (1249), 8 spp. n. REITTER (1254), 10 spp. n. REITTER (1256), *Bothynoderes*, 4 spp. n. SCHILSKY (1331), *Bruchidae*, 4 spp. n. WAGNER (1556), S.E. Eur. and Caucasus, *Apion*, 2 spp. n. ZAITZEV (1649), East Siberia and Turkestan, *Hydroporus*, 2 spp. n. ZAITZEV (1650), Russian Empire, *Halplidae* and *Dytiscidae*, localities.

*Hymenoptera*. FRIESE (611), Russian Empire, *Bombus*, 7 spp. n., *Psithyrus* sp. n. KIEFFER (840), *Proctotrypidae*, general work, many n. spp. KOHL (874), Mediterranean and Irkutsk, *Crabro*, 5 spp. n. SZÉPLIGETI (1467), *Ichneumonidae*, 14 spp. n. SZÉPLIGETI (1465), Spain, Hungary, *Ophioninae*, 2 spp. n.

*Lepidoptera*. HAMPSON (715), catalogue of *Hadeninae*, n. spp. PÜNGELER (1221), Centr. Asia, *Pseudohadena*, 2 spp. n., *Sesia*, 2 spp. n., Palestine, *Metopoceras* sp. n. Vladimar Bay, *Rhopalocera*, LANG, pp. 122-124, Entomologist 1905.

*Diptera*. BECKER & BEZZI (90), catalogue vol. iv. HERMANN (740), *Asilidae*, 11 spp. n. Pekin, *Systropus*, see Asia.

*Hemiptera*. HORVÁTH (774), Hungary and Egypt, *Berytidae*, 2 spp. n. HORVÁTH (775), *Ommatidiotus*, 4 spp. n. HORVÁTH (777), *Tingitidae*, 17 spp. n.

*Trichoptera*. ULMER (1517), Centr. Asia and Amurland, 5 spp. n.

*Thysanura*. ESCHERICH (525), Sevastopol, Athens, Egypt, Tunis, Persia, Transcaspien, *Lepismatidae* n. spp.

### (b.) *Europe*, collectively.

*Insecta*. Introduced insects in Europe, their distribution, DICHEL (415).

*Coleoptera*. REITTER (1250), *Leistus*, 3 spp. n. REITTER (1255), Bosnia *Anophthalmus*, Caucasus *Rhinosimus*, Herzegowina *Rhizophagus* sp. n.

*Hymenoptera*. KONOW (883), *Tenthredinidae*, 3 spp. n. MAYR (1017), France and Austria, *Decatoma*, 2 spp. n., Germany, *Perilampus* sp. n. SCHMIEDEKNECHT (1334), *Ichneumonidae*, 40 spp. n.

*Diptera*. KRAMER (888), *Sarcophaga*, 2 spp. n.

*Orthoptera*. Synopsis of *Orth.* of W. Europe, continuation, BURR, Ent. Rec. xvii, pp. 10 etc.

### (c.) *British Islands*.

#### THE FAUNA AS A WHOLE.

*Coleoptera*. *Triplax bicolor*, novelty, BAGNALL (52). *Malachius spinosus*, novelty, CHAMPION, Ent. Mag. 1905, p. 66; *M. spinosus*, novelty corrected, t. c. p. 88 to *M. vulneratus* Ab.; *M. vulneratus* in 1859, WATERHOUSE, p. 234, Ent. Mag. 1905. *Oxyptoda sericea*, novelty,



- DONISTHORPE, Ent. Rec. xvii, 67. *Dinarda hagense*, novelty, DONISTHORPE, p. 181, Ent. Rec. xvii. *Hadrotoma nigripes*, novelty, ELLIS (490). *Dacne fowleri* sp. n., *Læmophlæus monilis*, *Melanophthalma distinguenda*, novelties, JOY (824). *Quedius variabilis*, novelty, NEWBERY (1098). *Criocephalus rusticus*, novelty, D. SHARP (1385). *Tetropium*, 2 spp. n., D. SHARP (1386). *Tetropium [crawshayi]* at Leighton Buzzard, CRAWSHAY, p. 223, Ent. Mag. 1905. *Amara anthobia*, novelty, W. E. SHARP (1389), and CRAWSHAY, Ent. Mag. 1905, pp. 159-161. *Silvanus mercator*, novelty, TOMLIN, p. 37, Ent. Mag. 1905; NEWBERY, t. c. p. 69. *Col.* of the Eastern Counties, table, MORLEY (1068). *Omophilus betule* imported, JANSON, p. xxxi, P. ent. Soc. London 1905. Retrospect of a Coleopterist for 1904, Ent. Rec. xvii, pp. 29-34. *Coleoptera* in 1905, DONISTHORPE, Ent. Rec. xvii, pp. 291-293. Scrutiny of doubtful forms, NEWBERY, pp. 18-20, Ent. Rec. xvii; BEARE & DONISTHORPE, t. c. pp. 20-22, & 42-45. Myrmecophilous *Col.* in 1905, DONISTHORPE, p. 271, Ent. Rec. xvii. *Triplax*, tabulated, BEARE, pp. 176-178, Ent. Rec. 1905. *Phymatodes lividus* at Reading, BOUSKELL, p. 295, Ent. Rec. xvii. *Neoclytus erythrocephalus* in Lancashire, W. E. SHARP, p. 92, Ent. Mag. 1905. *Orchestes sparsus*, as British, NEWBERY, p. 116, Ent. Mag. 1905. *Anisotoma oblonga*, in Britain, CHAMPION, p. 198, Ent. Mag. 1905. *Baris T-album* and *pilistriata* ? two species, CHAMPION, p. 224, Ent. Mag. 1905. *Elater nigerrimus* vice *ethiops*, CHAMPION, p. 210, Ent. Mag. 1905.
- Hymenoptera.** KIEFFER (840), *Proctotrypidæ* numerous n. spp. *Tenthredinidæ*, 3 novelties, MORICE (1065). *Ichneumonidæ*, novelties, n. spp., MORLEY (1067).
- Lepidoptera.** *Agdistidæ* and *Alucitidæ*, list of British, TUTT (1512). Practical hints for the field, TUTT (1514). *Rhopalocera*, General work, TUTT (1510). General work, *Tortricidæ*, BARRETT (78). *Tortrix pronubana*, novelty, FLETCHER (579). *Argyresthia illuminatella*, novelty, MEYRICK, p. 226, Ent. Mag. 1905. *Arctornis L-nigrum* at Chelmsford, PROUT, p. 73, Ent. Rec. xvii.
- Diptera.** VERRALI'S tables continued, novelties, n. spp., Ent. Mag. 1905, pp. 50 etc. Retrospect of a Dipterist for 1904, COLLIN, pp. 55, 56, Ent. Rec. xvii. *Erigone*, two novelties, AUSTEN (47A). *Culex waterhousei* n. sp., WATERHOUSE (1591). *Callimya elegantula*, *Agathomyia boreella*, *Homalomyia difficilis*, *Palloptera latabilis*, *Thryptocera frontalis*, novelties, WOOD, Ent. Mag. xli, p. 5. *Tachinidæ*, 9 novelties, and critical notes, WAINWRIGHT (1561). *Micropalpus* and other *Tachinidæ*, WAINWRIGHT, pp. 199-207, Ent. Mag. 1905. *Atrichosema aceris* n. sp., KIEFFER (844). *Hammerschmidia ferruginea*, novelty, YERBURY, p. xlvii, P. ent. Soc. London 1905. *Anthomyia signata* in Scotland, SPEISER, p. 464, Zeitschr. Insbiol. i. GRIMSHAW, *Hydrotaea* (694). *Ulidia nigripennis*, novelty, WESCHÉ, p. 227, Ent. Mag. 1905.
- Aphaniptera.** ROTHSCHILD, *Ceratophyllus* n. sp. (1303). *Pulex cheopis*, novelty, ROTHSCHILD & GILES, p. 139, Ent. Mag. 1905.
- Hemiptera.** British waterbugs, contd., KIRKALDY, pp. 173—, pl. ii, Entomologist 1905. *Siphonophora* n. sp., THEOBALD (1485).
- Odonata.** Dragonfly season of 1904, LUCAS, pp. 178, 179, Entomologist 1905.
- Orthoptera.** List of British *Orthoptera*, LUCAS, pp. 21, 22, P. South London Ent. Soc. 1905. *Orthoptera* in 1904, LUCAS, pp. 266-268, Entomologist 1905. *Leucophaea surinamensis*, in Essex, Liverpool etc., HORRELL, p. 92, Entomologist 1905: SOPP, t. c. p. 111. *Phaneroptera quadripunctata* near Chester, GAHAN, p. li, P. ent. Soc. London 1905. *Acridium egyptium*, LATTER, p. 47, Ent. Rec. xvii.

## LOCAL LISTS.

The arrangement adopted in each Order is roughly, Channel Islands, England from South to North and from West to East, Wales, Scotland, Ireland.

**Insecta.** Guernsey and Alderney, LUFF, pp. 318-322, Rep. Guernsey Soc. 1904. Herm, LUFF (1987), Jethon, LUFF (1988). Severn Valley, *Col.* and *Lep.*, POTTS, pp. 39, 40, Rec. Caradoc Club, No. xiv. Marlborough, Catalogue of the district *Hymen.*, *Hemipt.*, *Neur.*, *Orthopt.*, Rep. Marlborough Soc. liii, pp. 86-98. Marlborough, MEYRICK, novelties etc. most of the Orders, Rep. Marlborough Soc. liii, pp. 67-81. Staffordshire, novelties, BOSTOCK, pp. 69-71, Rep. North Staffordsh. Club xxxix. EVANS, Upper Elf loch, Edinburgh (530). South Kerry, BOUSKELL, Tr. Leicester Soc. ix, pp. 39-47. Rosses Point, Sligo, JOHNSON, pp. 252-255, Irish Natural. 1905.

**Coleoptera.** Sidmouth, *Strangalia aurulenta*, ATTLEE, p. 69, Ent. Mag. 1905. Isle of Wight, DONISTHORPE, pp. 68-70, Ent. Rec. xvii. New Forest, short list, ANDREWS, pp. 71, 72, Ent. Mag. 1905. New Forest, *Dytiscidae*, W. E. SHARP, p. 161, Entomologist 1905. New Forest, *Elater* spp. etc., WHITAKER, p. 235, Ent. Mag. 1905. New Forest, *Elater sanguinolentus*, WOOD, p. 280, Ent. Mag. 1905. New Forest, *Lymexylon*, CHAMPION, p. 179, Ent. Mag. 1905. New Forest, list, *Tropideres sepicola*, WEST, Ent. Rec. xvii, p. 68. New Forest, *Orchestes sparsus*, DONISTHORPE, Ent. Mag. 1905, p. 20. Sussex, *Quedius nigrocaeruleus*, DOLLMAN, Ent. Rec. xvii, p. 17. Hastings, BOUSKELL, pp. 82, 83, Tr. Leicester Soc. ix. Ditchling, DOLLMAN, Ent. Rec. xvii, p. 183. Sheppey, *Laemosthenes* etc., WALKER, p. 234, Ent. Mag. 1905. Chatham, *Amara anthobia*, BEARE, p. 117, Ent. Mag. 1905. Woolwich, *Gnorimus nobilis*, BEDWELL, p. 159, Ent. Mag. 1905. Surrey, *Pselaphus dresdensis*, BRYANT, p. 159, Ent. Mag. 1905. S. W. Surrey, *Carabus intricatus* etc., CROFT, p. 93, Entomologist 1905. S. W. Surrey, CROFT, p. 26, Entomologist 1905. Woking, *Acrognathus*, CHAMPION, p. 161, Ent. Mag. 1905. Esher, *Tetropium*, BRYANT, p. 69, Ent. Mag. 1905. Ealing, *Deleaster*, DOLLMAN, p. 156, Ent. Rec. xvii. Enfield, *Hylotrupes*, POOL, p. 133, Ent. Rec. xvii. Enfield, *Symbiotes*, DONISTHORPE, p. 18, Ent. Rec. xvii. Hainhault Forest, *Gnorimus nobilis*, COLE, p. 73, Essex Natural. xiv. Hertfordshire novelties, GIBBS, p. 137, Entomologist 1905. Hertfordshire, *Col.* new to the fauna, GIBBS, p. 156, Tr. Hertfordshire Soc. xii:—*Col.* observed in 1904, ELLIMAN, t. c. p. 168. Tring, *Apion annulipes* etc., ELLIMAN, p. 20, Ent. Mag. 1905. Leighton Buzzard, *Harpalus discoideus*, *Metoecus paradoxus*, CRAWSHAY, pp. 45, 46, Ent. Mag. 1905. Berkshire, JOY, p. 209, Ent. Mag. 1905. Reading, *H. honestus*, HOLLAND, p. 257, Ent. Mag. 1905. Streatley, Berks, *Rhizotropus ochraceus*, JOY, p. 16, Ent. Mag. 1905. Oxford, WALKER, pp. 180-183, Ent. Mag. 1905. Oxford, *A. astragali*, HOLLAND, p. 257, Ent. Mag. 1905. Oxford, *Medon castaneus*, WALKER, p. 138, Ent. Mag. 1905. Warwick, Victoria history, ELLIS, cf. Ent. Rec. xvii, pp. 165, 166. Upton-on-Severn, *Ceuth. viduatus*, TOMLIN, p. 235, Ent. Mag. 1905. Herefordshire, *Gnorimus nobilis*, TOMLIN, p. 235, Ent. Mag. 1905. Colchester, *Tropideres sepicola*, HARWOOD, p. 262, Ent. Mag. 1905. Market Bosworth, *Tetropium* etc., DONISTHORPE, p. 18, Ent. Rec. xvii. Leicester, BARROW, pp. 81, 82, Tr. Leicester Soc. ix. Suffolk, *Apion brunniipes*, BEDWELL, p. 256, Ent. Mag. 1905. Norfolk: on *Bagous lutosus*, Gyll., in Norfolk with some collateral matter, EDWARDS, pp. 102-106, and MORLEY, pp. 106, 107, Tr. Norfolk Soc. viii. Norfolk Broads, aquatic *Col.* collections, BROWNE (196). Sherwood, *Q. xanthopus*, TAYLOR, p. 80, Ent. Mag. 1905. Peterborough, *Osphyra*, CRUTTWELL, p. 209, Ent. Mag. 1905. Skegness, Lincs., *Anisotoma furva*, MORSE, p. 93, Ent. Mag. 1905. North Staffordshire, preliminary list,

JAHN, pp. 73-90, Rep. North Staffordsh. Club xxxix. Southport, *Amara anthobia*, TAYLOR, p. 257, Ent. Mag. 1905. Isle of Man, *Aphodius* list, BAILEY, pp. 90, 91, Ent. Mag. 1905. Isle of Man, *Meligethes obscurus*, BAILEY, p. 21, Ent. Mag. 1905. Isle of Man, *Rhopalomesites*, BAILEY, pp. 207-209, Ent. Mag. Isle of Man, novelties, TOMLIN, pp. 251-254, Ent. Mag. 1905. Isle of Man, TOMLIN, pp. 45-49, Rep. 29, Lancash. Chesh. ent. Soc. Teesdale, *Leptusa analis* etc., BAGNALL, p. 258, Ent. Mag. 1095. Derwent Valley, *Nitidulida*, BAGNALL, p. 162, Ent. Mag. 1905. Sunderland, *Chrysom. hobsoni*, BAGNALL, p. 70, Ent. Rec. xvii. Durham, *Lathridius angulatus*, BAGNALL, p. 157, Ent. Rec. xvii. Durham, *Rhizophagus cœruleipennis*, BAGNALL, p. 156, Ent. Rec. xvii. Northumberland and Durham additions, BAGNALL (51). Cumberland, novelties, DAY, pp. 16, 17, Ent. Rec. xvii. Penrith, *Phytobius muricatus*, DAY, p. 20, Ent. Mag. 1905. N. Wales, *Atemeles* and *Claviger*, TOMLIN, p. 20, Ent. Mag. 1905. Peebles, BLACK, Ent. Rec. xvii, p. 70. Rannoch, *Trichius*, BEARE, pp. 18, 19, Ent. Mag. 1905. Argyllshire, *Cionus tuberculosus*, GRIMSHAW, Ann. Scott. Nat. Hist. 1905, p. 56. Edinburgh, *Grammoptera*, PATTERSON, Ann. Scott. Nat. Hist. 1905, p. 185. Forres, *Gyrophæna pulchella*, CHITTY, p. 92, Ent. Mag. 1905. Sutherland and Inverness-shires, CRUTWELL, pp. 209, 210, Ent. Mag. 1905. Flannan islds. (W. of Lewis), BEARE, p. 19, Ent. Mag. 1905. Flannan islds., BEARE (87). Lough Neagh and Portrush, list, BEARE, pp. 30, 31, Irish Natural. 1905.

**Hymenoptera.** Lyme Regis, *Aculeata*, NEVINSON, p. 21, Ent. Mag. 1905. New Forest, *Aculeata*, ARNOLD, p. 261, Ent. Mag. 1905. Forest, *Formica fusca gagates*, ARNOLD, p. 211, Ent. Mag. 1905. Chatterenden Roughs, *Schizoceros furcatus*, CHITTY, p. 47, Ent. Mag. 1905. Suffolk, *Cimber connata*, MORLEY, p. 214, Ent. Mag. 1905. Merioneth, *Aculeata*, MORTIMER, p. 261, Ent. Mag. 1905. Wexford, *V. austriaca*, MOFFAT, p. 182, Irish Natural. 1905. Wicklow, *Psithyrus campestris*, HALBERT, p. 198, Irish Natural. 1905: Carlow, *Psithyrus*, PACK-BERESFORD, t. c. p. 247.

**Lepidoptera.** Cornwall, *D. livornica*, KENYON, p. 162, Entomologist 1905. Cornwall, *Eupithecia rectangulata*, CLAXTON, p. 239, Entomologist 1905. Cornwall, *L. boetica*, ROLLASON, pp. 91, 92, Entomologist 1905: West Cornwall list, id. t. c. pp. 93, 94. Isle of Wight, *Eupithecia stevensata*, MUTCH, p. 161, Entomologist 1905. Brockenhurst, *Sphinx convolvuli*, LYLE, p. 24, Entomologist 1905. Morteohoe, North Devon, LONGSTAFF, pp. 69, 70, Ent. Mag. 1905. Horsham, L. H. WHITE, pp. 18, & 20-36, Rep. Christ's Hospital Soc. iii. Sandwich, *Vanessa antiopa*, WILLSON, p. 260, Ent. Mag. 1905. Margate, *Aporia crataegi*, BARRETT, p. 215, Entomologist 1905. Ashford, *Myelophila cribrella*, JEFFREY, p. 235, Ent. Mag. 1905. Surrey, *Phtheochora rugosana*, various, p. 239, Entomologist 1905. Kenley, *Phtheochora rugosana*, SOUTH, p. 214, Entomologist 1905. Clapham, *Abraaxas ulmata*, STONELL, p. 239, Entomologist 1905. Hertfordshire, novelties, notes on *Lep.* observed in 1903, GIBBS, Tr. Hertfordsh. Soc. xii, pp. 109-116; and 1904, id. t. c. pp. 159-164. Hertfordshire, novelties, census, GIBBS, p. 137, Entomologist 1905. Hertfordshire, novelties, GIBBS, p. 117, Ent. Mag. 1905. Rugby, 1904, KEYNES, Rep. Rugby Soc. xxxviii, pp. 29-35. Felsted in 1902 and in 1903, CHETWOOD, pp. 25-27, Rep. Felsted Soc. xvi. Marlborough, *Rhopalocera* after 30 years, MANDERS (1004). Worcestershire, rarities, REA, Tr. Worcestersh. Club 1897-99, pp. 8-10. Suffolk, numerous novelties, BLOOMFIELD, pp. 41-43, Ent. Mag. 1905. Suffolk, *Hyloicus pinastri*, MOSS, pp. 212, 213, Ent. Rec. xvii. Ditchingham, Suffolk, taken in a moth trap, MANN, pp. 10-13, Ent. Mag. xli. Norfolk, *Cerura*, MOSS, pp. 139-142, Ent. Rec. xvii. Chatteris, etc., FRYER & FRYER,

Entomologist 1905, pp. 125-127. Chatteris, fenland *Lep.*, FRYER, Rep. Rugby Soc. xxxviii, pp. 1-8. *Lepidoptera* of the Lincolnshire coast, GIBBS, pp. 79-81, Entomologist 1905. Gloucester, *Limacodes testudo*, CLUTTERBUCK, p. 215, Entomologist 1905. Gloucester, *D. livornica*, CLARKE, p. 186, Entomologist 1905. Ross and Hereford, HUTCHINSON, *Aporia* and *Thecla*, Tr. Woolhope Club 1902-4, p. 48. Newport, Mon., *D. livornica*, STAFFORD, p. 162, Entomologist 1905. A list of the *Macrolepidoptera* of Lancaster and district, FORSYTHE, pp. 86-90, 108-110, 133-135, etc., etc. Entomologist 1905. Carnforth, *Selenia lunaria*, FORSYTHE, p. 186, Entomologist 1905. Northumberland, Durham and Newcastle, ROBSON (1286), Catalogue. Barmouth, ARKLE, pp. 290-296, Entomologist 1905. Edinburgh, novelties, EVANS (529). Donegal, *Thecla rubi*, HART, p. 181, Irish Natural. 1905. Fermanagh, list, LANGHAM, pp. 110, 111, Irish Natural. 1905.

**Diptera.** Freshwater, *Machimus*, ANDREWS, p. 72, Ent. Mag. 1905. New Forest, ADAMS, p. 138, Ent. Mag. 1905. New Forest, list, *Oxycera*, etc., BLOOMFIELD, pp. 93, 94, Ent. Mag. 1905. New Forest, *Rhamphomyia tenuirostris*, ADAMS, p. 94, Ent. Mag. 1905. Colchester, *Pocota apiformis*, HARWOOD, p. 262, Ent. Mag. 1905. Herefordshire, WOOD (1640, 1641). Burnhope, WINGATE, Tr. Soc. Northumb. i, pp. 95-105. Scotland, CARTER, pp. 163, 164, Ent. Mag. 1905. Scotland, rarities, JOHNSTON, Ann. Scott. Nat. Hist. 1905, p. 184. Kircudbright and Shetland, *Tipulide*, HENDERSON (738). Nethy Bridge, *Micronodon*, etc., YERBURG, pp. 185, 186, Ann. Scott. Nat. Hist. 1905. Flannan Islands, GRIMSHAW (696). Orkney and Shetland, GRIMSHAW (695).

**Hemiptera.** New Forest, short list, WEST, p. 67, Ent. Rec. xvii. Suffolk, MORLEY (1069). Northumberland, BAGNALL, *Zicrona*, Ent. Rec. xvii, pp. 47, 161. Forth, *Orthezia*, EVANS, Ann. Scott. Nat. Hist. 1905, p. 57.

**Trichoptera.** Isle of Man, *Limmophilus elegans*, PORRITT, p. 47, Ent. Mag. 1905.

**Psocidae.** Woking, SAUNDERS, p. 213, Ent. Mag. 1905.

**Odonata.** Edinburgh area, EVANS (528).

**Orthoptera.** Essex, *Leucophaea surinamensis*, HORRELL, p. 365, Essex Natural. xiii. Lancashire and Cheshire, SOPP (1427).

(d.) *North Europe and Siberia* [see also (a.) and (b.).]

*Insecta.* LIE-PETTERSEN (956), West Norway, list. SCHNEIDER (1337), Sydherø, list, *Col.*, *Hym.*, *Lep.* MjöBERG (1049), Fårön, account of insect-fauna. Finland, novelties and n. spp. *Col.*, *Hym.*, *Dipt.*, *Trichopt.* Lists in Medd. Soc. Faun. Fenn. xxx, pp. 211-216. SHUR-  
AWSKY (1390), Petschora, Tundra, travel.

*Coleoptera.* MÜNSTER & STRAND (1080), Norway, novelties, long list. MjöBERG (1051), Sweden, 4 novelties. VARENIUS, Sweden, *Phlæobium clypeatum*, Ent. Tidskr. xxvi, p. 160; *Phyllobius viridicaris*, t. c. p. 247. LEINBERG (934), Finland, *Episernus* n. sp. REITTER (1251) Altai, *Proteinus* sp. n.

*Hymenoptera.* ROMAN (1289), Alpine Lapland, *Ichneumonidae*. AURIVILLIUS (43), Swedish *Hymenoptera*, general work, *Vespidæ-Scoliidæ*. NORDENSTRÖM (1109), Sweden, *Ichneumonidae* list, *Lathrolestus* sp. n.

*Lepidoptera.* SCHNEIDER (1336), Tromsø. STRAND (1453), Norway, new localities and n. varr. LAMPA, Gothland, *Rhopalocera*, Ent. Tidskr. xxvi, p. 192.

*Diptera.* WAHLGREN (1559), Swedish *Diptera*, general work, pt. i. WAHLGREN (1560), Sweden, *Tipulidae*, 4 spp. n.  
*Hemiptera.* STRAND, Bidrag til det sydlige Norges Hemipterfauna, Arch. Naturv. Christian. xxvii, No. 3, 9 pp. MjöBERG (1050), Sweden, *Hydrometra gracilentata*.  
*Trichoptera.* MORTON (1074), Finland, *Leptocerus* n. sp.  
*Perlidae.* KLAPÁLEK (865), Siberia, *Dictyopteryx* n. sp.  
*Thysanoptera.* REUTER (1260), Finland, hot-house, n. g.  
*Collembola.* AXELSON (49), Finland *Collembola*, 8 spp. n.

(e.) *Central and Eastern Europe*, incl. *Denmark* [see also (a.) and (b.) and for *France* (f.), for *Caucasus* (h.)].

*Insecta.* Poland, bibliography, local faunistic papers, Bull. Ac. Cracovie 1905, pp. 389-397. Etrembières, Fauna, FREY-GESSNER, pp. 97-99, Mt. Schweiz. ent. Ges. xi. HUBER (790), Montigglersee Tyrol, aquatic larvæ. HOFFER, Mt. Ver. Steiermark xli, p. lxiv, *Procerus*, *Ascalaphus*, *Mantispa*. KLAPÁLEK (868), Transsylvanian Alps, with *Synagapetus*, *Hemerobius*, *Panorpa*, *Capnia* n. sp.  
*Colcoptera.* FUCHS (625), Centr. Eur., *Hylesinus* n. sp. EVERTS, Driebergen, list, Ent. Ber. ii, pp. 27, 28. EVERTS (531), Netherlands, novelties. SCRIBA (1372), Alsatia, *Haliphus* n. sp. GERHARDT, Silesia, novelties, Deutsche ent. Zeitschr. 1905, p. 223. VORBRINGER, E. Prussia, list, Deutsche ent. Zeitschr. 1905, pp. 303, 304. WEISE (1601), Germany, Switzerland, Tyrol, *Tetropium* n. sp. HORMUZAKI, Soc. ent. xx, pp. 1, 2, & 10-12, Bukowina and Galicia, list. LUZE (992), Tyrol, *Olophrum* n. sp. LEWIS (954), Roumania, *Plegaderus* n. sp. GANGLBAUER (637), Salzkammergut, *Trechus* n. sp. CSIKI, Rov. Lapok 1905, pp. 177-179, Hungary, novelties to fauna. SCHULTZE (1357), Hungary, etc. *Ceuthorrhynchidius* sp. n. CSIKI (380), Hungary, general work. CSIKI, *Cerambycidae* of Hungary continued, Rov. Lapok 1905, pp. 14-16 etc. CSIKI (378), Hungary, *Anophthalmus*, *Acmæodera*, *Melanophila* spp. n. ZILÁHI, Szilágy, Hungary, list, Rov. Lapok 1905, pp. 16-18 etc., etc. CSIKI, additions to Hungarian fauna, Rov. Lapok 1905, pp. 119, 120. FORMANEK (593), Styria, *Brahysomus* sp. n. Styria, *Stenini*, PENECKE, Mt. Ver. Steiermark xli, pp. lxxvi-lxxx. FLECK, Roumania, Catalogue continued, Bull. Soc. Bucarest xlv, pp. 158-203, 491-570. ZAITZEV (1651), Novgorod, Catalogue.  
*Hymenoptera.* BRAUNS (179), n. g. *Phygadeuonini*. KIEFFER (842), Luxemburg, myrmecophilous *Hymenoptera*, 11 spp. n. VAN ROSSUM (1296), Netherlands, *Tenthredinidae*, novelties. ALFKEN (22), Germany, *Melitta* n. sp. BRAUNS (177), Bremen, *Delomerista* sp. n. PFANKUCH (1163), Bremen, *Ichneumonidae*, 1 sp. n. BRAUNS (178), Germany, *Lampronota*, 2 spp. n. HEYDEN (742), Frankfurt a.-M., novelties and rarities. KLAPÁLEK (867), Bohemia, *Bombus* and *Psithyrus*. *Hymenoptera*, Helvetiæ, pp. 213-276, published in connection with Mt. Schweiz. ent. Ges. xi. Berne, short list, STECK, p. 89, Mt. Schweiz. ent. Ges. xi. MOCSÁRY (1055), Budapest, *Rhyssa* and *Megarhyssa* sp. n. VANGEL, Hungary, pp. 143 etc., Rov. Lapok 1905, list.  
*Lepidoptera.* BRANTS (171), Netherlands, *Rhopalocera*. SNELLEN (1423), Netherlands, novelties, new localities etc. HAVERKAMPF, Ann. Soc. ent. Belgique 1905, pp. 91-98, Belgium, novelties and interesting forms. SIBILLE, Ann. Soc. ent. Belgique 1905, p. 113, Belgium, *Plusia interrogationis*. SIBILLE, t. c. p. 191, Belgium, *Chariptera viridana*, novelty. CROMBRUGGHE (376), Belgium, *Microlepidoptera*, numerous novelties. GATNAR, Beitrag zur *Lepidopterenfauna* von Lemberg, Jahresber. Wien. ent. Ver. 1905, pp. 39-50. SCHÜTZE (1366),

- Germany, *Nepticula* n. sp. IHLE & LANGE (802), Germany, *Macrolepidoptera*, illustrated work. The Lep. of Berlin, DADD, pp. 200-212, 226, 227, Entomologist 1905. SORHAGEN (1428), Hamburg, *Ornix* sp. n. FUCHS (624), Rhine, *Larentia* n. sp. REICHENAU (1243), Wiesbaden, catalogue of *Noctuidæ* and *Geometridæ*. MÖBIUS (1053), Saxony, *Macrolep.*, annotated Catalogue pt. i. SCHUSTER, Mainz, short list, Zool. Garten xlvii, p. 374. SPEISER (1433), W. Prussia, *Sphingidæ*. GILLMER, Mecklenburg, *Erebia aethiops*, Arch. Ver. Mecklenb. lviii, p. 165. GILLMER (660), Schwerin, *Rhopalocera* and *Sphingidæ*, annotated list. DZIĘDZIELEWICZA (485), Galicia and Silesia, *Coniopterygidæ*. Switzerland, *Rhopalocera*, WHEELER, pp. 193-199, Ent. Rec. xvii. DE ROUGEMONT, Switzerland, *Eupithecia*, novelties, Arch. Sci. Nat. xix, pp. 290, 292. PÜNGELER (1224), Switzerland, *Tephroclystia* n. sp. ROUGEMONT (1311), Switzerland, novelties. ROUGEMONT (1310), Jura, Catalogue. FAVRE, Supplément à la faune des *Macrolepidoptères* du Valais, Mt. Schweiz. ent. Ges. viii, pp. 145-148. ROUGEMONT (1312), Vallée de Tourtemagne, list. BAZZIGHER, L. Vierter Nachtrag zum Verzeichniss der *Lepidopteren* Graubündens, Jahresber. Ges. Graubund. xlvii, pp. 133-148. Switzerland, MUSCHAMP, pp. 57-61, Ent. Rec. xvii. DEMATSON, Bull. Soc. ent. France 1905, p. 255, Lake Lucerne, *Caradrina exigua*. Saas Valley, TUTT, pp. 174-179, Ent. Rec. xvii. Geneva, excursion, TUTT, pp. 129-132, 143, 144, Ent. Rec. xvii. TUTT (1511), Val d'Hérens, *Rhopalocera*. WAGNER, Verh. Ges. Wien 1905, p. 167, Austria, *Satyris amalthea*, novelty. GALVAGNI, Verh. Ges. Wien 1905, Austria, novelties. REBEL, Verh. Ges. Wien 1905, p. 28, Austria, 2 novelties. REBEL, Verh. Ges. Wien 1905, pp. 272, 273, Austria, novelties. SATORY, Verh. Ver. Brunn xlii, pp. 3, 4, Brunn, *Geometridæ*, 5 novelties. METZGER, Nachtrag iii zur *Lepidopteren-Fauna* von Friesach in Kärnten, Jahresber. Wien. ent. Ver. 1904, pp. 105, 106. Styria, *Scoparia*, MEIXNER, pp. lxxvii, lxxviii, Mt. Ver. Steiermark xli. Beitrag zur *Lepidopteren-Fauna* der Steiermark; 2 Fortsetzung, TROST, Mt. Ver. Steiermark xli, pp. 108-118. REBEL, *Lepidopteren* aus dem Gebiete des Triglav und der Crna Prst in Krain, Jahresber. Wien. ent. Ver. 1905, pp. 53-73. AIGNER-ABAFI (13), Hungary, *Rhopalocera* tables. AIGNER-ABAFI, Rov. Lapok 1905, p. 162, Hungary, additions in 1904. AIGNER, Hungary, novelties, Allatt. Kozl. Magyar Tars. iv, p. 107. ULBRICH, Rov. Lapok 1905, pp. 133-135, *Rhopalocera*, Budapest. VANGEL (1530), Hungary, Catalogue with localities. CARADJA, A. von, neuer Beitrag zur *Lepidopterenfauna* Rumäniens, Bull. Soc. Bucarest xiv, pp. 227-243. ZAITZEV (1651), Novgorod, *Macrolep.* MARKOFF (1008), Poltawa, *Macrolep.* list. Kharkov, *Lithocolletis populifolia* etc., MOKRZECKI, Trudui Kharkov. Univ. xxxvi (2), pp. 81-87.
- Diptera*. KRAMER (889), Centr. Eur., *Sarcophaga*, 4 spp. n. MEUNIER, Anvers, long list, Ann. Soc. Bruxelles xxix, pp. 284-290. MEUNIER, Bruxelles, list, Ann. Soc. Bruxelles xxix, pp. 291-294. KIEFFER (845), Bitche, xylophilous *Cecid.*, 21 n. spp. SPEISER (1438), Prussia, Ergänzungen zu Czwalina. SPEISER (1432), W. Prussia, *Tabanidæ*, novelties. ENDERLEIN (515), Berlin, n. g. *Bibionidæ*. LICHTWARDT (955), Dürrenberg, saline species.
- Hemiptera*. FOKKEN (585), Netherlands, *Tingis*, 2 novelties. BIERMAN, Arnhem, *Homoptera*, list, Ent. Ber. Nederland. ii, pp. 28-32. HÜBER (795), Germany, *Hydrocorisæ*, monograph.
- Anoplura*. GALLI-VALERIO (635), Switzerland, *Polyplax* on *Arvicola*.
- Neuroptera*. ENDERLEIN (514), Berlin, n. g. *Coniopterygidæ*.
- Perlidae*. RIS (1270), Switzerland, n. g. *Perlidae*.
- Odonata*. GEISSLER (648), Bremen, Catalogue. Bavaria, list, GEEST, pp. 254-256, Zeitschr. Insbiol. i. Dragon-fly hunting in Eastern

Switzerland, MORTON, pp. 1-4, 33-36, Ent. Mag. 1905. HRAHÁR, Hungary, Counties of Ung and Ugoesa, Rov. Lapok 1905, pp. 101-103. VANGEL, Rov. Lapok 1905, pp. 12-14, *Odonata* of Hungary. BRAUNER (172), Crimea, *Odonata*, list. *Orthoptera*. HAURY & NICKERL (729), Bohemia, Catalogue. WERNER, Pittental, Sebenstein, Jahresber. Wien. ent. Ver. 1905, pp. 25-31. COBELLI, Verh. Ges. Wien 1905, pp. 367, 368, Trentino, 3 novelties. ADELUNG (9), Russia, list. *Collembola*. KRAUSBAUER (891), Weilburg a. Lahn, work on *Collembola*, 10 spp. n.

(f.) *France* [see also (a.), (b.) and (g.)].

*Insecta*. CLERMONT, Bull. Soc. ent. France 1905, pp. 130-132, Liste de *Coléoptères* et d'*Orthoptères* capturés à Luchon et au port de Vénasque.

*Coleoptera*. The Fauna as a whole.—DESBRUCHERS (398), France and Corsica, *Anchomenida*.—BUYSSON (228A), *Elaterida*, continuation.—Table of *Cetoniidae* of France, LE COMTE (933).—PIC, pp. 119, 120, 135, 136, 143, 152, 160, Echange xxi, additions since 1900.—COULON, list of French *Col.* in Museum at Elboeuf completed, Bull. Soc. Elbeuf xxiii, suppl. pp. 17-60.—ESTIOT, *Semanotus* and *Cænoptera*, Bull. Soc. ent. France 1905, p. 124.—GUÉDEL (708), Alpine *Col.*—ABELLE (1), *Anopthalmus* sp. n.—ABELLE (2), Ariège, *Bythinus* n. sp.—ABELLE (4), Nice, *Bathyscia* n. sp.—BOURGEOIS (153), Aude, *Malthodes* sp. n.—CHOBAUT (312), *Euphonus pallidus*, novelty.—CHOBAUT (309), *Hydroporus guernei*; MOLLANDIN DE BOISSY, Bouches-du-Rhône, *Hydroporus guernei*, p. 296, Bull. Soc. ent. France 1905.—DEVILLE (408), Gavarnie, *Harpalus* sg. n.—DEVILLE (409), Basses Pyrénées, *Bathyscia* n. sp.—PIC (1191), Aigues-Mortes, *Cryptocephalus* n. sp.—SIETTI, *Aphodius suarius*, novelty, p. 80, Bull. Soc. ent. France 1905.

*Coleoptera*. Local lists.—FAUCONNET & VITURAT (543), Saone-et-Loire, Catalogue, *Necrophaga*. PÉNEAU (1144), Estuary of the Loire, list. DEVILLE, Bull. Soc. ent. France 1905, p. 231, Basses Pyrénées, cavern. MAYET (1016), Montpellier, *Lucasianus levaillanti*. CLERMONT, Echange xxi, pp. 125, 134, 135, 140, 141, Gers, *Carabida*, list. BEDEL, Bull. Soc. ent. France 1905, p. 176, Itteville, Seine-et-Oise, list. CLERMONT, *Anthicus venator*, novelty, Bull. Soc. ent. France 1905, p. 206. PIC, Echange xxi, p. 118, Charix near Bourg, short list. CHABANAUD, Indre-et-Loire, *Anillus*, Bull. Soc. ent. France 1905, p. 129. CARRET, Echange xxi, passim "Souvenirs entomologiques," Haute-Maurienne. PÉNEAU, Nantes, *Mecynotarsus serricornis*, Bull. Soc. Ouest France v, p. xiii. PÉNEAU, Nantes, short list, Bull. Soc. Ouest France v, p. iv. PIC, Saône-et-Loire, novelties, Bull. Soc. Autun xvii, pp. 128-131. XAMBEU, Pyrénées orientales, faune continued, Echange, pp. 67-98, special pag. PIERRE, Piro, Bourbonnais novelties, p. 219, Rev. Sci. Bourbonnais 1905. HOULBERT & BÉTIS (784), Faune armoricaine, *Meloidæ*; HOULBERT & MONNOT, *Cicindelida*, *Carabida* (785, 786). JEANNEL (818), Pyrénées, Cavern of Camon. DUFOUR (466), Auvergne, halophilous *Col.* PIC (1195), Bourg-Madame, *Ebæus mendax*.

*Hymenoptera*. KIEFFER (683), *Timaspis*, *Læviola* n. sp.

*Lepidoptera*. ANDRÉ (28), Saône-et-Loire, *Sphinges*, *Bombyces*, analytical table and catalogue. CHRÉTIEN (319), S. France, n. g. *Tineida*. SPRÖNGERTS (1440), Monte Albères, list. Pyrenees, *Rhopalocera*, ROWLAND-BROWN, pp. 243-249, 273-277, Entomologist 1905. TURATI (1508), Pyrenees, *Augiades* n. sp. Pyrenees, 2 novelties, RONDOU, p. xliiii, Pr. verb. Soc. Bordeaux lx. PIC, Echange xxi, pp. 134, Charolais, *Sphingida*, 6 spp.

*Diptera*. PANDELÉ (1132), *Cheilosia*, species tabulated. VILLENEUVE

(1551), *Tabanidae*, additions and corrections. PORTEVIN, Normandy, Catalogue continued, Feuille Natural. xxxv, p. 40. OLIVIER, Faune de l'Allier, *Pupipares*, Rev. Sci. Bourbonnais 1905, pp. 77-81. VILLE-NEUVE (1552), Alps list.

*Hemiptera*. REUTER (1262), *Capsidae* sp. n. REUTER, Bull. Soc. ent. France 1905, pp. 61-64, *Phimodera*, novelty. CHOPARD, Bull. Soc. ent. France 1905, p. 130, Fontainebleau, *Pinthæus*. PUTON, Maine-et-Loire, *Odontotarsus grammicus*, Bull. Soc. Angers xxxiv, p. 107. PÉNEAU, Loire inf., 5 novelties, Bull. Soc. Ouest France iv, p. xx. PÉNEAU, Loire-inférieure, short list, Bull. Soc. Ouest France v, p. xii. ABOT, Bull. Soc. Angers xxxiv, p. 37, *Coptosoma scutellatum*. ABOT, Angers, *Lasiocoris anomalus*, Bull. Soc. Angers xxxiv, p. 39. GUERIN (709), Alps, list.

*Odonata*. GADEAU (631), Normandy list, 36 spp.

*Orthoptera*. LESNE, Bull. Soc. ent. France 1905, p. 258, *Apterygida arachidis*. VUILLEMIN, East France, *Mantis*, Feuille Natural. xxxv, p. 57.

(g.) *Southern Europe and Mediterranean Basin* [see also

(a.), (b.) and (f.) and for Caucasus and Transcaucasus (h.).]

*Insecta*. CHAMPION & CHAPMAN (300), Spain, *Col.*, *Lep.*, *Hemipt.*, lists. NAVÁS (1085), Spain, *Machilis*, *Lepismina*, *Chrysopa*, *Rhithrogena* n. sp. Annuar. Ac. Porto 1898-9, pp. 122-140, Catalogue of specimens in Coll. at Porto, *Hemiptera*, *Hymenoptera*: op. cit. 1899-1900, *Orthoptera* and various, pp. 107-122. FRIEDERICH (599), Riviera in spring. SILVESTRI (1400), Elba and Pianosa, *Lepism.*, *Leucotermes*, *Embia*. PANDIANI (1134), Val Aosta, 76 novelties.

*Coleoptera*. *Dendarus serripes*, *Olocrates planiusculus*, *Pachychile pedinoides*, *punctata*, *glabra*, are not European but N. African; von HEYDEN, p. 154, Wien. ent. Zeit. xxiv. REITTER (1246), Spain, *Ablattaria* and *Trichobyrrhulus* sp. n. Escalera (523), Spain, *Asida*, revision, 17 spp. n. NOBRE (1103), Catalogue of Coll. at Porto. BEDEL (91), N. Africa, novelties, *Bradybatus* n. sp. DU BUYSSON (228), N. Africa, *Elateridae*, 3 spp. n. FAUVEL (549), N. Africa, *Staphylinidae*, 3 spp. n. BEDEL (92), Morocco, *Crypticus*, *Omophlus* sp. n. BOURGEOIS (156), Morocco, *Lycus* n. sp. ABEILLE (3), Bucharest, La Granja, Algeria, *Buprestidae*, 3 spp. n. BOURGEOIS (154), Algeria, *Rhagonycha* n. sp. BUYSSON (227), Algeria, *Silesis* n. sp. CHABAUT (310), Algeria, *Tetrolopsis* n. sp. DEVILLE (410), Algeria, *Hydrena*, 3 spp. n. MOLLANDIN (1056), Algeria, *Copris* n. sp. PEYERIMHOFF (1160), Algeria, *Acidota*, *Cylindropsis* sp. n. PEYERIMHOFF (1161), Algeria, *Tychus*, *Catops* n. sp. PIC (1174), Algeria, *Dasycerus*, 2 spp. n. PIC (1178), Algeria, *Anthicus* sp. n. PIC (1189), Algeria, 12 spp. n., *Hydrena*, *Elmis*, *Malacoderm.*, *Curc.*, *Chrysom.* PIC (1190), Algeria, *Cebrio*, *Attalus*, *Sibinia*, *Cathormiocerus*, *Trachyphlaeus* n. sp. PIC, Algeria, 3 spp., Akbès, *Amorphocephalus*, Bull. Soc. ent. France 1905, p. 280. DE CHAIGNON, Tunis brief list, Bull. Soc. Autun xvii, pp. 207-209. MjöBERG (1048), Egypt and White Nile, *Curabidae*, 6 spp. n. White Nile and Egypt, see Jägerskiöld exp. No. 10a, FAUVEL, *Staphylinidae*, p. 5, GROUVELLE, *Colydiidae*, *Cucujidae*, p. 5, BRENSKE etc., *Scarabaeidae*, p. 6, *Buprestidae*, KERREMANS, p. 8, *Elateridae*, FLEUTIAUX, p. 9, SOHENKLING, *Cleridae*, p. 11, *Bostrychidae*, LESNE, p. 11, *Cantharidae*, AURIVILLIUS, p. 15, *Cerambycidae*, AURIVILLIUS, p. 17. MÜLLER (1078), Istria, 4 subspp. n. cavernicolous *Col.* BERTOLINI, Catalogo dei *Coleotteri* d'Italia, Siena, 1899-1904, 11,856 forms; cf. Riv. Col. ital. ii, pp. 104. CRAMPI (320), Rome, suppl. to Catalogue. FIORI (563), Rome (*Xenonychus rotundatus* n. sp.), but



- = *Saprinus conjungens*. FIORI (564), Italy, *Bembidion*, *Pterostichus*, *Amara*, *Acalles* n. sp. FIORI (565), Italy, *Haliphus* n. sp. FIORI (567), Italy, *Alophus* n. sp. FIORI (568), Italy, *Psilothrix* n. sp. FIORI (569), Bologna, *Cybocephalus*, *Limonium* sp. n. FIORI (570), Italy, *Malthodes* n. sp. FLACH (574), Calabria, *Trogloorhynchus* sp. n. HOLDHAUS & WAGNER (754), Tuscany, *Bythinus*, *Pselaphus*, *Cephennium*, *Apion* n. spp. LUIGIONI (990), Italy, additions to Catalogue. PIC, Informazioni bibliografiche e note complementari su diversi *Coleotteri* d'Italia, Riv. Col. ital. i, pp. 50-52. PORTA (1212), Italy, *Abax* and *Percus*, revision. PORTA (1213), Italy, *Atheta* n. sp. PORTA (1214), *Staphylinidæ* of Italy, pt. 2. RAGUSA, Sicily, novelties, Natural. Sicil. xvii, pp. 288-292, and xviii, p. 24, pp. 69-72. VITALE (1554), Sicily, *Phyllobius*, *Microlarinus*, *Mylacus*, *Cathormiocerus*, *Larinus* n. sp. VITALE, Sicily, *Coccinellidæ*, Natural. Sicil. xvii, pp. 193-200, 219-229. VITALE, Messina, Natural. Sicil. xvii, pp. 129, 165, and xviii, pp. 53-69, 73-86. VITALE, Messina, list continued, Boll. Natural. xxv, pp. 38-41, 74-77, 81, 82, 106-108. LE COMTE (932), Malta, *Cetonia* n. sp. REITTER (1257), Cyprus, Eubœa, *Reichenbachia*, 2 spp. n. REITTER (1247), Cyprus, *Stenichnus* n. sp. Island of Pelagosa, NETUSCHILL, pp. lxxxviii-xciii Mt. Ver. Steiermark xli. FORMÁNEK (594), Dalmatia, *Ptochus* sp. n. PIC (1190), Morea, *Anaglyptus* sp. n. PIC (1191), Morea, *Damacœa* n. sp. CARRET (282), Syria, *Gyndromorphus* subg. n. PIC (1192), Syria, *Ludius*, Morea, *Ludius*, Crete, *Drilus*, Portugal, *Ptinus* sp. n. PIC (1194), Taurus, *Phyllocerus* n. sp. REITTER (1253), Akkès, *Pilemia* sp. n. *Hymenoptera*. CAMERON (254), Gibraltar, *Philomides* sp. n. DUSMET (468), Revision of *Apidæ* of Spain, pt. 1, *Melecta*, *Crocisa*, *Epeolus*. FRIESE (607), Andalusia, *Panurgus* n. sp. GARCÍA (642), Escorial, *Mutilla*, 2 n. spp. KONOW (886), Spain, *Amasis* n. sp. ALFKEN (18), N. Med. region, *Prosopis* n. sp. GARCÍA MERCET (641), Tangier, *Gorytes*, *Bembex* sp. n. GARCÍA MERCET (640), Tangier, *Bembex*, 2 spp. n. SAUNDERS (1321), Algeria, *Diploptera*, 10 spp. n. SCHULZ (1359), Algeria, Tunis, *Cerceris*, *Pterochilus*, *Philanthus* spp. n. FOREL (591), Tunis, *Formicidæ*, 2 spp. n. FERTON (558), Corsica, *Apidæ*, 2 spp. n., *Tachysphex* sp. n. ZAVATTARI (1668), Elba and Pianosa, list. ANDRÉ (24), Egypt, *Mutilla*, *Apterogyna* n. sp. ASHMEAD (35), Portici, *Pezomachus* n. sp. Italy, *Apidæ*, list, PAGANETTI-HUMMLER, pp. 13-16, Zeitschr. Insbiol. i. COBELLI, Verh. Ges. Wien 1905, pp. 596-599, Trentino 68 novelties. ALFKEN (21), Dalmatia, *Prosopis* n. sp. GRAEFFE (685), Trieste and Morea, *Cynips*, 2 spp. n. *Lepidoptera*. CHAPMAN (302), N. Spain, *Erebia* n. sp. CHRÉTIEN (318), Spain, *Coleophora* n. sp. VÁZQUEZ (1535), Spain, *Heliophobus*, *Boarmia*, *Enconista*, *Cybolomia* n. sp. HIRSCHKE (751), Murcia, *Amphipyra* n. sp. AUSTAUT (44), Atlas, *Satyryus* n. sp. Mogador, *Syntomis alicia*, VAUCHER, p. 13, Feuille Natural. xxxvi. BLACHIER (122), Marocco, *Chrysophanus*, *Cænonympha*, *Zygæna*, *Calophasia* sp. n. MEADE-WALDO (1022), Marocco, journey and list. Barcelona, Vernet, *Rhopalocera*, STANDEN, pp. 250-254, 277-280, 299-301. CHRÉTIEN (316), S. France, n. g. *Tineidæ*. S. France, Corsica, *Rhopalocera*, ROSA, pp. 49-52, Entomologist 1905. HAMPSON (716), Algeria, *Phryganopsis*, *Timora* sp. n. PÜNGELER (1223), *Sesia* n. sp. THIERRY-MIEG (1493), Algeria, *Tephrina* n. sp. TURATI (1508), Algeria, *Parascotia* n. sp. WALSINGHAM (1564), Algeria, *Tineidæ* spp. n. BLACHIER (121), Tunis, *Calophasia*, *Cleophana* sp. n. COSTANTINI, Modena and Reggio, novelties, Riv. ital. Sci. Nat. xxv, pp. 15, 61. KRÜGER, Sicily, novelties and *Euchloë damone*, Natural. Sicil. xviii, p. 49. ROSTAGNO (1297), Rome, *Pieris ergane*. ROSTAGNO (1298), Italy, General work, introduction. STEFANELLI, p. 184, Bull. Soc.

ent. Ital. xxxvi, Italy, novelties. TURATI (1508), Italy, *Acidalia*, 2 spp. n. VÉRITY (1540), Florence, *Orgyia* sp. n. VÉRITY (1541), Lucca, annotated list. Island of Capri, suppl. list, BROWNE, p. 82, Entomologist 1905. RAGUSA (1231), Sicily, Catalogue. KRONE (896), Fiume, *Stigmatophora* n. sp. FLETCHER, Malta, list completed, Entomologist 1905, pp. 18-20. EGYPT, GRAVES, pp. 147-150, Ent. Rec. xvii. BEYROUT, GRAVES, pp. 56, 57, 121-124, Ent. Rec. xvii. HABICH (711), Haifa, *Pseudophia* sp. n.

*Diptera.* KIEFFER (844), gall-dwelling Cecids. n. gen., n. spp. RICARDO (1266), N. Africa etc., *Tabanidae*, 1 sp. n. BILLET (118), Algeria, *Anopheles chaudoyei*, distribution. SERGENT (1382), Algeria, *Grabhamia* n. sp. THEOBALD (1477), Tunis, *Culicidae*, 4 spp. n. BEZZI (113), S. France, Italy, S. Hungary, *Clinocera* sp. n. NOÉ (1105), Rome, *Chironomidae* n. g. KIEFFER & TROTTER (849), Avellino, *Cecidomy.*, 2 spp. n. TROTTER (1503), Italy, *Janetiella* sp. n. STROBL (1455), Balkan penins., *Tipulidae*, *Strat.*, *Bombyl.*, *Emp.*, *Asil.*, *Scenop.*, *Lept.*, *Syrph.*, *Conop.*, *Tachin.*, *Acalypt.* spp. n.

*Hemiptera.* HORVÁTH (779), Spain, *Heter.* and *Homopt.*, 7 spp. n. REUTER (300), Spain, 2 spp. n. DEL GUERCIO (392), Firenze, *Siphu* n. sp.

*Coccidae.* MARCHAL (1005), Algeria, 3 spp. n. LINDINGER (966), Corsica, *Leucaspis* n. sp.

*Trichoptera.* ULMER (1518), Algeria, *Tricnoides* n. sp. *Neuroptera* s. l. Calatrava, list, NAVÁS, p. 502, Bol. Soc. espan. v. S. France and Spain, LUCAS, pp. 296, 297, Entomologist 1905.

*Psocidae.* RIBAGA (1264), Florence, *Stenotroctes* n. sp. ENDERLEIN (497), N. Africa, *Lepinotus* n. sp., *Pachytroctes* n. g.

*Embiidae.* RIMSKY-KORSAKOW (1267), Villefranche-sur-mer, *Embia* sp. n.

*Odonata.* MORTON (1073), Algeria, *Ischnura* n. sp.

*Orthoptera.* Valladolid, list, GUTIÉRREZ, Bol. Soc. espan. v, pp. 140-143. BOLÍVAR (132), Tangier, *Racoleis* n. sp. BOLÍVAR (133), Mogador, *Gryllomorpha* n. sp. WERNER (1615), Egypt and Tunis, *Eremiaphila*, 3 spp. n. MEI (1023), Friuli, list. PAOLI, Rome, *Aceridiidae*, 3 additions, Boll. Soc. zool. Ital. xiv, pp. 283, 284. KRAUSS (892), Montenegro, list, *Forfic.* sp. n.

*Thysanura.* *Japyx*, Madrid, NAVÁS, p. 483, Bol. Soc. espan. v. SILVESTRI (1397), Molfetta, n. g. *Campodeidae.*

*Collembola.* CARL & LEBEDINSKY (277), Crimea, n. g.

(h.) *Caucasus* and *West and Central Asia*, including *Arabia* [see also (a.) and (b.)]: for Tibet see 6, for Mediterranean Asia see (g.).

*Coleoptera.* FAIRMAIRE (536), Aresch, *Prionus* n. sp. REITTER (1251), Araxes Valley, *Proteinus* sp. n. CARRÉ (283), Mesopotamia, *Bembidium* n. sp. MAINDRON (1001), Mesopotamia, Arabia, *Glycia* sp. n. PIC (1179), Bagdad, *Adoretus* n. sp. KERREMANS (835), Persia, *Julodis* n. sp. NONFRIED (1108), Persian Kurdistan, *Dorcus* n. sp. PIC (1193), W. Asia, *Anoxia*, *Rhagonycha*, *Cteniopus*, *Strophomorpha* and n. g. near *Mylacus* n. sp. REITTER (1252), Transcaspian, *Dromius* sp. n. PIC (1170), Transcaspian, *Anthicus* n. sp. REITTER (1246), Transcaspian, *Throscus*, *Gonocephalum*, *Agapanthia*, *Stylosomus* sp. n. SUMAKOW, Transcaspian region, *Pinophilus* and *Mesostenus*, Wien. ent. Zeit. xxiv, p. 28. PIC (1190), Arabia, *Adoretus* n. sp., Tokat, *Dorcadion* sp. n. CAMERON (237), Perim, *Ocladius* n. sp. FAUVEL (546), Perim, *Staphylinidae* n. sp.

- Hymenoptera*. KONOW (886), Asia Minor, *Amasis* n. sp. ZAVATTARI (1669), Syria, list. KONOW (884), Turkestan, Teheran, *Tenthredinidæ*, 3 spp. n. ASHMEAD (38), Russian Turkestan, *Mymaridæ*, 2 spp. n. KOHL (877), Socotra and S. Arabia, summary of collection.
- Lepidoptera*. DZIURZYŃSKI (486), Armenia, *Zygæna* sp. n. DZIURZYŃSKI (487), Caucasus, *Zygæna* n. sp. PÜNGELER (1222), Aksu, *Mamestra* n. sp.
- Diptera*. SPEISER (1437), Red Sea, *Pseudofersia* sp. n. PATTON (1140), Aden, *Culicidæ*, 5 spp. n.
- Hemiptera*. DISTANT (427), Aden, n. g. *Cicadidæ*. DISTANT (426), Socotra, *Cicadidæ* n. sp.
- Coccidæ*. LINDINGER (966), Persia, *Leucaspis* n. sp.
- Orthoptera*. KUTHY (908), Centr. Asia, *Acrididæ*, 4 spp. n. BURR (219), Sokotra, *Forficulidæ*, 2 spp. n.

4. AFRICA (TROPICAL & SOUTH). For North Africa see 3 (g.): for Comoro and Aldabra Ids. see 5. Socotra, see 3 (h).

- Insecta*. SJÖSTEDT (1403), Cameroons, list of insects found, pp. 22-86. AUSTEN (45), Uganda, short list.
- Coleoptera*. AURIVILLIUS (41), White Nile and Khartum, *Bagous* and *Baris* sp. n. BERNHAUER (103), *Bledius* n. sp. BOURGEOIS (150), Spanish Guinea, *Malacodermidæ*, 6 spp. n. BRAEM (170), Congo, *Fornasinus* n. sp. CLAVAREAU (322), Congo, *Megalopides*, 2 spp. n. DISTANT (421), Natal, *Cerambycidæ*, 3 spp. n. ESCALERA (524), Rio de Oro, *Eulipus* n. sp. FAUVEL (546), *Staphylinidæ* spp. n. FAUVEL (550), *Staphylinidæ*, 10 spp. n. FAUVEL, Rev. Ent. franc. 1905, p. 148, Erythraea, *Staphylinidæ*, short list. GEBIEN (646), White Nile, *Adesmia* n. sp. GESTRO (649), Erythraea, *Hispidæ* sp. n. GORHAM (676), S. Africa, *Cleridæ*, 4 spp. n., *Melyridæ*, 6 spp. n., *Ediarthrus* sp. n. GROUVELLE (703), W. Africa, *Cautomus* n. sp. HAGEDORN (714), E. Africa, *Scolyto-platypus* sp. n. HARTMANN (726), *Niphades*, 2 spp. n. HARTMANN (727), W. Africa, *Megarhinus* n. sp. HEATH (730), W. Africa, *Cerambycidæ*, 3 spp. n. HEATH (731), Angola, *Cicindelidæ*, *Cerambycidæ* sp. n. HINTZ (750), *Cleridæ*, 17 spp. n. HINTZ, Fernando Po, *Cleridæ*, short list, Deutsche ent. Zeitschr. 1905, p. 314. HORN (764), E. Africa, *Cicindela*, 2 spp. n. HORN (766), Cameroons, *Cicindelidæ*, short list. HORN (771), E. Africa, *Odontochila* and *Cicindela* sp. n. KERREMANS (835), *Buprestidæ*, 5 spp. n. KOLBE (879), *Dynastidæ* n. genn., 6 n. spp. LESNE (940), *Bostrychidæ*, 3 spp. n. LESNE (945), Spanish Guinea, *Bostrychidæ*, annotated list. LÉVEILLÉ (948), *Trogositidæ*, 3 spp. n. LEWIS (952), Trop. Africa, *Histeridæ*, 3 spp. n. LEWIS (953), Angola, *Macrolister* n. sp. LEWIS (954), Abyssinia, *Paratropus* n. sp. MAINDRON (1001), Erythraea, *Carabidæ*, 4 spp. n. MARSHALL (1010), S. Africa, *Cossonus*, 6 spp. n. MOSER (1076), Africa trop., *Cetonidæ*, 4 spp. n. OBST (1114), E. Africa, *Buprestidæ*, 4 spp. n. OHAUS (1119), Omdurman, *Adoretus* n. sp. OLIVIER (1121), White Nile and Abyssinia, *Luciola* n. sp. OLIVIER (1123), Pretoria and Gaboon, *Luciola*, 2 spp. n. D'ORBIGNY (1124), *Onthophagus*, many spp. n. PIC (1172), *Formicomus*, 2 spp. n. PIC (1176), *Hylophilus*, 3 spp. n. PIC (1180), E. Africa, *Zygia* n. sp. PIC (1183), Timbuctoo, *Schizonycha* n. sp. PIC (1187), Obock, *Zygia* n. sp. PIC (1196), Spanish Guinea, *Nylophilidæ*, 10 spp. n. RÉGIMBART (1234), Erythraea, *Dytiscidæ*, *Hydrophilidæ* spp. n. REITTER (1244), *Opatrini* spp. n. RITSEMA (1274), Cameroons, *Helota* n. sp.; Africa, *Helota*, 2 spp. n., id. (1276). ROUSSEAU (1313), Africa trop., *Dyschirius*, *Atractonota*, *Eudema* n. sp. SCHAUFUSS (1328), *Scolytidæ*, 5 spp. n. SCHULZ (1359), Zanzibar,

- Eumenes*, W. Africa, *Pompilus* sp. n. SCHWARZ (1370), *Elateridae*, 18 spp. n. SPAETH (1430), *Cassididae*, 8 spp. n. WASMANN (1585), Cameroons; termitophilous *Staph.* n. g. WATERHOUSE (1589), E. Africa, *Lucanidae* sp. n., *Cetoniidae*, 2 spp. n. WEISE (1596), White Nile, *Clytra* n. sp. WEISE (1597), *Chrysomelidae* and *Coccinellidae*, 20 spp. n. WEISE (1598), Yola and Cameroons, *Chrysomelidae*, 3 spp. n. WEISE (1603), Erythraea, *Exochomus* sp. n. WEISE (1604), Natal, *Chilocorus* n. sp. WEISE (1612), Rhodesia, *Chrysomelidae*, 4 spp. n., *Solanophila* sp. n. ZANG (1667), E. Africa, *Didymus* n. sp. White Nile, see also 3 (g.) under Jagerskiöld exp.
- Hymenoptera*. ALFKEN (21), Abyssinia, *Prosopis* n. sp. ALFKEN (23), Cape Colony, *Prosopis* n. sp. ANDRÉ (24), *Mutilla*, 3 spp. n. ANDRÉ (27), Transvaal, *Mutilla*, 2 spp. n. BRAUNS (173), S. Africa, *Masaridae*, 7 spp. n. BRAUNS (174), Cape Colony, *Fidelia* n. sp. BRAUNS (175), Cape Colony, *Serapis* n. sp. BUYSSON (232), Congo, *Polistes*, 2 spp. n. CAMERON (239), Cape Town, *Cynipidae* subfam. n. CAMERON (244), Transvaal, *Odynerus*, *Tachytes* sp. n. CAMERON (246), Natal, *Pseudagenia* sp. n. CAMERON (247), Cape Colony, *Gasteruption* sp. n. CAMERON (248), Cape, *Hemiteles* n. g. CAMERON (249), Cape n. g. *Braconidae*. CAMERON (255), S. Africa, *Chalcididae*, 3 spp. n. CAMERON (256), Cape Colony, *Chirota* n. sp. CAMERON (258), S. Africa, *Ichneumonidae*, 6 spp. n., *Phaenocarpa* sp. n. CAMERON (259), Cape Colony, *Eurytomini*, 2 spp. n. CAMERON (260), Natal, n. g. *Joppini*. CAMERON (261), S. Africa, *Apidae*, *Diploptera*, *Fossoria*, *Ichneum.*, *Bracon.*, *Evan.*, *Proctotryp.*, 79 spp. n. CAMERON (262), Cape Colony, *Fossoria*, 6 spp. n., *Crocisa* sp. n., *Ichneumonidae*, 4 spp. n., *Chalcididae*, 5 spp. n. CAMERON (263), Cape Colony, *Odynerus* 2 spp. n., *Fossoria*, 10 spp. n., *Bethylinae* n. g., *Iphiaulax* n. sp., *Ichneumonidae*, 7 spp. n. CAMERON (264), Cape Colony, *Halictus* and *Sphecodes*, 5 spp. n., *Odynerus*, 3 spp. n., *Fossoria*, 8 spp. n., *Ichneumonidae*, 2 spp. n., *Eupelmini* n. g. EMERY (493), *Formicidae*, 6 spp. n. EMERY (495), Cameroons, *Dorylus*, 2 spp. n. ENDERLEIN (498), Mombasa and S. Africa, *Gastrotheaca*, 2 spp. n. ENDERLEIN (500), W. Africa, *Stephanidae* sp. n. ENDERLEIN (502), E. Africa, *Evania* sp. n. ENDERLEIN (510), Africa, *Braconidae* n. g., 6 spp. n. FOREL (586), South Angola, *Formicidae*, 8 spp. n. FOREL (591), Congo, n. g. near *Tapinoma*. FOREL (592), p. 13, Natal, *Strumigenys* n. sp. FRIESE (600), *Apidae* spp. n. FRIESE (603), *Tetralonia*, 8 spp. n. FRIESE & BRAUNS (604), *Anthidium*, 8 spp. n. FRIESE (606), *Anthophora*, 22 spp. n. FRIESE (608), *Crocisa*, 4 spp. n. FRIESE (609), S. Africa and Old Calabar, *Ceratina*, 17 spp. n. GARCÍA (639), Rio de Oro, *Bembex* sp. n. KIEFFER (841), Trop. Africa, *Proctotrypidae*, 3 spp. n. KOHL (874), Abyssinia, *Belomicrus* sp. n. KOHL (875), Algoa Bay, *Passalacus* n. sp. MAYR (1017), S. Africa, n. g. *Perilampides*. SZÉPLIGETI (1465), Trop. Africa, *Ophionidae*, 3 spp. n. SZÉPLIGETI (1466), *Iphiaulax*, 12 spp. n., *Crennops* sp. n., *Braunsia* sp. n. SZÉPLIGETI (1468), Cameroons, *Braconidae*, 12 spp. n.
- Lepidoptera*. AURIVILLIUS (40), *Lasiocampidae*, 17 spp. n. AURIVILLIUS (41), W. Africa, *Rhopalocera*, *Sesiidae*, *Bombyces* spp. n. BARTEL (84), *Rhopalocera*, 15 spp. n. BETHUNE-BAKER (112), Kikuyu escarpment, *Lycenidae*, 3 spp. n. DRUCE (456), Rhodesia, *Euphedra* sp. n. DRUCE & DRUCE (457), Rhodesia, *Rhopalocera*, 11 spp. n. HAMPSON (715), *Hadeninae* n. genn., n. spp. HAMPSON (716), *Syntomidae*, *Arctiidae*, spp. n., *Agaristidae* n. g. HAMPSON (717), *Noctuidae* n. spp. HAMPSON (718), Uganda, n. g. *Pterophoridae*. HEYN (746), Quango, *Pieris* n. sp. HOLLAND (755), Sierra Leone, *Noctuidae* n. g. JUNOD (825), Delagoa, annotated list, *Pyrgus* n. sp., *Monda* n. sp. KHEIL (839), Spanish Guinea, list, *Liptena* sp. n. ROTHSCHILD & JORDAN (1306), N. E. Africa, *Rhopalocera* subsp. n. and *Papilio* sp. n. THIERRY-MIEG (1493),

- Mozambique, *Problepsis*, *Scardamia* and *Acidalia* sp. n. WARREN (1570), *Geometridæ*, 15 spp. n. WARREN (1573), *Geometridæ* about 50 spp. n., *Epilema*, 3 spp. n., *Banisia* sp. n. WARREN & ROTHSCHILD (1576), Sudan, 23 spp. n., *Bombyces*, *Noctuidæ*, *Geometr.*, *Pyral.*, *Tin.* WEEKS (1594), Congo, *Colias* n. sp.
- Diptera*. AUSTEN (45), *Glossina*, distribution. AUSTEN (47), *Glossina palpalis*, distribution. DÖNITZ (448), E. Africa, *Cordylobia* n. sp. GILES (654), Zululand, *Culicidæ* n. sp. GRÜNBERG (705), W. Africa, *Culicidæ*, 6 spp. n. LAVERAN (922), French Guinea, *Culicidæ*, list. NEVEU-LEMAIRE (1096), Harar, *Stegomyia* n. sp. NEVEU-LEMAIRE (1097), Centr. Africa, *Nyssorhynchus* n. sp. SPEISER (1437), S. Africa, *Lipoptena* sp. n. THEOBALD (1478), S. Africa, *Culicidæ*, 6 spp. n. THEOBALD (1479), W. Africa, *Ficalbia* sp. n. THEOBALD (1482), W. Africa, *Culicidæ*, 4 spp. n. THEOBALD (1483), Transvaal, *Stegomyia* n. sp. WELLMAN, Bihé, Angola, J. trop. Medicine viii, p. 319.)
- Aphaniptera*. ROTHSCHILD (1301), 4 spp. n.
- Hemiptera*. BERGROTH (98), Congo, *Katanga*, *Tribelocephala*, *Henicocephalus* sp. n. BERGROTH & SCHOUTEDEN (100), Congo, *Heteroptera*, 13 spp. n. BREDDIN (182), Cameroons, *Platymicrus*, E. Africa, *Tragelaphodes* sp. n. BREDDIN (184), E. Africa, n. g. *Acanthosomini*. DISTANT (426), *Cicadidæ*, 4 spp. n. DISTANT (427), *Cicadidæ*, 3 spp. n. DISTANT (428), *Cicadidæ*, 8 spp. n. DISTANT (429), *Cicadidæ* n. spp., *Pyrops* n. sp. DISTANT (430), *Platypleura*, 3 spp. n. DISTANT (431), *Cicadidæ*, 5 spp. n. DISTANT (433), Cape Town, *Oxycarenus* sp. n. DISTANT (435), S. Africa, *Lygaeidæ*, 3 spp. n. *Tingididæ*, 14 spp. n., *Hydrometridæ* sp. n. KIRKALDY (858), Bouake, n. g. *Tettigoniidæ*. MELICHAR (1029), E. Africa, *Fulgoridæ*, 16 spp. n., *Cercopidæ*, 3 spp. n., *Scaridæ*, 2 spp. n., *Membracidæ*, 5 spp. n., *Jassidæ*, 15 spp. n. MELICHAR (1030), *Fulgoridæ* n. g. SCHMIDT (1332), *Ricanidæ*, 3 spp. n. SCHMIDT (1333), *Fulgoridæ*, 7 spp. n. SCHOUTEDEN (1341), Eritrea, *Pentat.*, 2 spp. n. SCHOUTEDEN (1342), Abyssinia, *Pentatomidæ*, 2 spp. n. SCHOUTEDEN (1343), Usambara, *Garsauria* sp. n. SCHOUTEDEN (1344), Congo, n. g. *Graphosomini*. SCHOUTEDEN (1347), *Pentatomidæ*, 3 spp. n. VARELA (1532), Cameroons, *Reduviidæ*, 4 spp. n.
- Anoplura*. SPEISER (1435), Abyssinia, n. sp.
- Trichoptera*. ULMER (1517), W. Africa, 3 n. spp. ULMER (1518), Congo, 4 spp. n. ULMER (1518A), Congo, *Dipseudopsis* n. sp.
- Neuroptera*. WEELE, VAN DER (1595), Liberia, *Ancylopteryx* n. sp.
- Psocidæ*. ENDERLEIN (497), Cameroons, n. g.
- Termitidæ*. DESNEUX (401), Sao Thomé isld., *Termes* n. sp. SJÖSTEDT (1404), *Termitidæ*, 9 spp. n.
- Odonata*. KIRBY (851), Mashonaland, list with 2 spp. n.
- Thysanura*. ESCHERICH (525), *Lepismatidæ*, S. Africa, 11 spp. n., Congo, 1 sp. n.
- Orthoptera*. ADELUNG (8), E. Africa, *Blattidæ*, 13 spp. BOLIVAR (127), *Acridiidæ*, 23 spp. n. BURR (219), *Opisthocosmia* sp. n. KIRBY (853), W. Africa, *Palophus* sp. n. REHN (1237), W. Africa, *Anisolabis* n. sp., *Labidura riparia*.

## 5. MADAGASCAR, including ALDABRA ISLANDS, etc.

- Insecta*. MEUNIER (1040), *Diptera* and *Chalcididæ* in Madagascar copal.
- Coleoptera*. BEGUIN-BILLECOQ (93), *Apion* n. sp. BEGUIN-BILLECOQ (94), Madag. and Mauritius, Mayotte, *Apion*, 33 spp. n. BERNHAUER (103), *Oxypodinus* n. sp. FAIRMAIRE (534), 60 n. spp. FAUVEL (547), *Staphylinidæ* n. spp. FLEUTIAUX (581), Comoro islds., *Sternotomis* sp. n. GROUVELLE (704), *Læmophilæus* n. sp. HORN

- (771), *Pogonostoma*, *Odontochila* n. sp. LAMEERE (910), *Hoploderes*, 4 spp. n. LEWIS (954), *Histeridae*, 2 spp. n. LEWIS (953), *Histeridae*, 2 spp. n. NONFRIED (1107), *Prosopocelus* n. sp. PIC (1175), *Petalium* n. sp. SCHAUFUSS (1328), *Scolytoplatypus*, *Xyleborus* spp. n. SCHWARZ (1370), *Elateridae*, 8 spp. n. SPAETH (1430), *Cassididae*, 4 spp. n. THÉRY (1488), *Buprestides*, general work, many spp. n. WEISE (1610), Mauritius, *Brontispa* n. sp.
- Hymenoptera.* ANDRÉ (24), *Mutilla*, 2 spp. n. BUYSSON (232), *Polistes*, 2 spp. n. FOREL (591), *Formicidae*, 2 spp. n. KIEFFER (841), Madagasc. *Proctotryp.*, 5 spp. n., Réunion, 1 sp. n.
- Lepidoptera.* BASTELBERGER (81), *Gullaca* n. sp. HAMPSON (715), Seychelles and Mauritius, *Hadenina* n. sp. HAMPSON (717), Madag. and Mauritius, *Noctuidae* n. spp.
- Diptera.* VENTRILLON (1537), *Culex*, *Stegomyia* sp. n. VENTRILLON (1538), *Culicidae*, 4 spp. n.
- Hemiptera.* BERGROTH (98), *Pentatom.* 2 genn. n., *Cletomorpha*, *Lycidae* n. g., *Lethaeus* n. sp., *Reduv.* n. g., *Hemicocephalus*, 2 spp. n. BREDDIN (180), n. g. *Hemicocephalidae*. DISTANT (426), *Cicadidae*, 3 n. spp. DISTANT (427), Mauritius, *Stagira* n. sp. DISTANT (431), *Cicadidae*, 7 sp. n., Seychelles, 1 sp. n. SCHMIDT (1333), *Lichena* n. sp. SCHOUTEDEN (1346), Madagascar, *Catacanthus* sp. n., *Nezara* sp. n., Mauritius, *Nezara* sp. n. SCHOUTEDEN (1347), *Pentatomidae*, 5 spp. n. VARELA (1533), *Margasus*, 4 spp. n.
- Trichoptera.* ULMER (1517), 4 spp. n. ULMER (1518A), 2 spp. n. BOLÍVAR (130), Mad. & Nossibé, *Atractomorpha* and *Orthacrine* spp. n. BURR (220), *Chatospania* n. sp.
- Thysanura.* ESCHERICH (525), gen. n.

6. TROPICAL and EASTERN ASIA, incl. JAPAN and TIBET.  
For outskirts see also 3 (a.), (g.), (h.). Arabia, see 3 (h.).

- Insecta.* ALFKEN (16), Japan, *Hym.*, *Lep.* and flowers visited. KIEFFER (846), Bengal, Gall insects, 20 spp. n. NAVÁS (1084), Japan *Ascalaphus*, China n. g. *Hemerob.*, Himalaya *Scyllina*, *Mantispa*, *Glenurus* n. sp.
- Coleoptera.* ARROW (30), Malay penins., *Aphodiid.*, 2 spp. n. BOILEAU (126), India, Formosa, *Lucanidae*, 3 spp. n. BOURGEOIS (152), Ceylon, *Malacod.*, 7 spp. n., *Atractocerus* sp. BOURGEOIS (157), Bengal, *Lycidae*, 4 spp. n. DESNEUX (400), India, *Ceratoderus* n. sp. FAIRMAIRE (537), Kouitcheou, n. g. *Cetoniidae*. FAUVEL (546), India etc., *Staphylinidae* spp. n. FLEUTIAUX (580), India, *Elateridae*, 8 spp. n. HORN (763), India and Ceylon, *Cicindelidae*, 2 spp. n. HORN (767), S. India, *Derocrania* sp. n. HORN (770), Ceylon, Travancore, Siam, *Collyris*, 3 spp. n. HORN (771), Assam, *Therates* n. sp. JACOBY (810), Malay penins., *Chrysomelidae*, 10 spp. n. LAPOUGE (914), Japan, *Carabus*, short list. LÉVEILLÉ (947), Tonkin, *Acrops*, India, *Ancyrona* spp. n. LÉVEILLÉ (948), China, *Alindria* sp. n. LEWIS (953), Trop. Asia, India etc., *Histeridae*, 4 spp. n. LEWIS (954), India, *Platysoma* sp. n., Yunnan, *Hister* sp. n. MAINDRON & FLEUTIAUX (1002), S. India, *Cicindelidae*, list. MOSER (1076), Assam, *Trichius* n. sp. NONFRIED (1108), S. W. China, *Prismognathus* n. sp. NŪSIMA (1110), Japan, *Scolytus*, 3 spp. n. OHAUS (1115), Tonkin, India, *Rutelides*, 17 spp. n. OLIVIER (1123), Pondichery, *Luciola* n. sp. PIC (1177), Shanghai, *Macratria* n. sp. PIC (1181), Yunnan, *Cerambycidae*, 5 spp. n., Japan, *Obrium* n. sp. PIC (1182), India, *Attalus*, *Ebæus* sp. n. PIC (1186), Japan, *Podabus* and *Cantharis* etc., 4 spp. n. PLANET (1208), Se-Tschuen or Yunnan? *Pseudolucanus* n. sp. REITTER (1244), China, India, *Tene-*

- brionidae* n. spp. REITTER (1248), Tien-tsin, *Epicauta* sp. n. REITTER (1249), China, *Melolonthidae* sp. n. RITSEMA (1273), Tonkin, Tenasserim, China, Bhutan, *Helota*, 8 spp. n. SCHAUFUSS (1328), Ceylon, *Cocotrypes* sp. n. SCHWARZ (1369), N. India and Ceylon, *Elateridae*, 13 spp. n. SHARP (1385), Korea, E. Asia, Tibet, *Criocephalus*, 5 spp. n.
- SPAETH (1430), Tenasserim, *Lacoptera* n. sp. WATERHOUSE (1590), Ceylon, *Chrysodema* sp. n. WEISE (1599), Lower India, *Cassididae* and *Hispidae*, catalogue with 10 spp. n. WEISE (1605), Assam, *Chirida* n. sp. WEISE (1606), Darjiling, *Potaninia* n. sp. WEISE (1607), Yunnan, *Coccinellidae* n. sp. ZANG (1660), Tonkin, *Passalidae*, 3 spp. n. ZANG (1662), Ceylon, *Lucanidae* and *Passalidae*, *Figulus* sp. n. ZANG (1665), India, *Passalidae*, 2 spp. n. ZANG (1666), Ceylon, *Leptaulacides* sp. n.
- Hymenoptera*. ANDRÉ (24), Pekin, *Mutilla* n. sp. CAMERON (238), Khasia Hills, *Sphegidae*, *Ceropalidae*, 47 spp. n. CAMERON (241), India, *Fossoria*, 5 spp. n. CAMERON (243), India, *Fossoria*, 2 spp. n., *Ichneumon*. 6 spp. n., *Bracon*, 2 spp. n. CAMERON (253), Sikkim, *Ichneumonidae*, 18 spp. n. CAMERON (257), India, *Ichneum.*, *Chalcid.*, 16 spp. n. CAMERON (266), Japan, *Ampulex* n. sp., Sikkim, *Icaria* n. sp. CAMERON (269), Singapore, *Agathis*, *Buodias*, *Skeatia*, n. sp.; Himalaya *Pleuroneurophion* n. sp. CAMERON (270), Ceylon, 36 spp. n., *Ichneumon.*, *Bracon.*, *Evan.*, *Chalcid.*, *Bethyl.*, *Siricid.* CAMERON (271), Ceylon, *Ichneumonidae*, 58 spp. n. COCKBRELL (326), Kashmir, *Bombus* n. sp. EMERY (493), Tsushima, *Pachycondyla* sp. n. ENDERLEIN (499), Siam, *Stantonia* n. sp. ENDERLEIN (502), Burma, *Evania* sp. n. FOREL (591), Nicobar Islds., *Formicidae*, 2 spp. n. FRIESE (601), Ceylon, Perak, Tshusima, *Crocisa* spp. n. FRIESE (611), W. China, *Bombus* n. spp. KIEFFER (841), India, Burma, *Proctotrypidae*, 7 spp. n. KOHL (874), Japan, *Crabro* sp. n. MOCÁRY (1055), *Rhyssa*, 3 spp. n. PÉREZ (1146), Japan, *Aculeata*, many spp. n. SZÉPLIGETI (1466), Singapore, *Braconidae*, 6 spp. n.
- Lepidoptera*. Geographical relation of *Lepidopterous* fauna of Japan, ELWES, pp. xli-xliv, P. Ent. Soc. London 1905. ADAMSON (7), Bunnah, *Rhopalocera*, list of, 253 spp. BASTELBERGER (80), Assam, *Gullaca* n. sp. BASTELBERGER (81), N. India, *Dilophodes*, *Mnesiloba* n. sp. BINGHAM (119), India, Ceylon and Burma, *Rhopalocera*, general work. H. H. DRUCE (459), Malay Penins., list of 51 spp. DUDGEON (465), India, *Soritia*, *Acanthopsyche*, *Mahasena*, *Nonagra*, *Pterognia*, *Chilo*, *Polyocha*, sp. n. DUDGEON, Catalogue of the *Heterocera* of Sikkim and Bhutan, Part xvii, *Noctuidae* contd., J. Bombay Soc. xvi, pp. 275-291. DYAR (470), Japan, *Zygaenidae*, *Limacodidae*, *Geometridae* and *Pyrausta* n. sp. HAMPSON (715), China, Japan, India etc., *Hadeninae* n. spp. HAMPSON (717), India, Japan etc., etc., *Noctuidae* n. spp. HAMPSON (718), Ceylon, n. g. *Orneodidae*. HAMPSON (719), India and Ceylon, Bombyces, 22 spp. n. JANET (814), Laos, *Stichophthalma* sp. n. LONGSTAFF (972), India and Ceylon, *Rhopalocera*. LONGSTAFF (974), Hong Kong, *Orsonoba* n. sp. MEYRICK (1043), India, *Microlepidoptera*, 89 spp. n. MOORE (1062), India, work on *Rhopalocera* continued, *Pieridae*, 3 spp. n. NAGANO (1082), Japan, *Sphingidae*. RHÉ-PHILIPPE, Lucknow, *Rhopalocera*, J. Bombay Soc. xvi, pp. 720-722. Malay States, *Dodona deodata*, ROBINSON, J. Fed. Malay Museums i, p. 15. SOUTH (1429), Japan and Korea, *Nodaria* n. sp. SWINHOE (1459), India, Malay Penins., *Drepan.*, *Hepial.*, *Noctuidae*, *Geometridae* spp. n. SWINHOE (1460), Khasia Hills, *Limacod.*, *Lasioc.*, *Noctuid.*, *Geometr.*, 4 spp. n., *Rhodoneura*, 3 spp. n. SWINHOE (1461), India, Burma, Ceylon, *Chalcosiidae*, *Noctuidae*, 3 spp. n. SWINHOE (1462), India, *Drepanulid.*, *Noctuid.*, *Geometrid.* n. spp. THIERRY-MIEG (1493), Japan, *Problepsis* n. sp. WARREN (1569), China, *Geometridae*, 2 spp. n.,

- Shan States, *Hypolamprus* sp. n. WARREN (1574), Ceylon, *Geometr.*, 3 spp. n.; Shan States, 1 sp. n., Hainan, 3 spp. n. and *Epiplera*, 2 spp. n. YOUNG (1648), India, *Rhopalocera*.
- Diptera.* ADIE & ALCOCK (11), Calcutta, *Anopheles listoni*. BEZZI (115), Pekin, *Systropus*, 2 spp. n. BRUES (201), India and Singapore, *Phoridae*, 5 spp. n. CHALMERS (297), Ceylon, *Anophelinae*, distribution. SPEISER (1437), Tenasserim, *Olfersia*, Ceylon, *Lipoptera* sp. n. THEOBALD (1476), Bombay, n. g. *Culicidae*. THEOBALD (1477), India, Singapore, *Culicidae*, 7 spp. n. THEOBALD (1478), India, *Culicidae* 4 spp. THEOBALD (1480), Ceylon, *Culicidae*, 8 spp. n. THEOBALD (1481), India, n. g. *Culicidae*.
- Aphaniptera.* ROTHSCHILD (1301), Malay States, *Ceratophyllus*, 2 spp. n.
- Hemiptera.* BREDDIN (183), India and Cochin China, *Chrysocoris*, 2 spp. n. DISTANT (422), Yunnan, Assam, Tenasserim, *Dundubiarica*, 3 spp. n. DISTANT (423), India, *Terpnosia* sp. n. DISTANT (424), Hong Kong, *Mogannia* n. sp., Mts. Song-Chai, n. g. *Cicadidae*. DISTANT (426), China, *Cicadidae*, 2 spp. n. DISTANT (427), China, *Quintilia* n. sp. DISTANT (429), China, N. China, Siam, Tonkin, *Cicadidae* n. sp., Siam, *Pyrops* n. sp. DISTANT (430), Malacca, Cochin China, *Platypleura*, 2 spp. n. DISTANT (431), Ta-tsienu, *Platylomia*, 2 spp. n. DISTANT (431), Tibet, *Oncotympana* sp. n. DISTANT (432), Yunnan, *Geana* n. sp. DISTANT (434), Ceylon, *Aneurus* n. sp. HORVÁTH (774), Japan, n. g. *Berytidae*. HORVÁTH (776), Japan, *Heteroptera*, 15 spp. n. JACOBI (805), Assam, Burma, *Cercopide*, 2 spp. n. JACOBI (806), Tonkin, *Cicad.*, 1 sp. n., *Fulgor.*, 2 spp. n., *Cercop.*, 4 spp. n., *Jassid.*, 1 sp. n. KIRKALDY (858), India, *Gypona* sp. n. KIRKALDY (862), Ceylon, *Microneeta* sp. n. REUTER (1259), Sztschwan, China, *Capsidae*, many spp. n. REUTER (1261), India, *Urostylis* sp. n. SCHMIDT (1333), Tonkin, *Fulgora* n. sp. SCHOUTEDEN (1344), *Scotinophara* n. sp. SCHOUTEDEN (1348), Ceylon, *Aphidae*, 2 spp. n.
- Coccidae.* GREEN (687), Ceylon, 17 spp. n. LINDINGER (967), Singapore *Parlatorea* n. sp., Japan n. g. MARCHAL (1005), Ceylon, *Asterolecanium* sp. n.
- Trichoptera.* BANKS (72), Japan, 12 spp. n. ULMER (1517), Sikkim, Japan, 5 spp. n. ULMER (1518), Moupin, *Rhyacophila* sp. n., India, *Psilochorema* sp. n. ULMER (1518A), Assam, *Dinarthrum*, Ceylon, *Macronema*.
- Perlidae.* NEEDHAM (1089), Japan, *Perlidae*, 3 spp. n.
- Termitidae.* DESNEUX (401), Sind, *Termes*, 3 spp. n., *Hodotermes* n. sp.
- Odonata.* FOERSTER (584), Tonkin, 2 spp. n. KIRBY (852), Ceylon *Zygonia* sp. n., Tonkin, *Zygonia*, *Onychothemis* sp. n.
- Thysanura.* BOUVIER (162), Tibet, *Japyx dux*.
- Collembola.* BECKER (88), Persian Gulf, n. g. *Collembola*.
- Orthoptera.* BOLÍVAR (129), Singapore, *Xiphidiopsis* n. sp. BOLÍVAR (130), India, China, *Atractomorpha*, 5 spp. n., *Orthacris* n. sp. BOLÍVAR (130), Malay penins. Cambodia, *Pyrgomorphidae*, 2 spp. n. BURR (220), Tonkin, N. India, Mou-Pin, *Forficulidae*, 3 spp. n. BURR (221), India, *Forficulidae*, 4 spp. n. BURR (222), India, *Opisthocosmia* n. sp. DOHRN (443), Tonkin, *Hexacentrus* n. sp. KRAUSZE (894), Tonkin, *Conocephalus*, 2 spp. n. REHN (1237), Siam, Pekin, *Forficulidae*, 3 spp. n. WILLEY (1632), Ceylon, short list.

## 7. ASIATIC ARCHIPELAGO, including PAPUA. (For islands beyond Papua see 2. Insular.)

*Insecta.* ALFKEN (16), Java, *Hym.* and *Lep.* and flowers they visited. BIR6 (120), New Guinea, notes.



- Coleoptera.* ARROW (30), Philippines, *Rhyparus* sp. n. BERNHAUER (103), Java, Sumatra, Engano, *Staphylinidae* n. spp. BOILEAU (126) *Lucanidae*, 7 spp. n. FAUVEL (544), Java, *Staphylinidae*, 10 spp. n. FAUVEL (546), Java, Sumatra, Borneo, *Staphylinidae* spp. n. HARTMANN (726), Sumatra, *Niphades* sp. n. HELLER (737), New Guinea, *Lomaptera* n. sp., *Cerambycidae* n. g., *Curculionidae*, 8 spp. n. HORN (769), New Guinea, *Cicindela* n. sp. JANSON (815), New Guinea, *Cetoniidae*, 7 spp. n. LÉVEILLÉ (949), Java, *Ancyrona* n. sp. LEWIS (953), Borneo, *Coryphaeus* sp. n. LEWIS (954), Sumatra, New Guinea, *Platysoma*, 3 spp. n. MÖLLENKAMP (1057), Borneo, *Odontolabis*, *Prosopocelus* sp. n., Sumatra, *Eurytrachelus* sp. n. MOSER (1076), Dammer isld. *Protactia* n. sp., Key islds., *Clinteria* n. sp. OHAUS (1115), Java, Philippines, Timor, *Rutelides*, 4 spp. n. OLIVIER (1123), Java, Borneo, *Luciola* and *Curtos*, 3 spp. n. PIC (1182), New Guinea, *Rhinosisimus* n. sp. PIC (1183), Philippines, *Adoretus* n. sp. PIC (1186), Java, Sumatra, *Laius*, 3 spp. n. REITTER (1244), Java, *Scleron* n. sp. RITSEMA (1271), Borneo, *Apogonia*, 4 spp. n. RITSEMA (1275), Sumatra, *Cryptoderma* n. sp. SCHWARZ (1369), Sumatra, *Hemiops* sp. n. VETH (1547), Sumatra, *Cryptoderma* n. sp. WEISE (1608), New Guinea, *Dactylispa* n. sp. ZANG (1655), Padang and Palawan *Passalid.*, 2 spp. n. ZANG (1659), Amboyna, *Analaches* n. sp. ZANG (1663), *Passalidae*, Borneo, 3 spp. n., Andamans, 1 sp. n. ZANG (1665), *Passalidae*, 7 spp. n. ZANG (1667), Sumbawa and New Guinea, *Passalidae*, 2 spp. n.
- Hymenoptera.* ANDRÉ (24), Celebes, New Guinea, *Mutillidae*, 4 spp. n. ASHMEAD (31), Philippines, 28 n. spp. ASHMEAD (32), Philippines, *Fossor.*, *Formic.*, *Ichn.*, *Bracon.*, *Proct.*, *Cynip.*, 23 spp. n. ASHMEAD (33), Philippines, *Parasitica*, 27 n. spp. ASHMEAD (34), Philippines, *Vespidae*, *Ichneumon.*, *Bracon.*, *Chalcid.*, *Proct.*, *Cynipidae*, n. spp. DU BUYSSON (233), Java and Sumatra, *Ischnogaster*, 2 spp. n. CAMERON (240), Borneo, *Evanidae*, *Bracon.*, *Ichneumon.*, 11 spp. n. CAMERON (245), Borneo, *Ichneumonidae*, 3 genn. n. CAMERON (265), *Ichneumonidae*, *Braconidae*, 10 spp. n. CAMERON (266), *Vespidae* and *Fossoria*, 17 spp. n. CAMERON (267), Borneo, *Iphiaulax* and *Chaotia*, 30 spp. n. CAMERON (268), Borneo, *Chalcis* n. sp. CAMERON (269), Borneo, *Apidae*, *Odynerus*, *Fossoria*, *Ichneumon.*, *Bracon.*, *Evan.*, *Chalcid.*, *Siricidae* spp. n. COCKERELL (326), Ternate, *Crocisa* n. sp. COCKERELL (329), Sumatra, *Bombus* n. sp. EMERY (493), Borneo, Timor, *Formicidae*, 3 spp. n. ENDERLEIN (498), Sumatra and Philippines, *Gastrotheca*, *Spinaria* n. spp. and n. g. ENDERLEIN (502), Sumatra, Borneo, *Evania*, 3 spp. n. FOREL (592), Java, *Formicidae*, 21 spp. n. FRIESE (601), *Crocisa*, 7 spp. n. FRIESE (602), Sunda islds., *Megachile* sp. n. MOCSÁRY (1055), Java, Borneo, New Guinea, Waigiou, *Rhyssa* soc., 5 spp. n. SZÉPLIGETI (1465), Java, New Guinea, Celebes, *Ophionidae*, 10 spp. n. SZÉPLIGETI (1466), *Braconidae*, many spp. n.
- Lepidoptera.* BASTELBERGER (80), Borneo, *Bulonga*, Sumba, *Abraxas*, sp. n. BASTELBERGER (82), Borneo, Obi, *Dysphania*, 3 spp. n. BASTELBERGER (83), *Dysphania*, 4 spp. n. BETHUNE-BAKER (110), New Guinea, *Leucania*, 2 spp. n. BETHUNE-BAKER (111), New Guinea, *Leucania* n. sp. FRUHSTORFER (621), Toli-toli, *Ismene* n. sp. FRUHSTORFER (622), New Guinea *Tenaris*, Mafor and Jobi *Cethosia*, n. sp. FRUHSTORFER (623), Kaju, *Tenaris* sp. n. HAMPSON (715) Java and New Guinea, *Hadeninae* n. spp. HAMPSON (716), Java, Borneo, Sala, Sangir, *Syntomid.*, *Arctiid.*, *Noctuid.*, spp. n. HAMPSON (717), *Noctuidae* n. spp. PIEPERS & SNELLEN (1203), Java, *Lithosiidae*, *Agaristidae*, list. ROTHSCHILD & JORDAN (1307), British New Guinea, n. spp. of *Nymphal.*, *Satyr.*, *Pierid.*, *Lycen.*, *Erycin.*, *Chalcos.*, *Hepialid.*, *Bombyc.*, *Noct.*, *Geometr.*, *Pyral.* SWINHOE (1459), Borneo, *Chalcos.*, *Drepan.*, *Limacod.*, *Ilymantr.*, *Noctuidae*, *Agathia*, spp. n.; New Guinea, *Zethes*, *Hypena*, spp. n. SWINHOE

- (1460), Borneo, Sumatra, *Phacosia* n. sp., *Otenans* n. g. *Lithos*. SWINHOE (1461), *Heterocera*, 7 spp. n. SWINHOE (1462), *Hesperidae*, *Aganaiidae*, *Arctiid.*, *Noctuidae*, *Epiplema*, n. spp. THIERRY-MIEG (1493), *Geometridae*, 4 spp. n. WARREN (1569), Sumatra, Batchian, New Guinea, Christmas isld., *Thyrididae*, *Epiplema*, *Geometr.*, 7 spp. n. WARREN (1574), *Geometridae* 15 spp. n., *Epiplema* 3 spp. n.
- Diptera*. BRUES (201), New Guinea, *Phoridae*, 7 spp. n. LUDLOW (984), Philippines, *Culicidae* n. genn., n spp. MELJERE (1024), Java, *Siphonella* n. sp. SPEISER (1437), Philippines, *Olfersia* n. sp. THEOBALD (1477), New Guinea, *Culicidae*, 14 spp. n.
- Hemiptera*. BREDDIN (180), Java, *Heteroptera*, 21 spp. n. BREDDIN (181), Banguey, fauna, 11 n. spp., *Pentat.*, *Coreid.*, *Lygaeid.*, *Reduv.*, *Cicad.*, *Fulg.*, *Jassid.*. BREDDIN (183), *Calliphara* and *Chrysocoris*, 5 spp. n. BREDDIN (185), Java, *Micronecta*, 5 spp. n. DISTANT (422), Philippines, Borneo, New Guinea, *Dundubiarina*, 6 spp. n. DISTANT (423), Java, *Kamalata* sp. n. DISTANT (425), Celebes, Philippines, *Cicadidae* sp. n. DISTANT (424), Java, *Mogannia* n. sp. DISTANT (428), Java, n. g. *Cicadidae*. DISTANT (429), Java, Borneo, Nias, New Guinea, *Cicadidae* n. spp., *Pyrops* and *Fulgora* n. sp. DISTANT (430), Borneo, Sunda islds., *Cicadidae*, 2 spp. n. DISTANT (431), Borneo, *Cosmopsaltria* sp. n. HORVÁTH (774), New Guinea, *Berytidae*, 2 spp. n. JACOBI (805), *Cercopidae*, 19 spp. n. KIRKALDY (862), Philippines, *Micronecta* sp. n. MONTANDON (1058), Philippines, *Ranatra* n. sp. SCHMIDT (1332), *Ricaniidae*, 5 spp. n. SCHMIDT (1333), Sumatra, Borneo, *Fulgoridae*, 6 spp. n. SCHOUTEDEN (1340), New Guinea, *Colcotichus* sp. n. SCHOUTEDEN (1344), Java, *Graphosomini* n. g.
- Coccidae*. GREEN (688), Java, 4 spp. n.
- Trichoptera*. ULMER (1517), Sumatra, etc., 8 spp. n. ULMER (1518A), Borneo, Java, 2 spp. n. ULMER (1519), Java, 5 spp. n.
- Pelidae*, *Ephemeridae*. KLAPÁLEK (866), Java sp. n.
- Termitidae*. DESNEUX (401), Borneo, *Termes* n. sp. DESNEUX (402), New Guinea, 8 spp. n.
- Thysanoptera*. ASHMEAD (37), Philippines, *Thrips* n. sp.
- Thysanura*. ESCHERICH (525), *Lepismatidae*.
- Orthoptera*. BOLÍVAR (129), New Guinea, *Conocephalides*, 10 spp. n. BOLÍVAR (130), *Atractomorphinae* spp. n. BOLÍVAR (130), Obi, Lombok, New Guinea, *Pyrgomorphidae*, 2 spp. n. BOLÍVAR (130), Borneo, Engano, New Guinea, *Pyrgomorphidae*, 8 n. spp. BOLÍVAR (130), Sumatra, *Orthacrinae*, 2 spp. n. BURR (219), Java, Mentawai, Batchian, *Forficulidae*, 3 spp. n. BURR (220), Java, *Labia* n. sp. DOHRN (443), *Conocephalides*, 10 spp. n. NAVÁS (1084), Philippines, *Hedotettix*, 2 spp. n.

## 8. AUSTRALIA and TASMANIA. (For New Zealand see 2. Insular.)

- Insecta*. WALKER (1563), Sydney, field notes.
- Coleoptera*. BLACKBURN (123), *Liparochrus*, *Systemolopides*, *Liparetrus* n. spp. BOILEAU (126), *Lucanidae*, 5 spp. n. CARTER (284), *Heteromera*, 14 spp. n. LEA (924), *Cryptorhynchides*, 8 spp. n., n. g. LEA (925), Austr. and Tasmania, *Curculionidae*, 34 spp. n. LEA (926), N. S. Wales, *Illaphanus* sp. n. LEA (928), *Nepharis*, *Ptinidae* n. g., *Tribolium* sp. n. PERKINS (1152), *Stylopidae* n. spp. SLOANE (1410), *Scaritini*, revision with n. spp. SLOANE (1411), *Cicindela*, 5 spp. n. SLOANE (1412), distribution and list, Australian *Carabinae*.
- Hymenoptera*. ANDRÉ (24), *Ephutomorpha*, 5 spp. n. ANDRÉ (26), Sydney, *Formicidae*, 2 spp. n. BRADLEY (167), S. Australia, *Megalgyra* sp. n.

- CAMERON (265), *Stephanus*, *Megalyra* n. sp. COCKERELL (326), *Apidae*, novelties, 5 spp. n. COCKERELL (327), and Austr. Tasmania, *Apidae*, 9 spp. n. COCKERELL (328), *Apidae*, 4 spp. n. COCKERELL (329), *Apidae*, 11 spp. n. COCKERELL (330), Austr. and Tasmania, *Apidae*, 20 spp. n. COCKERELL (331), Austr. and Tasmania, *Apidae*, 10 spp. n. COCKERELL (334), *Nomia*, 7 spp. n. COCKERELL (335), *Apidae*, 7 spp. n. COCKERELL (336), *Apidae* n. g. FRIESE (601), *Crocisa*, 2 spp. n. FROGGATT (612), *Chalcididae*, 2 spp. n. KIEFFER (841), *Epyris* n. sp., *Bethylinae* n. g. KONOW (885), Australia and Tasmania, *Tenthredinidae*, 3 spp. n. MAYR (1017), n. g. *Perilampides*. PERKINS (1150), Queensland, *Dryinidae* gen. and spp. n. PERKINS (1154), Queensland, *Mymaridae* and *Proctotrypidae* n. gen., n. spp. SZÉPLIGETI (1466), *Braconidae*, many spp. n.
- Lepidoptera*. BASTELBERGER (93), Cooktown, *Dysphania* sp. n. BETHUNE-BAKER (109), *Ogyris* monograph, 1 sp. n. HAMPSON (715), *Hadeninae* n. sp. HAMPSON (717), *Giawra* n. sp. LOWER (980), Austral. and Tasm., *Pyralidae* and *Tineidae*, 27 spp. n. LOWER (981), Austr. and Tasm., *Bombyces*, *Noct.*, *Geometr.*, *Pyral.*, 14 spp. n. LYELL, Victoria, *Ogyris genoveva*, Victorian Natural. xxi, p. 166. MEYRICK (1041), Tasmania, *Dryadula* sp. n. PERKINS (1151), Queensland n. fam., n. gen., n. spp. SWINHOE (1461), N. S. W., *Anthela* n. sp. TURNER (1509), Austral. and Tasmania, *Pyralidae*, 24 spp. n. WARREN (1574), *Geometridae*, 3 spp. n.
- Diptera*. BRUES (201), *Aphiochaeta*, 3 spp. n. COQUILLET (367), Victoria, *Culex* sp. n. PERKINS (1153), *Pipunculus*, 26 spp. n. TERRY (1475), Queensland, *Baccha*, 2 spp. n. THEOBALD (1476), Queensland, *Sayomyia* n. sp. THEOBALD (1478), *Culicidae*, 1 sp. n. THEOBALD (1481), Queensland, n. g. *Culicidae*.
- Aphaniptera*. RAINBOW (1232), *Ceratophyllus* sp. n., *Ctenopsyllus musculi*. ROTHSCHILD (1301), Tasmania, 2 spp. n. ROTHSCHILD (1302), Tasmania, *Stephanocircus* sp. n.
- Hemiptera*. BERGROTH (97), Queensland, *Pentatomidae*, 5 spp. n. DISTANT (426), *Cicadidae*, 3 spp. n. DISTANT (427), W. Australia, n. g. *Cicadidae*. DISTANT (428), *Homoptera*, 7 spp. n. KIRKALDY (861), Brisbane, *Psyllida* n. g. KIRKALDY (862), *Microneecta*, 2 spp. n. MELICHAR (1030), *Fulgoridae* n. g. SCHMIDT (1332), Queensland, *Ricanoptera* n. sp. SCHMIDT (1333), *Sephena* n. sp. SCHOUTEDEN (1340), *Coleotichus* sp. n. SCHOUTEDEN (1344), Victoria, *Graphosomini*, 2 spp. n. VAN DUZEE (1527), *Pentatomidae*, 13 spp. n.
- Coccidae*. GREEN (689), Victoria *Coccidae*, 5 spp. n. LEONARDI (936), *Mytilaspis* n. sp.
- Trichoptera*. ULMER (1518), *Macronema* n. sp.
- Thysanura*. ESCHERICH (525), *Acrotelsa* n. sp. FROGGATT, P. Linn. Soc. N. S. Wales xxx, p. 259, novelties.
- Orthoptera*. BOLFVÅR (130), Rockhampton, *Atractomorpha* sp. n. BURR (219), *Gonolabis* sp. n. LEA (927), Tasmania, *Acrophylla* n. sp. REHN (1237), Queensland, *Labia* n. sp. TEPPER (1473), Centr. Austral., *Mantidae* sp. n., *Phasmidae* 6 spp. n.

9. NORTH AMERICA. For Bahamas and Bermudas see  
11. Antilles.

*Insecta*. ALFKEN (16), California, *Hym.* and *Lep.* and flowers visited. COCKLE, Canad. Ent. 1905, pp. 263, 264, Brit. Columbia, hibernating specimens. COCKERELL (350), Colorado, *Col.*, *Coccidae*, *Apidae*, novelties etc. GODMAN (670). LAURENT (920), Utah and Colorado trip. ENGELHARDT, Utah trip, Ent. News Philad. xvi, p. 91. LONGLEY,

pp. 125-127, Ent. News Philad. xvi, Chicago list. SHERMAN & BRIMLEY, N. Carolina expedition, J. E. Mitchell Soc. xx, pp. 134-136; captures, iid. t. c. pp. 141-144.

*Coleoptera.* BERNHAUER (103), *Borboropora* n. sp. BERNHAUER (105), California, *Aleocharides*, 8 spp. n. CASEY (285), *Pæderini* n. genn., n. spp. CASEY (286), *Cychnus* n. sp., *Cryptophilus* etc., *Vanonus*, 2 spp. n. CHAGNON, Ent. News Philad. xvi, pp. 35, 36, Canadian *Cerambycidae*, 44 spp. CHITTENDEN (307), *Sphenophorus*, 10 spp. n. CHITTENDEN (308), *Sphenophorus*, 13 spp. n. FALL (538), Revision of *Ptinide*, numerous n. spp., n. genn. FALL (539), California, *Dystasia* sp. n. FALL (540), *Aphodius*, 2 spp. n. FALL (541), *Tachycellus* and *Glycerius*, 5 spp. n. FALL (542), *Buprest.*, *Elater.*, *Dynast.*, *Ceton.*, *Long.*, n. spp. HOUGHTON, Ent. News Philad. xvi, pp. 50, 51, Summit of Mt. Seward, list. HOUGHTON, Ent. News Philad. pp. 210-213, Delaware at light. KEEN, Canad. Ent. 1905, pp. 297, 298, North Brit. Columbia, list. KNAB (870), Illinois, *Donacia* n. sp. KNAB, Ent. News Philad. xvi, p. 230, *Galeruca pomonæ*. KNAUS, Canad. Ent. 1905, pp. 348-352, Texas, list. OHAUS (1117), Florida, *Strigoderma* n. sp. PIC (1192), Mariposa, *Vrilleta* n. sp. SCHAEFFER (1323), N. Am. incl. Lower California, *Scydmaen.*, *Pselaph.*, *Parnidae*, *Buprest.*, *Cerambyc.*, *Chrysomel.*, *Meloidæ*, *Curculionidae* spp. n. SCHAEFFER (1324), novelties, n. spp. *Coccinellidæ*, *Erotylidæ*, *Nitid.*, *Buprest.*, *Clerid.*, *Melolonth.*, *Ceram.*, *Chrysomel.*, *Lagriidæ*, *Cistel.*, *Curc.* SCHAEFFER (1326), *Statira*, 2 spp. n. SKINNER (1408), Arizona, *Plusiotis*, *Cleridæ*, *Ceram.* spp. n. SLOSSON, Ent. News Philad. xvi, pp. 67-71, Biscayne Bay, just one log. WEBB (1592), Washington, *Desmocerus* n. sp. WICKHAM (1629), *Cotalpa* n. sp. WICKHAM (1630), *Cicind.*, *Aphodius*, *Gyascutus*, *Hydnocera*, *Zonitis*, *Elaphidion* sp. n.

*Hymenoptera.* ANDRÉ (25), Arizona, *Rhoptromutilla* sp. n. BAKER (65), California and Nevada, *Odontophotopsis*, 5 spp. n. BAKER (66), *Photopsis* and *Chyphotés*, 13 spp. n. BRADLEY (166), Washington, *Deraidontus* n. sp. BRADLEY (168), *Cenocephus*, 2 spp. n. BRADLEY (169), New York, *Ropronia* n. sp. BRUES (199), *Proctotrypidæ*, 6 spp. n. CAMERON (274), Nevada and California, *Paratryphia*, 6 spp. n. CAMERON (275), California and Nevada, *Eumen.* and *Vesp.*, 6 spp. n., *Ichneumon.*, 10 spp. n., *Brasema* sp. n. COCKERELL (324), *Apidæ*, 4 spp. n., *Proctotrypes* sp. n. COCKERELL (325), Rocky Mts., *Melissodes*, 9 spp. n. COCKERELL (326), *Apidæ*, 3 spp. n. COCKERELL (333), Colorado, *Apidæ*, 3 spp. n. COCKERELL (337), New Mexico and California, *Apidæ*, 3 spp. n. COCKERELL (339), Colorado, *Apidæ*, 3 spp. n. COCKERELL (340), Texas, *Perdita* n. sp. COCKERELL (342), *Diadasia*, 1 n. sp. COCKERELL (343), Wisconsin, *Nomada*, 2 spp. n. COCKERELL (344), Texas, *Apidæ*, 3 spp. n. COCKERELL (345), California, 6 spp. n., *Andrena* and *Osmia*. COCKERELL (347), Arizona and New Mexico, *Melissodes*, 8 spp. n. COCKERELL (348), S. California, *Apidæ*, numerous n. spp. COCKERELL (349), *Apidæ*, 9 spp. n. COCKERELL, *Psyche* xii, p. 90, *Bombus medius* not N. American. GIRAULT (662), *Anaphes* n. sp. GIRAULT (663), *Paracentrobia*, *Gonatocerus*, from *Anthonomus* eggs, sp. n. GIRAULT (668), *Myrmaridæ*, 2 spp. n. KIEFFER (847), *Gasteruption*, *Callirhytis*, 9 spp. n. KOHL (875), S. America, specially Chile, *Odynerus* and *Fossoria*, 18 spp. n. KONOW (884), Oran, *Emphytus* n. sp. KRIEGER (895), *Neotheronia* sp. n. LOVELL (977), Maine, *Halictus*, 4 spp. n. LOVELL (978), Maine, *Halictus*, 3 spp. n. LOVELL & COCKERELL (979), Maine, *Nomada*, 2 spp. n. NASON, Ent. News Philad. xvi, pp. 145-152, 168-172, Algonquin, Illinois, *Ichneumonidæ*, extensive list. NASON, II *Alysiidæ*, *Braconidæ*, t. c. pp. 293, 298. PERKINS (1150), *Dryinidæ* spp. n. ROBERTSON (1284), Illinois, *Apidæ*, 5 spp. n. SWENK (1457), *Colletes*, 3 spp. n. TITUS

- (1497), *Megachile* sp. n. TITUS (1497), *Anthidium*, 2 spp. n. VIERECK (1549), Oregon etc., *Apidae*, 3 spp. n. WHEELER (1621), *Formica* 5 spp. n. WHEELER (1624), New Jersey, *Formicidae*, Catalogue, 2 spp. n. WHEELER (1628), Mt. Washington, *Formicidae*.
- Lepidoptera*. BARNES (77), 5 spp. n. BROOKS, Ent. News Philad. xvi, p. 85, West Virginia Mountain *Rhopalocera*. BRUES, Ent. News Philad. xvi, p. 11, *Eubagis dionis*. DIETZ (419), *Amydriinae* and *Tineinae*, many spp. n. and genn. n. DIETZ (419), n. spp. DOD, Alberta, list, *Noctuidae* cont. from 1904, Canad. Ent. 1905, pp. 17-28. DYAR (472), Arizona, *Limacodidae*, 2 spp. n. DYAR (474), *Pyralidae*, 18 spp. n., *Tephroclystia* n. sp. DYAR (482), *Amblyscirtes* and *Megathymus* n. sp. DYAR (483), Nevada, *Oncocnemis* n. sp. ENGEL (517), *Xyline* n. sp. ENGEL (516), Pennsylvania, autumn and winter collecting. FERNALD (555), *Proctocera* n. sp. FERNALD (556), *Tortricidae*, 3 spp. n. GIBSON, Ottawa *Sthenopsis thule*, Ottawa Natural. xix, pp. 117, 118. GIBSON, Canad. Ent. 1905, p. 88, *Simaethis fabriciana*, novelty. GRINNELL (697), California, *Satyryx*, *Thanaos* n. sp. GRINNELL (698), California, *Lycæna* n. sp. GRINNELL, Ent. News Philad. xvi, pp. 134-137, butterflies of Mt. Wilson, S. California, 58 spp. HAMPSON (715), *Hadeninae* n. spp. HAMPSON (717), Florida, *Entelia* n. sp. HEATH, Canad. Ent. 1905, pp. 191, 192, Manitoba, season 1904. HEINDEL (735), *Acleris* n. sp. in gale of *Rhabdophaga*. KEARFOTT (829), *Polychrosis*, 3 spp. n. KEARFOTT (830), N. Carolina, *Tortricidae*, 9 spp. n. KEARFOTT (831), Assiniboia, *Pyralidae*, *Tortricidae*, *Tineidae* n. spp. KEARFOTT (832), *Tortricidae*, 3 spp. n. KEARFOTT (833), Ontario, *Aristotelia* sp. n. KEARFOTT, Canad. Ent. 1905, pp. 205-208, 253-256, 293-296, Manitoba, *Microlepidoptera* list. LYMAN (997), Canada, *Gortyna*, 2 spp. n. MCINTOSH, New Brunswick supplementary list, Bull. Soc. N. Brunswick xliii, pp. 355-357. MURTFELDT (1031), Minnesota, *Bucculatrix* n. sp. NASON, Ent. News Philad. xvi, pp. 1, 2, Illinois, *Pyral.*, *Tort.*, *Tin.*, short list. PEARSALL (1142), *Euchoeca* n. sp. SCHAEFFER (1325), Huachuca Mts., *Bombyces* list. SHAW, S. A., Ent. News Philad. xvi, pp. 323-327, Hampton, New Hampshire *Microlepidoptera*. SKINNER (1406), Arizona, *Crinodes* n. sp. SKINNER (1407), Arizona, *Megathymus* n. sp. SMITH (1415), *Noctuidae*, 10 spp. n. SMITH (1416), *Noctuidae* n. spp. SMITH (1417), *Noctuidae*, 35 spp. n. SOUTHER, Psyche xii, p. 96, Massachusetts, *Catocala*. WARREN (1572), Vancouver, *Sericosema* n. sp. WILLIAMS & GRINNELL (1633), Mt. Diablo, *Meliclectria* sp. n. WINN, Canad. Ent. 1905, p. 61, *Pieris brassicae*. WRIGHT (1643), California, *Rhopalocera*, illustrated work.
- Diptera*. ADAMS (6), *Oscinis*, 4 spp. n. ALDRICH (14), General catalogue. ALDRICH (15), *Dolichopidae*, 10 spp. n. BAKER (61), California and Nevada, various families, 30 spp. n. BUENO, Ent. News Philad. xvi, p. 83, Kansas, *Mixogaster breviventris*. Washington, *Chironomidae*, COCKERELL, p. 236, Entomologist 1905. COQUILLET (366), *Nematocera*, 24 spp. n.; also *Ceratopogon*, 18 spp. n. COQUILLET (369), New Mexico, *Limnophila* n. sp. DAECKE (386), New Jersey, *Chrysops*, 2 spp. n. DYAR (480), *Culex* n. sp. DYAR (481), *Culicidae*, novelty and some new localities. FELT (554), *Culex* n. sp. GROSSBECK (701), New Jersey, *Culex*, 2 spp. n. HERRICK, Ent. News Philad. xvi, pp. 281-283, Mississippi, *Culicidae*. HINE (749), *Chrysops* n. sp. JOHANNSEN (820), Aquatic *Chironomidae*, monograph, 38 n. spp. JOHNSON (821), N. Carolina, *Bittacomorpha* n. sp. LUDLOW (985), California, *Teniorhynchus* n. sp. LUDLOW (986), Illinois, *Finlaya* sp. n. MCINTOSH (1020), New Brunswick, list. MOODIE (1061), Wyoming, *Syrphidae*, Arizona, *Milesia* n. sp. SWENK (1456), *Cuterebra*, 3 spp. n. WASHBURN (1577), Minnesota, *Diptera* of.
- Aphaniptera*. BAKER (53), *Ceratopsyllus* n. sp. BAKER (62),

- California, 2 spp. n. ROTHSCHILD (1299), *Ceratophyllus*, 17 spp. n.  
*Hemiptera*. BAKER (56), Nevada, *Gnathodus* n. sp. BAKER (59),  
 California, *Eupteryx* n. sp. BAKER (60), California, *Macropsis* n. sp.  
 BALL (69), *Homoptera*, 7 spp. n. BALL (70), *Phlepsius* etc.,  
 5 spp. n. BRITTON (192), Connecticut, *Aleurodidae* spp. n. BUENO  
 (209), *Notonecta* sp. n. BUENO (210), Georgia, *Hydrometra* n. sp.  
 BUENO (213), *Ranatra* n. sp. COCKERELL (352), Colorado, *Pemphigus*  
 sp. n. COCKERELL (353), Colorado, *Rhopalosiphum nymphaeae*.  
 HEIDEMANN (732), Washington, *Anasa* n. sp. HEIDEMANN (733),  
 Plummer's Id., *Ceratocombidae* n. g. HEIDEMANN (734), N. York,  
*Capsidae*, 1 sp. n. OSBORN (1125), *Fulgoridae*, 5 spp. n. OSBORN  
 (1126), Ohio, novelties, n. spp. SCHOUTEDEN (1344), Colorado,  
*Graphosomini* n. g. SHERMAN, Ent. News Philad. xvi, pp. 7, 8, North  
 Carolina, *Aradidae*. UHLER (1515), Arizona, *Cicada* sp. n.  
*Coccidae*. COCKERELL (354), Colorado, 3 spp. n. COCKERELL (355),  
 Colorado, *Pulvinaria* n. sp. COCKERELL (357), New Mexico, *Tachardia*  
 n. sp. YORK (1647), Ohio, *Aspidiotus* n. sp.  
*Trichoptera*. MORTON (1075), New York, *Hydroptilidae*, 12 spp. n.  
 ULMER (1518A), 4 spp. n.  
*Neuroptera*. BAKER (64), California, *Pelta* n. sp., Nevada, *Berotha*  
 n. sp. BANKS (71), N. Carolina, *Trichoptera*, *Panorpidae*, *Perlidae*  
 spp. n. CURRIE (383), Texas, *Brachynemurus* sp. n. NEEDHAM  
 (1092), *Micromus* n. sp.  
*Perlidae*. BANKS (73), 3 spp. n. NEEDHAM (1089), New York, n. g.  
*Perlidae*.  
*Psocidae*. RIBAGA (1264), California n. g.  
*Termitidae*. DESNEUX (401), *Termes* n. spp.  
*Ephemeridae*. NEEDHAM (1093), Revision with 5 spp. n.  
*Odonata*. OSBURN (1127), Brit. Columbia, annotated catalogue.  
 WILLIAMSON, Rockcastle Riv., *Odonata*, Ohio Natural. v, pp. 309, 310.  
 CURRIE, Kootenay district, Brit. Columbia, P. ent. Soc. Washington vii,  
 pp. 16-20.  
*Thysanoptera*. HINDS (748), Florida, *Euthrips* sp. n.  
*Thysanura*. ESCHERICH (525), Texas, *Atelura* sp. n. SILVESTRI  
 (1397), Texas, *Nicoletia*, 2 spp. n.  
*Collembola*. FRANKLIN (597), *Entomobrya* sp. n.  
*Orthoptera*. BAKER (63), Western side, list, *Aecanthus* n. spp.  
 Lower California, *Acrididae*, 3 spp. n., see Centr. Amer., BOLÍVAR.  
 BRUNER (670), *Acrididae* spp. n. CAUDELL (287), Arizona,  
*Forficulidae*, *Acrididae*, 6 spp. n. CAUDELL (289), California, *Melanoplus*,  
*Trimerotropis* n. sp. CAUDELL (290), Kansas, *Amblycorypha* n. sp.  
 CAUDELL (291), Florida, *Aplopus* n. sp. CAUDELL (292), Indiana,  
*Bacunculus* sp. n. CAUDELL (294), S. W. Texas, *Anaplecta*, *Phasmid.*,  
*Acrid.*, 5 spp. n. CAUDELL, Ent. News xvi, pp. 216-219, Florida,  
 annotated list. DAVIS (390), New Jersey, *Orchelimum*, *Conocephalus*,  
 n. sp. REHN & HEBARD (1242), Florida, *Acrididae* 2 spp. n., *Locustidae*  
 4 spp. n., *Gryllidae* sp. n. STEVENSON, Ent. News Philad. xvi, p. 98,  
 Montreal, *Blattidae*. WALKER (1562), Ontario, *Locustidae*, *Ceuthophilus*  
 sp. n.

#### 10. CENTRAL AMERICA (MEXICO to PANAMA incl.).

- Coleoptera*. BERNHAUER (103), Mexico, *Lispinus* n. sp. BERNHAUER  
 (104), Costa Rica, *Brachydirus* sp. n. CASEY (285), incl. Lower  
 California, *Paderini* n. gen., n. spp. CASEY (286), Chihuahua,  
*Carabus* n. sp. CHAMPION (670), *Curculionidae*, *Cryptorhynchids*, many  
 novelties. FALL (538), Lower California, *Ptinidae* n. spp. FAUVEL  
 (546), *Oxytelus* sp. n. HOPKINS (758), Mexico, *Scolytidae*, 10 spp. n.

- LÉVEILLÉ (947), Mexico, *Corticotomus* sp. n. OHAUS (1117), *Rutelidae*, 7 spp. n. PANGELLA (1135), Costa Rica, *Passalidae*, 3 spp. n. PIC (1188), Mexico, *Eupactus* n. sp. SHARP (670), *Chelonarium*, 4 spp. n., *Rhipidandrus*, 2 spp. n. WATERHOUSE (1590), Mexico, *Halicta* sp. n. WEISE (1600), Mexican *Hispida*, list of, with 5 spp. n. ZANG (1665), *Passalidae*, 2 spp. n. ZANG (1667), Chiapas, *Proculus* n. sp. Lower California, see N. Amer. Col., SCHAEFFER.
- Hymenoptera*. ANDRÉ (25), *Rhoptromutilla* n. sp. BRUES (199), Mexico, *Anteon* n. sp. CAMERON (242), Panama, n. g. *Larridae*. CAMERON (250), Mexico, *Masaridae*, *Fossoria*, *Ichn.*, *Bracon.*, *Oxyura*, 30 spp. n. CAMERON (251), Mexico, *Fossoria*, 8 spp. n., *Odynerus* and *Agrypus* n. sp., *Braconidae*, 5 spp. n., *Heptamerocera* sp. n. CAMERON (252), Mexico, *Odynerus*, 4 spp. n. CAMERON (272), *Fossoria*, *Ichneumon.*, *Bracon.*, *Proctotryp.*, *Chalcid.*, 52 spp. n. CAMERON (273), Nicaragua, *Mutillidae*, *Tiphidae*, *Eumenidae*, *Ichneumonidae*, 8 spp. n. COCKERELL (324), Mexico, *Prosopis* sp. n. COCKERELL (341), Oaxaca, *Triepeolus* n. sp. EMERY (494), Costa Rica, *Camponotus* sp. n. KIEFFER (841), Costa Rica, n. g. *Diapriinae*. KRIEGER (895), *Neotheronia* sp. n. MAYR (1017), Mexico, *Andricus* sp. n. MOCSARY (1055), Costa Rica, *Rhyssa* 3 spp. n. PÉREZ (1147), Mexico, *Centris*, *Celiioxys* spp. n. SZÉPLIGETI (1465), Costa Rica, n. g. *Ophiorhinae*.
- Lepidoptera*. DOGNIN (438), Costa Rica, *Nacoleia* n. sp. DOGNIN (439), San Salvador, *Dasylophia* n. sp. DOGNIN (442), San Salvador, *Adelocephala* n. sp. DYAR (472), *Limacodidae*, 7 spp. n. HALL, *Rhopalocera*, Entomologist 1905, pp. 228-231. HAMPSON (715), *Hadeninae* n. sp. HAMPSON (716), *Isanthrene* sp. n. HAMPSON (717), Panama, *Ingwa* n. sp. and n. g. *Noctuidae*. PACKARD (1131), Jalapa, *Adelocephala* sp. n. SCHAUS (1329), *Bombyces*, Mexico, 8 spp. n., Panama, 2 spp. n., Costa Rica, 1 sp. n. STICHEL & RIFFARTH (1452), *Heliconiidae*, localities. THIEME (1490), Mexico, *Pedaliodes* sp. n. WARREN (1571), *Erosia* sp. n. and *Geometridae*, 3 spp. n. WARREN (1572), *Epiplem.*, 2 spp. n., *Geometrid.* many spp. n.
- Diptera*. ALDRICH (14), General Catalogue. COQUILLET (366), Mexico, *Ceratopogon*, 2 spp. n. COQUILLET (371), Mexico and Costa Rica, *Culicidae*, 3 spp. n. HINE (749), Guatemala, *Chrysops*, 3 spp. n.
- Hemiptera*. BAKER (56), Guatemala and Nicaragua, *Eugnathodus*, 5 spp. n. BAKER (58), Nicaragua, *Erythria*, 4 spp. n. BAKER (58), Nicaragua, *Typhlocybini* n. g. BAKER (59), *Typhlocybini*, 11 spp. n. BAKER (60), Nicaragua, *Macropsis* n. sp. BREDDIN (184), Costa Rica, *Edessa* n. sp. FOWLER (670), *Issidae*, *Dephacidae*, spp. n. KIRKALDY (861), Mexico, *Trioza* n. sp.
- Trichoptera*. ULMER (1518), Mexico, *Hydropsyche* sp. n. ULMER (1518A), Mexico, *Wormaldia* n. sp.
- Neuroptera*. BAKER (64), Nicaragua, *Megalomus* n. sp.
- Odonata*. WILLIAMSON (1635), Account of trip.
- Orthoptera*. BAKER (63), Nicaragua, *Bostra* and *Cyrtorhiza* n. sp., *Oecanthus* n. sp., *Heterocois* (sic) n. sp. BOLÍVAR (130), Lower California, *Orthacrinae*, 3 spp. n. BRUNER (206), Costa Rica, *Proscopidae*, 2 genn. n. BRUNER (670), *Acridiidae* spp. n. BURR (219), Guatemala, *Forficula* sp. n. REHN (1238), Costa Rica, *Acridiidae*, 18 spp. n. REHN (1239), Costa Rica, list with *Blattidae*, *Phasmidae*, *Locustidae*, *Gryllidae* n. spp.

11. ANTILLES, including BERMUDAS, BAHAMAS, BARBADOS.  
For Trinidad see 12.

- Coleoptera*. BERNHAUER (103), Grenada, *Thinobius*, *Parosus* n. sp. OHAUS (1117), S. Domingo, *Pelidnota* n. sp. PIC (1175), Gaudeloupe,

*Petalium* sp. n. PIC (1182), Cuba, *Eupactus* n. sp. PIC (1192), Guadeloupe, n. g. *Dorcatomini*. SCHAUFUSS (1328), Guadeloupe, *Stephanoderes* sp. n.

*Hymenoptera*. WHEELER (1620), Bahamas and Antilles, *Formicidae*, lists, n. spp.

*Lepidoptera*. DRUCE (456), Cuba, *Perrhanæa* sp. n. HAMPSON (715), Jamaica, *Hadenine* n. sp. HAMPSON (716), Jamaica, *Napata* n. sp., *Eucereon* n. sp., Cuba, *Cincia* n. sp. HAMPSON (717), Cuba, *Eutelia* n. sp. SCHAUS (1329), Cuba, *Robinsonia*, Jamaica, *Tolype* sp. n. WARREN (1568), Grenada, *Hemioplisis* sp. n. WARREN (1572), *Geometridæ* n. spp.

*Diptera*. ALDRICH (14), General Catalogue. COQUILLET (366), Cuba, *Ceratopogon* sp. n. COQUILLET (368), Barbados, *Cecidom.* n. sp. COQUILLET (370), Cuba, *Thelairoides* n. sp. COQUILLET (371), Cuba, S. Domingo, St. Thomas, Guadeloupe, *Culicidae*, 4 spp. n. GRABHAM (684), Jamaica, *Culicidae* spp. n. JOHANNSEN (820), St. Vincent, *Chironomus* sp. n. LUDLOW (986), Porto Rico, *Culex* sp. n. THEOBALD (1484), Jamaica, Handbook of *Culicidae*, 1 sp. n.

*Thysanura*. ESCHERICH (525), *Acrotelsa* n. sp.

*Orthoptera*. CAUDELL (293), Porto Rico, *Ischnoptera* n. sp. MORSE (1072), Bahamas, *Acridiidae*, *Locustidae*, *Gryllidae*, 6 spp. n. REHN (1237), Cuba, *Forficula* n. sp. REHN (1241), Lesser Antilles incl. Barbados, novelties, *Orphulella* sp. n.

## 12. SOUTH AMERICA, including TRINIDAD.

*Coleoptera*. BERNHAUER (103), *Staphylinidae*, 7 spp. n. BERNHAUER (104), *Staphylinidae*, 17 spp. n. BOURGEOIS (151), Ecuador, *Lycide*, 1 sp. n. BRÈTHES (188), Tucumán, *Cyclocephala*, 2 spp. n. BRÈTHES (190), *Lathridiidae* n. g. FAIRMAIRE (535), Argentina, *Heteromera*, 39 spp. n. FAUVEL (545), Argentina, n. tribe *Staphyl.* FAUVEL (546), *Staphylinidae* spp. n. GOUNELLE (679), Tucuman, *Coremia* n. sp. GOUNELLE (680), GOYAZ, *Parozodes* sp. n. HAGEDORN (713), Northern S. America, *Scolytidae*, 8 spp. n. HORN (762), *Tetracha* n. sp. HORN (765), Peru, *Odontochila* sp. n. HORN (772), Amazonas, *Tetracha* n. sp. *Odontochila* n. sp. KERREMANS (835), GOYAZ, *Buprestidae* n. g. LÉVEILLÉ (957), *Trogositidae*, 11 spp. n. LÉVEILLÉ (948) *Trogositidae*, 2 spp. n. LÉVEILLÉ (949), Brazil, *Lophocateres* sp. n. LEWIS (954), *Omalodes*, 2 spp. n. LEWIS (954), Bahia, *Histeridae* n. g. MOSER (1076), Bolivia, *Blesia* n. sp. OHAUS (1116), Chile and Ecuador, *Apoplognathides*, 4 spp. n. OHAUS (1117), *Rutelidae*, 39 spp. n. OHAUS (1118), *Spodochlamys*, 4 spp. n., *Anatista* sp. n. OLIVIER (1122), *Macrolampis*, 9 spp. n. OLIVIER (1123), Bolivia, Brazil, *Photuris*, 3 spp. n. PANGELLA (1136), Paraguay and Argentina, *Passalidae*, 4 spp. n. PIC (1170), Peru, *Anthicus*, 3 spp. n. PIC (1175), Brazil, *Petalium* n. sp. PIC (1176), Brazil, *Hylophilus* 7 spp. n. PIC (1182), *Astylus*, *Cathorama*, *Priotoma* n. sp. PIC (1188), *Priotoma* n. sp., *Lanathanus* n. sp. SPAETH (1430), *Cassididae*, 14 spp. n. STIERLIN, Ann. Soc. ent. Belgique 1905, p. 140, S. Patagonia, *Otiorrhynchus antarcticus*. THERY (1489), Guyaquil, *Ectinogonia* sp. n. VACHAL (1526), Chile, *Apidae* n. g. WATERHOUSE (1590), *Buprestidae*, 6 spp. n. WEISE (1609), Bolivia, n. g. *Cassididae*. ZANG (1665), Peru and Bolivia, *Passalidae*, 2 spp. n. ZANG (1667), Venezuela, *Verres* n. sp.

*Hymenoptera*. ANDRÉ (25), *Mutillidae*, 7 spp. n. BRAUNS (176), Brazil, *Mesostenus*, 2 spp. n. BRÈTHES (187), La Plata, *Ichnemouidae*, 4 spp. n., *Tetrastichus* n. sp. BRÈTHES (188), Tucumán, *Iphiaulax*



- n. sp. BUYSSON (230), *Odynerus* sp. n. BUYSSON (231), Bahia, *Charterginus* sp. n. CAMERON (251), *Iphiaulax*, *Agathis*, 6 spp. n.
- COCKERELL (332), Ega, *Augochlora* sp. n. DUCKE (460), Pará, *Cleptes*, 2 spp. n. DUCKE (461), Social *Vespidæ*, n. genn., n. spp. DUCKE (462), Lower Amazons, *Zethus*, 3 spp. n. DUCKE (463), Obydos, *Melissa* sp. n. EMERY (493), Ecuador, *Ectatomma* sp. n. EMERY (494), *Camponotus*, 9 spp. n. ENDERLEIN (499), *Braconidæ*, 4 spp. n.
- ENDERLEIN (502), Peru and Bolivia, *Evanidæ*, 8 spp. n. FOREL (591), *Formicidæ*, 8 spp. n. FRIESE (605), Chile, *Megachile* and *Celiomyz*, 10 spp. n. IHERING (800), Brazil, *Vespidæ*, monograph, 3 spp. n.
- KIEFFER (841), Brazil n. g. *Dryinæ*. KONOW (884), S. Am. incl. Chile, *Tenthredinidæ*, 6 spp. n. KRIEGER (895), *Neotheronia*, 42 spp. n.
- MOCSÁRY (1055), *Rhyssa*, 7 spp. n. SCHROTTKY (1350), Argentina, Uruguay, Paraguay, Catalogue. SCHROTTKY (1351), Paraguay, *Apidæ*, 5 spp. n. SCHULZ (1359), *Trigonalidæ*, *Diptoptera*, *Meliponides* n. spp. SZÉPLIGETI (1465), *Ophioninæ*, 3 spp. n.
- Lepidoptera*. CLARK (321), Venezuela, Margarita isld., *Rhopalocera*. DOGNIN (438), *Pyralidæ*, *Tortricidæ*, *Tineidæ*, 61 spp. n. DOGNIN (439), *Notodont.*, 3 spp. n., *Cossidæ*, 2 spp. n., *Lasiocamp.*, 3 spp. n.
- DOGNIN (440), Peru, *Eucereon*, *Ctenucha*, *Cymbalophora*, *Saturnia*, sp. n. DOGNIN (441), Peru and Colombia, *Hydrias*, *Perophora*, *Edebeessa* spp. n. DOGNIN (442), Argentina, *Adelocephala* n. sp. DRUCE (453), *Noctuidæ*, 10 spp. n. DRUCE (454), Venezuela and Peru, *Syntomidæ*, *Arctidæ*, 26 spp. n. DRUCE (455), N. W. S. Amer., *Notodontidæ*, 7 spp. n. DYAR (472), *Limacodidæ*, n. genn., n. spp. GODMAN (671), *Satyridæ*, 13 spp. n. HAENSCH (712), new *Ithomiinæ*. HAMPSON (715), Brazil, Patagonia etc., *Hadeninæ* n. spp. HAMPSON (716), third Suppl. to Cat. Lep. Phal., many spp. n., *Syntom.*, *Arct.*, *Noct.* HAMPSON (717), *Noctuidæ* n. spp. HAMPSON (718), Amazons, n. g. *Chrysauginæ*.
- KAYE (828), Brit. Guiana, *Napeogenes* and *Hyrmina* sp. n.
- ROTHSCHILD (1305), Bolivia, *Papilio* sp. n. SCHAUS (1329), *Bombyces*, about 400 n. spp. STICHEL & RIFFARTH (1452), *Heliconiidæ*, localities.
- THIEME (1490), *Pedaliodes*, 40 spp. n. THIERRY-MIEG (1493), *Geometridæ*, 7 n. spp., *Noctuidæ* n. g. WARREN (1568), Guiana, *Thyrididæ*, 8 spp. n. WARREN (1571), chiefly Peru, *Geometridæ*, *Uran.*, *Thyrid.*, 68 spp. n. WARREN (1572), *Thyrid.* sp. n., *Epiplemid.*, 3 spp. n., *Geometrid.* many spp. n. WEEKS (1594), Bolivia, lists, *Rhopalocera*, account of trip.
- Diptera*. ALDRICH (15), Brazil, *Psilopodinus*, 2 spp. n. BECKER (89), Ile des États, n. g. *Ephydridæ*. BEZZI (114), *Empidæ*, catalogue, many spp. n. BRÈTHES (188), Tucuman, *Leptogaster* n. g., *Asilidæ*, *Baccha*, *Euxesta* n. sp. BRUES (200), Peru, *Phoridæ*, 5 spp. n. COQUILLET (371), Trinidad, *Culicidæ*, 2 spp. n. GOELDI (672), Brazil, *Chironomus* n. spp., *Hæmatomyidium* n. g., *Simulium* n. sp. HOLMGREN (756), Peru, *Termitomastidæ*, 2 spp. n. RIBEIRO (1265), Minas Geraes, *Nycteribidæ* n. g. RÜBSAAMEN (1316), Brazil and Peru, *Cecid.*, galls etc., etc., n. spp.
- SPEISER (1437), *Lipoptena* sp. n. THEOBALD (1477), *Culicidæ*, 2 spp. n. THEOBALD (1478), Brit. Guiana, *Culicidæ*, 2 spp. n.
- Aphaniptera*. ENDERLEIN (508), Argentina, *Malacopsylla* n. sp.
- ROTHSCHILD (1301), Brazil, *Pulex* sp. n.
- Hemiptera*. SCHMIDT (1333), *Fulgoridæ*, 3 spp. n. SCHMIDT (1332), Ecuador, *Sassula* n. sp. BRÈTHES (188), Tucumán, *Jassus* n. sp.
- BREDDIN (184), *Pentat.*, 9 spp. n. BERGROTH (99), *Coreid.*, *Reduv.*, 5 spp. n. MONTANDON (1058), *Ranatra*, 3 spp. n. MONTANDON (1059), *Cryptocerata*, 3 spp. n. KIRKALDY (859), Peru, *Tingidæ*, 3 spp. n. JACOBI (807), Peru, *Jassidæ*, 50 spp. n. HORVÁTH (774), Peru, *Parajalysus*, 2 spp. n. DISTANT (429), Argentina, n. g. *Tibicininæ*. DISTANT (427), Rio Salado, *Derotettix* n. sp. DISTANT (426), Peru and

- Chile, *Cicadidae*, 2 spp. n. DISTANT (424), *Cicadidae*, 2 spp. n.  
 DISTANT (423), *Cicadidae*, 9 spp. n. DISTANT (430), Bolivia, *Fulgoridae*,  
 2 spp. n. DISTANT (425), Peru and Bolivia, *Cicadidae*, 3 spp. n.  
*Coccidae*. COCKERELL, Paraguay, *Lecanium perlatum*, Nature lxxii,  
 p. 397. COCKERELL (338), Paraguay and Chile, *Coccidae*, 3 spp. n.  
*Trichoptera*. ULMER (1517), 26 n. spp. ULMER (1518 A), 11 n. spp.  
 ULMER (1518), Patagonia, *Limnophilus*, n. sp.  
*Perlidae*. ENDERLEIN (504), Tierra del Fuego, 3 n. spp.  
*Psocida*. ENDERLEIN (497), Argentina, n. g. aff. *Troctes*.  
*Odonata*. FÖRSTER (595), Paraguay, *Libellulidae*, 3 spp. n. NEEDHAM  
 (1090), Brazil, n. g. *Libellulinae*.  
*Thysanura*. ESCHERICH (525), Colombia and Blanquille, *Lepismatidae*,  
 2 spp. n. SILVESTRI (1394), Chile, *Thysanura*, 3 spp. n. SILVESTRI  
 (1397), Venezuela, *Nicoletia* n. sp.  
*Orthoptera*. BOLÍVAR (128), Myrmecophilous *Blattidae*, n. genn., n. spp.  
 BOLÍVAR (130), Pernambuco, n. g. *Atractomorphinae*. BORELLI (145),  
 Paraguay, *Forficulidae*, 5 spp. n. BRUNER (205), Paraguay, *Acridiidae*,  
 2 spp. n. BURR (219), *Forficulidae*, 2 spp. n. REHN (1237), Peru  
 and Colombia, *Forficulidae*, 3 spp. n. REHN (1240), Paraguay, n. g.  
*Acridiidae*.

#### PALÆO-ENTOMOLOGY.

- Table of the periods of first appearance of fossils, HANDLIRSCH (723).  
 Insects in copal, extraction of, their state of preservation, PROWAZEK  
 (1219).  
*Diptera* and *Hymenoptera* from Madagascar Copal, see MEUNIER (1040)  
 and Systematic.  
 Monograph of *Psychodidae* in Baltic amber, MEUNIER, Ann. Mus. Hungar.  
 iii, pp. 235-255, pls. vi, vii.

#### *Coleoptera*.

- ZANG, in SB. Ges. naturf. Berlin, 1905, describes the following *Col.* from  
 Baltic amber.  
*Platycerus berendti*, p. 199, pl. f. 1, n. sp.  
*Aphodius succini*, p. 204, pl. f. 5, n. sp.  
*Pogonochærus jackeli*, p. 233, pl. f. 5, n. sp.  
*Nothorrhina granulicollis*, p. 236, pl. f. 1, n. sp.  
*Dorcuschema succineum*, p. 240, pl. f. 6, n. sp.  
*Strangalia berendiana*, p. 243, pl. f. 4, n. sp.  
 Re-examination of Berendt's determinations of *Longicornia* in Baltic  
 amber, ZANG, pp. 232-245, 1 pl., t. c.

#### *Hymenoptera*.

- Dimorphomyrmex theryi*, Baltic amber, EMERY, p. 188, Bull. Soc. ent.  
 France 1905, n. sp.  
*Gonatocerus henneberti*, Baltic amber, MEUNIER, p. 2, Miscell. ent. xiii,  
 n. sp.  
*Limacis armata*, Baltic amber, id. p. 3, t. c. n. sp.

#### *Diptera* (*Cecidomyiidae*).

- Meunieria* n. g. for *Miastor* of amber, KIEFFER, p. 408, Ann. Soc. Bruxelles  
 xxviii.

#### *Diptera* (*Psychodidae*).

- Palæosycorax* n. g. *tertiarie* n. sp., Baltic amber, MEUNIER, p. 50, Miscell.  
 ent. xiii.

*Pericoma formosa*, p. 243, *speciosa*, p. 244, Baltic amber, MEUNIER, t. c. n. spp.

*Psychoda eocenica*, Baltic amber, MEUNIER, p. 246, t. c. n. sp.

*Trichomyia pulchra*, p. 246, *formosula*, *concinna*, p. 247, *decora*, *tenera*, p. 248, *procera*, p. 249, *nova*, *distincta*, p. 250, Baltic amber, MEUNIER, t. c. n. spp.

*Diplonema crassicornis*, Baltic amber, MEUNIER, p. 251, Ann. Mus. Hungar. iii, n. sp.

*Sycorax tumultuosa*, *prompta*, Baltic amber, MEUNIER, p. 253, t. c. n. spp.

*Éatonisca* n. g. *tertiaria* n. sp., Baltic amber, MEUNIER, p. 253, t. c.

*Phlebotomus tipuliformis*, Baltic amber, MEUNIER, p. 254, t. c. n. sp.

### Diptera (*Mycetophilidæ*).

MEUNIER, Ann. Soc. Bruxelles, gives a table of fossil *Mycetophilidæ*, pp. 93-100, and describes the following new forms from Baltic amber :

*Mycetobia calida*, p. 101, t. c. n. sp.

*Macrocera longicornis*, *abundans*, p. 102, *ciliata*, *filiformis*, p. 104, *elegantissima*, p. 105, t. c. n. spp.

*Platyura kunowi*, p. 107, *veralli*, p. 108, *graciosa*, p. 109, *moniliformis*, p. 110, *ectorsii*, p. 111, *mikii*, *distincta*, p. 112, *ceroplatoïdes*, *ceroplatites*, p. 114, t. c. n. spp.

*Asindulum longipalpis*, p. 115, *girschneri*, *curvipalpis*, p. 116, *elegantulus*, p. 117, t. c. n. spp.

*Sciophila helmi*, p. 124, *subquadrata*, *crassicornis*, p. 125, t. c. n. spp.

*Empheria minor*, p. 126, *major*, p. 127, t. c. n. spp.

*Polylepta filipes*, p. 127, t. c. n. sp.

*Ceroplatus major*, p. 183, t. c. n. sp.

*Palæoempalia crassipes*, p. 128, *brongniarti*, *succini*, p. 129, *mutabilis*, *broeckii*, p. 130, *cylindrica*, p. 184, t. c. n. spp.

*Empalia subtriangularis*, p. 131, t. c. n. sp.

*Loewiella indistincta*, *incompleta*, p. 132, *tenebrosa*, *ciliata*, p. 133, *mucronata*, *asinduloides*, p. 134, *empalioides*, p. 135, t. c. n. spp.

*Lasiosoma curvipetiolata*, p. 135, t. c. n. sp.

*Tetragoneura elongatissima*, *elongata*, p. 136, *rectangulata*, *glabra*, p. 137, *borussica*, *gracilis*, p. 138, *minuta*, p. 139, t. c. n. spp.

*Syntemna elongata*, *pinites*, p. 150, *compressa*, p. 151, *subcylindrica*, p. 152, *subquadrata*, *sciophiliformis*, p. 153, t. c. n. spp.

*Palæoannacina* n. g. *curvipetiolata*, p. 154, *distincta*, *affinis*, p. 155, MEUNIER, t. c. n. spp.

*Proanaclina* n. g. *giebeli*, *gibbosa* n. spp., MEUNIER, p. 156, t. c.

*Anacliteia* n. g. *anacliniiformis*, p. 157, *sylvatica*, *gazagnairei*, p. 158, *dissimilis*, p. 159, MEUNIER, t. c. n. spp.

*Palæophthinia* n. g. *aberrans* n. sp., MEUNIER, p. 160, t. c.

*Archaboletina* n. g. *tipuliformis* n. sp., MEUNIER, p. 160, t. c.

*Palæoboletina* n. g. *grandis*, p. 161, *elongatissima*, p. 162, n. spp., MEUNIER, t. c.

*Proboletina* n. g. *syntemniiformis* n. sp., MEUNIER, p. 162, t. c.

*Boletina anacliniiformis*, p. 163, *onstaleti*, *pilosa*, *fimbriata*, p. 164, *hirta*, p. 165, *hirtella*, *subhirta*, p. 166, *conspicua*, *serrata*, p. 167, t. c. n. spp.

*Proneoglyphyoptera* n. g. *eocenica* n. sp., MEUNIER, p. 169, t. c.

*Neoglyphyoptera curvipetiolata*, p. 170, *longipetiolata*, p. 170, *crassipalpis*, *longipalpis*, p. 171, t. c. n. spp.

*Palæodocosia* n. g. *brachypezoides* n. sp., MEUNIER, p. 172, t. c.

*Docosia petiolata*, p. 173, *varia*, *subtilis*, p. 174, t. c. n. spp.

*Allodia fungicola*, *succinea*, p. 175, *separata*, *brevicornis*, p. 176, t. c. n. spp.

*Brachycampta extincta*, p. 177, *antiqua*, *procera*, *tomentosa*, p. 178, t. c. n. spp.

*Palæotrichonta* n. g. *brachycamptites* n. sp., MEUNIER, p. 179, t. c.

- Trichonta brachycamptoides*, p. 179, *crassipes*, p. 180, t. c. n. spp.  
*Phronia ciliata*, t. c. p. 180, n. sp.  
*Palæoepicypta* n. g. *longicalcar* n. sp., MEUNIER, p. 181, t. c.  
*Mycothera cordyliformis*, *agilis*, p. 182, t. c. n. spp.  
*Dynatosoma crassicornis*, p. 172, t. c. n. sp.  
*Azana rarissima*, p. 184, t. c. n. sp.  
*Acnemia bolsiusi*, p. 185, t. c. n. sp.

#### *Diptera (Chironomidae).*

- MEUNIER, in the same work, Ann. Soc. Bruxelles xxviii, describes the following new *Chironomidae* from Baltic amber  
*Chironomus vagabundus*, p. 209, *tenebrosus*, *elegantulus*, p. 210, *umbraticus*, *meticulosus*, p. 211, *umbrosus*, *inglorius*, p. 212, *subobscurus*, *uliginosus*, p. 213, *tenebricosus*, *abietarius*, p. 214, *paludosus*, *uliginosus* (sic), p. 214, *lacunus*, *lacus*, p. 216, t. c. n. spp.  
*Cricotopus crassicornis*, p. 216, *antiquus*, p. 217, *amniculus*, *alluvionis*, p. 218, *pygmaeus*, *delicatus*, p. 219, *robustus*, *permutabilis*, p. 220, *variabilis*, *pulchellus*, p. 221, *ambiguus*, p. 222, *dilapsus*, *abiegnus*, p. 223, *paganus*, *insolitus*, p. 224, *saluosus*, *coniferus*, p. 225, *extinctus*, *nemorivagus*, p. 226, *minutissimus*, *minutus*, p. 227, t. c. n. spp.  
*Tanytarsus insularis*, p. 228, *wulpii*, *maritimus*, p. 229, t. c. n. spp.  
*Eurycnemus vulgaris*, p. 229, *stagnum*, *tenellus*, p. 230, *appendiculatus*, *hyalinus*, *pilosellus*, p. 231, t. c. n. spp.  
*Camptocladus flexuosus*, *sinuosus*, p. 232, t. c. n. spp.  
*Tanypus fusiformis*, p. 233, *porrectus*, *compactus*, p. 234, *subrotundatus*, *eridanus*, p. 235, *longicornis*, *parvus*, p. 236, *filiiformis*, p. 237, t. c. n. spp.  
*Ceratopogon turbinatus*, *unculus*, p. 238, *piriformis*, *prominulus*, p. 239, *eminens*, *defectus*, *speciosus*, p. 240, *flagellus*, p. 241, *elongatus*, *cothurnatus*, p. 242, *lacus*, p. 243, *falcatus*, p. 244, *sinuosus*, *spinus*, p. 245, *forcipiformis*, *obtusus*, *gracilitarsis*, p. 247, t. c. n. spp.

#### *Diptera (Muscidae acal.).*

- Agromyza minuta*, p. 90, *aberrans*, p. 91, Baltic amber, MEUNIER, Ann. Soc. Bruxelles xxix, n. spp.

#### *Psocidae.*

- Amphientomum colpolepis*, p. 577, *leptolepis*, p. 580, Prussian amber, ENDERLEIN, Zool. Anz. xxix, n. spp.

### III. SYSTEMATIC.

N.B.—The reference numbers collected under the headings of the various groups refer to "Titles" on pp. 5-86, and are intended to give, in each case, a complete list of all memoirs containing anything of importance in connection with the group.

Table of affinities of winged Insects, Voss, Zeitschr. wiss. Zool. lxxviii, p. 736.

List of Insects that have been found in copal, MEUNIER, pp. 204-209, Rev. Sci. Bourbonnais 1905.

Introduction to N. American entomology, KELLOG (834): includes some general chapters, e.g. Insects and flowers, Insects and disease, Colour and its uses.

Malpighian tubes, no. of in the Orders, structure and function, VENEZIANI (1536).

## (A.) COLEOPTERA.

- Corrections to Munich Cat. in relation to Klug's nomenclature in Insekten Madagaskar's, GEBIEN (645).  
 Wing-nervures of *Coleoptera*, KEMPERS, Tijdschr. Ent. Verslag, pp. li-lv.  
 Defensive glands, BORDAS (142).  
 Morphology of abdomen ♀, WANDOLLECK (1565).  
 Anomalous larva in *Fucca*, California, BARKER, pp. 117-121, cuts, P. ent. Soc. Washington vii.

## CICINDELIDÆ.

- [Memoirs relating to *Cicindelidæ*: HEATH (731), HORN (762-772), MAINDRON & FLEUTIAUX (1002), SLOANE (1411), WICKHAM (1630).]
- Cicindelidæ* of S. India, habits etc., MAINDRON & FLEUTIAUX, Ann. Soc. ent. France 1905, pp. 1-19.  
 A list of *Cicindelidæ*, with varr. n., HORN (762).  
*Cicindelidæ* of Western France, HOULBERT & MONNOT (785).  
 Herbivorous[?] *Cicindelidæ*, HORN, p. 172, Deutsche ent. Zeitschr. 1905.  
 Larvæ burrowing in stems and twigs, SHELFORD, p. lxxii, P. ent. Soc. London 1905.
- Cicindela japonica* varr. p. 185, *germanica*, var. p. 186, BEUTHIN, Soc. ent. xix; *C. reducta* Motsch. (= *pudibunda* Boh.), *C. chersonensis* Motsch. is small *sahlbergi*, HORN, p. 296, Deutsche ent. Zeitschr. 1905; *C. peringueyi immaculipennis* subsp. n., HORN, p. 151, Deutsche ent. Zeitschr. 1905; *C. hybrida* and Siberian forms, validity of, *C. transbaicalica magnifica* subsp. n., p. 156, HORN, pp. 153-159, Deutsche ent. Zeitschr. 1905; *C. viridilabris* var. n. *fuscocuprascens*, p. 60, *belli* var. n. *umbropolita*, p. 61, HORN, Deutsche ent. Zeitschr. 1905; *C. discrepans*, pl. 1, f. 3, *rugosiceps*, f. 4, *malabarica*, f. 5, p. 14, MAINDRON & FLEUTIAUX, Ann. Soc. ent. France 1905.
- C. hafigeri*, E. Africa, HORN, p. 281, Stettin ent. Zeit. lxxvi; *C. hauserana*, p. 143, *ocellifera*, p. 144, E. Africa, HORN, Deutsche ent. Zeitschr. 1905; *C. bellana*, Kurrachee, HORN, p. 63, Deutsche ent. Zeitschr. 1905; *C. excisilabris*, New Guinea, HORN, p. 160, Deutsche ent. Zeitschr. 1905; *C. hackeri*, p. 229, *doddi*, p. 230, *plebeia*, p. 232, *curvicollis*, p. 233, Australia, SLOANE, P. Linn. Soc. N. S. Wales xxx; *C. parowana*, Utah, WICKHAM, p. 165, Canad. Ent. 1905: n. spp.
- Collyris saundersi continentalis* subsp. n., HORN, p. 295, Deutsche ent. Zeitschr. 1905.
- C. planifrons*, Ceylon, p. 293, *maindroni*, Travancore, p. 294, *contracta*, Siam, p. 295, HORN, Deutsche ent. Zeitschr. 1905, n. spp.
- Deroerania longesulcata*, pl. i, f. 1, p. 8, MAINDRON & FLEUTIAUX, Ann. Soc. ent. France 1905.
- Euryoda paradoxa*, pl. i, f. 2, p. 9, MAINDRON & FLEUTIAUX, t. c.
- Megacephala*, spp. doubted, *M. regalis baby* subsp. n., HORN, p. 159, Deutsche ent. Zeitschr. 1905.
- M. steinheili*, S. America, HORN, p. 51, Index Cicind., n. sp.
- Odontochila kigonserana*, E. Africa, p. 278, *cicindeloides*, Madagascar, p. 279, HORN, Stettin ent. Zeit. lxxvi; *O. curvipennis*, Amazons, HORN, p. 220, Notes Leyden Mus. xxv; *O. eurytarsipennis*, Peru, HORN, Deutsche ent. Zeitschr. 1905, p. 148: n. spp.
- Ophryodera distanti*, Angola, HEATH, p. 97, f. 1, Entomologist 1905, n. sp.
- Oxygonia*, characters, with notes on *Odontochilini*, HORN, pp. 145-148, Deutsche ent. Zeitschr. 1905.

- Pogonostoma septentrionale simplex* subsp. n., FLEUTIAUX, p. 65, Deutsche ent. Zeitschr. 1905.  
*P. fleutiauxi*, Madagascar, HORN, p. 276, Stettin ent. Zeit. lxvi, n. sp.  
*Tetracha carolina* in Baltic amber, ZANG & HORN, SB. Ges. naturf. Berlin 1905.  
*T. lateralis* Amazons, p. 219, HORN, Notes Leyden Mus. xxv, n. sp.  
*Therates doherityi*, Assam, HORN, p. 277, Stettin ent. Zeit. lxvi, n. sp.  
*Tricondyla (Derocrania) brevicollis*, Trichinopoly, HORN, p. 152, Deutsche ent. Zeitschr. 1905; *T. (Derocrania) agnes*, Ceylon, HORN, p. 64, t. c. : n. spp.

## CARABIDÆ.

- [Cf. ABEILLE (1), BORN (146, 147), BROUN (194), CARRET (282, 283), CASEY (286), CSIKI (378), DESBROCHERS (398), DEVILLE (408), ENDERLEIN (503), FAIRMAIRE (534), FALL (541), FAUVEL (548), FIORI (564), GANGLBAUER (637), JEANNEL (817), LAPOUGE (913-917), LEA (926), MAINDRON (1001), MJÖBERG (1048), MÜLLER (1078), PIC (1195), PORTA (1212), REITTER (1250, 1252, 1255), ROUSSEAU (1313, 1314), SILVESTRI (1398), SLOANE (1410, 1412).]
- Carabidæ* of Western France, HOULBERT & MONNOT (786).  
 Australian *Carabinae*, list and distribution, SLOANE, P. Linn. Soc. N. S. Wales xxx, Suppl.  
 Rearing larvæ of *Carabidæ*, LAPOUGE (915).  
*Abax*, and *Percus*, revision of Italian, PORTA, pp. 135-144 and 183-198, Riv. Col. ital. i.  
*Acroleistus* subg. n. cf. *Leistus*.  
*Acupalpus parallelus*, Omdurman, MJÖBERG, p. 3, Jägerskiöld exp. No. 10a, n. sp.  
*Amara anthobia*, CRAWSHAY, pp. 159-161, Ent. Mag. 1905.  
*A. (Celia) amiliana*, Italy, FIORI, p. 160, Riv. Col. ital. i, n. sp.  
*Amblystogenium* n. g. *Trechini*, p. 716, *murcypenne*, n. sp., Crozet islds., p. 718, ENDERLEIN, Zool. Anz. xxviii.  
*Anchomenidæ* of France and Corsica, DESBROCHERS, Frelon xiii, pp. 1-124.  
*Anchomenus niloticus*, White Nile, MJÖBERG, p. 4, Jägerskiöld exp. No. 10a, n. sp.  
*Anisodactylus crouzeti*, description, reprint, PUAI, Bull. Soc. Ninnes xxxii, p. 7.  
*Anopthalmus bilimeki tergestinus* subsp. n., MÜLLER, p. 32, Wien. ent. Zeit. xxiv.  
*A. ottonis*, Bosnia, REITTER, p. 311, Wien. ent. Zeit. xxiv; *A. (Duvallius) biroi*, p. 575, *pseudoparoecus*, p. 576, Hungary, CSIKI, Ann. Mus. Hungar. iii : n. spp.  
*Anthia*, subg. *Pachymorpha*, variations, MAINDRON, pp. 134, 161, Bull. Soc. ent. France 1905.  
*Anthiinae*, the genera and species, ROUSSEAU, Gen. Ins. fasc. 38.  
*Apotomopterus tientei yunnanensis* subsp. n., BORN, p. 33, Soc. ent. xx.  
*Atractonota gallemaertsi*, Trop. Africa, ROUSSEAU, p. 232, Ann. Soc. ent. Belgique 1905, n. sp.  
*Bembidion (Testediolium) alticola*, Italy, FIORI, p. 153, Riv. Col. ital. i; *B. (Philochthus) pallidiveste*, Mesopotamia, CARRET, p. 109, Echange xxi : n. spp.  
*Carabus*; notes on North Mongolian, *sibiricus frontosus* var. n. p. 302, *grauulatus*, *expansus* var. n. p. 304, LAPOUGE, Bull. Mus. Paris 1905; *C. morbillosus*, variation in Morocco, BORN, pp. 75-81, Mt. Schweiz. ent. Ges. xi; *C. (Morphocarabus)* forms and their affinities, HORMUZAKI, Zeitschr. Insbiol. i, pp. 155-167; *C. blaptoides* var., LAPOUGE, p. 306, Bull. Mus. Paris 1905; *C. neumayeri* var. n. *calabrus*, FIORI, p. 78,

- Riv. Col. ital. i; *C.*, hybridisation and variation, BORN, pp. 129-134, Mt. Schweiz. ent. Ges. xi; Phylogeny of *C.*, LAPOUGE, Trav. Univ. Rennes, pp. 51-64, 269-282; *C.* and *Calosoma*, table for determining larvæ, LAPOUGE, p. 159 etc., Echange xxi.
- Carabus townsendi*, Chihuahua, CASEY, p. 160, Cahad. Ent. 1905, n. sp.
- Calleida*; notes and synon. palaearctic, MAINDRON, pp. 331, etc. Ann. Soc. ent. France 1905.
- C. tenuicollis*, Madagascar, FAIRMAIRE, p. 116, Ann. Soc. ent. Belgique 1905, n. sp.
- Calodromius* subg. n. cf. *Dromius*.
- Calosoma inquisitor* var. n. *funerea*, RAGUSA, p. 288, Natural. Sicil. xvii.
- Carenidium purpuratum*, Queensland, SLOANE, p. 128, P. Linn. Soc. N. S. Wales xxx, n. sp.
- Carenum concinnum*, p. 117, W. Australia, SLOANE, t. c. n. sp.
- Chlænienus dives* varr. n. *gredosanus*, *viridiceruleus*, LAUFFER, p. 405, Bol. Soc. espan. v.
- Chrysocharabus lateralis* var. n. *strasseri*, p. 403, *C. rugosus* varr. n. *levantinus*, *seguranus*, p. 404, LAUFFER, t. c.
- Clivina nitida*, Assuan, MjöBERG, Jägerskiöld exp. No. 10a, n. sp.
- Cychnus pustulosus*, Washington, CASEY, p. 160, Canad. Ent. 1905, n. sp.
- Cymindis alternans* var. n. *bejarana*, LAUFFER, p. 405, Bol. Soc. espan. v.
- Diachromus germanus* var. n. *bimaculatus*, JOUKL, p. 317, Wien. ent. Zeit. xxiv.
- Dromiolus* subg. n. cf. *Dromius*.
- Dromius*, synonym of the Atlantic Islands species, FAUVËL, pp. 190, 191, Rev. Ent. franc. 1905; *D.*, tabulation of European species with *Manodromius (linearis)*, *Calodromius (quadrinotatus)*, *Dromiolus (nigri-ventris)*. subgg. n., REITTER, pp. 229-239, *D. strigiceps* n. n. for *strigifrons*, Wien. ent. Zeit. xxiv.
- D. wollastoni*, Ih. de Fora, *conicipennis*, Madeira, FAUVËL, p. 191, Rev. Ent. franc. 1905; *D. stolzi*, Transcaspian, REITTER, p. 238, Wien. ent. Zeit. xxiv: n. spp.
- Dyscherus rostratus*, p. 114, *longulus*, p. 115, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique 1905, n. spp.
- Dyschirius cylindricus* and *pusillus* variation, *cylindricus transilvanicus* var. n., FLEISCHER, pp. 49, 50, Wien. ent. Zeit. xxiv.
- D. congoensis*, Africa, ROUSSEAU, p. 202, Ann. Soc. ent. Belgique 1905, n. sp.
- Eremolestes* subg. n. for *Lionychus sulcatus*, MAINDRON, p. 335, Ann. Soc. ent. France 1905.
- Eriotomus semiobscurus*, Jericho, PIC, p. 185, Echange 1905, n. sp.
- Eudema bouvieri*, Congo, ROUSSEAU, p. 203, Ann. Soc. ent. Belgique 1905, n. sp.
- Euleistulus* subg. n. cf. *Leistus*.
- Eurycolleida* n. n. for *Phæa* Chaud., MAINDRON, p. 95, Bull. Soc. ent. France 1905.
- Glycerius politus*, *intermedius*, *obtusus*, California, FALL, p. 176, J. N. York Ent. Soc. xiii, n. spp.
- Glycia rufolimbata*, Arabia, Erythræa, etc., MAINDRON, p. 332, Ann. Soc. ent. France 1905, n. sp.
- Gynandromorphus (Morphogynandrus* subg. n.) *peyroni*, Syria, n. sp., CARRET, p. 122, Bull. Soc. ent. France 1905.
- Hypolithus incertus*, Erythræa, MAINDRON, p. 336, Ann. Soc. ent. France 1905, n. sp.
- Illaphanus macleayi*, N. S. Wales, LEA, p. 366, Tr. ent. Soc. London 1905, n. sp.
- Lachnolebia* n. n. for *Dictya* Chaud., MAINDRON, p. 95, Bull. Soc. ent. France 1905.

- Laemosthenes cavicola romualdi* subsp. n., MÜLLER, p. 32, Wien. ent. Zeit. xxiv.
- Lebia*: Italian, FIORI, pp. 89-98, Riv. Col. ital. i; *L. scapularis*, habits, metamorphosis, cocoons, SILVESTRI, pp. 68-84, pls. iii-vii, Redia ii.
- Leistophorus* subg. n. cf. *Leistus*.
- Leistus*; classification of, with subgg. n. *Leistophorus*, p. 213, *Euleistulus*, *Acroleistus*, p. 214, REITTER, Wien. ent. Zeit. xxiv.
- L. (Pogonophorus) sutomorensis*, Dalmatia, p. 215, *munganasti*, Arragon, p. 217, *L. (Leistophorus* subg. n., p. 219), *danieli*, Sardinia, p. 221, REITTER, t. c. n. spp.
- Licinoderus* n. g. near *Harpalus*, *chobauti* n. sp., Gavarnie, DEVILLE, p. 113, Bull. Soc. ent. France 1905.
- Lionychnus* cf. *Eremolestes*.
- Manodromius* subg. n. cf. *Dromius*.
- Metabletus xanthomus*, Aden, MAINDRON, p. 334, Ann. Soc. ent. France 1905, n. sp.
- Metaglymma doullii*, minor, New Zealand, BROUN, p. 543, Ann. Nat. Hist. (7) xv, n. spp.
- Metapedius* subg. n. cf. *Pterostichus*.
- Mormolyce*; habits, SHELFORD, p. lxxiii, P. ent. Soc. London 1905.
- Morphogynandrus* subg. n. cf. *Gynandromorphus*.
- Notiophilus*; ♂ tarsi, HAYWARD, p. 95, Psyche xii.
- Onycholabis melitopus* = (*Cardiomeria oberthuri* Maindr.), MAINDRON, p. 94, Bull. Soc. ent. France 1905.
- Oreodicastes* n. n. for *Oxyglossus* Chaud., MAINDRON, p. 95, t. c.
- Percus brunneipennis*, variation, varr. n., FRACASSI, pp. 63-68, Riv. Col. ital. i.
- Pheropsophus desbordesii*, MAINDRON, p. 94, Bull. Soc. ent. France 1905.
- Philoscaphus bicostatus*, Queensland, SLOANE, p. 114, P. Linn. Soc. N. S. Wales xxx, n. sp.
- Pæcilothis* n. n. for *Astata* Chaud., MAINDRON, p. 95, Bull. Soc. ent. France 1905.
- Procrustes coriaceus*, larva, PLANET, p. 281, Naturaliste 1905.
- Pterostichus bicolor*, *jurinei*, *xatarti*, CAVAZZA, pp. 105-116, pl., Riv. Col. ital. ii.
- P. (Metapedius* subg. n. p. 156) *pantanelii* n. sp., Italy, p. 158, FIORI, Riv. Col. ital. i.
- Scarites aegyptiamus*, Cairo, MjöBERG, p. 2, Jägerskiöld exp. No. 10a, n. sp.
- Scaritini*, revision of Australian, SLOANE, pp. 103-135, P. Linn. Soc. N. S. Wales xxx. For the synonymy, reference must be made to the paper itself.
- Scaritolius* n. g. near *Scarites*, *politus* n. sp., Madagascar, FAIRMAIRE, p. 115, Ann. Soc. ent. Belgique 1905.
- Stenolophus subcyaneus*, White Nile, MjöBERG, p. 4, Jägerskiöld exp. No. 10a, n. sp.
- Storthodontus brevipennis*, Madagascar, FAIRMAIRE, p. 114, Ann. Soc. ent. Belgique 1905, n. sp.
- Styphromerus tellinii*, Erythræa, MAINDRON, p. 335, Ann. Soc. ent. France 1905, n. sp.
- Tachycellus* and allies, generic characters, FALL, pp. 169-178, J. N. York Ent. Soc. xiii.
- T. conformis*, *turbatus*, N. America, FALL, p. 173, t. c. n. spp.
- Temnostega* n. g. *Trechini*, p. 719, *antarctica* n. sp., Crozet Ids., p. 720, ENDERLEIN, Zool. Anz. xxviii.
- Teratidium frenchi*, W. Australia, p. 133, *convexum*, Queensland, p. 134, SLOANE, P. Linn. Soc. N. S. Wales xxx, n. sp.
- Tetragonoderus assuanensis*, Nile, MjöBERG, p. 2, Jägerskiöld exp. No. 10a, n. sp.



- Tomocarabus convexus paganettii* subsp. n., BORN, p. 121, Soc. ent. xx.  
*Trichis maculata* varr. n., PIC, pp. 97 & 137, Echange xxi; *T. maculata*, nomenclature of varr., PIC, p. 273, Wien. ent. Zeit. xxiv; *T. maculata*, nomenclature of varr., VON HEYDEN, p. 95, Wien. ent. Zeit. xxiv.  
*Trichocarenum castelnavi*, Roebuck Bay, SLOANE, p. 123, P. Linn. Soc. N. S. Wales xxx, n. sp.  
*Trechus (Anophthalmus) vulcanus* = (*pueli* Chob.), *magdalene* Ab. = (*fagniezi* Chob.), ABEILLE, p. 209, Bull. Soc. ent. France 1905; *T. orpheus subparallelus*, CHABAUT, p. 251, Bull. Soc. ent. France 1905; *T. magniceps*, REITTER, p. 241, Wien. ent. Zeit. xxiv.  
*T. (Anophthalmus) jeanneli*, Basses-Pyrénées, ABEILLE, p. 19, Bull. Soc. ent. France 1905; *T. wagneri*, Schafberg, GANGLBAUER, p. 11, Munchen. Kol. Zeitschr. iii : n. sp.

## HALIPLIDÆ.

- Revision of Italian *Haliplidæ*, with varr. n., FIORI, Riv. Col. ital. ii, pp. 186-205.  
*Haliplus lombardus*, Italy, FIORI, p. 198, Riv. Col. ital. ii; *H. alsaticus* Barr, SCRIBA, p. 337, Deutsche ent. Zeitschr. 1905 : n. spp.

## DYTISCIDÆ.

- [Cf. ABEILLE (5), CHABAUT (309), PEYERIMHOFF (1161), RÉGIMBART (1234, 1235), ROBERTS (1282), ZAITZEV (1649, 1650).]  
*Acilius sulcatus* = (*tomentosus* Motsch.), ZAITZEV, p. 41, Rev. Russe Ent. 1905.  
*Agabus basalis* Gebl., synonymy = (*abnormicollis* Ball.), ZAITZEV, p. 39, t. c.  
*A. limbicollis*, p. 224, *ferrugatus*, p. 225, E. Africa, RÉGIMBART, Bull. Soc. ent. Ital. xxxvi, n. spp.  
*Allonychus* n. n. for *Heteronychus* Seidl.; *Agabus (Allonychus) coxalis* Sharp, characters, sexes, distribution, ZAITZEV, pp. 39, 40, Rev. Russe Ent. 1905.  
*Bidessus hamulatus*, variation, MJÖBERG, p. 17, Arkiv Zool. ii, No. 17.  
*B. andreinii*, Erythrea, RÉGIMBART, p. 206, Bull. Soc. ent. Ital. xxxvi, n. sp.  
*Celambus marklini* = (*mixtus* Fisch. = *mistellus* Mars. = *steppensis* Van der Br.) distribution, ZAITZEV, p. 38, Rev. Russe Ent. 1905.  
*Copelatus andreinii*, Erythrea, RÉGIMBART, p. 208, Bull. Soc. ent. Ital. xxxvi, n. sp.  
*Dytiscus dauricus* = (*ventralis* Motsch.), *D. lapponicus* = (*borealis* Motsch.), ZAITZEV, p. 41, Rev. Russe Ent. 1905; *D. ibericus*, is smooth ♀ of *D. pisanus*, *D. dimidiatus* smooth ♀, RÉGIMBART, p. 254, Bull. Soc. ent. France 1905; *D. punctulatus*, early stages, SOPP, pp. 50-57, Rep. 29 Lancashire and Cheshire ent. Soc.; *D. punctulatus* ♀ var. nov. *expectata*, PEYERIMHOFF, p. 229, Bull. Soc. ent. France 1905; *D. latissimus*, *rufino*, ROUBAL, p. 18, Soc. ent. xx; *D.*, the species of Eastern North America, ROBERTS, pp. 103-107, J. N. York Ent. Soc. xiii.  
*Herophydrus erythræus*, Africa, RÉGIMBART, p. 203, Bull. Soc. ent. Ital. xxxvi, n. sp.  
*Hydaticus abyssinicus*, p. 225, *basicollis*, p. 226, East Africa, RÉGIMBART, t. c. n. spp.  
*Hydroporus guernei*, in France, CHABAUT, p. 156, Bull. Soc. ent. France 1905; *H. bilineatus hopffgarteni*, CHITTY, p. 66, Ent. Mag. 1905.

- H. jakolevi*, Angara, p. 25, *glasunovi*, Turkestan, p. 26, ZAITZEV, Rev. Russe Ent. 1905; *H. tellinii*, Erythrea, RÉGIMBART, p. 202, Bull. Soc. ent. Ital. xxxvi : n. spp.  
*Hydrovatus spissicornis*, Erythrea, RÉGIMBART, p. 207, t. c. n. sp.  
*Rhantus pictiventris*, Erythrea, RÉGIMBART, p. 208, t. c. n. sp.  
*Siettitia*, characters, a division of *Graptodytes*, RÉGIMBART, pp. 252-254, Bull. Soc. ent. France 1905; *S.*, characters, cut, MAYET, p. 46, Bull. Soc. ent. France 1905; *S. balsetensis*, habits, ABEILLE, p. 225, Bull. Soc. ent. France 1905.

## HYDROPHILIDÆ.

- [Cf. DEVILLE (410), FIORI (569), PERAZZO (1145), PIC (1189), RÉGIMBART (1234).]  
*Helophorus rugosus* injuring turnips, MACDOUGALL, p. 102, J. Board Agric. xii.  
*Hydrena gracilis* var. n. *samnitica*, FIORI, p. 248, Riv. Col. ital. ii.  
*H. pici*, *leprieuri*, *numidica*, Algeria, DEVILLE, p. 2, Echange No. 248, suppl.; *H. explanata*, Algeria, PIC, p. 145, Echange xxi; *H. abyssinica*, *erythrea*, Africa, RÉGIMBART, p. 223, Bull. Soc. ent. Ital. xxxvi : n. spp.  
*Hydrochus perforatus*, Erythrea, RÉGIMBART, p. 220, t. c. n. sp.  
*Hydrophilus piceus*, the variation of, PERAZZO, Atti Acc. Torino xl, pp. 885 & 1089, 1 pl.  
*Laccobius erlangeri*, *propinquus*, Erythrea, RÉGIMBART, p. 218, Bull. Soc. ent. Ital. xxxvi, n. spp.  
*Limnobius conoideus*, Erythrea, RÉGIMBART, p. 219, t. c. n. sp.  
*Ochthebius atratulus*, p. 221, *andreinii*, p. 222, Erythrea, RÉGIMBART, t. c. n. spp.  
*Philhydrus circumductus*, p. 213, *anticus* with var. *fulvescens*, p. 214, *reductus*, *erythraeus*, p. 215, Erythrea, RÉGIMBART, t. c. n. spp.  
*Sphaeridium scarabaeoides*, spread in N. America, BARBER, p. 127, P. ent. Soc. Washington vii, and KNAB, p. 53, Ent. News Philad. xvi.

## STAPHYLINIDÆ.

- [Cf. BERNHAUER (102-105), BILLARD & BRUYANT (117), CASEY (285), FAUVEL (544-547, 549, 550), LUZE (992-995), PEYERIMHOFF (1160), PORTA (1213, 1214), REITER (1249, 1251, 1254), WASMANN (1585, 1588).]  
*Staphylinide* of Italy, pt. 2, *Trichophyini*, *Habrocerini*, *Tachyporini*, PORTA, Riv. Col. ital. iii, pp. 159-204.  
 Generic revision of the *Pæderini* of the New World, CASEY, Tr. Ac. St. Louis xv, pp. 17-248.  
*Abletobium* n. g. near *Lathrobium*, *pallescens* n. sp., Massachusetts, CASEY, p. 79, Tr. Ac. St. Louis xv.  
*Acalophaena compacta*, Arizona, *horridula*, Mexico, CASEY, p. 146, t. c. n. spp.  
*Acanthoglossa hova*, *longiceps*, Madagascar, FAUVEL, p. 158, Rev. Ent. franc. 1905, n. spp.  
*Acidota*, revision of palæarctic, LUZE, pp. 69-79, Verh. Ges. Wien 1905.  
*A. clandestina*, Croatia, p. 75, *minuta*, Morea, p. 76, *sculpturata*, Caucasus, p. 77, id. t. c. n. spp.  
*Actobius leptocerus*, *boops*, p. 177, *oculatus*, p. 178, Madagascar, FAUVEL, Rev. Ent. franc. 1905, n. spp.  
*Acylophorus delphinus*, Madagascar FAUVEL, p. 181, t. c. n. sp.

- Aderobium* n. g. type *Cryptobium angustifrons* Sharp, CASEY, p. 28, Tr. Ac. St. Louis xv.
- Aleochara capitata* = (*Microglossa rugipennis* Luze), BERNHAUER, p. 596, Verh. Ges. Wien 1905.
- A. (Rheochara) fenyesi*, California, BERNHAUER, p. 255, Deutsche ent. Zeitschr. 1905, n. sp.
- Alianta pictipennis*, Perim, FAUVEL, p. 142, Rev. Ent. franc. 1905; *A. rudis*, Africa, FAUVEL, p. 198, t. c. : n. spp.
- Amaurodera* n. g. for *Falagria veluticollis* Motsch., *opacicollis* Kr., and *Astilbus opacicollis* Epp., FAUVEL, p. 142, t. c.
- Amaurodera kraepelini*, Java, FAUVEL, p. 35, Mt. Mus. Hamburg xxii, n. sp.
- Anceus nitidissimus*, Engano, BERNHAUER, p. 10, Deutsche ent. Zeitschr. 1905, n. sp.
- Anchocerus* n. g. near *Acylophorus*, *birmanus* n. sp., Burma, FAUVEL, p. 141, Rev. Ent. franc. 1905.
- Ancyrophorus emarginatus* = (*Psilotrichus elegans* Luze), BERNHAUER, p. 596, Verh. Ges. Wien 1905.
- Anisolinus raffrayi*, p. 180, *anthracinus*, p. 181, Madagascar, FAUVEL, Rev. Ent. franc. 1905, n. spp.
- Apteralium* n. g. for part of *Lathrobium*, p. 77, *A. carolinae* n. sp., N. America, p. 78, CASEY, Tr. Ac. St. Louis xv.
- Astenus perangustus*, p. 153, *punctipennis*, *perrieri*, p. 154, *psilographus*, p. 155, Madagascar, FAUVEL, Rev. Ent. franc. 1905, n. spp.
- Atemeles*; relations with ants, WASMANN, pp. 425-428, Zeitschr. Insbiol. i.
- Atheta (Liogluta) bertolinii*, Trentino, PORTA, p. 180, Riv. Col. ital. ii; *A. (Aloconota) chifana*, Algeria, FAUVEL, p. 192, Rev. Ent. franc. 1905; *A. hyperbolica*, Tunis, BERNHAUER, p. 589, Verh. Ges. Wien 1905; *A. (Amischa) virgula*, Java, FAUVEL, p. 84, Mt. Mus. Hamburg xxii : n. spp.
- Bioerypta* n. g. for *Cryptobium perspicieux* Lec., CASEY, p. 51, Tr. Ac. St. Louis xv.
- Bledius lecontei* n. n. for *cribricollis* Lec., *B. monstratus* Casey queried, BERNHAUER, p. 14, Deutsche ent. Zeitschr. 1905.
- B. winkleri*, Cephalonia, BERNHAUER, p. 588, Verh. Ges. Wien 1905; *B. bipustulatus*, E. Africa, BERNHAUER, p. 14, Deutsche ent. Zeitschr. 1905 : n. spp.
- Borboropora kraatzii* in putrid snails, CHABANAUD, p. 207, Bull. Soc. ent. France 1905.
- B. grandis*, N. America, BERNHAUER, p. 21, Deutsche ent. Zeitschr. 1905, n. sp.
- Brachydirus bang-haasi*, p. 184, *nigroscutellatus*, Bolivia, *occipitalis*, Costa Rica, p. 185, *major*, Peru, p. 186, *speciosus*, Bolivia, p. 187, BERNHAUER, Deutsche ent. Zeitschr. 1905, n. spp.
- Caloderma pollens*, p. 184, *peregrina*, *conjux*, *discolor*, p. 185, *mollis*, *exilis*, *brevipennis*, *quadripennis*, p. 185, N. America, CASEY, Tr. Ac. St. Louis xv, n. spp.
- Conurus pulchricolor*, p. 183, *gracilicornis*, *connexus*, p. 184, Madagascar, FAUVEL, Rev. Ent. franc. 1905, n. spp.
- Coryphium* = (*Polychelus* Luze), BERNHAUER, p. 595, Verh. Ges. Wien 1905.
- Creophilus maxillosus*, larva, pl. f. 11, p. 28, Mjöberg, Arkiv Zool. ii, No. 17.
- Cryptobiella* n. g. *colonica* n. sp., Panama, CASEY, p. 29, Tr. Ac. St. Louis xv.
- Cryptobium alluaudi*, Madagascar, FAUVEL, p. 168, Rev. Ent. franc. 1905, n. sp.
- Cylindropsis africana*, Algeria, PEYERIMHOFF, p. 186, Bull. Soc. ent. France 1905, n. sp.

- Deliphrum*, *Phyllodrepeidea* and *Mannerheimia*, revision, LUZE, pp. 241-256, Verh. Ges. Wien 1905.
- Delopsis microphthalma*, Java, BERNHAUER, p. 12, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Deratopeus n. g.* near *Tetartopeus*, p. 112, *parvipennis n. sp.*, Massachusetts, p. 113, CASEY, Tr. Ac. St. Louis xv.
- Dibelonetes alluandi*, Madagascar, FAUVEL, p. 152, Rev. Ent. franc. 1905, **n. sp.**
- Doryloxenus* and allies, habits, relations with ants and termites, WASMANN, C.R. Congr. Zool. vi, pp. 431-447, 1 pl.
- Echiaster ludovicianus*, N. America, CASEY, p. 247, Tr. Ac. St. Louis xv, **n. sp.**
- Edaphus dentiventris*, Singapore, FAUVEL, p. 137, Rev. Ent. franc. 1905 ; *E. densatus*, Java, FAUVEL, p. 81, Mt. Mus. Hamburg xxii : **n. sp.**
- Erchomus ampliatus*, Gaboon, FAUVEL, p. 198, Rev. Ent. franc. 1905 ; *E. retipennis*, p. 182, *madecassa*, p. 183, Madagascar, FAUVEL, t. c. ; *E. planus*, Tonkin, FAUVEL, p. 142, t. c. : **n. spp.**
- Eucryptina n. g.* type *Cryptobium opacum* Sharp, CASEY, p. 28, Tr. Ac. St. Louis xv.
- Eulathrobium n. g.* for *L. grande*, Lec., CASEY, p. 114, t. c.
- Eustenia n. g.* near *Falagria, aspera*, Java, p. 145, *opacicollis*, Burma, p. 146, **n. spp.**, FAUVEL, Rev. Ent. franc. 1905.
- Gastrobium n. g.* for part of *Cryptobium*, p. 31, *virginicum*, p. 33, *atriceps*, p. 34, *strenuum*, p. 36, with varr. *illiniense* and *spissiceps*, p. 37, *coloradense*, p. 38, *peninsulare, suturale*, p. 39, N. America, **n. spp.**, CASEY, Tr. Ac. St. Louis xv.
- Gauropterus bucharicus*, Buchara, BERNHAUER, p. 585, Verh. Ges. Wien 1905, **n. sp.**
- Geostiba peyerimhoffi*, Algeria, FAUVEL, p. 193, Rev. Ent. franc. 1905, **n. spp.**
- Gnypeta lucens*, California, BERNHAUER, p. 254, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Hemimedon n. g. rufipes*, p. 160, *angustum*, p. 161, **n. spp.**, N. America, CASEY, Tr. Ac. St. Louis xv.
- Hesperobium pacificum* with var. *vancouveri*, p. 44, *clavicorne*, p. 47, *atronitens, parviceps*, p. 48, *rubripenne*, p. 49, N. America, CASEY, **n. spp.**
- Heterolinus distinctus*, Chanchamayo, BERNHAUER, p. 17, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Holotrochus*, descriptions, FAUVEL, pp. 135-137, Rev. Ent. franc. 1905.
- H. brevipennis*, Brazil, BERNHAUER, p. 15, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Homalium vaulozeri*, Tunis, FAUVEL, p. 192, Rev. Ent. franc. 1905, **n. sp.**
- Homalota nigrescens*, Sumatra, FAUVEL, p. 147, t. c. **n. sp.**
- Homodusa acuminata*, habits, WASMANN, pp. 418-420, Zeitschr. Insbiol. i.
- Lamprinus (Lamprinodes)*, habits, WASMANN, pp. 420-424, t. c.
- Lathrimæum*, revision of palæarctic, cf. *Prionothorax*, LUZE, pp. 53-68, Verh. Ges. Wien 1905.
- L. hamatum*, Armenia, p. 59, *metallicum*, Akbès, p. 63, *ganglbaueri*, Hungary, p. 65, *gracilicorne*, Algeria, p. 66, LUZE, t. c. **n. spp.**
- Lathrobiella n. g.* p. 133, for part of *Lathrobium, nigricans*, p. 134, *barda*, p. 135, *gracilicornis, oregonensis, fallax*, p. 136, *vagans, habilis*, p. 137, *merens, amula*, p. 138, *modesta, fragilis*, p. 139, *rubida, famelica*, p. 140, *integra, angustula*, p. 141, **n. spp.**, N. America, CASEY, Tr. Ac. St. Louis xv.
- Lathrobioma n. g.* p. 98, *virginica, shoshonica*, p. 99, *nanula, dakotana, hespera*, p. 100, *nigrolinea, oregona*, p. 102, *scolopacea*, p. 103, **n. spp.**, N. America, CASEY, t. c.

- Lathrobiopsis* n. g. p. 97, *texana* n. sp., N. America, p. 98, CASEY, t. c.
- Lathrobium catenulatum*, Madagascar, FAUVEL, p. 167, Rev. Ent. franc. 1905; *L. amplipenne*, p. 81, *subæquale*, *procerum*, *prælongum*, p. 82, *deceptivum*, *spissicorne*, *nigrolucens*, p. 83, *franciscanum*, *picescens*, *longiventre*, p. 85, *vancouveri*, *illini*, *obtusum*, p. 86, *sparsellum*, *washingtoni*, p. 87, *rigidum*, *postremum*, p. 88, *neglectum*, *innocens*, p. 89, *gravidulum*, p. 90, N. America, CASEY, Tr. Ac. St. Louis xv : n. spp.
- Lathrolepta* n. g. near *Lathrobium*, p. 103, for *debilis* Lec., CASEY, p. 104, t. c.
- Lathrotaxis* n. g. p. 122, *centurio*, p. 123, *soror*, *fallaciosa*, p. 124, *præceps*, *angusta*, p. 125, *acomana*, *rubricollis*, p. 126, *florida*, p. 127, *atrontiens*, *galvestonica*, p. 128, N. America, n. spp., CASEY, t. c.
- Lathrotropsis* n. g. for part of *Lathrobium*, p. 115, *relicta*, p. 116, *gnoma*, *validiceps*, p. 117, *vafra*, *ustulata*, p. 118, n. spp., N. America, CASEY, t. c.
- Leptacinus politus*, p. 168, *dieganus*, *microphthalmus*, p. 169, Madagascar, FAUVEL, Rev. Ent. franc. 1905; *L. cribricollis*, Java, FAUVEL, p. 83, Mt. Mus. Hamburg xxii : n. spp.
- Leptobium* n. g. type *Doliceon biguttulum* Lac., CASEY, p. 57, Tr. Ac. St. Louis xv.
- Leptochirus piestoides*=(*foersteri* Bernh.), p. 78, var. n. *cribrellus*, p. 77, FAUVEL, Mt. Mus. Hamburg xxii.
- Leptorus longicollis*, *boreellus*, p. 197, *sonomæ*, *pugetanus*, p. 198, *robustus*, *pallidus*, *pinalinus*, p. 199, *deceptor*, *filius*, p. 200, *distinctus*, *shastanus*, p. 201, *cervicula*, p. 202, N. America, CASEY, Tr. Ac. St. Louis xv, n. spp.
- Leptusa koka*, Velika, p. 586, *lombarda*, Monte Grigna, p. 587, BERNHAUER, Verh. Ges. Wien 1905; *L. atrocephala*, p. 250, *americana*, p. 251, California, BERNHAUER, Deutsche ent. Zeitschr. 1905 : n. spp.
- Leucopæderus* n. g. type *P. ustus* Lec., CASEY, p. 67, Tr. Ac. St. Louis xv.
- Leucorus* n. g. near *Scopæus*, p. 192, *ferrugineus*, *luridus*, *ochrinus*, p. 193, *rubens*, p. 194, n. spp., N. America, CASEY, t. c.
- Linolathra* n. g. near *Dacnochilus*, p. 131, *gaudens*, p. 132, *filitarsis*, p. 133, n. spp., N. America, CASEY, t. c.
- Lispinus rufulus*, Gaboon, FAUVEL, p. 194, Rev. Ent. franc. 1905; *L. breviceps*, Mexico, BERNHAUER, p. 9, Deutsche ent. Zeitschr. 1905 : n. spp.
- Lissobiops* n. g. for *Cryptobium serpentinum* Lec., CASEY, p. 50, Tr. Ac. St. Louis xv.
- Lithocharis simplex*, p. 149, *sonorica*, p. 150, N. America, CASEY, t. c. n. spp.
- Litolathra* n. g. for part of *Lathrobium*, p. 93, *rhodeana*, *semirubida*, *cruralis*, p. 94, *convictor*, *amputans*, p. 95, *inornata*, *subgracilis*, p. 96, *suspecta*, p. 97, N. America, n. spp., CASEY, t. c.
- Lobathrium tacomæ*, p. 120, *montanicum*, *coloradense*, p. 121, *bipartitum*, p. 122, N. America, CASEY, t. c. n. spp.
- Medon meuseli*, Transcaspian, BERNHAUER, p. 584, Verh. Ges. Wien 1905; *M. prognathus*, *megalops*, p. 159, *duplicatus*, *dieganus*, p. 160, *made-cassa*, *sexualis*, p. 161, *heterogenus*, *maculipennis*, p. 162, *nova*, *delphinus*, p. 163, Madagascar, FAUVEL, Rev. Ent. franc. 1905; *M. præustus*, p. 138, *latecinctus*, *nanus*, p. 139, Java, FAUVEL, t. c.; *M. helene*, p. 162, *lacustre*, *insulare*, p. 163, *americanum*, *inquilinum*, p. 164, *nitidulum*, *opaculum*, *texanum*, p. 165, N. America, CASEY, Tr. Ac. St. Louis xv : n. spp.
- Medonella* n. g. *minuta* n. sp., Florida, CASEY, p. 180, t. c.
- Medonodonta* n. g. p. 176, *alutacea* n. sp., New Mexico, p. 177, CASEY, t. c.
- Microalathra* n. g. *Lathrobiina*, p. 142, *rutilans* n. sp., Pennsylvania, p. 144, CASEY, t. c.

- Micromedon* n. g. for *Medon seminigrum* Fairm., CASEY, pp. 153, 155, t. c.  
*Monocrypta* n. g. for *Cryptobium apicatum* and *pectorale* Sharp, CASEY, p. 30, t. c.  
*Neomedon arizonense*, N. America, CASEY, p. 156, t. c. n. sp.  
*Neophonus* n. g. and n. trib. near *Omaliini*, *bruchi* n. sp., Argentina, FAUVEL, p. 99, Rev. Ent. franc. 1905.  
*Ocalea glabricollis*, Greece, BERNHAUER, p. 590, Verh. Ges. Wien 1905, n. sp.  
*Ocypris olens* and *tenebricosus*, FRIEDRICHS, Zeitschr. Insbiol. i, p. 461.  
*Ocyusa maura*, *picina*, distinguished, CHITTY, p. 91, Ent. Mag. 1905.  
*Oligopterus remotus*, p. 181, *filum*, *flexilis*, p. 182, N. America, CASEY, Tr. Ac. St. Louis xv, n. spp.  
*Olophrum*, revision of palæarctic, LUZE, pp. 33–47, Verh. Ges. Wien 1905.  
*O. transversicollis*, Tyrol, id. p. 41, t. c. n. sp.  
*Omostilicus* n. g. p. 229, *sonorinus* n. sp., Arizona, p. 230, CASEY, Tr. Ac. St. Louis xv.  
*Oosorius regularis*, p. 194, *incisifrons*, p. 195, W. Africa, FAUVEL, Rev. Ent. franc. 1905; *O. frontalis*, Sumatra, FAUVEL, p. 134, t. c. : n. spp.  
*Oxyedon* n. g. *rubrum* n. sp., California, CASEY, p. 177, Tr. Ac. St. Louis xv.  
*Oxyopoda* (*Bacoglena*) *dalmatina*, Radostak, BERNHAUER, p. 594, Verh. Ges. Wien 1905; *O. gatosensis*, California, BERNHAUER, p. 256, Deutsche ent. Zeitschr. 1905 : n. spp.  
*Oxyopodinus alienus*, Madagascar, BERNHAUER, p. 20, t. c. n. sp.  
*Oxytelus syriacus*=(*excellens* Luze), BERNHAUER, p. 595, Verh. Ges. Wien 1905.  
*O. extensicornis*, p. 79, *bigemmatum*, *longicornis*, p. 80, Java, FAUVEL, Mt. Mus. Hamburg xxii; *O. punctipennis*, India, *barbatus*, Java, p. 113, *cribrum*, p. 114, *sikkimi*, India, *uncifer*, p. 115, *tenuicornis*, *occipitalis*, p. 116, *raffrayi*, p. 117, Java, *crenulifer*, p. 117, *foraminosus*, p. 118, *pubiventris*, *sericeiventris*, p. 119, *alutellus*, *fuscicornis*, p. 120, *parcepunctatus*, *galla*, p. 121, *hamacenus*, p. 122, *fulgidus*, *megalomerus*, p. 123, *curticollis*, *reductus*, p. 124, *bidentulus*, *viator*, p. 125, Africa, *jelskii*, p. 126, *apicicornis*, *inequalis*, *hamuliger*, p. 127, *levissimus*, p. 128, *striolicollis*, *vulcanus*, p. 129, *monodon*, p. 130, *obscurellus*, S. America, *championi*, Guatemala, *rhoptocerus*, *magdalena*, p. 132, *speculiceps*, p. 133, S. America, FAUVEL, t. c. ; *O. paradoxus*, Bolivia, BERNHAUER, p. 177, Deutsche ent. Zeitschr. 1905; *O. spinosus*, p. 13, *sharpi*, p. 14, Brazil, BERNHAUER, t. c. : n. spp.  
*Pachycorinus puncticollis*, p. 169, *scalabrei*, p. 170, Madagascar, FAUVEL, Rev. Ent. franc. 1905; *P. marginellus*, Gaboon, FAUVEL, p. 195, t. c. : n. spp.  
*Pachystilicus* n. g. for *quadriceps* Lec. and *hanhami* Wickh., CASEY, p. 226, Tr. Ac. St. Louis xv.  
*Pæderillus* n. g. for part of *Pæderus*, p. 62, *carolinae*, *saginitus*, p. 63, *texanus*, p. 65, *iowensis*, *pugetensis*, p. 66, *canonicus*, p. 67, n. spp., N. America, CASEY, t. c.  
*Pæderus metallicus*, p. 151, *dilutipes*, *forficularius*, p. 152, Madagascar, FAUVEL, Rev. Ent. franc. 1905; *P. kraepelini*, Java, FAUVEL, p. 82, Mt. Mus. Hamburg xxii; *P. gigas*, Chancamayo, BERNHAUER, p. 17, Deutsche ent. Zeitschr. 1905; *P. ovaliceps*, *bolivianus*, p. 180, *subnitidus*, *magniceps*, p. 181, *curticollis*, p. 182, Peru and Bolivia, BERNHAUER, Deutsche ent. Zeitschr. 1905 : n. spp.  
*Palaminus sharpi*, Peru, *erichsoni*, p. 178, *opaculus*, p. 179, Bolivia, BERNHAUER, Deutsche ent. Zeitschr. 1905, n. spp.  
*Paragonus acuticollis*, *heterocerus*, Sumatra, FAUVEL, p. 134, Rev. Ent. franc. 1905, n. spp.  
*Paralathra* n. g. *Lathrobium*, p. 130, *filicornis* n. sp., Colorado, p. 131, CASEY, Tr. Ac. St. Louis xv.

- Paralesteva* n. n. for *Pseudolesteva*, CASEY, p. 164, Canad. Ent. 1905.
- Paramedon* n. g. p. 166, *vancouveri*, *shastanicum*, p. 167, *humboldti*, p. 168, *kernianum*, *subsimile*, p. 169, *difforme*, p. 170, *apacheanum*, p. 171, *gulare*, *distans*, *pallescens*, p. 172, *conforme*, p. 173, *debile*, *tahoense*, p. 174, *montanum*, *boreale*, *amazonicum*, p. 175, *pinalicum*, p. 176, n. spp., N. America, CASEY, Tr. Ac. St. Louis xv.
- Parastenus* n. n. for *Mesostenus* Rey nec Grav., VON HEYDEN, p. 262, Wien. ent. Zeit. xxiv.
- Parosus skalitzkyi*, Antilles, BERNHAUER, p. 12, Deutsche ent. Zeitschr. 1905, n. sp.
- Pentanota* n. g. *Aleocharini*, p. 591, *meuseli* n. sp., Lake Baikal, p. 593, BERNHAUER, Verh. Ges. Wien 1905.
- Philonthus cinctus*, Abyssinia, FAUVEL, p. 140, Rev. Ent. franc. 1905; *P. dimidiaticornis*, *pallidipennis*, Africa, FAUVEL, t. c.; *P. pollux*, p. 178, *limbipennis*, *ingratus*, *ovicollis*, p. 179, *hova*, p. 180, Madagascar, FAUVEL, t. c. : n. spp.
- Phlænomus chlorizans*, p. 10, *sumatrensis*, p. 11, Sumatra, BERNHAUER, Deutsche ent. Zeitschr. 1905, n. spp.
- Phleopora obscura*, Tien-schan, BERNHAUER, p. 590, Verh. Ges. Wien 1905, n. sp.
- Phyllodrepa (Dialycera) sekerae*, Italy, REITTER, p. 242, Wien. ent. Zeit. xxiv, n. sp.
- Phytosus obockianus*, Perim, FAUVEL, p. 146, Rev. Ent. franc. 1905, n. sp.
- Pinophilus ægyptius* var. n. *punctatulus*, FAUVEL, p. 150, t. c.
- P. schuberti*, p. 149, *mesocerus*, *speculifrons*, p. 150, *fairmairei*, p. 151, Madagascar, FAUVEL, t. c. n. spp.
- Platyedon n. g.* near *Xantholinus*, *erosus* n. sp., Madagascar, p. 174, FAUVEL, t. c.
- Platymedon nevadicum*, N. America, CASEY, p. 179, Tr. Ac. St. Louis xv, n. sp.
- Platystethus spinosus* (= *flavipennis* Luze), BERNHAUER, p. 595, Verh. Ges. Wien 1905.
- Plociopterus miriventris*, Chancamayo, BERNHAUER, p. 18, Deutsche ent. Zeitschr. 1905, n. sp.
- Polymedon* n. g. for litt. *tabacinum* Cas., CASEY, p. 156, Tr. Ac. St. Louis xv.
- Prionothorax* subg. n. of *Lathrimæum* for *L. reflexum* Reitter, LUZE, pp. 56, 68, Verh. Ges. Wien 1905.
- Proteinus*, table of European, REITTER, pp. 226-228, Wien. ent. Zeit. xxiv.
- P. reflexicollis*, Araxes Valley, p. 226, *altaicus*, Altai, p. 227, REITTER, t. c.; *P. planicollis*, Araxes Valley, REITTER, p. 201, t. c. : n. spp.
- Pseudolathra* n. g. *Lathrobiina*, p. 129, *leviceps* n. sp., N. America, p. 130, CASEY, Tr. Ac. St. Louis xv.
- Pseudomedon ruficollis*, *thoracicum*, *clarescens*, p. 188, *alabamæ*, p. 189, N. America, CASEY, t. c. n. spp.
- Pycnocypta* n. g. type *Cryptobium maxillosum* Gaér., CASEY, p. 28, t. c.
- Pycnorus* n. g. near *Scopæus*, p. 194, *iowanus* n. sp., N. America, p. 195, CASEY, t. c.
- Quedius obliteratedus* var. *major* (= *imitatus* Luze), BERNHAUER, p. 596, Verh. Ges. Wien 1905.
- Q. hummleri*, Greece, BERNHAUER, p. 585, t. c. n. sp.
- Sciocharella* n. g. p. 158, *delicatula* n. sp., Arizona, p. 159, CASEY, Tr. Ac. St. Louis xv.
- Sciocharis nubipennis*, *carolinensis*, p. 157, *congruens*, p. 158, N. America, CASEY, t. c. n. spp.
- Scopæoderia sonora*, California, CASEY, p. 218, t. c. n. sp.
- Scopæoma* n. g. near *Scopæus*, p. 211, *puritana*, p. 212, *procera*, *angusticeps*, p. 213, n. spp., N. America, CASEY, t. c.

- Scopæopsis* n. g. p. 214, *elaborata*, *pallens*, p. 215, *ventralis*, *duryi*, p. 216, n. spp., N. America, CASEY, t. c.
- Scopæus* *hova*, p. 156, *longicornis*, *punctatellus*, p. 157, Madagascar, FAUVEL, Rev. Ent. franc. 1905; *S. gilensis*, *crassulus*, *carolinae*, p. 205, *arizonae*, p. 206, *notangulus*, *hudsonicus*, p. 207, *macilentus*, *degener*, *angustissimus*, p. 208, *delicatus*, *brachypterus*, *saginellus*, p. 209, *quadripennis*, p. 210, N. America, CASEY, Tr. Ac. St. Louis xv : n. spp.
- Silusa leptocera*, Java, FAUVEL, p. 145, Rev. Ent. franc. 1905, n. sp.
- Stammoderus*, *carolinae*, *pallidus* n. spp., N. America, CASEY, p. 233, Tr. Ac. St. Louis xv.
- Staphylinus notativentris*, Abyssinia, FAUVEL, p. 140, Rev. Ent. franc. 1905; *S. hemichrysis*, *alluaudi*, Africa, FAUVEL, p. 196, t. c.; *S. tana-lensis*, p. 175, *violaceovirens*, p. 176, Madagascar, FAUVEL, t. c. : n. spp.
- Stenus*; locomotion on water, BILLARD & BRUYANT, C.R. Soc. Biol. lix, p. 103; *S. auliensis* Bernh. and *parilis* Luze identical, BERNHAUER, p. 596, Verh. Ges. Wien 1905.
- S. monachus*, p. 582, Greece, *ganglbaueri*, Dalmatia, *indubius*, Centr. Asia, p. 583, BERNHAUER, t. c.; *S. azeganus*, Abyssinia, FAUVEL, p. 137, Rev. Ent. franc. 1905 : n. spp.
- Stichoglossa græca*, Greece, BERNHAUER, p. 593, Verh. Ges. Wien 1905, n. sp.
- Stilicolina* n. g. for *tristis* Melsh., CASEY, p. 228, Tr. Ac. St. Louis xv.
- Stilicopsis breviceps*, Java, FAUVEL, p. 138, Rev. Ent. franc. 1905, n. sp.
- Stenus* (*Silusa*) *californica*, Pasadena, BERNHAUER, p. 249, Deutsche ent. Zeitschr. 1905, n. sp.
- Stilicosoma* n. g. for *Stilicus rufipes* Germ., CASEY, pp. 219, 220, Tr. Ac. St. Louis xv.
- Stilicus oregonus*, p. 221, *apicalis*, p. 222, *lacustrinus*, *abbreviellus*, p. 224, *luculentus*, *nigrolucens*, p. 225, *minusculus*, p. 226, N. America, CASEY, t. c. n. spp.
- Styngetus langei*, Chancamayo, BERNHAUER, p. 18, Deutsche ent. Zeitschr. 1905, n. sp.
- Suniocharis guttula*, p. 155, *dilutipes*, p. 156, Madagascar, FAUVEL, Rev. Ent. franc. 1905, n. spp.
- Sunius strigilis*, *americanus*, p. 237, *spectrum*, p. 238, *simulans*, *inconstans*, p. 239, *ornatellus*, *fusciceps*, p. 240, *zuni*, *arizonianus*, p. 241, *tenuiventris*, *sectator*, p. 242, *robustus*, p. 243, CASEY, Tr. Ac. St. Louis xv, n. spp.
- Tachinus nitidissimus* n. n. for *splendens* Bernh., BERNHAUER, p. 596, Verh. Ges. Wien 1905.
- Tanygnathus crassicornis*, Madagascar, FAUVEL, p. 182, Rev. Ent. franc. 1905, n. sp.
- Teras* n. g. near *Mesotrochus*, p. 15, *mirabile* n. sp., Engano, p. 16, BERNHAUER, Deutsche ent. Zeitschr. 1905.
- Termitusa* n. g. aberrant, p. 199, *sjoestedti* n. sp., p. 200, Cameroons, with Termites, WASMANN, Rev. Ent. franc. 1905.
- Tetartopeus captiosus*, *hebes*, p. 106, *rubripennis*, *callidus*, *semiruber*, p. 107, *floridanus*, p. 108, *furvulus*, *nigrescens*, p. 109, *agitans*, *tetricus*, p. 110, *stibium*, p. 111, *lacustris*, p. 112, N. America, CASEY, Tr. Ac. St. Louis xv, n. spp.
- Tetrallus* n. g. near *Ocyusa*, p. 252, *T. fenyesi*, p. 253, *dense punctatus*, p. 254, n. spp., California, BERNHAUER, Deutsche ent. Zeitschr. 1905.
- Tetramedon* n. g. *rufipenne* n. sp., New York, CASEY, p. 178, Tr. Ac. St. Louis xv.
- Thinobius apfelbecki*, p. 580, *brevicornis*, p. 581, Sarajevo, BERNHAUER, Verh. Ges. Wien 1905; *T. nitidulus*, Antilles, BERNHAUER, p. 11, Deutsche ent. Zeitschr. 1905 : n. spp.
- Thinocharis inermis*, p. 164, *impressa*, *curticollis*, p. 165, *alluaudi*, *brevigenis*,



- aptera*, p. 166, *diegana*, p. 167, Madagascar, FAUVEL, Rev. Ent. franc. 1905, n. spp.
- Trogophlæus (Thinodromus) arcitenens*, Java, FAUVEL, p. 78, Mt. Mus. Hamburg xxii, n. sp.
- Xantholinus goudoti, heterocephalus, sexpunctatus*, p. 171, *albobinctus, hova*, p. 172, *umbilicatus, claviger*, p. 173, *inocuus*, p. 174, Madagascar, FAUVEL, Rev. Ent. franc. 1905, n. spp.
- Xanthopygus alienus*, p. 182, *elegans*, Brazil, *punctatus*, Peru, p. 183, BERNHAUER, Deutsche ent. Zeitschr. 1905, n. spp.
- Zyras compressicornis*, China etc., FAUVEL, p. 143, Rev. Ent. franc. 1905 ; *Z. sulcicollis*, Java, FAUVEL, p. 85, Mt. Mus. Hamburg xxii : n. spp.

## PSELAPHIDÆ.

- [Cf. ABELLE (2), FIORI (566), HOLDHAUS (754), PEYERIMHOFF (1161), PIC (1191), REITTER (1257), SCHAEFFER (1323).]
- Bythinus*, male characters, *B. porsenna, collaris, italica*, varr. n. of, FIORI, pp. 233-250, Riv. Col. ital. ii ; *B. cristatus* ♂ = (*fagniezi* Ab.), CHOBOUT, p. 251, Bull. Soc. ent. France 1905 ; *B. erichsoni* var. n. *rugosicollis*, p. 269, FIORI, Natural. Sicil. xvii.
- B. (Machaerites) fagniezi*, Ariège, ABELLE, p. 42, Bull. Soc. ent. France 1905 ; *B. insularis*, p. 30, *B. (Bythovenus) majori*, p. 31, Tuscany, HOLDHAUS, Riv. Col. ital. iii : n. spp.
- Desimia latipennis*, Bagdad, PIC, p. 161, Echange xxi, n. sp.
- Nisaxis caudata*, Texas, SCHAEFFER, p. 124, Bull. Brooklyn Inst. i, n. sp.
- Pselaphus conosternum*, Elba, HOLDHAUS, p. 32, Riv. Col. ital. iii, n. sp.
- Reichenbachia impressa* var. n. *puncticollis*, FIORI, p. 271, Natural. Sicil. xvii.
- R.*, the palæarctic species, with table, *R. ceconii*, Cyprus, *munganasti*, Euboea, p. 208, n. spp. *antennata* var. n. *atricolor*, p. 209, REITTER, Deutsche ent. Zeitschr. 1905, pp. 206-210.
- Tychus depezeus*, Algeria, PEYERIMHOFF, p. 229, Bull. Soc. ent. France 1905, n. sp.

## PAUSSIDÆ.

- The genera of *Paussidæ* and lists of the species, DESNEUX, Gen. ins. fasc. xxxv, 34 pp., 2 pls.
- Corrections to Wasmann's paper of last year, WASMANN, p. 110, Notes Leyden Mus. xxv.
- Ceratoderus andrevesi*, Nilgiri hills, DESNEUX, p. 194, Ann. Soc. ent. Belgique 1905, n. sp.
- Euplatyrhopalus* n. g. for part of *Platyrhopalus*, DESNEUX, p. 18, Gen. ins. fasc. xxxv.
- Platyrhopalopsis* n. g. for *P. mellyi* and *picteti*, DESNEUX, p. 20, t. c.

## PLATYPSYLLIDÆ.

- Platypsyllus castoris*, food, etc., BUSIGNY, p. 108, Bull. Soc. ent. France 1905 ; *P. castoris*, habits, food, MINGAUD, pp. 161, 162, Feuille Natural. xxxv.

## SCYDMÆNIDÆ.

- [Cf. HOLDHAUS & WAGNER (754), REITTER (1247, 1254), SCHAEFFER (1323).]
- Cephennium (Cephennarium) insulare, tarsale*, p. 33, *nobile*, p. 35, HOLDHAUS, Riv. Col. ital. iii, n. spp.

- Euconnus (Tetramelus) leonhardi*, Cephalonia, REITTER, p. 242, Wien. ent. Zeit. xxiv, n. sp.  
*Lophoderus atlanticus*, N. Carolina, SCHAEFFER, p. 123, Bull. Brooklyn Inst. i, n. sp.  
*Scydmanichnus* subg. n. of *Stenichus*, *fossifrons*, *cecconii* n. spp., Cyprus, REITTER, p. 99, Wien. ent. Zeit. xxiv.

## SILPHIDÆ.

[Cf. ABEILLE (4), CHOBOUT (311), DEVILLE (409), FLEISCHER (575), MÜLLER (1078), PEYERIMHOFF (1161, 1162), REITTER (1246), SCHOUTEDEN (1345).]

- Ablattaria subtriangula*, Spain, REITTER, p. 90, Wien. ent. Zeit. xxiv, n. sp.  
*Bathyscia mascarauxi*, *jeanneli*, distinct, DEVILLE, p. 231, Bull. Soc. ent. France 1905; *B. pueli*, *B. nemausica*, synonymy and variation, CHOBOUT, p. 250, Bull. Soc. ent. France 1905; *B. aubei*, distribution, CHOBOUT, p. 293, variation, distribution, pp. 297-303, subsp. n. *nicæensis*, p. 300, PEYERIMHOFF, Bull. Soc. ent. France 1905; *B. chardoni* = (*pueli* Chob.) *linderei* = (*nemausica* Chob.), ABEILLE, p. 209, Bull. Soc. ent. France 1905.  
*B. mascarauxi*, Basses Pyrénées, DEVILLE, p. 160, Bull. Soc. ent. France 1905; *B. bucheti*, Nice, ABEILLE, p. 208, Bull. Soc. ent. France 1905 : n. spp.  
*Catops rescissicollis*, Algeria, PEYERIMHOFF, p. 230, Bull. Soc. ent. France 1905, n. sp.  
*Choleva blackburni* n. n. for *antipodum* Bl., PORTEVIN, p. 49, Bull. Soc. ent. France 1905.  
*Dissochetus* Portevin and its two species were previously (1885) described by Reitter; REITTER, p. 199, Wien. ent. Zeit. xxiv.  
*Eusilpha*: the synonymy, PORTEVIN, p. 51, Bull. Soc. ent. France 1905.  
*Hyponecrodes*; characters of species, synonymy, PORTEVIN, pp. 49, 50, t. c.; *H.*, tabulation, with *Katanecrodes* subg. n. for *biguttatus apicalis* and *anticola*, SCHOUTEDEN, pp. 195-199, Ann. Soc. ent. Belgique 1905.  
*Katanecrodes* subg. n. cf. *Hyponecrodes*.  
*Leptoderus hohenwarti reticulatus* subsp. n., MÜLLER, p. 32, Wien. ent. Zeit. xxiv.  
*Liodes rotundata* Er. is var. of *pallens*, *L. algerica* = (*heydeni* and *bipunctata* Rag.) p. 314, *distinguenda* Fairm. has *montana* Halbh. as ab., p. 315, FLEISCHER, Wien. ent. Zeit. xxiv.  
*Liodes cinnamomea*, *humeralis*, *grandis*, *anglica*, *oblonga*, *simplex*, all one species, FLEISCHER, pp. 269-272, t. c.  
*Necrophorus basalis* Fald., PORTEVIN, p. 51, Bull. Soc. ent. France 1905.  
*Oryotus schmidti subdentatus* subsp. n., MÜLLER, p. 32, Wien. ent. Zeit. xxiv.  
*Pteromerula* subg. n. of *Liodes* for *pallens* Sturm., FLEISCHER, p. 314, Wien. ent. Zeit. xxiv.  
*Silpha fairmairiei* n. n. for *bituberosa* Fairm., PORTEVIN, p. 50, Bull. Soc. ent. France 1905.  
*Thanatophilus tuberculatus*, *rugosus*, distinguished, PORTEVIN, p. 50, t. c.

## SCAPHIDIIDÆ.

- Scaphisoma agaricinum* var. n. *punctipenne*, PETZ, p. 100, Wien. ent. Zeit. xxiv; *S. agaricinum robustior* var. n., PIC, p. 169, Echange xxi.  
*S. flavonotatum*, Algeria, PIC, p. 129, t. c. n. sp.

## HISTERIDÆ.

[Cf. FIORI (563), LEWIS (951-954), VIEHMEYER (1548), WASMANN (1588).]

Catalogue of the family, 2306 species, LEWIS (951).

- Abraeus fakir*, India, LEWIS, p. 349, Ann. Nat. Hist. (7) xvi, n. sp.  
*Chalcurgus brevipennis*, pl. x, f. 8, LEWIS, t. c.  
*Coryphæus violaceus*, Borneo, LEWIS, p. 347, t. c. n. sp.  
*Cylistosoma* n. g. type *Platysoma richteri*, LEWIS, p. 302, op. cit. xv.  
*C. epilissum*, Madagascar, LEWIS, p. 344, op. cit. xvi, n. sp.  
*Eblisia tenuipes*, Yunnan, LEWIS, p. 345, t. c. n. sp.  
*Heterius ferrugineus*, habits, VIEHMEYER, Zeitschr. Insbiol. i, p. 242 ;  
 WASMANN, t. c. pp. 330-332.  
*Hister aino*, pl. x, f. 3, *latistrius*, f. 4, LEWIS, Ann. Nat. Hist. (7) xvi.  
*H. laqueatus*, Cameroons, LEWIS, p. 303, op. cit. xv ; *H. dauphini*, Madagascar, LEWIS, p. 346, op. cit. xvi ; *H. impiger*, Yunnan, LEWIS, p. 609,  
 t. c. : n. spp.  
*Hololepta fecæ*, pl. x, f. 1, LEWIS, t. c.  
*H. trulla*, Centr. Africa, LEWIS, p. 302, op. cit. xv, n. sp.  
*Lioderma intersectum*, pl. x, f. 2, LEWIS, op. cit. xvi.  
*L. acutipectum*, W. Africa, LEWIS, p. 302, op. cit. xv, n. sp.  
*Lissosternus* n. g. p. 347, *gracilipes*, n. sp., Bahia, p. 348, pl. x, f. 10,  
 LEWIS, op. cit. xvi.  
*Macrolister striatisternus*, Angola, LEWIS, p. 345, t. c. n. sp.  
*Notodoma saturum*, pl. x, f. 9, p. 347, LEWIS, t. c.  
*Omalodes bullatus*, Goyaz, *tuberculatus*, Fr. Guiana, LEWIS, p. 608, t. c.  
 n. spp.  
*Pachycærus sulcicollis*, f. 5, 6, *princeps*, f. 7, pl. x, LEWIS, t. c.  
*Paratropus chelonitis*, Abyssinia, LEWIS, p. 610, t. c. n. sp.  
*Plæsius hamatus*, Tonkin, p. 342, *asperimargo*, Burma, *striatipectus*, New  
 Britain, p. 343, LEWIS, t. c. n. spp.  
*Platysoma pullum* Gerst. to *Pachycærus*, LEWIS, p. 609, t. c.  
*P. rimæ*, N. W. India, LEWIS, p. 343, t. c. ; *P. lævidorsum*, New Guinea,  
 p. 605, *rosselense*, Louisiade Arch., *rufopygum*, p. 606, *pygidiale*,  
 Sumatra, *dorsale*, S. India, p. 607, LEWIS, t. c. : n. spp.  
*Plegaderus rumanicæ*, Roumania, LEWIS, p. 610, t. c. n. sp.  
*Pygocelis strigifrons*, Madagascar, LEWIS, p. 605, t. c. n. sp.  
*Saprinus conjungens* (= *Xenonychus rotundatus* Fiori), FIORI, p. 96, Natural.  
 Sicil. xviii.  
*S. sinaiticus* Crotch, 1871, n. sp. but not recorded, SHARP, p. 520, Ann.  
 Nat. Hist. (7) xv ; *S. cæruleatus*, Madagascar, LEWIS, p. 611, Ann.  
 Nat. Hist. (7) xvi, n. sp.  
*Sternocelis lævidorsis major* var. n., PIC, p. 129, Echange xxi.  
*Teretrius distinctus*, habits, LEWIS, p. 605, Ann. Nat. Hist. (7) xvi.  
*Xenonychus rotundatus*, Rome, FIORI, p. 4, Natural. Sicil. xviii, n. sp.  
 (but cf. *Saprinus*).

## NITIDULIDÆ.

[Cf. FIORI (569), REITTER (1255), SCHAEFFER (1324).]

- Brachypterus rotundicollis*, Texas, SCHAEFFER, p. 146, Bull. Brooklyn Inst. i,  
 n. sp.  
*Cybocephalus festivus* var. n. *Clypeoniteus*, FIORI, p. 136, Riv. Col. ital. iii.  
*C. marginatus*, Bologna, FIORI, p. 134, t. c. n. sp.  
*Pocadius pilistriatus*, habits, FROGGATT, p. 229, Agric. Gaz. N. S. W. xvi.  
*Rhizophagus brancsiki*, Herzegowina, REITTER, p. 312, Wien. ent. Zeit.  
 xxiv, n. sp.

## TROGOSITIDÆ.

[Cf. LÉVEILLÉ (947-949).]

- Acrops perraudierei*, Tonkin, LÉVEILLÉ, p. 38, Ann. Soc. ent. France 1905, n. sp.
- Airora bituberculata*, Brazil, LÉVEILLÉ, p. 45, t. c.; *A. vicina*, Brazil, p. 30, *ferruginea*, Venezuela, p. 31, LÉVEILLÉ, t. c. : n. spp.
- Alindria anberti*, China, LÉVEILLÉ, p. 92, Bull. Soc. ent. France 1905, and p. 31, Ann. Soc. ent. France 1905, n. sp.
- Ancyrona plana*, p. 38, *bouchardi*, *soror*, p. 41, LÉVEILLÉ, t. c.
- A. feai*, *brunneolimbata*, *congolensis*, Africa, LÉVEILLÉ, p. 93, Bull. Soc. ent. France 1905, and pp. 30, 39, Ann. Soc. ent. France 1905; *A. brunnea*, *elongata*, India, LÉVEILLÉ, p. 42, t. c.; *A. javanica*, Java, LÉVEILLÉ, p. 179, Bull. Soc. ent. France 1905 : n. spp.
- Corticotomus sharpi*, Mexico, LÉVEILLÉ, p. 29, Ann. Soc. ent. France 1905, n. sp.
- Gaurambe*, table of species, LÉVEILLÉ, p. 43, t. c.
- Lophocateres gounellei*, Brazil, LÉVEILLÉ, p. 179, Bull. Soc. ent. France 1905, n. sp.
- Nemosoma cornutum* varr. n. *reitteri*, *starcki*, PIC, p. 121, Echange xxi.
- Nemozomia pujoli*, LÉVEILLÉ, p. 29, Ann. Soc. ent. France 1905.
- N. fulva*, Brazil, LÉVEILLÉ, p. 44, t. c. n. sp.
- Tenebroides jatahyensis*, *donckieri*, p. 36, LÉVEILLÉ, t. c.
- T. similis*, Brazil, p. 34, *nigrocyanus*, Paraguay, p. 35, *paseti*, Brazil, p. 37, LÉVEILLÉ, t. c.; *T. nemozomiceformis*, p. 46, *importunus*, p. 47, *scaberrimus*, p. 48, *alutaceus*, p. 49, LÉVEILLÉ, t. c.; *T. boggianii*, Paraguay, LÉVEILLÉ, p. 92, Bull. Soc. ent. France 1905, and p. 34, Ann. Soc. ent. France 1905 : n. spp.
- Temnochila biolleyi* and *boliviensis*, LÉVEILLÉ, p. 33, Ann. Soc. ent. France 1905.
- T. grilloi*, Brazil, LÉVEILLÉ, p. 92, Bull. Soc. ent. France 1905, and p. 32, Ann. Soc. ent. France 1905, n. sp.

## COLYDIIDÆ.

- Bothrideres*; larval habits, HOPKINS, p. 20, P. ent. Soc. Washington vii.
- Cautionus monstruosus*, Liberia, GROUVELLE, p. 109, Bull. Soc. ent. France 1905, n. sp.
- Nepharis goudiei*, Australia, LEA, p. 377, pl. xxvii, figg. 3, 9, P. Soc. Victoria xvii, n. sp.

## CUCUJIDÆ and CRYPTOPHAGIDÆ.

- Catogenus rufus*, larval habits, FISKE, p. 90, P. ent. Soc. Washington vii.
- Lemophlæus* (*Silvanophlæus*) *mirus*, Madagascar, GROUVELLE, p. 142, Bull. Soc. ent. France 1905, n. sp.
- Atomaria prolixa* and *pulchra*, distinguished, GERHARDT, p. 271, Deutsche ent. Zeitschr. 1905.
- Cryptophagus pubescens* var., MJÖBERG, p. 200, Ent. Tidskr. xxvi.

## LATHRIDIIDÆ.

[Cf. BRÈTHES (190), PIC (1174), WASMANN (1588).]

- Coccidophilus* n. g. near *Fallia*, p. 76, *citricola* n. sp., Argentina, p. 77, destroying *Mytilasptis*, BRÈTHES, An. Soc. Argent. lix.

- Coluocera maderæ*, relations with *Prenolepis*, WÄSMANN, pp. 384–390, Zeitschr. Insbiol. i.  
*Dasycerus beloni, numidicus*, N. Africa, PIC, p. 103, Rev. Ent. franc. 1905, n. spp.  
*Enicmus minutus* and *anthracinus* the supposed sexes, GERHARDT, p. 224, Deutsche ent. Zeitschr. 1905.  
*Lathridius nodifer* ♂ characters, REITTER, p. 199, Wien. ent. Zeit. xxiv.

## MYCETOPHAGIDÆ and DERMESTIDÆ.

- Mycetophagus tschitscherini* distinguished from *irroratus*, REITTER, p. 199, Wien. ent. Zeit. xxiv.  
*Satorystia* n. g. near *Litargus, meschniggi*, Hungary, n. sp., REITTER, p. 244, t. c.  
*Dermestes murinus* subvar. n. *nigriceps*, REITTER, p. 244, t. c.  
*Thaumatoglossa americana*, antenna of ♂ and ♀, BARBER, p. 10, cuts, P. ent. Soc. Washington vii.

## BYRRHIDÆ.

[Cf. PIC (1184), REITTER (1246), SHARP (670).]

- Chelonarium scabrosum, gravidum, prolixum*, p. 689, *ducale*, p. 690, Centr. America, SHARP, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.  
*Limnicus* (sic) *turkestanicus*, Ferghana, PIC, p. 97, Echange xxi, n. sp.  
*Trichobyrrhulus championi*, La Granja, REITTER, p. 90, Wien. ent. Zeit. xxiv, n. sp.

## PARNIDÆ and GEORYSSIDÆ.

- Elmis (Latelmis) longior, surcoufi*, Algeria, PIC, p. 145, Echange xxi, n. spp.  
*Parnus arizonensis*, ARIZONA, SCHAEFFER, p. 122, Bull. Brooklyn Inst. i, n. sp.  
*Georyssus purpurascens*, Madagascar, FAIRMAIRE, p. 118, Ann. Soc. ent. Belgique 1905, n. sp.

## LUCANIDÆ.

- [Cf. BOILEAU (126), GRIFFINI (691, 692), MÖLLENKAMP (1057), NONFRIED (1108), PLANET (1208), REED (1233), VAN ROON (1531), WATERHOUSE (1589), ZANG (1662, 1664).]  
 Catalogue of the family, 76 genera, 732 spp., VAN ROON, Tijdschr. Ent. xlviii, pp. 83–180.  
 The variation of the male mandibles, general discussion, GRIFFINI (691, 692).  
*Ægus jansoni*, Queensland, BOILEAU, p. 17, Naturaliste 1905, n. sp.  
*Ceratognathus flabellatus*, Queensland, p. 177, *macrognathus*, Australia, p. 200, BOILEAU, t. c. n. spp.  
*Chiasognathus*, 2 spp., *granti* and *jousselini*, synonymy, REED, Revist. chilena viii, pp. 181–188.  
*Cyclommatus lunifer*, Sumatra, p. 71, ♀, p. 286, *imperator*, New Guinea, p. 285, BOILEAU, Naturaliste 1905, n. spp.  
*Dorcus vavrai*, Persian Kurdistan, NONFRIED, p. 12, Berlin. ent. Zeitschr. i, n. sp.  
*Eurytrachelus titan* var. n. *typhon*, BOILEAU, p. 17, cut, Naturaliste 1905.  
*E. minax*, Sumatra, MÖLLENKAMP, p. 168, Ins. Börse 1905, n. sp.

- Figulus cicatricosus*, Nilgherry hills, BOILEAU, p. 38, *Naturaliste* 1905 ;  
*F. horni*, Ceylon, ZANG, p. 161, *Deutsche ent. Zeitschr.* 1905 : n. spp.  
*Lissotes cornutus*, Australia, BOILEAU, p. 201, *Naturaliste* 1905, n. sp.  
*Metopodontus biplagiatus* var. n. *nigripes*, BOILEAU, p. 17, t. c.  
*M. elizabetheæ*, Usagara, WATERHOUSE, p. 375, *Ann. Nat. Hist.* (7) xv,  
n. sp.  
*Neolucanus brevis* (= *birmaensis* Möll.), ZANG, p. 212, *Deutsche ent. Zeitschr.*  
1905.  
*Nigidius*; *Hadronigidius* as doubtful subgenus, *N. validus* Pér., ZANG,  
p. 215, *Deutsche ent. Zeitschr.* 1905.  
*N. helleri*, Sumatra, p. 47, *impressicollis*, Khasia Hills, p. 60, *lewisii*, Liou-  
Kiou Ids., p. 61, BOILEAU, *Naturaliste* 1905 ; *N. bonneuilli*, *baeri*,  
Philippines, BOILEAU, p. 18, t. c. : n. spp.  
*Odontolabis imperialis* ♀, BOILEAU, p. 147, t. c.  
*O. lowei* var. n. *nubigena*, MÖLLENKAMP, p. 168, *Ins. Börse* 1905 ; *O. mouhoti*  
= (*elegans* Möll.), characters, ♀, p. 212, *O. lowei* and *æratus*, male  
variation, p. 214, ZANG, *Deutsche ent. Zeitschr.* 1905.  
*O. eremicola*, Borneo, MÖLLENKAMP, p. 7, *Ins. Börse* 1905 ; *O. parryi*,  
Formosa, BOILEAU, p. 48, *Naturaliste* 1905 : n. spp.  
*Platycerus*, in amber, cf. Palæont. p. 128.  
*Prismognathus branczicki*, S. W. China, NONFRIED, p. 11, *Berlin. ent.*  
*Zeitschr.* 1, n. sp.  
*Prosopocælus javanensis*, ♂ ♀, ZANG, p. 214, *Deutsche ent. Zeitschr.* 1905.  
*P. curvidens*, Madagascar, NONFRIED, p. 11, *Berlin. ent. Zeitschr.* 1 ; *P.*  
*aulicus*, Borneo, MÖLLENKAMP, p. 7, *Ins. Börse* 1905 ; *P. femoratus*,  
Kina-Balu, p. 147, *laminifer*, Sumatra, p. 286, BOILEAU, *Naturaliste*  
1905 : n. spp.  
*Pseudolucanus lesnei*, Yunnan ?, PLANET, p. 212, *Naturaliste* 1905, n. sp.  
*Sphenognathus nobilis* ♀, ZANG, p. 211, *Deutsche ent. Zeitschr.* 1905.  
*Syndesus macleayi*, Victoria, *punctatus*, New Caledonia (or new Hebrides),  
BOILEAU, p. 61, *Naturaliste* 1905, n. spp.

## PASSALIDÆ.

[Cf. PANGELLA (1135, 1136), ZANG (1654-1656, 1659-1663, 1665-1667).]

ZANG proposes the following new names, *Gnomon* for *Eumelus* Kaup,  
*Lasioperix* for *Flavius* Kuw., *Rhipaspis* for *Heterochilus* Kuw.,  
*Chilomazus* for *Laches* Kaup, *Phaulothorax* for *Microthorax* Kuw.,  
*Scalmus* for *Ninus* Kaup, *Protomocælus* for *Pelops* Kaup, *Psilomus* for  
*Phanocles* Kuw., *Macrolobus* for *Phoroneus* Kaup, *Trapezochilus* for  
*Phraortes* Kuw., *Embryulcus* for *Plesthenus* Kaup, *Arrox* for *Sertorius*  
Kaup, *Heliscus* for *Soranus* Kaup, *Alococerus* for *Thryptocerus* Kuw.,  
*Epipleurothrix* for *Trichopleurus* Kuw., *Zosterothrix* for *Vatinius* Kaup ;  
*Zool. Anz.* xxix.

ZANG commences a revision of the work of Kuwert and Kaup, *Notes*  
*Leyden Mus.* xxv, pp. 221-232.

Some noteworthy localities, ZANG, p. 112, *Deutsche ent. Zeitschr.* 1905.

- Aceraius oculidens*, p. 190, *laniger*, p. 191, Borneo, ZANG, *Deutsche ent.*  
*Zeitschr.* 1905 ; *A. lævimargo*, Borneo, ZANG, p. 244, t. c. ; *A. pala-*  
*wanus*, Palawan, ZANG, p. 236, *Notes Leyden Mus.* xxv : n. spp.  
*Analaches*; monograph, ZANG, pp. 24-32, *Deutsche ent. Zeitschr.* 1904.  
*A. brachymetopus*, Amboyna, ZANG, p. 30, t. c. ; *A. paraplesius*, p. 238,  
*laticauda*, p. 240, *bicavis*, p. 241, New Guinea, ZANG, t. c. : n. spp.  
*Auritulus* n. g. for *Aulacocyclus patalis* Lew., ZANG, p. 229, *Notes Leyden*  
*Mus.* xxv.  
*Basilianus certus* and *neelgherriensis*, ZANG, p. 223, t. c.

- B. binominis*, Lower India, ZANG, p. 243, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Comacupes*; synonymy, ZANG, p. 231, Notes Leyden Mus. xxv.
- C. cormocerus*, Padang, ZANG, p. 233, t. c. **n. sp.**
- Didimus duplicatus* and *parastictus* distinguished, ZANG, p. 109, Deutsche ent. Zeitschr. 1905.
- D. latipunctus*, E. Africa, ZANG, p. 315, t. c. **n. sp.**
- Episphenoides questionis* Kuw. = (*Mastochilus capitalis* Blackb.), ZANG, p. 223, Notes Leyden Mus. xxv.
- Gonatas differens*, characters, ZANG, p. 110, Deutsche ent. Zeitschr. 1905.
- G. cetioides*, hab.?, ZANG, p. 316, t. c. **n. sp.**
- Heterochilus*, characters and position, ZANG, p. 167, t. c.
- Kaupiolus trigonophorus*, New Guinea, ZANG, p. 316, t. c. **n. sp.**
- Labienus ptoz* and allies, ZANG, p. 111, t. c.
- Laches*; Kuwert's 5 spp. = varr. of *comptoni*, ZANG, p. 163, t. c.
- Leptaulacides* and *L. eschscholtzi*, characters, ZANG, p. 106, t. c.
- L. rugulosus*, p. 100, *fruhstorferi*, p. 102, Tonkin, ZANG, t. c.; *L. barbicauda*, Borneo, p. 164, *andamanarum*, Andaman Ids., p. 166, ZANG, t. c.; *L. palawanicus*, Palawan, p. 232, *anipunctatus*, Assam, p. 234, *anaulax*, Sumatra, p. 235, ZANG, t. c.; *L. nietneri*, Ceylon, ZANG, p. 246, t. c.: **n. spp.**
- Leptaulax timoriensis* Perch. = (*glabricollis* Kuw.), ZANG, p. 223, Notes Leyden Mus. xxv.
- L. tonkinensis*, Manson Mts., ZANG, p. 102, Deutsche ent. Zeitschr. 1905; *L. anna*, Sumbava, ZANG, p. 316, t. c.: **n. spp.**
- Nasoproculus n. g.* for *Passalus heros* Truqui, ZANG, p. 226, Notes Leyden Mus. xxv.
- Neleus camerani*, p. 9, *cognettii*, p. 13, Paraguay, PANGELLA, Boll. Mus. Torino xx, No. 508, **n. spp.**
- Ninus honduræ* var. *n. rosminiæ*, PANGELLA, p. 11, t. c. No. 498.
- N. nobilii*, Paraguay, PANGELLA, p. 5, t. c. No. 508, **n. sp.**
- Oileus*; type is *sagittarius* Sm., ZANG, p. 226, Notes Leyden Mus. xxv.
- Ophrygonius quadrifer* and *inæqualis*, ZANG, p. 192, Deutsche ent. Zeitschr. 1905.
- Passalus*; type is to be *Neleus interruptus*, ZANG, p. 224, Notes Leyden Mus. xxv.
- Paxilloides* and *Paxillosomus* are one, ZANG, p. 222, t. c.
- Paxillosomus borellii*, Asuncion, PANGELLA, p. 3, Boll. Mus. Torino xx, No. 508; *P. alfari*, Costa Rica, PANGELLA, p. 9, t. c. No. 498: **n. spp.**
- Pelopides*; type *schraderi* Kuw., ZANG, p. 227, Notes Leyden Mus. xxv.
- Platyverres*; valid, characters, ZANG, p. 231, t. c.
- Proclejoides granulipennis*, Chiapas, ZANG, p. 229, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Procululus n. g.* *Petrejinae*, p. 225, *inca*, **n. sp.**, Peru, p. 226, ZANG, t. c.
- Proculus beckeri*, Mexico, ZANG, p. 315, t. c. **n. sp.**
- Protomocælus sternbergi*, New Guinea, ZANG, p. 236, t. c. **n. sp.**
- Publius spinipes*, Bolivia, ZANG, p. 231, t. c. **n. sp.**
- Rhodocanthopus biolleyi*, Costa Rica, PANGELLA, p. 3, Boll. Mus. Torino xx, No. 498, **n. sp.**
- Spurius dichotomus*, Centr. America, ZANG, p. 227, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Tæniocerus bicanthatus*, note, ZANG, p. 105, t. c.
- Tiberius*, characters and composition, ZANG, p. 163, t. c.
- Verres camerani*, Costa Rica, PANGELLA, p. 7, Boll. Mus. Torino xx, No. 498; *V. sternbergianus*, Venezuela, ZANG, p. 315, Deutsche ent. Zeitschr. 1905: **n. spp.**

## SCARABÆIDÆ.

*Coprini.*

[Cf. ARROW (30), BLACKBURN (123), FAIRMAIRE (534), FALL (540), KOLBE (878), MOLLANDIN (1056), D'ORBIGNY (1124), PUCCIONI (1220), WICKHAM (1630), ZANG (1657).]

The habits and distribution of Coprophagous *Lamellicorns*, KOLBE, Zool. Jahrb. Suppl. viii, pp. 475-594, pls. xvii-xix.

The Scarabs of ancient Egypt, BOUSSAC, pp. 137, 138, cuts, Naturaliste 1905.

*Antiochrus*, a valid genus, characters and components, BLACKBURN, pp. 273-275, Tr. R. Soc. S. Austral. xxix.

*Aphodius*, in amber, cf. Palæont. p. 128; *A. cuniculorum*, description reprinted, MAYER, Bull. Soc. Nimes xxxii, p. 2.

*A. blaisdelli*, p. 129, *knausii*, p. 130, N. America, FALL, Ent. News Philad. xvi; *A. kansanus*, N. America, WICKHAM, p. 169, Canad. Ent. 1905: n. spp.

*Caccobius schreberi*, FIORI, pp. 105-109, Riv. Col. ital. i; *C. obtusus* = (*mastrucatus* Pér.) p. 383, *viridicollis* var. n. *semiccerulus*, p. 386, *convexifrons* Raffr. = (*pudens* Pér.) p. 386, D'ORBIGNY, Ann. Soc. ent. France 1905.

*C. globaticeps*, p. 382, *mixtus*, p. 384, *biceps*, p. 385, *semiluteus*, p. 387, *postluteus*, p. 388, *semiceneus*, p. 390, Africa, D'ORBIGNY, t. c.; *C. (Diaglyptus) pluridens*, Nyassa, D'ORBIGNY, p. 525, t. c.: n. spp.

*Copris pueli*, Algeria, MOLLANDIN, p. 110, Bull. Soc. ent. France 1905, n. sp.

*Geotrupes*, in Sweden, MjöBERG, pp. 63-66, Arkiv Zool. ii, No. 17.

*Liparochrus*, revision of Australian, with synonymy, BLACKBURN, pp. 270-272, Tr. R. Soc. S. Austral. xxix.

*L. dilatifrons*, p. 272, *nitidicollis*, p. 273, Australia, id. t. c. n. spp.

*Onthophagus foliaceus* ♀ = (*alterneater* d'Orb.), D'ORBIGNY, p. 532, Ann. Soc. ent. France 1905; *O. denudatus* d'Orb. = (*rufulus* d'Orb.) p. 412, *lavissimus* n. n. for *lavus* d'Orb. 1904, p. 437, *O. nanus* = (*decipiens* Pér.) p. 442, *pipitzi* var. n. *seminiger*, p. 448, *longiceps* var. n. *cuprifer*, p. 450, *bellus* n. n. for *gestroi* d'Orb. 1904, p. 454, *parumnotatus* var. n. *conjunctus*, p. 454, *sansibaricus* var. n. *cruentus*, p. 455, D'ORBIGNY, t. c.; *O. ovatus*, *grossepunctatus* var. n., REITTER, p. 245, Wien. ent. Zeit. xxiv.

*O. rufoguttatus*, Madagascar, FAIRMAIRE, p. 118, Ann. Soc. ent. Belgique 1905; *O. masaicus*, p. 392, *mixtidorsis*, p. 393, *aequepubens*, p. 395, *bituberans*, p. 396, *laminosus*, p. 398, *pullatus*, p. 399, *rotundatus*, p. 400, *nimbatus*, p. 401, *crucenotatus*, p. 403, *quadrinotatus*, p. 404, *nigriventris*, p. 505, *subrugosus*, p. 408, *trimpessus*, p. 409, *areolatus*, p. 410, *longulus*, p. 412, *amplipennis*, p. 414, *trivugatus*, p. 415, *bifrons*, p. 417, *geminifrons*, p. 418, *camerunicus*, p. 419, *mirifrons*, p. 421, *sinuosicollis*, p. 423, *chalcoclorus*, p. 425, *ustus*, p. 426, *clavisetis*, p. 427, *limbibus*, p. 428, *pulchellus*, p. 430, *spurcatus*, p. 432, *simulator*, p. 433, *mirepunctatus*, p. 435, *viyiensis*, p. 436, *flavipennis*, p. 438, *latevittatus*, p. 439, *breviculus*, p. 440, *boops*, p. 442, *trichopygus*, p. 444, *pallidus*, p. 445, *alterneater*, p. 447, *chloroderus* with var. *cyanoderus*, p. 449, *inermiceps*, p. 450, *simpliciceps*, p. 452, *includens*, p. 455, *variegranosus*, p. 458, *longipilis*, p. 459, *angolanus*, p. 460, *cristatus*, p. 461, *bicristatus*, p. 462, *semigraniger*, p. 463, Africa, D'ORBIGNY, Ann. Soc. ent. France 1905; *rufipodex*, p. 465, *hilaris*, p. 466, *decoratus*, p. 467, *creber*, p. 468, *polyedrus*, p. 469, *informis*, p. 470, *asperatus*, p. 472, *dilutus*, p. 473, *guttiger*,



- p. 474, *rufipennis*, p. 476, *semirubens*, p. 478, *atrofasciatus*, p. 480, *capillosus*, p. 482, *miscellus*, p. 483, *tenuistriatus*, p. 485, *atrovirens*, p. 486, *mixticeps*, p. 487, *asperulus*, p. 488, *clusifrons*, p. 489, *chryso-derus*, p. 490, *gibberosus*, p. 492, *gibber*, p. 493, *trifidisetis*, p. 495, *altilamina*, p. 496, *lobaticollis*, p. 498, *stellioides*, p. 500, *debilis*, p. 502, *subocellatus*, p. 503, *ocellatus*, p. 504, *furculifer*, p. 505, *O. (Phalops) tuberosus*, p. 508, *O. (Proagoderus) nasidens*, p. 510, *fossidoris*, p. 512, *longefossus*, p. 514, *atriclaviger*, p. 516, *ignitus*, p. 518, *rasidoris*, p. 521, *trianguliceps*, p. 523, Africa, D'ORBIGNY, t. c.; *O. biconifer*, p. 527, *inclusus*, p. 528, *comatulus*, p. 529, *ventrosus*, p. 530, Africa, D'ORBIGNY, t. c. : n. spp.
- Orphnus bicavatus*, Madagascar, FAIRMAIRE, p. 118, Ann. Soc. ent. Belgique 1905, n. sp.
- Rhyparus peninsularis*, Penang, p. 537, *philippinensis*, Philippines, *gracilis*, S. E. isld., p. 538, ARROW, Ann. Nat. Hist. (7) xv, n. spp.
- Stereomera* n. g. near *Rhyparus*, p. 534, *pusilla* n. sp., Singapore, p. 535, ARROW, t. c.
- Sybacodes lutulentus* redescribed, ARROW, p. 539, t. c.

### Glaphyrini.

- Anthypna carceli* var. n. *laportei*, LEONI, pp. 116-119, Riv. Col. ital. iii.

### Melolonthini.

- [Cf. BLACKBURN (123), FAIRMAIRE (534), MATUSOVITZ (1015), PIC (1183, 1193), REITTER (1249), RITSEMA (1271, 1272).]
- Classification of Australian *Melolonthides*, BLACKBURN, pp. 276-281, Tr. R. Soc. S. Austral. xxix.
- Amphimallina* n. g. near *Amphimallus*, p. 203, *jenrichi* n. sp., Ural River, p. 204, REITTER, Wien. ent. Zeit. xxiv.
- Anoxia nigricolor*, Adana, PIC, p. 177, Echange xxi, n. sp.
- Apogonia*, supplementary list, RITSEMA, pp. 111-116, Notes Leyden Mus. xxv.
- A. waterstradii*, p. 103, *speculifera*, p. 105, *lobata*, p. 106, *helleri*, p. 107, Borneo, RITSEMA, t. c. n. spp.
- Automolus*, characters, BLACKBURN, pp. 331, 332, Tr. R. Soc. S. Austral. xxix.
- Chilotrogus* n. g. near *Rhizotrogus*, p. 202, *panotrogoides* n. sp., Persia, p. 203, REITTER, Wien. ent. Zeit. xxiv.
- Diplotaxis connata*, Arizona, SCHAEFFER, p. 158, Bull. Brooklyn Inst. i, n. sp.
- Enamillus sharpi*, W. Australia, BLACKBURN, p. 279, Tr. R. Soc. S. Austral. xxix, n. sp.
- Enthora atomaria*, Madagascar, FAIRMAIRE, p. 119, Ann. Soc. ent. Belgique 1905, n. sp.
- Homaloplia fritschi*, Bosnia, REITTER, p. 201, Wien. ent. Zeit. xxiv, n. sp.
- Hoplia cœrulea*, habits, LE COMTE, p. 188, Echange 1905.
- Hovachelus densevestitus*, Madagascar, FAIRMAIRE, p. 119, Ann. Soc. ent. Belgique 1905, n. sp.
- Liparetrus*; revision, with much synonymy, for which refer to the work itself, BLACKBURN, pp. 282-230, Tr. R. Soc. S. Austral. xxix.
- L. necessarius*, *distans*, p. 318, *lividipennis*, p. 319, *incertus*, p. 320, *amabilis*, p. 321, *consanguineus*, p. 322, *puer*, p. 323, *perkinsi*, *alienus*, p. 324, *rotundicollis*, p. 325, *ventralis*, *gravidus*, p. 326, *cinctipennis*, *minor*, p. 327, *brevipes*, *blanchardi*, p. 328, *leai*, *rugatus*, p. 329, *insolitus*, p. 330, BLACKBURN, t. c. n. spp.

*Melolontha vulgaris* var. n. *colpopyga*, PETZ, p. 100, Wien. ent. Zeit. xxiv;  
*M. vulgaris, hippocastani*, statistics as to abundance and variation in  
 Hungary in 1905, MATUSOVITZ, Rov. Lapok 1905, pp. 156 etc.;  
*M. vulgaris*, years of appearance, BOURGEOIS, p. 74, Mt. Schweiz. ent.  
 Ges. xi.

*Microthopus*=(*Macleayia* Bl.), characters, BLACKBURN, pp. 330, 331, Tr. R.  
 Soc. S. Austral. xxix.

*Pectinichelus chinensis*, China, REITTER, p. 202, Wien. ent. Zeit. xxiv, n. sp.  
*Rhizotrogus*, seasons and hours in the Pyrenees, XAMBEU, p. 117, Naturaliste  
 1905; *R. ochraceus*, a good species, JOY, p. 16, Ent. Mag. 1905.

*Schizonycha obscuricolor*, Timbuctoo, PIC, p. 131, Naturaliste 1905, n. sp.  
*Sphyrocallus bicolor*, W. Australia, BLACKBURN, p. 277, Tr. R. Soc. S.  
 Austral. xxix, n. sp.

### *Rutelini.*

[Cf. FAIRMAIRE (534), OHAUS (1114-1119), PIC (1179, 1183, 1187, 1190),  
 SKINNER (1408), WICKHAM (1629).]

Revision of American *Anoplognathides* completed, OHAUS, pp. 120-167,  
 pl. v, Stettin Ent. Zeit. lxvi.

*Adoretosoma humerale*, p. 82, *nigripennis, lineatum*, p. 83, *crassipes*, p. 84,  
 Tonkin, OHAUS, Deutsche ent. Zeitschr. 1905, n. spp.

*Adoretus drurei*, Bagdad, PIC, p. 200, Bull. Soc. ent. France 1905; *A.*  
*millingeni*, Arabia, PIC, p. 153, Echange xxi; *A. emarginatus*, Omdur-  
 man, OHAUS, p. 6, Jägerskiöld exp. No. 10a; *A. ampliatus*, p. 120,  
*lutosipennis*, p. 221, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique  
 1905; *A. frukstorferi*, Tonkin, OHAUS, p. 98, Deutsche ent. Zeitschr.  
 1905; *A. philippinicus* (Brenske), Philippines, PIC, p. 131, Naturaliste  
 1905: n. spp.

*Anatista* referred to *Spodochlamydes*, p. 272, *A. macrophylla*, Ecuador,  
 n. sp. p. 273, OHAUS, Stettin Ent. Zeit. lxvi.

*Anomala mimeloides* var. n. *fuscoviridis*, OHAUS, p. 285, t. c.; *A. devota*  
 var. n. *pallidior*, PIC, p. 105, Echange xxi.

*A. palestina*, Jerusalem, PIC, p. 129, t. c.; *A. nubeculosa*, p. 84, *viridi-*  
*sericea, polychroma*, p. 85, *fuscospinosa, graminea*, p. 86, *A. (Spilota)*  
*nupta*, p. 87, Tonkin, OHAUS, Deutsche ent. Zeitschr. 1905; *A. nigro-*  
*sellata*, Venezuela, p. 283, *schneideri*, Honduras, p. 284, OHAUS, Stettin  
 Ent. Zeit. lxvi: n. spp.

*Anoplognathus analis* ♀=(*Areoda magnifica* Nonfr.), OHAUS, p. 322, t. c.

*Antichira hemichlora* var. n. *nigripennis*, p. 293, *subaenea* subsp. n.

*fluminensis*, p. 294, *adamsi* subsp. n. *goyana*, p. 295, OHAUS, t. c.;

*A. amazona* Thunb. to *Lagochile*, OHAUS, p. 286, t. c.

*A. helleri*, Ecuador, OHAUS, p. 295, t. c. n. sp.

*Areoda espiritosantensis*, S. America, OHAUS, p. 322, t. c. n. sp.

*Aulacopalpus clypealis*, p. 137, *pygidialis*, p. 139, Chile, OHAUS, t. c. n. spp.

*Brachysternus prasinus araucanicus*, p. 156, *viridipes*, p. 157, subspp. n.,  
 OHAUS, t. c.

*B. hirtus*, Chile, id. p. 158, t. c. n. sp.

*Byrsopolis mexicana*, Mexico, OHAUS, p. 324, t. c. n. sp.

*Chalcochlamys n. g.* for *Spodochlamys dohrni*, OHAUS, p. 263, t. c.

*Chlorota caucana*, Colombia, p. 308, *nasuta*, Peru, p. 309, OHAUS, t. c.  
 n. spp.

*Cotalpa lanigera* var. n. *tau*, WICKHAM, p. 2, J. N. York Ent. Soc. iii.

*C. subcibrata*, Kansas, id., p. 3, t. c. n. sp.

*Dorystethus chlorophanus* subsp. n., OHAUS, pp. 295-297, Stettin Ent. Zeit.  
 lxvi.

*D. espiritosantensis, andicola*, p. 298, *columbicus, maxinus, castanipennis*,

- p. 299, *auriceps*, *jordani*, p. 300, *microcephaloides*, p. 301, *sulcatus*, p. 302, S. America, OHAUS, t. c. n. spp.
- Fruhstorferia semmaculata* var. n. *dohertyi*, OHAUS, p. 98, Deutsche ent. Zeitschr. 1905.
- Heterosternus oberthuri* ♂, OHAUS, p. 321, Stettin Ent. Zeit. lxvi.
- Homonyx fuscoæneus*, Brazil, p. 313, *oryctoïdes*, Mexico, p. 314, OHAUS, t. c. n. spp.
- Hoplognathus helmenreichi*, p. 322, *parvulus*, p. 323, *limbatipennis*, p. 324, S. America, OHAUS, t. c. n. spp.
- Lagochile boliviana*, Bolivia, *obscurata*, Venezuela, p. 287, *wiengreeni*, Brazil, p. 288, OHAUS, t. c. n. spp.
- Leucopelœa baronis*, Ecuador, OHAUS, p. 123, t. c. n. sp.
- Lutera nigromaculata* ♂ var., OHAUS, p. 97, Deutsche ent. Zeitschr. 1905.
- Macraspis tristis* and allies, characters, OHAUS, pp. 290-293, Stettin Ent. Zeit. lxvi.
- M. maculicollis*, Peru, OHAUS, p. 289, t. c. n. sp.
- Macropopillia* n. g. *arrowi* n. sp., India, OHAUS, p. 94, Deutsche ent. Zeitschr. 1905.
- Mesomerodon* n. g. near *Pelidnota*, p. 319, *spinipenne* n. sp., Peru, p. 320, OHAUS, Stettin Ent. Zeit. lxvi.
- Mimela globosa*, Assam, *sericea*, Sikkim, p. 88, *javana*, Java, *schneideri*, Sikkim, p. 89, OHAUS, Deutsche ent. Zeitschr. 1905, n. spp.
- Odontognathus riedeli*, Brazil, OHAUS, p. 312, Stettin Ent. Zeit. lxvi, n. sp.
- Ometis macraspidioides*, Para, OHAUS, p. 289, t. c. n. sp.
- Oogenius chilensis*, Chile, OHAUS, p. 326, t. c. n. sp.
- Parastasia indica* var. = (*fruhstorferi*), OHAUS, p. 97, Deutsche ent. Zeitschr. 1905.
- Pelidnota bahiana*, p. 315, *subandina*, p. 316, S. America, *sanctidomini*, Saint Domingo, *ludovici*, p. 317, *sancti jacobii*, *fusciventris*, p. 318, *crassipes*, p. 319, S. America, OHAUS, Stettin Ent. Zeit. lxvi, n. spp.
- Phænomeris rufescens*, *cyanicollis*, varr. n., OHAUS, pp. 95, 96, Deutsche ent. Zeitschr. 1905.
- Phrynopsis* n. g. near *Adoretus*, *oculata* n. sp., Madagascar, FAIRMAIRE, p. 120, Ann. Soc. ent. Belgique 1905.
- Phyllopertha carinicolis*, Tonkin, OHAUS, p. 81, Deutsche ent. Zeitschr. 1905, n. sp.
- Platyrutela cribrata* ♂, OHAUS, p. 304, Stettin Ent. Zeit. lxvi.
- Plusiotis beyeri*, Arizona, SKINNER, p. 289, Ent. News Philad. xvi ; *P. fohri*, Durango, OHAUS, p. 321, Stettin Ent. Zeit. lxvi : n. spp.
- Popillia conopygga*, Luzon, p. 92, *timoriensis*, Timor, p. 93, OHAUS, Deutsche ent. Zeitschr. 1905, n. spp.
- Pseudochlorota* n. g., *chiriquina*, Chiriqui, p. 306, *peruana*, Peru, p. 307, n. spp., OHAUS, Stettin Ent. Zeit. lxvi.
- Pseudomalacia flavopilosa*, Philippines, OHAUS, p. 91, Deutsche ent. Zeitschr. 1905, n. sp.
- Rutela lineola* and *histrion*, variation, OHAUS, pp. 311, 312, Stettin Ent. Zeit. lxvi.
- R. pygidialis*, Panama, *tricolora*, S. America, OHAUS, p. 34, t. c. n. spp.
- Rutelisca durangoana*, Mexico, OHAUS, p. 312, t. c. n. sp.
- Singhala helleri*, Malabad, OHAUS, p. 90, Deutsche ent. Zeitschr. 1905, n. sp.
- Spodochlamides* : revision of, OHAUS, pp. 260-276, Stettin Ent. Zeit. lxvi.
- Spodochlamys flavofemorata*, Venezuela, p. 265, *iheringi*, Brazil, p. 266, *popayana*, p. 268, *curvibrachialis*, p. 270, Colombia, OHAUS, t. c. n. spp.
- Strigoderma floridana*, Florida, OHAUS, p. 285, t. c. n. sp.
- Thyridium violaceipes*, *oblongum*, p. 302, *margnicolle*, *caucanum*, p. 303, S. America, OHAUS, t. c. n. spp.

*Dynastini.*

[Cf. BRÈTHES (188), FAIRMAIRE (534), FALL (542), KOLBE (879), TITUS (1496).]

*Aphonodelus* n. g. *Heteronychides*, *coriaceipennis* n. sp., Cameroons, p. 4, KOLBE, Arkiv Zool. ii, No. 18.

*Aphonoproctus* n. g. *Heteronychides*, p. 2, *pentodontinus* n. sp., Cameroons, p. 3, KOLBE, t. c.

*Archophanes* n. g. for *Oryctes cratericollis* Fairm., KOLBE, p. 19, t. c.

*Cheiroplatys verticalis*, New Mexico, FALL, p. 272, Canad. Ent. 1905, n. sp.

*Cyclocephala tucumana*, p. 330, *andina*, p. 331, Tucumán, BRÈTHES, An. Mus. Buenos Aires (3) iv, n. spp.

*Heteronychus camerunus*, W. Africa, KOLBE, p. 5, Arkiv Zool. ii, No. 18, n. sp.

*Ligyris rugiceps*, natural history, TITUS, Bull. U. S. Dep. Agric. Ent. No. 54, pp. 7-15.

*Oryctes eribus*, characters, p. 13, *pechueli* = (*mechowi* Qued.), p. 14, *owariensis* and *gigas*, distinguished, p. 15, KOLBE, Arkiv Zool. ii, No. 18.

*Oryctes sjostedti*, Cameroons, KOLBE, p. 11, t. c. n. sp.

*Paranodon* n. n. for *Anodon*, COCKERELL, p. 104, Entomologist 1905.

*Pentodon*; note, with *P. reitteri* n. n., JAKOVLEV, pp. xv-xvii, Annuaire Mus. St. Petersb. lx.

*Prospileurus* n. g. for *Phileurus poggei* Har., KOLBE, p. 17, Arkiv Zool. ii, No. 18.

*Pycnoschema camerunum*, W. Africa, p. 6, *simplicicolle*, p. 7, *suillum*, p. 8, Angola, KOLBE, t. c.

*Temnorhynchus rugatus*, p. 9, *scutiger*, p. 10, Cameroons, KOLBE, t. c. n. spp.

*Trionychus strigipennis*, Madagascar, FAIRMAIRE, p. 119, Ann. Soc. ent. Belgique 1905, n. sp.

*Cetonini.*

[Cf. BRAEM (170), FAIRMAIRE (534, 537), HELLER (737), JANSON (815), LE COMTE (932, 933), MOSER (1076), WATERHOUSE (1589).]

*Cetoniide* of France, tables, LE COMTE, pp. 76-85, Bull. Soc. Nimes xxxii.

*Bettonia* n. g. near *Compscephalus*, *mutabilis* n. sp., E. Africa, WATERHOUSE, p. 377, Ann. Nat. Hist. (7) xv.

*Blesia subrugosa*, Bolivia, MOSER, p. 211, Ann. Soc. ent. Belgique 1905, n. sp.

*Bricoptis variolosa* var. *rufescens*, a distinct species, FAIRMAIRE, p. 123, Ann. Soc. ent. Belgique 1905.

*Cetonia aurata*, Italian varr., FIORI, p. 45, Riv. Col. ital. i; *C. aurata* var. n. *delfieui*, LE COMTE, p. 80, Bull. Soc. Nimes xxxii.

*C. (Potosia) mayeti*, Malta (or Benghazi), LE COMTE, p. 274, Bull. Soc. ent. France 1905, n. sp.

*Cetonischema speciosa* varr. n., NONFRIED, pp. 330-332, Stettin Ent. Zeit. lxvi.

*Chelorrhina krautzi*, Cameroons, MOSER, p. 210, Ann. Soc. ent. Belgique 1905, n. sp.

*Chloresthia* n. g. near *Heterorrhina*, *clypeata* n. sp., Kouitcheou, FAIRMAIRE, p. 91, Bull. Soc. ent. France 1905.

*Clinteria ornatipennis*, E. Africa, p. 212, *alboguttata*, Key Ids., p. 213, MOSER, Ann. Soc. ent. Belgique 1905, n. spp.

*Dicellachilus* n. g. near *Compscephalus*, p. 376, *woodi* n. sp., Usagara, p. 377, WATERHOUSE, Ann. Nat. Hist. (7) xv.

- Euphoria limbalis*, Florida, *holochloris*, Arizona, FALL, p. 273, Canad. Ent. 1905, n. sp.
- Fornasinius wesselsi*, Congo, BRAEM, p. 43, Ann. Soc. ent. Belgique 1905, n. sp.
- Gnorimus guerryi* n. n. for *flavitaris* Fairm., 1902, MOSER, p. 215, Ann. Soc. ent. Belgique 1905.
- Goniophilus rotundiceps*, E. Africa, MOSER, p. 214, Ann. Soc. ent. Belgique 1905, n. sp.
- Gymnetis, Allorhina, Cotinis* of N. America, taxonomy, SCHAEFFER, pp. 159, 160, Bull. Brooklyn Inst. i.
- G. impius*, Arizona, FALL, p. 272, Canad. Ent. 1905, n. sp.
- Lomaptera semicastanea* varr. n. *signata, rufipennis, plagiata* and *unicolor*, JANSON, p. 15, Ann. Nat. Hist. (7) xvi.
- L. pratti*, p. 12, *lutea*, p. 13, *rubens*, p. 15, *pulchella*, p. 16, *cupriceps*, p. 17, New Guinea, JANSON, t. c. ; *L. mycterophallus*, New Guinea, HELLER, p. 65, Deutsche ent. Zeitschr. 1905 : n. spp.
- Lophogastra* n. n. for *Lophophora* Kr., the species, FAIRMAIRE, p. 123, Ann. Soc. ent. Belgique 1905.
- Malacotonia* n. g. near *Linotarsia*, p. 121, *rufopicta* n. sp., Madagascar, p. 122, and including *Gametis clytus* Westw., and *Linotarsia cincticollis* Fairm., FAIRMAIRE, t. c.
- Morokia* n. g. near *Lomaptera*, *meeki* n. sp., New Guinea, JANSON, p. 11, Ann. Nat. Hist. (7) xvi.
- Neptunides polychrous* var. n. *manowensis*, MOSER, p. 210, Ann. Soc. ent. Belgique 1905, n. sp.
- Osmoderma brevipennis* ♀, PIC, p. 121, Echange xxi.
- Potosia incerta* var. n. *hypocrita*, RAGUSA, p. 291, Natural. Sicil. xvii.
- Protatia nigra*, Dammer Id., MOSER, p. 213, Ann. Soc. ent. Belgique 1905, n. sp.
- Rhynchocephala rufoscutata*, Madagascar, FAIRMAIRE, p. 122, Ann. Soc. ent. Belgique 1905, n. sp.
- Theodosia*, notes on the species, SCHWARZ, p. 102, P. ent. Soc. Washington vii.
- Tmesorrhina pectoralis*, E. Africa, MOSER, p. 211, Ann. Soc. ent. Belgique 1905, n. sp.
- Trichaulax sericea*, New Guinea, JANSON, p. 17, Ann. Nat. Hist. (7) xvi, n. sp.
- Trichius alboguttatus*, Assam, MOSER, p. 215, Ann. Soc. ent. Belgique 1905, n. sp.
- Valgus hemipterus*, metamorphosis, XAMBEU, p. 164, Naturaliste 1905.

## BUPRESTIDÆ.

[Cf. ABEILLE (3), CSIKI (378), FAIRMAIRE (534), FALL (539, 542), FLEUTIAUX (581), KERREMANS (835), OBST (1114), PIC (1184), REITTER (1249), SCHAEFFER (1323, 1324), THÉRY (1488, 1489), WATERHOUSE (1590), WICKHAM (1630).]

Revision of *Buprestidæ* of Madagascar, and discussion of the fauna, THÉRY (1488).

- Acmæodera arenicola*, Hungary, CSIKI, p. 578, Ann. Mus. Hungar. iii ; *A. amanicola*, Syria, PIC, p. 97, Echange xxi ; *A. angustata*, E. Africa, OBST, p. 432, Zool. Jahrb. Syst. xxii ; *A. fairmairei*, Madagascar, THÉRY, pl. i, fig. 1, p. 31, Bupr. Madag. : n. spp.
- Actenodes albifrons*, p. 111, *uniformis*, pl. iii, fig. 16, *frater*, fig. 17, p. 112, Madagascar, THÉRY, t. c. n. spp.
- Agæocera gentilis*=(*fenysei* Kerr.), WATERHOUSE, p. 577, Ann. Nat. Hist. (7) xv.
- Agrilus perrini* n. n. for *divaricatus* Ab., PIC, p. 185, Echange 1905.

- A. divaricatus*, Algeria, p. 207, *bedeli*, La Granja, p. 208, ABEILLE, Bull. Soc. ent. France 1905; *A. auroguttatus*, p. 149, *huachuca*, *quercus*, p. 150, Arizona, SCHAEFFER, Bull. Brooklyn Inst. iii; *A. subtropicus*, Texas, SCHAEFFER, p. 131, op. cit. i; *A. snowi*, Arizona, FALL, p. 271, Canad. Ent. 1905 : **n. spp.**
- Anthaxia salicis* var. *n. speciosa*, CSIKI, p. 581, Ann. Mus. Hungar. iii.
- A. nyassica*, Africa, OBST, p. 430, Zool. Jahrb. Syst. xxii; *A. ventricosa*, p. 106, *hydropica*, pl. ii, fig. 12, p. 107, *episcopalis*, fig. 13, *scabra*, fig. 14, *hova*, fig. 15, p. 108, Madagascar, THÉRY, Bupr. Madag. : **n. spp.**
- Aphanisticus bouvieri*, p. 144, *elegans*, *inornatus*, p. 145, *integricollis*, *sicardi*, p. 146, *maleficus*, p. 147, Madagascar, THÉRY, t. c. **n. spp.**
- Chrysobothris edwardsii* ♂, SCHAEFFER, p. 129, Bull. Brooklyn Inst. i.
- C. decorsei*, Madagascar, THÉRY, p. 109, Bupr. Madag.; *C. bimarginicollis*, Arizona, SCHAEFFER, p. 148, Bull. Brooklyn Inst. i; *C. thoracicus*, Lower California, p. 128, *serripes*, Utah, p. 130, SCHAEFFER, t. c. : **n. spp.**
- Chrysodema ventralis*=(*navicularis* Kerr.), *C. dohrnii*=(*fairmairei* Kerr.) *mnizechi* being distinct, *C. wallacei*=(*sumatrensis* Kerr.), WATERHOUSE, p. 583, Ann. Nat. Hist. (7) xv.
- C. yerburyi*, Ceylon, WATERHOUSE, p. 583, t. c. **n. sp.**
- Cinyra purpurascens*, Lower California, SCHAEFFER, p. 127, Bull. Brooklyn Inst. i, **n. sp.**
- Coræbus orientalis*, Bucharest, ABEILLE, p. 207, Bull. Soc. ent. France 1905, **n. sp.**
- Cylindromorphus albifrons*, Madagascar, pl. v, fig. 28, THÉRY, p. 141, Bupr. Madag. **n. sp.**
- Dicerca alni*, food-habits, MOLLANDIN, p. 95, Bull. Soc. ent. France 1905.
- Dilopholotus flacourti*, p. 130, *farinosus*, p. 131, *mocquerysi*, *decorsei*, p. 132, *inconstans*, pl. iv, fig. 22, p. 133, *nivifera*, p. 134, *decoloratus*, fig. 23, p. 135, *fallax*, fig. 24, *inornatus*, fig. 25, p. 136, *abeillei*, fig. 26, p. 137, *tristis*, p. 138, *crassus*, fig. 27, *spurcus*, p. 139, Madagascar, THÉRY, Bupr. Madag. **n. spp.**
- Discoderes ampliatus*, Madagascar, FAIRMAIRE, p. 124, Ann. Soc. ent. Belgique 1905, **n. sp.**
- Dystaxia elegans*, San Diego, FALL, p. 71, Ent. News Philad. xvi, **n. sp.**
- Ectinogonia compositi*, Guayaquil, THÉRY, p. 152, Naturaliste 1905, **n. sp.**
- Entomogaster mocquerysi*, *asperulus*, pl. iv, fig. 20, Madagascar, THÉRY, p. 120, Bupr. Madag. **n. spp.**
- Galbella insularis*, pl. vii, fig. 48, p. 167, *chrysonota*, fig. 49, p. 168, *pretiosa*, fig. 50, 51, p. 169, *byrrhoides*, fig. 52, *limbata*, fig. 53, p. 170, *antiqua*, fig. 54, p. 171, Madagascar, THÉRY, t. c. **n. spp.**
- Gyascutus juniperinus*, Utah, WICKHAM, p. 167, Canad. Ent. 1905, **n. sp.**
- Halecia soror*, Ecuador, p. 577, *trilineata*, Mexico, p. 578, *elongata*, *buckleyi*, Ecuador, p. 579, *seccostata*, Bogota, p. 580, *rugosa*, p. 581, *viridisplendens*, Brazil, p. 582, WATERHOUSE, Ann. Nat. Hist. (7) xv, **n. spp.**
- Hypoprasia magnifica*, *harpago*, distinguished, WATERHOUSE, p. 577, t. c.
- Iridotenia lineata*=(*javana* Kerr.), WATERHOUSE, p. 583, t. c.
- Julodis mathiesseni*, Persia, REITTER, p. 204, Wien. ent. Zeit. xxiv; *J. bouvieri*, Persia, p. 227, *damarina*, Namaqualand, p. 286, *karrooana*, S. Africa, p. 302, KERREMANS, Mon. Buprest. i : **n. spp.**
- Mastogenius robustus*, Arizona, SCHAEFFER, p. 148, Bull. Brooklyn Inst. i, **n. sp.**
- Melanophila hungarica*, Hungary, CSIKI, p. 579, Ann. Mus. Hungar. iii, **n. sp.**
- Melibæus insipidus*, Madagascar, THÉRY, pl. iv, fig. 21, p. 123, Bupr. Madag. **n. sp.**

- Neoptosima* n. g. p. 35, including *Ptos. sericea* and *fairmairei*, and with *kerremansi*, p. 36, *spinosa*, *deplanata*, p. 37, n. spp., Madagascar, THÉRY, t. c.
- Paracastalia ornatipectennis*, p. 412, *minima*, p. 418, E. Africa, KERREMANS, Mon. Buprest. i, n. spp.
- Polycesta elata* a distinct species, FALL, p. 73, Ent. News Philad. xvi.
- Pseudacherusia* n. g. p. 382, *theryi* n. sp., Goyaz, p. 384, pl. vii, fig. 1, KERREMANS, Mon. Buprest. i.
- Pseudocoræbus* n. g. near *Chloricalla*, *mocquerysi*, pl. iii, fig. 18, n. sp., Madagascar, THÉRY, p. 121, Bupr. Madag.
- Psiloptera aspasia* Gerst. and *rubrocincta* Kerr. are the same, but *quadri-areolata* Fährs. and *bioculata* Ol. are distinct, *P. nigroænea* Kerr. = (*soror* Obst) and *subcatenulata* Thoms. = (*ænea* Obst), OBST, pp. 426, 427, Zool. Jahrb. Syst. xxii.
- P. sexnotata*, E. Africa, OBST, p. 423, t. c.; *P. albovittata*, E. Africa, OBST, p. 429, t. c.; *P. (Lampetis) decorsei*, pl. i, fig. 4, p. 42, *vabreasi*, *lemur*, p. 43, *cyclops*, p. 44, *pater*, p. 45, *P. (Alampetis) sordida*, p. 48, *donckieri*, pl. i, fig. 9, p. 49, *P. (Apatea) abeilli*, p. 54, *P. rubibipes*, *fallax*, *longicollis*, p. 57, *alcyon*, pl. i, fig. 6, p. 59, *pandus*, p. 60, *moralesi*, pl. ii, fig. 7, p. 62, *grandidieri*, p. 65, *mocquerysi*, p. 68, *wautersi*, p. 75, *adpersipennis*, p. 76, *rustica*, *republicana*, pl. ii, fig. 9, p. 78, *pulverulenta*, p. 80, *nivifera*, p. 84, *errata*, *angulosa*, p. 99, *heydeni*, pl. ii, fig. 10, p. 100, *diecki*, fig. 11, p. 101, Madagascar, THÉRY, Bupr. Madag.; *P. cupreopunctata*, Texas, SCHAEFFER, p. 147, Bull. Brooklyn Inst. i : n. spp.
- Ptosima* 11-*maculata* var. n. *multimaculata*, PIC, p. 177, Echange xxi.
- Sphenoptera aliena*, E. Africa, OBST, p. 424, Zool. Jahrb. Syst. xxii, n. sp.
- Stenianthe carbonaria*, Madagascar, THÉRY, pl. i, fig. 2, p. 35, Bupr. Madag. n. sp.
- Sternocera frutetorum*, Nyassa, p. 142, KERREMANS, Mon. Buprest. i, n. sp.
- Sternotomis pupieri*, Comoro Ids., FLEUTIAUX, p. 7, Bull. Soc. ent. France 1905, n. sp.
- Trachys hova*, pl. v, fig. 20, *mocquerysi*, fig. 30, p. 150, *vivida*, fig. 31, p. 151, *decorsei*, fig. 32, *sicardi*, p. 153, *cambouei*, fig. 33, *spectrum*, fig. 34, p. 154, *niobæ*, fig. 35, *nyctelia*, fig. 36, p. 155, *immota*, fig. 37, p. 156, *corculum*, fig. 38, *dedita*, fig. 39, p. 157, *dira*, pl. vi, fig. 40, *grandiceps*, fig. 41, p. 158, *kervillei*, fig. 42, *fischeri*, fig. 43, p. 159, *compacta*, fig. 44, *creon*, fig. 45, p. 160, *deliæ*, pl. vii, fig. 46, p. 161, *corinna*, fig. 47, p. 162, Madagascar, THÉRY, Bupr. Madag. n. spp.

## EUCNEMIDÆ and THROSCIDÆ.

- Phyllocerus diversicornis*, Taurus, PIC, p. 181, Echange xxi, n. sp.
- Throsus bachofeni*, Transcaspian, REITTER, p. 91, Wien. ent. Zeit. xxiv, n. sp.

## ELATERIDÆ.

[Cf. DU BUYSSON (226-228), FALL (542), FIORI (569), FLEUTIAUX (580), PIC (1187, 1191), REITTER (1245), SCHWARZ (1169, 1170).]

*Elateridæ*, table of genera of palæarctic, of the families of *Sternoxia* and of the species of *Athouina*, REITTER, Verh. Ver. Brunn xliii. Heft lvi of Bestimmungs-Tabelle.

*Adelocera auricollis*, Madagascar, SCHWARZ, p. 273, Deutsche ent. Zeitschr. 1905; *A. subaurata*, Ceylon, SCHWARZ, p. 257, t. c. : n. spp.

*Æolus* and *Heteroderes*, relations, FLEUTIAUX, p. 322, Ann. Soc. ent. France 1905.

- Agonischius subaenescens*, Assam, SCHWARZ, p. 263, Deutsche ent. Zeitschr. 1905, n. sp.
- Agriotes rubidicinctus*, Mantchuria, DU BUYSSON, p. 16, Bull. Mus. Paris 1905, n. sp.
- Alaotypus duchoni*, Assam, SCHWARZ, p. 257, Deutsche ent. Zeitschr. 1905, n. sp.
- Alaus rotundimaculatus*, p. 284, *brevipennis*, *nigromaculatus*, p. 285, *tigrinus*, p. 286, W. Africa, SCHWARZ, t. c. n. spp.
- Alcimatous* subg. n. of *Athous* for *A. sacheri* Kies., REITTER, p. 42, Verh. Ver. Brunn xliii.
- Arraphes diptychus* Cand. var. = (*confusus* Fleut.), FLEUTIAUX, p. 327, Ann. Soc. ent. France 1905.
- Athous*; treated, BUYSSON, pp. 337-368, Faune gallo-rhénane; also REITTER, Verh. Ver. Brunn xliii.
- A. olcesei*, Tangier, BUYSSON, p. 211, Bull. Soc. ent. France 1905; *A. corvinus*, Syria, p. 38, *pullus*, Caucasus, *plicatulus*, E. Siberia, p. 40, *A. (Grypocarus) densatus*, S.-E. Europe, p. 43, *vittatoides*, Albania, p. 46, *A. (Anathrotus) villigeroides*, Monte Rosa, p. 55, *A. (Haplathous* subg. n. p. 61) *corcyreus*, p. 62, *kerkyranus*, p. 63, Corfu, *milleri*, Istria, p. 65, *angulifrons*, Eur. mont. p. 66, *stellatus*, Carnian Alps, p. 67, *dilatatornis*, Crimea, p. 68, *carpathicus*, Rodna mts. p. 71, *sosybius*, Daghestan, p. 73, *turcicus*, Turkey, p. 75, *A. (Orthathous* subg. n. p. 80) *leonhardi*, Herzegowina, p. 81, *harmodius*, *holtzi*, Greece, p. 85, *apfelbecki*, Servia, p. 86, *krugeri*, N. Spain, p. 88, *singularis*, Dalmatia, p. 89, *caviformis*, p. 90, *meuseli*, Bosnia, *cavulus*, Nikolajew, p. 91, *lomnickii*, Galicia, p. 92, *A. (Grypocarus* subg. n. p. 92) *gerezianus*, Spain, p. 99, *serbicus*, Bosnia, *gobanzi*, Dalmatia, p. 105, *picipennis*, Banat, *carpathophilus*, Transsylvania, p. 106, *cervicolor*, Asturias, p. 107, *goriciensis* Görz, p. 110, *plagipennis*, Hungary, p. 112, REITTER, Verh. Ver. Brunn xliii: n. spp.
- Calambus bipustulatus* var. n. *epipleuralis*, DU BUYSSON, p. 17, Bull. Mus. Paris 1905.
- Cardiophorus latelimbatus*, Marocco, PIC, p. 105, Echange xxi; *C. impevus*, Biskra, p. 209, *sbeilensis*, Tunis, p. 210, DU BUYSSON, Bull. Soc. ent. France 1905; *C. differens*, Madagascar, p. 289, *obliquemaculatus*, Natal, p. 290, SCHWARZ, Deutsche ent. Zeitschr. 1905; *C. arizonensis*, Arizona, FALL, p. 270, Canad. Ent. 1905: n. spp.
- Cardiotarsus nitidissimus*, Madagascar, SCHWARZ, p. 290, Deutsche ent. Zeitschr. 1905, n. sp.
- Compsolacon* n. g. for *Archontas crenicollis*, REITTER, p. 6, Verh. Ver. Brunn xliii.
- Corymbites africanus*, Transvaal, SCHWARZ, p. 291, Deutsche ent. Zeitschr. 1905, n. sp.
- Diacanthous* subg. n. of *Harmini* for *Athous undulatus*, REITTER, p. 25, Verh. Ver. Brunn xliii.
- Dicronychus crassipes*, S. Thomé, SCHWARZ, p. 282, Deutsche ent. Zeitschr. 1905, n. sp.
- Dorigonus ceylanicus*, Kandy, FLEUTIAUX, p. 321, Ann. Soc. ent. France 1905, n. sp.
- Drasterius bimaculatus*, *figuratus*, *egyptiacus*, DU BUYSSON, p. 18, Bull. Mus. Paris 1905; *D. bimaculatus wachsmanni* subsp. n., REITTER, p. 91, Wien. ent. Zeit. xxiv.
- Elasmosomus apicalis*, p. 273, *pulchellus*, p. 274, *pulcher*, p. 275, Africa, SCHWARZ, Deutsche ent. Zeitschr. 1905, n. spp.
- Elathouina* n. g. for *A. amicus* Perr., REITTER, p. 19, Verh. Ver. Brunn xliii.
- Elatrigus* n. g. for *Tetrigus cypricus* Baudi, REITTER, p. 10, t. c.
- Euplathous* subg. n. of *Athous* type *A. vanus* Duf., REITTER, p. 76, t. c.



- Grypathous* subg. n. cf. *Athous*.  
*Haplathous* subg. n. cf. *Athous*.  
*Harminius* (*Megathous* subg. n. p. 27) for *Athous menetriesi*, major, Styria, p. 28, *jakobsoni*, Mongolia, n. spp., p. 29, REITTER, Verh. Ver. Brunn xliii.  
*Hemicleus fasciculatus*, p. 276, *longicollis*, p. 277, Africa, SCHWARZ, Deutsche ent. Zeitschr. 1905, n. spp.  
*Hemiops assamensis*, p. 264, *duchoni*, p. 265, Assam, *angularis*, Sumatra, p. 266, SCHWARZ, t. c. n. spp.  
*Hemirraphes bivittatus*, S. India, FLEUTIAUX, p. 326, Ann. Soc. ent. France 1905, n. sp.  
*Heterathous* subg. n. of *Athous* for *A. sanguinicollis* Friv., REITTER, p. 32, Verh. Ver. Brunn xliii.  
*Homotechnes brunneus*, S. India, FLEUTIAUX, p. 325, Ann. Soc. ent. France 1905, n. sp.  
*Hypnooidus incommodus*, p. 325, *monadicoides*, *candezei*, p. 326, India, FLEUTIAUX, t. c. n. spp.  
*Lacon nebulosus*, *bigranosus*, Madagascar, SCHWARZ, p. 278, Deutsche ent. Zeitschr. 1905; *L. niger*, Darjiling, p. 258, *principatus*, Ceylon, p. 259, SCHWARZ, t. c. : n. spp.  
*Leptoschema* = (*Elathous* Reitt.), REITTER, p. 20, Verh. Ver. Brunn xliii.  
*Limonicus* n. g. for part of *Limonius*, *violaceus* etc., REITTER, p. 14, t. c.  
*Limonius* (*Propheletes* subg. n.) *grandii*, Bologna, FIORI, p. 131, Riv. Col. ital. iii, n. sp.  
*Lobotarsus ambiguus*, p. 279, *maculatus*, p. 280, Madagascar, *miser*, Gaboon, p. 281, SCHWARZ, Deutsche ent. Zeitschr. 1905, n. spp.  
*Ludius cinctus* var. n. *semitestacea*, PIC, p. 181, Bull. Soc. ent. France 1905.  
*L. (Calosirus) incostatus*, Syria, p. 169, *L. (Selatosomus) taygetanus*, Morea, p. 170, PIC, t. c. ; *L. maindroni*, S. India, FLEUTIAUX, p. 329, Ann. Soc. ent. France 1905 : n. spp.  
*Megathous* subg. n. cf. *Harminius*.  
*Melanathous* n. g. *sequensi* n. sp., Taygetos, REITTER, p. 25, Verh. Ver. Brunn xliii.  
*Melanoxanthus motschulskyi*, N. India, p. 323, *pomachilioides*, Nilgiris, p. 324, FLEUTIAUX, Ann. Soc. ent. France 1905, n. spp.  
*Negastrius quadriguttatus*, larva and pupa, pl. figg. 3, 4, p. 34, MjöBERG, Arkiv Zool. ii, No. 17.  
*Nomopleus fleutiauxi*, S. Africa, *macer*, E. Africa, p. 20, SCHWARZ, p. 292, Deutsche ent. Zeitschr. 1905, n. spp.  
*Odontonychus niger*, Cameroons, SCHWARZ, p. 281, t. c. n. sp.  
*Orthathous* subg. n. cf. *Athous*.  
*Paratacon* n. g. for *Lacon cinnamomeus* Cand. ?, REITTER, p. 6, Verh. Ver. Brunn xliii.  
*Penia lateralis*, p. 261, *marmorata*, *bimaculata*, p. 262, *niger*, p. 263, N. India, SCHWARZ, Deutsche ent. Zeitschr. 1905, n. spp.  
*Phedomenus pallipes*, Madagascar, p. 287, *bipunctatus*, W. Africa, p. 288, SCHWARZ, t. c. n. spp.  
*Pleurathous* subg. n. of *Athous* type *A. godarti*, REITTER, p. 48, Verh. Ver. Brunn xliii.  
*Procererus* n. g. for *Megapenthes tibialis* etc., REITTER, p. 11, t. c.  
*Propheletes* subg. n. cf. *Limonius*.  
*Psephus assamensis*, Kohima, SCHWARZ, p. 260, Deutsche ent. Zeitschr. 1905, n. sp.  
*Silesis vaulogeri*, Algeria, BUYSSON, p. 110, Bull. Soc. ent. France 1905, n. sp.  
*Spilus africanus*, W. Africa, SCHWARZ, p. 283, Deutsche ent. Zeitschr. 1905, n. sp.  
*Tetralobus duchoni*, Assam, SCHWARZ, p. 260, t. c. n. sp.

*Tropihypnus* n. g. for *Paracardiophorus bimargo* Reitt., REITTER, p. 9, Verh. Ver. Brunn xliii.

## CEBRIONIDÆ.

*Cebrio xanthoderes* var. n. *vaulogeri*, p. 153, *C. guyoni* var. n. *obscurior*, p. 154, PIC, Echange xxi.  
*C. subattenuatus*, *pelissieri*, Algeria, PIC, p. 154, t. c. n. spp.

## MALACODERMIDÆ.

[*(Cf. BARBER (75), BOURGEOIS (150-157), CHAIGNON (296), FAIRMAIRE (534), FIORI (568, 570), GORHAM (676), GOUNELLE (677), KNAB (871), OLIVIER (1121-1123), PIC (1180, 1182, 1186, 1187, 1189-1193).*)]

Isochromism of *Lycidæ*, and of insects resembling them, GOUNELLE, Bull. Soc. ent France 1905, pp. 132-134.

- Absidia obscuricolor*, Japan, PIC, p. 121, Echange xxi, n. sp.  
*Acanthocnemus brevicornis*, note, PIC, p. 23, Bull. Soc. ent. France 1905.  
*Anthocomus coriaceus*, S. Africa, GORHAM, p. 275, P. Zool. Soc. London 1905, ii, n. sp.  
*Astylus argentinus*, S. America, PIC, p. 92, Naturaliste 1905, n. sp.  
*Attalus nourricheli*, var. n. *marginatus*, LEONI, pp. 106-109, Riv. Col. ital. iii.  
*A. fruhstorferi*, Darjeeling, PIC, p. 92, Naturaliste 1905; *A. obscuripennis*, Algeria, PIC, p. 154, Echange xxi : n. spp.  
*Axinotarsus robustus*, Tangier, PIC, p. 106, t. c. n. sp.  
*Calopteron variegatum* var. n. *flavofusciatum*, p. 11, *torquatum albofasciatum* var. n. p. 113, *reticulatum inhumeralis* var. n. p. 115, *melanoxanthum geayianum* var. n. p. 117, *limbatum signatum* var. n. p. 119, BOURGEOIS, Ann. Soc. ent. France 1905.  
*Cantharis bicolor* var. n. *discotestacea*, *C. lateralis* var. n. *nigronotata*, PIC, p. 186, Echange 1905; *C. parnassicus* var. n. *lutemaculata*, PIC, p. 161, t. c.; *C. fusca* var. n. *mariscana fracassii*, LEONI, p. 130, Riv. Col. ital. iii.  
*C. guilleti*, Japan, PIC, p. 113, Echange xxi, n. sp.  
*Cladophorus bifrensis*, p. 191, *bolivari*, p. 192, Spanish Guinea, BOURGEOIS, Mem. Soc. Espan. i; *C. satrapa*, Kurseong, BOURGEOIS, p. 47, Ann. Soc. ent Belgique 1905 : n. spp.  
*Curtos motschulskyi*, Java, OLIVIER, p. 208, Ann. Soc. ent. Belgique 1905, n. sp.  
*Cyrtopteron* n. g. for part of *Calopteron*, BOURGEOIS, p. 122, Ann. Soc. ent. France 1905.  
*Cyrtosus baborensis*, Algeria, PIC, p. 121, Echange xxi, n. sp.  
*Dalthomes* subg. n. cf. *Malthodes*.  
*Danacaca moreana*, Greece, PIC, p. 161, Echange xxi, n. spp.  
*Dictyopectera taygetana*, Greece, PIC, p. 185, t. c.; *D. braeti*, Kurseong, BOURGEOIS, p. 47, Ann. Soc. ent. Belgique 1905 : n. spp.  
*Dolichomorphus* subg. n. cf. *Psilothrix*.  
*Drilus creticus*, Crete, PIC, p. 170, Echange xxi, n. sp.  
*Ebæus carinatipennis*, Sikkim, PIC, p. 92, Naturaliste 1905, n. sp.  
*Hedonistes* n. g. near *Hedybius*, p. 278, *latus*, n. sp., Cape Colony, p. 279, GORHAM, P. Zool. Soc. London 1905, ii.  
*Hedybius sculpticeps*, p. 275, *quadricornis*, p. 276, S. Africa, GORHAM, t. c. n. spp.  
*Idiopteron* n. g. for part of *Calopteron*, p. 120, *bivittatum* var. n. *morosum*, p. 121, BOURGEOIS, Ann. Soc. ent. France 1905.

- Laius diabolicus*, Sumatra, *rouyeri*, *carinaticeps*, Java, PIC, p. 104, Echange xxi; *L. variolosus*, *miles*, Ceylon, BOURGEOIS, p. 131, Ann. Soc. ent. France 1905 : **n. spp.**
- Luciola italica*, nature of light, PASSERINI, pp. 181-183, Bull. Soc. ent. Ital. xxxvi.
- L. horni*, *antennalis*, Ceylon, BOURGEOIS, p. 128, Ann. Soc. ent. France 1905; *L. gemina*, White Nile, OLIVIER, p. 9, Jägerskiöld exp. No. 10a; *L. krugeri*, *mendax*, Africa, *nitescens*, Borneo, p. 206, *sordida*, Java, *calceata*, Pondichery, p. 207, OLIVIER, Ann. Soc. ent. Belgique 1905 : **n. spp.**
- Lycostomus nigricollis*, Kurseong, BOURGEOIS, p. 46, Ann. Soc. ent. Belgique 1905, **n. sp.**
- Lycus (Lycostomus) vaucheri*, Atlas, BOURGEOIS, p. 291, Bull. Soc. ent. France 1905, **n. sp.**
- Macrolampis*; redefined, p. 311, *M. omisus*, *elapsus*, p. 315, *roberti*, *frater*, *distinguendus*, p. 316, *transversenotatus*, *agonus*, p. 317, *meditabundus*, *cylindrus*, p. 318, **n. spp.**, S. America, OLIVIER, Ann. Soc. ent. France 1905.
- Malthinus bilineatus* var. *n. neapolitana*, PIC, p. 186, Echange 1906.
- M. nitidithorax*, p. 145, *terrestris*, p. 146, Algeria, PIC, t. c. **n. spp.**
- Malthodes maurus*; *Podistrina continua* is wingless ♀, BOURGEOIS, p. 238, Bull. Soc. ent. France 1905.
- M. gavoyni*, Aude, BOURGEOIS, p. 21, t. c.; *M. grandicornis*, Algeria, PIC, p. 106, Echange xxi; *M. cortadesi*, *inapicalis*, Algeria, PIC, p. 146, t. c.; *M. (Dalthomes* subg. *n. p.* 248) *bertolinii*, Italy, p. 248, FIORI, Riv. Col. ital. iii : **n. spp.**
- Malthodinus* subg. *n.* of *Maltharcus*, FIORI, p. 236, t. c.
- Mesomalthodes* **n. g.** for part of *Malthodes*, pp. 236, 250, FIORI, t. c.
- Mesopteron* **n. g.** for part of *Calopteron*, p. 123, *riveti* **n. sp.**, Ecuador, p. 125, BOURGEOIS, Ann. Soc. ent. France 1905.
- Metapteron* **n. g.** for part of *Calopteron*, BOURGEOIS, p. 126, t. c.
- Phengodes plumosa*, light of, KNAB, p. 239, Canad. Ent. 1905; *P. laticollis*, sexes, BARBER, p. 196, P. ent. Soc. Washington 1905; *P. hieronymi*, SCHWARZ, p. 197, t. c.
- Philhedonus sericeus*, p. 277, *rugulosus*, p. 278, S. Africa, GORHAM, P. Zool. Soc. London 1905, ii, **n. spp.**
- Photuris*, display of light, KNAB, p. 238, Canad. Ent. 1905.
- P. corvus*, Bolivia, p. 208, *vestita*, *subdola*, Brazil, p. 209, OLIVIER, Ann. Soc. ent. Belgique 1905, **n. spp.**
- Plateros (Planeteros) curtus*, *escalerae*, p. 194, *flavus*, p. 195, Spanish Guinea, BOURGEOIS, Mem. Soc. Espan. i, **n. spp.**
- Podabrus alpinus* var. *n. ruficeps*, GABRIEL, p. 142, Deutsche ent Zeitschr. 1905.
- P. longissimus*, Japan, PIC, p. 113, Echange xxi, **n. sp.**
- Promalthodes* **n. g.** for part of *Malthodes*, pp. 235, 240, FIORI, Riv. Col. ital. iii.
- Prothalmodes* subg. *n.* of *Malthodes*, FIORI, p. 239, t. c.
- Psilothrix (Dolichomorpha)* subg. *n.* *rustmanus*, Bologna, FIORI, p. 82, t. c. **n. sp.**
- Rhagonycha fulva*, oviposition, FRIEDRICH, p. 493, Zeitschr. Insbiol. i; *R. testacea* var. *n. taurinensis*, PIC, p. 105, Echange xxi.
- R. forticornis*, Bulghar Dagh, PIC, p. 177, t. c.; *R. holtzi*, Greece, PIC, p. 186, t. c.; *R. (Absidia) vaulogeri*, Algeria, BOURGEOIS, p. 106, Bull. Soc. ent. France 1905; *R. drurei*, Kurdistan, PIC, p. 161, Echange xxi; *R. caroli*, Japan, PIC, p. 121, t. c. : **n. spp.**
- Selasia (Euptilia) horni*, Ceylon, BOURGEOIS, p. 130, Ann. Soc. ent. France 1905, **n. sp.**
- Silis ceylonica*, Kandy, BOURGEOIS, p. 129, Ann. Soc. ent. France 1905 ;

- S. spinicollis*, Madagascar, FAIRMAIRE, p. 124, Ann. Soc. ent. Belgique 1905 : **n. spp.**
- Stadenus boliviari*, Spanish Guinea, BOURGEOIS, p. 193, Mem. Soc. Espan. i, **n. sp.**
- Telephorus*; larval habits, REMER, pp. 12-14 z.-b. Sekt., Jahresber. Schlesisch. Ges. lxxxi.
- T. testaceipes*, Madagascar, FAIRMAIRE, p. 124, Ann. Soc. ent. Belgique 1905, **n. sp.**
- Trichocele fulvohirta* and allies, FIORI, p. 87, Riv. Col. ital. iii.
- Zelotypus horni*, Ceylon, BOURGEOIS, p. 132, Ann. Soc. ent. France 1905, **n. sp.**
- Zygia notaticollis*, Obock, PIC, p. 130, Echange xxi; *Z. alluaudi*, E. Africa, PIC, p. 303, Bull. Soc. ent. France 1905 : **n. spp.**
- Xylobanus cardoni*, Bengal, BOURGEOIS, p. 48, Ann. Soc. ent. Belgique 1905, **n. sp.**

## CLERIDÆ.

- [Cf. GORHAM (676), HINTZ (750), SCHAEFFER (1324), SKINNER (1408), WICKHAM (1630).]
- Aphelochroa nigripes*, W. Africa, HINTZ, p. 308, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Cardiostichus*; the W. African, HINTZ, p. 310, t. c.
- Cephaloclerus tibialis*, p. 311, *flavipes*, p. 312, W. Africa, HINTZ, t. c. **n. spp.**
- Clerus quercus*, p. 154, *pinus*, Arizona, *humeralis*, California, p. 155, SCHAEFFER, Bull. Brooklyn Inst. i : *C. bimaculatus*, Arizona, SKINNER, p. 291, Ent. News Philad. xvi : **n. spp.**
- Cylidrus*; colour-variation, etc., HINTZ, p. 305, Deutsche ent. Zeitschr. 1905.
- Cymatodera*; sex-characters, SCHAEFFER, pp. 152, 153, Bull. Brooklyn Inst. i.
- C. uniformis*, Arizona, p. 151, *santarosa*, Lower California, p. 152, SCHAEFFER, t. c.; *C. tricolor*, Arizona, SKINNER, p. 292, Ent. News Philad. xvi : **n. spp.**
- Dozocolletus sordidus*, Algoa Bay, GORHAM, p. 274, P. Zool. Soc. London 1905, ii, **n. sp.**
- Erymanthus ater*, W. Africa, HINTZ, p. 309, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Euplacocerus dimidiatus* var. = (*apicalis*), HINTZ, p. 311, t. c.
- Gyponyx algoensis*, p. 272, *braunsi*, p. 273, S. Africa, GORHAM, P. Zool. Soc. London 1905, ii, **n. spp.**
- Hydnocera niveifascia*, Arizona, SCHAEFFER, p. 156, Bull. Brooklyn Inst. i; *H. knausii*, Kansas, WICKHAM, p. 168, Canad. Ent. 1905 : **n. spp.**
- Necrobia pilifera* var. *n. cupreonitens*, LAUFFER, p. 406, Bol. Soc. espan. v.
- Opilo signatus*, W. Africa, HINTZ, p. 307, Deutsche ent. Zeitschr. 1905, **n. sp.**
- Orthopleuroides*, characters; HINTZ, p. 313, t. c.
- Oxystigmatium cornutum*, W. Africa, HINTZ, p. 309, t. c. **n. sp.**
- Philocalus convexus*, *elongatus*, W. Africa, HINTZ, p. 306, t. c. **n. spp.**
- Phloxocopus niger*, *rufipennis*, Africa, HINTZ, p. 307, t. c. **n. spp.**
- Plathanocera albopunctata*, W. Africa, HINTZ, p. 310, t. c. **n. sp.**
- Tenerus orientalis* to *Lacordairius*, HINTZ, p. 314, t. c.
- T. marginalis*, p. 312, *grandis*, *miniatus*, *auratus*, p. 313, W. Africa, HINTZ, t. c. **n. spp.**
- Thanasimus ornatus*, W. Africa, HINTZ, p. 308, t. c. **n. sp.**
- Tillodeneops* **n. g.** p. 305, *brunneus*, **n. sp.**, W. Africa, p. 306, HINTZ, t. c.
- Thriocera bicinctella*, S. Africa, GORHAM, p. 274, P. Zool. Soc. London 1905, ii, **n. sp.**

## PTINIDÆ.

[Cf. FALL (538), LEA (928), LEINBERG (934), PIC (1175, 1182, 1187, 1188, 1192).]

Revision of *Ptinidæ* of North America, FALL, pp. 97-295, Tr. Amer. ent. Soc. xxxi.

- Actenobius* n. g. for part of *Euceratocerus*, FALL, p. 155, t. c.  
*Anobiopsis* n. g. p. 177, *sericans*, n. sp., California, p. 178, FALL, t. c.  
*Cænocara frontalis*, p. 271, *blanchardi*, p. 273, *neomexicana*, p. 274, *tenuipalpa*, p. 275, *inepta*, *ovalis*, p. 276, N. America, FALL, t. c. n. spp.  
*Cathorama cribrata*, *goyosensis*, Brazil, PIC, p. 92, Naturaliste 1905; *C. vitiosum*, *impressifrons*, p. 234, *mutans*, p. 235, *grande*, *lentum*, *conophilum*, p. 236, *simplex*, *metasternale*, *inæquale*, p. 237, *gibbulum*, p. 238, *carinatum*, p. 239, *densum*, *dichroum*, *nigripenne*, p. 240, *dispar*, p. 241, *vestitum*, *placidum*, p. 242, *posticum*, *tumidum*, *nubilum*, p. 243, *longulum*, *uniforme*, *fastigiatum*, p. 244, *otiosum*, *congruum*, *vexatum*, p. 245, *porosum*, *convexum*, p. 247, *politum*, *triviale*, *conjunctum*, p. 248, *conso-brinum*, p. 249, *pingue*, *vacuum*, p. 250, *cicatricosum*, *geminatum*, p. 251, *gracile*, *mancum*, *validum*, *confusum*, p. 252, *angustum*, p. 253, *parvum*, *turbidum*, p. 254, *indistinctum*, *exiguum*, p. 255, N. America, FALL, Tr. Amer. ent. Soc. xxxi : n. spp.  
*Cælostethus americanus*, p. 178, *alternatus*, *truncatus*, p. 188, FALL, t. c. n. spp.  
*Colposternus* n. g. for *Trypopytis tenuilineatus* Horn, FALL, p. 190, t. c.  
*Cryptorama* n. g. *oblongum*, Lower California, p. 256, *vorticale*, p. 257, n. spp., N. America, FALL, t. c.  
*Episernus granulatus* var. n. *sulcatus*, LEINBERG, p. 18, *angulicollis* var. n. *striatulus*, p. 20.  
*E. tenuicollis*, Finland, id., p. 21, t. c. n. sp.  
*Ernobius nigrinus* and allies distinguished, GERHARDT, p. 221, Deutsche ent. Zeitschr. 1905.  
*E. socialis*, p. 142, *convergens*, p. 143, *collaris*, *crotchii*, p. 144, *lacustris*, *fissuratus*, *nigrans*, p. 146, *pallitarsis*, *montanus*, p. 147, *opicus*, p. 149, *gentilis*, *trapezoideus*, p. 151, N. America, FALL, Tr. Amer. ent. Soc. xxxi, n. spp.  
*Eupactus* (= *Thaptor* Gorb.) *nactus*, *advenus*, *obsoletus*, p. 220, *amænus*, *mixtus*, p. 221, *canonicus*, *similis*, p. 222, N. America, FALL, t. c.; *E. dejeani*, Mexico, PIC, p. 115, Echange xxi; *E. testaceipes*, Cuba, PIC, p. 92, Naturaliste 1905 : n. spp.  
*Eutylistus* n. g. p. 264, *ulkei*, *levisternus*, p. 266, *fallax*, p. 267, *facilis*, p. 268, n. spp., N. America, FALL, Tr. Amer. ent. Soc. xxxi.  
*Euvrilletta* n. g. p. 196, *xyletinoides* n. sp., p. 197, California, FALL, t. c.  
*Hadrobregmus defectus*, p. 182, *pusillus*, p. 183, *laticollis*, *umbrosus*, p. 184, N. America, FALL, t. c. n. spp.  
*Hedobia angulata*, California, FALL, p. 130, t. c. n. sp.  
*Lasioderma bicolor*, *semirufum*, *hemiptychoides*, N. America, FALL, p. 205, t. c. n. spp.  
*Megorama* n. g. p. 206, *viduum*, p. 207, *ingens*, p. 208, n. spp., California, FALL, t. c.  
*Microbregma emarginatum* var. n. *granicollis*, FALL, p. 185, t. c.  
*Microzogus* n. g. *insolens* n. sp., Florida, FALL, p. 135, t. c.  
*Niptinus* n. g. *ovipennis* n. sp. p. 108, Texas, FALL, t. c.  
*Oligomerodes* n. g. *occidentalis*, p. 161, *catalinae*, p. 162, n. spp., N. America, FALL, t. c.  
*Oligomerus tenellus*, p. 164, *californicus*, p. 165, *brevipilis*, p. 166, n. spp., N. America, FALL, t. c.

- Ozognathus dubius*, Arizona, FALL, p. 137, t. c. **n. sp.**  
*Paralobium n. g.* p. 152, *mundum n. sp.*, California, p. 153, FALL, t. c.  
*Paussoptinus n. g.* p. 381, between *Paussidæ* and *Ptinidæ*, *laticornis n. sp.*,  
 Australia, p. 382, pl. xxvii, f. 7, LEA, P. Soc. Victoria xvii.  
*Petalium fuuveli*, Guadeloupe, p. 188, *alluaudi*, Madagascar, *longipenne*,  
 Brazil, p. 189, PIC, Rev. Ent. franc. 1905; *P. schwarzzi*, p. 214, *yuccæ*,  
*seriatum*, p. 215, *californicum*, p. 216, N. America, FALL, Tr. Amer.  
 ent. Soc. xxxi : **n. spp.**  
*Priotoma gounellei*, Brazil, PIC, p. 115, Echange xxi; *Pristoma* (sic)  
*minuta*, Caracas, PIC, p. 93, Naturaliste 1905; **n. spp.**  
*Pseudodorcatoma n. g. ornata n. sp.*, Guadeloupe, PIC, p. 171, Echange xxi.  
*Ptinus superbus* = (*pyrenæus* Pic), REITTER, p. 200, Wien. ent. Zeit. xxiv.  
*P. (Gynopterius) barrosi*, Portugal, PIC, p. 170, Echange xxi; *P. biscrensis*,  
 Algeria, PIC, p. 106, t. c.; *P. alternatus*, *caelebs*, p. 116, *agnatus*,  
*cognatus*, p. 118, *longivestis*, p. 119, *strangulatus*, p. 120, *tumidus*, p. 121,  
*prolixus*, p. 122, *hystrix*, *eximius*, p. 123, *concurrrens*, *fallax*, *vgrandis*,  
 p. 125, *feminalis*, p. 126, N. America, FALL, Tr. Amer. ent. Soc. xxxi,  
**n. spp.**  
*Stichoptychus n. g. agonus n. sp.*, Texas, FALL, p. 258, t. c.  
*Trichodesma klagesi*, p. 173, N. America, *beyeri*, p. 174, Lower California,  
 FALL, t. c. **n. spp.**  
*Utobium n. g.* for *elegans* Horn, FALL, p. 134, t. c.  
*Vrillela nigra*, Mariposa, PIC, p. 171, Echange xxi; *V. blaisdelli*, p. 194,  
*laurentina*, p. 195, *plumbea*, p. 196, N. America, FALL, Tr. Amer. ent.  
 Soc. xxxi : **n. spp.**  
*Xarifa n. g.* p. 137, *insularis n. sp.*, California, p. 138, FALL, t. c.  
*Xeranobium n. g. laticeps*, p. 158, *macrum*, p. 159, *desertum*, p. 160, **n. spp.**,  
 N. America, FALL, t. c.  
*Xyletinus semilimbatus* var. *testaceipennis*, PIC, p. 97, Echange xxi.  
*X. distans*, p. 200, *harrisii*, p. 201, *gracilipes*, p. 203, N. America, FALL, Tr.  
 Amer. ent. Soc. xxxi, **n. spp.**  
*Xyletomerus n. g.* p. 197, *histricus n. sp.*, California, p. 198, FALL, t. c.

#### LYMEXYLONIDÆ, BOSTRICHIDÆ, CIOIDÆ.

- Atractocerus horni*, Ceylon, BOURGEOIS, p. 133, Ann. Soc. ent. France 1905,  
**n. sp.**  
*Bostrychopsis villosula n. n.* for *cephalotes* Lesne non Olivier, LESNE, p. 298,  
 Bull. Mus. Paris 1905.  
*Enneadesmus sculptifrons*, Caffraria, LESNE, p. 275, Bull. Soc. ent. France  
 1905, **n. sp.**  
*Sinoxylon doliolum*, E. Africa, p. 275, *cafrum*, S. Africa, p. 276, LESNE, t. c.  
**n. spp.**  
*Rhipidandrus* : see *Tenebrionidæ*.

#### TENEBRIONIDÆ.

[Cf. BROUN (194), CARTER (284), ESCALERA (523, 524), FAIRMAIRE (534,  
 535), GEBIEN (644-646), LEA (928), PIC (1184), REITTER (1244, 1246),  
 SHARP (670).]

GEBIEN gives a long list of corrigenda to the *Tenebrionidæ* of the Munich  
 Catalogue, and to Champion's supplement thereto; Wien. ent. Zeit.  
 xxiv, pp. 252-260.

Table of the subfamilies of palæarctic *Tenebrionidæ*, REITTER, pp. 25-34,  
 Verh. Ver. Brunn xlii.

Twelve **spp. n.** *Tenebrionidæ*, Sinai, Crotch 1871 but not yet recorded,  
 SHARP, p. 520, Ann. Nat. Hist. (7) xv.

- Adelium helmsi, reticulatum*, p. 181, *violaceum*, p. 182, *minor*, p. 183, *globulosum*, p. 184, Australia, CARTER, P. Linn. Soc. N. S. Wales xxx, n. spp.
- Adesmia jägerskiöldi*, White Nile, GEBIEN, p. 12, Jägerskiöld exp. No. 10a, n. sp.
- Akidini*, tables of palæarctic, REITTER, pp. 36-49, Verh. Ver. Brunn xlii.
- Akis melitana*, Malta, p. 40, *biskrensis*, Algeria, p. 41, REITTER, t. c. n. spp.
- Alcephus nitidipennis*, p. 275, California, *gracilis*, p. 276, Arizona, FALL, Canad. Ent. 1905, n. spp.
- Alphasida* subg. n. see *Asida*.
- Ammidanemia* subg. n. of *Anemia, asperula* Reitt. etc., REITTER, p. 132, Verh. Ver. Brunn xlii.
- Asida*; revision of Iberian, ESCALERA, pp. 377-402, 430-450, Bol. Soc. espan. v.
- A.* (*Alphasida* subg. n. p. 380) *gaditana*, p. 385, *volxemi, becerræ*, p. 387, *rufopubescens*, p. 388, *A.* (*Globasida* subg. n. p. 430) *cartagenica*, p. 433, *intermedia, bacaresensis*, p. 435, *frigida, rotunda, novissima*, p. 436, *deformis, almeriana*, p. 437, *nerjenensis*, p. 438, *segurenensis, quadrata*, p. 439, *dubiosa, curvatipennis*, p. 440, Iberian penins., ESCALERA, t. c. n. spp.
- Asidelia* n. g. near *Nyctelia, contracta* n. sp., Argentina, FAIRMAIRE, p. 296, Ann. Soc. ent. France 1905.
- Aulonolcus* subg. n. of *Lobothorax*, for *altaicus* Gebl., REITTER, p. 168, Verh. Ver. Brunn xlii.
- Cabirus dentimanus*, Samarcand, p. 64, *procerulus*, Aulie-Ata, p. 65, *puncticollis*, Buchara, *gracilis*, Mardin, p. 66, *castaneus*, Jerusalem, *subpubescens*, Beyrout, p. 67, *desbrochersi, simonis*, Syria, p. 68, REITTER, t. c. n. spp.
- Callismilax bavayi, variolosa*, p. 216, *interrupta, fulgurans*, p. 217, *caestina, numeensis*, p. 218, *externa, basalis, suturalis*, p. 220, *arcitenens*, p. 221, *caviceps, gloriosa*, p. 222, *semiviolacea, plicicollis, auripennis*, p. 223, *virescens, sulcipennis*, p. 224, *setigera*, p. 225, New Caledonia, FAUVEL, Rev. Ent. franc. xxiv, n. spp.
- Camaria tenuistriata*, p. 126, *semianescens*, p. 127, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique 1905; *C. obtusa*, p. 300, *impressifrons, biaculeata*, p. 301, Argentina, FAIRMAIRE, Ann. Soc. ent. France 1905: n. spp.
- Cerostena infravestita*, p. 297, *semistrigosa*, p. 298, Argentina, FAIRMAIRE, t. c. n. spp.
- Cilibe costella*, New Zealand, BROWN, p. 544, Ann. Nat. Hist. (7) xv, n. sp.
- Colpopatrum* subg. n. of *Opatrum*, for *asperipenne* Reitt., REITTER, p. 148, Verh. Ver. Brunn xlii.
- Colpotus punctipleuris*, Asia Minor, REITTER, p. 63, t. c. n. sp.
- Coripera morleyana*, p. 184, *distincta*, p. 185, N. S. Wales, CARTER, P. Linn. Soc. N. S. Wales xxx, n. spp.
- Dendaroscelis* subg. n. cf. *Dendarus*.
- Dendarus* (*Pandarinus*) *seidlitzi*, Dalmatia, p. 80, *vagabundus* (n. n. for *vagens* Reitt.), Transcaspian, p. 84, *D. scoparipes*, Cerigo, p. 86, *D.* (*Dendaroscelis* subg. n.) *serripes*, Spain, p. 92, REITTER, Verh. Ver. Brunn xlii, n. spp.
- Diastolinus acuticollis, quadricollis, fortipes*, Argentina, FAIRMAIRE, p. 299, Ann. Soc. ent. France 1905, n. spp.
- Dietopsis bucculata, tenuis*, Tucuman, FAIRMAIRE, p. 302, t. c. n. spp.
- Dilamus bohmi*, Egypt, REITTER, p. 71, Verh. Ver. Brunn xlii, n. sp.
- Discotus* subg. n. cf. *Lobothorax*.
- Ectomopsis* n. g. near *Camarinena*, p. 299, *bruchi* n. sp., Argentina, p. 300, FAIRMAIRE, Ann. Soc. ent. France 1905.

- Eledona*; structure of feet, relations with *Rhipidandrus*, SHARP, Biol. Centr.-Amer. Col. ii, pt. 1, p. 690.
- Emallogera granocostata, strangulata*, Argentina, FAIRMAIRE, p. 290, Ann. Soc. ent. France 1905, **n. spp.**
- Encara nigrum*, N. S. Wales CARTER, p. 178, P. Linn. Soc. N. S. Wales xxx, **n. sp.**
- Entomoderes pustulosus*, Argentina, FAIRMAIRE, p. 298, Ann. Soc. ent. France 1905, **n. sp.**
- Epipedonota planiuscula*, Argentina, FAIRMAIRE, p. 297, t. c. **n. sp.**
- Eulypus quirogas*, Rio de Oro, ESCALERA, p. 468, Bol. Soc. espan. v, **n. sp.**
- Eumylada* subg. **n.** of *Myladina, punctifera* Reitt. etc., REITTER, p. 170, Verh. Ver. Brunn xlii.
- Eurycaulus* (*Scleronimon* subg. **n.**) *peyerimhoffi*, Sinai, *granulatus*, Egypt, REITTER, t. c. **n. spp.**
- Eustenia* **n. g.** near *Praogena, tenuimembris* **n. sp.**, Tucuman, FAIRMAIRE, p. 303, Ann. Soc. ent. France 1905.
- Globasida* subg. **n.** see *Asida*.
- Gonocephalum arisi*, Transcaspian, REITTER, p. 92, Wien. ent. Zeit. xxiv, **n. sp.**
- Gonocephalum quadrinodosum*, China, p. 146, *G. (Megadasus* subg. **n.** p. 146) *subsetosum*, Canton, p. 147, REITTER, Verh. Ver. Brunn xlii, **n. spp.**
- Heliocrates* subg. **n.** cf. *Heliophilus*.
- Heliophilus* (*Heliocrates* subg. **n.**) *strigosus*, p. 98, *humeraangulus*, Andalusia, *sulcipennis*, Escorial, p. 99, *H. parcefoveatus*, Spain and Portugal, p. 100, *immarginatus, conjunctus*, p. 101, *heydeni, sculpturatus*, p. 102, *subimpressus*, p. 103, Spain, REITTER, t. c. **n. spp.**
- Hemitrichestes* subg. **n.** of *Lobothorax* for *hirsutus* Reitt., REITTER, p. 169, t. c.
- Heterophylus seriepunctatus*, Algeria, p. 69, *tibialis*, Transcaspian, p. 70, REITTER, t. c. **n. spp.**
- Heterotarsus insularis*, Madagascar, FAIRMAIRE, p. 125, Ann. Soc. ent. Belgique 1905, **n. sp.**
- Hoplambius* subg. **n.** of *Melambius, Hoplarion melamboides*, REITTER, p. 114, Verh. Ver. Brunn xlii.
- Hoplariobius* subg. **n.** of *Micrositus* for *decurvatus* Fairm., etc., REITTER, p. 115, t. c.
- Isocerus cameroni*, Portugal, REITTER, p. 78, t. c. **n. sp.**
- Japetus* subg. **n.** of *Lobothorax* for *Opatrum melanarium* Er., REITTER, p. 160, t. c.
- Lesbidana* subg. **n.** cf. *Melanesthes*.
- Litoborus subtilimargo*, Algeria, REITTER, p. 113, Verh. Ver. Brunn xlii, **n. sp.**
- Litororus* subg. **n.** of *Olocrates* for *semicostatus* Muls., REITTER, p. 96, t. c.
- Lobothorax* (*Discotus* subg. **n.** p. 161) *netuschili*, Chinese Turkestan, p. 162, *L. auliensis*, Aulie-Ata, p. 163, *oblongopunctatus*, Transcaspian, p. 164, REITTER, t. c. **n. spp.**
- Megadasus* subg. **n.** cf. *Gonocephalum*.
- Melanesthes* (*Lesbidana* subg. **n.** p. 173) *coriaria*, Turkestan, p. 173, REITTER, Verh. Ver. Brunn xlii, **n. sp.**
- Meladocrates* subg. **n.** of *Olocrates, planiusculus* and *viaticus* Muls., REITTER, p. 96, t. c.
- Menephilus aeneus*, Sydney, CARTER, p. 179, P. Linn. Soc. N. S. Wales xxx, **n. sp.**
- Mesomorphus* **n. g.** p. 73, *varendorffi*, Madeira or Congo, *dermestoides*, Centr. China, p. 74, **n. spp.**, REITTER, Verh. Ver. Brunn xlii.
- Micrositus opacus*, Besika Bay, p. 116, *M. (Platyolus) tenebrioides*, Huelva,



- p. 118, *milleri*, p. 120, *lapidarius*, p. 121, Andalusia, REITTER, t. c. n. spp.
- Miglica* subg. n. of *Melanesthes* for *laticollis* Gebl., REITTER, p. 171, t. c.
- Mogadoria* n. g. for *Eulipus subelegans* Fairm., ESCALERA, p. 467, Bol. Soc. espan. v.
- Mongolesthes* subg. n. of *Melanesthes* for *heydeni* Csiki, REITTER, p. 174, Verh. Ver. Brunn xlii.
- Morica pharao* Egypt, REITTER, p. 38, t. c. n. sp.
- Netuschilia* n. g. for *Lachnopus hauseri*, REITTER, p. 35, t. c.
- Nyctelia timarchoides*, *suturacava*, p. 291, *geometrica*, *confluens*, *discoidalis*, *exasperata*, p. 292, *biapoides*, *pinguis*, *quadricarinata*, p. 293, *unicostata*, *bifoveata*, *planicauda*, p. 294, *producta*, *dorsata*, *crassecostata*, p. 295, *quadricollis*, p. 296, Argentina, FAIRMAIRE, Ann. Soc. ent. France 1905, n. spp.
- Nycteropus protensus*, *chrysochalceus*, p. 125, *attenuatus*, *crassicollis*, p. 126, Madagascar, FAIRMAIRE, p. 126, Ann. Soc. ent. Belgique 1905, n. spp.
- Ochrolamus* subg. n. of *Dilamus* for *pictus* Mars., REITTER, Verh. Ver. Brunn xlii.
- Olocrates italicus*, Italy, p. 93, *hamilcaris*, Andalusia, p. 94, *subheliopates*, Spain, p. 95, REITTER, t. c. n. spp.
- Opatrini*; the palaearctic tabulated, REITTER, pp. 106-182, t. c.
- Opatronesthes* subg. n. of *Melanesthes* for *punctipennis* Reitt., REITTER, p. 174, t. c.
- Opatrum tebessanum*, Algeria, p. 153, *cypræum*, Cyprus, p. 155, *italicum*, Ischia, p. 156, *alutaceum*, Khartoum, p. 158, REITTER, t. c. n. spp.
- Otrintus jacksoni*, N. S. Wales, CARTER, p. 180, P. Linn. Soc. N. S. Wales xxx, n. sp.
- Pachypterus serrulatus*, Caucasus, REITTER, p. 75, Verh. Ver. Brunn xlii, n. sp.
- Pedinus bodemeyeri*, Asia Minor, p. 56, *paradoxus*, Syria, p. 59, *strigicollis*, Taurus, p. 61, REITTER, t. c. n. spp.
- Pentholasinus* subg. n. of *Clitobius* for *variolatus* Allard, REITTER, p. 178, t. c.
- Penthomegus* subg. n. of *Lobothorax* for *granulosus* Mén. etc., REITTER, p. 162, t. c.
- Phobelius semigranosus*, Tucuman, FAIRMAIRE, p. 300, Ann. Soc. ent. France 1905, n. sp.
- Phylax insignis*, Syria, REITTER, p. 110, Verh. Ver. Brunn xlii, n. sp.
- Piloxy's perrieri*, Madagascar, FAIRMAIRE, p. 127, Ann. Soc. ent. Belgique 1905, n. sp.
- Pimelia punctata* var. n. *manchega*, LAUFFER, p. 406, Bol. Soc. espan. v.
- Psectrascelis coriaria*, Argentina, FAIRMAIRE, p. 297, Ann. Soc. ent. France 1905, n. sp.
- Pseudogena semiopaca*, Madagascar, FAIRMAIRE, p. 126, Ann. Soc. ent. Belgique 1905, n. sp.
- Pterohelæus icarus*, N. S. Wales, CARTER, p. 177, P. Linn. Soc. N. S. Wales xxx, n. sp.
- Rhipidandri* classified with *Eledona* near *Bolitophagini*, SHARP, Biol. Centr.-Amer. Col. ii, pt. 1, p. 691.
- Rhipidandrus mexicanus*, *championi*, Centr. America, SHARP, p. 691, t. c. n. spp.
- Rhizalemus* subg. n. of *Dendarus*, *D. pauper*, etc., REITTER, p. 90, Verh. Ver. Brunn xlii.
- Scleron æquale*, Arabia, p. 124, *subclathratum*, Egypt, p. 125, *discicolle*, India and Java, p. 126, REITTER, t. c. n. spp.
- Scleronimon* subg. n. cf. *Eurycaulus*.
- Scotobius caraboides*, *cribricollis*, *quadricostatus*, Argentina, FAIRMAIRE, p. 289, Ann. Soc. ent. France 1905, n. spp.

- Solskyia subperegrina*, Turkestan, REITTER, p. 49, Verh. Ver. Brunn xlii, n. sp.  
*Stenopsis punica*, Tunis, PIC, p. 98, Echange xxi, n. sp.  
*Tenebrio noctivagus* var. n. *intermedius*, FIORI, p. 226, Riv. Col. ital. i; *T.*, parthenogenetic eggs, SALING, Zool. Anz. xxix, pp. 587-590.  
*Thesilea mirabilis*, p. 210, *kanalensis*, *politula*, *versicolor*, p. 211, *purpurea*, p. 213, New Caledonia, FAUVEL, Rev. Ent. franc. xxiv, n. spp.  
*Trachymetus* n. g. for *Pachypterus elongatus* Muls., REITTER, p. 76, Verh. Ver. Brunn xlii.  
*Tribolium myrmecophilum*, Australia, LEA, p. 383, P. Soc. Victoria xvii, n. sp.

## CISTELIDÆ.

- [Cf. BEDEL (92), FAIRMAIRE (535), FAUVEL (550A), PIC (1191, 1193), SCHAEFFER (1324).]  
*Alethia carbonaria*, Arizona, SCHAEFFER, p. 176, Bull. Brooklyn Inst. i, n. sp.  
*Allecula strigicollis*, p. 227, *rugicollis*, p. 228, *quadrillum*, p. 229, *phyllocera*, *simplex*, p. 230, *tenuicornis*, p. 231, *pusilla*, *insulana*, p. 232, *laevior*, *cupreipennis*, p. 233, *umbonata*, p. 234, *montana*, *curticollis*, p. 235, *anthracina*, *opacula*, p. 236, New Caledonia, FAUVEL, Rev. Ent. franc. xxiv, n. spp.  
*Crypticus vaucheri*, Marocco, BEDEL, p. 272, Bull. Soc. ent. France 1905, n. sp.  
*Cteniopis angustatus*, Mesopotamia, PIC, p. 177, Echange xxi, n. sp.  
*Hymenalia obscuripennis*, Adana, PIC, p. 162, Echange xxi, n. sp.  
*Lystrotychus humeralis*, Tucuman, FAIRMAIRE, p. 302, Ann. Soc. ent. France 1905, n. sp.  
*Omophilus splendidus*, Marocco, BEDEL, p. 272, Bull. Soc. ent. France 1905, n. sp.  
*Phedius funereus*, Arizona, SCHAEFFER, p. 176, Bull. Brooklyn Inst. i, n. sp.

## MELANDRYIDÆ.

- Phryganophilus ruficollis* var. n. *rostri* (= *Melandrya ruficollis* Lewis), HUBENTHAL, p. 57, Deutsche ent. Zeitschr. 1905.  
*Abdera viberti*, Algeria, PIC, p. 98, Echange xxi, n. sp.  
*Phlæotrya nebulosa*, p. 237, *lancifera*, p. 238, New Caledonia, FAUVEL, Rev. Ent. franc. 1904, n. spp.

## LAGRIIDÆ.

- Nemostira vittulata*, *fuscipennis*, p. 127, *striatopunctata*, p. 128, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique 1905, n. spp.  
*Statira defecta*, p. 175, *huachuca*, p. 176, Arizona, SCHAEFFER, Bull. Brooklyn Inst. i; *S. simulans*, Texas, *robusta*, Arizona, SCHAEFFER, p. 180, J. N. York Ent. Soc. : n. spp.

## XYLOPHILIDÆ, ANTHICIDÆ.

- [Cf. CARTER (284), PIC (1170, 1172, 1176-1178, 1187, 1196), REITTER (1249).]

PIC completes his revision of *Hylophilidæ*, Ann. Soc. ent. France 1905, pp. 181-286, pl. vii.

- Anthicus latedecoratus* var. n. *rosti*, PIC, p. 113, Echange xxi; *A. salsola* Motsch. is *Stenidius tenuipes* Laf., *umbrinus* Laf. is *terrestris* Motsch., *marinus* Motsch. is *dentatus* Pic, *liquidus* Motsch. is *tristis* Sch., *impressus* Motsch. = *tenellus* Laf. = *transversalis* Villa, p. 491, *A. palustris* n. n. for *lacustris* Motsch. p. 490, PIC, Annuaire Mus. St. Petersb. ix.
- A. fædus*; *A. (Lappus) proprius*, p. 492, *distincticeps*, Peru, *herzi*, Transcaspian, p. 493, PIC, Annuaire Mus. St. Petersb. ix; *A. arisi*, Samarcand, PIC, p. 186, Echange 1905; *A. lobatus*, Algeria, *remotus*, Fiji, PIC, p. 99, Bull. Soc. ent. France 1905: n. spp.
- Egestria albilineata*, N. S. Wales, CARTER, p. 189, P. Linn. Soc. N. S. Wales xxx, n. sp.
- Formicilla punctata*, N. America, PIC, p. 491, Annuaire Mus. St. Petersb. ix, n. sp.
- Formicomus sterbeæ*, Turkestan, REITTER, p. 206, Wien. ent. Zeit. xxiv; *F. bozasi*, p. 242, *subrutilus*, p. 243, Africa, PIC, Bull. Mus. Paris 1905: n. spp.
- Hylophilus bottegoi*, Lago, p. 197, *diversicornis*, Natal, p. 199, *punctatus*, Loyalty Ids., p. 204, *H. (Emelinus) magniceps*, p. 267, *H. (Elonus) distincticornis*, *H. (Scanylus) vicinus*, *H. (Vanonus) semibrunneus*, p. 268, *H. apicipennis*, *H. (Zonantes) obscuricolor*, *rufithorax*, p. 269, Brazil, *H. (Olotelus) apicatis*, S. Africa, p. 282, PIC, Ann. Soc. ent. France 1905; *H. escaleraï*, *niger*, p. 203, *inimpressus*, *longus*, *validicornis*, p. 204, *bolivari*, p. 205, *dentatipes*, p. 206, *cephalotes*, *dispar*, *biafrensis*, p. 207, Spanish Guinea, PIC, Mem. Soc. Espan. i: n. spp.
- Macratria basithorax*, Shanghai, PIC, p. 48, Bull. Soc. ent. France 1905, n. sp.
- Macrodiagon carinicollis*, New Caledonia, FAUVEL, p. 242, Rev. Ent. franc. 1905, n. sp.
- Notoxus trifasciatus* var. n. *rosti*, PIC, p. 113, Echange xxi.
- Trotonma latipennis*, Tunis, PIC, p. 130, t. c. n. sp.
- Vanonus* (= *Tanilotes*) *fusciceps*, *congener*, N. America, CASEY, p. 163, Canad. Ent. 1905, n. spp.

## RHIPIPHORIDÆ.

- Metoecus paradoxus*, note on, CRAWSHAY, p. 45, Ent. Mag. 1905.
- Myodites antoniæ* var., PIC, p. 165, Echange xxi.

## STYLOPIDÆ.

- The natural history, structure and taxonomy of *Stylopidæ*, PERKINS, Bull. exp. Stat. Hawaii i, pt. 3, 4 pls.
- Bruesia* subg. n., see *Halictophagus*.
- Deinelenchus* n. g. pp. 107, 108, *australensis* n. sp., Queensland, pp. 107, 109, pl. ii, fig. 7, PERKINS, Bull. exp. Stat. Hawaii i.
- Elenchus tenuicornis* ♂ and ♀, pp. 106, 107, pls. i, ii, iii, PERKINS, t. c.
- Halictophagus* (*Bruesia* subg. n. p. 102) *australensis*, *phæodes*, p. 103, *stenodes*, *H. ? schwarzi*, p. 104, Australia, *americanus*, Ohio, p. 105, PERKINS, t. c. n. spp.
- Megalechthrus* n. g. p. 105, *tryoni* n. sp., Queensland, p. 106, PERKINS, t. c.
- Xenos nigrescens*, triangulin, p. 290, outs, *X. pallidus* ♀, out, p. 295, habits, BRUES, Biol. Bull. viii.

## MORDELLIDÆ.

[Cf. FAIRMAIRE (534), FAUVEL (550A).]

*Anaspis (Silaria) numeensis*, New Caledonia, FAUVEL, p. 241, Rev. Ent. franc. 1905, n. sp.*Glipa longipennis*, Madagascar, FAIRMAIRE, p. 128, Ann. Soc. ent. Belgique 1905, n. sp.*Mordella polyspila, aurocordata, ornata*, to *Glipa*, FAIRMAIRE, p. 128, t. c. *M. scutellaris*, p. 128, *latefasciata*, p. 129, Madagascar, FAIRMAIRE, t. c. n. spp. *Mordellistena caledonica*, New Caledonia, FAUVEL, p. 240, Rev. Ent. franc. 1905, n. sp.

## CANTHARIDÆ.

[Cf. FAUVEL (550A), PIC (1187), REITTER (1248, 1254), SCHAEFFER (1323, 1324), WICKHAM (1630).]

*Meloidæ* of western France, HOULBERT & BÉTIS (784).*Alosimus viridissimus* var. n. *bipartitus*, PIC, p. 107, Échange xxi.*A. atripes*, Persia, PIC, p. 130, t. c. n. sp.*Epicauta obscuropcephala*, Tien-tsin, REITTER, p. 195, Wien. ent. Zeit. xxxiv, n. sp.*Isopentra* merged in *Epicauta*, REITTER, l. c.*Lydus tenuicollis*, Persia, REITTER, p. 246, t. c. n. sp.*Meloe matthieseni, frontalis*, Persia, REITTER, p. 245, t. c. n. spp.*Pyrota virgata* and *tenuicostatis*, SCHAEFFER, pp. 177, 178, Bull. Brooklyn Inst. 1.*Zonabris curta, wagneri*, pp. 167-170, *Z. curta* var. n. *ernesti*, p. 170, PIC, Rev. Sci. Bourbonnais 1905.*Zonitis dunni* and *perforata* Cas. to *Nemognatha*, SCHAEFFER, p. 138, Bull. Brooklyn Inst. 1.*Z. nigripennis*, p. 243, *atriceps*, p. 244, New Caledonia, FAUVEL, Rev. Ent. franc. xxiv; *Z. vermiculatus*, Utah, SCHAEFFER, p. 138, Bull. Brooklyn Inst. 1; *Z. sayi, californica*, N. America, WICKHAM, p. 171, Canad. Ent. 1905 : n. spp.

## PYTHIDÆ.

[Cf. PIC (1182, 1188), REITTER (1255).]

*Lanthanus latissimus*, Bolivia, PIC, p. 116, Échange xxi, n. sp.*Rhinosisimus caucasicus*, Caucasus, REITTER, p. 312, Wien. ent. Zeit. xxiv; *R. cæruleus*, New Guinea, PIC, p. 93, Naturaliste 1905 : n. spp.

## EDEMERIDÆ.

*Edemera virescens* var. n. *cupreomicans*, REITTER, p. 93, Wien. ent. Zeit. xxiv.*E. laufferi*, Spain, REITTER, p. 206, t. c. n. sp.*Pseudolytus montanus*, p. 187, *rufipennis*, p. 188, N. S. Wales, CARTER, P. Linn. Soc. N. S. Wales xxx, n. spp.

## CURCULIONIDÆ.

[Cf. AURIVILLIUS (42), BEDEL (91), BEGUIN-BILLECOCQ (93, 94), BROUN (194), CAMERON (237), CHAMPION (670), CHITTENDEN (307, 308), CORTI (372), DESBROCHERS (399), FAIRMAIRE (534), FIORI (564, 567), FLACH (574), FORMÁNEK (593, 594), HARTMANN (726, 727), HELLER (736, 737),

HOLDHAUS & WAGNER (754), HUNTER & HINDS (798, 799), LEA (924, 925), LESNE (943), MARSHALL (1010), PETRI (1157), PIC (1184, 1187, 1189-1191, 1193), REITTER (1254, 1256), RITSEMA (1275), SCHAEFFER (1323, 1324), SCHULTZE (1357), SSILANTJEW (1441, 1442), VETH (1547), VITALE (1554), WAGNER (1556).]

Notes on *Curculionidæ* at Messina, VITALE, Natural. Sicil. xvii, pp. 129 etc. and xviii, pp. 53 etc., etc.

Parthenogenesis in *Otiorrhynchus*, the primary sexual characters, SSILANTJEW, Zool. Anz. xxix, pp. 583-586, cuts.

*Acalles rolleti* var. *cynaræ*, VITALE, p. 44, Riv. Col. ital. i; *A. cunctans*, pl. xxiii, fig. 16, p. 476, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4; *A. mutillarius* Gerst. to *Gerstaeckeria* n. g. and figured, pl. xxiii, fig. 5, CHAMPION, p. 472, t. c.

*A. solarii*, Italy, FIORI, p. 163, Riv. Col. ital. i; *A. algiricus*, Algeria, PIC, p. 99, Echange xxi; *A. rugirostris*, pl. xxiii, fig. 9, *latescens*, fig. 10, p. 473, *fulvovittatus*, fig. 11, *cinericius*, fig. 12, *cavicollis*, fig. 13, p. 474, *indutus*, fig. 14, *rufotuberculatus*, fig. 15, p. 475, *quadrituberculatus*, *rugulosus*, p. 476, *tricinctus*, fig. 17, *foveolatus*, *crassisetis*, p. 477, *horrens*, *tantillus*, p. 478, *exaratus*, p. 479, Centr. America, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4 : n. spp.

*Acicnemis, spinipennis*, New Guinea, HELLER, p. 73, Deutsche ent. Zeitschr. 1905, n. sp.

*Æatus* n. g. *Ithyporides*, p. 445, *ebeninus*, p. 446, pl. xxii, fig. 3, *rugicollis*, *costulatus*, fig. 4, p. 447, *vestitus*, p. 448, n. spp., Central America, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.

*Æmus* n. g. near *Conotrachelus, tuberosus* n. sp., Panama, pl. xxii, fig. 2, CHAMPION, p. 445, t. c.

*Ænesias* n. g. near *Conotrachelus, tuberculoirostris*, pl. xxii, fig. 7, p. 452, *nigronotatus*, fig. 8, *cavifrons*, p. 453, n. spp., Centr. America, CHAMPION, t. c.

*Æpalus* n. g. near *Conotrachelus, chiriquensis* n. sp., Panama, pl. xxii, fig. 1, CHAMPION, p. 444, t. c.

*Allocorynus slossoni*, Florida, SCHAEFFER, p. 139, Bull. Brooklyn Inst. i, n. sp.

*Alophus*, European, with *A. italicus* n. sp., p. 64, FIORI, Riv. Col. ital. iii, pp. 55-67, Riv. Col. ital. iii.

*Amaurorrhinus (Mazagranus* subg. n.) *obscuripennis*, Algeria, PIC, p. 146, Echange xxi, n. sp.

*Anepigraphocis* n. g. near *Glyphagia, basiventris* n. sp., Swan River, LEA, p. 246, P. Linn. Soc. N. S. Wales xxx.

*Anthonomus ornatus* var. n. *messanensis*, VITALE, p. 45, Riv. Col. ital. i; *A. rubi*, habits, LESNE, p. 178, Bull. Soc. ent. France 1905; *A. grandis*, metamorphosis, natural history, HUNTER & HINDS, Bull. U. S. Dep. Agric. Ent. Nos. 45, 51; *A. æneotinctus*, habits, larva, WALKER, pp. 43-48, Bull. U. S. Dep. Agric. Ent. No. 54.

*Aönychus striatus*, p. 253, *argus*, p. 255, *pachypus*, p. 256, Australia, LEA, P. Linn. Soc. N. S. Wales xxx, n. spp.

*Apion*, characters of numerous palæarctic little-known species, WAGNER, pp. 13-34, München. Kol. Zeitschr. iii; *A. cantianum* n. n. for *brevicornæ* Schilsky, *schilskyi* n. n. for *gibbosum* Faust, also new localities, id. t. c. p. 33; *A. virens* ab. n. *atratus*, VITALE, p. 207, Riv. Col. ital. iii; *A. violaceum*, natural history, DE STEFANI-PEREZ, p. 177, Natural. Sicil. xvii; *A. angustatum* Phil., gall, KIEFFER & PABLO, Zeitschr. Insbiol. i, p. 66; *A. pubescens*, gall, CORTI, p. 178, Riv. Col. ital. i.

*A. holdhausi*, p. 37, *ilvense*, p. 38, Tuscany, WAGNER, Riv. Col. ital. iii;

- A. (Aspidapion) foveatoscutellatum*, S. E. Europe, p. 19, *A. (Ceratapion) hamatum*, Araxes Valley, p. 22, WAGNER, Munchen. Kol. Zeitschr. iii; *A. nitidirostre*, p. 134, *madecassum*, *pullum*, p. 135, *blatta*, p. 136, *bellum*, *amboombense*, p. 137, *androicum*, p. 138, *beauchenei*, p. 139, *ceratum*, p. 140, *pluto*, *postscutellatum*, p. 141, Madagascar, *maurittii*, Mauritius, p. 142, *erythraeum*, p. 143, *philippi*, *perrieri*, p. 144, *unicum*, p. 145, *setulosum*, p. 146, *tessellatum*, p. 147, *A. (Rhinapion* subg. n. p. 147), *obliquestriatum*, p. 148, *insigne*, *pauvillum*, p. 149, *pseudapricans*, p. 150, *A. (Apiotherium* subg. n. p. 151), *albonigrum*, p. 151, *suturale*, p. 152, *sternale*, p. 153, *navicula*, *mitissimum*, p. 154, *A. barbatum*, p. 155, *puncticolle*, *tumefactum*, p. 166, *tetrum*, *fastidiosum*, p. 157, Madagascar, *exiguum*, Mayotte, p. 158, BEGUIN-BILLECOCQ, Ann. Soc. ent. France 1905; *A. formosum*, Madagascar, BEGUIN-BILLECOCQ, p. 45, Bull. Soc. ent. France 1905 : n. spp.
- Apiotherium* subg. n. cf. *Apion*.
- Arthrocorynus* n. g. near *Gasterocercus*, *brachialis*, pl. xxv, fig. 11, p. 510, Centr. America and Amazons, *dotatus*, fig. 13, p. 511, Centr. America, n. spp., CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- Atrichis occidentis* pl. xxvi, fig. 19, p. 534, *costirostris*, fig. 20, *semicostatus*, p. 535, *nubilans*, fig. 21, p. 536, Centr. America, CHAMPION, t. c. n. spp.
- Attelabus* and *Attelabidae* etc., nomenclature discussion, SCHILSKY, Käf. Eur., Nachtr. zu Heft 40; *Attelabus*, European varr., GRANDI & GORTANI, pp. 39-41, Riv. Col. ital. iii; *A.*, Italian forms, varr. n., GORTANI & GRANDI, pp. 165-171, Riv. Col. ital. ii; PIC, t. c. pp. 205-207.
- Axoniscus insignis*, habits, FROGGATT, p. 227, Agric. Gaz. N. S. W. xvi.
- Bugous niloticus*, White Nile, AURIVILLIUS, p. 16, Jägerskiöld exp. No. 10a, n. sp.
- Baris amanicola*, Syria, PIC, p. 98, Echange xxi; *B. trægardhi*, Khartum, AURIVILLIUS, p. 17, Jägerskiöld exp. No. 10a : n. spp.
- Blaborrhinus catenulatus*, Chontales, CHAMPION, p. 539, Biol. Centr.-Amer. Col. iv, pt. 4, n. sp.
- Bleptocis* n. g. near *Glyphagia*, p. 247, *collaceratus* n. sp., New South Wales, p. 248, LEA, P. Linn. Soc. N. S. Wales xxx.
- Bothynoderes*, revision in tables, REITTER, Deutsche ent. Zeitschr. 1905, pp. 193-205.
- B. austriacus*, Vienna, p. 200, *impudens*, p. 202, *pusio*, p. 203, Astrakhan, *dissensus*, Mongolia, p. 205, REITTER, t. c. n. spp.
- Brachycercus undatus* var. n. *lyrae*, VITALE, p. 206, Riv. Col. ital. iii; *B. algirus* var. *attenuatus*, VITALE, p. 42, op. cit. i.
- Brachyleptops latesellatus*, Madagascar, FAIRMAIRE, p. 129, Ann. Soc. ent. Belgique 1905, n. sp.
- Brachysomus*, revision, FORMÁNEK, pp. 169-193, Wien. ent. Zeit. xxiv.
- B. styriacus*, Styria, FORMÁNEK, p. 183, t. c. n. sp.
- Bradybatus (Nothops) vaulogeri*, Algeria, BEDEL, p. 290, Bull. Soc. ent. France 1905, n. sp.
- Cathormiocercus ragusai*, Sicily, VITALE, p. 127, Riv. Col. ital. ii; *C. latirostris*, Algeria, PIC, p. 147, Echange xxi; *C. inhumeralis*, Algeria, PIC, p. 155, t. c. : n. spp.
- Ceuthorrhynchidius*, table of species, SCHULTZE, pp. 1-10, Munchen Kol. Zeitschr. iii.
- C. thalhammeri*, Hungary, SCHULTZE, p. 7, t. c. n. sp.
- Ceuthorrhynchus sinapis* var. n. *defensibilis*, PIC, p. 131, Echange xxi.
- Chalcoocybeus insignis*, p. 72, *exarmatus*, p. 73, New Guinea, HELLER, Deutsche ent. Zeitschr. 1905, n. spp.
- Celosternus tardipes*, pl. xxv, fig. 18, p. 514, *consputus* fig. 20, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.

- C. acutidens*, Centr. America, p. 514, pl. xxv, fig. 19, id. t. c. n. sp.  
*Collabismodes n. g. gamma n. sp.*, Centr. America, pl. xxvi, fig. 32, CHAMPION, p. 541, t. c.  
*Collabismus notulatus*, pl. xxvi, figg. 30, 31, p. 541, CHAMPION, t. c.  
*Colosterninus n. g.* type *Colosternus longipennis* Boh., p. 533, figd. pl. xxvi, figg. 17, 18, CHAMPION, t. c.  
*Conotrachelodes n. g. octocostatus n. sp.*, Mexico, pl. xxii, fig. 21, CHAMPION, t. c.  
*Conotrachelus leucocephalus, carinifrons*, p. 441, *pluricostatus*, p. 442, *nigricollis*, p. 443, pl. xxi, fig. 27, Centr. America, CHAMPION, t. c. n. spp.  
*Cophes n. g.* type *Colosternus longiusculus* Boh., p. 515, figd. pl. xxv, fig. 21, *C. asperatus*, pl. xxv, fig. 22, p. 516, *gibbus*, fig. 23, *quadricostatus*, pl. xxvi, fig. 1, p. 517, *aspersus*, pl. xxv, fig. 24, *cognatus*, pl. xxvi, fig. 2, p. 518, *bifurcatus*, pl. xxv, fig. 25, *hieroglyphicus*, fig. 26, p. 519, Centr. America, n. spp., CHAMPION, t. c.  
*Cossonus sheppardi*, p. 395, *transvaalensis*, p. 399, *umzila*, p. 400, *chirindensis*, p. 401, *complanatus*, p. 403, *scrobicollis*, p. 404, S. Africa, MARSHALL, Ann. Nat. Hist. (7) xv, n. spp.  
*Cryptoderma knapperti*, Sumatra, VETH, p. 202, Tijdschr. Ent. xviii; *C. lobatum*, Padang, RITSEMA, p. 169, Notes Leyden Mus. xxv : n. spp.  
*Cryptorhynchus definitus* Ros. to *Metriophilus*, p. 588, and pl. xxix, fig. 1, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4; *C. asper* Boh. to *Oxypterus*, p. 492, figured pl. xxiv, fig. 6, CHAMPION, t. c.  
*Cyclomias albolineatus*, Cilicia, PIC, p. 187, Echange 1905, n. sp.  
*Cylindrocorynus dentipes*, pl. xxv, fig. 17, p. 513, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.  
*Decilaus apicatus, squamipennis*, p. 230, *cuniculosus*, p. 231, *irrasus, auricomus*, p. 232, *tibialis*, p. 233, *spissus*, p. 234, *noctivagus*, p. 235, *ovatus*, p. 236, Australia, *coryssopus*, Tasmania, p. 235, LEA, Tr. R. Soc. S. Austral. xxix, n. spp.  
*Dercynus n. g.* near *Acalles*, p. 501, *micronyx n. sp.*, Guatemala, pl. xxiv, fig. 23, p. 502, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.  
*Derelomus basalis*, larva, DYAR, p. 128, P. ent. Soc. Washington vii.  
*Diodyrhynchus austriacus*, variation, PIC, p. 190, Echange 1905.  
*Diplogrammus curvilineatus*, Mexico, CHAMPION, p. 538, pl. xxvi, fig. 25, Biol. Centr.-Amer. Col. iv, pt. 4, n. sp.  
*Elpinus n. g.* near *Atrichis, palmatus n. sp.*, Mexico, pl. xxvi, fig. 22, CHAMPION, p. 536, t. c.  
*Elytrocheilus boviei*, p. 69, *breviusculus*, p. 70, New Guinea, HELLER, Deutsche ent. Zeitschr. 1905, n. spp.  
*Enomides n. g. Ithyporides, ovipennis n. sp.*, Guatemala, pl. xxii, fig. 9, CHAMPION, p. 454, Biol. Centr.-Amer. Col. iv, pt. 4.  
*Epiphylax septempunctatus*, Madagascar, FAIRMAIRE, p. 131, Ann. Soc. ent. Belgique 1905, n. sp.  
*Episodiocis n. g.* near *Pezichus*, p. 244, *microderes n. sp.*, Clarence River, p. 245, LEA, P. Linn. Soc. N. S. Wales xxx.  
*Eubulomus sticticus*, pl. xxvii, fig. 1, p. 542, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.  
*E. multicostratus*, pl. xxvii, fig. 2, p. 542, *reflexirostris, squamiventris*, p. 543, CHAMPION, t. c. n. spp.  
*Eubulopsis n. g. edentatus n. sp.*, Centr. America, pl. xxviii, figg. 26, 27, CHAMPION, p. 582, t. c.  
*Eubulus stipator*, pl. xxvii, fig. 7, p. 549, *brevis*, fig. 11, p. 552, *triangularis*, fig. 13, p. 553, *biangularis*, fig. 24, p. 558, *orthomasticus*, fig. 31, p. 563, *aspericollis*, fig. 32, p. 564, CHAMPION, t. c.  
*E. punctifrons*, pl. xxvii, fig. 3, *squamipennis*, fig. 4, p. 546, *costatus, truncatus*, fig. 5, p. 547, *reticulatus*, fig. 6, *hospes*, p. 548, *integer*, fig. 8,

- p. 550, *marginatus*, fig. 9, *immarginatus*, fig. 10, p. 551, *leucopleura*, fig. 12, p. 552, *ignifer*, fig. 14, p. 553, *lineatipleura*, fig. 15, *carinifrons*, fig. 16, p. 554, *annulifer*, fig. 17, *ocellatus*, fig. 18, p. 555, *nigrosignatus*, fig. 19, *nimbatus*, figg. 20, 21, p. 556, *curvifasciatus*, fig. 22, *signatifrons*, fig. 23, p. 557, *inequalis*, *trigonalis*, fig. 25, p. 558, *mutatus*, *bidentatus*, fig. 26, p. 559, *bicuspis*, *longipes*, fig. 27, p. 560, *diaspis*, *consanguineus*, *lamellatus*, fig. 28, p. 561, *fulvisquamis*, fig. 29, *marcidus*, p. 562, *bihamatus*, fig. 30, p. 563, *pilipectus*, pl. xxviii, fig. 1, p. 564, *alticarinatus*, fig. 2, *camelus*, fig. 3, p. 565, *gracilicornis*, fig. 4, *flavovariegatus*, p. 566, *irrubescens*, fig. 5, *nigricollis*, fig. 6, p. 567, *deceptor*, *atricollis*, p. 568, *tetricus*, *niger*, fig. 7, *unidentatus*, p. 569, *nigrodiscus*, fig. 8, *atrodiscus*, p. 570, *melanodiscus*, fig. 9, *quadricollis*, fig. 10, p. 571, *pulchellus*, fig. 11, *discoideus*, fig. 12, p. 572, *fulvodiscus*, fig. 13, *pleurostigma*, p. 573, *maculifrons*, fig. 14, *laticollis*, p. 574, *circumductus*, fig. 15, *circumlitus*, fig. 16, p. 575, *bifasciculatus*, *angularis*, fig. 17, p. 576, *seminger*, fig. 18, *crinitus*, fig. 19, p. 577, *lineatulus*, fig. 20, *campestris*, fig. 21, p. 578, *longisetis*, fig. 22, *crispus*, *signaticollis*, p. 579, *biplagiatus*, fig. 23, *dumicola*, p. 580, *melanotus*, fig. 24, *merens*, p. 581, *densus*, fig. 25, p. 582, Centr. America, CHAMPION, t. c. n. spp.
- Eugnampus nigriventris*, Arizona, SCHAEFFER, p. 178, Bull. Brooklyn Inst. i, n. sp.
- Eurhoptus caviventris*, pl. xxiii, fig. 18, p. 479, *anchonoides*, fig. 19, *fuscisetis*, p. 480, *alticola*, fig. 20, *foveiventris*, fig. 21, *costatus*, fig. 22, p. 481, *laevipennis*, fig. 23, p. 482, Centr. America, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4, n. spp.
- Eusepes porcellus* (= *Acalles longulus* Lec.), p. 497, p. xxiv, fig. 15, CHAMPION, t. c.
- Eusepes divisus*, pl. xxiv, fig. 16, p. 497, *longisetis*, *truncatipennis*, fig. 17, p. 498, Centr. America, CHAMPION, t. c. n. spp.
- Euxenus subparallelus*, p. 494, *ovatipennis*, pl. xxiv, fig. 12, *rhombifer*, fig. 13, p. 494, Centr. America, CHAMPION, t. c. n. spp.
- Foucartia burghauseni*, Croatia, REITTER, p. 247, Wien. ent. Zeit. xxiv, n. sp.
- Gerstaeckeria* n. g. type *Acalles bifasciatus*, figured pl. xxiii, fig. 6, *cruciata*, p. 470, *leseleuci*, *lacti*, fig. 7, p. 471, n. spp., Centr. America, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- Glocinorrhinus evanidus* (= *cooki* Faust), LMA, p. 251, P. Linn. Soc. N. S. Wales xxx.
- Guioperus klugii* Gerst., pl. xxii, fig. 15, *eques* Pasc., fig. 14, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- G. circumdatus*, p. xxii, fig. 12, p. 456, *trifasciatus*, fig. 13, p. 457, *sexsignatus*, fig. 16, p. 458, Centr. America, CHAMPION, t. c. n. spp.
- Hemiliopsis* n. g. type *Hemilius nudicollis* Chev., pl. xxv, figg. 29, 30, p. 521, CHAMPION, t. c.
- Hemilius glabrivostris*, pl. xxv, fig. 28, p. 521, CHAMPION, t. c.
- Hilipimorphus* n. g. *ferreri* n. sp., Mexico, pl. xxv, fig. 27, p. 520, CHAMPION, t. c.
- Homæotrachelus tricarinatus*, Queensland, LEA, p. 222, Tr. R. Soc. S. Austral. xxix, n. sp.
- Hycanus* n. g. *Rhyparosomida*, p. 545, *cockaynei* n. sp., Auckland islds., p. 546, BROWN, Ann. Nat. Hist. (7) xv.
- Lemosaccus plagiatus* and *texana*, SCHAEFFER, p. 140, Bull. Brooklyn Inst. i.
- Larinus zancleanus*, Sicily, VITALE, p. 128, Riv. Col. ital. ii, n. sp.
- Leianisorhynchus* n. g. near *Mylacus*, p. 178, *brunnescens* n. sp., Adana, p. 179, PIC, Echange xxi.
- Lembodes trux*, Guatemala, pl. xxiii, fig. 24, CHAMPION, p. 482, Biol. Centr.-Amer. Col. iv, pt. 4, n. sp.



- Lepilius* n. g. *Ithyporides*, p. 454, *pulchellus* n. sp., Guatemala, p. 455, pl. xxii, fig. 10, CHAMPION, t. c.
- Leptomias korbii*, Amurland, PIC, p. 98, Echange xxi, n. sp.
- Lixus*, tables of palæarctic, contin., PETRI, Wien. ent. Zeit. xxiv, pp. 33 etc.
- L. cleoniformis*, Egypt, p. 36, *laufferi* (= *lateralis* Bris. nec Panz), Spain, p. 109, *malatianus*, Mesopotamia, p. 158, *salicorniæ*, Derbent, p. 159, PETRI, t. c. n. spp.
- Lybaeba acuticosta*, S. Australia, LEA, p. 223, Tr. R. Soc. S. Austral. xxix, n. sp.
- Macromeropsis* n. g. near *Macromerus*, *bidentatus*, pl. xxv, fig. 15, p. 512, *quadrinotatus*, fig. 16, p. 513, n. spp., Panama, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- Macromerus succinatus*, pl. xx, figg. 2, 3, p. 507, *leuconotus* figg. 9, 10, p. 509, CHAMPION, t. c.
- M. tenuicinctus*, p. 507, pl. xxv, fig. 4, *flavocinctus*, fig. 5, *bicinctus*, fig. 6, *flavofasciatus*, fig. 7, p. 508, *albofasciatus*, fig. 8, p. 509, Centr. America, CHAMPION, t. c. n. spp.
- Mæmactes ruficornis*, pl. xxvi, fig. 11, p. 529, CHAMPION, t. c.
- M. pilosus*, *perforatus*, p. 529, *subfasciatus*, pl. xxvi, fig. 12, p. 530, Mexico and Guatemala, CHAMPION, t. c. n. spp.
- Magdalis*, revision of European and Mediterranean spp., DESBROCHERS, Frelon xiii, pp. 1-124.
- M. delagrangi*, p. 46, *interstitialis*, p. 31, *poncyi*, p. 41, *plicatula*, p. 33, *rotundicollis*, p. 42, *stricta*, p. 49, *syriaca*, p. 40, Europe and Mediterranean reg., DESBROCHERS, t. c. n. spp.
- Mataxus ornatcollis*, Madagascar, FAIRMAIRE, p. 130, Ann. Soc. ent. Belgique 1905, n. sp.
- Mazagranius* subg. n. cf. *Amaurorrhinus*.
- Mecinus villosulus*, gall, HOARD, pp. 41-51, Marcellia iv.
- Mecistocorynus* n. g. near *Macromerus*, p. 511, *sinuatifipes* n. sp., Centr. America, p. 512, pl. xxv, fig. 14, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- Mecolenus* referred to *Apionidæ*, BEGUIN-BILLECOQ, p. 43, Bull. Soc. ent. France 1905.
- Mecysolobus* n. g. near *Lixus*, *lixoides* n. sp., Amurland, REITTER, p. 248, Wien. ent. Zeit. xxiv.
- Megarhinus collaris*, W. Africa, HARTMANN, p. 270, Deutsche ent. Zeitschr. 1905, n. sp.
- Melanterius costipennis*, Tasmania, LEA, p. 223, Tr. R. Soc. S. Austral. xxix, n. sp.
- Menares* n. g. *Nettarhinides*, *pilicornis* n. sp., Guatemala, pl. xxii, fig. 11, CHAMPION, p. 455, Biol. Centr.-Amer. Col. iv, pt. 4.
- Metadupus nodatus*, pl. xxv, fig. 1, 1a, variation, p. 506, CHAMPION, t. c.
- Metoposoma nigrofasciatum*, Guatemala, pl. xxviii, fig. 28, CHAMPION, p. 583, t. c. n. sp.
- Metraniella* n. g. p. 462, *nigrolineata* n. sp., Guatemala, pl. xxii, fig. 25, p. 463, CHAMPION, t. c.
- Metraniopsis* n. g. *elatus* n. sp., Panama, pl. xxii, figg. 23, 24, CHAMPION, p. 461, t. c.
- Metriophilus fugax*, pl. xxviii, figg. 29, 30, p. 584, *rugifrons*, *tenuis*, *miscellus*, p. 585, *horridulus*, fig. 31, *minimum*, fig. 32, p. 586, *nitidus*, *occultus*, p. 587, *nigroterminatus*, pl. xxix, fig. 2, *cribricollis*, p. 588, *nigrescens*, fig. 3, *ramosus*, *ramulosus*, fig. 4, *nigrisetis*, p. 590, *v-fulvum*, fig. 5, p. 591, Centr. America, CHAMPION, t. c. n. spp.
- Microcleogonus* n. g. near *Cleogonus*, p. 458, *tibialis* n. sp., Centr. America, pl. xxii, fig. 17, p. 459, CHAMPION, t. c.
- Microhyus montanus*, pl. xxii, figg. 5, *hystrix*, figg. 6, p. 449, *longisetis*,

- erinaceus, brevipes*, p. 450, *angustatus, pallidisetis, minutissimus*, p. 451, Centr. America, CHAMPION, t. c. n. spp.
- Microclarinus peloritanus*, Sicily, VITALE, p. 43, Riv. Col. ital. i, n. sp.
- Microxypterus n. g. suturalis*, pl. xxiv, figg. 21, p. 500, *binotatus*, fig. 22, p. 501, n. spp., Centr. America, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- Mylacus nitidulus*, Sicily, VITALE, p. 126, Riv. Col. ital. ii, n. sp.
- Myllocerus laticollis*, p. 210, *abundans*, p. 211, *amblyrhinus*, p. 212, *sordidus, niveus*, p. 213, *elegans, rugicollis*, p. 214, *echinatus*, p. 215, *suturalis*, p. 216, *trilineatus, exilis*, p. 217, Australia, LEA, Tr. R. Soc. S. Austral. xxix, n. spp.
- Neomystocis n. g.* near *Pezichus*, p. 242, *squamiventris n. sp.*, Queensland, p. 243, LEA, P. Linn. Soc. N. S. Wales xxx.
- Niphades socius*, Sumatra, p. 267, *inaequalis*, San Thomé, p. 268, *planipennis*, Usambara, p. 269, HARTMANN, Deutsche ent. Zeitschr. 1905, n. spp.
- Ocladius sharpi* var. n. *subelongatus*, Sinai, PIC, p. 122, Echange xxi.
- O. walkeri*, Perim, CAMERON, p. 179, Ent. Mag. 1905, n. sp.
- Otiorrhynchus turca*, metamorphosis and natural history, SSILANTJEW, pp. 491-502, illustrations, Zool. Jahrb. Syst. xxi; *O. caudatus traspandanus* var. n., GORTANI, pp. 123-128, Riv. Col. ital. i; *O. ovatus* in N. America, metamorphosis, COOLEY, Bull. 55, Montana Agric. exp. Stat. pp. 130-140, pls. i, ii.
- Oxyonyx latipennis*, Algeria, PIC, p. 130, Echange xxi, n. sp.
- Oxypteropsis n. g.* p. 498, *armatus*, pl. xxiv, fig. 18, *latirostris*, fig. 19, p. 499, *bipartitus*, fig. 20, p. 500, n. spp., Centr. America, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- Oxypterus denticollis*, pl. xxiv, fig. 4, *fasciculosus*, fig. 5, p. 491, *fausti*, fig. 7, p. 492, *terminatus*, fig. 8, *obliquus*, fig. 9, p. 493, *rubiginosus*, fig. 10, p. 494, Centr. America, CHAMPION, t. c. n. spp.
- Pachyonyx squamosulus*, Madagascar, FAIRMAIRE, p. 130, Ann. Soc. ent. Belgique 1905, n. sp.
- Pachyrhynchus plutus*=(*biplagiatus* Bates), *biplagiatus* Guér.=(*salomonis* Hell.), referred to *Pantorhytes*, HELLER, pp. 305-307, Wien. ent. Zeit. xxiv.
- Pachytychius albomaculatus*, Algeria, PIC, p. 99, Echange xxi, n. sp.
- Pantorhytes*, revised, with synonymy, HELLER, pp. 305-310, Wien. ent. Zeit. xxiv.
- P. granulatus*, Woodlark isld., p. 307, *subcostatus*, S. E. isld., p. 308, HELLER, t. c. n. spp.
- Perieres n. g.* near *Acalles, gibbipennis n. sp.*, Guatemala, pl. xxiii, fig. 27, CHAMPION, p. 485, Biol. Centr.-Amer. Col. iv, pt. 4.
- Pezichus gracilis*, N. Queensland, LEA, p. 241, P. Linn. Soc. N. S. Wales xxx, n. sp.
- Phyllobius claroscutellatus*, Sicily, VITALE, Riv. Col. ital. iii, p. 205, n. sp.
- Phymatoposus squamans* Faust, pl. xxiv, fig. 24, p. 502, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- P. multicristatus*, pl. xxiv, fig. 25, p. 502, *scapularis*, fig. 26, p. 503, Centr. America, CHAMPION, t. c. n. spp.
- Phyrdenus divergens*=(*undatus* Lec.), pl. xxiv, figg. 27, *muriceus*=(*bullatus* Casey), fig. 28, *setiferus*, fig. 29, p. 504, CHAMPION, t. c.
- P. tincticollis*, Centr. America, p. 505, pl. xxiv, fig. 30, CHAMPION, t. c. n. sp.
- Piseus n. g.* near *Metriophilus, varicus*, pl. xxix, fig. 6, p. 591, *complanatus*, fig. 7, *sulcatus*, p. 592, n. spp., Centr. America, CHAMPION, t. c.
- Polydrusus impar* var. n. *vanicensis*, REITTER, p. 247, Wien. ent. Zeit. xxiv.
- Poropterus nodosus*, Tasmania, p. 224, *rhyticephalus*, p. 225, *listroderes, longipes*, p. 226, *cavernosus*, p. 227, *foveatus, inusitatus*, p. 228,

- lissorhinus*, p. 229, Australia, LEA, Tr. R. Soc. S. Austral. xxix, n. spp.
- Prionolixus beaupreii*, Algeria, PIC, Echange xxi, n. sp.
- Procas (Apachiscelis) rufescens*, Algeria, PIC, p. 131, t. c. n. sp.
- Pseudocypus* n. g. near *Cyphus*, *flexicaulis* n. sp., Texas, SCHAEFFER, p. 179, Bull. Brooklyn Inst. i.
- Pseudomopsis* n. g. near *Pseudomus*, *bicristatus*, pl. xxiii, fig. 28, p. 486, *arcuatus*, fig. 29, *laticollis*, p. 487, *nigrosignatus*, *distigma*, fig. 30, *latisquamis*, pl. xxiv, fig. 1, p. 488, *notaticollis*, fig. 2, p. 489, *conicicollis*, fig. 3, *similis*, p. 490, n. spp., Centr. America, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- Pseudoptochus* n. g. for *aurohirtus* Seidl., *rumelicus* Apfelb., FORMÁNEK, p. 191, Wien. ent. Zeit. xxv.
- Ptochus minimus*, Dalmatia, FORMÁNEK, p. 261, op. cit. xxiv, n. sp.
- Rhamphus æneus* var. n. *pannonicus*, CSIKI, p. 582, Ann. Mus. Hungar. iii.
- Rhinapion* subg. n. cf. *Apion*.
- Rhinochenus stigma*, pl. xxvi, figg. 23, 24, variation, p. 538, CHAMPION, Biol. Centr.-Amer. Col. iv, pt. 4.
- Rhinoscapha lameerei*, New Guinea, HELLER, p. 68, Deutsche ent. Zeitschr. 1905, n. sp.
- Rhynchites*; notes on European, pp. 68-78, *præustus* var. n. *nigratus*, p. 76, VITALE, Riv. Col. ital. i, and FIORI, t. c. pp. 144-148; *R. hungaricus*, habits, LESNE, p. 177, Bull. Soc. ent. France 1905.
- R. palmii*, Arizona, SCHAEFFER, p. 138, Bull. Brooklyn Inst. i, n. sp.
- Rhytiphleus ornatus*, Madagascar, FAIRMAIRE, p. 129, Ann. Soc. ent. Belgique 1905, n. sp.
- Schizomicrus* n. n. for *Schizonotus*, CASEY, p. 164, Canad. Ent. 1905.
- Sciaphilus pulcher*, Anatolia, PIC, p. 98, Echange xxi, n. sp.; *S. pulcher*, validity and genus queried, von HEYDEN, p. 95, Wien. ent. Zeit. xxiv.
- Sibinia cedrorum*, Algeria, PIC, p. 155, Echange xxi, n. sp.
- Siron* n. g. type *Celosternus dorsalis* Boh., pl. xxvi, fig. 28, *S. exornatus* Boh., fig. 29, CHAMPION, p. 540, Biol. Centr.-Amer. Col. iv, pt. 4.
- Solariella* subg. n. cf. *Trogloorhynchus*.
- Sphenophorus pertinax* varr. n. *australis*, *typhae*, CHITTENDEN, p. 53, P. ent. Soc. Washington vii.
- S. abrasus*, p. 54, *setiger*, *ludovicianus*, p. 55, *peninsularis*, p. 56, *nillosiventris*, *lævigatus*, p. 58, *maidis*, p. 59, *incongruus*, p. 61, *robustior*, p. 62, *pontederia*, p. 63, North America, CHITTENDEN, t. c.; *S. marinus*, p. 166, *graminis*, p. 168, *subopacus*, *monterensis*, p. 169, *diversus*, p. 170, *nevadensis*, *fallii*, p. 172, *subulatus*, p. 173, *destructor*, p. 174, *sublævis*, p. 176, *soltaii*, p. 178, *blanchardi*, p. 179, *striatipennis*, p. 180, CHITTENDEN, t. c. : n. spp.
- Spilonotus* n. g. near *Euxenus*, *ornatus* n. sp., Centr. America, pl. xxiv, fig. 14, CHAMPION, p. 496, Biol. Centr.-Amer. Col. iv, pt. 4.
- Staseas* n. g. near *Apteromechus*, p. 530, *granulatus*, pl. xxvi, figg. 13, 14, p. 531, *cingulatus*, *pullatus*, fig. 15, *pictipennis*, fig. 16, p. 532, *mexicanus* p. 533, n. spp., Centr. America, CHAMPION, t. c.
- Strophomorphus insquamosus*, *damascenus*, Syria, PIC, p. 178, Echange xxi, n. spp.
- Synomus ceruginosus*, Queensland, LEA, p. 221, Tr. R. Soc. S. Austral. xxix, n. sp.
- Telaugia keysseri*, p. 74, *subtilis*, p. 75, New Guinea, HELLER, Deutsche ent. Zeitschr. 1905, n. spp.
- Tepperia sterculiae*, habits, FROGGATT, p. 228, Agric. Gaz. N. S. W. xvi.
- Thegilis* n. g. near *Zascelis*, *baridioides*, pl. xxvi, fig. 9, n. sp., Centr. America, CHAMPION, p. 526, Biol. Centr.-Amer. Col. iv, pt. 4.
- Thrasymomus uniformis*, pl. xxii, fig. 19, *conotracheloides*, fig. 20, Centr. America, CHAMPION, p. 460, t. c. n. spp.

- Titinia ignaria* = (*marmorata* Pasc. = *lata* Blackb.), LEA, p. 219, Tr. R. Soc. S. Austral. xxix.
- T. parva*, Victoria, id. p. 220, t. c. n. sp.
- Trachypylæus beaupreii*, Algeria, PIC, p. 155, Echange xxi, n. sp.
- Troglothynchus* (*Solarrella* subg. n.) *paganettii*, Calabria, FLACH, p. 318, Wien. ent. Zeit. xxiv, n. sp.
- Tychius sinaiticus* Crotch, 1871, n. sp. but not yet recorded, SHARP, p. 520, Ann. Nat. Hist. (7) xv; *T. vaulogeri*, Algeria, PIC, p. 107, Echange xxi; *T. ciliciensis*, Taurus, PIC, p. 162, t. c. n. spp.
- Tyloderma aneotinctum*, Mexico, CHAMPION, p. 528, pl. xxvi, fig. 10, Biol. Centr.-Amer. Col. iv, pt. 4, n. sp.
- Tylodinus* n. g. p. 464, type *Tylodes nodulosus* Schönh., figured, pl. xxii, fig. 26, and as n. spp., *planicollis*, fig. 27, *quadrilamellatus*, fig. 28, p. 465, *fædus*, fig. 30, *16-tuberculatus*, fig. 29, *maculifrons*, pl. xxiii, fig. 1, p. 466, *canaliculatus*, fig. 2, *leucozona*, fig. 3, p. 467, *cavicus*, fig. 4, *callosus*, p. 468, Centr. America, CHAMPION, t. c. n. spp.
- Tyrannion* n. g. near *Eubulus validus*, pl. xxix, fig. 8, p. 593, *tricristatus*, fig. 9, *fulvipennis*, fig. 11, p. 594, *scabidus*, fig. 10, *nigrosellatus*, fig. 12, p. 595, *irregularis*, fig. 13, *suffusus*, fig. 14, p. 596, *diffusus*, *pictilis*, fig. 15, *disparilis*, fig. 16, p. 597, *ochreopunctatus*, fig. 17, *punctipennis*, fig. 18, p. 598, *funestus*, *imbellis*, *admixtus*, p. 599, *stolidus*, *squalidus*, p. 600, n. spp., Centr. America, CHAMPION, t. c.
- Ulosominus* n. g. near *Ulosomus quadrifasciculatus*, pl. xxiii, fig. 25, *zuniensis*, p. 483, *nanus*, *quichensis*, *triseriatus*, fig. 26, p. 484, *angustatus*, p. 425, n. spp., Centr. America, CHAMPION, t. c.
- Xenosomus inflatus*, pl. xxiii, fig. 5, *turpis*, Guatemala, CHAMPION, p. 469, t. c. n. spp.
- Zascalis irrorata* Lec. pl. xxvi, fig. 3, p. 523, *affaber*, fig. 5, p. 524, CHAMPION, t. c.
- Z. carinipes*, pl. xxvi, fig. 4, p. 523, *brevicollis*, fig. 6, p. 524, *sulcifrons*, p. 7, *rugosa*, p. 525, *glabrata*, fig. 8, p. 526, Centr. America, CHAMPION, t. c. n. spp.

## SCOLYTIDÆ.

[Cf. EICHELBAUM (489), FUCHS (625), HAGEDORN (713, 714), HOPKINS (758-760), NÜSIMA (1110), REITTER (1254), SCHAUFUSS (1328), SCHEWYREW (1330), SCHOLZ (1338).]

The habits of European *Scolytidæ*, SCHEWYREW (1330).

The mouth parts of the larvae, HOPKINS, pp. 143-149, pls. iv, v, P. ent. Soc. Washington vii.

The stridulating organs in *Scolytus*, SCHOLZ, Ins. Börse 1905, pp. 143, 144.

Translation of Eichoff's table of food plants and form of galleries of European, GROUZELLE, Echange xxi, pp. 149 etc.

*Amphicranus*, synopsis, p. 289, *A. elegans*, pl. ix, fig. 5, p. 290, BIANDFORD, Biol. Centr.-Amer. Col. iv, pt. 6.

*Amphicranus lesnei*, Columbia, HAGEDORN, p. 550, Bull. Mus. Paris x; *A. balteatus*, pl. ix, fig. 6, p. 291, *belti*, fig. 7, *torneutes*, fig. 8, p. 292, *brevipennis*, fig. 9, Centr. America, *schaufussi*, Venezuela, p. 293, *grouvellei*, Brazil?, *collaris*, fig. 10, p. 294, *tenuis*, fig. 11, *filiformis*, fig. 12, p. 295, *terebella*, fig. 13, *fastigatus*, fig. 14, p. 296, *propugnatus*, fig. 15, p. 297, *hybridus*, fig. 16, p. 298, Centr. America; id. t. c. n. spp.

*Camptocerus striatulus*, Guiana, HAGEDORN, p. 547, Bull. Mus. Paris x, n. sp.

*Chortastus* n. g. *Hylesinides camerunus* n. sp., W. Africa, SCHAUFUSS, p. 15, Ins. Börse 1905.

*Coccotrypes pygmæus*, habits and localities, SCHAUFUSS, p. 8, Ins. Börse 1905.

- C. cardamomi*, Ceylon, SCHAUFUSS, p. 8, t. c. n. sp.  
*Crossotarsus banghaasi*, E. Africa, p. 87, *cælocephalus*, Cameroons, p. 103, SCHAUFUSS, t. c. n. spp.  
*Cryphalus grothii*, larva, EICHELBAUM, pp. 248-250, Zeitschr. Insbiol. i.  
*Crypsinorhinus* n. g. p. 131, *chloropholoides* n. sp., Madagascar, p. 132, FAIRMAIRE, Ann. Soc. ent. Belgique 1905.  
*Dacryostactus* n. g. *Hylesinides, kolbei* n. sp., S. Africa, SCHAUFUSS, p. 79, Ins. Börse 1905.  
*Dendroctonus ponderosæ*, natural history and ravages, HOPKINS, Bull. U. S. Dep. Agric. Ent. No. 56.  
*D. mexicanus*, Amecameca, HOPKINS, p. 80, P. ent. Soc. Washington vii, n. sp.  
*Gnathotrichus nitidifrons*, Mexico, HOPKINS, p. 72, t. c. n. sp.  
*Hylesinus orni*, Centr. Europe, FUCHS, p. 51, Munchen. Kol. Zeitschr. iii, n. sp.  
*Lissoclastus* n. g. *Hylesinides, pimelioides* n. sp., Cameroons, SCHAUFUSS, p. 71, Ins. Börse 1905.  
*Meringopalpus* n. g. *Hylesinidarum*, p. 547, *fallax* n. sp., Venezuela, p. 548, HAGEDORN, Bull. Mus. Paris x.  
*Mitosoma rugosum*, Madagascar, SCHAUFUSS, p. 19, Ins. Börse 1905, n. sp.  
*Phlæophthorus moriperda*, Mexico, HOPKINS, p. 77, P. ent. Soc. Washington vii, n. sp.  
*Phlæosinus tacubayæ*, p. 78, *baumanni*, p. 79, Mexico, HOPKINS, t. c. n. spp.  
*Phthorius edentatus*, Venezuela, HAGEDORN, p. 549, Bull. Mus. Paris x, n. sp.  
• *Pityophthorus choleoensis*, p. 73, *herrerai*, p. 74, Mexico, HOPKINS, P. ent. Soc. Washington vii, n. spp.  
*Platypus pini*, Mexico, HOPKINS, p. 71, t. c. n. sp.  
*Pterocyclon dimidiatum*, Guiana, HAGEDORN, p. 550, Bull. Mus. Paris x ; *P. bispinum*, p. 281, pl. viii, fig. 19, *vittatum*, fig. 20, p. 282, *sulcatum*, *ferrarii*, fig. 23, p. 284, *imbriaticorne*, fig. 24, p. 285, Centr. America, BLANDFORD, Biol. Centr.-Amer. Col. iv, pt. 6 : n. spp.  
*Scolytoplatypus*, composition of the genus, p. 63, *S. pubescens* ♂, p. 64, HAGEDORN, Ins. Börse 1905.  
*S. hova*, Madagascar, SCHAUFUSS, p. 12, t. c. ; *S. eichelbaumi*, E. Africa, HAGEDORN, p. 64, t. c. : n. spp.  
*Scolytus chikisanii*, *curviventralis*, *æquipunctatus*, Japan, NŪSIMA, J. Sapporo Agric. Coll. ii, n. spp. [not seen by Recorder, Cf. Munchen. Kol. Zeitschr. iii, p. 118] ; *S. productus*, Venezuela, HAGEDORN, p. 547, Bull. Mus. Paris x : n. sp.  
*Stephanoderes moschatæ*, Guadeloupe, SCHAUFUSS, p. 8, Ins. Börse 1905, n. sp.  
*Tomicus mexicanus*, p. 75, *bonanseai*, p. 76, Mexico, HOPKINS, P. ent. Soc. Washington vii, n. spp.  
*Tricolus* n. g. p. 286, near *Pterocyclon, ovicollis*, pl. ix, fig. 3, *nodifer*, fig. 4, p. 287, n. spp., Guatemala, BLANDFORD, Biol. Centr.-Amer. Col. iv, pt. 6.  
*Xyleborus*; *meuseli*, E. Siberia, REITTER, p. 249, Wien. ent. Zeit. xxiv ; *X. triton*, p. 18, *fraterculus*, p. 19, Madagascar, SCHAUFUSS, Ins. Börse 1905 ; *X. conifer*, *camopinus*, Guiana, HAGEDORN, p. 549, Bull. Mus. Paris x : n. spp.

## ANTHRIBIDÆ.

Catalogue of *Anthribida*, 217 genera, 1465 species, BOVIE, pp. 218-334, Ann. Soc. ent. Belgique 1905.

## CERAMBYCIDÆ.

[Cf. CHOBOUT (310), DANIEL (387), DISTANT (421), FAIRMAIRE (534, 536), FALL (542), GOUNELLE (677, 679), HEATH (730, 731), HELLER (737), LAMBERE (910), MAYET (1016), MJÖBERG (1049), MÜLLER (1079), PIC (1173, 1181, 1187, 1190), REITTER (1246, 1253), SCHAEFFER (1323, 1324), SHARP (1385), SHARP & SMITH (1385), SKINNER (1408), WANDOLLECK (1565), WEBB (1592), WEISE (1601), WICKHAM (1630), ZANG (1658).]

*Longicornia*, in Baltic amber, redetermination of Berendt's species; also n. spp. cf. Palaeoent. p. 128.

The ♀ abdomen of numerous forms, WANDOLLECK, Zool. Jahrb. Anat. xxii, pp. 477-576, pl. xxviii.

The Recorder has now seen parts 1 & 2 of Cah. v of PIC's *Materiaux* etc. and has contented himself with extracting what he believes to be intended as new species.

*Acanthoivus linearis*, Arizona, SKINNER, p. 290, Ent. News Philad. xvi, n. sp.

*Agapanthia pustulifera*, Jerusalem, PIC, p. 12, Mat. Long. Cah. v, 2; *A. subnuda*, Transcaspian, REITTER, p. 93, Wien. ent. Zeit. xxiv: n. spp.

*Anaglyptus luteofasciatus*, Morea, PIC, p. 153, Echange xxi, n. sp.

*Ancylistus transversus*, Madagascar, FAIRMAIRE, p. 137, Ann. Soc. ent. Belgique 1905, n. sp.

*Artelida calcaratu*, *fuscoericans*, Madagascar, FAIRMAIRE, p. 134, t. c. n. spp.

*Aseum striatum*, larva, SHARP & SMITH, p. 162, pl. ix, fig. 6, Tr. ent. Soc. London 1905.

*Astynoscelis* n. g. near *Rhopaloscelis*, *longicornis* n. sp., Mantchuria, PIC, p. 8, Mat. Long. Cah. v, 1.

*Brachypteroma holtzi*, Taurus, PIC, p. 114, Echange xxi, n. sp.

*Brachytatus notabilis*, p. 136, *bipartitus*, p. 137, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique 1905, n. spp.

*Callimus semicyaneus*, Greece, PIC, p. 187, Echange 1905, n. sp.

*Calocerambyx* n. g. near *Tetraschema*, p. 66, *hauseri* n. sp., New Guinea, p. 67, HELLER, Deutsche ent. Zeitschr. 1905.

*Cephalallus* n. g. near *Criocephalus*, *oberthuri*, n. sp., Yunnan, SHARP, p. 148, Tr. ent. Soc. London 1905.

*Cephalocrius* n. g. for *Criocephalus syriacus* Reitter, SHARP, p. 149, t. c.

*Ceresium rugulipenne*, Madagascar, FAIRMAIRE, p. 135, Ann. Soc. ent. Belgique 1905; *C. vittidorsum*, Yunnan, PIC, p. 10, Mat. Long. Cah. v, 1: n. spp.

*Chariesthes rufula*, Madagascar, FAIRMAIRE, p. 138, Ann. Soc. ent. Belgique 1905, n. sp.

*Clytanthus hircanus*, Persia, PIC, p. 114, Echange xxi, n. sp.

*Clytus arvicola* var. n. *tridentata*, BLEUSE, p. 20, Bull. Soc. ent. France 1905.

*C. circassicus*, Circassia, PIC, p. 10, Mat. Long. Cah. v, 2, n. sp.

*Coremia bruchi*, Tucuman, GOUNELLE, p. 227, Bull. Soc. ent. France 1905, n. sp.

*Criocephalina*, new group, SHARP, p. 147, Tr. ent. Soc. London 1905.

*Criocephalus*, monograph, *C. pinetorum*, valid species, p. 155, ♀, p. 156,

*C. ferus* var. n. *hispanicus*, p. 157, *C. obsoletus* Rand. = (*mexicanus* Th.),

*C. ferus*, larva, pl. ix, fig. 5, SHARP, t. c.

*C.ceptor*, W. Tibet, p. 151, *coreanus*, Korea, p. 153, *tibetanus*, Tibet, *exoticus*, Chin Hills, p. 159, SHARP, t. c. n. spp.

*Demonax mongtsensis*, Yunnan, PIC, p. 12, Mat. Long. Cah. v, 1, n. sp.

*Derolus argentifer*, Yunnan, Pic, p. 11, t. c. n. sp.

- Desmocerus piperi*, Washington, WEBB, p. 104, P. ent. Soc. Washington vii, n. sp.
- Dorcadion arenarium*, the races with numerous varr. n., MÜLLER, pp. 129-153, Wien. ent. Zeit. xxiv; *D. arenarium* var. n. *marsicanum*, FRACASSI, p. 112, Riv. Col. ital. iii; *D. bifforme* var. n. *discomaculatum* PIC, p. 187, Echange 1905; *D. talyschense* var. n. *morgani*, PIC, p. 301, Bull. Mus. Paris 1905; *D. navasi* and allies, NAVÁS, pp. 272, 273, Bol. Soc. Aragon. iv; *D. culminicola holtzi* subsp. n., PIC, p. 116, Echange xxi.
- D. grandevittatum*, Turkey, *subjunctum*, Greece, p. 7, *maljushenkoi*, Caucasus, p. 8, PIC, Mat. Long. Cah. v, 1; *D. henrici*, Tokat, PIC, p. 156, Echange xxi; *D. semiargentatum*, Persia, PIC, p. 301, Bull. Mus. Paris 1905 : n. spp.
- Elaphidion fuchsii*, California, WICKHAM, p. 170, Canad. Ent. 1905; *E. mimeticum*, *niveivestitum*, Texas, SCHAEFFER, p. 132, Bull. Brooklyn Inst. i : n. spp.
- Ergates faber*, larva and pupa, pl. i, figg. 8-10, p. 39, MjöBERG, Arkiv Zool. ii, No. 17.
- Eupogonius fulvovestitus*, Texas, SCHAEFFER, p. 134, Bull. Brooklyn Inst. i, n. sp.
- Euryptera huachuca*, Arizona, SCHAEFFER, p. 164, t. c. n. sp.
- Exocentrus polymitus*, Natal, DISTANT, p. 207, Ann. Nat. Hist. (7) xv, n. sp.
- Grammoptera ruficornis* ab. n. *holomelina*, POOL, p. 133, Ent. Rec. xvii; *G. holomelina*, a valid species, DONISTHORPE, p. 182, Ent. Rec. xvii.
- Holangus guerryi*, Yunnan, PIC, p. 10, Mat. Long. Cah. v, 1, n. sp.
- Hoploderes*, revision, LAMEERE, pp. 361-367, Ann. Soc. ent. Belgique 1905.
- H. reticulatus*, p. 362, *levipennis*, p. 363, *nitidior*, p. 364, *confectus*, p. 365, Madagascar, LAMEERE, t. c. n. spp.
- Hoplorana nigroscutata*, Madagascar, FAIRMAIRE, p. 137, Ann. Soc. ent. Belgique 1905, n. sp.
- Hypocephalus armatus*, habits, GOUNELLE, pp. 105-108, pl. vi, Ann. Soc. ent. France 1905.
- Icariotis politicollis*, Madagascar, FAIRMAIRE, p. 134, Ann. Soc. ent. Belgique 1905, n. sp.
- Ischnocnemis pallidus*, Lower California, SCHAEFFER, p. 132, Bull. Brooklyn Inst. i, n. sp.
- Leptostylus pini*, Arizona, SCHAEFFER, p. 165, t. c. n. sp.
- Leptura morgani*, Persia, PIC, p. 300, Bull. Mus. Paris 1905, n. sp.
- Lepturges yucca*, Arizona, p. 167, *celtis*, Texas, p. 168, SCHAEFFER, Bull. Brooklyn Inst. i, n. spp.
- Lepturgoides* n. g. near *Liopus*, *pini* n. sp., Arizona, SCHAEFFER, p. 166, t. c.
- Lucasianus levallanti*, characters, habits, habitat, MAYET, p. 277, Bull. Soc. ent. France 1905.
- Lysimena tigrina*, Arizona, SKINNER, p. 291, Ent. News Philad. xvi, n. sp.
- Macrocaulus angulosus*, Madagascar, FAIRMAIRE, p. 133, Ann. Soc. ent. Belgique 1905, n. sp.
- Macrotoma villosicollis*, p. 132, *semirugosa*, p. 133, Madagascar, FAIRMAIRE, t. c. n. spp.
- Madecops inornatus*, Madagascar, FAIRMAIRE, p. 136, t. c. n. sp.
- Mallosia græca* var. *cardoriensis*, PIC, p. 47, Bull. Soc. ent. France 1905.
- Megasemum* defined, *M. 4-costatum* ♂, SHARP, p. 147, Tr. ent. Soc. London 1905.
- Neoclytus peninsularis*, Lower California, SCHAEFFER, p. 133, Bull. Brooklyn Inst. i, n. sp.

- Obrium brunneum*, food-habits, ESTIOT, p. 142, Bull. Soc. ent. France 1905.
- O. japonicum*, Japan, PIC, Mat. Long. Cah. v, 1, n. sp.
- Oncideres quercus*, Arizona, SKINNER, p. 291, Ent. News. Philad. xvi, n. sp.
- Oxymirus cursor* var. n. *subvittatus*, REITTER, p. 206, Wien. ent. Zeit. xxiv ; *O. cursor* var. n. *nigrinus*, REITTER, p. 250, t. c.
- Parmena balteus* and *unifusciata*, synonymy, VON HEYDEN, pp. 25–28, Wien. ent. Zeit. xxiv.
- Parozodes aurivillii*, Goyaz, GOUNELLE, p. 295, cut, Bull. Soc. ent. France 1905, n. sp.
- Phytoecia*, revision of subg. *Pilemia*, with synonymy, DANIEL, pp. 55–64, Munchen. Kol. Zeitschr. iii ; *P. modesta inapicalis* subsp. n., PIC, p. 107, Echange xxi.
- Pilemia wawerkana*, Akbès, REITTER, p. 240, Wien. ent. Zeit. xxiv, n. sp.
- Plagionotus bobelayei* var. n. *mouzafferi*, PIC, p. 114, Echange xxi.
- Plectrogaster jordani*, Gold Coast, HEATH, p. 76, fig. 3, Entomologist 1905, n. sp.
- Pogonocherus negundo*, Arizona, SCHAEFFER, p. 164, Bull. Brooklyn Mus. n. sp.
- Polyarthron minutum*, Persia, PIC, p. 300, Bull. Mus. Paris 1905, n. sp.
- Prionus laticollis*, number of eggs, LAURENT, p. 62, Ent. News Philad. xvi.
- P. areschanus*, Caucasus, FAIRMAIRE, p. 79, Bull. Soc. ent. France 1905 ; *P. heros*, Arizona, FALL, p. 274, Canad. Ent. 1905 : n. spp.
- Prosopocera biplagiata*, Angola, HEATH, p. 75, fig. 3, Entomologist 1905 ; *P. rothschildi*, Angola, HEATH, p. 98, fig. 2, t. c. : n. spp.
- Psyrassa texana*, Brownsville, SCHAEFFER, p. 160, Bull. Brooklyn Inst. i, n. sp.
- Purpuricenus dalmatinus* var. n. *apicalis*, PIC, p. 163, Echange xxi.
- P. robusticollis*, Persia, PIC, p. 9, Mat. Long. Cah. v, 2, n. sp.
- Rhagium bifasciatum*, larva, SHARP, p. 163, pl. ix, fig. 9, Tr. ent. Soc. London 1905.
- Rhopalophora angustata*, Texas, SCHAEFFER, p. 162, Bull. Brooklyn Inst. i, n. sp.
- Romaleum niveitectum*, Arizona, SCHAEFFER, p. 160, t. c. n. sp.
- Rosalia alpina*, variation in Sicily, FIORI, p. 7, Natural. Sicil. xviii ; *R. alpina*, food-trees, GERMAIN, p. 188, Feuille Natural. xxxv.
- Semanotus russicus algerica* subsp. n., PIC, Echange xxi.
- Soridus griseus*, Natal, DISTANT, p. 206, Ann. Nat. Hist. (7) xv, n. sp.
- Spondylus buprestoides*, natural history, pp. 37–44, cut, Mjöberg, Arkiv Zool. ii, No. 17.
- Stenopterus ater* var. n. *subhumeralis*, PIC, p. 156, Echange xxi.
- Stenosphenus beyeri*, Arizona, SCHAEFFER, p. 163, Bull. Brooklyn Inst. i, n. sp.
- Strangalia erinnys* Dan., PIC, p. 127, Echange xxi.
- Tambusa* n. g. *Acmoceridaria*, *marleyi* n. sp., Natal, DISTANT, p. 205, Ann. Nat. Hist. (7) xv.
- Tetropiopsis guldei*, Algeria, CHOBOUT, p. 157, Bull. Soc. ent. France 1905, n. sp.
- Tetropium gabrieli*, Centr. Europe, WEISE, p. 136, Deutsche ent. Zeitschr. 1905, n. sp. ; *T. gabrieli* noticed, SHARP, Ent. Mag. 1905, pp. 273, 274 ; *T. crawshayi*, p. 271, *parcum*, p. 272, England, SHARP, Ent. Mag. 1905, n. spp.
- Thaumasus gigas*, habits, RODRIGUEZ, p. 185, Bull. Soc. ent. France 1905.
- Tragocephala luctifera*, Madagascar, FAIRMAIRE, p. 135, Ann. Soc. ent. Belgique 1905, n. sp.
- Vesperus xatarti*, larva and natural history, NOEL, p. 42, Naturalisté 1905.



- Xylotrechus quadrupes*, natural history, Tonkin, BOUTAN, C.R. Ac. Sci. cxl, p. 1654.  
*X. multinotatus*, Yunnan, PIC, p. 11, Mat. Long. Cah. v, 1; *X. quercus*, Arizona, SCHAEFFER, p. 163, Bull. Brooklyn Inst. i : n. spp.  
*Zographus lanei*, Angola, HEATH, p. 74, fig. 1, Entomologist 1905, n. sp.

## BRUCHIDÆ.

[Cf. PIC (1187), SCHILSKY (1331).]

SCHILSKY, in Heft. 41, Käf. Eur. tabulates 100 spp. palæarctic *Bruchidæ*.

- Acanthocelides* n. g. for *Bruchus mimosæ* etc., SCHILSKY, Käf. Eur. 41c.  
*Bruchidius* n. g., 41b, for a large part of *Bruchus angustifrons*, Egypt, 52, *ganglbaueri*, Centr. and S. Eur., 78, *sahlbergi*, Egypt, 94, n. spp., SCHILSKY, t. c.  
*Bruchus* not *Laria* to be used; value of Geoffroy's name; the question of opportunism, GANGLBAUER, Munchen. Kol. Zeitschr. iii; *B.* n. sp. from gall on *Duvana*, Chile, KIEFFER & PABLO, Zeitschr. Insbiol. i, p. 66.  
*Kytorhinus reitteri*, Mongolia, SCHILSKY, Käf. Eur. 41, p. 21, n. sp.  
*Laria beauprei*, Egypt, PIC, p. 122, Echange xxi, n. sp.  
*Mylabris*, *Bruchus* and *Laria*, nomenclatorial, SCHILSKY, Käf. Eur. Heft. 41A-C.

CHRYSOMELIDÆ [except *Hispides* and *Cassidides*].

- [Cf. BRIGGS (191), CLAVAREAU (322), JACOBY (810, 811), JACOBY & CLAVAREAU (812, 813), KNAB (870), MCCrackEN (1019), PIC (1171, 1184, 1187, 1189, 1191), REITTER (1246, 1254), SCHAEFFER (1323, 1324), WEISE (1596-1598, 1606, 1612).]
- Allophyla*, *Charidea*, and question of open front acetabula, WEISE, p. 188, Deutsche ent. Zeitschr. 1905.  
*Antonaria* n. g. type *Pæcilomorpha murina* Westw., JACOBY & CLAVAREAU, p. 8, Gen. Ins. fasc. xxxiii.  
*A. femorata*, Congo, CLAVAREAU, p. 111, Ann. Soc. ent. Belgique 1905, n. sp.  
*Apteropeda orbiculata*, food-plant, NEWBERY, p. 210, Ent. Mag. 1905.  
*Asbecca lata*, Cameroons, WEISE, p. 80, Deutsche ent. Zeitschr. 1905; *A. sobrina*, Rhodesia, WEISE, p. 330, t. c. : n. spp.  
*Atelectura schultzei*, Yola, WEISE, p. 77, t. c. n. sp.  
*Aulacophora scutellata* Baly, to *Prosmidia*, WEISE, p. 45, t. c.  
*Bacteriaspis* n. g.? for *Aulacophora scutellata* Baly, WEISE, p. 328, t. c.  
*Barticaria* n. g. for *Megalopus cæruleus* Jac., JACOBY & CLAVAREAU, p. 13, Gen. Ins. fasc. xxxiii.  
*Blepharida rudeli*, E. Africa, WEISE, p. 41, Deutsche ent. Zeitschr. 1905, n. sp.  
*Bradylema robusta* = (*pallida*, *rufoadumbrata* and *constricticollis* Clark, and *transvaalensis* Jac.), WEISE, p. 322, t. c.  
*Cerophysa siamensis*, Malay States, JACOBY, p. v, Fascic. Malay. App. ii, n. sp.  
*Chlamys plicata*, natural history, cases, BRIGGS, Cold Spring Mon. iv, 12 pp., 1 pl.  
*Chrysomela sanguineocincta*, Sinai, Crotch 1871, n. sp. but not yet recorded, SHARP, p. 520, Ann. Nat. Hist. (7), xv.  
*Clytra militaris*, characters, WEISE, p. 77, Deutsche ent. Zeitschr. 1905.  
*C. trægæardhi*, White Nile, WEISE, p. 18, Jägerskiöld exp. No. 10a, n. sp.

- Colaspoides annandalei*, p. iii, *siamensis*, p. iv, Malay States, JACOBY, Fasc. Malay. App. ii, n. spp.
- Colasposoma erili*, p. 37, *posticum*, *geniculatum*, p. 39, *concinnum*, p. 40, Trop. Africa, WEISE, Deutsche ent. Zeitschr. 1905, n. spp.
- Coptocephala æneopicta* var. n. *bistri juncta*, PIC, p. 156, Echange xxi; *C. gebleri* var. n. *inundata*, REITTER, p. 251, Wien. ent. Zeit. xxiv.
- C. flavolimbata*, Algeria, PIC, p. 122, Echange xxi, n. sp.
- Coscinoptera tibialis*, Lower California, SCHAEFFER, p. 135, Bull. Brooklyn Inst. i, n. sp.
- Crepidodera ceruleicollis* and *sabauda*, PIC, p. 110, Echange xxi; *C. cyaneoscens* var. *inconcolor*, PIC, p. 99, t. c.; *C. cyanipennis* and allies, PIC, pp. 17-21, Miscell. ent. xiii; *C. cyanescens inconcolor*, PIC, dubious, HEYDEN, p. 96, Wien. ent. Zeit. xxiv; *C. inconcolor*, note, PIC, p. 275, Wien. ent. Zeit. xxiv; *C. rhætica* var. n. *spectabilis*, CARRET, p. 17, Riv. Col. ital. iii.
- Crioceris asparagi*, variation, SCHUSTER, pp. 211-214, Zool. Garten xlv.
- Cryptocephalus bilineatus* var. *armeniacus*=(*partitus* Jac.), WEISE, p. 58, Deutsche ent. Zeitschr. 1905; *C. oranensis* var. n. *discolugubris*, p. 95, *semiinterrupta*, p. 96, PIC, Miscell. ent. xiii; *C. rugicollis* var. n. *perroudi*, PIC, p. 107, Echange xxi; *C. quadripunctatus* var. n. *arvernica*, PIC, p. 163, t. c.; *C. bimaculatus* and *infirmior* distinguished, MOLLANDIN, p. 96, Bull. Soc. ent. France 1905.
- C. septimaniensis*, Aigues-Mortes, PIC, p. 163, Echange xxi; *C. mekalianus*, *cisti*, *juniperi*, Algeria, PIC, p. 147, t. c.; *C. rudeli*, p. 35, *conviva*, p. 36, Trop. Africa, WEISE, Deutsche ent. Zeitschr. 1905; *C. insons*, Yola, WEISE, p. 79, t. c.; *C. crenatostriatus*, Lower California, SCHAEFFER, p. 137, Bull. Brooklyn Inst. i : n. spp.
- Diabrotica bipuncticollis*, Arizona, SCHAEFFER, p. 171, t. c. n. sp.
- Diapromorpha*, species tabulated, WEISE, pp. 324-327, Deutsche ent. Zeitschr. 1905.
- Dibolia cynoglossi*, food-plant, DONISTHORPE, p. 256, Ent. Mag. 1905.
- Donacia curticollis*, Illinois, KNAB, p. 122, P. ent. Soc. Washington vii, n. sp.
- Euryscopa subnigra*, Lower California, SCHAEFFER, p. 136, Bull. Brooklyn Inst. i, n. sp.
- Eutheca pauli*, E. Africa, WEISE, p. 42, Deutsche ent. Zeitschr. 1905, n. sp.
- Eutornus* and *Philopona*, WEISE, p. 332, t. c.
- Exosoma* Jac.=(*Matacodora* Bed.), BEDEL, p. 30, Bull. Soc. ent. France 1905.
- Galerucella rosinae*, Siberia, PIC, p. 99, Echange xxi, n. sp.
- Glyptoscelis prosopis*, Texas, SCHAEFFER, p. 169, Bull. Brooklyn Inst. i, n. sp.
- Haplosomyx shelfordi*, Borneo, *robinsoni*, Malay States, JACOBY, p. vi, Fascic. Malay. App. ii, n. spp.
- Hyphasis fulvicornis*, Malay States, JACOBY, p. iv, t. c. n. sp.
- Lactica bumelia*, Texas, SCHAEFFER, p. 172, Bull. Brooklyn Inst. i, n. sp.
- Lema* and *Crioceris* of the Wytzman Genera, PIC, p. 39, Bull. Soc. zool. France xxx.
- Lina lapponica*, the dimorphism, results of breeding, McCracken, J. exp. Zool. ii, pp. 117-136, 1 pl.
- Megalognatha bodougi*, Rhodesia, WEISE, p. 331, Deutsche ent. Zeitschr. 1905, n. sp.
- Megascelis*, list and figures, *M. jacobyi* n. n. for *curta* Jac. p. 3, JACOBY & CLAVAREAU, Gens. Ins. fasc. xxxii.
- Megalopidae*, the genera and lists of species, JACOBY & CLAVAREAU, op. cit. xxxiii, 19 pp., 2 pls.
- Megalopus jacobyi* n. n. for *femoratus* Jac. p. 4, *mexicanus* n. n. for *modestus* Jac. p. 5, CLAVAREAU, t. c.

- Melicanthus siamensis*, Malay States, JACOBY, p. iii, Fascic. Malay. App. ii, n. sp.
- Mimastra annandalei*, Malay States, JACOBY, p. vii, t. c. n. sp.
- Monolepta rubricollis*, Perak, JACOBY, p. vii, t. c. n. sp.
- Notomela apicipennis*, Malay States, JACOBY, p. v, t. c. n. sp.
- Orestia electra* and *apennina*, REITTER, p. 200, Wien. ent. Zeit. xxiv.
- Peploptera erili*, Lake Nyassa, WEISE, p. 34, Deutsche ent. Zeitschr. 1905, n. sp.
- Philopona rufinasus*, Rhodesia, WEISE, p. 333, t. c. n. sp.
- Phyllotreta kunnemanni*, Hautes Alpes, REITTER, p. 251, Wien. ent. Zeit. xxiv, n. sp.
- Piomelopus* n. g. for *Pæcilomorpha flabellicornis* Jac., JACOBY & CLAVAREAU, p. 6, Gen. Ins. fasc. xxxiii.
- Potaninia collaris*, Darjiling, WEISE, p. 216, Deutsche ent. Zeitschr. 1905, n. sp.
- Prosmidia concinna*, E. Africa, WEISE, p. 44, t. c. n. sp.
- Protoelytra* n. g. for *Camptolenes abyssinica* etc. etc., WEISE, p. 323, t. c.
- Protorina plagiata* var. n. *croatica*, WEISE, p. 80, t. c.
- Pseudocolaspis brunripes* var. n. *obscuricolor*, PIC, p. 179, Echange xxi.
- Sagra derchii* = (*cambieri* Duviv.), characters, JACOBY, p. 99, Ann. Soc. ent. Belgique 1905.
- Sagra hafligeri*, Lake Nyassa, WEISE, p. 33, Deutsche ent. Zeitschr. 1905, n. sp.
- Sangaria flexicaulis*, Texas, SCHAEFFER, p. 172, Bull. Brooklyn Inst. i, n. sp.
- Sigrisma*, the species and synonymy, WEISE, p. 54, Deutsche ent. Zeitschr. 1905: *S. cylindrica* var. n. *thoracica*, WEISE, p. 323, t. c.
- Sphondylia jacobyi*, Congo, CLAVAREAU, p. 110, Ann. Soc. ent. Belgique 1905, n. sp.
- Spilonotella* n. n. for *Spilonota* Weise, COCKERELL, p. 104, Entomologist 1905.
- Stenellina* n. n. for *Stenella* Weise, COCKERELL, l. c.
- Stylosomus weberi*, Transcaspien, REITTER, p. 94, Wien. ent. Zeit. xxiv, n. sp.
- Syagrus bodongi*, Rhodesia, WEISE, p. 328, Deutsche ent. Zeitschr. 1905, n. sp.
- Timarcha nicæensis*, habits, FRIEDRICH, Zeitschr. Insbiol. i, p. 459-461.
- Tirrhabda ornata*, Texas, SCHAEFFER, p. 137, Bull. Brooklyn Inst. i; *T. nigrohumeralis*, Arizona, SCHAEFFER, p. 170, t. c. : n. spp.
- Zeugophora flavicollis* varr. and their synonymy, CHAMPION, p. 225, Ent. Mag. 1905.

## HISPIDÆ and CASSIDIDÆ.

- [Cf. GESTRO (649), SPAETH (1430), WEISE (1599, 1600, 1605, 1608-1612).]
- List of *Hispidæ* and *Cassididæ* of Lower India, WEISE, Deutsche ent. Zeitschr. 1905, pp. 113-129.
- List of *Hispidæ* of Mexico, WEISE, pp. 130-135, t. c.
- Amenychus*, n. g. ? for *inermis* and *potanini*, WEISE, p. 318, t. c.
- Agenysa* n. g. for part of *Calaspidea* type *discors* Ol., p. 89, *A. crassicornis*, n. sp., Colombia, p. 94, SPAETH, Verh. Ges. Wien 1905.
- Alurnus orbignyi* = (*saundersi* Baly), WEISE, p. 336, Deutsche ent. Zeitschr. 1905.
- Anoplitis terminata* var. n. *latifica*, WEISE, p. 132, t. c.
- Aspidomorpha quadrimaculata* var. n. *signaticollis*, WEISE, p. 334, t. c.
- Arescus*, cf. *Xenarescus*.
- A. biguttata*, synonymy, var. n. *bertolonii*, SPAETH, p. 115, Verh. Ges.

- Wien 1905; *A. chlorina*=(*Cass. fuscopunctata* Gorh.), *A. strigosa* Gorh. (as *Cassida*)=*pilifera* Weise, SPAETH, p. 111, t. c.
- A. laevigata*, W. Africa, p. 113, *nickerli*, with var. *scitula*, Madagascar, p. 114, SPAETH, Verh. Ges. Wien 1905, n. spp.
- Balyana*: synonymy, WEISE, p. 56, Deutsche ent. Zeitschr. 1905.
- Brontispa gleadowi*, Mauritius, and larva, WEISE, pp. 299-302, t. c. n. sp.
- Calliaspis andicola*, p. 86, *brevicornis*, p. 87, S. America, SPAETH, Verh. Ges. Wien 1905, n. spp.
- Callispa octopunctata* var. n. *sexmaculata*, WEISE, p. 113, Deutsche ent. Zeitschr. 1905.
- Callopepla mouhoti*=(*bohemianiana* St.), SPAETH, p. 84, Verh. Ges. Wien 1905.
- Canistra dohrni*, Parà, SPAETH, p. 88, t. c. n. sp.
- Cassida meridionalis* var. n. *viturati*, PIC, p. 179, Echange xxi.
- C. picta*, p. 104, *rugosicollis*, p. 106, *pubescens*, p. 107, Madagascar, *granulicollis*, Mozambique, p. 108, *C. (Odontionycha) pentheri*, Zambesi, p. 109, SPAETH, Verh. Ges. Wien 1905; *C. signifera*, Nilgiri Hills, WEISE, p. 123, Deutsche ent. Zeitschr. 1905: n. spp.
- Cephalolia beckeri, postuma*, Mexico, WEISE, p. 131, t. c. n. spp.
- Chalepus frictus*, Mexico, WEISE, p. 133, t. c. n. sp.
- Charidotis fulviventris*, S. America, SPAETH, p. 103, Verh. Ges. Wien 1905, n. sp.
- Chirida natalensis*, p. 111, *gorhami*, p. 112, Natal, SPAETH, t. c.; *C. mimica*, Assam, WEISE, p. 210, Deutsche ent. Zeitschr. 1905; *C. gregaria, acutangula*, p. 127, *selecta*, p. 128, Nilgiri Hills, WEISE, t. c.: n. spp.
- Cistudinella rufitarsis*, p. 98, *lateripunctata*, p. 99, *peruana*, p. 100, *plagi-collis*, p. 102, S. America, SPAETH, Verh. Ges. Wien 1905, n. spp.
- Coratiomela 4-maculata* ab. n. *bimaculata*, WEISE, p. 336, Deutsche ent. Zeitschr. 1905.
- Dactylispa andreinii*, E. Africa, GESTRO, p. 176, Bull. Soc. ent. Ital. xxxvi; *D. andrevesiella*, p. 118, *spinipes*, p. 119, *humeralis*, p. 120, Nilgiri Hills, WEISE, Deutsche ent. Zeitschr. 1905; *D. plagiata*, New Guinea, WEISE, p. 248, t. c.: n. spp.
- Dorcatispa bellicosa*=(*Podispa extrema* Pér.), GESTRO, p. 173, Bull. Soc. ent. Ital. xxxvi.
- Gonophora brevicornis*, Nilgiri Hills, WEISE, p. 114, Deutsche ent. Zeitschr. 1905, n. sp.
- Hispine*; tabulation of genera, WEISE, pp. 317, 318, t. c.
- Hoplionota nickerli*, p. 79, *hotubi*, p. 81, S. Africa, SPAETH, Verh. Ges. Wien 1905, n. spp.
- H. andrevesi*, Nilgiri Hills, WEISE, p. 122, Deutsche ent. Zeitschr. 1905, n. sp.
- Lacoptera atrata*, E. Africa, p. 115, *fruhstorferi*, Tenasserim, p. 117, SPAETH, Verh. Ges. Wien 1905, n. spp.
- Micrispa gestroi*, Burma, WEISE, p. 116, Deutsche ent. Zeitschr. 1905, n. sp.
- Microrhopala melsheimeri* to *Brachycoryna*, WEISE, p. 319, t. c.
- M. beckeri*, p. 134, *suturalis*, p. 135, Mexico, WEISE, t. c. n. spp.
- Miocalspis gentilis* Er. ? = *conspersa* Weise, SPAETH, p. 92, Verh. Ges. Wien 1905.
- M. biplagosa*, Bolivia, p. 92, *latevittata*, Ecuador, p. 93, SPAETH, t. c. n. spp.
- Monochirus* Chap. = *Hispellinus* Weise, WEISE, p. 319, Deutsche ent. Zeitschr. 1905.
- Odontota californica* to *Baliosus*, WEISE, p. 320, t. c.
- Pentispa melanura*=(*Microrhopala dimidiata* Horn), WEISE, p. 319, t. c.
- Pacilaspis steindachneri* with var. *hemaptera*, Colombia, SPAETH, p. 97, Verh. Ges. Wien 1905, n. sp.
- Polyconia* n. g. ? for *spinicornis* Kr., WEISE, p. 318, Deutsche ent. Zeitschr. 1905.

- Porphyraspis* (= *Emperochela* Spaeth), *Hemisphærota* for *Porphyraspis* Sp., SPAETH, p. 82, Verh. Ges. Wien 1905.
- Pseudomesomphalia brunni*, Brazil, *lugens*, Bolivia, SFAETH, p. 95, t. c. n. sp.
- Rhinocassis* n. g. for *Calliaspis*, pt., p. 85 (but p. 118 said to be synonym of *Millinaspis*), SPAETH, t. c.
- Spilophora peruana* var. n. *æquatoriensis*, *S. bohemani* var. n. *annulata*, SPAETH, p. 84, t. c.
- S. litterifera*, Amazons, SPAETH, p. 83, t. c. n. sp.
- Stilpnaspis* n. g. near *Calliaspis*, *marginata* n. sp., Bolivia, WEISE, p. 298, Deutsche ent. Zeitschr. 1905.
- Xenarescus* subg. n. and *Nympharescus* subg. n., of *Arescus*, WEISE, p. 320, t. c.

## EROTYLIDÆ.

- Languria sanguinicollis*, *læta*, *lecontei*, SCHAEFFER, pp. 125, 126, Bull. Brooklyn Inst. i.
- Dacne fowleri*, England, JOY, p. 274, Ent. Mag. 1905, n. sp.
- Helota*; supplementary list, RITSEMA, Notes Leyden Mus. xxv, pp. 216-218.
- H.*; the African species, RITSEMA, pp. 203-218, t. c.
- H. sjostedti*, Cameroons, RITSEMA, p. 163, t. c.; *H. semipurpurea*, Usambara, p. 210, *tripartita*, Cameroons, p. 212, RITSEMA, t. c.; *H. fruhstorferi*, p. 117, *tonkinensis*, p. 119, *elongata*, p. 121, Tonkin, *renati*, China, p. 123, *intermedia*, p. 125, *darelii*, p. 127, Bhutan, *moutonii*, China, p. 129, *indicator*, Tenasserim, p. 130, RITSEMA, t. c.: n. spp.
- Triplax bicolor*, synonymy, BAGNALL & BEARE, pp. 135-138, Ent. Mag. 1905.
- T. mesosternalis*, Arizona, SCHAEFFER, p. 145, Bull. Brooklyn Inst. i, n. sp.

## ENDOMYCHIDÆ.

- [Cf. CSIKI (377), FAIRMAIRE (534), GORHAM (676).]
- Clemmus*, not *Clemmys* to stand, VON HEYDEN, p. 316, Wien. ent. Zeit. xxiv.
- Encymon rufus*, Madagascar, FAIRMAIRE, p. 116, Ann. Soc. ent. Belgique 1905, n. sp.
- Mycetæina*, table of genera, CSIKI, p. 573, Ann. Mus. Hungar. iii.
- Ediarthrus algoensis*, S. Africa, GORHAM, p. 280, P. Zool. Soc. London 1905, ii, n. sp.
- Parexysma* n. g. for *Exysma parvula* Gorb., CSIKI, p. 573, Ann. Mus. Hungar. iii.
- Stenotarsus bicolor*, *striatocollis*, p. 116, *antennatus*, *crassiusculus*, *parvicornis*, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique 1905, n. spp.

## COCCINELLIDÆ.

- [Cf. MJÖBERG (1049), WEISE (1596, 1597, 1602-1604, 1607, 1612).]
- Coccinellidæ*; natural history in Hawaiian Islands, SWEZEY, pp. 224-232, pl. xv, Rep. exp. Stat. Hawaii i.
- Adalia conglomerata*, habits, WEISE, p. 138, Deutsche ent. Zeitschr. 1905; *A. alpina*, variation, *revelierei*, structure, WEISE, p. 218, t. c.; *A. bipunctata* var. n. *similata*, GABRIEL, p. 141, Deutsche ent. Zeitschr. 1905.

- A. trivittata*, Natal, WEISE, p. 48, Deutsche ent. Zeitschr. 1905, n. sp.  
*Adonia variegata* var. n. *macrostigma*, GABRIEL, p. 142, Deutsche ent. Zeitschr. 1905.  
*Agrabia cyanoptera*, habits, SCHAEFFER, p. 143, Bull. Brooklyn Inst. i.  
*Alesia striata* var. n. *lugubris*, WEISE, p. 49, Deutsche ent. Zeitschr. 1905.  
*Anatis ocellata* = (*15-punctata*), WEISE, p. 218, t. c.  
*Boschalis nigra*, E. Africa, WEISE, p. 52, t. c. n. sp.  
*Chilocorus reinecki*, Durban, WEISE, p. 140, t. c. n. sp.  
*Chilomenes 4-lineata* var. n. *nigrescens*, WEISE, p. 52, t. c.  
*C. congoana*, Africa, WEISE, p. 51, t. c. n. sp.  
*Cleis minor*, *hudsonica*, validity, SCHAEFFER, p. 143, Bull. Brooklyn Inst. i.  
*Coccidula rufa*, metamorphosis, pl. i, figg. 1, 2, 5, p. 54, MjöBERG, Arkiv Zool. ii, No. 17.  
*Cydonia secessionis*, p. 49, *gratiosa*, p. 50, E. Africa, WEISE, Deutsche ent. Zeitschr. 1905, n. spp.  
*Delphastus pusillus*, larva, BRITTON, p. 185; Canad. Ent. 1905.  
*Exochomus californicus* Casey, verified, characters, WEISE, p. 220, Deutsche ent. Zeitschr. 1905.  
*E. tellinii*, Erythrea, WEISE, p. 139, t. c. n. sp.  
*Epilachna similis* var. n. *tellinii*, WEISE, p. 139, t. c.  
*E. humerosa*, E. Africa, WEISE, p. 46, t. c. n. sp.  
*Hyperaspis trifurcata*, p. 143, *lengü*, p. 144, Texas, SCHAEFFER, Bull. Brooklyn Inst. i, n. spp.  
*Micraspis 16-punctata* var. n. *primita*, GABRIEL, p. 142, Deutsche ent. Zeitschr. 1905.  
*Micronaëmia* n. n. for *Macronaëmia* Casey, WEISE, p. 218, Deutsche ent. Zeitschr. 1905.  
*Naëmia hauseri*, Yunnan, WEISE, p. 217, t. c. n. sp.  
*Neomysia* = (*Mysia* auctt. pre-occupied), CASEY, p. 161, Canad. Ent. 1905.  
*Nephaspis gorhami* ♀ = (*brunnea*), CASEY, p. 161, t. c.  
*Nephus* Muls. = (*Scymnobius* Casey), WEISE, p. 220, Deutsche ent. Zeitschr. 1905.  
*Oxynychus erythrocephalus* var. n. *deficiens*, WEISE, p. 219, t. c.  
*Pharus feischeri* var. *discopterus*, WEISE, p. 219, t. c.  
*P. papei*, Usambara, WEISE, p. 53, t. c. n. sp.  
*Pullus auritus* variation, var. n. *anatolicus*, WEISE, p. 219, t. c.  
*Rhizobius decoratus*, Natal, WEISE, p. 53, t. c. n. sp.  
*Scymnus testaceus* = (*lividus* Bold), NEWBERY, Ent. Mag. 1905, p. 161; *S. subvillosus* var. n. *unifasciatus*, WEISE, p. 220, Deutsche ent. Zeitschr. 1905.  
*S. virginalis*, Utah, WICKHAM, p. 166, Canad. Ent. 1905, n. sp.  
*Solanophila bisdecemnotata*, E. Africa, WEISE, p. 47, Deutsche ent. Zeitschr. 1905; *S. bodongi*, Rhodesia, WEISE, p. 334, t. c. : n. spp.  
*Subcoccinella* versus *Lasia*, *S. 24-punctata* var. n. *inversa*, WEISE, p. 137, t. c.  
*Vedatia cardinalis* to *Rodolia*, characters, WEISE, p. 220, t. c.

## (B.) HYMENOPTERA.

- Insect communities, *Hymenoptera*, BUTTEL-REEFEN (224).  
 Notes on Insect life in India, part iv, Bees etc., STEBBING, J. Bombay Soc. xvi, pp. 664-685.  
 Note on inhabitants of galls in Sicily, DE STEFANI PEREZ (406, 407).  
 Abnormal segmentation, 3 cases (*Polistes*, *Megachile*, *Cerceris*), WITH, pp. 138-140, Ann. Nat. Hist. (7) xv.

## ACULEATA.

## APIDÆ.

- [Cf. ALFKEN (16-23), ASHMEAD (31), BORDAS (140), BOUVIER (163), BRAUNS (174, 175), BRESSLAU (186), BUGNION (216), CAMERON (261, 262, 264, 269), COCKERELL (324-337, 339-349), DREYLING (451, 452), DUCKE (463, 464), DUSMEK (468), FERTON (558), FREKE (598), FRIESE (600-611), HARRIS (725), IHERING (801), KLAPÁLEK (867), LOVELL (977, 978), LOVELL & COCKERELL (979), PÉREZ (1146, 1147), PHILLIPS (1164-1166), PHISALIX (1168, 1169), ROBERTSON (1283, 1284), RUDOW (1317), SCHROTTKY (1351), SCHULZ (1359, 1360), SEMICHON (1379-1381), SLADEN (1409), SWENK (1457), TITUS (1497), VACHAL (1524, 1526), WAGNER (1557).]
- Notes on the bees in British Museum described by F. Smith, COCKERELL, pp. 309-364, Tr. Amer. ent. Soc. xxxi.  
 Tables of N. American genera of *Euceridæ*, *Emphoridæ* and *Anthophoridæ*, ROBERTSON, pp. 365-372, Tr. Amer. ent. Soc. xxxi.  
 Genital ducts of the queen bee, BRESSLAU, pp. 299-323, cuts, Zool. Anz. xxix.  
 Return to nest, FERTON, pp. 89-101, Ann. Soc. ent. France 1905.  
 The wax-organs of social bees, *Apis*, *Melipona*, *Trigona*, *Bombus*, DREYLING, pp. 289-330, pls. xvii, xviii, Zool. Jahrb. Anat. xxii; Wax-organs, *Bombi* and *Trigoni*, DREYLING, Zool. Anz. xxix, pp. 567-573.  
 Lateral abdominal glands in ♀ *Apidæ*, SEMICHON, pp. 127, 128, Bull. Soc. ent. France 1905.  
 Excretion, urate cells in larvæ, SEMICHON, C.R. Ac. Sci. cxl, pp. 1715-1717.  
 Bees and flowers, BONNIER (134).  
 Bees and distribution of flowers, HARRIS (725).  
 Presence of poison in egg of bee, PHISALIX, C.R. Ac. Sci. cxli, pp. 275-278, and Bull. Soc. ent. France 1905, pp. 201-203.  
 Honey-bees, SLADEN (1409).  
 Nesting habits of *Anthophilides*, RUDOW, Ins. Börse 1905, pp. 35 etc.  
 Notes on habits of Brazilian bees, IHERING, pp. 461-481, Revist. Mus. Paulista vi.  
*Acamptopœum* n. g. for *Camptopœum trifasciatum* Spin., COCKERELL, p. 320, Tr. Amer. ent. Soc. xxxi.  
*Agaposternon*, notes on Smith's species, COCKERELL, p. 34, Entomologist 1905.  
*Andrena milwaukensis berberidis* subsp. n., COCKERELL, p. 371, Canad. Ent. 1905; *A. varians* group, table, *apicata* var. n. *tristis*, p. 129, *nycthemera* var. n. *tergestensis*, p. 130, ALFKEN, Abh. Ver. Bremen xviii; *A. afzeliella* and allies tabulated, *A. similis* Sm., synonymy, ALFKEN,

- pp. 89–91, Zeitschr. Hym. Dipt. v ; *A. scita* and *mesopyrrha*, identical, ALFKEN, p. 145, t. c.
- A. biscutata*, p. 33, *simulans*, *prostomias*, p. 34, *hebes*, p. 35, Japan, PÉREZ, Bull. Mus. Paris 1905 ; *A. griseonigra*, *perimelas*, p. 371, *pertristis*, *subtristis*, p. 372, California, COCKERELL, Canad. Ent. 1905 ; *A. salictaria*, p. 236, *nigræ*, p. 237, Illinois, ROBERTSON, Canad. Ent. 1905 : n. spp.
- Andrenopsis* n. g. p. 363, *flavorufus* n. sp., Australia, p. 364, COCKERELL, Tr. Amer. ent. Soc. xxxi.
- Anthemois addenda* Cr. = (*acuta* Prov.), *infragilis* Cr. = (*Osmia frigida* Prov.), TITUS, p. 152, P. ent. Soc. Washington vii.
- Anthidium*, table of African, with *Pachyanthidium* subg. n. p. 66, FRIESE, Zeitschr. Hym. Dipt. v.
- A. oraniense*, *karrooense*, p. 71, *burorum*, p. 72, *tuberculiferum*, *minutulum*, p. 73, *rubiculum*, *capicola*, p. 74, S. Africa, BRAUNS, Zeitschr. Hym. Dipt. v ; *A. integrum*, Cape Colony, FRIESE, p. 75, t. c. ; *A. melanosomum*, p. 200, *crassidens*, p. 201, *euryssomum*, p. 202, S. Africa, CAMERON, Rec. Albany Mus. i ; *A. angelarum*, p. 164, *provancheri*, p. 165, California, TITUS, P. ent. Soc. Washington 1905 : n. spp.
- Anthophora*, species of Colorado, COCKERELL, pp. 58–60, Entomologist 1905 ; *A. curta* var. n. *peritomæ*, COCKERELL, p. 272, Ent. News Philad. xvi ; *A. portere semiflava* var. n., COCKERELL, p. 183, P. Soc. Washington xviii ; *A. texana* ♂, COCKERELL, p. 335, Canad. Ent. 1905 ; *A. crotchii* ♂, COCKERELL, p. 161, Bull. S. Calif. Ac. iii ; *A. curta petrophila* subsp. n., id. iv, p. 15 ; *A. festiva* = (*tomentosa* Fr. = *capensis* Cam.), p. 233, *A. circulata* var. n. *obscuriceps*, p. 235, FRIESE, Zeitschr. Hym. Dipt. v.
- A. determinata*, *armata*, p. 234, with var. *clitelligera*, *africana*, p. 235, *kigonserana*, *nigritarsis*, p. 236, *niveata*, *grandiceps*, p. 237, *wartmanni*, *krebsi*, *capensis*, p. 238, *caffra*, *glaucoptis*, *braunsiuna*, p. 239, *nigrifacies*, *cerulea*, p. 240, *A. (Eucaru* subg. n.) *piligera*, *laticeps*, *penicillata*, p. 241, *haeftigeri*, p. 242, Africa, FRIESE, t. c. ; *A. soror*, Yokohama, PÉREZ, p. 31, Bull. Mus. Paris 1905 ; *A. rhodoscymna*, Queensland, p. 395, *walkeri*, W. Australia, p. 396, *adelaide*, S. Australia, p. 397, *scateri*, N. S. W., p. 398, COCKERELL, Ann. Nat. Hist. (7) xvi ; *A. washingtoni*, Pasco, COCKERELL, p. 313, Canad. Ent. 1905 ; *A. corvicolor*, California, COCKERELL, p. 81, Ent. News Philad. xvi : n. spp.
- Anthophorinæ*, table of S. California, COCKERELL, pp. 13–15, Bull. S. Calif. Ac. iv.
- Apis mellifica* var. *nigrita* Luc. is only a discoloration, BUYSSON, p. 122, Bull. Soc. ent. France 1905.
- Augochlora*, notes on Smith's species, COCKERELL, pp. 356–363, Tr. Amer. ent. Soc. xxxi.
- A. calliope*, Ega, COCKERELL, p. 37, Entomologist 1905, n. sp.
- Bombomelecta johnsoni*, Colorado, COCKERELL, p. 270, Ent. News Philad. xvi, n. sp.
- Bombus*, catalogue of palæarctic, with varr. n., spp. n., FRIESE, pp. 516–523, Annuaire Mus. St. Petersb. ix ; *B.*, in Norway, LIE-PETERSEN, Bergens Mus. Aarbog 1904, No. 11, pp. 9–13 ; *B.* and *Psithyrus*, of Bohemia, monograph, figg. of ♂ genitalia, KLAPÁLEK, Arch. Landesdf. Bohmen. xii, No. 3, 57 pp. ; *B. ignitus* Sm. = (*kalínovskii* Rad.), p. 27, var. n., *hypocrita*, p. 30, PÉREZ, Bull. Mus. Paris 1905 ; *B. cognatus*, nest, HOFFER, p. lxxxiv, Mt. Ver. Steiermark xli ; Social life of *Bombus*, VON WAGNER (1557).
- B. gilgitenis*, Kashmir, COCKERELL, p. 223, Ann. Nat. Hist. (7) xvi ; *B. sumatrensis*, Sumatra, COCKERELL, p. 392, t. c. ; *B. validus*, *rufocaudatus*, p. 510, *rufus*, *longipes*, p. 511, *braccatus*, p. 512, *nobilis*, *laticeps*, p. 513, W. China, *flaviventris*, Centr. Asia, p. 514, FRIESE,



- Ann. Mus. St. Petersb. ix ; *B. mearnsi*, Mindanao, ASHMEAD, p. 959, P. U. S. Mus. xxviii ; *B. harmandi*, Japan, PÉREZ, p. 30, Bull. Mus. Paris 1905 ; *B. rufosuffusus*, Colorado, COCKERELL, p. 271, Ent. News Philad. xvi : **n. spp.**
- Centris* to be used for *Eulema*, and *Hemisia* for *Centris* Auctt., SCHROTTKY, pp. 23-26, Zeitschr. Hym. Dipt. v ; *C. hoffmanseggia davidsoni* subsp. n., *C. cockerelli*, COCKERELL, p. 160, Bull. S. Calif. Ac. iii.
- C. transversa*, p. 39, *confinis*, p. 40, Mexico, PÉREZ, Bull. Mus. Paris 1905, **n. sp.**
- Ceratina*, revision of African, FRIESE, Wien. ent. Zeit. xxiv, pp. 3-18 ; *C.*, table of American, COCKERELL, p. 325, Tr. Amer. ent. Soc. xxxi.
- C. nasalis*, *inermis*, p. 8, *mucronata*, *tibialis*, *penicillata*, p. 9, *lunata*, *lutiventris*, p. 10, *truncata*, *nigriceps*, *labrosa*, p. 11, *emarginata*, *braunsiana*, p. 12, *opaca*, *sulcata*, p. 13, *personata*, Old Calabar, *elongata*, *minuta*, p. 14, S. Africa, FRIESE, Wien. ent. Zeit. xxiv ; *C. bicarinata*, Grahamstown, CAMERON, p. 198, Rec. Albany Mus. i : **n. spp.**
- Cladocerapis bipectinatus* Sm. = (*Cladocerus* Sm.), COCKERELL, p. 393, Ann. Nat. Hist. (7) xvi.
- Cœlioxya*, table of N. American, COCKERELL, pp. 87-90, Psyche xii
- C. reginae*, p. 221, *albolineata*, p. 222, Queensland, COCKERELL, Ann. Nat. Hist. (7) xvi : *C. angelica*, California, COCKERELL, p. 201, op. cit. xv ; *C. digneti*, Tehuacan, PÉREZ, p. 40, Bull. Mus. Paris 1905 ; *C. chilensis*, p. 140, *nigripes*, *brevicaudata*, p. 141, Chile, FRIESE, Zeitschr. Hym. Dipt. v : **n. spp.**
- Colletes*, table of N. American, COCKERELL, pp. 55-87, Psyche xii.
- C. patellatus*, Japan, *vogti*, Tsushima, p. 39, PÉREZ, Bull. Mus. Paris 1905 ; *C. gaudialis* (in error for *gaudialis*), *angelicus*, California, COCKERELL, p. 32, Bull. S. Calif. Ac. iv ; *C. vierecki*, New Jersey, p. 301, *intermixtus*, Texas, p. 302, *regularis*, Nebraska, p. 304, SWENK, Canad. Ent. 1905 : **n. spp.**
- Corynura jucunda* Sm. = (*pseudobaccha* Cock.), *C. briseis* ♀, COCKERELL, p. 34, Entomologist 1905.
- Crocisa*, tables of Indo-Australian spp., FRIESE, pp. 2-12, Zeitschr. Hym. Dipt. v ; *C.*, tabulation of African, FRIESE, pp. 171-180, Verh. Ges. Wien 1905 ; *C. caeruleifrons* = (*quartinae* Grib.), var. n. *darwinii*, COCKERELL, p. 219, Ann. Nat. Hist. (7) xvi.
- C. fasciata*, *carinata*, p. 179, *excisa*, *vachali*, p. 180, Africa, FRIESE, Verh. Ges. Wien 1905 ; *C. lanosa*, Lake Nyassa, *braunsiana*, Cape Colony, FRIESE, p. 1, Zeitschr. Hym. Dipt. v ; *C. maculiscutis*, Cape Colony, CAMERON, p. 304, Rec. Albany Mus. i ; *C. centrimacula*, Japan, PÉREZ, p. 32, Bull. Mus. Paris 1905 ; *C. javanica*, Java, *turneri*, Australia, p. 3, *ceylonica*, Ceylon, *rotundata*, Queensland, p. 4, *abdominalis*, Java, *basalis*, *nana*, Sunda Ids., p. 5, *rostratu*, Sumatra, *nigrescens*, Amboina, p. 6, *atra*, Sunda Ids., *japonica*, Tshushima, *indica*, Perak, p. 7, FRIESE, Zeitschr. Hym. Dipt. v ; *C. wallacei*, Ternate, p. 218, *tincta*, Queensland, p. 219, COCKERELL, Ann. Nat. Hist. (7) xvi : **n. spp.**
- Cryptohalictoides spiniferus*, p. 21, cut, Ent. News Philad. xvi.
- Cypophaga inermis* Prov., characters = (*simplicissima* D. T. Cat.), TITUS, p. 150, P. ent. Soc. Washington vii.
- Diadasia*, table of species, *D. afflicta perafflicta* subsp. n., COCKERELL, pp. 741-745, Amer. Natural. xxxix.
- D. sphaeralcearum*, New Mexico, id. p. 744, t. c. ; *D. laticauda*, p. 103, *nitidifrons*, p. 104, California, COCKERELL, Bull. S. Calif. Ac. iv : **n. spp.**
- Diandrena nothocalaidis*, Colorado, COCKERELL, p. 183, P. Soc. Washington xviii, **n. sp.**

- Dianthidium bertonii*, p. 3, *zebratum*, p. 7, Paraguay, SCHROTTKY, An. cient. Paraguay. No. 4, n. spp.
- Emphoropsis*, table, COCKERELL, p. 99, Bull. S. Calif. Ac. iv; *E. infernalis tristissima* subsp. n., COCKERELL, p. 161, op. cit. iii; *E. mucida* var. n. *johnsoni*, COCKERELL, p. 59, Entomologist 1905.
- E. floridana* var. n. *fedorensis*, COCKERELL, p. 265, Canad. Ent. 1905.
- E. birkmanni*, Texas, id. l. c.; *E. murihirta*, Los Angeles, COCKERELL, p. 81, Ent. News Philad. xvi; *E. interspersa, semifulva*, California, COCKERELL, p. 99, Bull. S. Calif. Ac. iv; *E. rugosissima*, Nevada, COCKERELL, p. 182, P. Soc. Washington xviii: n. spp.
- Epeolus*, table of N. American, COCKERELL, pp. 313, 314, Tr. Amer. ent. Soc. xxxi; *E. variegatus* L. validity, the allies, ALFKEN, pp. 126-128, *crucigera*=(*similis* Höppn.), p. 128, ALFKEN, Abh. Ver. Bremen xviii.
- E. tricolor*, Vancouver, VIERECK, p. 280, Canad. Ent. 1905, n. sp.
- Eucara* subg. n. cf. *Anthophora*.
- Eucera spurcatipes*, Yokohama, PÉREZ, p. 32, Bull. Mus. Paris 1905, n. sp.
- Euglossa*; nest-habits, parasite, DUCKE, p. 175, Zeitschr. Insbiol. i.
- Euryglossa subsericea, calliopsiformis*, Queensland, COCKERELL, p. 293, Ann. Nat. Hist. (7) xvi; *E. froggattiana*, p. 472, *cygnella, walkeriana*, p. 473, *pernana, neglectula*, p. 474, *reginae, adelaida*, p. 475, *rejecta*, p. 476, Australia, COCKERELL, op. cit. xvi: n. spp.
- Exomalopsis*, North American, COCKERELL, p. 10, Ent. News Philad. xvi.
- Exoneura botanica*, p. 465, *hamulata, tau*, p. 466, Australia, COCKERELL, Ann. Nat. Hist. (7) xvi, n. spp.
- Fidelia braunsiana*, Transvaal, FRIESE, p. 18, Zeitschr. Hym. Dipt. v; *F. kobrowi*, Cape Colony, BRAUNS, p. 495, Verh. Ges. Wien 1905: n. spp.
- Gnathias perbella*, Oregon, VIERECK, p. 283, Canad. Ent. 1905, n. sp.
- Habropoda lata*, S. Africa, CAMERON, p. 200, Rec. Albany Mus. i, n. sp.
- Haliectus*; notes on Smith's species in Brit. Mus., COCKERELL, pp. 349-356, Tr. Amer. ent. Soc. xxxi; *H.*, Table of N. American species according to Vachal, COCKERELL, pp. 89, 90, Amer. Natural. xxxix; *H. quadrinotatus* K.=(*quadrinotatus* Thoms.), *rufitarsis* Zett.=(*minutus* Thoms.), ALFKEN, p. 125, Abh. Ver. Bremen xviii; *H. armaticeps* var., COCKERELL, p. 9, Ent. News Philad. xvi; *H. punctatus* var. n. *exlautus*, COCKERELL, p. 300, Ann. Nat. Hist. (7) xvi; *H. urbanus baudinensis* subsp. n., COCKERELL, p. 307, t. c.; *H. quadrinotatus*=(*albidulus* Schenck), *H. sextrigatus*=(*monstrificus* Mor.), *vestitus* Lep.=(*pulvereus* Mor.), *marginatus* Br.=(*riparius* Mor.), ALFKEN, p. 145, Zeitschr. Hym. Dipt. v; *H. fulvicornis* and *frey-gessneri* distinguished, *frey-gessneri* being n. n. for *subfasciatus* Nyl., ALFKEN, pp. 69-73, Abh. Ver. Bremen xviii.
- H. schonlandi*, p. 329, *dumbrodyensis*, p. 330, Cape Colony, CAMERON, Rec. Albany Mus. i; *H. volutatorius*, p. 185, *iridicolor, bidens*, p. 186, *kloofensis, whiteanus*, p. 187, *heliophilus, transiens*, p. 188, *collegus*, p. 189, *ferinus, designatus*, p. 190, S. Africa, CAMERON, Rec. Albany Mus. i; *H. rimalis, angularis, laeviventris, discrepans*, p. 36, *orientalis*, p. 37, Japan, PÉREZ, Bull. Mus. Paris 1905; *H. sphecodopsis*, Queensland, COCKERELL, p. 300, Ann. Nat. Hist. (7) xvi; *H. dampieri*, p. 270, *ständeri*, p. 271, *murrayi*, p. 272, *oxleyi, hamei*, p. 303, *gilesi*, p. 304, Australia, COCKERELL, Entomologist 1905; *H. hortensis, versans*, p. 39, *oblongus, nubilus*, p. 40, Maine, LOVELL, Canad. Ent. 1905; *H. divergens*, p. 299, *viridatus, planatus*, p. 300, LOVELL, Canad. Ent. 1905: n. spp.
- Hemisia pectoralis* ♂, SCHROTTKY, p. 13, An. cient. Paraguay. No. 4.
- Hypanthidium gregarium*, p. 8, *tigrinum*, p. 10, Paraguay, SCHROTTKY, t. c. n. spp.

- Lithurgus dentipes*, peculiarities of nest, FRIESE, Zeitschr. Insbiol. i, p. 118.
- L. capensis*, S. Africa, FRIESE, p. 18, Zeitschr. Hym. Dipt. v; *L. ? spiniferus*, p. 193, *L. ovalus*, p. 194, S. Africa, CAMERON, Rec. Albany Mus. i; *L. atratiformis*, N. W. Australia, COCKERELL, p. 295, Ann. Nat. Hist. (7) xvi : n. spp.
- Lonchopria* n. g. near *Lamprocolletes*, *herbsti* n. sp., Chile, VACHAL, p. 204, Bull. Soc. ent. France 1905.
- Macrocera nipponensis*, Japan, PÉREZ, p. 31, Bull. Mus. Paris 1905, n. sp.
- Manuelia* n. g. for *Halictus gayi* etc., VACHAL, p. 25, Bull. Soc. ent. France 1905.
- Megachile*, tables of Smith's species, COCKERELL, pp. 336-342, Tr. Amer. ent. Soc. xxxi.
- Megachile (Chalicodoma) lucidifrons*, Bonifacio, FERTON, p. 57, Ann. Soc. ent. France 1905; *M. tardula*, *whiteana*, p. 195, *spiniscutis*, p. 196, S. Africa, CAMERON, Rec. Albany Mus. i; *M. orientalis*, Japan, PÉREZ, p. 33, Bull. Mus. Paris 1905; *M. wallacei*, p. 164, *saravakensis*, p. 165, *varidens*, p. 166, Borneo, CAMERON, J. Straits Asiat. Soc. xlv, p. 17, *M. bigibbosa*, Sunda Arch., *semperi*, Caroline islds., FRIESE, p. 17, Zeitschr. Hym. Dipt. v; *M. leoni*, Canada, TITUS, p. 150, P. ent. Soc. Washington vii; *M. agustini*, New Mexico, COCKERELL, p. 82, Ent. News Philad. xvi; *M. cinerea*, *rancaguensis*, p. 137, *herbsti*, *fasciatella*, p. 138, *staudingeri*, *philippii*, p. 139, *aurantiaca*, p. 140, Chile, FRIESE, Zeitschr. Hym. Dipt. v : n. spp.
- Megalopta*; characters of Smith's species, COCKERELL, pp. 35, 36, Entomologist 1905; *M. idalia*, nocturnal habits, DUCKE, p. 175, Zeitschr. Insbiol. i.
- Melipona* and *Trigona*, nest and habits, *M. marginata*, *amazonica* subsp. n., p. 204, queen, p. 250, SCHULZ, Zeitschr. Insbiol. i.
- Melissa*, species characters, COCKERELL, p. 316, Tr. Amer. ent. Soc. xxxi; *M.* and allies, taxonomy of S. American forms, DUCKE, p. 227-229, Zeitschr. Hym. Dipt. v.
- M. alboquittata*, Obydos, DUCKE, p. 229, t. c. n. sp.
- Melissodes nigrosignata pallidisignata* subsp. n., COCKERELL, p. 180, P. Soc. Washington xviii; *M. agilis* varr. p. 28, *menuacha semilupina* var. n. p. 29, *M. actuosa* var. ? p. 30, COCKERELL, Bull. S. Calif. Ac. iv; *M. agilis* var. n. *subagilis*, COCKERELL, p. 145, Entomologist 1905.
- M. mysops*, Colorado, COCKERELL, p. 146, t. c.; *M. glenwoodensis*, *mizeæ*, p. 522, *blakei*, p. 523, *chrysothamni*, p. 524, *helianthelli*, p. 525, *martini*, p. 526, *thelypodii*, *hewetti*, p. 527, *parosetæ* (altered to *parosela*, op. cit. xvi, p. 477), p. 528, New Mexico and Colorado, COCKERELL, Ann. Nat. Hist. (7) xv; *M. kallstræmia*, New Mexico, with var. *phenacoides*, COCKERELL, p. 216, op. cit. xvi; *M. melanosoma*, Texas, COCKERELL, p. 266, Canad. Ent. 1905; *M. desponsiformis*, Oregon, p. 320, *microsticta*, Vancouver, p. 321, COCKERELL, t. c.; *M. grandissima*, Texas, COCKERELL, p. 334, t. c.; *M. herricki*, New Mexico, p. 98, *epicharina*, *tenuitarsis*, p. 99, *hexacantha*, p. 100, *nigrosignata*, p. 101, *semitristis*, *prælauda*, p. 102, *duplocincta*, p. 103, Arizona, COCKERELL, Psyche xii; *M. pecosella*, New Mexico, p. 179 (with subsp. *verbescinarum*, p. 180), *hortivagans*, Kansas, p. 180, with var. p. 181, *galvestonensis*, Texas, p. 181, COCKERELL, P. Soc. Washington xviii; *M. stearnsi*, p. 101, *intermediella* with var. *catalinensis*, p. 102, California, COCKERELL, Bull. S. Calif. Ac. iv : n. spp.
- Melitta nigricans*, Germany, ALFKEN, p. 95, Zeitschr. Hym. Dipt. v, n. sp.
- Nomada*; Notes on species of F. Smith in Brit. Mus., COCKERELL, pp. 310-313, Tr. Amer. ent. Soc. xxxi; *N. cressoni trevoriانا* subsp. n., *N. vicinalis infrarubens* subsp. n., VIERECK, p. 287, Canad. Ent. 1905; *N. fulvicornis* and *goodeniana* compared, ALFKEN,

- pp. 74-76, Abh. Ver. Bremen xviii; *N. collinsiana* ♂, COCKERELL, p. 47, Colorado Univ. Stud. iii; *N. integra* = (*thersites* Schm.), ALFKEN, p. 145, Zeitschr. Hym. Dipt. v.
- N. gigas*, Cape Colony, FRIESE, p. 19, Zeitschr. Hym. Dipt. v; *N. (Xanthidium) subrutilla*, p. 40, *N. florilega*, p. 41, Maine, LOVELL & COCKERELL, Psyche xii; *N. graenicheri*, *N. (Xanthidium) pseudops*, Wisconsin, COCKERELL, p. 189, Canad. Ent. xxix : n. spp.
- Nomia*, group characters, COCKERELL, p. 322, Tr. Amer. ent. Soc. xxxi; *N. pulchribalteata austrovagans* subsp. n., p. 218, *N. australica* var. n. *reginae*, p. 221, COCKERELL, Entomologist 1905; *N. willeyi* n. n. for *metallica* Cam., CAMERON, p. 269, t. c.
- N. bidiensis*, p. 166, *erythropoda*, p. 167, Borneo, CAMERON, J. Straits Asiat. Soc. xlv; *N. frukstorferi*, Tsushima, PÉREZ, p. 37, Bull. Mus. Paris 1905; *N. gilberti*, p. 304, *semiaurea*, p. 305, *halictella*, p. 306, with var. *triangularis*, p. 307, Queensland, COCKERELL, Ann. Nat. Hist. (7) xvi; *N. lepidota*, p. 218, *tenuihirta*, *rufocognita*, p. 219, *semipallida*, *hypodonta*, p. 220, *flavoviridis* with var. *doddi*, p. 222, *rubroviridis*, p. 223, Australia, COCKERELL, Entomologist 1905 : n. spp.
- Nomioides perditellus*, Queensland, COCKERELL, p. 221, Ann. Nat. Hist. (7) xvi, n. sp.
- Osirís*, species characters, COCKERELL, p. 315, Tr. Amer. ent. Soc. xxxi.
- Osmia*; notes on habits, FERTON, pp. 58, 59, Ann. Soc. ent. France 1905.
- O. erythrogastra*, Bonifacio, FERTON, p. 56, Ann. Soc. ent. France 1905; *O. capensis*, Cape Town, CAMERON, p. 197, Rec. Albany Mus. i; *O. collinsiae*, Illinois, ROBERTSON, p. 236, Canad. Ent. 1905; *O. davidsoniella*, *titusi*, California, COCKERELL, p. 370, Canad. Ent. 1905 : n. spp.
- Pachyanthidium* subg. n. cf. *Anthidium*.
- Panurgus moricei*, Andalusia, FRIESE, p. 308, Zeitschr. Hym. Dipt. v, n. sp.
- Paracolletes waterhousei*, hab. not stated, COCKERELL, p. 347, Tr. Amer. ent. Soc. xxxi; *P. frederici* n. n. for *Lamprocolletes rubellus* Sm., COCKERELL, p. 345, t. c.; *P. cupreus semipurpureus* subsp. n., COCKERELL, p. 479, Ann. Nat. Hist. (7) xvi.
- P. roseoviridis*, W. Australia, COCKERELL, p. 270, Entomologist 1905; *P. moretonianus*, p. 477, *flavomaculatus*, p. 479, *plumosellus*, *ceruleo-tinctus*, p. 480, *carinatus*, p. 481, Australia, *viridicinctus*, Tasmania, p. 482, *spatulatus*, *providellus*, p. 483, Australia, *obscuripennis*, Tasmania, p. 484, *colletellus*, *semilautus*, Australia, p. 485, COCKERELL, Ann. Nat. Hist. (7) xvi : n. spp.
- Paranomía quadrituberculata*, *whiteana*, S. Africa, CAMERON, p. 191, Rec. Albany Mus. i, n. spp.
- Parasphcodes froggatti*, N. S. W., p. 296, *adelaidæ*, p. 297, *loweri*, p. 298, *tepperi*, p. 299, S. Australia, COCKERELL, Ann. Nat. Hist. (7) xvi, n. spp.
- Perdita mentzeliarum* var. n. *lauta*, COCKERELL, p. 145, Entomologist 1905.
- P. xanthiamæ*, Texas, COCKERELL, p. 331, Ent. News Philad. xvi, n. sp.
- Phenacolletes* n. g. p. 301, *mimus* n. sp., N. W. Australia, p. 302, COCKERELL, Ann. Nat. Hist. (7) xvi.
- Podalarius æthiopicus*, S. Africa, CAMERON, p. 199, Rec. Albany Mus. i, n. sp.
- Prosopis*; review of Förster's monograph, with synonymy and descriptions of less known species, ALFKEN, pp. 108, 124, Abh. Ver. Bremen xviii; *P. heraldica* = (*abyssinica* Alf.), ALFKEN, p. 147, Zeitschr. Hym. Dipt. v; *P. facialis* ♂, *annulata* and *panzeri*, synonymy, p. 93, *hungarica* n. n. for *affinis* Mor. = (*morawitzi* D. T. 1896), *distans* Ev. = (*cervicornis* Costa), *annulata* L. = (*ciliata* Ev.) *breviventris*, synonymy, p. 94, ALFKEN, Zeitschr. Hym. Dipt. v; *P. styriaca* = (*tristis* Fr.-G.),

- gibba*=(*kirschbaumi* Fr.-G.), ALFKEN, p. 146, Zeitschr. Hym. Dipt. v;  
*P. frederici* n. n. for *similis* Sm., *cameroni* n. n. for *sulcifrons* Cam.,  
 COCKERELL, p. 403, Ann. Nat. Hist. (7) xvi.
- P. duckei*, S. Europe, ALFKEN, p. 119, Abh. Ver. Bremen xviii; *P. abyssinica*, Abyssinia, p. 91, *dalmatica*, Dalmatia, p. 92, ALFKEN, Zeitschr. Hym. Dipt. v; *P. braunsi*, Cape Colony, ALFKEN, p. 147, Zeitschr. Hym. Dipt. v; *P. quadrilineata*, S. Africa, CAMERON, p. 197, Rec. Albany Mus. i; *P. tagala*, Manila, ASHMEAD, p. 959, P. U. S. Mus. xxviii; *P. albonitens*, p. 399, *disjuncta*, *parakela*, p. 400, *perviridis*, p. 401, *reginarum*, *turneriana*, p. 402, *lubbocki*, p. 403, Australia, COCKERELL, Ann. Nat. Hist. (7) xvi; *P. sydneyana*, p. 467, *constricta*, p. 468, *coronata*, *subplebeia*, *percrassa*, p. 469, Australia, *hobartiana*, Tasmania, p. 470, *primulipicta*, *baudiniensis*, p. 471, Australia, COCKERELL, t. c.; *P. eulophi*, Illinois, ROBERTSON, p. 236, Canad. Ent. 1905; *P. crenulata*, Mexico, COCKERELL, p. 200, Ann. Nat. Hist. (7) xv : n. spp.
- Psithyrus morawitzi*, W. China, FRIESE, p. 516, Annuaire Mus. St. Petersb. ix, n. sp.
- Rhathymus*, specific characters, COCKERELL, pp. 314, 315, Tr. Amer. ent. Soc. xxxi.
- Scrapteroides cuphea*, Paraguay, SCHROTTKY, p. 2, An. cient. Paraguay. No. 4, n. sp.
- Serapis denticulata* var. n. *nigriceps*, FRIESE, p. 19, Zeitschr. Hym. Dipt. v.
- S. friesei*, Cape Colony, BRAUNS, p. 76, Zeitschr. Hym. Dipt. v, n. sp.
- Sphecodes*, parasitic habits, FERTON, p. 61, Ann. Soc. ent. France 1905.
- S. iridipennis*, p. 327, *oneili*, p. 328, *capensis*, p. 329, Cape Colony, CAMERON, Rec. Albany Mus. i; *S. tasmanica*, Hobart, COCKERELL, p. 299, Ann. Nat. Hist. (7) xvi : n. spp.
- Stictonomia* n. g. near *Nomia*, *punctata* n. sp., Cape Colony, CAMERON, p. 192, Rec. Albany Mus. i.
- Stilpnosoma semisericea*, Queensland, COCKERELL, p. 476, Ann. Nat. Hist. (7) xvi, n. sp.
- Synhalonia belfragei virgata* subsp. n., COCKERELL, p. 100, Bull. S. Calif. Ac. iv; *S. gillettei snoviana* subsp. n., *lippiae semilippiae* subsp. n., COCKERELL, p. 179, P. Soc. Washington xviii; *S. angustior*, var. *edwardsii* is distinct, COCKERELL, p. 31, Bull. S. Calif. Ac. iv; *S. lippiae*, a distinct species, COCKERELL, p. 224, Ann. Nat. Hist. (7) xvi.
- S. gillettei*, Colorado, COCKERELL, p. 203, op. cit. xv; *S. territella*, p. 146, *truttae*, p. 147, Colorado, COCKERELL, Entomologist 1905; *S. cordleyi*, Oregon, VIERECK, p. 316, Canad. Ent. 1905; *S. astragalina*, Colorado, COCKERELL, p. 271, Ent. News Philad. xvi; *S. idiotus*, California, COCKERELL, p. 105, Bull. S. Calif. Ac. iv; *S. fowleri*, Los Angeles, p. 28, *hirsutior*, Banning, p. 29, COCKERELL, Bull. S. Calif. Ac. iv; *S. cressoniana*, Texas, p. 177, *fuscotincta*, Arizona, p. 178, COCKERELL, P. Soc. Washington xviii : n. spp.
- Tetralonia apicalis*, *braunsiana*, p. 20, *caudata*, *minuta*, p. 21, *minuticornis*, *obscuripes*, p. 22, *ottliensis*, p. 23, Africa, FRIESE, Zeitschr. Hym. Dipt. v, n. spp.
- Trachusa perdita*, California, COCKERELL, p. 159, Bull. S. Calif. Ac. iii, n. sp.
- Triepcolus wyomingensis*, p. 201, *callopus*, p. 202, N. America, COCKERELL, Ann. Nat. Hist. (7) xv; *T. hopkinsi*, Arizona, COCKERELL, p. 184, P. Soc. Washington xviii; *T. pænepectoralis*, Canada, VIERECK, p. 278, Canad. Ent. 1905; *T. coquilletti*, California, COCKERELL, p. 106, Bull. S. Calif. Ac. iv; *T. digueti*, Oaxaca, COCKERELL, p. 165, Bull. Mus. Paris 1905 : n. spp.

- Trigona cupira*, ♀, and dimorphic? workers, SCHULZ, pp. 139-142, Hymen.-Stud.  
*T. essingtoni*, N. Australia, COCKERELL, p. 220, Ann. Nat. Hist. (7) xvi, n. sp.  
*Trypetes productus*, Illinois, ROBERTSON, p. 236, Canad. Ent. 1905, n. sp.  
*Xenoglossa strenua* var. n. *kansensis*, COCKERELL, p. 104, Psyche xii.  
*X. utahensis*, Utah, COCKERELL, p. 182, P. Soc. Washington xviii; *X. davidsoni*, Los Angeles, COCKERELL, p. 28, Bull. S. Calif. Ac. iv : n. spp.  
*Xenoglossodes gutierreziae*, New Mexico, COCKERELL, p. 218, Ann. Nat. Hist. (7) xvi, n. sp.  
*Xylocopa violacea*, Stomach of, BUGNION, pp. 109-128, pls. iii-vi, Mt. Schweiz. ent. Ges. xi; *X. violacea*, crop and gizzard, BORDAS, C.R. Soc. Biol. lviii, pp. 636-638.

### DIPLOPTERA (VESPIDÆ, EUMENIDÆ, MASARIDÆ).

- [Cf. ASHMEAD (31, 34), AURIVILLIUS (43), BORDAS (143), BRAUNS (173), DU BUYSSON (229-233), CAMERON (244, 251, 252, 261, 263, 264, 266, 269, 273, 275), DUCKE (461, 462), ENTEMAN (518), FREKE (598), HARTMAN (728), IHERING (800), KOHL (875), LALOY (909), MARSHALL & DERNEHL (1012), PECKHAM (1143), PÉREZ (1146), SAUNDERS (1321), SCHULZ (1359, 1361).]
- Embryology of *Polistes*, earliest stages, MARSHALL & DERNEHL, Zeitschr. wiss. Zool. lxxx, pp. 122-154, pls. x, xi.  
*Vespidæ* and *Eumenidæ* of Sweden, AURIVILLIUS, Ent. Tidskr. xxvi, pp. 209-232.  
Notes on *Diploptera* of the Amazons, SCHULZ, pp. 105-137, Hymen.-Stud.  
Description and classification of the nests of Brazilian social wasps, IHERING, pp. 220-302, pls. v-vii, Revist. Mus. Paulista vi.  
Classification of nests of S. American social *Vespidæ*, DUCKE, Rev. Ent. franc. 1905, pp. 1-24.  
Nest-habits and swarming, S. American *Vespidæ*, DUCKE, p. 176, Zeitschr. Insbiol. i.  
Wasp honey, BARBER, p. 25, P. ent. Soc. Washington vii.  
Crop and gizzard in *Vespidæ*, BORDAS, Zeitschr. Insbiol. i, pp. 325 etc.  
The development and variation of colour and pattern in *Polistes* described and fully discussed, ENTEMAN, Publ. Inst. Carnegie No. 19.  
*Ancistrocerus trichionotus, ormsbyensis*, p. 120, *spilogaster*, p. 121, N. America, CAMERON, Invert. pacif. i; *A. argelus*, Mexico, CAMERON, p. 391, Tr. Amer. ent. Soc. xxxi : n. spp.  
*Apoica pallida*, natural history, SCHULZ, p. 123, Hymen.-Studien.  
*Caba* n. n. for *Brachygastra*, p. 105, *C. bilineolata* var. n. *fusciata*, p. 112, IHERING, Revist. Mus. Paulista vi.  
*Charterginus*, nests, DUCKE, pl. i, p. 24, Rev. Ent. franc. 1905.  
*C. duckei*, Bahia, BUYSSON, p. 126, Bull. Soc. ent. France 1905, n. sp.  
*Calonites purcelli*, p. 226, *andrei*, p. 228, *wheeleri*, p. 230, *capensis*, p. 231, *promontorii*, p. 232, S. Africa, BRAUNS, Ann. Mus. Hungar. iii, n. spp.  
*Discoelius japonicus*, Japan, PÉREZ, p. 85, Bull. Mus. Paris 1905, n. sp.  
*Eumenes arbustorum algira* subsp. n., SCHULZ, p. 45, Hymen.-Stud.  
*E. (Pareumenes) sansibarica*, Africa, SCHULZ, p. 9, t. c.; *E. rufolineata*, S. Africa, CAMERON, p. 206, Rec. Albany Mus. i; *E. harmandi*, p. 84, *rubronotatus*, p. 85, Japan, PÉREZ, Bull. Mus. Paris 1905; *E. (Pachymenes) orellanae*, p. 106, *E. (Omicron) foxi*, p. 109, Amazons, SCHULZ, Hymen.-Stud.; *E. nicaraguaensis*, Chinandega, CAMERON, p. 104, Invert. pacif. i : n. spp.

- Icaria intermedia*, p. 70, *rufoplagiata*, p. 71, *bilineata*, p. 72, Java, *sericea*, Sikkim, p. 73, CAMERON, Tijdschr. Ent. xlviii; *I. cayayanensis* (but altered to *cagayanensis*, p. 962, Philippines, ASHMEAD, p. 3, Canad. Ent. 1905: n. spp.
- Ichnogaster serrei*, Batavia, p. 281, *striatulus*, Sumatra, p. 282, DU BUYSSON, Bull. Soc. ent. France 1905, n. spp.
- Leionotus xanthozonatus*, Manila, ASHMEAD, p. 962, P. U. S. Mus. xxviii, n. sp.
- Masariella* n. g. for *Masaris alfkeni* Buyss., BRAUNS, p. 223, Ann. Mus. Hungar. iii.
- Masaris saussurei*, S. Africa, BRAUNS, p. 219, t. c. n. sp.
- Megacanthopus undulatus*, Brazil, DUCKE, p. 21, Rev. Ent. franc. 1905, n. sp.
- Metapolybia* n. g. for *P. pediculata* Saussure, DUCKE, p. 17, t. c.
- Monacanthocnemis* n. g. for *filiformis* Sauss., DUCKE, p. 21, t. c.
- Nectarinia*, revision, the species, synonymy, habits, DU BUYSSON, pp. 537-565, pls. xi, xii; *scutellata* var. n. *gribodoi*, p. 549, Ann. Soc. ent. France 1905.
- N. buyssoni*, Upper Amazons, DUCKE, p. 11, Rev. Ent. franc. 1905, n. sp.
- Nortonia nevadaensis*, N. America, CAMERON, p. 125, Invert. pacif. i, n. sp.
- Odynerus tuberculiventris*=(*psilothorax* Schlett.), *O. labiatus*=(*rhodopterus* Schlett.), KOHL, p. 341, Verh. Ges. Wien. 1905; *O. rufinodus* and *bellulus* distinguished, COCKERELL, p. 10, Ent. News Philad. xvi; *O. parietum*, larval habits, LALOY, pp. 273-275, Naturaliste 1905; *O. dorsalis*, *arvensis*, habits, HARTMAN, Bull. Univ. Texas No. 65, pp. 6-10.
- O. (Hoplopus) deceptor*, p. 407, *angustior*, p. 408, *O. (Leionotus) specularis*, p. 411, *eatoni*, p. 412, *O. (Microdynerus) pedunculatus*, p. 415; Algeria, SAUNDERS, Tr. ent. Soc. London 1905; *O. vaalensis*, Africa, CAMERON, p. 153, Entomologist 1905; *O. schonlandi*, p. 203, *acanthoaspis*, *kloofensis*, p. 204, *erythrospilus*, p. 205, *O. (Leionotus) tegularis*, p. 206, S. Africa, CAMERON, Rec. Albany Mus. i; *O. (Leionotus) melano-dontus*, p. 263, *dunbrodyensis*, p. 264, Cape Colony, CAMERON, t. c.; *O. senex*, p. 324, *erythrotomus*, p. 325, *oneili*, p. 326, Cape Colony, CAMERON, t. c.; *O. drescheri*, Java, CAMERON, p. 77, Tijdschr. Ent. xlviii; *O. kuchingensis*, p. 161, *matangensis*, p. 162, Borneo, CAMERON, J. Straits Asiat. Soc. xlv; *O. v-flavum*, Japan, PÉREZ, p. 86, Bull. Mus. Paris 1905; *O. (Stenodynerus) claremontensis*, p. 122, *O. (Pachodynerus) cosmogaster*, p. 123, N. America, CAMERON, Invert. pacif. i; *O. simplicipes*, Mexico, CAMERON, p. 380, Tr. Amer. ent. Soc. xxx; *O. (Stenancistrocerus) iolans*, *O. (Pachodynerus) halmus*, p. 389, *astræus*, p. 390, Mexico, CAMERON, t. c.; *O. wagneri*, Argentina, DU BUYSSON, p. 10, Bull. Soc. ent. France 1905; *O. (Ancistrocerus) pangens*, p. 338, *O. (Leionotus) pavidus*, p. 340, Chile, KOHL, Verh. Ges. Wien 1905: n. spp.
- Parachartergus* n. g., p. 128, *bentobuenoi* n. sp., Brazil, p. 129, pl. iv, fig. 7, IHERING, Revist. Mus. Paulista vi.
- P. amazonensis*, p. 13, *difficilis*, p. 14, S. America, DUCKE, Rev. Ent. franc. 1905, n. spp.
- Plesiomasaris* n. g. p. 266, *maculiceps* n. sp., Mexico, p. 267, CAMERON, Tr. Amer. ent. Soc. xxx.
- Plesiozethus* n. n. for *Zethoides*, Cam. nec FOX, CAMERON, p. 269, Entomologist 1905.
- Polistes biglumis* var. n. *antennalis*, PÉREZ, p. 81, Bull. Mus. Paris 1905; *P. canadensis amazonicus* subsp. n., p. 113, *P. analis* and *flavicans* distinguished, p. 115, SCHULZ, Hymen.-Stud.; *P. hebraeus*, nest, SCHULZ, pp. 490-493, Verh. Ges. Wien 1905.

- P. aquilinus, tenellus*, Congo, p. 256, *bituberculatus, albocalcaratus*, Madagascar, p. 257, BUYSSON, Bull. Soc. ent. France 1905; *P. varicornis*, p. 67, *javanicus*, p. 68, Java, CAMERON, Tijdschr. Ent. xviii; *P. nipponensis*, p. 82, *megei*, p. 83, Japan, PÉREZ, Bull. Mus. Paris 1905; *P. deceptor*, Amazons, SCHULZ, p. 119, Hymen.-Stud.; *P. erythrogaster, rhodostoma*, Amazons, DUCKE, p. 23, Rev. Ent. franc. 1905: **n. spp.**
- Polybia pediculata* var. n. *unilineata*, p. 184, *occidentalis* var. n. *jurana*, p. 198, *septentrionalis* n. n. for *fasciata* Lep., p. 210, *meridionalis* n. n. for *phthisica*, p. 211, IHERING, Revist. Mus. Paulista vi; *P. occidentalis* varr. n. *digueana, nigratella*, BUYSSON, p. 9, Bull. Soc. ent. France 1905.
- P. spilonota*, Nicaragua, CAMERON, p. 68, Invert. pacif. i; *P. decorata*, p. 19, *ornata, ruficornis, flavipennis*, p. 20, Amazons, DUCKE, Rev. Ent. franc. 1905; *P. tapuya*, Amazons, SCHULZ, p. 133, Hymen.-Stud.; *P. ypiranguensis*, p. 188, *furnaria*, p. 217, Brazil, IHERING, Revist. Mus. Paulista vi: **n. spp.**
- Protopolybia* n. g. for various spp., type not mentioned, DUCKE, p. 17, Rev. Ent. franc. 1905.
- Pseudocharterginus* n. g. for pt. of *Charterginus* Fox, p. 15, DUCKE, Rev. Ent. franc. 1905.
- Psiloglossa algeriensis*, Biskra, SAUNDERS, p. 400, Tr. ent. Soc. London 1905, **n. sp.**
- Pterochilus korbi*, Biskra, SCHULZ, p. 48, Hymen.-Stud.; *P. aterrimus*, p. 403, *linguarius*, p. 404, *affinis*, p. 405, Algeria, SAUNDERS, Tr. ent. Soc. London 1905: **n. spp.**
- Quartinia paradoxa*, Cape G. H., BRAUNS, p. 233, Ann. Mus. Hungar. iii, **n. sp.**
- Raphidoglossa rufescens*, Biskra, SAUNDERS, p. 402, Tr. ent. Soc. London 1905, **n. sp.**
- Rhynchium superbum* ♂, CAMERON, p. 76, Tijdschr. Ent. xviii.
- R. varipes*, Japan, PÉREZ, p. 85, Bull. Mus. Paris 1905, **n. sp.**
- Synagris intermedia*, S. Africa, CAMERON, p. 207, Rec. Albany Mus. i, **n. sp.**
- Synoea surinama*, nest, SCHULZ, p. 124, Hymen.-Stud.
- Synocoides* n. g. *depressa* n. sp., Upper Amazons, DUCKE, p. 16, Rev. Ent. franc. 1905.
- Trimeria buyssoni* ♂, BUYSSON, p. 10, Bull. Soc. ent. France 1905.
- Vespa mongolica* var. n. *sempunctata*, p. 79, *V. japonica*, variation, p. 80, PÉREZ, Bull. Mus. Paris 1905.
- Zethus spiniventris*, p. 171, *inermis, buyssoni*, p. 172, Lower Amazons, DUCKE, Zeitschr. Hym. Dipt. v, **n. spp.**

## HYMENOPTERA FOSSORIA (or SPHEGOIDEA).

- [Cf. ANDRÉ (24, 25, 27), ASHMEAD (31, 32), AURIVILLIUS (43), BAKER (65, 66), CAMERON (241, 242, 243, 244, 246, 251, 261, 262, 263, 264, 266, 269, 272, 273, 274), FERTON (558), GARCÍA (639-642), HARTMAN (728), KOHL (874-876), PECKHAM (1143), PÉREZ (1146), SCHULZ (1359).]
- Scolide, Mutillide and Sapygide*, of Sweden, AURIVILLIUS, pp. 232-240, Ent. Tidskr. xxvi.
- Study of the habits of various species in Texas, HARTMAN, Bull. Univ. Texas, No. 65.
- Agenia conspersa*, Japan, PÉREZ, p. 149, Bull. Mus. Paris 1905, **n. sp.**
- Ammophila erythrospila*, Cape Colony, CAMERON, p. 303, Rec. Albany Mus. i; *A. dumbrodyensis*, Cape Colony, CAMERON, p. 322, t. c.; *A. marginalis*, Japan, PÉREZ, p. 151, Bull. Mus. Paris 1905: **n. spp.**



- Ampulex capensis*, p. 254, *spiloptera*, p. 255, *africana*, p. 256, Cape Colony, CAMERON, Rec. Albany Mus. i ; *A. javana*, Tjibodas, p. 60, *micado*, Japan, p. 61, CAMERON, Tijdschr. Ent. xlviii : n. spp.
- Anoplius leppani*, p. 216, *soleanus*, p. 217, *dalyanus*, p. 218, *A. (Pompilogastra ?) erythrourus*, p. 219, S. Africa, CAMERON, Rec. Albany Mus. i ; *A. mimeticus*, Cape Colony, CAMERON, p. 262, t. c. ; *A. (Pompilus) orodes*, Darjiling, CAMERON, p. 17, Entomologist 1905 ; *A. palades*, p. 467, *reconditus*, *ædilis*, *stimulatus*, p. 468, *ardescens*, p. 469, *lictor*, *tyres*, p. 470, *fortinatus*, *delphus*, p. 471, *addendus*, p. 472, *fumebrianus*, *lanatus*, p. 473, Khasia hills, CAMERON, Ann. Nat. Hist. (7) xv : n. spp.
- Anthobosca antennata* Sm., queried as *Adontothynnus*, CAMERON, p. 306, Rec. Albany Mus. i.
- Anthophilus hirticeps*, p. 376, *melanaspis*, *maculiventris*, p. 377, Mexico, CAMERON, Tr. Amer. ent. Soc. xxxi, n. spp.
- Apterogyna bimaculata* var. n. *rufescens*, GARCÍA, p. 488, Bol. Soc. espan. v.
- A. mocsaryi*, Egypt, ANDRÉ, p. 202, Zeitschr. Hym. Dipt. v, n. sp.
- Apteropompilus dentatus* ♂, CAMERON, p. 136, Zeitschr. Hym. Dipt. v.
- Astata melanaria*, p. 257, *fuscistigma*, p. 258, Cape Colony, CAMERON, Rec. Albany Mus. i, n. spp.
- Belomicrus mirificus*, Abyssinia, KOHL, p. 225, Zeitschr. Hym. Dipt. v, n. sp.
- Bembex galactina* Duf., SCHULZ, pp. 62-65, cuts, Hymen.-Stud. ; *B. rostrata algeriensis* subsp. n., SCHULZ, p. 39, t. c.
- B. fallax*, p. 352, *citrina*, p. 353, Tangier, GARCÍA MERCET, Bol. Soc. espan. v ; *B. marocana*, Tangier, LAUFFER, p. 465, Bol. Soc. espan. v ; *B. fontii*, Rio de Oro, GARCÍA MERCET, p. 342, Bol. Soc. espan. v ; *B. semoni*, New Guinea, CAMERON, p. 65, Tijdschr. Ent. xlviii : n. spp.
- Ceratocolus pygialis*, Japan, PÉREZ, p. 154, Bull. Mus. Paris 1905, n. sp.
- Cerceris assamensis* n. n. for *himalayensis* Cam. nec Bingham, CAMERON p. 269, Entomologist 1905.
- C. doderleini*, Biskra, p. 35, *hartliebi*, Tunis, p. 55, SCHULZ, Hymen.-Stud. ; *C. flavoplagiata*, Himalaya, CAMERON, p. 16, Entomologist 1905 ; *C. simlaensis*, India, CAMERON, p. 83, t. c. ; *C. bimaculata*, *canaliculata*, p. 219, *himalayensis*, p. 220, *intimella*, *rufoplagiata*, p. 221, *aureobarba*, *lepcha*, p. 222, Khasia hills, CAMERON, Ann. Nat. Hist. (7) xv ; *C. harmandi*, p. 152, *carinalis*, p. 153, Japan, PÉREZ, Bull. Mus. Paris 1905 ; *C. chinandegaensis*, p. 66, *bakeri*, *cosmiocephala*, p. 67, Nicaragua, CAMERON, Invert. pacif. i : n. spp.
- Ceropules pruinosa*, Khasia hills, CAMERON, p. 415, Ann. Nat. Hist. (7) xv, n. sp.
- Chalybion japonicum*, Japan, PÉREZ, p. 152, Bull. Mus. Paris 1905, n. sp.
- Chyphotes piceiceps*, p. 116, *californicus*, *similis*, p. 117, *nevadensis*, p. 118, California and Nevada, BAKER, Invert. pacif. i, n. spp.
- Clavelia* and *Parapompilus* are sexes, not genera, SCHULZ, p. 25, Hymen.-Stud.
- Craebro erythrotoma*, Cape Colony, CAMERON, p. 259, Rec. Albany Mus. i ; *C. æmulans*, p. 352, *C. (Rhopalum-Corynopus) rufoteniatus*, p. 353, *C. (Rhopalum)herbstii*, p. 355, Chile, *C. (Entomocraebro subg. n.) duckei*, p. 357, Brazil, KOHL, Verh. Ges. Wien 1905 ; *C. elvinus*, p. 14, *lysias*, *menyllus*, p. 15, India, CAMERON, Entomologist 1905 ; *C. himalayensis*, *monozonus*, Khasia hills, CAMERON, p. 218, Ann. Nat. Hist. (7) xv ; *C. konowi*, Japan, p. 218, *C. (Entomognathus) schmiedeknechti*, Corfu, p. 219, *libanonis*, Syria, p. 220, *C. (Lindenius) ibericus* Kohl, p. 221, Spain, *hæmodes*, Egypt, p. 222, *crenulifer* Damascus, p. 224, *latebrosus* Irkutsk, p. 225, KOHL, Zeitschr. Hym.

- Dipt. v ; *C. iridifrons*, p. 154, *radiatus*, *tetracanthus*, p. 155, Japan, PÉREZ, Bull. Mus. Paris 1905 ; *C. mexicanus*, p. 265, *ezræ*, p. 266, Mexico, CAMERON, Tr. Amer. ent. Soc. xxx : n. spp.
- Dielis sericeps*, p. 55, *nigrofimbriata*, p. 56, Java, CAMERON, Tijdschr. Ent. xlviii ; *D. truscanensis*, Borneo, CAMERON, p. 164, J. Straits Asiat. Soc. xlv : n. spp.
- Dimorphomutilla*? *luatha*, hab.? CAMERON, p. 378, Tr. Amer. ent. Soc. xxxi, n. sp.
- Diodontus reticulatus*, Deesa, CAMERON, p. 83, Entomologist 1905, n. sp.
- Discolia bonaespei*, S. Africa, CAMERON, p. 224, Rec. Albany Mus. i ; *D. varifrons*, New Guinea, CAMERON, p. 54, Tijdschr. Ent. xlviii ; *D. signatifrons*, Japan, PÉREZ, p. 86, Bull. Mus. Paris 1905 : n. spp.
- Entomocrabro* subg. n. cf. *Crabro*.
- Entomognathus mexicanus*, Mexico, CAMERON, p. 266, Tr. Amer. ent. Soc. xxx, n. sp.
- Ephuta chinandegæ*, Nicaragua, CAMERON, p. 100, Invert. pacif. i, n. sp.
- Ephutomorpha præstans*, New Guinea, p. 266, *darwiniana*, p. 268, *vittigera*, p. 270, *argenteolineata*, p. 271, *maculiventris*, p. 272, N. Australia, *biroi*, p. 273, *incisa*, p. 275, New Guinea, *rubropetiolata*, N. S. Wales, p. 276, ANDRÉ, Zeitschr. Hym. Dipt. v, n. spp.
- Epomidopteron*, cf. *Paratiphia*.
- Gorytes africanus*, Tangier, GARCÍA, p. 464, Bol. Soc. espan. v, n. sp.
- Heliocausus dubius*, Chile, KOHL, p. 362, Verh. Ges. Wien 1905, n. sp.
- Holcorhopalum* n. g. near *Rhopalum*, *foveatum* n. sp., Mexico, CAMERON, p. 264, Tr. Amer. ent. Soc. xxx.
- Hoplisis whitei*, S. Africa, CAMERON, p. 210, Rec. Albany Mus. i ; *H. tricinctus*, Japan, PÉREZ, p. 157, Bull. Mus. Paris 1905 : n. spp.
- Hoploneurion minus*, Chile, KOHL, p. 350, Verh. Ges. Wien 1905, n. sp.
- Icuma* n. g. *Larriðe*, *sericea* n. sp., Panama, CAMERON, p. 21, Entomologist 1905.
- Mellinus tristis*, Japan, PÉREZ, p. 156, Bull. Mus. Paris 1905, n. sp.
- Microphadnus* n. g. *Ceropalidæ*, p. 212, *bicolor*, *M. ? fuscipennis* n. spp., S. Africa, p. 213, CAMERON, Rec. Albany Mus. i.
- Mimesa japonica*, Japan, PÉREZ, p. 150, Bull. Mus. Paris 1905, n. sp.
- Mutilla rufipes* var. n. *dusmeti*, *M. littoralis* var. n. *soconuscu*, GARCÍA, p. 494, Bol. Soc. espan. v ; *M. urania* var. = (*buddha* Cam.), CAMERON, p. 51, Tijdschr. Ent. xlviii.
- M. nuptura*, Escorial, p. 490, *matritensis*, p. 493, GARCÍA, Bol. Soc. espan. v ; *M. transvaalensis*, p. 24, *arcuaticeps*, p. 25, Transvaal, ANDRÉ, Bull. Soc. ent. France 1905 ; *M. minor*, p. 206, *katonai*, p. 207, *ukamiensis*, p. 208, Africa, *ditissima*, p. 209, *pulcherrima*, p. 210, Madagascar, *pekiniana*, China, p. 214, *celebensis*, Celebes, p. 215, ANDRÉ, Zeitschr. Hym. Dipt. v ; *M. javanica*, p. 48, *melmora*, p. 49, Java, *lodina*, Borneo, p. 50, CAMERON, Tijdschr. Ent. xlviii : n. spp.
- Myrmilla bidentata*, Transvaal, ANDRÉ, p. 205, Zeitschr. Hym. Dipt. v, n. sp.
- Myzine (Meira) violaceipennis*, Cape Colony, CAMERON, p. 301, Rec. Albany Mus. i, n. sp.
- Notoglossa banksi*, Manila, ASHMEAD, p. 960, P. U. S. Mus. xxviii, n. sp.
- Notogonia rufoscapa*, Cape Colony, CAMERON, p. 321, Rec. Albany Mus. i ; *N. fuscinerva*, p. 224, *aciculata*, *khasiana*, p. 225, *vivax*, *tegularis*, p. 226, *testaceicornis*, p. 227, *strenua*, *sulcifrons*, p. 228, Khasia hills, CAMERON, Ann. Nat. Hist. (7) xv : n. spp.
- Nysson longispinis*, Mexico, CAMERON, p. 374, Tr. Amer. ent. Soc. xxxi, n. sp.
- Odontophopsis cookii*, p. 93, *annulatus*, p. 94, *mellicornis*, p. 96, *viereckii*, p. 97, *ocellatus*, p. 98, California and Nevada, BAKER, Invert. pacif. i, n. spp.

- Oxybelus ruficaudis*, p. 208, *capensis*, p. 209, S. Africa, CAMERON, Rec. Albany Mus. i; *O. striatiscutis*, Cape Colony, CAMERON, p. 261, t. c.; *O. claudestinus*, Chile, KOHL, p. 358, Verh. Ges. Wien 1905: n. spp.
- Parapompilus planatus*, natural history, DAVIDSON, pp. 233, 234, Ent. News Philad. xvi; *P.*, cf. also *Clavelia*.
- Paratiphia*, to this CAMERON refers the spp. described by him as *Epomidopteron*, Invert. pacif. i, p. 105.
- P. iridipennis*, Nicaragua, CAMERON, p. 68, Invert. pacif. i; *P. fuscipennis*, Nicaragua, CAMERON, p. 100, t. c.; *P. robusta*, *varipunctata*, p. 106, *fuscinerva*, p. 107, California, *nevadensis*, *claripennis*, p. 108, *bakeri*, p. 109, Nevada, CAMERON, t. c.: n. spp.
- Passaloeus*, catalogue of the genus, and revision of palæarctic, KOHL, pp. 517-529, Verh. Ges. Wien 1905.
- P. stieglmayri*, Brazil, p. 359, *braunsii*, Algoa bay, p. 361, KOHL, t. c. n. spp.
- Philanthus ammochrysus*, Tunis, SCHULZ, p. 59, Hymen.-Stud., n. sp.
- Photopsis melanderi*, *indigenus*, p. 112, *uniformis*, *abstrusa*, p. 113, *nudata*, *difficilis*, p. 114, *insignis*, *pedatus*, p. 115, *ingenuus*, p. 116, N. America, BAKER, Invert. pacif. i, n. spp.
- Pison javanus*, Tjandi, CAMERON, p. 63, Tijdschr. Ent. xlviii; *P. iridipennis*, Cape Colony, CAMERON, p. 261, Rec. Albany Mus. i; *P. punctulatus*, Manila, ASHMEAD, p. 960, P. U. S. Mus. xxviii; *Pisonoides browni*, Manila, ASHMEAD, p. 961, t. c. n. sp.
- Planiceps ruficaudis*, Grahamstown, CAMERON, p. 214, Rec. Albany Mus. i; *P. quadricollis*, Japan, PÉREZ, p. 150, Bull. Mus. Paris 1905: n. spp.
- Plesia melanaria*, p. 297, *rufo-femorata*, p. 298, *continua*, p. 299, *reticulata*, p. 300, Cape Colony, CAMERON, Rec. Albany Mus. i; *P. carbonaria*, p. 317, *interrupta*, p. 318, *leucospila*, p. 319, *erythronota*, *incisa*, p. 320, Cape Colony, CAMERON, t. c.: n. spp.
- Pompiloides beckeri*, Grahamstown, CAMERON, p. 220, t. c. n. sp.
- Pompilus*, validity of name, SCHULZ, p. 8, Hymen.-Stud.; *P. vishnu*, *hero*, valid, CAMERON, p. 17, Entomologist 1905; *P. pectinipes*, parasitic habits, FERTON, pp. 73-80, Ann. Soc. ent. France 1905.
- P. (Homonotus) arthuri-muelleri*, W. Africa, p. 4, SCHULZ, Hymen.-Stud.; *P. batavia*, Java, CAMERON, p. 59, Tijdschr. Ent. xlviii; *P. flavifrons*, Borneo, CAMERON, p. 160, J. Straits Asiat. Soc. xlv; *P. uncinatus*, Tsushima, p. 149, *fratellus*, p. 150, Japan, PÉREZ, Bull. Mus. Paris 1905; *P. misturatus*, p. 344, *fucatus*, p. 345, *spinolæ*, p. 346, Chile, KOHL, Verh. Ges. Wien 1905: n. spp.
- Prionemesis cyphonotus*, Japan, PÉREZ, p. 148, Bull. Mus. Paris 1905, n. sp.
- Proterosphex* n. n. for the former subg. *Sphex*, FERNALD, p. 165, Ent. News Philad. xvi.
- Psen lubricus*, Japan, PÉREZ, p. 150, Bull. Mus. Paris 1905, n. sp.
- Pseudogenia natalensis*, Natal, CAMERON, p. 223, Entomologist 1905; *P. languida*, p. 416, *pulchrifrons*, p. 417, *lyrata*, *nigritibis*, p. 418, *agitata*, *flavicollis*, p. 419, *nigripalpis*, p. 420, *lacteipennis*, p. 421, *purpurea*, *prophetica*, p. 422, *himalayensis*, p. 423, Khasia Hills, Cameron, Ann. Nat. Hist. (7) xv; *P. kloofensis*, p. 214, *capicola*, p. 215, S. Africa, CAMERON, Rec. Albany Mus. i; *P. rufofemorata*, p. 107, *imitator*, p. 108, Manila, ASHMEAD, P. U. S. Mus. xxix; *P. pygialis*, p. 148, *obtusca*, p. 149, Japan, PÉREZ, Bull. Mus. Paris 1905: n. spp.
- Ptilomutilla* n. g. p. 371, *plumosa*, p. 372, *pennata*, p. 373, n. spp., Brazil, ANDRÉ, Zeitschr. Hym. Dipt. v.
- Rhopalum spinigerus*, *angulicolle*, Mexico, CAMERON, p. 263, Tr. Amer. Soc. xxx; *R. nicaraguaense*, San Marcos, CAMERON, p. 66, Invert. pacif. i: n. spp.
- Rhoptromutilla regalis*, Bolivia, p. 361, *peruviana*, Peru, p. 363, *auriceps*,

- Argentina, p. 364, *rufisquamis*, Arizona, p. 366, *furcata*, Panama, p. 367, *furcifera*, Brazil, p. 369, ANDRÉ, Zeitschr. Hym. Dipt. v, n. spp.
- Salius whiteanus*, p. 220, *S. (Mygnumia) pringleæ*, p. 221, *S. (Priocnemis) spilocephalus*, *S. (Cyphonyx) spilostomus*, p. 222, *schonlandi*, p. 223, *erythrostomus*, p. 224, S. Africa, CAMERON, Rec. Albany Mus. i; *S. fluctuatus*, *frederici*, p. 474, *saturnalis*, p. 475, *tempestivus*, p. 476, *præcursor*, p. 477, Khasia Hills, CAMERON, Ann. Nat. Hist. (7) xv; *S. matangensis*, Borneo, CAMERON, p. 161, J. Straits Asiat. Soc. xlv; *S. spilonotus*, Borneo, CAMERON, p. 58, Tijdschr. Ent. xlviii; *S. (Priocnemis) dispersitulus*, p. 348, *thaumastarius*, p. 349, Chile, KOHL, Verh. Ges. Wien 1905 : n. spp.
- Sphærophthalma caroli*, Nicaragua, CAMERON, p. 99, Invert. pacif. i, n. sp.
- Spheg*; *sabulosa* is the type, FERNALD, pp. 163-166, subg. n. cf. *Proterospheg*, subgenera list of, Ent. News Philad. xvi.
- S. harmandi*, *xanthognathus*, Japan, PÉREZ, p. 151, Bull. Mus. Paris 1905, n. spp.
- Spilopompilus stantoni*, Manila, ASHMEAD, p. 108, P. U. S. Mus. xxix, n. sp.
- Stigmus glabratus*, Chile, KOHL, p. 358, Verh. Ges. Wien 1905, n. sp.
- Stizus klugi numida* subsp. n., SCHULZ, p. 42, Hymen.-Stud.
- S. johannis*, Cape Colony, CAMERON, p. 323, Rec. Albany Mus. i, n. sp.
- Tachyspheg rufiventralis*, Bonifacio, FERTON, p. 68, Ann. Soc. ent. France 1905; *T. schonlandi*, p. 211, *pentheri*, p. 212, S. Africa, CAMERON, Rec. Albany Mus. i; *T. bituberculata*, Khasia Hills, CAMERON, p. 233, Ann. Nat. Hist. (7) xv; *T. herbstii*, Chile, KOHL, p. 364, Verh. Ges. Wien 1905 : n. spp.
- Tachytes transvaalensis*, Africa, CAMERON, p. 153, Entomologist 1905; *T. varipilosa*, *aureocincta*, Borneo, CAMERON, p. 159, J. Straits Asiat. Soc. xlv; n. spp.
- Tanyopyrmnus* n. g. *Mellinini*, p. 375, *longitarsis* n. sp., Mexico, p. 376, CAMERON, Tr. Amer. ent. Soc. xxxi.
- Tiphia rufomandibulata*, ♀, PÉREZ, p. 87, Bull. Mus. Paris 1905.
- T. testaceipalpis*, Nicaragua, CAMERON, p. 69, Invert. pacif. i; *T. marcosensis*, p. 101, *granadaensis*, p. 102, Nicaragua, CAMERON, t. c. : n. spp.
- Triscolia patricialis* and *procera* distinguished, CAMERON, p. 52, Tijdschr. Ent. xlviii.
- Trogaspidia bicolor*, p. 962, *minor*, p. 963, Manila, ASHMEAD, P. U. S. Mus. xxviii, n. spp.
- Trypoxylon capense*, Cape Colony, CAMERON, p. 260, Rec. Albany Mus. i; *T. elongatum*, Manila, ASHMEAD, p. 961, P. U. S. Mus. xxviii; *T. varipes*, Japan, PÉREZ, p. 157, Bull. Mus. Paris 1905; *T. nigrispinis*, p. 373, *rufidens*, p. 374, Mexico, CAMERON, Tr. Amer. ent. Soc. xxxi; *T. monstificum*, Bolivia, KOHL, p. 365, Verh. Ges. Wien 1905 : n. spp.
- Xystromutilla* n. g. p. 374, *asperiventris*, Bahia, n. sp. p. 375, ANDRÉ, Zeitschr. Hym. Dipt. v.

## FORMICIDÆ (or HETEROGYNA).

[Cf. ANDRÉ (26), ASHMEAD (32, 36), DOFLEIN (436), EMERY (492-496), ERNST (522), ESCHERICH (526, 527), FIELDE (559-561), FOREL (586-592), GOELDI (674, 675), HUBER (791), KARAVIEW (826), PIÉRON (1204), ULE (1516), WASMANN (1580-1588), WHEELER (1618-1628).]

A classification of ants, with enumeration of the genera, ASHMEAD, pp. 381-384, Canad. Ent. 1905.

- Study of the types of Fabricius in the Museum at Copenhagen, FOREL, pp. 160-162, Ann. Soc. ent. Belgique 1905.
- Notes on Australian ants, FROGGATT (616).
- Recognition, experiments, PIÉRON, C.R. Congr. Zool. vi, pp. 482-491.
- Fasting, temperature and development, FIELDE (560).
- Progressive odour, FIELDE (561).
- Progeny of worker-ants, sex etc., FIELDE (559).
- Workers with wing-vestigies, *Formica*, *Myrmica*, *Cryptocerus*, WHEELER, pp. 405-408, pl. xiv, Bull. Amer. Mus. xxi.
- Pseudogyne ant in amber, EMERY, Bull. Soc. ent. France 1905, p. 189.
- Workers as replacement-queens, *Polyergus rufescens*, WASMANN, pp. 67-73, Mt. Schweiz. ent. Ges. xi.
- The commencements of colonies, EMERY, pp. 459-461, C.R. Congr. Zool. vi.
- Founding colonies, slave-making and parasitic forms, WHEELER (1626).
- Origin of slavery, WHEELER, Biol. Zentrbl. xxv, pp. 637-644; WASMANN, t. c. pp. 644-653.
- Slave-making instinct, WHEELER, Bull. Amer. Mus. xxi, No. 1.
- Origin of slavery, WASMANN, Biol. Zentrbl. xxv, pp. 117-144 etc.
- Slavery, symbiosis, parasitism, FOREL, Mt. Schweiz. ent. Ges. xi, pp. 85-89.
- Ant-gardens, on the Amazons, ULE (1516).
- Ant-gardens, recent discoveries as to ants and plants, FOREL (589).
- Habits of *Myrmica*, *Formica*, etc., observation nest, KARAWIEW, Zeitschr. Insbiol. i, pp. 215-224, 257-266.
- Ants on mountain summits, WHEELER, Psyche xii, pp. 112-114.
- Ants as food of birds, WASMANN, Tijdschr. Ent. xlviii, pp. 214-220.
- Abstracts of recent works on ants and ants-nest insects, ESCHERICH, Zeitschr. Insbiol. i, pp. 33-48.
- Anochetus inermis* var. n. *meinerti*, FOREL, p. 156, Ann. Soc. ent. Belgique 1905.
- A. pellucidus*, Cameroons, EMERY, p. 33, Rend. Acc. Bologna vi, n. sp.
- Aphanogaster barbara*, *testaceopilosa*, habits at Villafranca, FRIEDRICHS, pp. 497-499, Zeitschr. Insbiol. i.
- Aphomyrmex emeryi*, Manila, ASHMEAD, p. 111, P. U. S. Mus. xxix, n. sp.
- Atta moelleri* and *meinerti*, races of *A. coronata*, FOREL, p. 161, Ann. Soc. ent. Belgique 1905; *A. sexdens*, founding colony, HUBER, pp. 606-619, 625-635, Biol. Zentrbl. xxv; *A. sexdens*, establishing colony, pp. 176-181, *A. octospinosa*, fungus-gardens, FOREL, Biol. Zentrbl. xxv; *A. cephalotes*, founding nest, GOELDI (674, 675).
- A. (Trachymyrmex) maritima*, Bahamas, WHEELER, p. 107, Bull. Amer. Mus. xxi, n. sp.
- Azteca*, nest, FOREL, pp. 172-176, Biol. Zentrbl. xxv.
- Camponotus*; *C. novograndensis* and allies, table of characters and critical remarks, pp. 62-75, *blandus denudatus* subsp. n. p. 67, *punctulatus andigena* subsp. n. p. 71, *westermanni* var. n. *fulvicornis*, p. 74; EMERY, Rend. Acc. Bologna vii; *C. maculatus lucyanus* subsp. n. p. 112, and var. *tephronotus*, p. 114, *C. inaequalis* varr. n. *namulorum*, p. 114 and *marcidus*, p. 116, *C. landolti* var. n. *eburneus*, p. 117; WHEELER, Bull. Amer. Mus. xxi; *C. foraminosus cuitensis* n. st., *mayri kubangensis* var. n., FOREL (586), p. 564; *C. darwini* var. n. *robustior*, FOREL, p. 165, Ann. Soc. ent. Belgique 1905; *C. senex*, nest and formation of, FOREL, p. 170, Biol. Zentrbl. xxv.
- C. reginae*, W. Africa, FOREL (586), p. 562; *C. butteli*, Madagascar, FOREL, p. 164, Ann. Soc. ent. Belgique 1905; *C. (Colobopsis) culmicola*, Bahamas, WHEELER, p. 117, pl. vii, f. 10, Bull. Amer. Mus. xxi; *C. sermoni*, Venezuela, FOREL, p. 160, Ann. Soc. ent. Belgique 1905; *C. rudigenis*, *helleri*, Peru, p. 66, *juliae*, Costa Rica, p. 68, *germaini*,

- Matto Grosso, p. 71, *inca*, p. 75, *cacicus*, p. 76, Peru, *macrochaeta*, Parà, *hematocephalus*, p. 78, *banghaasi*, p. 79, *mirabilis*, p. 80, Peru, EMERY, Rend. Acc. Bologna vii; *C. lutzi*, Brazil, FOREL, p. 169, Ann. Soc. ent. Belgique 1905 : n. spp.
- Cardiocondyla elegans santschii* subsp. n., *C. batesii* var. n. *nigra*, FOREL, p. 174, Ann. Soc. ent. Belgique 1905.
- Cataulacus bacumii, brevisetosus*, W. Africa, FOREL (586), p. 560, n. spp.
- Cerapachys*, and allies, revision, EMERY, pp. 22-27, Rend. Acc. Bologna vi.
- C. dohertyi* with var. *parvula*, Borneo, EMERY, p. 25, t. c. n. sp.
- Colobopsis albocincta*, Manila, ASHMEAD, p. 110, P. U. S. Mus. xxix, n. sp.
- Cremastogaster sordidula vdo* subsp. n., FOREL, p. 20, Mt. Mus. Hamburg xxii; *C. scutellaris* var. n. *medispina*, FOREL, p. 178, Ann. Soc. ent. Belgique 1905; *C. sulcata*, nest, pl. viii, figg. 1, 2, the ant brought to Europe, p. 209, WASMANN, Tidschr. Ent. xlviii.
- C. lucayana*, Bahamas, p. 94, with subsp. *etiolata*, p. 95, WHEELER, Bull. Amer. Mus. xxi; *C. lutzi*, Brazil, FOREL, p. 167, Ann. Soc. ent. Belgique 1905 : n. spp.
- Cryptocerus varians*, forms, pp. 102-104, pl. vii, figg. 1-6, WHEELER, Bull. Amer. Mus. xxi; *C. maculatus* ♂, FOREL, p. 158, Ann. Soc. ent. Belgique 1905.
- Cryptopone nicobarensis*, Nicobar Ids., FOREL, p. 166, t. c. n. sp.
- Cylindromyrmex meinerti*, Venezuela, FOREL, p. 155, t. c. n. sp.
- Cyphomyrmex rimosus minutus*, p. 106, cuts, WHEELER, Bull. Amer. Mus. xxi.
- Diacamma rugivertex*, Timor, EMERY, p. 28, Rend. Acc. Bologna vi, n. sp.
- Discothyrea globus*, Java, FOREL, p. 4, Mt. Mus. Hamburg xxii, n. sp.
- Dolichoderus*; the N. American with varr. n., affinities and habits, WHEELER, pp. 305-319, pls. xi, xiii, Bull. Amer. Mus. xxi.
- Dorylus*, variation of the castes, *affinis* and *brevipennis*, workers, p. 189, *brevipennis* var. n. *marshalli*, p. 193, table of species, p. 195, *D. affinis* metamorphosis, p. 197, pl. ii, figg. 1-9, EMERY, Mem. Acc. Bologna ix.
- D. politus*, figg. 14-17, *spininodis*, figg. 18-21, Cameroons, EMERY, p. 194, op. cit. x, n. spp.
- Eciton selysii* is a var. of *E. cæcum*, FOREL, p. 157, Ann. Soc. ent. Belgique 1905.
- Ectatomma edentatum*, larva, EMERY, p. 199, pl. ii, figg. 10-14, Mem. Acc. Bologna ix.
- E. (Stictoponera) levius*, Java, FOREL, p. 7, Mt. Mus. Hamburg xxii; *E. (Gnamptogenys) haenschi*, Ecuador, EMERY, p. 27, Rend. Acc. Bologna vi : n. spp.
- Eugramma* n. g. near *Tapinoma*, p. 180, *luja* n. sp., Congo, p. 182, FOREL, Ann. Soc. ent. Belgique 1905.
- Euponera rubra* var. n. *javana*, FOREL, p. 6, Mt. Mus. Hamburg xxii.
- Eusphinctus duchaussoyi*, Sydney, ANDRÉ, p. 205, Rev. Ent. franc. 1905, n. sp.
- Formica purpurea* conquered by a small black ant, HILL, pp. 35, 36, Victorian Natural. xxii; *F. microgyna nevadensis*, a distinct species, WHEELER, p. 272, Bull. Amer. Mus. xxi.
- F. munda*, p. 267, *dryas*, p. 268, with var. *gynomma*, p. 269, *nepticula*, p. 270, *impeca*, p. 273, N. America, WHEELER, t. c. n. spp.
- Lasius flavus*, establishing colony, ERNST, pp. 47-51, Biol. Zentrbl. xxv; *L. niger americanus*, natural history, WHEELER, p. 393, Bull. Amer. Mus. xxi.
- Leptogenys stuhlmanni* var. n. *erythrea*, EMERY, p. 33, Rend. Acc. Bologna vi.
- L. intermedia*, Cape Colony, EMERY, p. 32, t. c.; *L. (Lobopelta) kraepelini*, Java, FOREL, p. 5, Mt. Mus. Hamburg xxii : n. spp.
- Leptothorax flavispinus santschii* subsp. n., *L. tuberum* var. n. *atomus*,

- FOREL, p. 173, Ann. Soc. ent. Belgique 1905; *L. texanus davisi* subsp. n., WHEELER, p. 385, Bull. Amer. Mus. xxi.
- Liometopum*; habits; *L. apiculatum luctuosum* subsp. n., WHEELER, p. 325, Bull. Amer. Mus. xxi.
- Macromischa pastinifera* var. n. *opacipes*, WHEELER, p. 96, t. c.
- M. androsana*, p. 97, *splendens*, p. 98, Bahamas, WHEELER, t. c. n. spp.
- Megaponera dohrni*, W. Africa, EMERY, p. 30, Rend. Acc. Bologna vi, n. sp.
- Monomorium minutum* var. n. *leopoldinum*, p. 179, *M. medinæ fridæ* n. st., p. 183, FOREL, Ann. Soc. ent. Belgique 1905; *M. floricola*, ergatoid ♀, WHEELER, p. 88, Bull. Amer. Mus. xxi.
- Myrmecina semipolita*, Java, FOREL, p. 15, Mt. Mus. Hamburg xxii, n. sp.
- Myrmica punctiventris pinetorum* subsp. n., WHEELER, p. 384, Bull. Amer. Mus. xxi.
- Myrmecaria baumii*, W. Africa, FOREL (586), p. 562, n. sp.
- Neoponera latreillei* n. n. for *flavicornis* Latr. nec Fabr., FOREL, p. 161, Ann. Soc. ent. Belgique 1905; *N. unidentata* var. n. *rugosula*, EMERY, p. 30, Rend. Acc. Bologna vi.
- Ocymyrmex laticeps, picardi*, W. Africa, FOREL (586), p. 561, n. spp.
- Odontomachus hæmatodes* varr. n. *ruginodis* and *pullens*, WHEELER, p. 82, Bull. Amer. Mus. xxi; *O. hæmatodes meinerti* subsp. n., FOREL, p. 156, Ann. Soc. ent. Belgique 1905.
- Odontomyrmex* n. g. near *Podomyrma*, p. 207, *quadridentatus* n. sp., Sydney, p. 208, ANDRÉ, Rev. Ent. franc. 1905.
- Oecophylla smaragdina*, at work, DOFLEIN, pp. 497-507, Biol. Zentrbl. xxv.
- Oligomyrmex* sp., varr. ? *alpha, beta*, FOREL, pp. 21, 22, Mt. Mus. Hamburg xxii.
- Ophthalmopone hottentota* Em. (as *Pachycondyla*)=(*lanceolata* Mayr.), EMERY, p. 30, Rend. Acc. Bologna vi.
- Ophthalmopone depilis, mocquerysi*, Isld. S. Thomé, EMERY, p. 30, t. c. n. spp.
- Oxyopomyrmex blanci* n. r. *tuneticus*, FOREL, p. 175, Ann. Soc. ent. Belgique 1905, n. sp.
- Pachycondyla (Bothroponera) picardi*, W. Africa, FOREL, p. 559 (586); *P. (Ectomomyrmex) japonica*, Tsushima, EMERY, p. 31, Rend. Acc. Bologna vi: n. spp.
- Pheidole subarmata* var. n. *nassavensis*, *P. punctatissima* subssp. n. *annectens* and *insulana*, WHEELER, p. 93, Bull. Amer. Mus. xxi; *P. anastasi* var. n., Venezuelana, FOREL, p. 159, Ann. Soc. ent. Belgique 1905; *P. bessoni*, worker and soldier, p. 162, *punctulata* distinct from *megacephala*, p. 163, *P. punctulata* var. n. *bernhardæ*, and subsp. n. *gielleni*, p. 164, FOREL, t. c.; *P. crassinoda* var. n. *kubangensis*, FOREL (586), p. 561; *P. impressifrons* n. n. for *impressiceps* Wasm., Wasmann, p. 110, Notes Leyden Mus. xxv.
- P. nodgii*, p. 16, with var. *tjibodana*, p. 17, *sauberi*, p. 18, *treubi*, p. 19, *P. (Ceratopheidole) enmae*, p. 20, Java, FOREL, Mt. Mus. Hamburg xxii; *P. davisi*, New Jersey, WHEELER, p. 380, Bull. Amer. Mus. xxi; *P. androsana*, Bahamas, WHEELER, p. 90, t. c.; *P. meinerti*, Venezuela, FOREL, p. 159, Ann. Soc. ent. Belgique 1905; *P. lutzi*, Brazil, FOREL, p. 268, Ann. Soc. ent. France 1905: n. spp.
- Phyracacs* n. g. type *Cerapachys mayri*, p. 23, *pubescens*, p. 26, Borneo, *braunsi*, Cape Colony, p. 27, n. spp., EMERY, Rend. Acc. Bologna vi.
- Plagiolepis vanderkelleni*, W. Africa, FOREL (586), p. 564, n. sp.
- Platythreca coxalis* var. n. *javana*, FOREL, p. 5, Mt. Mus. Hamburg xxii; *P. punctata*, larva, WHEELER, p. 81, Bull. Amer. Mus. xxi.
- P. nicobarensis*, Nicobar Islds., FOREL, p. 165, Ann. Soc. ent. Belgique 1905; *P. meinerti*, Venezuela, FOREL, p. 156, t. c.: n. spp.
- Polyrhachis dives*, habits, using larvæ, Wasmann, pp. 133-140, Notes

- Leyden Mus. xxv ; *P. arcuata* var. n. *continentis*, FOREL, p. 179, Ann. Soc. ent. Belgique 1905.
- Ponera confinis* var. n. *javana*, FOREL, p. 6, Mt. Mus. Hamburg xxii ;  
*P. abeillei assmuthi* subsp. n., FOREL, p. 182, Ann. Soc. ent. Belgique 1905.
- Prenolepis kraepelini*, p. 24, *tapinomoides*, p. 25, Java, FOREL, Mt. Mus. Hamburg xxii ; *P. arenivaga*, New Jersey, WHEELER, p. 391, Bull. Amer. Mus. xxi : n. spp.
- Prionopelta kraepelini*, Java, FOREL, p. 3, Mt. Mus. Hamburg xxii, n. sp.  
*Proceratium europæum* ♂, FOREL, p. 177, Ann. Soc. ent. Belgique 1905.  
*Pseudomyrma flavidula*, p. 83, *elongata*, p. 85, sexes, WHEELER, Bull. Amer. Mus. xxi.
- Sericomyrmex burchelli*, Goyaz, FOREL, p. 183, Ann. Soc. ent. Belgique 1905, n. sp.
- Solenopsis molesta*, habits, WHEELER, p. 377, Bull. Amer. Mus. xxi ; *S. orbula terniensis*, subsp. n., FOREL, p. 175, Ann. Soc. ent. Belgique 1905.  
*S. santschii*, Tunis, FOREL, p. 174, t. c. ; *S. pygmæa*, Java, FOREL, p. 21, Mt. Mus. Hamburg xxii : n. spp.
- Stenamma barbarum* varr. n. from Tunis, FOREL, pp. 176, 177, Ann. Soc. ent. Belgique 1905.
- Stigmacros* n. n. for *Acrostigma* For., FOREL, p. 179, t. c.  
*Strumigenys cordovensis* var. n. *mokensis*, FOREL, p. 158, t. c.
- S. lanuginosa*, Bahamas, WHEELER, p. 104, Bull. Amer. Mus. xxi ; *S. kraepelini*, p. 8, *koningsbergeri*, p. 9, *signæ*, p. 10, *ebbæ*, p. 11, *julie*, *inezæ*, p. 12, Java, *havilandi*, Natal, p. 13, FOREL, Mt. Mus. Hamburg xxii : n. spp.
- Tapinoma setiferum* var. n. *javanum*, FOREL, p. 22, t. c.  
*T. litorale*, Bahamas, WHEELER, p. 109, Bull. Amer. Mus. xxi, n. sp.  
*Technomyrmex modiglianii javanus* subsp. n., FOREL, p. 23, Mt. Mus. Hamburg xxii.
- T. kraepelini*, Java, FOREL, p. 23, t. c. n. sp.
- Tetramorium caespitum* var. n. *mossamedensis*, FOREL (586), p. 560 ; *T. striativentre* and subsp. *schneideri*, Ruzsky, pp. 517, 518, Zool. Anz. xxix.
- T. infraspinum*, p. 14, *kraepelini*, p. 15, Java, FOREL, Mt. Mus. Hamburg xxii ; *T. lucayanum*, Bahamas, WHEELER, p. 100, Bull. Amer. Mus. xxi : n. spp.
- Wheeleria* n. g. near *Monomorium*, *santschii* n. sp., FOREL, p. 171, Ann. Soc. ent. Belgique 1905.
- Xenomyrmex stollii* var. n. *lucayanus*, WHEELER, p. 87, Bull. Amer. Mus. xxi.

## CHRYSIDÆ.

- Chrysis dichroa*, larval habits, FERTON, pp. 82–88, Ann. Soc. ent. France 1905.
- Cleptes magnificus*, p. 99, *buyssoni*, p. 100, Parà, DUCKE, Bull. Soc. ent. Ital. xxxvi, n. spp.

## HYMENOPTERA PARASITICA.

- Parasitic *Hym.* reared from *Microlepidoptera*, CROMBRUGGHE, Ann. Soc. ent. Belgique 1905, p. 205.
- Parasites of *Pyralis* and *Cochylis* of the vine, FROEH, p. 64, Bull. Soc. Reims xiii.
- Parasites of *Oeceticus platensis*, short note, BRUCH, Revist. Jard. Buenos Aires (2) i, pp. 117–120.



## ICHNEUMONIDÆ.

[Cf. ASHMEAD (31-35), BERTHOUMIEU (106), BRAUNS (176-179), BRÈTHES (187), CAMERON (240, 243, 245, 248, 250, 251, 256, 258, 260, 261-265, 269-273, 275), GRAENICHER (686), KRIEGER (895), MOCSÁRY (1055), MORLEY (1067), NORDENSTRÖM (1109), PFANKUCH (1163), ROMAN (1289), SCHMIEDEKNECHT (1334), SZÉPLIGETI (1465, 1467).]

Revision of palæarctic *Ichneumonidæ*, Part I, *Anomalinæ* to *Paniscinæ*, SZÉPLIGETI, pp. 508-540, Ann. Mus. Hungar. iii.

The stalked eggs and the ovipositor of *Rhyssa*, BUGNION, C.R. Congr. Zool. vi, pp. 511-521, plate.

*Acanthoprymnus* n. g. *Hemitelini*, p. 249, *violaceipennis* n. sp., Cape Colony, p. 250, CAMERON, Entomologist 1905.

*Agarenes* n. g. *Joppini*, p. 152, *cariniscutis* n. sp., Borneo, p. 153, CAMERON, J. Straits Asiat. Soc. xlv.

*Aglaojoppa maculiceps*, p. 81, *maculiscutis*, p. 82, *cariniscutis*, *maculipes*, p. 83, *indipennis*, *nigrocærulea*, p. 85, Sikkim, CAMERON, Zeitschr. Hym. Dipt. v, n. spp.

*Agrothereutes nigritarsis*, *albipalpis*, Manila, ASHMEAD, p. 409, P. U. S. Mus. xxix, n. sp.

*Agrypon factale*, Budapest, SZÉPLIGETI, p. 517, Ann. Mus. Hungar. iii; *A. flaviceps*, ? Mexico, CAMERON, p. 379, Tr. Amer. ent. Soc. xxxi: n. spp.

*Allacota bruchi*, metamorphosis, p. 119, cut, BRUCH, Revist. Jard. Buenos Aires (2) i.

*Allocota bruchii*, Argentina, BRÈTHES, p. 17, An. Mus. Buenos Aires (3) iv, n. sp.

*Allopathnus* n. g. *Cryptina*, *fulvipes* n. sp., S. Africa, CAMERON, p. 233, Rec. Albany Mus. i.

*Aluina* n. g. *Ichneumonina*, p. 101, *erythropus* n. sp., Ceylon, p. 102, pl. A, f. 11, CAMERON, Spolia Zeylan. iii.

*Amavromorpha* n. g. near *Atropha*, *metathoracica* n. sp., Manila, ASHMEAD, p. 410, P. U. S. Mus. xxix.

*Amblyjoppa varicornis*; p. 79, *melanoptera*, p. 80, Sikkim, CAMERON, Zeitschr. Hym. Dipt. v, n. spp.

*Aneuchis*? *erythrostromus*, Nevada, CAMERON, p. 131, Invert. pacif. i, n. sp. *Anisobas cincticornis* to *Acanthojoppa*, characters, CAMERON, p. 158, J. Straits Asiat. Soc. xlv.

*Anomalon ruficorne*, p. 511, *leucopus*, p. 513, palæarctic region, SZÉPLIGETI, Ann. Mus. Hungar. iii; *A. apiculate*, Simla, CAMERON, p. 106, Entomologist 1905: n. spp.

*Apechoneura semilunata*, Bolivia, p. 10, *rufata*, Brazil, p. 11, *nigricornis*, Costa Rica, *nigriventris*, p. 12, *pictiventris*, p. 13, Peru, *foveata*, Costa Rica, p. 14, MOCSÁRY, Ann. Mus. Hungar. iii, n. spp.

*Apsilops nigriceps*, Manila, ASHMEAD, p. 114, P. U. S. Mus. xxix, n. sp.

*Atelcophadnus* n. g. *Cryptina*, p. 127, *bicarinata* n. sp., Nevada, p. 128, CAMERON, Invert. pacif. i.

*Atoponeura* n. g. *Ophionidæ*, *concolor* n. sp., Celebes, SZÉPLIGETI, p. 34, Gen. ins. fasc. xxxiv.

*Banchus tricolor*, Nevada, CAMERON, p. 130, Invert. pacif. i, n. sp.

*Bassides*, table of palæarctic, MORLEY, pp. 424-438, Tr. ent. Soc. London 1905.

*Bassus orientalis*, Ceylon, CAMERON, p. 131, Spolia Zeylan. iii, n. sp.

*Bathycrasis* n. g. *Cryptina*, p. 96, *striaticollis* n. sp., Trincomalee, p. 97, CAMERON, t. c.

*Bathythrix*? *rubriornatus*, pl. B, fig. 4, *striatus*, fig. 5, Ceylon, CAMERON, p. 116, t. c. n. spp.

- Bentyra* n. g. *Tryphonides*, *striata* n. sp., Sarawak, CAMERON, p. 116, J. Straits Asiat. Soc. xlv.
- Brachycoryphus*? *striolatus*, Capetown, CAMERON, p. 236, Rec. Albany Mus. i, n. sp.
- Brachyrhopalum*? *nigriceps*, Grahamstown, CAMERON, p. 235, t. c. n. sp.
- Buodius rufipes*, Ceylon, CAMERON, p. 106, pl. A, fig. 12, Spolia Zeylan. iii; *B. maculipennis*, Singapore, p. 138, *rufipes*, Borneo, p. 139, CAMERON, J. Straits Asiat. Soc. xlv: n. spp.
- Cenoaulax* n. g. *Hemitelini*, p. 247, *striatus* n. sp., Grahamstown, p. 248, CAMERON, Rec. Albany Mus. i.
- Cenojoppa* n. g. *longitarsis* n. sp., Borneo, CAMERON, p. 155, J. Straits Asiat. Soc. xlv; *C. n. g.* near *Imeria*, p. 162, *longitarsis* n. sp., Borneo, p. 163, CAMERON, Ann. Nat. Hist. (7) xvi.
- Cenostoma* n. g. *Xorides*, p. 125, *filicornis* n. sp., Sarawak, p. 126, CAMERON, J. Asiat. Soc. xlv.
- Campoplex oneili*, Cape Colony, CAMERON, p. 315, Rec. Albany Mus. i; *C. simlaensis*, India, CAMERON, p. 282, Zeitschr. Hym. Dipt. v; *C. greeni*, Ceylon, CAMERON, p. 127, Spolia Zeylan. iii; *C. sumichrasti*, Mexico, CAMERON, p. 258, Tr. Amer. ent. Soc. xxx: n. spp.
- Campsocryptus brevicornis*, California, CAMERON, p. 127, Invert. pacif. i, n. sp.
- Ceratojoppa* n. g. *cornuta* n. sp., Natal, CAMERON, p. 346, Zeitschr. Hym. Dipt. v.
- Ceratospilus* n. g. *Ophioninae*, p. 28, *biroi* n. sp., New Guinea, p. 29, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Cerda* n. g. near *Protarchus*, *fuscipennis* n. sp., Mexico, CAMERON, p. 255, Tr. Amer. ent. Soc. xxx.
- Charitopimpla annulipes*, Ceylon, CAMERON, p. 139, pl. B, fig. 9, Spolia Zeylan. iii, n. sp.
- Charops longiventris*, Manila, ASHMEAD, p. 117, P. U. S. Mus. xxix; *C. papilionis*, Manila, ASHMEAD, p. 6, Canad. Ent. 1905: n. spp.
- Chiodes oculatus*, Manila, ASHMEAD, p. 966, P. U. S. Mus. xxviii, n. sp.
- Chirotica bulteata*, Cape Colony, CAMERON, p. 232, Zeitschr. Hym. Dipt. v, n. sp.
- Chromocryptus albomaculatus*, Manila, ASHMEAD, p. 115, P. U. S. Mus. xxix, n. sp.
- Cidaphurus nigrolineatus*, Nevada, CAMERON, p. 129, Invert. Pacif. i, n. sp.
- Clatha* n. g. near *Agrypnon*, p. 129, *longipes* n. sp., Ceylon, p. 130, CAMERON, Spolia Zeylan. iii.
- Clitiga* n. g. *Cryptinae*, p. 117, *excavata*, *forticornis*, f. 7, n. spp., Ceylon, pl. B, f. 6, p. 118, CAMERON, t. c.
- Celichneumon bilineatus*, p. 244, *C.?* *albopilosellus*, p. 245, N. India, CAMERON, Zeitschr. Hym. Dipt. v, n. spp.
- Cenostoma* n. g. *Xoridini*, p. 171, *filicornis* n. sp., Borneo, p. 172, CAMERON, Entomologist 1905.
- Cesula* n. g. *Mesostenini*, p. 145, *fulvipes* n. sp., Borneo, p. 146, CAMERON, J. Straits Asiat. Soc. xlv.
- Coiloneura* n. g. near *Eremotylus*, *melanostigma*, *longicornis* n. spp., New Guinea, SZÉPLIGETI, p. 35, Gen. ins. fasc. xxxiv.
- Colganta varicornis*, p. 150, *annulicornis*, p. 151, Borneo, CAMERON, J. Straits Asiat. Soc. xlv, n. spp.
- Cosmiojoppa orbitalis*, Simla, CAMERON, p. 80, Zeitschr. Hym. Dipt. v, n. sp.
- Cratichneumon rufo-femoratus*, Sikkim, CAMERON, p. 143, t. c.; *C. erythrozonus*, CAMERON, p. 105, Entomologist 1905; *C. manilex*, Philippines, ASHMEAD, p. 113, P. U. S. Mus. xxix: n. spp.
- Cratocryptus* n. g. near *Skeattia*, p. 141, *maculiceps* n. sp., Borneo, p. 142, CAMERON, J. Straits Asiat. Soc. xlv.

- Cratojoppa rufofemorata*, Borneo, CAMERON, p. 157, t. c. n. sp.  
*Cremastus ægyptiacus*, Cairo, p. 527, *filicaudis*, Hungary, p. 528, SZÉPLIGETI, Ann. Mus. Hungar. iii, n. spp.  
*Cryptanura annulipes*, Mexico, CAMERON, p. 254, Tr. Amer. ent. Soc. xxx, n. sp.  
*Cryptus labilis*, p. 340, *nigropictus*, p. 341, S. Africa, CAMERON, Zeitschr. Hym. Dipt. v; *C. æthiopicus*, Grahamstown, CAMERON, p. 234, Rec. Albany Mus. i; *C. tuberculatus*, Cape Colony, CAMERON, p. 308, t. c.; *C. excavatus*, p. 84, *luculentus*, p. 85, Simla, CAMERON, Entomologist 1905: n. spp.  
*Ctenopelma braunsii*, Bremen, PFANKUCH, p. 141, Abh. Ver. Bremen xviii, n. sp.  
*Curtonotus rufus*, Waigiou, MOCSÁRY, p. 7, Ann. Mus. Hungar. iii, n. sp.  
*Cyanoxorides rufomaculatus*, p. 164, *cæruleus*, p. 165, Borneo, CAMERON, Ann. Nat. Hist. (7) xvi: *C. rufomaculatus*, p. 128, *cæruleus*, p. 129, Borneo, CAMERON, J. Straits Asiat. Soc. xlv: n. spp.  
*Darymna zonata*, Sikkim, CAMERON, p. 88, Zeitschr. Hym. Dipt. v, n. sp.  
*Delomerista pfankuchi*, Bremen, BRAUNS, p. 131, Zeitschr. Hym. Dipt. v, n. sp.  
*Deniya* n. g. *Ichneumoninae*, *pleuralis* n. sp., Ceylon, pl. A, f. 10, CAMERON, p. 103, Spolia Zeylan. iii.  
*Dicamptus* n. g. *Ophioninae*, *giganteus* n. sp., Java, SZÉPLIGETI, p. 28, Gen. ins. fasc. xxxiv.  
*Dinocryptus* n. g. p. 170, *niger* n. sp., Borneo, p. 171, CAMERON, Entomologist 1905; *D. n. g.* near *Cryptoideus*, p. 146, *niger* n. sp., Kuching, p. 147, CAMERON, J. Straits Asiat. Soc. xlv.  
*Druseia* n. g. *Joppini*, p. 163, *quadridentata* n. sp., Borneo, p. 164, CAMERON, Ann. Nat. Hist. (7) xvi; *Druseia* n. g. *Joppini*, p. 153, *4-dentata* n. sp., Borneo, p. 154, CAMERON, J. Straits Asiat. Soc. xlv.  
*Earrana* n. g. *Cryptinae*, p. 119, *lutea* n. sp., Ceylon, pl. B, f. 3, p. 120, CAMERON, Spolia Zeylan. iii.  
*Ectromorpha robusta*, p. 120, *maculipes*, p. 121, Borneo, CAMERON, J. Straits Asiat. Soc. xlv, n. spp.  
*Elasmognathus* n. g., aberrant, p. 405, *cephalotes* n. sp., Manila, p. 406, ASHMEAD, P. U. S. Mus. xxix.  
*Enicospilus spilonotus*, p. 121, *melanocarpus*, *xanthocephalus*, p. 122, *unilineatus*, *dasychira*, p. 123, *horsfieldi*, p. 124, Ceylon, CAMERON, Spolia Zeylan. iii; *E. monospilus*, Borneo, CAMERON, p. 38, Tijdschr. Ent. xlviii; *E. nigropectus*, Borneo, CAMERON, p. 123, J. Straits Asiat. Soc. xlv: n. spp.  
*Enytus* n. g. *Ophionidae*, *maculipes* n. sp., California, CAMERON, p. 132, Invert. pacif. i.  
*Ephonites* n. g. *Tryphonini*, *ruficornis* n. sp., Sikkim, CAMERON, p. 77, Zeitschr. Hym. Dipt. v.  
*Epicremastus* n. g. *concolor* n. sp., E. Africa, SZÉPLIGETI, p. 51, Gen. ins. fasc. xxxiv.  
*Epirhyssa tonkinensis*, Monts Manson, *fasciata*, p. 16, *biroi*, p. 17, *oceanica*, New Guinea, *tricoloripes*, Costa Rica, p. 18, *amazonica*, Brazil, p. 19, MOCSÁRY, Ann. Mus. Hungar. iii; *E. ornatipes*, Ceylon, CAMERON, p. 132, Spolia Zeylan. iii; *E. spilopectera*, p. 117, *maculiceps*, Borneo, p. 118, CAMERON, J. Straits Asiat. Soc. xlv: n. spp.  
*Epiwirus flavipes*, Mexico, CAMERON, p. 258, Tr. Amer. ent. Soc. xxx, n. sp.  
*Eremotylus sibiricus*, East Siberia, *hungaricus*, Hungary, SZÉPLIGETI, p. 522, Ann. Mus. Hungar. iii, n. spp.  
*Erythrocryptus* n. g. *Cryptinae*, *rufus* n. sp., California, CAMERON, p. 126, Invert. pacif. i.  
*Erythroischnus* n. g. *Phæogenini*, *annulicornis* n. sp., Mexico, CAMERON, p. 252, Tr. Amer. ent. Soc. xxx.

- Erythrojoppa nigromaculata*, Sikkim, CAMERON, p. 78, Zeitschr. Hym. Dipt. v, n. sp.
- Erythrotheronia* n. g. *Pimplinae, flavolineata* n. sp., Ceylon, pl. B, fig. 12, CAMERON, p. 134, Spolia Zeylan. iii.
- Ethromorpha ornatipes*, pl. B, fig. 8, CAMERON, p. 135, t. c.
- Eucremastus* n. g. p. 50, *brevicornis* n. sp., Spain, p. 51, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Facydes striolata*, Borneo, CAMERON, p. 156, J. Straits Asiat. Soc. xlv, n. sp.
- Fenenias erythropus*, Ceylon, pl. A, fig. 14, p. 112, CAMERON, Spolia Zeylan. iii, n. sp.
- Friona rufipes*, p. 110, pl. B, fig. 1, *bituberculata*, p. 111, Ceylon, CAMERON, t. c.; *F. ruficoxis, pleuralis*, Borneo, CAMERON, p. 133, J. Straits Asiat. Soc. xlv : n. spp.
- Glypta xanthogastra*, Nevada, CAMERON, p. 128, Invert. pacif. i, n. sp.
- Grotea anguina* as bee-parasite, GRAENICHER, pp. 43-46, Ent. News Philad. xvi.
- Guriya tibialis*, Simla, CAMERON, p. 245, Zeitschr. Hym. Dipt. v, n. sp.
- Habrocryptus graenicheri* as bee-parasite, GRAENICHER, p. 46, Ent. News Philad. xvi.
- Hadromanus* n. g. for *levicoxis* Schmied., SZÉPLIGETI, p. 14, Gen. ins. fasc. xxxiv.
- Haliphera fulvipes*, Ceylon, CAMERON, p. 101, Spolia Zeylan. iii, n. sp.
- Halphurnia ornatipes*, Sikkim, CAMERON, p. 87, Zeitschr. Hym. Dipt. v, n. sp.
- Hellwigia intermedia*, Croatia, SZÉPLIGETI, p. 518, Ann. Mus. Hungar. iii, n. sp.
- Hellwigiella* n. g. *Ophioninae, nigripennis, similis* n. spp., Tunis, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Hemiteles gracilis*, DEL GUERCIO, p. 296, cuts, Redia ii.
- H. brunnescens*, p. 815, *nigrobasatis*, p. 819, *rufizonatus*, p. 824, *carbonarius*, p. 829, *hilarellus*, p. 844, *hellbachi*, p. 851, *magnificus*, p. 861, *insignipennis*, p. 865, *bituberculatus*, p. 867, *flavicornis*, p. 868, *dimidiatipennis*, p. 870, Thuringia, SCHMIEDEKNECHT, Opusc. ent. ii, n. spp.
- Henicospilus variegatus*, Turkestan, SZÉPLIGETI, p. 519, Ann. Mus. Hungar. iii, n. sp.
- Homoporus niger*, p. 422, *reflexus*, p. 423, England, MORLEY, Tr. ent. Soc. London 1905, n. spp.
- Hoplismenus ceylonicus*, Kandy, CAMERON, p. 100, Spolia Zeylan. iii; *H. ? leptocerus*, Mexico, CAMERON, p. 251, Tr. Amer. ent. Soc. xxx : n. spp.
- Ichneumon leppani*, p. 226, *schonlandi*, *I. ? peringueyi*, p. 227, *lissoaspus*, p. 228, S. Africa, CAMERON, Rec. Albany Mus. i; *Ichn. ? johannis*, Cape Colony, CAMERON, p. 245, t. c.; *I. ? spilostomus*, Java, CAMERON, p. 33, Tijdschr. Ent. xlviii : n. spp.
- Idiostoma* n. g. *Cryptini*, p. 339, *flavipennis* n. sp., Cape G. H., p. 340, CAMERON, Zeitschr. Hym. Dipt. v.
- Isotima albicincta*, p. 407, *metathoracica, albifrons*, p. 408, *cincticornis*, p. 409, Manila, ASHMEAD, P. U. S. Mus. xxix, n. spp.
- Kriegeria* n. g. *Xoridini, heptazonata* n. sp., Mindanao, ASHMEAD, p. 116, t. c.
- Lactolus plagiatas*, p. 134, *reticulatus, basimacula*, p. 135, *maculiscutis*, p. 136, Borneo, CAMERON, J. Straits Asiat. Soc. xlv, n. spp.
- Lagenestra violaceipennis*, Sikkim, CAMERON, p. 86, Zeitschr. Hym. Dipt. v, n. sp.
- Lampronota langei, suerinensis*, Germany, BRAUNS, p. 133, Zeitschr. Hym. Dipt. v; *L. aciculata*, Colorado, CAMERON, p. 129, Invert. pacif. i : n. spp.

- Lareiga alboannulata*, p. 246, *flavomaculata*, p. 247, Simla, CAMERON, Zeitschr. Hym. Dipt. v, n. sp.
- Leptocryptus montanus, lacustris*, p. 732, Thuringia, SCHMIEDEKNECHT, Opusc. ent. ii, n. spp.
- Leptothecus flavomaculatus*, Sikkim, CAMERON, p. 142, Zeitschr. Hym. Dipt. v, n. sp.
- Lienella* n. g. *Hemitelini*, p. 246, *nigriceps* n. sp., Cape Colony, p. 247, CAMERON, Rec. Albany Mus. i.
- Lissonota peringweyi*, p. 238, *spilostoma*, p. 239, S. Africa, CAMERON, t. c.; *L. interstitialis*, Cape Colony, CAMERON, p. 251, t. c.; *L. greeni*, Ceylon, CAMERON, p. 142, Spolia Zeylan. iii : n. spp.
- Lissopimpla rufipes*, Ceylon, CAMERON, p. 140, t. c. n. sp.
- Lissotheronia* n. g. *Pimplinæ flavipes* n. sp., Ceylon, CAMERON, p. 139, t. c.
- Listrocryptus* n. g. p. 134, *spatulatus* n. sp., Centr. Europe, p. 135, BRAUNS, Zeitschr. Hym. Dipt. v.
- Listrognathus mengerseni*, Thuringia, p. 565, SCHMIEDEKNECHT, Opusc. ent. ii, n. sp.
- Limmerium iratum*, Grahamstown, CAMERON, p. 309, Rec. Albany Mus. i; *L. garrulum*, Cape Colony, CAMERON, p. 315, t. c.; *L. simlaensis*, N. India, CAMERON, p. 283, Zeitschr. Hym. Dipt. v; *L. taprobanicum*, Ceylon, CAMERON, p. 128, Spolia Zeylan. iii; *L. longicauda, leptogaster*, p. 256, *mexicanum, aztecum, centrale*, p. 257, Mexico, CAMERON, Tr. Amer. ent. Soc. xxx : n. spp.
- Loiada* n. g. *Mesostenini*, p. 166, *maculiceps*, Borneo, n. sp. p. 167, CAMERON, Ann. Nat. Hist. (7) xvi.
- Macrophatnus* n. g. *Heresiarchini, rufipes* n. sp., S. Africa, CAMERON, pp. 232, 306, Rec. Albany Mus. i.
- Macrophion* n. g. *Ophioninæ*, p. 32, *fenestratus*, Brazil, *ornatus*, Costa Rica, n. spp. p. 33, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Matará* = (*Cressonianus* Ashm.) belongs to *Listrodromini*, BRÈTHES, p. 335, An. Mus. Buenos Aires (3) iv.
- Megarhyssa areolata*, Hungary, p. 1, *variegata*, Perak, p. 2, MOCSÁRY, Ann. Mus. Hungar. iii, n. spp.
- Melanichneumon kandyensis*, Ceylon, CAMERON, p. 99, Spolia Zeylan. iii; *M. ? javanicus*, Java, CAMERON, p. 34, Tijdschr. Ent. xlviii : n. spp.
- Melcha cinctipes, annulipes*, p. 107, *varibalteata*, p. 108, *erythropus*, p. 109, pl. B, fig. 2, *maculiceps*, p. 110, Ceylon, CAMERON, Spolia Zeylan. iii; *M. hyalinis, reticulata*, p. 148, *albomaculata*, p. 149, Borneo, CAMERON, J. Straits Asiat. Soc. xlv : n. spp.
- Mesostenoides fulvipes*, Mexico, CAMERON, p. 253, Tr. Amer. ent. Soc. xxx; *M. bakerianus*, Nicaragua, CAMERON, p. 102, Invert. pacif. i : n. spp.
- Mesostenus truncatidens*, Europe, p. 570, *peregrinus*, Thuringia, p. 572, *hellenicus*, Olympia, p. 575, SCHMIEDEKNECHT, Opusc. ent. ii; *M. leptonotus*, S. Africa, CAMERON, p. 234, Rec. Albany Mus. i; *M. basimacula*, p. 249, *mimeticus*, p. 250, Cape Colony, CAMERON, t. c.; *M. multimaculatus*, p. 139, *maculiscutis*, p. 140, Borneo, CAMERON, J. Straits Asiat. Soc. xlv; *M. leucozonatus*, Manila, ASHMEAD, p. 967, P. U. S. Mus. xxviii; *M. rufus*, Mexico, CAMERON, p. 252, Tr. Amer. ent. Soc. xxx; *M. ihering*, p. 129, *casunungæ*, p. 130, Brazil, BRAUNS, Zeitschr. Hym. Dipt. v : n. spp.
- Metophion* n. g. *Ophioninæ, bicolor, variegatus* n. spp., New Guinea, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Metopius rufus*, N. India, CAMERON, p. 281, Zeitschr. Hym. Dipt. v; *M. browni*, Manila, ASHMEAD, p. 117, P. U. S. Mus. xxix : n. spp.
- Microcryptus funereus*, Carinthia, p. 630, *exquisitus*, p. 632, *brevialatus*, p. 639, *periculosus*, p. 641, *secernendus*, p. 647, *discedens*, p. 648, *unifasciatus*, p. 653, Thuringia, SCHMIEDEKNECHT, Opusc. ent. ii, n. spp.

- Myermo himalayensis*, p. 248, *iridipennis*, p. 278, *femorata*, p. 279, *robusta*, p. 280, *annulipes*, p. 281, N. India, CAMERON, p. 281, Zeitschr. Hym. Dipt. v, n. sp.
- Neleothis*? *rufo-ornatus*, Nicaragua, CAMERON, p. 103, Invert. pacif. i, n. sp.
- Neotheronia*, KRIEGER, p. 286, recharacterises the genus and tabulates the species, the following being new; *aurata*, *micans*, *enderleini*, p. 289, *mandibularis*, *pilosa*, p. 290, *carinata*, *impressa*, *roraria*, p. 291, *veles*, *cristata*, *fossulata*, *subparallela*, p. 292, *kohli*, *parallela*, *angulata*, p. 293, *buccata*, *excisa*, *occipitalis*, p. 294, *terebratria*; S. America, *hastata*, Panama, *surinamensis*, *costata*, p. 295, *sarisophora*, *radialis*, *vallata*, p. 296, *obesa*, *tricolor*, p. 297, *amphimelæna*, *tuberculata*, *mesoxantha*, p. 298, *austera*, p. 299, *kriechbaumeri*, *columbiensis*, p. 301, *marginata*, *submarginata*, p. 303, *fumosa*, p. 304, *aurulenta*, South America, *septentrionalis*, N. Carolina, p. 305, *australis*, *facialis*, p. 306, *oxyodus*, p. 307, *tenuis*, p. 333, *laticeps*, *coaguata*, p. 334, *compta*, p. 337, *transversaria*, p. 338, S. America, KRIEGER, Zeitschr. Hym. Dipt. v, n. spp.
- Nesomesochorus* n. g. and subfam. n., p. 967, *oculatus* n. sp., Manila, p. 968, ASHMEAD, P. U. S. Mus. xxviii.
- Nothanomalon* n. g. *Campoplegineæ*, *novoguineensis* n. sp., New Guinea, SZÉPLIGETI, p. 39, Gen. ins. fasc. xxxiv.
- Nototrachus flavomaculatus*, Cape Colony, CAMERON, p. 250, Rec. Albany Mus. i; *N. reticulatus*, Ceylon, CAMERON, p. 128, Spolia Zeylan. iii: n. spp.
- Ophiomorpha* n. g. p. 34, *concolor*, Trop. Africa, *bicolor*, Brazil, n. spp., p. 35, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Ophion sibiricus*, p. 520, *albistylus*, Siberia, *turcomanicus*, Transcaspian, p. 521, SZÉPLIGETI, Ann. Mus. Hungar. iii; *O. bicarinatus*, Ceylon, CAMERON, p. 120, Spolia Zeylan. iii: n. spp.
- Ophionidae*, the genera with lists of species, and 2 subfam. n. *Pharsalinea*, *Xiphosominae*, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Orona* n. g. *Porizonini*, *petiolaris* n. sp., California, CAMERON, p. 131, Invert. pacif. i.
- Oxytania rufolineata*, Mexico, CAMERON, p. 254, Tr. Amer. ent. Soc. xxx, n. sp.
- Paipila* n. g. aberrant, p. 258, *longipes* n. sp., Mexico, p. 259, CAMERON, t. c.
- Paniscus elegans*, Tunis, SZÉPLIGETI, p. 540, Ann. Mus. Hungar. iii; *P. intermedius*, p. 125, *orientalis*, p. 126, *lævis*, p. 127, Ceylon, CAMERON, Spolia Zeylan. iii: n. spp.
- Paurophatnus* n. g. *Hemitelini annulipes* n. sp., S. Africa, CAMERON, p. 342, Zeitschr. Hym. Dipt. v.
- Pezomachus silvestrii*, Portici, ASHMEAD, p. 142, Canad. Ent. 1905, n. sp.
- Phalega* n. g. *Accenitini*, *lutea* n. sp., Borneo, CAMERON, p. 170, Entomologist 1905.
- Phalgea* n. g. near *Arotés*, p. 130, *lutea* n. sp., Borneo, p. 131, CAMERON, J. Straits Asiat. Soc. xlv.
- Pharzites* n. g. near *Lactolus*, p. 137, *nigritarsis* n. sp., Borneo, p. 138, CAMERON, t. c.
- Philopsyche* n. g. *Pimplinae*, p. 137, *albobalteata* n. sp., Ceylon, pl. B, fig. 10, p. 138, CAMERON, Spolia Zeylan. iii.
- Phobetes bruchii*, La Plata, BRÈTHES, p. 21, An. Mus. Buenos Aires (3) iv, n. sp.
- Phthorinus anomalus*, England, MORLEY, p. 420, Tr. ent. Soc. London 1905, n. sp.
- Phygadeuon serotinus*, p. 691, *nubilipennis*, p. 696, *autumnalis*, p. 699, *rufovarius*, p. 700, *bischoffi*, p. 701, *alteareolatus*, p. 704, Thuringia,

- tergestinus*, Triest, p. 707, *lehmanni*, p. 708, *nobilitatus*, p. 716, *connectens*, p. 721, Thuringia, SCHMIEDEKNECHT, Opusc. ent. ii, n. spp.
- Pimpla heliophila*, Transvaal, CAMERON, p. 343, Zeitschr. Hym. Dipt. v :  
*P. albipalpis*, p. 237, *brunneiventris*, p. 238, Grahamstown, CAMERON, Rec. Albany Mus. i ; *P. aceticola*, p. 19, *holmbergi*, p. 20, La Plata, BRÈTHES, An. Mus. Buenos Aires (3) iv : n. spp.
- Plectocryptus mephisto*, Germany, p. 597, *antennalis*, p. 598, *hilarulus*, p. 599, Thuringia, SCHMIEDEKNECHT, Opusc. ent. ii, n. spp.
- Pleuroneuriphion erythrocerus*, Ceylon, CAMERON, p. 121, Spolia Zeylan. iii, n. sp. ; *P. malayanus*, p. 122, Borneo, *grandis*, Himalaya, p. 123, CAMERON, J. Straits Asiat. Soc. xlv, n. spp.
- Porizon vierecki*, characters, COCKERELL, p. 362, Canad. Ent. 1905.
- Pristocelus* n. g. near *Pristomerus*, *atriceps* n. sp., New Guinea, SZÉPLIGETI, p. 48, Gen. ins. fasc. xxxiv.
- Pristomeridia* ? *microdonta*, Nicaragua, CAMERON, p. 46, Invert. pacif. i ; n. sp.
- Promethus dodsi*, England, MORLEY, p. 421, Tr. ent. Soc. London 1905, n. sp.
- Pseudamblyteles* ? *erythropus*, S. Africa, CAMERON, p. 230, Rec. Albany Mus. i, n. sp.
- Pseudanomalon* n. g. p. 33, *gracilis* n. sp., New Guinea, p. 34, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Pseudocremastus* n. g. near *Cremastus*, *radialis* n. sp., Hungary, SZÉPLIGETI, p. 50, t. c.
- Pyramirhyssa* n. g. near *Rhyssa*, *magnifica* n. sp., Brazil, MOCSÁRY, p. 15, Ann. Mus. Hungar. iii.
- Rhorus spinipes*, Ceylon, CAMERON, p. 132, Spolia Zeylan. iii, n. sp.
- Rhynchoeryptus* n. g. p. 338, *violaceipennis*, p. 339, n. sp., Cape G. H., CAMERON, Zeitschr. Hym. Dipt. v.
- Rhyssa hungarica*, Budapest, p. 5, *mesopyrrha*, Java, p. 6, MOCSÁRY, Ann. Mus. Hungar. iii, n. spp.
- Scopesis flavolineatus*, Mexico, CAMERON, p. 254, Tr. Amer. ent. Soc. xxx, n. sp.
- Silsila apicimaculata*, Borneo, CAMERON, p. 131, J. Straits Asiat. Soc. xlv, n. sp.
- Siphimedia iridicolor*, Kuching, CAMERON, p. 130, t. c. n. sp.
- Skeatia acutilineata*, pl. A, fig. 12, p. 113, *cyclosica*, p. 114, *panthonæ*, p. 115, Ceylon, CAMERON, Spolia Zeylan. iii ; *S. balteata*, Singapore, CAMERON, p. 143, J. Straits Asiat. Soc. xlv ; *S. javanica*, Java, CAMERON, p. 35, Tijdschr. Ent. xlviii : n. spp.
- Spanophatnus* n. g. near *Platylabris*, p. 230, *ruficeps* n. sp., Grahamstown, p. 231, CAMERON, Rec. Albany Mus. i.
- Spilichneumon darjeelingensis*, Sikkim, CAMERON, p. 87, Zeitschr. Hym. Dipt. v ; *S. annulicornis*, p. 85, *coxalis*, p. 105, Simla, CAMERON, Entomologist 1905 : n. spp.
- Spilophion* n. g. *Ophioninae*, p. 124, *maculipennis* n. sp., Ceylon, pl. B, fig. 13, p. 125, CAMERON, Spolia Zeylan. iii.
- Spiloxorides erythrocephalus*, Borneo, CAMERON, p. 166, Ann. Nat. Hist. (7) xvi ; *S. erythrocephalus*, Borneo, CAMERON, p. 126, J. Straits Asiat. Soc. xlv : n. sp.
- Stenichneumon* ? *æthiopicus*, S. Africa, CAMERON, p. 229, Rec. Albany Mus. i, n. sp.
- Stenophthalmus* n. g. *Ophioninae*, p. 23, *algiricus*, Algeria, *sibiricus*, Siberia, n. spp., p. 24, SZÉPLIGETI, Gen. ins. fasc. xxxiv.
- Stiboscopus thuringiacus*, Germany, p. 606, SCHMIEDEKNECHT, Opusc. ent. ii, n. sp.
- Stictichneumon* n. g. *Ichneumoninae*, p. 105, *macariae* n. sp., Ceylon, p. 106, CAMERON, Spolia Zeylan. iii.

- Stilbops limnericeformis*, ♂, PFANKUCH, p. 141, Abh. Ver. Bremen xviii.  
*Strepsimallus bicintus*, Manila, ASHMEAD, p. 115, P. U. S. Mus. xxix,  
 n. sp.  
*Stylocryptus tyrolensis*, Innsbruck, p. 662, *coxalis*, Thuringia, p. 663,  
 SCHMIEDEKNECHT, Opusc. ent. ii, n. spp.  
*Sualta spinifrons*, Sikkin, CAMERON, p. 143, Zeitschr. Hym. Dipt. v,  
 n. sp.  
*Tanera* n. g. *Pimplinae*, *annulipes* n. sp., Ceylon, CAMERON, p. 141, Spolia  
 Zeylan. iii.  
*Tanyphatnus* n. g. *Ichneumoninae*, p. 104, *multimaculatus* n. sp., Ceylon,  
 p. 105, CAMERON, t. c.  
*Temelucha rugosa*, Budapest, SZÉPLIGETI, p. 582, Ann. Mus. Hungar. iii,  
 n. sp.  
*Theronia maskeliye*, Ceylon, CAMERON, p. 133, Spolia Zeylan. iii, n. sp.  
*Trichionotus* n. g. *Ophionini*, *reticulatus* n. sp., Borneo, CAMERON, p. 168,  
 Ann. Nat. Hist. (7) xvi.  
*Trichomma nigricans*, Ceylon, CAMERON, p. 131, Spolia Zeylan. iii, n. sp.  
*Trichonotus* n. g. *Ophioninae*, *reticulatus* n. sp., Borneo, CAMERON, p. 124,  
 J. Straits Asiat. Soc. xlv.  
*Triptognathus*, table of species, *T. uniguttatus*, table of varr., BERTHOUMIEU,  
 pp. 123-126, 131-133, Echange xxi.  
*Urogaster opacus*, *albinervis*, Manila, ASHMEAD, p. 118, P. U. S. Mus. xxix,  
 n. spp.  
*Vagenatha armata*, Borneo, CAMERON, p. 144, J. Straits Asiat. Soc. xlv,  
 n. sp.  
*Xanthopimpla taprobanica*, p. 135, *kandyensis*, *parva*, p. 136, *minuta*,  
 p. 137, Ceylon, CAMERON, Spolia Zeylan. iii; *X. kuchingensis*, *clari-*  
*pennis*, Sarawak, CAMERON, p. 119, J. Straits Asiat. Soc. xlv; *X.*  
*maculiceps*, Java, CAMERON, p. 37, Tijdschr. Ent. xlviii; *X. kriegeri*,  
 Manila, ASHMEAD, p. 411, P. U. S. Mus. xxix : n. spp.  
*Xiphosomella* n. g. *brasiliensis* n. sp., Coary, SZÉPLIGETI, p. 4, Gen. ins.  
 fasc. xxxiv.  
*Zonocryptus fumipennis*, Grahamstown, CAMERON, p. 307, Rec. Albany  
 Mus. i, n. sp.

## BRACONIDÆ (incl. ALYSIIDÆ).

[Cf. ASHMEAD (31-34), BRÈTHES (188), CAMERON (240, 242, 249, 250, 251,  
 258, 261, 263, 265, 267, 269, 270, 272), ENDERLEIN (498, 499, 510),  
 KIEFFER (842), NORDENSTRÖM (1109), SZÉPLIGETI (1466, 1468, 1469).]

Palæarctic *Braconidæ*, tables, SZÉPLIGETI (1469).

- Acclisis pleuralis*, Manila, ASHMEAD, p. 6, Canad. Ent. 1905, n. sp.  
*Agathiella tricolor*, *ruficeps*, p. 52, *minor*, p. 53, Sydney, SZÉPLIGETI, Ann.  
 Mus. Hungar. iii, n. spp.  
*Agathis kandyensis*, p. 77, *oya*, *ceylonicus*, p. 78, Ceylon, CAMERON, Spolia  
 Zeylan. iii; *A. malayana*, Singapore, CAMERON, p. 112, J. Straits  
 Asiat. Soc. xlv; *A. ? tricarinata*, p. 385, *trailii*, Amazons, *erythrogastra*,  
 Mexico, p. 386, CAMERON, Tr. Amer. ent. Soc. xxxi, n. spp.  
*Apanteles birovi*, N. S. Wales, *singaporensis*, p. 49, Singapore, *novoguineensis*,  
 New Guinea, p. 50, SZÉPLIGETI, Ann. Mus. Hungar. iii, n. spp.  
*Ascogaster tricolor*, p. 46, *australiensis*, *palpalis*, *regularis*, *caudata*, p. 47,  
 Australia, *novo-guineensis*, p. 48, New Guinea, SZÉPLIGETI, t. c.  
 n. spp.  
*Atanycolus tomentosus*, Queensland, SZÉPLIGETI, p. 25, t. c. n. sp.  
*Atoreutes brevicaudis*, Sydney, SZÉPLIGETI, t. c. n. sp.  
*Batotheca* n. g. p. 227, *dohrniana* n. sp., Sumatra, p. 228, and incl. 3 spp.  
*Spinaria*, ENDERLEIN, Stettin Ent. Zeit. lxvi.



- Beognatha incompleta*, Singapore, SZÉPLIGETI, Ann. Mus. Hungar. iii, n. sp.
- Biosteres longicaudatus*, Manila, ASHMEAD, p. 970, P. U. S. Mus. xxviii.
- Blacus pulcher*, Singapore, SZÉPLIGETI, p. 53, Ann. Mus. Hungar. iii, n. sp.
- Bracon daphnephila*, *cecidobius*, Bengal, KIEFFER, p. 185, Ann. Soc. Bruxelles xxix; *B. singaporensis*, Singapore, p. 37, *australiensis*, *bimaculatus*, p. 38, Australia, *transiens*, New Guinea, p. 39, SZÉPLIGETI, Ann. Mus. Hungar. iii; *B. vau*, Manila, ASHMEAD, p. 971, P. U. S. Mus. xxviii; *B. alquei*, Manila, ASHMEAD, p. 119, op. cit. xxix; *B. managuae*, *chinandegaensis*, p. 46, *nicaraguaensis*, *bakeri*, p. 47, Nicaragua, *caroli*, *longicaudis*, p. 48, Guatemala, CAMERON, Invert. pacif. i : n. spp.
- Braunsia antennalis*, Sierra Leone, SZÉPLIGETI, p. 52, Ann. Mus. Hungar. iii; *B. similis*, Cameroons, SZÉPLIGETI, p. 11, Arkiv Zool. ii, No. 14 : n. spp.
- Brownius* n. g. *Eurobraconini*, p. 7, *armatus* n. sp., Manila, p. 8, including also pt. of *Spinaria*, ASHMEAD, Canad. Ent. 1905.
- Cardiochiles philippensis*, Manila, ASHMEAD, p. 118, P. U. S. Mus. xxix, n. sp.
- Cendebeus* n. g. *Exothecini*, p. 105, *filicornis* n. sp., Sarawak, p. 106, CAMERON, J. Straits Asiat. Soc. xlv.
- Cenostomus trichiosomus*, Mexico, CAMERON, p. 387, Tr. Amer. ent. Soc. xxxi, n. sp.
- Chaolta ruficeps*, p. 101, *lutea*, p. 202, Borneo, CAMERON, J. Straits Asiat. Soc. xlv; *C. tuberculata*, p. 40, *crassicauda*, p. 41, Borneo, CAMERON, Tijdschr. Ent. xviii; *C. trituberculata*, p. 49, *sulcata*, *maculifrons*, p. 50, Sarawak, CAMERON, J. Straits Asiat. Soc. xlvii : n. spp.
- Chelonus tricoloratus*, Trincomalee, CAMERON, p. 79, Spolia Zeylan. iii; *C. albicinctus*, Manila, ASHMEAD, p. 968, P. U. S. Mus. xxviii; *C. similis*, p. 44, *unimaculatus*, *coriaceus*, p. 45, *australiensis*, p. 46, N. S. Wales, SZÉPLIGETI, Ann. Mus. Hungar. iii; *C. clavivervis*, Mexico, CAMERON, p. 261, Tr. Amer. ent. Soc. xxx; *C. immaculatus*, *centralis*, Nicaragua, CAMERON, p. 49, Invert. pacif. i : n. spp.
- Cratospila longicornis*, Singapore, SZÉPLIGETI, p. 55, Ann. Mus. Hungar. iii, n. sp.
- Cremnops pulchripennis*, Cameroons, SZÉPLIGETI, p. 10, Arkiv Zool. ii, No. 14; *C. bispinosa*, Singapore, *africana*, Cameroons, SZÉPLIGETI, Ann. Mus. Hungar. iii : n. spp.
- Diospilus ruficeps*, N. S. Wales, SZÉPLIGETI, t. c. n. sp.
- Disophrys ornatipennis*, p. 112, *niger*, p. 113, *fumipennis*, p. 114, Borneo, CAMERON, J. Straits Asiat. Soc. xlv, n. spp.
- Edyia* n. g. near *Euscelinus*, p. 159, *annulicornis* n. sp., Borneo, p. 160, CAMERON, Ann. Nat. Hist. (7) xvi; *Edyia* n. g. p. 108, *annulicornis* n. sp., Sarawak, p. 109, CAMERON, J. Straits Asiat. Soc. xlv.
- Enagathis erythrocephala*, p. 110, *creophora*, p. 111, Borneo, CAMERON, t. c. n. spp.
- Ernestiella* n. g. *Cardiochilina*, *nigromaculata* n. sp., Ceylon, CAMERON, p. 81, Spolia Zeylan. iii.
- Euagatis albotarsus*, Cameroons, SZÉPLIGETI, p. 10, Arkiv Zool. ii, No. 14, n. sp.
- Euphoriella testaceipes*, Mexico, CAMERON, p. 261, Tr. Amer. ent. Soc. xxx, n. sp.
- Fornicia annulipes*, Manila, ASHMEAD, p. 7, Canad. Ent. 1905, n. sp.
- Forsteria ? ruficollis*, Nicaragua, CAMERON, p. 48, Invert. pacif. i, n. sp.
- Gastrotheca capra*, Mombasa, p. 234, *capensis*, S. Africa, p. 235, *sumatрана*, Sumatra, p. 236, ENDERLEIN, Stettin Ent. Zeit. lxxvi, n. spp.
- Goniarcha malayensis*, Manila, ASHMEAD, p. 411, P. U. S. Mus. xxix, n. sp.

- Habnoba* n. g. *Spathiinae*, *petiolata* n. sp., Sarawak, CAMERON, p. 108, J. Straits Asiat. Soc. xlv.
- Hecabolus rubrocinctus*, Manila, ASHMEAD, p. 8, Canad. Ent. 1905, n. sp.
- Hemiglyptus* n. g. near *Glyptomorpha*, p. 412, *flavus* n. sp., Manila, p. 413, ASHMEAD, P. U. S. Mus. xxix.
- Holcalysia* n. g. near *Phenocarpa*, p. 268, *testaceipes* n. sp., Cape Colony, p. 269, CAMERON, Entomologist 1905.
- Holcapanteles* n. g. near *Urogaster*, p. 43, *sulciscutis* n. sp., Java, p. 44, CAMERON, Tijdschr. Ent. xlviii.
- Holcobracon* n. g. p. 89, *fulvus* n. sp., p. 90, pl. A, fig. 6, Ceylon, CAMERON, Spolia Zeylan. iii.
- Homiopteris pacificus*, Manila, ASHMEAD, p. 412, P. U. S. Mus. xxix, n. sp.
- Iphiaulax clypeolus* n. n. for *apricans* Szépl. (Ann. Mus. Hungar. ii, p. 181), SZÉPLIGETI, p. 26, Ann. Mus. Hungar. iii.
- I. longiseta*, p. 3, *consultus*, p. 5, *crystalulus*, p. 6, *deliberator*, p. 7, *possessor*, *annulicornis*, *annelatus*, p. 8, Cameroons, SZÉPLIGETI, Arkiv Zool. ii, No. 14; *I. trimeni*, p. 240, *spilopus*, *I. ? platynotus*, p. 241, S. Africa, CAMERON, Rec. Albany Mus. i; *I. ornaticollis*, Grahams-town, CAMERON, p. 252, t. c.; *I. elizeus*, *smenus*, Deesa, CAMERON, p. 107, Entomologist 1905; *I. xanthopsis*, p. 82, *fulvopilosus*, *greeni*, p. 83, *ernesti*, p. 84, *erythroura*, p. 85, pl. A, fig. 7, *haragamensis*, p. 86, Ceylon, CAMERON, Spolia Zeylan. iii; *I. lateritius*, Palembang, CAMERON, p. 39, Tijdschr. Ent. xlviii; *I. megapterus*, p. 23, *pilotostigmus*, p. 24, *minos*, p. 25, *soranus*, p. 26, *ezerias*, p. 27, *cyrenius*, p. 28, *zaraces*, p. 29, *thespis*, p. 30, *amyris*, p. 31, *sibanensis*, *cilles*, p. 32, *tenuilineatus*, p. 33, *paternus*, p. 34, *smenus*, p. 35, *pheres*, p. 36, *aneus* (see op. cit. xlv, p. 229), p. 37, *mobilis*, p. 38, *longitarsis*, p. 39, *nitidiusculus*, p. 40 and xlv, p. 229, *pangæus*, p. 41, *monticola*, p. 42, *quæstorius*, p. 43, *trichiothecus*, p. 44, *abgarus*, *tristator*, p. 45, *pampatensis*, p. 46, *leptogaster*, p. 47, *ornaticornis*, p. 48, Sarawak, CAMERON, J. Straits Asiat. Soc. xlii; *I. longiseta*, *bifasciatus*, p. 28, *bisignatus*, *camerunensis*, *afær*, p. 29, *pulchricaudis*, *cristatus*, p. 30, *scoparius*, *speciosissimus*, *trifasciatus*, p. 31, *perspicax*, *longicornis*, p. 32, *australensis*, *semirufus*, *ruficeps*, p. 33, *crenulatus*, p. 34, *micans*, *bipartitus*, p. 35, Australia, *palpalis*, New Guinea, p. 34, *genalis*, Bismarck Arch., *pretiosus*, Australia, p. 36, SZÉPLIGETI, Ann. Mus. Hungar. iii; *I. mamivacensis*, p. 380, *jutahaensis*, p. 381, *trilivii*, *schrottkyii*, *javaryensis*, p. 382, *harperi*, *watertoni*, p. 383, S. America, *mathevi*, *occidentalis*, p. 384, Mexico, CAMERON, Tr. Amer. ent. Soc. xxxi; *I. tornowii*, Tucumán, BRÉTHES, p. 334, An. Mus. Buenos Aires (3) iv : n. spp.
- Kareba* n. g. *flavipes*, Mexico, p. 50, *testacea*, Guatemala, p. 51, n. spp., CAMERON, Invert. pacif. i.
- Lathrolestus dilatatus* (Thoms. in coll.), Sweden, NORDENSTRÖM, p. 207, Ent. Tidskr. xxvi, n. sp.
- Lissobracon* n. g. *Braconinae*, *forticornis* n. sp., Sarawak, CAMERON, p. 103, J. Straits Asiat. Soc. xlv.
- Mesostoma* n. g. p. 42, *testaceipes* n. sp., Java, p. 43, CAMERON, Tijdschr. Ent. xlviii.
- Meteorus trilineatus*, Grahams-town, CAMERON, p. 342, Rec. Albany Mus. i; *M. brownii*, Manila, ASHMEAD, p. 968, P. U. S. Mus. xxviii; *M. bicolor*, N. S. Wales, SZÉPLIGETI, p. 53, Ann. Mus. Hungar. iii : n. spp.
- Microbracon luteiceps*, Manila, ASHMEAD, p. 412, P. U. S. Mus. xxix, n. sp.
- Microdus greeni*, Ceylon, CAMERON, p. 79, Spolia Zeylan. iii; *M. matangensis*, Matang, CAMERON, p. 115, J. Straits Asiat. Soc. xlv; *M. pedunculatus*, N. S. Wales, SZÉPLIGETI, p. 51, Ann. Mus. Hungar. iii; *M. trochanteratus*, Nicaragua, Cameron, p. 50, Invert. pacif. i : n. spp.
- Microgaster petiolaris*, p. 48, *tegularis*, p. 49, N. S. Wales, SZÉPLIGETI, Ann.

- Mus. Hungar. iii; *M. carinicornis*, Ceylon, CAMERON, p. 81, Spolia Zeylan. iii.
- Microplitis philippinensis*, habits, BROWN, p. 357, Canad. Ent. 1905.
- Mimagathis* n. g. *Mimagathidinae* subfam. n., *ashmeadi*, p. 450, *peruana*, *inka*, p. 451, n. spp., S. America, ENDERLEIN, Zool. Anz. xxviii.
- Neotrimorus? luteus*, Borneo, CAMERON, p. 161, Ann. Nat. Hist. (7) xvi, n. sp.
- Opius albimanus*, N. S. Wales, SZÉPLIGETI, p. 54, Ann. Mus. Hungar. iii; *O. forticornis*, *iridipennis*, Nicaragua, CAMERON, p. 51, Invert. pacif. i : n. spp.
- Paraspinaria* n. g. *Rhogadinae pilosa* n. sp., Ceylon, CAMERON, p. 88, pl. A, fig. 9, Spolia Zeylan. iii.
- Phenocarpa? testaceipes*, Cape G. H., CAMERON, p. 343, Zeitschr. Hym. Dipt. v, n. sp.
- Phanerotoma hendecasisella*, Ceylon, CAMERON, p. 80, Spolia Zeylan. iii; *P. albiscapa*, Manila, ASHMEAD, p. 969, P. U. S. Mus. xviii; *P. nigroscutis*, Nicaragua, CAMERON, p. 49, Invert. pacif. i : n. spp.
- Philomacroplea* n. g. *Braconinae*, *basimacula* n. sp., Ceylon, CAMERON, p. 88, Spolia Zeylan. iii.
- Plaxopsis* n. g. *Braconinae*, *sjustedti* n. sp., Cameroons, SZÉPLIGETI, p. 1, Arkiv Zool. ii, No. 14.
- Pseudapanteles agilis*, Manila, ASHMEAD, p. 969, P. U. S. Mus. xxviii, n. sp.
- Pseudospinaria* n. g. for *Spin. attenuata* Westw., ENDERLEIN, p. 229, Stettin Ent. Zeit. lxvi.
- Rhacosphathius* n. g. near *Spathius*, *striolatus* n. sp., Ceylon, CAMERON, p. 86, Spolia Zeylan. iii.
- Rhamnura* n. g. near *Iphiaulax*, *filicauda*, p. 195, *crinicauda*, *capillicauda*, p. 196, *seticauda*, p. 197, *tenuicornis*, p. 198, n. spp., W. Africa, ENDERLEIN, Zool. Anz. xxiv.
- Rhogas capensis*, S. Africa, CAMERON, p. 243, Rec. Albany Mus. i; *R. melanosoma*, Manila, ASHMEAD, p. 970, P. U. S. Mus. xxviii; *R. oculator*, Celebes, SZÉPLIGETI, p. 43, Ann. Mus. Hungar. iii; *R. atzecus*, Mexico, CAMERON, p. 385, Tr. Amer. ent. Soc. xxxi : n. spp.
- Rhyssalus unicolor*, Manila, ASHMEAD, p. 970, P. U. S. Mus. xxviii, n. sp.
- Rhyssosigalphus* n. g. *Sigalphinae*, *R. rugosus* n. sp., Mexico, CAMERON, p. 260, Tr. Amer. ent. Soc. xxx.
- Sigalphus tripartitus*, Sydney, SZÉPLIGETI, p. 43, Ann. Mus. Hungar. iii, n. sp.
- Spathius fuscipennis*, Manila, ASHMEAD, p. 119, P. U. S. Mus. xxix; *S. antennalis*, p. 40, *albiventris*, *varipes*, p. 41, *fulvus*, p. 42, New Guinea, SZÉPLIGETI, Ann. Mus. Hungar. iii : n. spp.
- Spinaria curvispina* varr. n. *nigricanda*, *udei*, ENDERLEIN, p. 232, Stettin Ent. Zeit. lxvi.
- S. philippinensis*, p. 230, *luzonensis*, p. 231, Philippines, ENDERLEIN, t. c. n. spp.
- Stantonia conspurcata*, Siam, p. 453, *kriegeri*, Columbia, p. 454, ENDERLEIN, Zool. Anz. xxviii, n. spp.
- Trichobracon* n. g. near *Spinaria*, p. 104, *pilosus* n. sp., Borneo, p. 105, CAMERON, J. Straits Asiat. Soc. xlv; *T.*, characters of Bornean, CAMERON, p. 161, Ann. Nat. Hist. (7) xvi.
- Tropobracon* n. g. *luteus* n. sp., Ceylon, CAMERON, p. 91, Spolia Zeylan. iii.
- Troporhogas* n. g. p. 92, *spilonotus*, *albipes*, p. 93, *maculipennis*, pl. A, fig. 5, *tricolor*, pl. A, fig. 8, p. 94, *ruficeps*, *lateralis*, p. 95, *trimaculata*, p. 96, n. spp., Ceylon, CAMERON, t. c.
- Urogaster albinervis*, Mexico, CAMERON, p. 261, Tr. Amer. ent. Soc. xxx, n. sp.

## EVANIIDÆ and ROPRONIIDÆ.

[Cf. BRADLEY (166, 169), CAMERON (240, 247, 261, 267, 270), ENDERLEIN (502), KIEFFER (847).]

Classification and table of genera, ENDERLEIN, pp. 699, 700, Zool. Anz. xxviii.

Genera of *Evaniidæ*, BRADLEY, p. 26, Zeitschr. Hym. Dipt. v.

Corrections orthographical and taxonomic, BRADLEY, pp. 63, 64, Canad. Ent. 1905.

*Brachygaster magnus*, p. 712, *reticulifer*, *fraternus*, p. 713, Peru, ENDERLEIN, Zool. Anz. xxviii, n. spp.

*Deraidontus violaceus*, Washington, BRADLEY, p. 26, Zeitschr. Hym. Dipt. v, n. sp.

*Evania alboannulata* ♂, p. 708, var. n. *tricariculata*, p. 709, *orientalis* ♂, p. 709, ENDERLEIN, Zool. Anz. xxviii.

*E. schonlandi*, S. Africa, CAMERON, p. 243, Rec. Albany Mus. i; *E. interstitialis*, p. 74, *peradeniyæ*, p. 75, Ceylon, CAMERON, Spolia Zeylan. iii; *E. nyassica*, E. Africa, p. 702, *kriegeriana*, Borneo, p. 703, *soloæ*, Burma, p. 704, *sumatrensis*, p. 706, *micholitzi*, p. 707, Sumatra, *miniacea*, Peru, p. 710, ENDERLEIN, Zool. Anz. xxviii; *E. rubra*, Borneo, CAMERON, p. 100, J. Straits Asiat. Soc. xlv : n. spp.

*Evaniella* n. g. type *unicolor* Say, BRADLEY, p. 64, Canad. Ent. 1905.

*Evaniellus* n. g. pp. 701 & 714, *peruanus*, p. 714, *gracilis*, Peru, *chalcidipennis*, Bolivia, p. 715, ENDERLEIN, Zool. Anz. xxviii, n. spp.

*Evaniscus rufithorax*, Peru, ENDERLEIN, p. 711, t. c. n. sp.

*Gasteruption lisocephalus*, Cape Colony, CAMERON, p. 227, Entomologist 1905; *G. tricoloratum*, p. 76, *ceylonicum*, p. 77, Ceylon, CAMERON, Spolia Zeylan. iii; *G. rufo-maculatum*, Borneo, CAMERON, p. 99, J. Straits Asiat. Soc. xlv; *G. nevadense*, Nevada, *pyrrhosternum*, p. 41, *rubrofasciatum*, p. 42, California, KIEFFER, Invert. pacif. i : n. spp.

*Pristaulacus erythrocephalus*, Borneo, CAMERON, p. 159, Ann. Nat. Hist. (7) xvi; *P. erythrocephalus*, Borneo, CAMERON, p. 98, J. Straits Asiat. Soc. xlv : n. spp.

*Pseudevania* n. g., type *E. marginata*, BRADLEY, p. 64, Canad. Ent. 1905.

*Ropronia*, a distinct family *Roproniidae*, BRADLEY, p. 16, Ent. News Philad. xvi.

*R. ashmeadi*, New York, id. p. 17, t. c. n. sp.

*Semæodogaster* n. n. for *Brachygaster* Steph., BRADLEY, p. 63, Canad. Ent. 1905.

## STEPHANIDÆ and MEGALYRIDÆ.

*Stephanidæ*, Genera and classification, ENDERLEIN, pp. 473-477, Zool. Anz. xxviii.

*Diastephanus* n. g. *szepligetii* n. sp., Sierra Leone, ENDERLEIN, p. 476, Zool. Anz. xxviii.

*Stephanus rufo-ornatus*, Queensland, CAMERON, p. 45, Tijdschr. Ent. xlviii, n. sp.

*Megalyra erythropus*, Queensland, CAMERON, p. 46, t. c.; *M. szepligetii*, S. Australia, BRADLEY, p. 396, Tr. ent. Soc. London 1905 : n. spp.

*Parastephanus* n. g. for *macrurus* Schletter. etc., ENDERLEIN, p. 475, Zool. Anz. xxviii.

## TRIGONALIDÆ,

[Cf. ENDERLEIN (511), SCHULZ (1359).]

Classification of *Trigonalidæ*, with 3 subfamilies, SCHULZ, pp. 102-104, Hymen. Studien.*Discenea* n. g. for *Trigonalys natalensis*, ENDERLEIN, p. 199, Zool. Anz. xxix.*Liaba cisandina*, Brazil, SCHULZ, p. 93, Hymen. Studien. n. sp.*Orthogonalys* n. g. p. 76, *boliviana* n. sp., Bolivia, p. 81, SCHULZ, t. c.*Platygonalys* n. g. p. 86, *phylogenetica* n. sp., Bolivia, p. 61, SCHULZ, t. c.*Trigonalys hahni*, localities, distribution, and characters, SCHULZ, pp. 70-76, t. c.; *T. hahni* var. n. *phaognatha*, ENDERLEIN, p. 200, Zool. Anz. xxix.

## CHALCIDIDÆ.

[Cf. ASHMEAD (31, 33, 34), BRÈTHES (187), CAMERON (254, 255, 257, 259, 262, 264, 268, 269, 270), DE STEFANI PEREZ (406, 407), FROGGATT (612), GIRAULT (663), KIEFFER (846), KÜNCKEL (905), MARCHAL (1006), MAYR (1017), MEUNIER (1036, 1040), SILVESTRI (1393), WEBSTER (1593).]

Parasites from Cecidomyiid galls, DE STEFANI PEREZ, Marcellia iv, pp. 113, 114.

Development of *Litomastix truncatellus*, history of polar bodies, two forms of larvæ, SILVESTRI, Rend. Acc. Lincei xiv, ii, pp. 534-542.Summary of Marchal's account, of last year, of *Encyrtus fuscicollis*, CLÈVES, pp. 161-164, cuts, Naturaliste 1905.*Antrocephalus maculipennis, rufipes*, Borneo, CAMERON, p. 95, J. Straits Asiat. Soc. xliv, n. spp.*Aphyus albiclavatus*, Manila, ASHMEAD, p. 404, P. U. S. Mus. xxix, n. sp.*Apterencyrtus* n. g. *Mirini, pulchricornis* n. sp., Manila, ASHMEAD, p. 5, Canad. Ent. 1905.*Asparagobius* n. g. *Plerilampides*, p. 549, *braunsi* n. sp., S. Africa, p. 553, pl. ii, fig. 1, MAYR, Verh. Ges. Wien 1905.*Brasema ruficollis*, California, CAMERON, p. 125, Invert. pacif. i; *B. maculipennis, maculicornis*, Centr. America, CAMERON, p. 65, t. c. : n. spp.*Cenacis grandiclavata*, host, FRIEDRICH, p. 494, Zeitschr. Insbiol. i.*Centrochalcis* n. g. *octodentata* n. sp., Transvaal, CAMERON, p. 230, Zeitschr. Hym. Dipt. v.*Chalcis spilopus, rotundata*, S. Africa, CAMERON, p. 231, t. c.; *C. capensis*, p. 311, *pymi*, p. 312, S. Africa, CAMERON, Rec. Albany Mus. i;*C. bitobata*, p. 283, *marginata*, p. 284, India, CAMERON, Zeitschr. Hym. Dipt. v; *C. borneanus*, Borneo, CAMERON, p. 52, J. Straits Asiat. Soc. xlii; *C. banksi*, Manila, ASHMEAD, p. 964, P. U. S. Mus. xxviii: n. spp.*Cœlocyba viridilineata*, Australia, FROGGATT, p. 223, Agric. Gaz. N. S. W. xvi, n. sp.*Decatoma*, tabulation of species, and notices of host-galls, MAYR, pp. 530-549, Verh. Ges. Wien 1905.*D. plagiotrochi*, Montpellier, p. 535, *scorzonerae*, Vienna, p. 540, MAYR, t. c. n. spp.*Dirhinus auratus*, Manila, ASHMEAD, p. 402, P. U. S. Mus. xxix, n. sp.*Eudecatoma fulva*, Nicaragua, CAMERON, p. 62, Invert. pacif. i, n. sp.*Eupelmus tenuicornis*, p. 192, *carinatus*, p. 194, Bengal, KIEFFER, Ann. Soc. Bruxelles xxix, n. spp.*Eurycranium saissetiæ*, Manila, ASHMEAD, p. 405, P. U. S. Mus. xxix, n. sp.*Eurytoma striatula*, Cape Colony, CAMERON, p. 345, Zeitschr. Hym.

- Dipt. v ; *E. banksi, albotibialis*, Manila, ASHMEAD, p. 965, P. U. S. Mus. xxviii ; *E. sulcata*, Bengal, KIEFFER, p. 192, Ann. Soc. Bruxelles xxix ; *E. erythroaspis*, p. 62, *xanthopus, pilicornis*, p. 63, Centr. America, CAMERON, Invert. pacif. i : **n. spp.**
- Euxysoma testaceitarsis*, Cape Colony, CAMERON, p. 344, Zeitschr. Hym. Dipt. v, **n. sp.**
- Hyperteles longicauda*, Bengal, KIEFFER, p. 195, Ann. Soc. Bruxelles xxix, **n. spp.**
- Hockeria melanaria*, Grahamstown, CAMERON, p. 314, Rec. Albany Mus. i, **n. sp.**
- Holcsepelmus n. g.* near *Brasema*, p. 316, *bifasciatus n. sp.*, Cape Colony, p. 317, CAMERON, t. c.
- Howardiella tarsata*, Manila, ASHMEAD, p. 403, P. U. S. Mus. xxix, **n. sp.**
- Isozona* ; in timothy, and parasite, WEBSTER, pp. 114-116, P. ent. Soc. Washington vii.
- Lirata iridicolor*, p. 60, *fulvicornis, sulcifacies, nigriventris*, p. 61, Nicaragua, CAMERON, Invert. pacif. i, **n. spp.**
- Macropelmus pulchriceps*, Nicaragua, CAMERON, t. c. **n. sp.**
- Megacolus fulvipennis*, p. 96, *rufitarsis, striolatus*, p. 97, Sarawak, CAMERON, J. Straits Asiat. Soc. xlv, **n. spp.**
- Megastigmus immaculatus*, Manila, ASHMEAD, p. 401, P. U. S. Mus. xxix ; *M. brachychitoni*, Australia, FROGGATT, p. 233, fig. 4, Agric. Gaz. N. S. W. xvi : *M. fulvus*, Nicaragua, CAMERON, p. 58, Invert. pacif. i : **n. spp.**
- Mesidia minuta*, Zanzibar copal, MEUNIER, p. 214, Rev. Sci. Bourbonnais 1905, **n. sp.**
- Microcetus n. g. formidolosus n. sp.*, Madagascar in copal, MEUNIER, p. 93, Miscell. ent. xiii.
- Monodontomerus phormio*, the parasitic habits, KÜNCKEL, p. 227, Bull. Mus. Paris 1905.
- Nesolynx n. g. Elachertini, flavipes n. sp.*, Manila, ASHMEAD, p. 966, P. U. S. Mus. xxviii ; *N. flavipes*, habits, BROWN, p. 358, Canad. Ent. 1905.
- Oencyrtus papilionis*, Philippines, ASHMEAD, p. 4, Canad. Ent. 1905, **n. sp.** ; *O. papilionis*, habits, BROWN, p. 359, t. c.
- Oncocalcis deesensis*, India, CAMERON, p. 285, Zeitschr. Hym. Dipt. v, **n. sp.**
- Ormocerus pallidipes*, Manila, ASHMEAD, p. 402, P. U. S. Mus. xxix, **n. sp.**
- Paracentrobia flavipes*, N. America, from eggs of *Anthonomus*, GIRAULT, p. 287, Ent. News Philad. xvi, **n. sp.**
- Parasaphes townsendi*, Manila, ASHMEAD, p. 404, P. U. S. Mus. xxix, **n. sp.**
- Peritampus* ; tabulation and notes, MAYR, pp. 562-569, Verh. Ges. Wien 1905.
- P. tristis*, Germany, MAYR, p. 566, t. c. ; *P. reticulatus, leviceps*, p. 59, *albitarsis*, p. 60, Nicaragua, CAMERON, Invert. pacif. i : **n. sp.**
- Philomides flavicollis*, Gibraltar, CAMERON, p. 150, Zeitschr. Hym. Dipt. v, **n. sp.**
- Philotrypesis fîcicola*, Philippines, ASHMEAD, p. 400, P. U. S. Mus. xxix, **n. sp.**
- Phasgonophora rufo-ornata*, Grahamstown, CAMERON, p. 310, Rec. Albany Mus. i, **n. sp.**
- Plagiosmicra n. g. ashmeadi n. sp.*, Nicaragua, CAMERON, p. 56, Invert. pacif. i.
- Platyhalcis n. g.* near *Halticella, flavicollis n. sp.*, Nicaragua, CAMERON, p. 57, t. c.
- Plutothrix minutissima*, Zanzibar copal, MEUNIER, p. 215, pl. 1, fig. 13, Rev. Sci. Bourbonnais 1905, **n. sp.**

- Rekabia* n. g. near *Pleurotropis*, p. 65, *testaceipes* n. sp., Nicaragua, p. 66, CAMERON, Invert. pacif. i.
- Sericops* referred to *Eurytomides*, characters, MAYR, p. 569, Verh. Ges. Wien 1905.
- Smicra bergi* to *Spilochalchis*, BRÈTHES, p. 23, An. Mus. Buenos Aires (3) iv.
- Spalangia*; table of European, KIEFFER, p. 2, Berlin. ent. Zeitschr. l.
- S. formicaria*, Luxemburg, KIEFFER, p. 1, t. c. n. sp.
- Spilochalchis pilosoma*, p. 53, *managuaensis*, *denticoxis*, p. 54, *segovia*, *belti*, *marcosensis*, p. 55, Nicaragua, CAMERON, Invert. pacif. i, n. sp.
- Spilomegastigmus* n. g. near *Megastigmus*, p. 73, *ruficeps* n. sp., Ceylon, p. 74, pl. A, fig. 3, CAMERON, Spolia Zeylan. iii.
- Stomatocera sulcata*, Manila, ASHMEAD, p. 401, P. U. S. Mus. xxix, n. sp.
- Syntomaspis purpureomaculata*, Centr. America, CAMERON, p. 58, Invert. pacif. i, n. sp.
- Tanyocoryphus* n. g. near *Euchalcis*, p. 312, *sulcifrons* n. sp., Grahamstown, p. 313, CAMERON, Rec. Albany Mus. i.
- Tetrasmicra bakeriana*, Nicaragua, CAMERON, p. 56, Invert. pacif. i, n. sp.
- Tetrastichoides browni*, Manila, ASHMEAD, p. 113, P. U. S. Mus. xxix; *T. manilensis*, Philippines, ASHMEAD, p. 5, Canad. Ent. 1905: n. spp.
- Tetrastichus xanthomelæne*, nomenclature, p. 81, habits, oviposition, pp. 64-68, MARCHAL, Bull. Soc. ent. France 1905.
- T. basimacula*, p. 63, *nicaraguaensis*, p. 64, Nicaragua, CAMERON, Invert. pacif. i; *T. platensis*, Buenos Aires, BRÈTHES, p. 23, An. Mus. Buenos Aires (3) iv: n. spp.
- Torymus bakeri*, Nicaragua, p. 58, *aztecus*, Mexico, p. 59, CAMERON, Invert. pacif. i, n. spp.
- Trichilogaster* n. g. *Perilampides*, p. 555, *T. pendula* n. sp., Australia, p. 560, and *Cynips maidenti*, *longifolia* Frogg., MAUR, Verh. Ges. Wien 1905.
- Trigonomerus* sp., STEBBING, p. 429, pl. xxxviii, Indian Forest. xxxi.

## PROCTOTRYPIDÆ (incl. MYMARIDÆ and BETHYLIDÆ).

- [Cf. ASHMEAD (31, 32, 33, 34, 38), BRUES (199), CAMERON (250, 261, 263, 270, 272), COCKERELL (324), GIRAULT (662, 663, 668), KIEFFER (840-843, 846), MEUNIER (1036, 1037), PERKINS (1150).]
- The continuation of KIEFFER & MARSHALL's monograph of *Proctotrypidæ* of Europe and Algeria extends to p. 288 and pl. xii of André's Spec. Hym. Eur. vol. ix.
- KIEFFER includes *Bethylina* in *Proctotrypides*, though recognising that they are allied to *Scoliida*.
- Mymarida*, taxonomy, PERKINS, Bull. exp. Stat. Hawaii i, No. 6.
- Mymarida* in baltic amber, see p. 123, Palæontology.
- Structure and function of foot of *Dryinus* ♀, KIEFFER, pp. 6-13, Zeitschr. Insbiol. i.
- Acrepyris* n. g., type *reticulatus* Kieff., KIEFFER, p. 249, Hym. Eur. Alg. ix.
- Alaptus immaturus*, Queensland, PERKINS, p. 197, Bull. exp. Stat. Hawaii i, n. sp.
- Allobethylus* n. g. *Bethylina*, p. 247, for nondescript Papuan species, KIEFFER, Hym. Eur. Alg. ix.
- Anagrus hydrophilus*, Turkestan, ASHMEAD, p. 213, Ent. News Philad. xvi, n. sp.
- Anaphes conotracheli*, Georgia, from eggs of *Conotrachelus*, GIRAULT, p. 220, Ent. News Philad. xvi, n. sp.
- Anectadius* n. g. near *Ectadius*, *striolatus*, p. 187, *bengalensis*, p. 189, n. spp., Bengal, KIEFFER, Ann. Soc. Bruxelles xxix.

- Anopedias luzonicus*, Philippines, ASHMEAD, p. 964, P. U. S. Mus. xxviii, n. sp.
- Anteon subapterus*, Scotland, p. 138, *reticulatus*, France, p. 140, *crenulatus*, Scotland, p. 141, *thomsoni*, Sweden, p. 142, *arcuatus*, p. 144, *vicinus*, p. 145, Scotland, *marginalis*, France, p. 147, *imberbis*, Scotland, p. 149, *longiforceps*, p. 151, *carinatus*, p. 152, France, *albidicollis*, Austria, p. 157, *rubrifrons*, p. 158, *castricollis*, p. 159, *ruficollis*, p. 160, Hungary, *gaullei*, France, p. 161, *cameroni*, Scotland, p. 162, *maculipennis*, Sweden, p. 164, *gracilicollis*, p. 165, *fusiformis*, p. 166, Scotland, *punctatus*, France, p. 168, *levigatus*, Switzerland, p. 169, *mayeti*, Austria, p. 170, *rectus*, p. 171, *nigricornis*, p. 172, *scoticus*, p. 174, *triareolatus*, p. 175, *brevicollis*, *flavitaris*, p. 176, *æqualis*, p. 177, *melanocera*, p. 179, Scotland, *crassiscapus*, France, p. 180, *vitellinipes*, Scotland, p. 181, *proximus*, Hungary, p. 182, *forsteri*, Germany, p. 183, *procericornis*, Scotland, p. 184, *luteipes*, France, p. 187, *declivis*, p. 188, *pallidinervis*, p. 189, Scotland, *dolichocerus*, p. 190, *flavipes*, France, *flavinervis*, p. 192, *parvulus*, p. 193, Scotland, *tripartitus*, Trieste, *punctulatus*, France, p. 194, *nitidus*, Scotland, *albicoxis*, France, p. 195, *fuscoclavatus*, p. 196, *flicornis*, *triangularis*, p. 197, *xanthostigma*, Scotland, *sericeus*, France, p. 198, *indivisus*, p. 199, *divisus*, Scotland, *trichotomma*, Hungary, p. 200, *trivialis*, Scotland, p. 201, *dorsalis*, France, *vulgaris*, Europe, p. 202, *succineipes*, Austria and Scotland, p. 203, *giraudi*, Hungary, *minutus*, p. 204, *nigroclavatus*, Scotland, *radialis*, Hungary, p. 205, *integer*, Scotland etc., *parvicollis*, Europe, p. 206, *pyrenaicus*, France, p. 207, *curvinervis*, *fractinervis*, p. 208, *hyalinipennis*, Scotland, *fuscipennis*, Hungary, p. 209, KIEFFER, Hym. Eur. Alg. ix, n. spp.
- Anteon annulicornis*, Mexico, BRUES, p. 185, Bull. Wisconsin Soc. iii, n. sp.
- Aphanogmus formicarius*, Draufeld, KIEFFER, p. 6, Berlin. ent. Zeitschr. I, n. sp.
- Aphanomerus* n. g. *Platygasteride* but anomalous, *bicolor*, pl. xi, fig. 1, p. 201, *niger*, *rufescens*, p. 202, *pusillus*, p. 203, n. spp., Queensland, PERKINS, Bull. exp. Stat. Hawaii i.
- Aphelopus albipes*, Bitche, KIEFFER, p. 217, Hym. Eur. Alg. ix, n. sp.
- Bethylinae*, table of genera, KIEFFER, pp. 98–109, Ann. Soc. Bruxelles xxix.
- Bethylus*, recharacterised and purified, KIEFFER, pp. 128, 129, t. c.
- B. apteryx*, Hungary, p. 272, *hamatus*, Marocco, p. 276, *arcuatus*, p. 277, *gaullei*, p. 279, Tangier, *lineatus*, Italy, p. 280, KIEFFER, Hym. Eur. Alg. ix, n. spp.
- Bothriopria* n. g. *Diapriinae*, p. 134, *saussurei* n. sp., Madagascar, p. 135, KIEFFER, Ann. Soc. Bruxelles xxix.
- Camptoptera metotarsa*, N. America, GIRAULT, p. 91, Psyche xii, n. sp.
- Carina* n. g. *Belytinae*, p. 140, *nitida* n. sp., Burma, p. 141, KIEFFER, Ann. Soc. Bruxelles xxix.
- Ceraphron opacus*, Luxemburg, KIEFFER, p. 6, Berlin. ent. Zeitschr. I, n. sp.
- Ceratepyris* n. g. *Bethylinae*, p. 285, *fuscipennis* n. sp., Hungary, p. 287, KIEFFER, Hym. Eur. Alg. ix.
- Ceratobæus incertus*, Zanzibar copal, MEUNIER, p. 213, pl. 1, fig. 10, Rev. Sci. Bourbonnais 1905, n. sp.
- Chalcogonatopus* n. g. *Dryinidae*, p. 46, *gigas*, *optabilis*, *decoratus*, p. 47, Queensland, P. (*Eugonatopus* subg. n., p. 46) *pseudochromus*, Ohio, p. 48, n. spp., PERKINS, Bull. exp. Stat. Hawaii i.
- Chelogyne atriceps* to *Bocchus*, BRUES, p. 184, Bull. Wisconsin Soc. iii.
- C. ferrugineus*, p. 183, *grandis*, p. 184, N. America, BRUES, Bull. Wisconsin Soc. iii, n. spp.
- Chlorodryinus* n. g. *Dryinidae*, *pallidus* n. sp., Queensland, PERKINS, p. 57, Bull. exp. Stat. Hawaii i.



- Cænopria* n. g. *Diapriinæ*, p. 132, *fuscipennis* n. sp., Costa Rica with *Azteca*, p. 133, KIEFFER, Ann. Soc. Bruxelles xxix.
- Cryptobethylus* n. g. *Bethylinæ*, p. 242, HALIDAY & MARSHALL, spec. ? Italy, p. 259, Hym. Eur. Alg. ix.
- Diapria inconspicua*, Réunion, KIEFFER, p. 139, Ann. Soc. Bruxelles xxix ; *D. philippinensis*, Manila, ASHMEAD, p. 3, Canad. Ent. 1905 ; *D. madeiræ*, Madeira, p. 7, *clavaticapus*, *socia*, p. 8, Luxemburg, KIEFFER, Berlin. ent. Zeitschr. 1 : n. spp.
- Disepyris* n. g. *rufipes* n. sp., Malabar, KIEFFER, p. 115, Ann. Soc. Bruxelles xxix.
- Disognus obsoletus*, Connecticut, BRUES, p. 186, Bull. Soc. Wisconsin iii, n. sp.
- Digonozus* n. g. *Bethylinæ*, p. 245, for *Perisemus oregonensis*, KIEFFER, Hym. Eur. Alg. ix.
- Dryinidæ*, natural history and taxonomy, PERKINS, Bull. exp. Stat. Hawaii i, pt. 1.
- Dryinus longicollis*, Spain, p. 75, *szepligetii*, Hungary, p. 77, *dracunculus*, Spain, p. 82, *draco*, Andalusia, p. 83, KIEFFER & MARSHALL, Hym. Eur. Alg. ix ; *D. browni*, Manila, ASHMEAD, p. 109, P. U. S. Mus. xxix : n. spp.
- Ecthodolpax nigricollis*, *bifusciatus*, Queensland, PERKINS, p. 49, Bull. exp. Stat. Hawaii i, n. spp.
- Epigonatopus* n. g. *Dryinidæ*, *solitarius* n. sp., Queensland, PERKINS, p. 45, t. c.
- Epyris*, synonymy, generic repartition of its species, KIEFFER, p. 111, Ann. Soc. Bruxelles xxix.
- E.* ? *foveatus*, Ceylon, CAMERON, p. 71, *Spolia Zeylan.* iii ; *E. analis*, India, p. 111, *lutescens*, Australia, *alluaudi*, Madagascar, p. 113, KIEFFER, Ann. Soc. Bruxelles xxix ; *E. tagala*, Manila, ASHMEAD, p. 109, P. U. S. Mus. xxix ; *E. varidens*, p. 262, *mexicanus*, p. 263, Mexico, CAMERON, Tr. Amer. ent. Soc. xxx : n. spp.
- Eugonatopus* subg. n. of *Chalcozonatopus* q. v.
- Eukoebelèia* n. g. *Dryinidæ*, *mirabilis* n. sp., Ohio, PERKINS, p. 59, Bull. exp. Stat. Hawaii i.
- Galesus magrettii*, Burma, KIEFFER, p. 138, Ann. Soc. Bruxelles xxix ; *G. manilæ*, p. 397, *luzonicus*, p. 398, Philippines, ASHMEAD, P. U. S. Mus. xxix ; *G. viereckii*, Connecticut, BRUES, p. 187, Bull. Wisconsin Soc. iii : n. spp.
- Gonatocerus cingulatus*, Queensland, PERKINS, p. 196, Bull. exp. Stat. Hawaii i ; *G. anthonomi*, N. America, GIRAULT, p. 288, Ent. News Philad. xvi : n. spp.
- Gonatopus striatus*, Austria, p. 92, *albolineatus*, Algeria, p. 95, *dryini-formis*, Spain, p. 100, *multicolor*, Sicily, p. 102, *mayeti*, Austria, p. 103, *polychromus*, Cette, p. 105, *scaphanes*, Spain, p. 107, *glaber*, p. 111, *filicornis*, p. 112, Mont-de-Marsan, *myrmicophilus*, Luxemburg, p. 113, *gracilis*, France, p. 115, *distinguendus*, England, p. 116, *luteicornis*, Trieste, p. 117, *hispanicus*, Spain, p. 118, *conjunctus*, Sweden, p. 119, *marshalli*, England, p. 121, *trinodis*, Germany, p. 122, KIEFFER & MARSHALL, Hym. Eur. Alg. ix ; *G. australiæ*, Queensland, PERKINS, p. 41, Bull. exp. Stat. Hawaii i : n. spp.
- Gonozus maurus*, Algeria, MARSHALL, p. 266, Hym. Eur. Alg. ix ; *G. rostratus*, Madagascar, KIEFFER, p. 127, Ann. Soc. Bruxelles xxix : n. spp.
- Hadronotus flavipes*, Manila, ASHMEAD, p. 399, P. U. S. Mus. xxix, n. sp.
- Haplogonatopus* n. g. *Dryinidæ*, *apicalis*, p. 39, *moestus*, Queensland, *americanus*, Ohio, p. 40, n. spp., PERKINS, Bull. exp. Stat. Hawaii i.
- Holcepyris* n. g. *Bethylinæ*, p. 121, *andrei* n. sp., India, p. 122, KIEFFER, Ann. Soc. Bruxelles xxix.

- Hoploteleia pacifica*, Philippines, ASHMEAD, p. 112, P. U. S. Mus. xxix, n. sp.
- Labeo albipennis*, p. 222, *conjunctus*, p. 223, *albosignatus*, *testaceipes*, p. 224, Hungary, KIEFFER, Hym. Eur. Alg. ix, n. spp.
- Lepidoscelio* n. g. *Scelioninae*, p. 129, *fuscipennis* n. sp., Madagascar, p. 130, KIEFFER, Ann. Soc. Bruxelles xxix.
- Lonchodryinus* n. g. p. 95, *tricolor* n. sp., Brazil, p. 96, KIEFFER, t. c.
- Loxotropa modesta*, Pennsylvania, BRUES, p. 188, Bull. Wisconsin Soc. iii, n. sp.
- Macroteleia manilensis*, Philippines, ASHMEAD, p. 963, P. U. S. Mus. xxviii; *M. rufipes*, Nicaragua, *testaceinerva*, Panama, CAMERON, p. 52, Invert. pacif. i : n. spp.
- Megaspilus clavatipennis*, p. 4, *dimorphus*, *lasiophilus*, p. 5, Luxemburg, KIEFFER, Berlin. ent. Zeitschr. I, n. spp.
- Mystrocnemis* n. g. p. 109, *Bethylinae*, *erythrothorax*, Rangoon, n. sp., p. 110, KIEFFER, Ann. Soc. Bruxelles xxix.
- Neochelogyne* n. g. *Dryinidae*, p. 60, *typicus*, *leiosomus*, p. 62, *dimidiatus*, *nigricornis*, p. 63, *destructor*, *cognatus*, p. 64, *parvulus*, *coriaceus*, *pallidicornis*, p. 65, n. spp., Queensland, PERKINS, Bull. exp. Stat. Hawaii i.
- Neodryinus* n. g. *Dryinidae*, p. 50, *koebelei*, p. 51, *nelsoni*, *raptor*, with var. *umbratus*, p. 52, n. spp., Queensland, PERKINS, t. c.
- Neogonatopus* n. g. *Dryinidae*, p. 42, *ombrodes*, *erythrodes*, *obscurissimus*, p. 43, *brunnescens*, Ohio, *pulcherrimus*, *dubiosus*, Queensland, p. 44, *pallidiceps*, California, p. 45, n. spp., PERKINS, t. c.
- Neurocypris* n. g. p. 251, for a nondescript Erythrean species, KIEFFER, p. 251, Hym. Eur. Alg. ix.
- Neuropria inquilina*, Luxemburg, KIEFFER, p. 9, Berlin. ent. Zeitschr. I, n. sp.
- Opisthacantha nigriclavata*, Manila, ASHMEAD, p. 399, P. U. S. Mus. xxix, n. sp.
- Ooctonus vulgatus*, DEL GUERCIO, pp. 299, 300, Redia ii.
- O. australensis*, Queensland, PERKINS, p. 195, Bull. exp. Stat. Hawaii i, n. sp.
- Pachygonatopus* n. g. *Dryinidae*, p. 45, *melanias* n. sp., Queensland, p. 46, PERKINS, t. c.
- Paradryinus* n. g. *Dryinidae*, p. 53, *koebelei*, p. 54, *venator*, *threnodes*, *gigas*, p. 55, *leptias*, *varipes*, p. 56, n. spp., Queensland, PERKINS, t. c.
- Paragonatopus* n. g. p. 40, *nigricans* n. sp., Queensland, p. 41, PERKINS, t. c.
- Paralaelius* n. n. for *Bethylus* Ashm. nec Först., KIEFFER, p. 129, Ann. Soc. Bruxelles xxix.
- Paralaelius* n. g. *Bethylinae*, *firmipennis* n. sp., Cape Colony, CAMERON, p. 254, Rec. Albany Mus. i.
- Paranteon* n. g. *myrmecophilus* n. sp., Queensland, PERKINS, p. 67, Bull. exp. Stat. Hawaii i.
- Parasierola gallicola*, Italy, with var. *punctata*, KIEFFER, p. 261, Hym. Eur. Alg. ix, n. sp.
- Planepyris* n. g. for a nondescript African sp., KIEFFER, p. 249, t. c.
- Plastanoxus* n. g. *Bethylinae*, p. 244, for some N. American *Anoxus*, KIEFFER, p. 244, t. c.
- Platyaster tibialis*, Bengal, KIEFFER, p. 191, Ann. Soc. Bruxelles xxix, n. sp.
- Pleuropria* n. g. *Diapriinae*, p. 136, *maculipennis* n. sp., Burma, p. 137, KIEFFER, t. c.
- Polynema bergi*, Turkestan, ASHMEAD, p. 214, Ent. News Philad. xvi; *P. picipes*, N. America, GIRAULT, p. 91, Psyche xii; *P. reduvioli*, Hawaiian islands, PERKINS, p. 196, Bull. exp. Stat. Hawaii i : n. spp.

- Pristepyris* n. g. *Bethylinæ*, p. 118, *rugicollis*, Malacca, p. 119, *levicollis*, Madagascar, p. 120, n. spp., KIEFFER, Ann. Soc. Bruxelles xxix.
- Pristobethylus* n. g. for *Epyris serricollis* Westw., KIEFFER, p. 248, Hym. Eur. Alg. ix.
- Pristocera*, ♀, KIEFFER, p. 124, Ann. Soc. Bruxelles xxix.
- P. nigrita*, Congo, p. 125, *rufa*, India, p. 126, KIEFFER, t. c. n. spp.
- Procalyzoa* n. g. for *Calyzoa westwoodi* Cam., KIEFFER, p. 248, Hym. Eur. Alg. ix.
- Proctotrypes coloradicus*, Colorado, COCKERELL, p. 204, Ann. Nat. Hist. (7) xv, n. sp.; *P. coloradicus* and *pallidus* compared, COCKERELL, p. 362, Canad. Ent. 1905.
- Prolaelius* n. g. (= *Paralaelius* Cam. nec Kieff.), KIEFFER, p. 251, Hym. Eur. Alg. ix.
- Promesitius* n. g. *Bethylinæ*, *flavicollis* n. sp., Australia, KIEFFER, p. 123, Ann. Soc. Bruxelles xxix.
- Propristocera* n. g. *Bethylinæ*, p. 247, for East Indian species, KIEFFER, Hym. Eur. Alg. ix.
- Prosclerogibba* n. g. *Bethylinæ*, p. 241, KIEFFER, t. c.
- Prosanteon* n. g. *Dryinidæ*, *chelognoides* n. sp., Queensland, PERKINS, p. 66, Bull. exp. Stat. Hawaii i.
- Prosierolu* n. g. *Bethylinæ*, p. 243, for *Epyris nasalis* Westw., KIEFFER, p. 243, Hym. Eur. Alg. ix.
- Pseudisobrachium* n. g. = (*Isobrachium* Ashm. nec Först.), KIEFFER, p. 124, Ann. Soc. Bruxelles xxix.
- Pseudogonatopus* n. g. *Dryinidæ*, p. 34, *kurandæ*, p. 35, *juncetorum*, *palustris*, *saccharetorum*, p. 36, *dichromus*, Queensland, *americanus*, Ohio, p. 37, *opacus*, *stenocrani*, with var. *dubiosus*, Queensland, p. 38, n. spp., PERKINS, Bull. exp. Stat. Hawaii i.
- Roena* n. g. *Scelioni*, p. 225, *cariniscutis* n. sp., S. Africa, p. 226, CAMERON, Rec. Albany Mus. i.
- Rhacoteleia* n. g. *Bethylinæ*, p. 72, *pilosa* n. sp., Ceylon, p. 73, pl. A, fig. 2, CAMERON, Spolia Zeylan. iii.
- Scelio afer*, (Gambia, KIEFFER, p. 130, Ann. Soc. Bruxelles xxix; *S. philippinensis*, Manila, ASHMEAD, p. 963, P. U. S. Mus. xxviii: n. spp.
- Sierolomorpha*, female, BRUES, p. 186, Bull. Wisconsin Soc. iii.
- Thaumatomyrus* n. g. *Dryinidæ*, *koebeli* n. sp., Queensland, PERKINS, p. 58, Bull. exp. Stat. Hawaii i.
- Triglenus* n. g. without species, MARSHALL, p. 250, Hym. Eur. Alg. ix.
- Trissepypis* n. g. p. 116, *ruficeps* n. sp., Congo, p. 117, KIEFFER, Ann. Soc. Bruxelles xxix.
- Tropidopria hospes*, p. 6, *sociata*, p. 7, Luxemburg, KIEFFER, Berlin. ent. Zeitschr. l, n. spp.
- Zelotypa xanthopus*, Mexico, CAMERON, p. 262, Tr. Amer. ent. Soc. xxx, n. sp.

## CYNIPIDÆ.

- [Cf. ASHMEAD (32-34), CAMERON (239, 251), GRAEFFE (685), KIEFFER (683, 847).]
- Andricus radialis*, gall, p. 56, *A. spp.?* galls, pp. 57, 58, TROTTER, Marcellia iv.
- Callirhytis maculipennis*, p. 42, *eriphora*, *clarimontis*, p. 43, *bakeri*, *polythyra*, p. 44, N. America, KIEFFER, Invert. pacif. i, n. spp.
- Cynips theophrasteus* to *Andricus*, MAYR, p. 51, Marcellia iv; *C. maideni*, *longifolia*, cf. *Trichilogaster*, in *Chalcididæ*.
- C. teryestensis*, Trieste, KIEFFER, p. 370, *moreæ*, Morea, GRAEFFE, p. 372, Verh. Ges. Wien 1905, n. spp.

- Heptamerocera azteca*, Mexico, CAMERON, p. 387, Tr. Amer. ent. Soc. xxxi, n. sp.  
*Hexamerocera kiefferi*, Manila, ASHMEAD, p. 113, P. U. S. Mus. xxix; *H. philippinensis*, Manila, ASHMEAD, p. 4, Canad. Ent. 1905: n. spp.  
*Kleidotoma philippinensis*, Manila, ASHMEAD, p. 399, P. U. S. Mus. xxix, n. sp.  
*Mesocynips insignis* ♂, CAMERON, p. 94, J. Straits Asiat. Soc. xlv, n. sp.  
*Pentamerocera pacifica*, Manila, ASHMEAD, p. 112, P. U. S. Mus. xxix, n. sp.  
*Pycnostigmus* n. g. *Pycnostigmusinae* subfam. n., p. 20, *rostratus* n. sp., Cape Town, p. 21, CAMERON, Ann. Nat. Hist. (7) xvi.  
*Symergus flavus*, N. America, KIEFFER, p. 45, Invert. pacif. i, n. sp.  
*Timaspis papaveris*, France, KIEFFER, p. 200, Feuille Natural. xxxv, n. sp.

## SESSILIVENTRES.

## SIRICIDÆ, CEPHIDÆ, ORYSSIDÆ, LYDIDÆ.

[Cf. BRADLEY (168), CAMERON (267, 270), KONOW (880, 881).]

KONOW, in his *Chalastogastra*, deals with *Siricidæ* and commences *Tenthredinidæ*, Zeitschr. Hym. Dipt. v.

The genera of *Siricidæ* with lists of the species, KONOW, Gen. ins. fasc. xxviii, 14 pp., 1 pl.

*Lydidæ*, incl. *Cephidæ*, characters of genera and lists of their species, KONOW, op. cit. fasc. xxvii, 27 pp., 1 pl.

*Cænocephus aldrichi, konowi*, Idaho, BRADLEY, p. 363, Canad. Ent. 1905, n. spp.

*Stirocorsia cariniceps*, Sarawak, CAMERON, p. 93, J. Straits Asiat. Soc. xlv, n. sp.

*Xiphydria striatifrons*, Ceylon, CAMERON, p. 70, pl. A, f. 1, Spolia Zeylan. iii, n. sp.

## TENTHREDINIDÆ.

[Cf. ASHMEAD (31), KONOW (882-887), NIELSEN (1101), VAN ROSSUM (1296), SCHUSTER (1362), TULLGREN (1506).]

The genera of *Tenthredinidæ* with lists of species, KONOW, in Wytzman Gen. ins. fasc. xxix, 176 pp., 3 pls.

Some cases of parthenogenesis, VAN ROSSUM (1296).

*Allantus merceti*, Escorial, KONOW, p. 156, Zeitschr. Hym. Dipt. v; *A. brevivertex*, Turkestan, KONOW, p. 165, t. c.: n. spp.

*Amasis dusmeti*, Spain, p. 242, *frontina*, Asia Minor, p. 243, KONOW, t. c. n. spp.

*Arge modesta*, Turkestan, KONOW, p. 157, t. c. n. sp.

*Blennocampa subcana*, larva, TULLGREN, p. 252, Ent. Tidskr. xxvi.

*Camptoprium atriceps*, Brazil, KONOW, p. 162, Zeitschr. Hym. Dipt. v, n. sp.

*Cimbex fagi* and *capræ* distinguished, p. 151, *pallens* Lep., *sibirica* Kirby, notes, *carinulata* (= *nomurae* Marlatt), *taucushiensis* n. n. for *taucushi* Marl., *yorofuensis* n. n. for *yorofui* Marl., p. 152, *venusta* Perty founded in error, p. 153, KONOW, t. c.

*Cladius pectinicornis*, natural history, TULLGREN, p. 251, Ent. Tidskr. xxvi;

*C. palmicornis* ♂, KONOW, p. 153, Zeitschr. Hym. Dipt. v.

*Cryptocampus saliceti*, galls, NIELSEN, p. 383, Zeitschr. Insbiol. i.

*Dolerus porcutus, mustus*, Turkestan, KONOW, p. 164, Zeitschr. Hym. Dipt. v, n. spp.

*Emphytus armillatus*, Oran, *koschevnikovi*, Persia, KONOW, p. 163, t. c. n. spp.

- E. carpini*? injuring apple, THEOBALD, Rep. econ. zool. Wye 1905, p. 16.  
*Eriocampoides æthiops*, TULLGREN, p. 251, Ent. Tidskr. xxvi.  
*Heptacola* n. g. near *Perga*, p. 167, *buyssoni*, Tasmania, *mocsaryi*,  
 N. S. Wales, n. spp., p. 168, KONOW, Zeitschr. Hym. Dipt. v.  
*Lagideus* n. g. *Lobocerotides*, p. 160, *crinitus* n. sp., Argentina, p. 161,  
 KONOW, t. c.  
*Lophyrus pini*, larval habits in an attack in Germany, SCHUSTER, pp. 16-  
 20, Zool. Garten xlvi.  
*Lycosceles* n. g. *Lobocerotides*, p. 159, *herbsti* n. sp., Chile, p. 160, KONOW,  
 Zeitschr. Hym. Dipt. v.  
*Macroclada* n. n. for *Cladomacra* Smith, KONOW, p. 46, Gen. ins. fasc. xxix.  
*Macrophya hispana* ♂, KONOW, p. 156, Zeitschr. Hym. Dipt. v.  
*Nematus borealis*, *stordalensis*, *marginifer*, KONOW, p. 175, t. c.  
*Pachynematus kubesi*, Bohemia, KONOW, p. 154, t. c. n. sp.  
*Paraselandria imitatrix*, Manila, ASHMEAD, p. 971, P. U. S. Mus. xxviii,  
 n. sp.  
*Perga*; list of species in the Paris Museum, DU BUYSSON, p. 228, Bull.  
 Mus. Paris 1905.  
*P. kohli*, Queensland, KONOW, p. 166, Zeitschr. Hym. Dipt. v, n. sp.  
*Phyllotoma wustneii*, Alsen Islds., KONOW, pp. 154-156, t. c. n. sp.  
*Pteronus dispar*, characters, KONOW, p. 169, t. c.  
*Scolioneura surosa*, Chile, KONOW, p. 162, t. c. n. sp.  
*Taxonus nigrisoma*, habits, metamorphosis, CHITENDEN & TITUS, Bull.  
 U. S. Dep. Agric. Ent. 54, pp. 40-43.  
*Tenthredo atra*, larval food, TULLGREN, p. 252, Ent. Tidskr. xxvi.  
*Trichocampus radiatus* and *ulmi*, KONOW, p. 153, Zeitschr. Hym. Dipt. v.  
*Trichiosoma jakovleffi* n. n. for *arctica* Kon. nec Kirb., KONOW, p. 153, t. c.  
*Trochophora* n. g. *Schizocerides duckei* n. sp., Brazil, KONOW, p. 158, t. c.

(c.) *LEPIDOPTERA.*

- The sexual organs of *Lepidoptera*, PETERSEN (1155).  
 The sensory organ at base of abdomen, taxonomy, JORDAN, pp. 506-508, Nov. Zool. xii.  
 Hübner's works, dates of, FERNALD (557).  
 The marks of sex in larva, silkworm, VERSON (1546).  
 Descriptions and figures of varr. of *Lep.* confined to Italy, PERLINI (1148).  
 DYAR describes some larvæ of Japanese *Lepidoptera* and gives the Japanese names, P. U. S. Mus. xxviii, pp. 937-956.  
 Eggs of numerous *Lepidoptera* described, Ent. Rec. xvii, pp. 76 etc.  
 Eggs, photographing, etc., TONGE (1500).  
 Transparent wings, nature of, KAYE (828).  
 Influence of food and humidity on the variation of 21 species of *Lepidoptera*, PICTET, Mem. Soc. Geneve xxxv, pp. 45-128, pls. i-v.  
 Experiments as to resistance to submersion of pupæ, MERRIFIELD, P. ent. Soc. London 1905, pp. xxiii-xxvi.  
 Accessory silk-glands of larvæ, BORDAS (137).  
 Food-plants of Austrian *Lepidoptera*, NAUFOCK & PREDOTA, Jahresber. Wien. ent. Ver. 1904, pp. 25-87.

*RHOPALOCERA.*

- The geographical variation of *Rhopalocera*, JORDAN, Zeitschr. wiss. Zool. lxxxiii, pp. 151-210, 73 figg.  
 Enemies of *Rhopalocera*, China, KERSHAW, Tr. ent. Soc. London 1905, pp. 5-8.  
 Linne's and Barbut's types of genera of *Rhopalocera*, TUTT, pp. 211, 212, Ent. Rec. xvii.  
 British butterflies, TUTT (1510).  
 Palæarctic *Rhopalocera*, pt. i, VERITY (1542).  
*Rhopalocera* of Schwerin, with natural history notes and variation, GILLMER, pp. 47-99, Arch. Ver. Mecklenb. lix.  
 The butterflies of India, Ceylon and Burma, Vol. I, including *Nymphalidæ* and *Nemeobidæ*; BINGHAM (119).  
 Varieties of Netherlands *Rhopalocera*, OUDEMANS, pp. 1-21, pls. i-vi, Tijdschr. Ent. xlviii.  
 WEEKS reprints his recent descriptions of Bolivian *Rhopalocera*, and adds 45 plates, figuring each species. Illustrations of diurnal *Lepidoptera*.  
 "Tails" of wings discussed, ROBER, pp. 247-259, Stettin Ent. Zeit. lxvi.  
 Scents of the males of some English *Rhop.*, LONGSTAFF, pp. 112-114, Ent. Mag. 1905.  
 Experiments with carbonic acid, as to variation of *Vanessa*, VON LINDEN, Zeitschr. wiss. Zool. lxxxii, pp. 411-444, pl. xxv.

## PAPILIONIDÆ.

[Cf. CHAPMAN (304), JUNOD (825), ROTHSCHILD (1304, 1305), ROTHSCHILD & JORDAN (1306, 1307), WEEKS (1594).]

*Papilio philoxenus melanurus* subsp. n., ROTHSCHILD, p. 78, Nov. Zool. xii; *P. demodocus demodocus*, variation, p. 185, *P. dardanus* the subspp. p. 187, *P. nireus* (= *donaldsoni* Sharpe), synonymy and varr. pp. 188, 189, *P. similis umanus* subsp. n., *P. peculiaris* Neave, is *cynorta* var. p. 191, ROTHSCHILD & JORDAN, Nov. Zool. xii; *P. sarpedon rufocellularis* subsp. n., FRUHSTORFER, p. 36, Ins. Börse 1905; *P. schultzei*, cut, p. 21, AURIVILLIUS, Arkiv Zool. ii, No. 12; *P. cochabamba*, pl. vii, p. 39, WEEKS, Illustr.; *P. turnus*, dimorphism and food, JEHEBER, p. 111, Ent. News Philad. xvi; *P. machaon, hospiton, xuthulus*, varr., SCHULTZ, pp. 39-41, Nyt Mag. Naturv. xlii; *P. machaon*, the English form, VERITY, p. 185, Bull. Soc. ent. Ital. xxxvi; *P. colonna* chrysalis, p. 225, *junodi*, pl. ii, fig. 2, p. 224, *leonidas* larva, p. 225, *morania* larva, p. 228, JUNOD, Bull. Soc. Neuchatel xxvii.

*P. æthiops*, N. E. Africa, ROTHSCHILD & JORDAN, p. 190, Nov. Zool. xii; *P. steinbachi*, Bolivia, ROTHSCHILD, p. 125, Entomologist 1905: n. spp.

*Parnassius apollo brüttingeri*, occurrence in Finland, FEDERLEY, p. 80, Medd. Soc. Faun. Fenn. xxx; *P. apollo* var. pl. i, fig. 1, ROUGEMONT, Bull. Soc. Neuchatel xxix.

*Thais*; mode of suspension for pupating, CHAPMAN, Tr. ent. Soc. London 1905, pp. 203-218, pl. xii.

*Troides chimæra*, ♂, ROTHSCHILD & JORDAN, p. 460, Nov. Zool. xii.

## PIERIDÆ.

[Cf. AIGNER-ABAFI (12), BARTEL (84), HEYN (746), MOORE (1062), PETERSEN (1155), PIESZCZEK (1206), ROTHSCHILD & JORDAN (1307), TURATI (1508), WEEKS (1594).]

Parts lxx-lxxiii of MOORE, Lep. indica, continue the descriptions and figures of *Pieridæ*.

Scent of African *Pieridæ*, DIXEY, pp. liv-lix, P. ent. Soc. London 1905.

The cases of common larval habitations, DIXEY, pp. xix-xxi, P. ent. Soc. London 1905, and HOLLAND, t. c. pp. xxi, xxii.

*Anthocharis ausonides* and allies, variation, nomenclature, FRANCK, p. 29, Ent. News Philad. xvi; *A. genutia*, natural history, GROSSBECK, pp. 131-133, Ent. News Philad. xvi.

*Aporia cratægi* var. n. *augusta*, TURATI, p. 26, pl. i, Natural. Sicil. xviii; *A. cratægi*, melanic var., REBEL, p. 273, Verh. Ges. Wien 1905; *A. cratægi* in Hungary, hyaline form, wing-length, original home, AIGNER-ABAFI, pp. 204-209, Zeitschr. Insbiol. i; *A. cratægi* in Hungary, natural history (in Hungarian), AIGNER-ABAFI, pp. 89-95, Rov. Lapok 1905.

*Appias rhodope*, variation, *A. phæola* var. n. *ochrea*, p. 150, BARTEL, Nov. Zool. xii.

*A. nicobarica*, Nicobars, MOORE, p. 198, Lep. ind. vi, n. sp.

*Catophaga swinhoei*, S. India, MOORE, p. 11, pl. 556, fig. 1, op. cit. vii, n. sp.

*Colias*; names for numerous abb., GEEST, pp. 378-381, Zeitschr. Insbiol. i; *C.* varr. n., NEUBURGER, p. 42, Soc. ent. xx; *C.* new varr., SCHULTZ, pp. 41-45, Nyt Mag. Naturv. xlii; *C. hyale* ab. *alfacariensis*, RIBBE, p. 137, Soc. ent. xx; *C. myrmidone*, variation, varr. n.,

- PIESZCZEK, pp. 401-423, pl. i, Verh. Ges. Wien 1905; *C. palæno* in Belgium, HAVERKAMPF, p. 92, Ann. Soc. ent. Belgique 1905.
- C. hecate*, Congo (Strecker), WEEKS, p. 6, pl. iii, Illustr., n. sp.
- Delias aglaia thyra* subsp. n., FRUHSTORFER, p. 36, Ins. Börse 1905;
- D. descombesi* var., FRUHSTORFER, pp. 113, 114, Soc. ent. xx; *D. schoenbergi choiseuli*, pl. v, fig. 17, JORDAN, p. 512, Nov. Zool. xii.
- D. callima*, New Guinea, ROTHSCHILD & JORDAN, p. 462, Nov. Zool. xii, n. sp.
- Euchloe belia* ab. *alhambra*, RIBBE, p. 137, Soc. ent. xx; *E. eupheno* var. *androgynæ*, MEADE-WALDO, p. 372, pl. xix, fig. 7, Tr. ent. Soc. London 1905; *E. belemia* ab. *desertorum*, p. 27, pl. ii, *belia* var. *matutina*, p. 28, pl. ii, figg. 7-12, *belia* var. *kruegeri*, p. 29, pl. iii, figg. 1-6, *belia* var. *trinaeriæ*, p. 31, pl. iv, figg. 3-6, *euphenoides* ab. *lecithosa*, p. 31, pl. iv, figg. 9, 10, TURATI, Natural. Sicil. xviii.
- Gonepteryx rhamnii* ab. pl. i, fig. 12, MÖBIUS, Iris Dresden xviii.
- Huphinâ cingala*, Ceylon, MOORE, p. 219, pl. 546, fig. 3, Lep. ind. vi, n. sp.
- Leptidia sinapis* varr. n. *major*, *croatica*, *flavescens*, GRUND, pp. 145-147, cuts, Ent. Zeitschr. Guben xix.
- Leuciacria* n. g. near *Pieris*, *acuta* n. sp., New Guinea, ROTHSCHILD & JORDAN, p. 463, Nov. Zool. xii.
- Lyncida hippo*, variation, FRUHSTORFER, p. 3, Soc. ent. xx.
- Mylothris chloris* var. n. *infusata*, *M. rembina* var. n. *fusca*, p. 149, *M. rueppelli* var. n. *kikuyuensis*, p. 150, BARTEL, Nov. Zool. xii.
- Pantoporia abiasa matanga* subsp. n., FRUHSTORFER, p. 50, Soc. ent. xx.
- Pieris rapæ* var. *rossii*, SCHIMA, p. 24, Verh. Ges. Wien 1905; *P. rapæ*; *leucotera* is first gen. p. 515; *rapæ* var. n. *leucosoma*, p. 516; SCHAWERDA, Verh. Ges. Wien 1905; *P. brassica*, *rapæ*, *napi*, differences in sexual organs, PETERSEN, p. 62, cuts, Mem. Ac. St. Petersb. (8) xvi, No. 2; *P. ergane* var. n. *longomaculata*, ROSTAGNO, p. 91, Boll. Soc. zool. Ital. xiv; *P. gidica* and allies, AURIVILLIUS, p. 18, Arkiv Zool. ii, No. 12; *P. cebron* var., BARTEL, p. 151, Nov. Zool. xii.
- P. continentalis*, Quango, HEYN, p. 57, Ent. Zeitschr. Guben xviii, n. sp.
- Tachyris lyncida fabiola* subsp. n., FRUHSTORFER, p. 3, Soc. ent. xx.
- Teracolus celimene* var. n. *sudanicus*, AURIVILLIUS, p. 19, Arkiv Zool. ii, No. 12; *T. दौरa* var. *nouna*, pl. xix, figg. 8, 9, MEADE-WALDO, p. 372 Tr. ent. Soc. London 1905; *T. दौरa* var. *nouna*, p. 135, cuts, larva, ANDREAS, Ent. Zeitschr. Guben xix; *T. auxo* from *T. topha*, eggs, DIXEY, p. xv, P. ent. Soc. London 1905.
- T. lanzi*, Trop. Africa, BARTEL, p. 151, Nov. Zool. xii, n. sp.
- Terias floscula*, pl. xxiv, fig. 1, p. 66, WEEKS, Illustr.

## DANAIDÆ and ITHOMIDÆ.

[Cf. HAENSCH (712), KAYE (828), WEEKS (1594).]

New *Ithomiinæ*; HAENSCH in his paper Berlin. ent. Zeitschr. 1, states that he cannot decide whether the forms he describes are "Gute Art, Unterart oder Abart." We record therefore only the names and localities.

- Amauris hecate reducta* var. n., BARTEL, p. 129, Nov. Zool. xii.
- Athyrtis distincta*, Columbia, HAENSCH, p. 144, Berlin. ent. Zeitschr. 1.
- Calliploea mazares* subsp. n., FRUHSTORFER, p. 3, Soc. ent. xx.
- Callithonia schulzi*, Pará, pl. iv, fig. 6, HAENSCH, Berlin. ent. Zeitschr. 1.
- Callolieria chanchamaya*, Peru, pl. v, fig. 17, p. 165, *robusta*, fig. 18, *porrecta*, *fuscens*, p. 166, Bolivia, *peruensis*, Peru, p. 167, HAENSCH, t. c.
- Ceratinia polymnides*, Colombia, p. 148, *viola*, Amazons, p. 149, *pamina*, *nina*, *callanga*, Bolivia, p. 150, *ignorata*, pl. iv, fig. 11, p. 151, Ama-



- zons, *sellana*, Bolivia, p. 152, *granadensis*, Muzo, *pellucida*, Brit. Guiana, *angelina*, Upp. Amazons, pl. iv, fig. 3, p. 154, *limpida*, Cauca Valley, p. 155, *nora*, Bolivia, *atagalpa*, Peru, p. 156, *cana*, Colombia, pl. v, fig. 16, p. 157, HAENSCH, t. c.; *C. acceptabilis*, pl. xx, p. 60, WEEKS, Illustr.
- Episcada hymen*, p. 170, *sulphurea*, Bolivia, *helena*, *cabenis*, pl. v, fig. 6, Muzo, *sylpha*, fig. 7, Venezuela, p. 171, *sidonia*, Peru, *dirama*, Bolivia, pl. v, fig. 19, HAENSCH, Berlin. ent. Zeitschr. 1.
- Hymenitis nerina*, Colombia, *enigma*, Bolivia, pl. v, fig. 21, HAENSCH, p. 179, t. c.; *H. andreas*, pl. vi, fig. 4, p. 38, WEEKS, Illustr.
- Hypoleria indecora*, Brit. Guiana, p. 177, *cajona*, Peru, *garleppt*, Amazons, p. 178, *riffarthi*, pl. v, fig. 14, Ecuador, p. 179, HAENSCH, Berlin. ent. Zeitschr. 1.
- Hyposcada rezia*, pl. iv, fig. 4, *idina*, Amazons, HAENSCH, p. 167, t. c.
- Ithomia alienassa*, Colombia, p. 163, *eleonora*, Bolivia, p. 164, HAENSCH, t. c.; *I. gardneri*, pl. xl, p. 93, WEEKS, Illustr.
- Leucothyris amazona*, pl. v, fig. 5, Amazons, *lubilerda*, Colombia, *attalita*, *valida*, p. 168, *bioculata*, pl. v, fig. 4, *epimakrena*, pl. v, fig. 15, Bolivia, *caucana*, p. 169, *fumata*, p. 170, Cauca Valley, HAENSCH, Berlin. ent. Zeitschr. 1.
- Mechanitis casabranca*, Brazil, p. 145, *eurydice*, p. 147, Peru, HAENSCH, t. c.
- Melinva magnifica*, Peru, HAENSCH, p. 145, t. c.
- Napeogenes adulta*, *moles*, pl. iv, fig. 10, Brit. Guiana, p. 157, *olyrina*, pl. iv, fig. 5, Bolivia, *terastis*, Lower Amazons, p. 158, *deucalion*, Peru, *gracilis*, Bolivia, pl. v, fig. 2, *pteronymiensis*, pl. v, fig. 3, Colombia, *sodalis*, Peru, p. 160, HAENSCH, t. c.
- N. potaronus*, Brit. Guiana, KAYE, p. 120, Ent. Rec. xvii, n. sp.
- Olyris stichelii*, S. Peru, HAENSCH, p. 142, Berlin. ent. Zeitschr. 1.
- Pseudoscada emyra*, pl. v, fig. 11, Bolivia, p. 176, *fallens*, Brazil, p. 177, HAENSCH, t. c.
- Pteronymia dispar*, *splendida*, pl. v, fig. 12, Colombia, p. 173, *olimba*, Peru, *tenuis*, *auricula*, pl. v, fig. 10, p. 174, Colombia, *derama*, fig. 8, *nepiscada*, fig. 9, *yungava*, *denticulata*, p. 175, Peru and Bolivia, *evonia*, fig. 20, *medellina*, fig. 13, p. 176, Colombia, HAENSCH, t. c.
- Sais paraensis*, p. 161, *badia*, Amazons, *camariensis*, Brit. Guiana, pl. iv, fig. 12, HAENSCH, t. c.
- Scada majuscula*, Brit. Guiana, *amplificata*, Muzo, pl. v, fig. 1, p. 162, HAENSCH, t. c.
- Tithorea melanina*, *assimilis*, p. 143, *brunnea*, p. 144 Peru, HAENSCH, t. c.

## ACRÆIDÆ and HELICONIIDÆ.

Monograph, recognising 2 genera, 87 good species and 4 doubtful; 49 of the species are divided into 214 subspecies, and these into named forms; thus *H. melpomene melpomene melpomenides* is the name of a form found in Dutch Guyana, and it belongs to the cohort *Melpomene-formes* of the section *Opisogymni* of the genus *Heliconius*. STICHEL & RIFFARTH, das Tierreich Lief. xxii.

- Acræa zetes sidumona*, p. 179, *A. peneleos gelonica*, *A. jodutta aethiops*, p. 183, *A. circeis rhodina*, *A. lycoa aequalis*, *A. ulciope schecana*, p. 184, subsp. n., ROTHSCHILD & JORDAN, Nov. Zool. xii; *A. encedon* ab. n. *radiata*, AURIVILLIUS, p. 4, Arkiv Zool. ii, No. 12; *A. burtoni* larva, JUNOD, p. 198, Bull. Soc. Neuchatel xxvii.
- Heliconius spadicarius*, pl. ix, p. 41, WEEKS, Illustr.; *H. doris*, variation, HENNEGUY & OBERTHÜR, pp. 146, 147, Bull. Soc. ent. France 1905.
- Planema epæa homochroa* subsp. n., ROTHSCHILD & JORDAN, p. 185, Nov. Zool. xii.

## NYMPHALIDÆ.

[Cf. BARTEL (84), CLARK (321), DRUCE (456), FRUHSTORFER (620, 622), JUNOD (825), LINDEN (957), PETERSEN (1155), ROTHSCHILD (1304), ROTHSCHILD & JORDAN (1307), SCHÜLKE (1355), STICHEL (1450, 1451), WEEKS (1594).]

- Adelpha hetepecki*, pl. xix, p. 58, WEEKS, Illustr.; *A. deborah*, pl. xxxix, p. 91, WEEKS, t. c.
- Amphichlora poseidon*, Venezuela, CLARK, p. 7, Psyche xii, n. sp.
- Apatura iris* and *ilia*, sexually distinct, PETERSEN, pp. 75, 76, cuts, Mem. Ac. St. Petersb. (8), xvi, No. 2.
- Argynnis*, the sex structures in the various species, PETERSEN, pp. 31–61, Mem. Ac. St. Petersb. (8) xvi, No. 2; *A. pales*, var., pl. i, fig. 3, HIRSCHKE, p. 5, Jahresber. Wien. ent. Ver. 1905; *A. pales killiasi*, cut, GALVAGNI, p. 513, Verh. Ges. Wien 1905; *A. sclene, lathonia*, varr., MÖBIUS, pl. i, figg. 1, 2, 4, 7, 8, Iris Dresden xviii; *A. niobe eris*, pl. i, fig. 7, BERGER, p. 87, Jahresber. Wien. ent. Ver. 1905; *A. paphia*, gynandromorph, TURATI, p. 35, pl. vi, fig. 2, Natural. Sicil. xviii.
- Asterope ansorgei, garega*, etc., synonymy, BARTEL, p. 136, Nov. Zool. xii.
- Aterica galena* var. n. *dimorpha*, BARTEL, p. 138, t. c.
- Cethosia cydippe lucina* n. sp. (sic), Jobi, *biblis alceste* subsp. n., FRUHSTORFER, p. 36, Ins. Börse 1905.
- Charaxes epiyasius*, variation, larva, pp. 7, 8, *C. kheili* var. *northcotti*, p. 9, AURIVILLIUS, Arkiv Zool. ii, No. 12; *C. nandina* ♀, *C. hansali baringana* subsp. n., ROTHSCHILD, p. 78, Nov. Zool. xii; *C. zoolina*, pl. i, fig. 1, *C. neanthes*, p. 205, pl. i, fig. 2, hybrid, fig. 3, JUNOD, Bull. Soc. Neuchatel xxvii.
- Cirrochroa tyche thilina* subsp. n., FRUHSTORFER, p. 49, Soc. ent. xx.
- Cymothoë amphicede* characters, p. 148, *adelina-corsandra* variation, p. 149, BARTEL, Nov. Zool. xii.
- Distogyna fuscomarginata*, p. 145, *aurivillii*, p. 146, Cameroons, BARTEL, t. c. n. spp.
- Ergolis murina*, Cameroons, BARTEL, p. 135, t. c. n. sp.
- Euphedra themis* ab. n. *reducta*, *E. gausape* ab. n. *extensa*, p. 141, *E. xypete* ab. n. *mirabilis*, p. 142, *E. luperca* ab. n. *luteofasciata*, *E. losinga* ab. n. *impunctata*, p. 143, BARTEL, t. c.
- E. viridicærulea*, p. 139, *adelica*, p. 140, *karschi*, p. 141, W. Africa, BARTEL, t. c.; *E. cooksoni*, Rhodesia, DRUCE, p. 550, Ann. Nat. Hist. (7) xvi : n. spp.
- Euryphene barce* ab. n. *achillæna*, p. 144, *E. letitia* var., p. 145, BARTEL, Nov. Zool. xii.
- E. intermedia*, Cameroons, BARTEL, p. 143, t. c. n. sp.
- Euryphura ochracea*, p. 146, *fulminea*, p. 147, W. Africa, BARTEL, t. c. n. spp.
- Eurytela castelnavi ochus* subsp. n., FRUHSTORFER, p. 49, Soc. ent. xx.
- Hypolimnas dubius* ab. n. *latepicta*, BARTEL, p. 135, Nov. Zool. xii.
- Junonia orithya metion* subsp. n., FRUHSTORFER, p. 50, Soc. ent. xx.
- Leucosticha dædalus* var., BARTEL, p. 139, Nov. Zool. xii.
- Melitæa athalia* var., pl. i, fig. 5, MÖBIUS, Iris Dresden xviii; *M. athalia* var., pl. i, fig. 2, GÜNNER, p. 4, Jahresber. Wien. ent. Ver. 1905; *M. ætherie* var. *perlina*, TURATI, p. 33, pl. v, figg. 1–8, *M. didyma*, gynandromorph, p. vi, fig. 1, Natural. Sicil. xviii; *M. aurinia*, variation, KITCHIN, Tr. Hertfordsh. Soc. xii, pp. 165–167, pl. iv.
- Myrcelia streckeri*, pl. i, fig. 3, p. 6, WEEKS, Illustr.
- Neptis anjana* n. subsp., FRUHSTORFER, p. 41, Soc. ent. xx; *N. miah digitia* subsp. n., FRUHSTORFER, p. 50, t. c.
- Pandora prola*, pl. iv, p. 7, WEEKS, Illustr.

- Perrhanæa cubana*, Cuba, DRUCE, p. 549, Ann. Nat. Hist. (7) xvi, n. sp.  
*Phædyma shepherdii donata*, pl. ix, fig. 3, *graciella*, fig. 5, subspp. n.,  
*columella sumbana* subsp. n., p. 314, pl. ix, fig. 6, FRUHSTORFER,  
 pp. 313, 314, Iris Dresden xvii.  
*Phyciodes northbrundii*, pl. xlii, fig. 1, p. 96, WEEKS, Illustr.  
*Polygonia c-album* ab. pl. i, fig. 9, MÖBIUS, Iris Dresden xviii.  
*Prepona*, revision with description of new forms, pp. 271-312, the follow-  
 ing figured, *amesia dives*, pl. vi, fig. 1, *lygia*, fig. 2, *eugenes decorata*,  
 fig. 3, *dexamenes leuctra*, pl. vii, fig. 1, *eugenes bahiana*, fig. 2, *anti-*  
*mache crassina*, fig. 3, *laertes penelope*, pl. viii, fig. 1, *gnorima philetas*,  
 fig. 2, *laertes antikleia*, fig. 3, *eugenes decorata*, fig. 4, *laertes ikarios*,  
 pl. ix, figs. 1, 2, *gnorima*, fig. 4, FRUHSTORFER, Iris Dresden xvii ;  
*P. garleppiana* and others, affinities, LATHY, p. 254, Entomologist  
 1905.  
*Pseudacraea lucretia, dolomena*, variation, BARTEL, p. 137, Nov. Zool. xii.  
*P. togoënsis*, Africa, BARTEL, p. 137, t. c. n. sp.  
*Pseudargynnis hegemone nyassæ* subsp. n., BARTEL, p. 138, t. c.  
*Rohana parysatis borneana* subsp. n., FRUHSTORFER, p. 50, Soc. ent. xx.  
*Salamis caeta languida* subsp. n., ROTHSCHILD, p. 135, Nov. Zool. xii.  
*Vanessa*, varieties of, and the origin of species, SCHÜLKE (1355) ; *V. io* var.  
*n. fulva*, OUDEMANS, p. 6, pl. ii, fig. 4, Tijdschr. Ent. xlviij ; *V. urticae*,  
 abb. n., NEUBURGER, p. 170, Soc. ent. xix ; *V. urticae* ab. pl. i, fig. 10 ;  
*V. io* ab. *exoculata*, fig. 11, MÖBIUS, Iris Dresden xvii ; *V. urticae*,  
 experimental varr., CHOLODKOVSKY, Zeitschr. Insbiol. i, pp. 117, 118 ;  
*V. antiopa lintneri*, occurrence in Finland, FEDERLEY, p. 78, Medd.  
 Soc. Faun. Fenn. xxx.

MORPHIDÆ (and allies).

- [Cf. FRUHSTORFER (619, 623), JANET (814), STICHEL (1450, 1451), ROTH-  
 SCHILD & JORDAN (1307), WEEKS (1594).]  
*Amathusia* varr. n., FRUHSTORFER, pp. 129, 130, 137, Soc. ent. xx.  
*Catigo gerhardi*, pl. xii, p. 46, WEEKS, Illustr.  
*Clerome*, list with varr. n., FRUHSTORFER, p. 35, Soc. ent. xx.  
*Discophorinæ, Discophora* and *Enispe*, STICHEL, Gen. ins. fasc. xxxi, 14 pp.,  
 1 pl.  
*Enispe lunatus enervata* var. n., p. 12, *E. cygnus erosa* var. n., p. 11,  
 STICHEL, t. c.  
*Hyantinæ* ; the genera and species, STICHEL, Gen. ins. fasc. xxxix, 1 pl.  
*Hyantis* and *Morphopsis*, a distinct fam., *Hyantinæ*, RÖBER, p. 169, Soc.  
 ent. xix.  
*Morpho* subsp. n., FRUHSTORFER, pp. 125, 126, Ent. Zeitschr. Guben  
 xix ; *M. adonis* var. n. *major*, LATHY, p. 226, Entomologist 1905.  
*Morphopsis ula*, p. 454, *meeki*, p. 456, New Guinea, ROTHSCHILD & JORDAN,  
 Nov. Zool. xii, n. spp.  
*Stichophthalma matilda*, Laos, JANET, p. 215, Bull. Soc. ent. France 1905,  
 n. sp.  
*Tenaris* ; revision, with numerous new forms, FRUHSTORFER, pp. 57-89 &  
 119-128, pls. 1, 2, Wien. ent. Zeit. xxiv ; *T. westwoodi* ab. n. *uni-*  
*pupillata*, FRUHSTORFER, p. 35, Soc. ent. xx.  
*T. taima*, New Guinea, FRUHSTORFER, p. 36, Ins. Börse 1905 ; *T. merana*,  
 Kaju, FRUHSTORFER, p. 118, Ent. Zeitschr. Guben xviii : n. spp.  
*Thaumantis* varr. n., FRUHSTORFER, p. 13, Soc. ent. xx.  
*Zeuxidia nicevillei* subsp. n., FRUHSTORFER, p. 33, t. c.

## SATYRIDÆ.

[Cf. AUSTAUT (44), BARTEL (84), BLACHIER (122), CHAPMAN (302), DRUCE (457), GODMAN (671), GRINNELL (697), ROTHSCHILD & JORDAN (1306, 1307), THIEME (1490), WEEKS (1594).]

- Cænonympha pamphilus*, GALVAGNI, p. 25, Verh. Ges. Wien 1905; *C. pamphilus* var. n. *pallida*, OUDEMANS, p. 15, pl. iv, fig. 14, Tijdschr. Ent. xlviii.
- C. vaucheri* with var. *geminipuncta*, Marocco, BLACHIER, p. 213, Bull. Soc. ent. France 1905, n. sp.; *C. vaucheri*, pl. xix, figg. 1, 2, MEADE-WALDO, p. 377, Tr. ent. Soc. London 1905.
- Cosmosatyrus nilesi*, pl. xxv, figg. 1, 2, p. 68, WEEKS, Illustr.
- Cystineura aurantia*, pl. xlii, fig. 2, p. 97, t. c.
- Dædalma bronza*, pl. xxxv, p. 85, t. c.
- Epinephele imbrialis*, pl. x, fig. 2, p. 43, t. c.
- Erebia euryale* var., SCHAWERDA, pp. 27, 29, Verh. Ges. Wien 1905; *E. flavofasciata*, variation in Engadine and Ticino, LOWE, pp. 38, 39, Ent. Rec. xvii; *E. stygne* and *evias* in Spain, larvæ, variation, CHAPMAN, pp. 9-31, Tr. ent. Soc. London 1905.
- Erebia palарica*, N. Spain, CHAPMAN, p. 13, pl. ii, t. c. n. sp.
- Eretris* n. g. p. 131, for part of *Pedaliodes*, *rubricaria*, Colombia, pl. iii, fig. 40, p. 134, *ochrea*, Ecuador, pl. iii, fig. 41, p. 135, n. spp., THIEME, Berlin. ent. Zeitschr. 1.
- Erycinidia* n. g. near *Hypocysta*, *gracilis* n. sp., New Guinea, ROTHSCHILD & JORDAN, p. 457, Nov. Zool. xii.
- Euptychia monohani*, pl. xxiii, fig. 1, p. 64, *therkelsoni*, fig. 2, p. 65, WEEKS, Illustr.; *E. luttela*, pl. xxxvii, fig. 1, p. 87, WEEKS, t. c.
- E. analis*, Amazons, pl. x, fig. 1, p. 185, *stigmatica*, Argentina, fig. 2, *penicillata*, figg. 3, 4, *scopulata*, fig. 5, Amazons, p. 186, *mimas*, fig. 6, *boliviana*, p. 7, *E. ? biocellata*, fig. 8, Bolivia, p. 187, GODMAN, Tr. ent. Soc. 1905, n. spp.
- Gnophodes chelys* var. n. *iris*, BARTEL, p. 130, Nov. Zool. xii.
- Lymanopoda maso*, pl. x, fig. 9, *malia*, *levana*, fig. 10, N.W. S. America, GODMAN, p. 188, Tr. ent. Soc. London 1905, n. spp.
- Melanargia ines* and *lachesis* varr., RIBBE, p. 138, Soc. ent. xx.
- Melanitis libya nyasse* subsp. n., BARTEL, p. 130, Nov. Zool. xii; *M. ansorgei*, pl. v, fig. 15, JORDAN, p. 512, Nov. Zool. xii.
- Mycalesis safitza aethiops* subsp. n., ROTHSCHILD & JORDAN, p. 175, Nov. Zool. xii; *M. iccius* ab. n. p. 131, *M. dubia* ♂, p. 132, BARTEL, Nov. Zool. xii.
- M. (Bicyclus) bicolor*, p. 130, *subocellatus*, p. 131, *M. (Monotrichtis) ploetzi*, p. 132, *fuelleborni*, p. 133, Africa, BARTEL, t. c.; *M. cooksoni*, p. 251, pl. xiii, fig. 1, *haroldi*, p. 252, fig. 2, Rhodesia, DRUCE, Tr. ent. Soc. London 1905 : n. spp.
- Oxeochistus duplex*, Bolivia, GODMAN, p. 189, pl. x, fig. 12, Tr. ent. Soc. London 1905, n. sp.
- Pararge achine* var., var. *mendelensis*, LOWE, p. 60, Entomologist 1905; *P. hiera* var. n. *finmarchica*, NEUBURGER, p. 49, Soc. ent. xx.; *P. hiera*, natural history, PEYRON, pp. 249-251, Ent. Tidskr. xxvi.
- Pedaliodes*; revision, THIEME, pp. 43-141, pls. i-iii, Berlin. ent. Zeitschr. 1; *P. primera*, pl. xiii, p. 48, WEEKS, Illustr.; *P. mariona*, pl. xxxvii, fig. 2, p. 88, WEEKS, t. c.
- P. albonotata*, Venezuela, GODMAN, p. 189, pl. x, fig. 11, Tr. ent. Soc. London 1905; *P. proculeja*, Peru, p. 57, pl. iii, fig. 27, *puma*, Bolivia, p. 58, pl. ii, fig. 19, *fumaria*, Merida, p. 60, pl. iii, fig. 25, *simpla*, Ecuador, p. 62, pl. iii, fig. 39, *exul*, Rio, p. 63, pl. iii, fig. 32, *navia*,

- Ecuador, pl. iii, fig. 26, *auraria*, Peru, pl. ii, fig. 20, p. 64, *labulla* (= *perperna* Feld.) Bogotá, p. 65, *circumducta*, Mexico, p. 74, pl. iii, fig. 23, *manneja*, Colombia, p. 76, *amussis*, Cauca, p. 78, pl. iii, fig. 22, *silpa*, Bolivia, p. 80, pl. iii, fig. 29, *rahah*, Peru, pl. iii, fig. 31, p. 82, *muscosa*, Bolivia, p. 83, pl. ii, fig. 17, *jephtha*, pl. ii, fig. 18, Antioquia, p. 84, *antulla*, p. 86, pl. iii, fig. 28, *davilis*, pl. iii, fig. 24, p. 87, Peru, *simmias*, Bolivia, pl. iii, fig. 36, p. 90, *albutia*, Peru, pl. iii, fig. 21, p. 91, *cestia*, Colombia, pl. i, fig. 8, p. 94, *nebris*, pl. i, fig. 10, *empetrus*, pl. i, fig. 7, Merida, p. 98, *tyro*, Amazons, p. 100, *pheres*, Bolivia, pl. i, fig. 9, p. 101, *uncus*, Tucumán, p. 102, *asconia*, Ecuador, pl. ii, fig. 13, p. 104, *baccara*, Antioquia, pl. iii, fig. 35, p. 105, *entella*, Ecuador, pl. ii, fig. 16, p. 106, *tucca*, Bolivia, pl. ii, fig. 15, *luperca*, Ecuador, p. 107, *clodonia*, Bolivia, pl. ii, fig. 14, p. 109, *quinceidis*, Peru, pl. i, fig. 5, p. 110, *auristriga*, pl. ii, fig. 12, p. 111, *parma*, Colombia, p. 115, pl. i, fig. 2, *niphoessa*, pl. i, fig. 1, p. 116, *milvia*, pl. iii, fig. 34, p. 120, *amafania*, pl. i, fig. 4, p. 122, Peru, *pamphos*, Bolivia, p. 129, THIEME, Berlin. ent. Zeitschr. 1, n. spp.
- Pierella chalybæa*, Brazil, GODMAN, p. 85, Tr. ent. Soc. London 1905, n. sp.
- Pieridopsis* n. g. near *Hypocysta*, *virgo* n. sp., New Guinea, ROTHSCHILD & JORDAN, p. 457, Nov. Zool. xii.
- Platyphthima* n. g. near *Hypocysta*, *ornata*, p. 458, *simplex*, *decolor*, p. 459, n. spp., New Guinea, and including *Hypocysta leucomelar* R., ROTHSCHILD & JORDAN, t. c.
- Pseudonympha cassius* ab. n. *triozellata*, BARTEL, p. 133, Nov. Zool. xii.
- Satyryx mnizechi* var. n. *maroccana*, pl. xix, figg. 3, 4, MEADE-WALDO p. 375, Tr. ent. Soc. London 1905; *S. actæa* var. *nevadensis*, RIBBE, p. 137, Soc. ent. xx.
- S. atlantis*, Atlas, AUSTAUT, p. 25, Ent. Zeitschr. Guben xix; *S. behrii*, California, GRINNELL, p. 33, Ent. News Philad. xvi : n. spp.
- Steremnia* n. g. type *Pedaliodes polyxo*, *S. rugilas*, S. America, p. 137, *misella*, Peru, pl. iii, fig. 43, p. 138, n. spp., THIEME, Berlin. ent. Zeitschr. 1.
- Taygetis puritana*, pl. xviii, p. 57, WEEKS, Illustr.
- Yphthima albida* subsp. n., *argentata*, *occidentalis* and *uniformis*, BARTEL, p. 134, Nov. Zool. xii.

ERYCINIDÆ, and allies (incl. *Elymnias*).

[Cf. ROTHSCHILD & JORDAN (1307), WEEKS (1594).]

Catalogue of the family, published by MENGEL, not seen by Recorder.

- Amarynthis muscolor*, pl. vi, fig. 2, p. 35, WEEKS, Illustr.
- Aricoris aurigera*, pl. xi, fig. 1, p. 44, WEEKS, t. c.
- Dicallaneura leucomelas* (= *amabilis* ♀ olim), New Guinea, ROTHSCHILD & JORDAN, Nov. Zool. xii, n. sp.
- Dynamine albidula*, pl. vi, fig. 1, p. 34, WEEKS, Illustr.
- Elymnias phegea* ab. n. *angustata*, BARTEL, p. 129, Nov. Zool. xii.
- Eurybia harti*, pl. viii, p. 40, WEEKS, Illustr.; *Lasata rosamunda*, pl. v, p. 9, WEEKS, t. c.; *L. kennethi*, pl. xxxvi, p. 86, WEEKS, t. c.
- Lemonias virgulti*, life-history, GRUNDEL, p. 86, Ent. News Philad. xvi; *L. maxima*, pl. i, fig. 4, p. 3, WEEKS, Illustr.
- Libythea geoffroyi nicevillei*, full synonymy, WATERHOUSE, pp. 13, 14, Ent. Mag. xli.
- Metacharis indissimilis*, pl. xlv, fig. 1, p. 103, WEEKS, Illustr.
- Stalachtis*; pupal suspension, RÖBER, p. 258, Stettin Ent. Zeit. lxvi.

## LYCÆNIDÆ.

[Cf. AURIVILLIUS (41), BETHUNE-BAKER (109, 112), BLACHIER (122), DRUCE (457, 458), GRINNELL (698), KERSHAW (836), KHEIL (839), PETERSEN (1155), ROTHSCHILD & JORDAN (1307), WARREN & ROTHSCHILD (1576), WEEKS (1594).]

*Caltophrys rubi*, pl. i, f. 3, MÜBIUS, Iris Dresden xviii.

*Catachrysops eleusis* ♂ ♀, pl. iv, figg. 15, 16, p. 22, ROTHSCHILD, Nov. Zool. xii.

*C. pampolis*, p. 258, pl. xiii, f. 11, *skotios*, f. 12, p. 259, DRUCE, Tr. ent. Soc. London 1905, n. spp.

*Chrysophanus*; new named varr. of European, SCHULTZ, Nytt. Mag. Naturw. xli, pp. 23-26; *C. phlæas*, variations and their synonymy, OBERTHÜR, pp. 55, 56, Bull. Soc. ent. France 1905; *C. phlæas schmidtii*, pl. i, f. 4, p. 79, PIĘSZCZEK, Jahresber. Wien. ent. Ver. 1905; *C. gordius* var. *granadensis*, RIBBE, p. 138, Soc. ent. xx; *C. hippothoe* ab. n. *eurybina*, TER HAAR, p. 204, Tijdschr. Ent. xlviii.

*C. phæbus*, Marocco, BLACHIER, p. 212, Bull. Soc. ent. France 1905, n. sp.

*Cooksonia* n. g. near *Erikssonia*, p. 256, *trimeni* n. sp., Rhodesia, p. 257, pl. xiii, f. 3, DRUCE, Tr. ent. Soc. London 1905.

*Cupido theophrastus*, ♂ ♀, pl. iv, figg. 17, 18, p. 22, ROTHSCHILD, Nov. Zool. xii.

*Cyaniris puspa hermione* subsp. n., FRUHSTORFER, p. 2, Soc. ent. xx.

*Cycliurus aquatorialis* and *sharpæ* are one, BETHUNE-BAKER, p. 495, Nov. Zool. xii.

*Deudorix dohertyi*, Kikuyu escarp., BETHUNE-BAKER, p. 492, t. c.; *D. grandis*, New Guinea, ROTHSCHILD & JORDAN, p. 465, Nov. Zool. xii: n. spp.

*Erikssonia cooksoni*, Rhodesia, DRUCE, p. 255, Tr. ent. Soc. London 1905, n. sp.

*Everes masai*, Kikuyu escarp., BETHUNE-BAKER, p. 494, Nov. Zool. xii, n. sp.

*Gerydus chinensis*, life history, larval habits, KERSHAW, pp. 1-4, pl. i, Tr. ent. Soc. London 1905.

*Hypochrysops meeki*, N. Guinea, ROTHSCHILD & JORDAN, p. 464, Nov. Zool. xii, n. sp.

*Hypolycena festata*, pl. i, figg. 1, 2, p. 1, WEEKS, Illustr.

*Incisalia henrici*, validity, COOK, p. 216, Canad. Ent. 1905.

*Jolais* sp., metamorphosis, AURIVILLIUS, pp. 13, 14, cuts, Arkiv Zool. ii, No. 12.

*J. schultzei*, p. 12, pl. iii, f. 1, *scintillans*, p. 13, f. 2, *bicaudatus*, p. 14, f. 3, W. Africa, AURIVILLIUS, t. c. n. spp.

*Iridopsis eyprepes*, Rhodesia, DRUCE, p. 254, pl. xiii, f. 8, Tr. ent. Soc. London 1905, n. sp.

*Jamides bochus*, oviposition, young larva, GREEN, p. 204, Spolia Zeylan. ii.

*Lycæna*; notes on European varr., SCHULTZ, pp. 75-78, Jahresber. Wien. ent. Ver. 1905; *L. alcon* var. n. *rebeli*, pl. ii, figg. 1, 2, HIRSCHKE, p. 109, Jahresber. Wien. ent. Ver. 1904; *L. argiades* var. n. *depuncta*, pl. ii, figg. 3, 4, HIRSCHKE, p. 112, t. c.; *L. argus* and *argyronomon*, sex differences, PETERSEN, p. 72, Mem. Ac. St. Petersb. (8) xvi, No. 2; *L. arion*, pupa, FROHAWK, p. 193, cut, Entomologist 1905; *L. bellargus* var. *alfacariensis*, RIBBE, p. 138, Soc. ent. xx; *L. corydon cinnus*, cuts, LEONHARDT, p. 128, Ins. Börse 1905; *L. hylas* var. n. *atlantica*, pl. xix, figg. 5, 6, ELWES, p. 380, Tr. ent. Soc. London 1905; *L. icarus* Rott. ab. *polyphemus* Esper, *melanotoxa* Pincitore, LEONHARDT, p. 1, Natural. Sicil. xviii; *L. icarus* Rott., hermaphrodite, pl. ii, figg. 5, 6, SCHNECK, p. 5, Jahresber. Wien. ent. Zeit. 1904; *L. melanops* var. n. *wheeleri*,

- CHAPMAN, p. iii, cut, P. ent. Soc. London 1905; *L. orbitulus*, and allies, ROWLAND-BROWN, p. 1, cut, P. ent. Soc. London 1905.
- L. orbitulus oberthuri* and *L. pyrenaica*, ROWLAND-BROWN, pp. 241, 242, cuts, Entomologist 1905.
- L. osiris*, larva, JUNOD, p. 212, Bull. Soc. Neuchatel xxvii; *L. bahru*, pl. xliii, f. 1, p. 98, *ruberrothei*, f. 2, p. 99, WEEKS, Illustr.; *L. maritima*, pl. xlv, f. 3, p. 102, WEEKS, t. c.
- L. pulchriatrata*, Kikuyu escarp., BETHUNE-BAKER, p. 495, Nov. Zool. xii; *L. emigdionis*, California, GRINNELL, p. 115, Ent. News Philad. xvi, n. sp.
- Lycænesthes adherbal* Mab. = (*monteironis* Kirb.), DRUCE, p. 253, Tr. ent. Soc. London 1905.
- L. anadema*, Rhodesia, DRUCE, p. 258, pl. xiii, f. 6, t. c.; *L. nigeriæ*, W. Africa, AURIVILLIUS, p. 16, pl. iii, f. 4, Arkiv Zool. iv, No. 12, n. sp.
- Liptena bolivari*, Guinea, KHEIL, p. 173, Mem. Soc. Espan. i; *L. eukrines*, Rhodesia, DRUCE, p. 253, pl. xiii, f. 7, Tr. ent. Soc. London 1905: n. spp.
- Ogyris*, monograph, *zozine-duaringa*, and *zozine-magna*, p. 280, *hewitsoni-meridionalis*, p. 286, subspp. n., BETHUNE-BAKER, Tr. ent. Soc. London 1905.
- O. waterhouseri*, Victoria, BETHUNE-BAKER, p. 273, t. c. n. sp.
- Polyommatus astrarche* varr., HARRISON, p. 280, Ent. Rec. xvii; *P. corydon*, attachment of pupa, CHAPMAN, pp. 79, 80, Ent. Rec. xvii.
- Spindaris kallimon*, Rhodesia, DRUCE, p. 254, pl. xiii, f. 9, Tr. ent. Soc. London 1905, n. sp.
- Stilbon meeki*, New Guinea, ROTHSCHILD & JORDAN, p. 465, Nov. Zool. xii, n. sp.
- Thecla vicis* ab. n. *alineata*, ROSTAGNO, p. 92, Boll. Soc. zool. Ital. xiv; *T. spurina* = (*stagira*, *volana*, *timæa* Hew.), *T. ericusa* ♂ = (*voconia* Hew.), H. H. DRUCE, pp. 194-196, Ann. Nat. Hist. (7) xv; *T. infrequens*, pl. vi, f. 3, p. 37, *T. lucaris*, pl. x, f. 1, p. 42, *T. harrietta*, pl. xi, f. 2, p. 45, *T. dickiei*, pl. xiv, f. 1, p. 49, *T. francis*, pl. xliii, f. 3, p. 99, *sadieii*, pl. xlv, f. 1, p. 100, WEEKS, Illustr.
- Zephyrus quercus*, hermaphrodite, MÖBIUS, pl. 1, f. 6, Iris Dresden xviii.

## HESPERIIDÆ.

- [Cf. DRUCE & DRUCE (457), DYAR (482), FRUHSTORFER (621), GRINNELL (697), JUNOD (825), SWINHOE (1462), TURATI (1508), WEEKS (1594).] Revision of *Hesperiidæ* of United States, DYAR, pp. 111-141, and notes on larvæ, p. 142, J. N. York Ent. Soc. xiii.
- Achlyodes fera*, pl. xxiv, fig. 3, p. 67, WEEKS, Illustr.; *A. guilfordi*, pl. xli, fig. 1, p. 94, *seatoni*, fig. 2, p. 95, WEEKS, t. c.
- Amblyscirtes meridionalis*, Florida, DYAR, p. 135, J. N. York Ent. Soc. xiii, n. sp.
- Anatrytone* n. g. type *Pamphila delaware* Edw., DYAR, p. 140, t. c.
- Augiades comma* and *sylvanus*, sexual differences, PETERSEN, p. 72, cuts, Mem. Ac. St. Petersb. (8) xvi, No. 2.
- A. faunus*, Gavarni, TURATI, p. 36, pl. vi, figg. 5, 9, and vii, fig. 3, Natural. Sicil. xviii, n. sp.
- Bulteria duovata*, pl. xxiv, fig. 2, p. 66, WEEKS, Illustr.
- Calpodès ethlius*, metamorphosis, CHITTENDEN, pp. 54-58, cut, Bull. U. S. Dep. Agric. Ent. No. 54.
- Casyapa dissimilis*, N. Guinea, SWINHOE, p. 612, Ann. Nat. Hist. (7) xvi, n. sp.
- Cobalopsis duspeca*, pl. xxvi, fig. 2, p. 71, WEEKS, Illustr.
- Cyclopides formosus* var. n. *tsadicus*, AURIVILLIUS, p. 23, Arkiv Zool. ii, No. 12.

- C. cooksoni*, Rhodesia, DRUCE, p. 260, pl. xiii, fig. 10, Tr. ent. Soc. London 1905, n. sp.
- Epiphyes* n. g. type *Pamphila carolina*, DYAR, p. 132, J. N. York Ent. Soc. xiii.
- Gorythion difficilis*, pl. xiv, fig. 2, p. 50, WEEKS, Illustr.
- Hasora pulinda*, Java, SWINHOE, p. 618, Ann. Nat. Hist. (7) xvi, n. sp.
- Hesperilla saxula* Mab., to *Telesto*, SWINHOE, p. 614, t. c.
- Hesperopsis* n. g. type *Pholisora alphæus*, DYAR, p. 118, J. N. York Ent. Soc. xiii.
- Heteropterus morpheus* var. n. *radiata*, KOLISKO, p. 275, Verh. Ges. Wien 1905.
- Ilma* n. g. near *Erionota*, *I. jovina* n. sp., Celebes, SWINHOE, p. 613, Ann. Nat. Hist. (7) xvi.
- Ismene aphrodite*, Toli-toli, FRUHSTORFER, p. 141, Soc. ent. xx; *I. lysima*, Ké Is., SWINHOE, p. 618, Ann. Nat. Hist. (7) xvi: n. spp.
- Mimas melie* ♂, SWINHOE, p. 615, t. c.
- Megathymus*, see *Castniidae*.
- Nisionades tages*, larval hairs, CHAPMAN, p. 281, Ent. Rec. xvii; *N. menuda*, pl. xlv, fig. 2, p. 101, WEEKS, Illustr.; *N. tihoneta*, pl. xxii, fig. 1, p. 62, WEEKS, t. c.
- Padraona tranquilla*, *tabla*, p. 616, *silativa*, New Guinea, *batchiana*, Batjan, p. 617, SWINHOE, Ann. Nat. Hist. (7) xvi.
- Pamphila roncilionis*, larva, JUNOD, p. 235, Bull. Soc. Neuchatel xxvii; *P. viridenez*, pl. xiv, fig. 3, p. 52, *errator*, pl. xv, fig. 1, *argentea*, fig. 2, p. 53, *cusillunia*, fig. 3, p. 54, *vesana*, pl. xvi, fig. 1, p. 55, *coroicana*, fig. 2, *serenus*, fig. 3, p. 56, WEEKS, Illustr.; *P. reedi*, pl. xxvi, fig. 1, p. 70, *alleni*, pl. xxvii, fig. 1, p. 71, *hurleyi*, fig. 2, p. 72, *leopardus*, pl. xxviii, fig. 1, p. 73, *taberi*, fig. 2, p. 74, *barbara*, fig. 3, p. 75, *warreni*, pl. xxix, fig. 2, p. 77, *cuadrada*, fig. 3, p. 78, *idee*, pl. xxx, fig. 1, p. 79, *artici*, pl. xxx, fig. 2, p. 79, *planus*, pl. xxxi, fig. 1, p. 80, *milesi*, fig. 2, p. 81, *briquenydan*, pl. xxxii, fig. 1, p. 82, *septimanus*, fig. 2, p. 83, *allianca*, pl. xxxiii, fig. 1, p. 83, *coroiconensis*, fig. 2, p. 82, WEEKS, t. c.
- Parata alexis*, larval habits, GREEN, p. 157, Spolia Zeylan. iii.
- Paratrytone* n. g. type *Pamphila howardi*, DYAR, p. 136, J. N. York Ent. Soc. xiii.
- Prenez californica*, pl. xxii, fig. 2, p. 63, WEEKS, Illustr.
- Pyrgus pelagica*, pl. i, fig. 5, p. 4, WEEKS, t. c.
- P. delagoae* (Trim.), Delagoa, JUNOD, p. 233, pl. ii, fig. 3, Bull. Soc. Neuchatel xxvii, n. sp.
- Pyrrophypopsis reedii*, pl. xvii, p. 57, WEEKS, Illustr.
- Pythoides hirta*, pl. xlv, fig. 2, p. 104, WEEKS, t. c.
- Syrichthius frutillum*, chrysalis, pl. i, fig. 2, ROUGEMONT, Bull. Soc. Neuchatel xxix; *S. nigella*, pl. xxix, fig. i, p. 76, WEEKS, Illustr.
- Tagiades curiosa*, New Guinea, SWINHOE, p. 612, Ann. Nat. Hist. (7) xvi, n. sp.
- Telegonis tritonæ*, pl. xxxiv, p. 85, WEEKS, Illustr.; *T. finitimus*, pl. xxxviii, fig. 2, p. 90, WEEKS, t. c.
- Telesto uniformis*, Ké Is., SWINHOE, p. 614, Ann. Nat. Hist. (7) xvi, n. sp.
- Thanaos pernigra*, California, GRINNELL, p. 34, Ent. News Philad. xvi, n. sp.
- Thymele bridgmani*, pl. xxxviii, fig. 1, p. 89, WEEKS, Illustr.

## HETEROCERA.

Varr. n. of palæarctic *Heterocera*, SCHULTZ, pp. 115-122, Nyt Mag. Naturv. xliii [not recorded in detail here].



## CASTNIIDÆ.

- Castnia licus*, larva, DYAR, p. 83, P. ent. Soc. Washington vii; *C. licus*, metamorphoses, MARLATT, p. 71, cuts, Bull. U. S. Dep. Agric. Ent. No. 54.
- Megathymus aryxna*, Arizona, DYAR, p. 141, J. N. York Ent. Soc. xiii; *M. polingi*, Arizona, SKINNER, p. 232, Ent. News Philad. xvi: n. spp.
- Synemon monodesma*, W. Australia, LOWER, p. 173, Tr. R. Soc. S. Austral. xxix, n. sp.

## SPHINGIDÆ.

- [Cf. AUSTAUT (44), BETHUNE-BAKER (108), CANNAVIELLO (276), NAGANO (1082), PACKARD (1131), ROTHSCHILD (1304), SPEISER (1433).]
- The *Sphingidæ* of Japan, NAGANO (1082).
- Sphingidæ* phylogeny, derivation from *Ceratocampidæ*, pp. 34-40; *Sys-sphingina* and *Protosphingina*, pp. 49, 50; PACKARD, Mem. Ac. Washington ix.
- Sphingidæ* of Schwerin, with metamorphoses and variation, GILLMER, Arch. Ver. Mecklenb. lviii, pp. 64-69, and lix, pp. 99-120.
- Borshomia* n. g. for *Chærocampa komarovi*, AUSTAUT, p. 30, Ent. Zeitschr. Guben xix.
- Ceratonia amyntor*, life-history, PACKARD, pp. 30 etc., pl. xxxiv, Mem. Ac. Washington ix.
- Daphnis neri*, early stages, POWELL, pp. 249-252, Ent. Rec. xvii.
- Deilephila placida-torenia* Dr., pl. viii, fig. 2, p. 95, BETHUNE-BAKER, P. Zool. Soc. London 1905, i; *D. vespertilio* ab. n. *flava*, BLACHIER, p. 52, Bull. Soc. ent. France 1905.
- Dilina tilia*, var. nomenclature, SPEISER, pp. 170, 171, Zeitschr. Insbiol. i; *D. tilia*, ab. *tilioides* Holle, GILLMER, p. 337, t. c. Zeitschr. Insbiol. i.
- Calasymbolus exæcatus* var. n. *pecosensis*, COCKERELL, p. 111, Entomologist 1905.
- Hopliocnena brachycera* Low. (as *Coemotriche*)=(*melanoleuca* Rothsch.), LOWER, p. 177, Tr. R. Soc. S. Austral. xxix.
- Macroglossum micacea albibase*, Solomon Ids., ROTHSCHILD, p. 79, Nov. Zool. xii, n. sp. (sic).
- Metopsilus porcellus* var., GILLMER, p. 124, pl. vii, Arch. Ver. Mecklenb. lviii.
- Protoparce euphorbiæ*, larva, variation, VERITY, pp. 142-144, Bull. Soc. ent. Ital. xxxvi.
- Psilogramma jordani*, Fiji, BETHUNE-BAKER, p. 88, pl. viii, fig. 1, P. Zool. Soc. London 1905, i, n. sp.
- Pterodonta* n. g. for *Pterogon gorgoniades* H. S., AUSTAUT, p. 25, Ent. Zeitschr. Guben xxix.
- Smerinthus populi*, varr. nomenclature, SPEISER, pp. 171-174, Zeitschr. Insbiol. i; *S. populi*, ab. *salicis* Holle, GILLMER, p. 327, Zeitschr. Insbiol. i.
- Sphinx sequoia*, larva, WILLIAMS, p. 153, Ent. News Philad. xvi.
- Theretra polistratus*, pl. v, fig. 13, JORDAN, p. 512, Nov. Zool. xii.

## SESIIDÆ.

- [Cf. AURIVILLIUS (41), PÜNGELER (1221, 1223).]
- Bembecia marginata*, habits and life-history, LAWRENCE, pp. 117-119, Ent. News Philad. xvi.
- Episannina* n. g. p. 44, *chalybea* n. sp., W. Africa, p. 45, AURIVILLIUS, Arkiv Zool. ii, No. 12.
- Melittia brevicornis*, Cameroons, AURIVILLIUS, p. 43, t. c. n. sp.

*Sesia flaviventris*, larva and habits, LÜDERS, p. 382, Zeitschr. Insbiol. i.  
*S. seitzii*, Algeria, PÜNGELER, p. 129, Soc. ent. xx; *S. bohatschi*, p. 268,  
*tancredi*, p. 269, Centr. Asia, PÜNGELER, Iris Dresden xvii; *S. ? xanthopyga*, W. Africa, AURIVILLIUS, p. 45, Arkiv Zool. ii, No. 12 : n. spp.

### BOMBYCES

(s. l., including CHALCOSIIDÆ, PSYCHIDÆ, HEPIALIDÆ, COSSIDÆ, AGARISTIDÆ, and various families of more or less doubtful position. *Uraniidæ* and *Epiplemidæ*, and *Cymatophoridæ*, see GEOMETRIDÆ; *Thyrididæ*, see PYRALIDÆ).\*

[Cf. AURIVILLIUS (40, 41), BARNES (77), BETHUNE-BAKER (108), BLACHIER (122), COVERDALE (373), DOGNIN (439, 440, 441, 442), DRUCE (454, 455), DUDGEON (465), DYAR (470, 471, 472), DZIURZYNSKI (486, 487), GIBSON (653), HAMPSON (716, 719), HUDSON (794), JUNOD (825), KÜNCKEL (903-907), LOWER (981), MARSHALL (1011), PACKARD (1131), PERKINS (1151), PIEPERS & SNELLEN (1203), PÜNGELER (1221), ROTHSCHILD (1304), ROTHSCHILD & JORDAN (1307), SCHAUS (1329), SCHWANGART (1367), SEIFERT (1374), SILVESTRI (1399), SKINNER (1406), SWINHOE (1456-1462), VÉRITY (1540), WARREN & ROTHSCHILD (1576).]

Monograph of Bombycine moths, pt. ii, with taxonomy of *Sphingoidea* and *Saturnoidea*, metamorphoses and general matter, PACKARD, Mem. Ac. Washington ix.

Sex-organs, ♀ *Hemileuca maia*, MARSHALL, Tr. Wisconsin Ac. xxv, 14 pp., 2 plates.

Wild silkworms in Assam, E. St., Soc. ent. xx, pp. 19 etc.

Source of irritation of hairs of processionary caterpillar, VAN ROSSUM, Tijdschr. Ent. xlviii, Versl. p. lxvii.

*Acanthopsyche canarensis*, India, HAMPSON, p. 193, J. Bombay Soc. xvi; *A. (Metisa) theivora*, Sikkim, DUDGEON, p. 400, J. Bombay Soc. xvi : n. spp.

*Acosus* n. g. type *C. undosus* Lintn., DYAR, p. 178, P. U. S. Mus. xxix.

*Acraga infusa*, *angulifera*, Guiana, SCHAUS, p. 332, P. U. S. Mus. xxix, n. spp.

*Acragopsis* n. g. *Dalceridæ*, DYAR, p. 176, *flavetta* n. sp., French Guiana, SCHAUS, p. 332, t. c.

*Adelocephala bicolor*, and others, life-histories, PACKARD, pp. 65-90, pls. i-ii, Mem. Ac. Washington ix.

*A. montezuma*, Jalapa, PACKARD, p. 77, pl. xix, f. 6, pl. xxxvii, f. 3, pl. lxi, f. 3, t. c.; *A. purpurascens*, *plateada*, p. 182, *oda*, *pelota*, p. 183, Guiana, SCHAUS, P. U. S. Mus. xxix; *A. crispula*, Tucuman, *isara*, San Salvador, DOGNIN, p. 215, Naturaliste 1905 : n. spp.

*Egocera venulia*, larva, HAMPSON, p. 439, J. Bombay Soc. xvi.

*Emilia melanchra*, Peru, SCHAUS, p. 226, P. U. S. Mus. xxix, n. sp.

*Ethria aner*, Venezuela, HAMPSON, p. 428, Ann. Nat. Hist. (7) xv, n. sp.

*Agamopsyche* n. g. *Epipyropidæ*, p. 83, *threnodes* n. sp., Queensland, p. 84, PERKINS, Bull. exp. Stat. Hawaii i.

*Aglia tau*, variation of eye-spots, OBERTHÜR, p. 57, Bull. Soc. ent. France 1905; *A. tau* ab., pl. ii, f. 4, MÖBIUS, Iris Dresden xviii.

\* Owing to diversity of opinion as to *Chalcosiidæ*, *Epiplemidæ*, both *Bombyces* and *Geometridæ* should be inspected as regards these insects. As regards *Cymatophoridæ*, *Thyatiridæ*; *Noctuidæ* should also be looked through as well as *Bombyces* and *Geometridæ*.

- Agylla delicia, auranticaria, subvoluta*, p. 196, *sanctæ-johannis*, p. 197, French Guiana, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Ammalo helops* var. n. *trujillaria*, DOGNIN, p. 148, Ann. Soc. ent. Belgique 1905.
- Amaxia consistens*, Guiana, SCHAUS, p. 212, P. U. S. Mus. xxix, n. sp.
- Amsacta latinea*, larva, pl. vii, figg. 1-3, p. 187, PIEPERS, Tijdschr. Ent. xlviii; *A. albistriga*, larva, HAMPSON, p. 210, J. Bombay Soc. xvi.
- A. seminigra*, Abyssinia, HAMPSON, p. 447, Ann. Nat. Hist. (7) xv, n. sp.
- Anacraga* n. g. *Dalceridæ*, type *Dalcera citrina* Schaus, DYAR, p. 176, P. U. S. Mus. xxix.
- Anadiasa cervina*, Africa, AURIVILLIUS, p. 314, pl. xvi, f. 5, Tr. ent. Soc. London 1905, n. sp.
- Anarchylus* n. g. *Megalopygida*, type *Archylus mexicana* Schaus, DYAR, p. 177, P. U. S. Mus. xxix.
- Anisota*, life-histories, PACKARD, pp. 102-116, pls. xxix-xxxii, Mem. Ac. Washington ix.
- Anita norella*, p. 278, *syrtæ, galibensis, lassa*, p. 279, Guiana, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Antæa omana*, Brit. Guiana, SCHAUS, p. 293, t. c. n. sp.
- Antarctia fulvicollis*, Chile, *phacocera*, Paraguay, HAMPSON, p. 448, Ann. Nat. Hist. (7) xv, n. spp.
- Antaxia meridionalis*, Peru, SCHAUS, p. 190, P. U. S. Mus. xxix, n. sp.
- Anthela epicrypha*, New South Wales, SWINHOE, p. 150, Ann. Nat. Hist. (7) xvi; *A. niphomacula, callispila*, p. 175, *pyromacula*, p. 176, Australia, LOWER, Tr. R. Soc. S. Austral. xxix: n. spp.
- Antiopha albolinea*, Guiana, SCHAUS, p. 237, P. U. S. Mus. xxix, n. sp.
- Apægocera* n. g. *Agaristidæ, argyrogramma* n. sp., Ashanti, HAMPSON, p. 449, Ann. Nat. Hist. (7) xv.
- Apantesis*; the early stages of Canadian species, GIBSON, Canad. Ent. 1905, pp. 337-347.
- Apatelodes pandarioides*, Guiana, SCHAUS, p. 295, P. U. S. Mus. xxix, n. sp.
- Aphyle cuneata*, Brit. Guiana, HAMPSON, p. 440, Ann. Nat. Hist. (7) xv, n. sp.
- Apocerca* n. g. *Syntomidæ*, DYAR, p. 174, *sobria* n. sp., French Guiana, SCHAUS, p. 193, P. U. S. Mus. xxix.
- Aræomolis sanguinea*, Cayenne, HAMPSON, p. 442, Ann. Nat. Hist. (7) xv, n. sp.
- Arctia proxima*, variation and natural history, SEIFERT, pp. 73-78, pl. iii, Canad. Ent. 1905; *A. villica* var., pl. ii, f. 8, MÖBIUS, Iris Dresden xviii; *A. flavia* varr. n., LOREZ, p. 104, Mt. Schweiz. ent. Ges. xi.
- Ardonea judaphila*, Guiana, SCHAUS, p. 197, P. U. S. Mus. xxix, n. sp.
- Argyrolepidia æqualis integra*, JORDAN, pl. v, f. 2, p. 511, Nov. Zool. xii.
- A. palæa, lunaris*, New Guinea, ROTHSCHILD & JORDAN, p. 473, Nov. Zool. xii, n. spp.
- Argyrophlebs simplex*, W. Africa, AURIVILLIUS, p. 42, Arkiv Zool. ii, No. 12, n. sp.
- Arhabdosis* n. g. *Lithosiidæ*, DYAR, p. 174, *subvarda* n. sp., French Guiana, SCHAUS, p. 201, P. U. S. Mus. xxix.
- Arhacia elongata*, Peru, SCHAUS, p. 243, t. c. n. sp.
- Aroa campbelli*, Madras, HAMPSON, p. 198, pl. d, f. 8, J. Bombay Soc. xvi, n. sp.
- Asceptesyle* n. g. *Lithosiidæ*, DYAR, p. 175, *submarginata* n. sp., Trinidad, SCHAUS, p. 201, P. U. S. Mus. xxix.
- Asota latiradia*, Babber Isld., p. 618, *symmorphæ*, Saparua Isld., p. 619, SWINHOE, Ann. Nat. Hist. (7) xvi, n. spp.
- Asura rhodina*, New Guinea, ROTHSCHILD & JORDAN, p. 469, Nov. Zool. xii; *A. chrysomela, hemachroa, metascota*, Solomon Islds., HAMPSON, p. 438, Ann. Nat. Hist. (7) xv: n. spp.

- Argyrooides flavicincta*, Venezuela, DRUCE, p. 461, Ann. Nat. Hist. (7) xv, n. sp.
- Aurivillius aratus*, larva, p. 33, AURIVILLIUS, Arkiv Zool. ii, No. 12.
- Autochloris* Hübn. = (*Bombiliodes*), HAMPSON, p. 427, Ann. Nat. Hist. (7) xv.
- Automolis aleteria*, *ochreata*, *asteroides*, p. 214, *pulverosa*, *carinosa*, *irrupta*, p. 215, *formona*, *sulfurea*, p. 216, *chrysoptera*, *neira*, *zonana*, p. 217, *moma*, *apicata*, *crocopera*, *albiplaga*, p. 218, *polystria*, *bonora*, *ilioides*, p. 219, S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Azatrepes* n. n. for *Zatrepes* Hamps., HAMPSON, p. 420, Ann. Nat. Hist. (7) xv.
- Bardaxima*, type *lucilinea* Walk., SCHAUS, p. 233, P. U. S. Mus. xxix.
- Baritius hamorrhoides*, Guiana, SCHAUS, p. 223, t. c. n. sp.
- Beralade* = (*Chilena* Walk. and *Lakena* Wallengr.), the African species, AURIVILLIUS, pp. 319-321, Tr. ent. Soc. London 1905.
- B. bettoni*, E. Africa, pl. xvi, f. 9, *simplex*, Natal, f. 6, id. p. 322, t. c.; *B. pura*, Sudan, WARREN & ROTHSCHILD, p. 23, pl. iv, f. 13, Nov. Zool. xii : n. spp.
- Biopsyche* n. g. type *Thanatopsyche apicalis* Hamps., DYAR, p. 178, P. U. S. Mus. xxix.
- Blera nitida*, p. 264, *lauta*, p. 265, Guiana, SCHAUS, P. U. S. Mus. xxix; *B. argentata*, Peru, DRUCE, p. 540, Ann. Nat. Hist. (7) xv : n. spp.
- Bombiliodes cincta*, F. Guiana, SCHAUS, p. 184, P. U. S. Mus. xxix, n. sp.
- Bombycopsis conspersa*, E. Africa, AURIVILLIUS, p. 322, pl. xvi, f. 4, Tr. ent. Soc. London 1905, n. sp.
- Bombyx mori*, oviposition, GAL, Bull. Soc. Nimes xxxii, pp. 68-71.
- Boriza povera*, Brit. Guiana, SCHAUS, p. 264, P. U. S. Mus. xxix, n. sp.
- Brachychira* n. g. *Notodontide*, *ferruginea* n. sp., W. Africa, pl. iv, f. 6, AURIVILLIUS, p. 28, Arkiv Zool. ii, No. 12.
- Brachycodilla perfusa*, Guiana, SCHAUS, p. 333, P. U. S. Mus. xxix, n. sp.
- Bunæa hersilia*, *dido*, *rendalli*, *ansorgei*, are one species, larva, pl. iv, figg. 2, 3, p. 31, *licharbas*, larva, pl. ii, f. 2, p. 32, AURIVILLIUS, Arkiv Zool. ii, No. 12; *B. ? larva* from Soudan, BLANCHARD, pp. 127-129, Bull. Soc. zool. France xxx.
- Burgena reducta*, pl. v, f. 6, JORDAN, p. 511, Nov. Zool. xii.
- B. constricta*, New Guinea, ROTHSCHILD & JORDAN, p. 472, t. c. n. sp.
- Burtia* = (*Gundlachia*), HAMPSON, p. 429, Ann. Nat. Hist. (7) xv.
- Culledema argenta*, *arema*, p. 230, Guiana, *sura*, Brazil, p. 231, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Callidrepana pilana*, Borneo, SWINHÖE, p. 150, Ann. Nat. Hist. (7) xv, n. sp.
- Callimorpha dominula* varr., SCHULTZ, p. 148, Soc. ent. xix; *C. colona*, variation, pl. vii, p. 154, COVERDALE, Ent. News Philad. xvi.
- Callisthenia angusta*, Guiana, SCHAUS, p. 200, P. U. S. Mus. xxix, n. sp.
- Calosaturnia mendocino*, early stages, WILLIAMS, p. 153, Ent. News Philad. xvi.
- Cania plumbifusa*, Assam, pl. d, f. 7, p. 197, HAMPSON, J. Bombay Soc. xvi, n. sp.
- Caprima tricolor*, New Guinea, ROTHSCHILD & JORDAN, p. 477, Nov. Zool. xii, n. sp.
- Caprimima cærulescens bougainvillei* subsp. n., ROTHSCHILD, p. 79, Nov. Zool. xii; *C. cærulescens bougainvillei*, f. 7, *cærulescens isabella*, f. 8, *cærulescens mononis*, f. 9, pl. v, JORDAN, Nov. Zool. xii.
- C. metallica*, *ænea*, New Guinea, ROTHSCHILD & JORDAN, p. 470, Nov. Zool. xii, n. spp.
- Carama imparilis*, *flammicornis*, Guiana, SCHAUS, p. 334, P. U. S. Mus. xxix, n. spp.
- Casphalia nigradorsa*, p. 40, *citrimaculata*, p. 41, W. Africa, AURIVILLIUS, Arkiv Zool. ii, No. 12, n. spp.

- Celama albirufa*, Guiana, SCHAUS, p. 194, P. U. S. Mus. xxix, n. sp.  
*Ceramidia chloroptegia*, Venezuela, DRUCE, p. 462, Ann. Nat. Hist. (7) xv, n. sp.  
*Cerathosia idella*, Arizona, BARNES, p. 193, Canad. Ent. 1905, n. sp.  
*Ceratocampidæ*; PACKARD, Mem. Ac. Washington ix.  
*Ceratonema fusca*, Khasia Hills, SWINHOE, p. 498, Ann. Nat. Hist. (7) xv, n. sp.  
*Cerura*? *melanogylpta*, S. Australia, LOWER, p. 177, Tr. R. Soc. S. Austral. xxix; *C. gonema*, *lancea*, Guiana, SCHAUS, p. 244, P. U. S. Mus. xxix: n. spp.  
*Chadisra multifida*, p. 265, *C. ? cuculloides*, p. 266, Guiana, SCHAUS, t. c. n. spp.  
*Chalcosia electra*, Borneo, SWINHOE, p. 149, Ann. Nat. Hist. (7) xv, n. sp.  
*Charagia sordida*, New Guinea, ROTHSCHILD & JORDAN, p. 478, Nov. Zool. xii, n. sp.  
*Chionama aviologa*, Nias Isld., SWINHOE, p. 143, Ann. Nat. Hist. (7) xvi, n. sp.  
*Chliara novicia*, Guiana, SCHAUS, p. 293, P. U. S. Mus. xxix, n. sp.  
*Chondrostegoides* n. g. *Lasiocampidæ*, *capensis* n. sp., Deelfontein, AURIVILLIUS, p. 324, Tr. ent. Soc. London 1905.  
*Chrostosoma pellucida*, Peru, SCHAUS, p. 185, P. U. S. Mus. xxix, n. sp.  
*Chrysocyma* n. g. *Lithosianæ*, *mesopotamia* n. sp., Africa, HAMPSON, p. 435, Ann. Nat. Hist. (7) xv.  
*Chrysopoloma nigrociliata*, W. Africa, AURIVILLIUS, pl. iii, f. 6, p. 38, Arkiv Zool. ii, No. 12, n. sp.  
*Chrysopsyche imparilis*, W. Africa, AURIVILLIUS, p. 34, t. c. n. sp.  
*Chrysostola discoplaga*, Venezuela, SCHAUS, p. 189, P. U. S. Mus. xxix, n. sp.  
*Ciccinnus submarcata*, p. 320, *joanna*, *fogia*, p. 321, *malca*, *gilia*, p. 322, *balca*, *marona*, p. 323, *eugenia*, *maloba*, *vitreata*, p. 324, *unalca*, *partha*, *enthona*, p. 325, *caudina*, *althea*, *patella*, p. 326, *anoca*, *esperans*, *lantona*, p. 327, *lucara*, *lola*, *rosea*, p. 328, *valva*, *narga*, *lemoulti*, p. 329, *fraterna*, *cunona*, p. 330, S. America, SCHAUS, t. c. n. spp.  
*Cincia nephelistis*, Cuba, HAMPSON, p. 436, Ann. Nat. Hist. (7) xv, n. sp.  
*Cisthene triplaga*, Paraguay, HAMPSON, p. 434, t. c. n. sp.  
*Citheronia*, life-histories, PACKARD, pp. 128-147, pls. xviii, xix, xx, Mem. Ac. Washington lx.  
*Claphe naraxa*, p. 299, *roxana*, *salandria*, *melca*, p. 300, *herberti*, *iresca*, *albipilaga*, p. 301, *parepa*, *semita*, *vithersi*, p. 302, *petrovna*, *varma*, *directilinea*, p. 303, *rundala*, *obliterata*, *vecina*, *namora*, p. 304, *nigropunctata*, *teresina*, *sulga*, p. 305, *mya*, *durtea*, *tamila*, p. 306, *napala*, *genesca*, *narceta*, p. 307, *viridiflava*, *albigrisea*, *folia*, p. 308, *horrifer*, *lapana*, *pastica*, *daltha*, p. 309, *laurena*, *farina*, *talma*, p. 310, *tornipuncta*, *morens*, *giulia*, *medioclara*, p. 311, *onesca*, *putrida*, *temblora*, p. 312, *renesca*, S. America, *inconspicua*, Panama, *sura*, *gera*, p. 313, *lemoulti*, *bipuncta*, *lola*, p. 314, *ocruma*, *mita*, *tremula*, *dalceroides*, p. 315, *palma*, p. 316, S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.  
*Cleis aureola*, Obi Isld., SWINHOE, p. 149, Ann. Nat. Hist. (7) xvi, n. sp.  
*Clelea refulgens*, Manipur, HAMPSON, p. 193, J. Bombay Soc. xxi, n. sp.  
*Clemensia brunneomedia*, *subleis*, *distincta*, *inleis*, p. 204, *abnormis*, p. 205, S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.  
*Clerckia miles cybdela* subsp. n., ROTHSCHILD, p. 79, Nov. Zool. xii; *C. miles cybdela*, pl. v, figg. 10-12, JORDAN, p. 512, Nov. Zool. xj.  
*Cnethocampa pityocampa*, at Villafranca, FRIEDRICH, pp. 494-496, Zeitschr. Insbiol. i.  
*Cnidocampa* n. n. for *Monema* Walk., DYAR, p. 952, P. U. S. Mus. xxviii.  
*Coccus luzena*, Arizona, BARNES, p. 216, Canad. Ent. 1905, n. sp.  
*Colla gaudialis*, p. 298, *albescens*, *umbrata*, p. 299, S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.

- Contheyla rotunda*, India, HAMPSON, p. 196, J. Bombay Soc. xvi, n. sp.  
*Correbia minima*, Venezuela, DRUCE, p. 465, Ann. Nat. Hist. (7) xv; *C. obscura*, French Guiana, SCHAUS, p. 193, P. U. S. Mus. xxix: n. spp.  
*Cosmosoma anoxanthia*, Venezuela, *apennina*, Peru, DRUCE, p. 460, Ann. Nat. Hist. (7) xv; *C. thoracicum*, French Guiana, SCHAUS, p. 186, P. U. S. Mus. xxix: n. spp.  
*Cossidæ*; synopsis of genera, SCHAUS, p. 339, t. c.  
*Cossula magna*, Guiana, SCHAUS, p. 344, t. c. n. sp.  
*Cossus kashmirensis*, valid, characters, HAMPSON, p. 194, J. Bombay Soc. xvi.  
*C. henleyi*, Sudan, WARREN & ROTHSCHILD, p. 23, pl. iv, f. 14, Nov. Zool. xii; *C. rufidorsia*, Sikkim, HAMPSON, p. 194, pl. d, f. 5, J. Bombay Soc. xvi: n. spp.  
*Creatonotos vacillans*, pl. vi, f. 7, p. 190, larva, PIEPERS, Tijdschr. Ent. xlviii.  
*Crinodes, besckei* etc. synonymy, SCHAUS, p. 238, P. U. S. Mus. xxix.  
*C. biedermanni*, Arizona, SKINNER, p. 209, pl. ix, Ent. News Philad. xvi, n. sp.  
*Cryptophobetron* n. g. for *Limacodes oropeso* Barnes, DYAR, p. 390, P. U. S. Mus. xxix.  
*Ctenane* n. g. HAMPSON, *Lithosiinae, labuana*, Borneo, n. sp., p. 497, SWINHOE, Ann. Nat. Hist. (7) xv.  
*Ctenucha nantana* Walk. (as *Ammalo*)=(*rubicunda* Dogn.), HAMPSON, p. 431, Ann. Nat. Hist. (7) xv.  
*C. rubicunda*, Peru, DOGNIN, p. 10, Naturaliste 1905, n. sp.  
*Ctianopha argentilinea, serena*, Guiana, SCHAUS, p. 234, P. U. S. Mus. xxix, n. sp.  
*Cyanopepla perspicua*, Bolivia, SCHAUS, p. 189, t. c. n. sp.  
*Cyclara brunneipennis, obscura, amarga*, S. America, SCHAUS, p. 337, t. c. n. spp.  
*Cyclosia*; numerous synonymy, SWINHOE, pp. 146-148, Ann. Nat. Hist. (7) xvi.  
*Cymbalophora polluta*, Peru, DOGNIN, p. 10, Naturaliste 1905, n. sp.  
*Dalcevide*, synopsis of genera, SCHAUS, p. 331, P. U. S. Mus. xxix.  
*Dasychira cerebosa*, pl. d, fig. 23, *magnalia*, fig. 24, HAMPSON, p. 199, J. Bombay Soc. xvi.  
*D. vitensis*, Fiji, BETHUNE-BAKER, pl. viii, fig. 3, p. 92, P. Zool. Soc. London 1905, i, n. sp.  
*Dasylophia empirica*, San Salvador, DOGNIN, p. 148, Ann. Soc. ent. Belgique 1905; *D. abnormis*, Guiana, SCHAUS, p. 242, P. U. S. Mus. xxix: n. spp.  
*Datana*, origin of markings, larva, PACKARD, pp. 8, 9, phylogeny of species, p. 9, Mem. Ac. Washington ix.  
*Delorhachis schultzei*, W. Africa, AURIVILLIUS, p. 39, Arkiv Zool. ii, No. 12, n. sp.  
*Delphyre* Wlk.=(*Neacerea* Hamps.), *D. hebes*=(*Nodoza tristis* Schaus), HAMPSON, p. 430, Ann. Nat. Hist. (7) xv.  
*Desmidocnemis*, cf. *Hyalomis*.  
*Diacrisia strigatula*, pl. vi, figg. 2, 3, p. 184, *landaca*, figg. 4-6, p. 185, larvæ, PIEPERS & SNELLEN, Tijdschr. Ent. xlviii.  
*D. metaleuca*, W. Africa, *pulverea*, Paraguay, HAMPSON, p. 447, Ann. Nat. Hist. (7) xv; *D. sumatrana*, Soekaranda, SWINHOE, p. 143, Ann. Nat. Hist. (7) xvi; *D. aurupsa*, Saparua Is., SWINHOE, p. 620, Ann. Nat. Hist. (7) xvi: n. spp.  
*Dialeucias violascens*, Guiana, SCHAUS, p. 222, P. U. S. Mus. xxix, n. sp.  
*Diarhabdosia strigipennis*, Guiana, SCHAUS, p. 205, t. c. n. sp.  
*Dicentria vallina, stridula, palmita*, Guiana, p. 247, *drucei*, Mexico, p. 248, SCHAUS, t. c. n. spp.

- Dichromapteryx* n. g. *Limacodidae*, p. 392, *obscura*, *dimidiata*, *ultima* n. spp., S. America, p. 393, DYAR, P. U. S. Mus. xxix.
- Dicranura vinula* var. n. *estonica*, HOYNINGEN-HUENNE, p. 225, Stettin Ent. Zeit. lxvi; *D. vinula*, note, BALDUCCI, pp. 117-122, pl., Bull. Soc. ent. Ital. xxxvi.
- Dipæna incontenta*, Guiana, SCHAUS, p. 198, P. U. S. Mus. xxix, n. sp.
- Diptilon proteuca*, Venezuela, DRUCE, p. 462, Ann. Nat. Hist. (7) xv, n. sp.
- Doelia cincta*, *D. ? melateuca*, New Guinea, ROTHSCHILD & JORDAN, p. 477, Nov. Zool. xii, n. spp.
- Dyasia* n. g. *Notodontidae*, p. 231, *viviana* n. sp., French Guiana, p. 232, SCHAUS, P. U. S. Mus. xxix.
- Dylomia ochreatea*, *delicata*, *consobrina*, p. 276, *fragilis*, *pulverea*, *germana*, p. 277, Guiana, SCHAUS, t. c. n. spp.
- Dysdæmonia lemoulti*, French Guiana, SCHAUS, p. 180, t. c. n. sp.
- Eacles*, life-histories, PACKARD, pp. 116-128, pls. ix, xvii, xlviii etc., Mem. Ac. Washington ix.
- E. guianensis*, p. 180, *barnesi*, p. 181, *acuta*, p. 182, Brit. Guiana, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Edebessa circumcincta*, p. 335, *languciata*, *megalopygæ*, p. 336, Guiana, SCHAUS, t. c.; *E. albida*, Peru, DOGNIN, p. 92, Naturaliste 1905 : n. spp.
- Elysius phantasma*, Guiana, SCHAUS, p. 223, P. U. S. Mus. xxix; *E. pyro-sticta*, Brazil, HAMPSON, p. 443, Ann. Nat. Hist. (7) xv : n. spp.
- Epectaptera discalis*, *umbrescens*, Peru, SCHAUS, p. 194, P. U. S. Mus. xxix, n. spp.
- Epiclea* n. g. type *Perola elaea* Druce, DYAR, p. 372, P. U. S. Mus. xxix.
- Epipinconia umbrifera*, Guiana, SCHAUS, p. 333, P. U. S. Mus. xxix, n. sp.
- Epiperola lagoaphila*, p. 382, *perornata*, *sombra*, p. 283, S. America, DYAR, P. U. S. Mus. xxix, n. spp.
- Epiphora bauhinia*, larva and cocoon, pl. i, fig. 3, AURIVILLIUS, p. 29, Arkiv Zool. ii.
- E. schultzei*, W. Africa, pl. iv, fig. 1, p. 30, id. t. c. n. sp.
- Epipyropidae* n. fam. allied to *Fumea* and *Psychidae*, for *Epipyrops* and 3 genn. n. *Palæopsyche*, *Agamopsyche*, *Heteropsyche*, PERKINS, p. 79, Bull. exp. Stat. Hawaii i.
- Episibine intensa*, *sibinides*, S. America, DYAR, p. 361, P. U. S. Mus. xxix, n. spp.
- Epitalara* n. g. *Lithosiidae*, DYAR, p. 175, *reversa* n. sp., French Guiana, SCHAUS, p. 205, t. c.
- Eragisa bocra*, Guiana, SCHAUS, p. 237, t. c. n. sp.
- Eriomastyx* n. g. *Arctidae* near *Schistophleps*, *latus* n. sp., New Guinea, ROTHSCHILD & JORDAN, p. 469, Nov. Zool. xii.
- Eriostepta bacchans*, Guiana, SCHAUS, p. 212, P. U. S. Mus. xxix, n. sp.
- Estigmene unipuncta*, E. Africa, *internigralis*, Natal, HAMPSON, p. 447, Ann. Nat. Hist. (7) xv, n. spp.
- Eucereon balium* to *Helinura*, HAMPSON, p. 430, t. c.; *E. metoidesis* n. n. for 1074 Hamps. Synt., HAMPSON, l. c.
- E. atrigutta*, p. 464, *leprota*, p. 465, Venezuela, DRUCE, Ann. Nat. Hist. (7) xv; *E. dorsipuncta*, Venezuela, p. 430, *ochrota*, Jamaica, p. 431, HAMPSON, Ann. Nat. Hist. (7) xv; *E. carabayana*, p. 191, *flavincincta*, *meruloides*, *lemoulti*, S. America, SCHAUS, p. 192, P. U. S. Mus. xxix; *E. formosum*, p. 9, *robustum*, p. 10, Peru, DOGNIN, Naturaliste 1905 : n. spp.
- Euchromia plagosa*, New Pomerania, p. 495, *shortlandica*, *salomonis*, *collaris*, Solomon Ids., p. 496, SWINHOE, Ann. Nat. Hist. (7) xv, n. spp.
- Euclea mira* n. n. for *Parasa incisa* N. & D. nec Harv., DYAR, p. 367, P. U. S. Mus. xxix.

- E. cipior*, p. 367, *permodesta*, *pallicolor*, *cuspostriga*, p. 368, S. America, *dolliana*, Arizona, *bidiscalis*, Panama, p. 369, DYAR, t. c. n. spp.
- Eudoliche longa*, Guiana, SCHAUS, p. 198, P. U. S. Mus. xxix, n. sp.
- Eumaschane* n. g. *Notodontidæ*, *laura* n. sp., French Guiana, SCHAUS, p. 241, t. c.
- Euphobetron* n. g. *Limacodidæ*, *aquapennis*, *cupreitineta*, p. 387, *natadooides*, p. 388, n. spp., S. America, DYAR, P. U. S. Mus. xxix.
- Euproctis chrysorrhæa* ab. pl. ii, fig. 1, MÖBIUS, Iris Dresden xviii.
- E. macrostigma*, Ceylon, pl. d, fig. 29, *laniata*, figg. 10, 11, *fulvinigra*, fig. 4, *xanthosticta*, figg. 12, 13, India, HAMPSON, p. 200, J. Bombay Soc. xvi ; *E. dirtea*, Borneo, SWINHOE, p. 151, Ann. Nat. Hist. (7) xv : n. spp.
- Euprosterna* n. g. near *Natada*, *elæana*, Mexico to Guiana, *pernambuconis*, p. 377, Brazil, n. spp., DYAR, P. U. S. Mus. xxix.
- Eupseudosoma aberrans*, Mexico, SCHAUS, p. 211, P. U. S. Mus. xxix, n. sp.
- Eurhodia* n. g. *Saturniidæ*, *gyra* n. sp., New Guinea, ROTHSCHILD & JORDAN, p. 466, Nov. Zool. xii.
- Eurosa acanthocera*, Sangir, HAMPSON, p. 434, Ann. Nat. Hist. (7) xv, n. sp.
- Eurota xanthosoma*, Argentina, HAMPSON, p. 428, t. c. n. sp.
- Euryvola* n. g. *Nolinæ* type *mesoleuca* Lower, HAMPSON, p. 432, t. c.
- Eusemia vetula*, larva, pl. vii, fig. 6, p. 195, PIEPERS, Tijdschr. Ent. xlviii.
- Eutane nivea*, Pulo Laut, HAMPSON, p. 439, Ann. Nat. Hist. (7) xv, n. sp.
- Euzegapteryx* n. g. *Lithosiidæ*, DYAR, p. 175, *speciosa* n. sp., French Guiana, SCHAUS, p. 205, P. U. S. Mus. xxix.
- Evius albiscripta*, Guiana, SCHAUS, p. 213, t. c. n. sp.
- Farigia magniplaga*, p. 242; *fragilis*, p. 243, Guiana, SCHAUS, t. c. n. spp.
- Gastropalakæis schultzei*, W. Africa, AURIVILLIUS, pl. iv, fig. 5, p. 37, Arkiv Zool. ii, No. 12; *G. rufescens*, W. Africa, AURIVILLIUS, p. 314, pl. xvi, fig. 10, Tr. ent. Soc. London 1905 : n. spp.
- Geractia* n. g. *Arctiidæ*, p. 448, *poliotis* n. sp., Canaries, p. 449, HAMPSON, Ann. Nat. Hist. (7) xv.
- Glaucostola flavida*, *binotata*, Guiana, *metaxantha*, Costa Rica, SCHAUS, p. 221, P. U. S. Mus. xxix, n. spp.
- Ginaldia* n. g. *Notodontidæ*, *davidsoni* n. sp., French Guiana, SCHAUS, p. 282, t. c.
- Givira triplex*, Guiana, SCHAUS, p. 342, t. c. ; *G. chielin*, p. 149, *moche*, p. 150, Peru, DOGNIN, Ann. Soc. ent. Belgique 1905 : n. spp.
- Gonometa postica* ♂ ♀, JUNOD, pl. iii, Bull. Soc. Neuchatel xxvii.
- G. regia*, Uganda, AURIVILLIUS, p. 313, pl. xvi, fig. 3, Tr. ent. Soc. London 1905, n. sp.
- Gois* n. g. *Megalopygidæ*, DYAR, p. 177, *nigrescens* n. sp., Brit. Guiana, SCHAUS, p. 338, P. U. S. Mus. xxix.
- Gonimbrasia nictitans*, larva, AURIVILLIUS, p. 30, pl. ii, figg. 3, 4, Arkiv Zool. ii, No. 12.
- Gopha niveigutta*, Guiana, SCHAUS, p. 245, P. U. S. Mus. xxix, n. sp.
- Gymnelia pithea* and *cocho* to *Pseudosphenopectera*, *pithea* being ♂ of *P. basalis*, HAMPSON, p. 427, Ann. Nat. Hist. (7) xv.
- G. tarsipuncta*, Brazil, SCHAUS, p. 184, P. U. S. Mus. xxix, n. sp.
- Halisdota discalis* Walk. = (*Azatrepes pardisea*), HAMPSON, p. 430, Ann. Nat. Hist. (7) xv.
- H. racema*, *maroniensis*, Guiana, p. 223, *apicepunctata*, Peru, p. 224, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Hapigia repandens*, Mexico and S. America, p. 291, *gaudens*, *annulata*, *aymara*, Guiana, p. 292, SCHAUS, t. c. n. spp.
- Haplopacha* n. g. near *Chondrostega*, p. 323, *cinerea* n. sp., Rhodesia, p. 324, AURIVILLIUS, Tr. ent. Soc. London 1905.
- Helkura phacosoma*, *zonata*, Venezuela, DRUCE, p. 464, Ann. Nat. Hist. (7)



- xv; *H. dolens, umbrimacula*, S. America, SCHAUS, p. 191, P. U. S. Mus. xxix : n. spp.
- Hemeroampa leucostigma*, no. of eggs, GIRAULT, p. 167, Ent. News Philad. xvi.
- Hemiceras affinis*, Peru, *buckleyi*, Ecuador, DRUCE, p. 542, Ann. Nat. Hist. (7) xv; *H. indigna, undilinea, jejuna*, p. 283, *satelles, beata, gortynoides*, p. 284, *crassa, commentica*, p. 285, *longipennis, flava, maronita*, p. 286, *stupida, cayennensis, flavescens*, p. 287, *laurentina, manora*, p. 288, *metallescens, conspirata*, S. America, *micans*, Mexico, p. 289, *nebulosa, nigriplaga, muscosa*, p. 290, *poulsoni*, p. 291, S. America, SCHAUS, P. U. S. Mus. xxix : n. spp.
- Hemipecten* n. g. *Cossidæ*, DYAR, p. 177, *ecparilis, acutipennis, cossuloides*, p. 340, *niveogrisea, rotundopuncta, marmorata*, p. 341, French Guiana, n. spp., SCHAUS, P. U. S. Mus. xxix.
- Heniocha terpsichore*, larva, pl. ii, fig. 1, AURIVILLIUS, p. 34, Arkiv Zool. ii.
- Heorta carema*, Guiana, SCHAUS, p. 233, P. U. S. Mus. xxix, n. sp.
- Hepaliopsis* n. g. type *Semyra agemytha* Dr., DYAR, p. 374, P. U. S. Mus. xxix.
- Hepialiscus algeriensis* ab. n. *joannisi*, LUCAS, p. 53, pl. v, fig. 1, Ann. Soc. ent. France 1905.
- Hepialus pyrenaicus*, early stages, XAMBEU, pp. 14-16, Naturaliste 1905; *H. sequiolus*, larva, WILLIAMS, pp. 19, 20, Ent. News Philad. xvi; *H. sequiolus*, larval habits and life-history, WILLIAMS, pp. 283-287, t. c.
- Herea xanthogaster*=(*Desmidocnemis prittwitzii*), HAMPSON, p. 429, Ann. Nat. Hist. (7) xv.
- Herpa meeki*=(*Pidorus ericydes* Swinh.), ROTHSCHILD & JORDAN, p. 475, Nov. Zool. xii.
- Herpolasia* n. g. *Chalcosiidae*, *augarra* n. sp., New Guinea, and incl. *C. albomedia* Rothsch., iid. t. c.
- Heteroampa wymola*, Arizona, BARNES, p. 214, Canad. Ent. 1905; *H. lama, gravis*, p. 249, *infanda, habilis*, p. 250, *bactrea, echina, delira*, p. 251, *foliata, cariosa*, p. 252, *marginalis, æmula, notabilis*, p. 253, *otiosa, patricia, caluna*, p. 254, *poulsoni, subalbida*, p. 255, SCHAUS, P. U. S. Mus. xxix; *H. multilineata*, Tucuman, DOGNIN, p. 148, Ann. Soc. ent. Belgique 1905 : n. spp.
- Heterogyis*, larval habits, matrivorous, CHAPMAN, pp. 177-184, Tr. ent. Soc. London 1905.
- Heteropan alberti*, New Guinea, ROTHSCHILD & JORDAN, p. 475, Nov. Zool. xii, n. sp.
- Heteropsyche* n. g. *Epipyropidae*, p. 81, *pæcilochroma, melanochroma*, p. 82, *micromorpha, dyscrita, stenomorpha*, p. 83, n. spp., Australia, PERKINS, Bull. exp. Stat. Hawaii i.
- Hippia undulata*, Colombia, DRUCE, p. 540, Ann. Nat. Hist. (7) xv; *H. salandera*, Guiana, SCHAUS, p. 243, P. U. S. Mus. xxix : n. spp.
- Homoneuronia* n. g. *Syntomidae*, DYAR, p. 174, *modesta* n. sp., Guiana, SCHAUS, p. 188, P. U. S. Mus. xxix.
- Hyaleucerea leucosticta*, Venezuela, DRUCE, p. 466, Ann. Nat. Hist. (7) xv; *H. phæosoma*, Paraguay, HAMPSON, p. 431, Ann. Nat. Hist. (7) xv : n. spp.
- Hyalomis* n. n. for *Desmidocnemis*, HAMPSON, p. 429, t. c.
- Hydras gorda, congruens*, Peru, *canescens*, Venezuela, DOGNIN, p. 120, Naturaliste 1905, n. spp.
- Hypermepeha maroniensis*, Guiana, SCHAUS, p. 199, P. U. S. Mus. xxix, n. sp.
- Hyperthema ruberrima*, p. 221, *coccinata*, p. 222, Guiana, SCHAUS, t. c. n. spp.
- Hypidalia sanguirena*, Guiana, SCHAUS, p. 220, t. c. n. sp.

- Hypocladia elongata*, Venezuela, *albipuncta*, Peru, DRUCE, p. 461, Ann. Nat. Hist. (2) xv, **n. spp.**
- Hypomolis minca*, Mexico, SCHAUS, p. 227, P. U. S. Mus. xxix, **n. sp.**
- Hyponerita interna*, *lucens*, *furva*, p. 228, *carinaria*, *declivis*, *incerta*, p. 229, Guiana, SCHAUS, t. c. **n. spp.**
- Hypopta inguromorpha*, *crassiplaga*, *triarctata*, p. 343, French Guiana, SCHAUS, t. c. **n. spp.**
- Hypsa donatana*, pl. D, fig. 20, p. 201, HAMPSON, J. Bombay Soc. xvi.
- Ichoria chrostomides*, Guiana, SCHAUS, p. 187, P. U. S. Mus. xxix, **n. sp.**
- Idalus rubens*, *laurentia*, p. 207, *neja*, *fluvoplaga*, *albicoxae*, p. 208, *catenata*, p. 209, S. America, SCHAUS, t. c. **n. spp.**
- Idonauton nigribasis*, India, pl. D, fig. 31, p. 196, HAMPSON, J. Bombay Soc. xvi, **n. sp.**
- Ilema henleyi*, Sudan, WARREN & ROTHSCHILD, p. 23, pl. iv, fig. 31, Nov. Zool. xii; *I. fuscifrons*, New Guinea, HAMPSON, p. 433, Ann. Nat. Hist. (7) xv : **n. spp.**
- Illiberis pruni*, Japan, DYAR, p. 954, P. U. S. Mus. xxviii, **n. sp.**
- Illice faustinula*, early stages, synonymy, WILLIAMS, p. 257, Ent. News Philad. xvi.
- I. abala*, *subrubra*, *pygmaea*, *rubricollis*, French Guiana, SCHAUS, p. 200, P. U. S. Mus. xxix; *I. triplaga*, *roseiceps*, Paraguay, *rhodoeraspis*, Argentina, HAMPSON, p. 436, Ann. Nat. Hist. (7) xv : **n. spp.**
- Isanthrene fulvipuncta*, Panama, HAMPSON, p. 427, t. c. **n. sp.**
- Isbarta pieridoides*, sexes and variation, p. 148, *I. binghami* Butl. (= *cyane-nescens* Hamps.), *I. curiosa* Swinh. (= *aspasia* Snell.) p. 149, SWINHOE, Ann. Nat. Hist. (7) xvi.
- Ischnocampa deceptura*, *flavicosta*, *barbata*, Peru, DRUCE, p. 466, Ann. Nat. Hist. (7) xv, **n. spp.**
- Ixylasia pyroproctis*, Venezuela, DRUCE, p. 462, Ann. Nat. Hist. (7) xv; *I. semivitreata*, Brazil, HAMPSON, p. 429, Ann. Nat. Hist. (7) xv : **n. spp.**
- Kaseria* **n. g.** *Notodontide*, *pallida* **n. sp.**, French Guiana, SCHAUS, p. 283, P. U. S. Mus. xxix.
- Lacosoma otalla*, Guiana, SCHAUS, p. 330, t. c. **n. sp.**
- Laelia suffusa*, *testacea*, larvae, HAMPSON, p. 198, J. Bombay Soc. xvi.
- L. euproctina*, W. Africa, AURIVILLIUS, p. 26, Arkiv Zool. ii, No. 12, **n. sp.**
- Lasiocampa josua* var. *n. vaucheri*, BLACHIER, p. 52, Bull. Soc. ent. France 1905; *L. quercus* ab. *n. paradoxa*, FRINGS, p. 89, Soc. ent. xx; but t. c. p. 99 is *olivaceo-fasciata* Cock.
- Lebedodes?* *schultzei*, Niger, AURIVILLIUS, p. 41, Arkiv Zool. ii, No. 12, **n. sp.**
- Lechriolepis pulchra*, Centr. Africa, AURIVILLIUS, p. 318, pl. xvi, f. 12, Tr. ent. Soc. London 1905, **n. sp.**
- Lenodora hyatomelena*, Madras, pl. D, f. 9, p. 197, HAMPSON, J. Bombay Soc. xvi, **n. sp.**
- Lentagena* **n. g.** for *Eugivira nudria* Schaus, DYAR, p. 178, P. U. S. Mus. xxix.
- Lepasta maonica*, *maltha*, p. 239, *viridis*, p. 240, Guiana, SCHAUS, P. U. S. Mus. xxix, **n. spp.**
- Leucotmensis albigutta*, p. 185, *thoracica*, p. 186, Guiana, SCHAUS, t. c. **n. spp.**
- Limacodes oropeso*, Arizona, BARNES, p. 216, Canad. Ent. 1905, **n. sp.**
- Limacodidae*; table of genera of New World, DYAR, p. 359, P. U. S. Mus. xxix.
- Liparis chrysorrhea* and Thabor oaks at Rennes, HOULBERT, Bull. Soc. Sci. Med. Ouest France xiv, pp. 113-118.
- Lobeza smithi*, Colombia, DRUCE, p. 542, Ann. Nat. Hist. (7) xv; *L. minor*, Guiana, SCHAUS, p. 274, P. U. S. Mus. xxix : **n. spp.**

- Loxophlebia cinctata*, Venezuela, HAMPSON, p. 428, Ann. Nat. Hist. (7) xv ;  
*L. geminata*, French Guiana, SCHAUS, p. 185, P. U. S. Mus. xxix :  
 n. spp.
- Lusura plorabilis*, Guiana, SCHAUS, p. 275, t. c. n. sp.
- Lycomorphodes epatra*, Guiana, SCHAUS, p. 202, t. c. n. sp.
- Lymantria moesta*, pl. d, f. 22, HAMPSON, p. 199, J. Bombay Soc. xvi.
- Macrobrochis flavicincta*, pl. d, f. 21, Cachar, HAMPSON, p. 202, t. c. n. sp.
- Macrocneme maroniensis*, Guiana, SCHAUS, p. 188, P. U. S. Mus. xxix, n. sp.
- Macroleptera ceylonica*, Ceylon, *inconspicua*, Bombay, HAMPSON, p. 196,  
 J. Bombay Soc. xvi, n. spp.
- Macrothylacia rubi* subsp. n. *digramma*, pl. xix, f. 10, MEADE-WALDO,  
 p. 390, Tr. ent. Soc. London 1905.
- Manas maculifascia*, larva, pl. vi, f. 1, p. 181, PIEPERS, Tijdschr. Ent.  
 xlvii.
- M. fosteri*, Paraguay, HAMPSON, p. 446, Ann. Nat. Hist. (7) xv, n. sp.
- Mahasena destructor*, Sikkim, DUDGEON, p. 401, J. Bombay Soc. xvi, n. sp.
- Malocampa paramaribena*, p. 255, *piratica*, *maroniensis*, p. 256, *amanthis*,  
*gastriva*, *eugenia*, p. 257, *sorex*, *tetrica*, p. 258, *gemonia*, *spurca*,  
*broma*, p. 259, *mayeri*, p. 260, Guiana, SCHAUS, P. U. S. Mus. xxix,  
 n. spp.
- Malupa* n. g. *Notodontidæ*, p. 245, *elongata* n. sp., Brit. Guiana, p. 246,  
 SCHAUS, t. c.
- Manoba* Walk. = (*Stictane*), *M. implens* = (*S. junctilinea*), HAMPSON, p. 434,  
 Ann. Nat. Hist. (7) xv.
- Marthula grisescens*, p. 235, *castrensis*, *hirsuta*, p. 236, *minna*, p. 237,  
 S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Maschane frondea*, Guiana, SCHAUS, p. 268, t. c. n. sp.
- Megalopygidæ*; synopsis of genera, SCHAUS, p. 333, t. c.
- Melanothrix fumosa*, Borneo, SWINHOE, p. 142, Ann. Nat. Hist. (7) xvi,  
 n. sp.
- Melastrotia* n. g. *Lithosianæ*, type *nigrisquamata* Swinh., HAMPSON, p. 439,  
 Ann. Nat. Hist. (7) xv.
- Melese castrena* Brazil, *chiriquensis*, Panama, SCHAUS, p. 220, P. U. S. Mus.  
 xxix, n. spp.
- Meragisa arida*, *arenosa*, p. 266, *submarginata*, p. 267, S. America, SCHAUS,  
 t. c.; *M. garlepi*, Bolivia, *semifulva*, Peru, DRUCE, p. 541, Ann. Nat.  
 Hist. (7) xv : n. spp.
- Mesocia lorna*, p. 336, *terminata*, p. 337, Guiana, SCHAUS, P. U. S. Mus.  
 xxix, n. spp.
- Mesotheren cæruleicorpus*, Bolivia, *nanum*, Surinam, SCHAUS, p. 185, t. c.;  
*M. endoleuca*, Venezuela, *ockendeni*, Peru, DRUCE, p. 460, Ann. Nat.  
 Hist. (7) xv : n. spp.
- Metabolosia invarida*, Guiana, SCHAUS, p. 201, P. U. S. Mus. xxix, n. sp.
- Metarceoa* n. g. *Syntomidæ*, DYAR, p. 173, *postflava* n. sp., Brazil, SCHAUS,  
 p. 193, t. c.
- Metanastria lemoulti*, Guiana, SCHAUS, p. 316, t. c. n. sp.
- Metarbela triguttata*, W. Africa, AURIVILLIUS, p. 41, Arkiv Zool. ii, No. 12,  
 n. sp.
- Metarctia hæmatricha*, Abyssinia, HAMPSON, p. 426, Ann. Nat. Hist. (7)  
 xv, n. sp.
- Metopoceras gauckleri*, Jordan Valley, PÜNGELER, p. 267, Iris Dresden xvii,  
 n. sp.
- Metoxanthia threnodes*, Venezuela, DRUCE, p. 467, Ann. Nat. Hist. (7) xv,  
 n. sp.
- Metraga rubicolor*, Nicaragua, DYAR, p. 370, P. U. S. Mus. xxix, n. sp.
- Miacora* n. g. *Cossidæ*, type *Cossus tropicalis* Schaus, DYAR, p. 177, t. c.
- Microhyle* n. g. *Lithosianæ*, type *fadella* Mab., HAMPSON, p. 437, Ann.  
 Nat. Hist. (7) xv.

- Mimopacha tripunctata*, Niger, AURIVILLIUS, p. 36, pl. iii, f. 8, Arkiv Zool. ii, No. 12, n. sp.
- Minaeraga* n. g. *Dalceridae*, DYAR, p. 176, *disconitens* n. sp., French Guiana, SCHAUS, p. 331, P. U. S. Mus. xxix.
- Minonoa* n. g. *Dalceridae*, DYAR, p. 176, *perbella* n. sp., Petropolis, SCHAUS, p. 332, t. c.
- Miresa venosa*, San Salvador, DYAR, p. 372, t. c. n. sp.
- Monda heylaertsi*, Delagoa, JUNOD, p. 249, pl. iv, f. 4, Bull. Soc. Neuchatel xxvii, n. sp.
- Napata euchloa*, Jamaica, HAMPSON, p. 429, Ann. Nat. Hist. (7) xv, n. sp.
- Natada deba, debella, dognini*, p. 379, *bergii, increscens, sufficiens, incandescens*, p. 380, *perpectinata, subperpectinata*, p. 381, S. America, DYAR, P. U. S. Mus. xxix, n. spp.
- Navarcostes* n. g. *Notodontidae, limnatis* n. sp., French Guiana, SCHAUS, p. 280, P. U. S. Mus. xxix.
- Neacerea pyroazona, rhodocrypta, discalis, flaviceps*, Venezuela, DRUCE, p. 463, Ann. Nat. Hist. (7) xv, n. spp.
- Neëressa* n. g. *Syntomidae type sagada* Semp., HAMPSON, p. 426, Ann. Nat. Hist. (7) xv.
- Neaxia gnosis*, p. 211, *bella*, p. 212, Guiana, SCHAUS, P. U. S. Mus. xxix, n. sp.
- Neoscapta albata*, p. 470, *equalis, leucodera*, p. 471, *pæcila*, p. 472, New Guinea, ROTHSCHILD & JORDAN, Nov. Zool. xii, n. spp.
- Neritos onytes, psamas, sexes*, HAMPSON, p. 443, Ann. Nat. Hist. (7) xv.
- N. carmen, coccinea*, p. 224, *gaudialis, tremula, maculosa*, p. 225, *chrysozona, prophæa, sanguidorsia*, p. 226, French Guiana, SCHAUS, P. U. S. Mus. xxix; *N. macrostidza* (=1543 Cat. Lep. Phal.) p. 443, *discobola*, Venezuela, *leucoplaga, holophæa*, p. 444, *phæoplaga, albicollis, steniptera*, p. 445, *cyclopera*, p. 446, Guiana, HAMPSON, Ann. Nat. Hist. (7) xv : n. spp.
- Nesebra* n. g. *Notodontidae, norema* n. sp., French Guiana, SCHAUS, p. 275, P. U. S. Mus. xxix.
- Nodozana bellicula*, Guiana, SCHAUS, p. 201, t. c. n. sp.
- Nola bicincta*, Cape Colony, HAMPSON, p. 432, Ann. Nat. Hist. (7) xv; *N. brachystria*, India, pl. D, f. 16, p. 435, HAMPSON, J. Bombay Soc. xvi; *N. mesographa*, Guiana, SCHAUS, p. 195, P. U. S. Mus. xxix : n. spp.
- Notoplusia eugenia*, p. 248, *sabrena*, p. 249, Guiana, SCHAUS, t. c. n. spp.
- Nystulea porgana, sequora*, p. 232, *marona*, Guiana, p. 233, SCHAUS, t. c. n. spp.
- Ochrostigma melagona* ab. n. *melanochroa*, SCHULTZ, p. 91, Jahresber. Wien. ent. Ver. 1904.
- Ocinaropsis* n. g. *Lasiocampidae, obscura* n. sp., Natal, AURIVILLIUS, p. 317, Tr. ent. Soc. London 1905.
- Ocnogyña baetica*, life-history, POWELL, pp. 237-240, pl. ix, Ent. Rec. xvii; *O. baetica*, CHAPMAN, t. c. p. 265, pl. x.; *O. baeticum*, natural history, ravages, SILVESTRI, Bull. Scuola. Agric. Portici (2) No. 10, 12 pp.
- Odonestis fossa*, pl. D, f. 14, HAMPSON, p. 198, J. Bombay Soc. xvi.
- Odontocheilopteryx griseata*, Sudan, WARREN, p. 22, Nov. Zool. xii; *O. maculata*, W. Africa, AURIVILLIUS, p. 36, pl. iii, f. 5, Arkiv Zool. ii, No. 12 : n. spp.
- Odontosia? viridifusca*, Brit. Guiana, SCHAUS, p. 278, P. U. S. Mus. xxix, n. sp.
- Odozana unica*, Mexico, SCHAUS, p. 199, t. c. n. sp.
- Oiketicus specter*, Venezuela, SCHAUS, p. 344, t. c. n. sp.
- Olceclostera moresca, anna, lepida*, p. 296, *oriunda, O. ostenta, O. umbri-linea*, p. 297, S. America, SCHAUS, t. c. n. spp.

- Olyra rectilineata*, Gazaland, AURIVILLIUS, p. 323, pl. xvi, f. 7, Tr. ent. Soc. London 1905, **n. sp.**
- Opsaroa n. g. Lithosianæ, fulvinota n. sp.*, Cape Colony, HAMPSON, p. 437, Ann. Nat. Hist. (7) xv.
- Oreta figlina*, Java, SWINHOE, p. 142, Ann. Nat. Hist. (7) xvi; *O. hypocalla*, Queensland, LOWER, p. 179, Tr. R. Soc. S. Austral. xxix : **n. spp.**
- Orgyia sicula* new form *etrusca*, VERITY, p. 187, Bull. Soc. ent. Ital. xxxvi.
- O. etrusca*, Florence, VERITY, p. 59, Bull. Soc. ent. France 1905; *O. hemicalla, retinoepepla*, Australia, LOWER, p. 176, Tr. R. Soc. S. Austral. xxix : **n. spp.**
- Ovipennis binghami*, pl. D, f. 18, HAMPSON, p. 434, J. Bombay Soc. xvi.
- Pachydota ducasa*, Venezuela, SCHAUS, p. 222, P. U. S. Mus. xxix, **n. sp.**
- Pachypasa bilinea*, pl. iv, f. 4, larva, pl. v, f. 1, AURIVILLIUS, p. 36, Arkiv Zool. ii, No. 12.
- Palæopsyche n. g. Epipyropidæ, melanias n. sp.*, Queensland, PERKINS, p. 80, Bull. exp. Stat. Hawaii i.
- Palpifer pellicia*, Khasia Hills, SWINHOE, p. 152, Ann. Nat. Hist. (7) xv, **n. sp.**
- Pamcolma n. g. Notodontidæ, p. 280, marita, refervens n. spp.*, French Guiana, p. 281, SCHAUS, P. U. S. Mus. xxix.
- Pantana ochrota*, Travancore, HAMPSON, pl. D, figg. 33, 34, p. 198, J. Bombay Soc. xvi, **n. sp.**
- Paraclæa n. g. near Euclea type dolita* Schaus, DYAR, p. 369, P. U. S. Mus. xxix.
- Paracosus n. g. Cossidæ, parva*, Ceylon, p. 194, *furcata*, pl. D, f. 30, Pegu, p. 195, **n. spp.**, HAMPSON, J. Bombay Soc. xvi.
- Paracraga n. g. Dalceridæ, DYAR, p. 176, innocens n. sp.*, French Guiana, SCHAUS, p. 331, P. U. S. Mus. xxix.
- Paranerita carminata, complicata*, Guiana, SCHAUS, p. 227, t. c. **n. spp.**
- Parapalasia n. g. Lithosidæ, DYAR, p. 174, cinderella n. sp.*, French Guiana, SCHAUS, p. 197, t. c.
- Parasa euchlora*, larva, fig. 8, p. 40, AURIVILLIUS, Arkiv Zool. ii, No. 12.
- P. adamaucana*, W. Africa, AURIVILLIUS, p. 39, t. c.; *P. insignis*, Borneo, SWINHOE, p. 151, Ann. Nat. Hist. (7) xv; *P. schausi*, Guiana, DYAR, p. 366, P. U. S. Mus. xxix : **n. spp.**
- Parashada n. g. Lithosianæ, p. 433, truncata n. sp.*, Sula Mongoli, p. 434, HAMPSON, Ann. Nat. Hist. (7) xv.
- Paratalara n. g. Lithosidæ, DYAR, p. 175, inversa n. sp.*, French Guiana, SCHAUS, p. 203, P. U. S. Mus. xxix.
- Parevia methæmia*, Guiana, SCHAUS, p. 213, t. c.; *P. metachryseis*, Surinam, HAMPSON, p. 443, Ann. Nat. Hist. (7) xv : **n. spp.**
- Pericallia obliquifascia*, larva, pl. vii, figg. 4, 5, p. 191, PIEPERS, Tijdschr. Ent. xlviii.
- Peroara n. g. Notodontidæ, sylvestris n. sp.*, French Guiana, SCHAUS, P. U. S. Mus. xxix.
- Perola affinis, petropolis*, S. America, *penumbra*, San Salvador, p. 384, *burchelli*, p. 385, *umber*, p. 386, S. America, DYAR, P. U. S. Mus. xxix, **n. spp.**
- Perophora imperita*, Peru, *rosea*, Colombia, DOGNIN, p. 120, Naturaliste 1905, **n. spp.**
- Phæosia orientalis*, Borneo, HAMPSON, p. 433, Ann. Nat. Hist. (7) xv; *P. brunnea*, Borneo, Sumatra, HAMPSON, p. 497, t. c. : **n. spp.**
- Phaio* Neum.=(*Mydropastæa*) HAMPSON, p. 428, t. c.
- P. cæruleonigra*, Peru, SCHAUS, p. 188, P. U. S. Mus. xxix, **n. sp.**
- Phassodes n. g. Hepialidæ, p. 89, odorevalvula*, pl. ix, figg. 1, 2, *guthrei*, fig. 3, p. 90, *bimorpha, nausori*, fig. 4, *rewensis*, fig. 5, p. 91, *vitensis*, fig. 6, p. 92, **n. spp.**, Fiji Ids., BETHUNE-BAKER, P. Zool. Soc. London 1905, i.

- Phastia ochreatea*, p. 267, *umbrata*, p. 268, Guiana, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Philanglaus sobrana*, Guiana, SCHAUS, p. 342, t. c. n. sp.
- Philotherma sordida*, W. Africa, AURIVILLIUS, p. 318, pl. xvi, fig. 2, Tr. ent. Soc. London 1905, n. sp.
- Phryganopsis unipuncta*, Algeria, HAMPSON, p. 433, Ann. Nat. Hist. (7) xv, n. sp.
- Pidorus erycides*, Woodlark Is., SWINHOE, p. 146, Ann. Nat. Hist. (7) xvi, n. sp.
- Platæcticus marona*, Guiana, SCHAUS, p. 345, P. U. S. Mus. xxix, n. sp.
- Platyprosterna* n. g. near *Natada*, *elaetta*, *antiqua* n. spp., S. America, DYAR, p. 378, P. U. S. Mus. xxix.
- Podalia major*, *multicollis*, p. 338, *thanatos*, *hyalina*, p. 339, S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Pæcilosoma vespoides*, Peru, SCHAUS, p. 186, t. c. n. sp.
- Poresta sericea*, *olivescens*, Guiana, SCHAUS, p. 238, t. c. n. sp.
- Porina salmonacea*, New Guinea, ROTHSCHILD & JORDAN, p. 478, Nov. Zool. xii; *P. minos*, New Zealand, HUDSON, p. 357, pl. xxii, fig. 5, Tr. N. Zealand Inst. xxxvii: n. spp.
- Premolis amaryllis*, Guiana, SCHAUS, p. 210, P. U. S. Mus. xxix, n. sp.
- Prepiella convergens*, Guiana, SCHAUS, p. 199, t. c.; *P. procridia*, Paraguay, *radicans*, Brit. Guiana, HAMPSON, p. 435, Ann. Nat. Hist. (7) xv: n. spp.
- Problepsidis neoma*, Singapore, *tristis*, Borneo, SWINHOE, p. 150, Ann. Nat. Hist. (7) xv, n. spp.
- Proelymiotis joanna*, Guiana, SCHAUS, p. 234, P. U. S. Mus. xxix, n. sp.
- Pronerice*? *cymantis*, Guiana, SCHAUS, p. 231, t. c. n. sp.
- Pronola fraterna*, French Guiana, SCHAUS, p. 197, t. c. n. sp.
- Propyria atroxantha*, Mexico, SCHAUS, p. 193, t. c. n. sp.
- Prumala hieroglyphica*, Guiana, SCHAUS, p. 209, t. c. n. sp.
- Psaphis camadeva* Doubl. ♀ is *Euschema semiplena* Walk., SWINHOE, p. 149, Ann. Nat. Hist. (7) xvi.
- Pseudaclytia minor*, *unimacula*, French Guiana, SCHAUS, p. 189, P. U. S. Mus. xxix, n. spp.
- Pseudantiora rufescens*, Guiana, SCHAUS, p. 235, t. c. n. sp.
- Pseudapiconoma melena*, Uganda, HAMPSON, p. 426, Ann. Nat. Hist. (7) xv, n. sp.
- Pseudometata patagiata*, Niger, AURIVILLIUS, p. 314, pl. xvi, fig. 1, Tr. ent. Soc. London 1905, n. sp.
- Pseudomya nigrozonum*, Guiana, SCHAUS, p. 187, P. U. S. Mus. xxix, n. sp.
- Pseudospiris jucunda*, pl. v, fig. 5, JORDAN, p. 511, Nov. Zool. xii.
- Pseudovipsania invera*, Guiana, DYAR, p. 391, P. U. S. Mus. xxix, n. sp.
- Psychidæ* of Delagoa, cases etc., JUNOD, pp. 244–250, pls. iii, iv, Bull. Soc. Neuchatel xxvii; *P.*, notes on Tasmanian, continued, LITTLER, pp. 11–13, Entomologist 1905.
- Psyche quadrangularis*, natural history, KÜNCKEL, pp. 602–605, C.R. Soc. Biol. lviii.
- P. (Heylaertsia) laniata*, Ceylon, HAMPSON, p. 194, J. Bombay Soc. xvi, n. sp.
- Ptychotrichos elongata*, Rio Janeiro, SCHAUS, p. 190, P. U. S. Mus. xxix, n. sp.
- Ratarda fuvivestita*, Assam, pl. d, f. 15, p. 201, HAMPSON, J. Bombay Soc. xvi, n. sp.
- Ravigia* n. g. *Cosside*, DYAR, p. 178, *basiplaga* n. sp., Brit. Guiana, SCHAUS, p. 342, P. U. S. Mus. xxix.
- Rhuda dissona*, p. 260, *geometrica*, *minor*, p. 261, S. America, SCHAUS, t. c. n. spp.
- Rhyparioides metelkana* Led., early stages, CERVA, pp. 294–299, Zeitschr. Insbiol. i.

- Rifargia muscosa*, Tucuman, DOGNIN, p. 149, Ann. Soc. ent. Belgique 1905; *R. lemoulti*, p. 268, *mistura*, *notabilis*, p. 269, *condita*, *demissa*, *extranea*, p. 270, *merita*, *mortis*, p. 271, *occulta*, *onerosa*, p. 272, *discrepans*, *tulira*, p. 273, *indecora*, *litura*, p. 274, S. America, SCHAUS, P. U. S. Mus. xxix : n. spp.
- Robinsonia dewitzi*=(*grotei* Schaus), SCHAUS, p. 206, P. U. S. Mus. xxix.
- R. rockstonia*, Brit. Guiana, *evanida*, Cuba, id. l. c. n. spp.
- Roeselia niveicosta*, *divisoides*, *polyodonta*, S. America, SCHAUS, p. 195, t. c. n. spp.
- Rosema magniplaga*, *nadina*, *pallidicosta*, *falcata*, p. 294, *marona*, p. 295, S. America, SCHAUS, t. c. n. spp.
- Rothia pangamica*, pl. v, fig. 18, JORDAN, p. 512, Nov. Zool. xii.
- Rothschildia tucumani* (= *steinbachi* Rothsch.), p. 512, figured pl. v, fig. 14, JORDAN, t. c.
- R. aroma*, Honduras, *roxana*, Mexico, SCHAUS, p. 179, P. U. S. Mus. xxix, n. spp.
- Salluca psittica*, Guiana, SCHAUS, p. 246, t. c. n. sp.
- Saturnia pavonia*, *spini*, *pyri*, variation of ocellate marks, OBERTHÜR, p. 57, Bull. Soc. ent. France 1905.
- S. rubella*, Peru, DOGNIN, p. 10, Naturaliste 1905, n. sp.
- Saurita perspicua*, Trinidad, *tricolor*, Guiana, SCHAUS, p. 187, P. U. S. Mus. xxix, n. spp.
- Sauritina* n. g. *Syntomidae*, DYAR, p. 173, *dubiosa* n. sp., French Guiana, SCHAUS, p. 188, t. c.
- Schasiura* to stand for *Autochloris* Hübn.-Hamps., HAMPSON, p. 430, Ann. Nat. Hist. (7) xv.
- Semyra irena*, p. 373, *paula*, *zinie*, p. 374, S. America, DYAR, P. U. S. Mus. xxix, n. spp.
- Sibine bonaerensis*, natural history, parasites, KÜNCKEL, p. 147, pl. iii, fig. 3, Bull. Sci. France Belgique xxxix.
- S. horrida*, with var. *nitens*, Centr. and S. America, p. 362, *barbara*, p. 363, *eucleides*, p. 365, S. America, DYAR, P. U. S. Mus. xxix, n. spp.
- Sisyrosea obscura*, Guiana, *schaefferana*, Arizona, p. 375, *S. ? parva*, *flexilinea*, S. America, *assimilis*, Mexico, p. 376, DYAR, P. U. S. Mus. xxix.
- Soritia bicolor* Moore=(*viridivena* and *nigribasalis* Hamps.), p. 145, *S. costimacula* and *leptalinoides* Auriv. are ♂ and ♀ of one, p. 146, SWINHOE, Ann. Nat. Hist. (7) xvi.
- S. bocki*, Burma, SWINHOE, p. 145, Ann. Nat. Hist. (7) xvi; *S. viridibasalis*, Tenasserim, DUDGEON, p. 399, J. Bombay Soc. xvi : n. spp.
- Sphecosoma metamela*, Paraguay, HAMPSON, p. 427, Ann. Nat. Hist. (7) xv; *S. abdominalis*, Venezuela, SCHAUS, p. 184, P. U. S. Mus. xxix : n. spp.
- Spilosoma menthastris* ab. *walkeri*, pl. ii, fig. 14, MÖBIUS, Iris Dresden xviii.
- Stenophyllodes khasiana*, India, SWINHOE, p. 499, Ann. Nat. Hist. (7) xv, n. sp.
- Stidzaeras strigifera*, Venezuela, DRUCE, p. 467, Ann. Nat. Hist. (7) xv, n. sp.
- Symphlebomis* n. g. *Syntomidae* type *antipolo* Semp., HAMPSON, p. 425, Ann. Nat. Hist. (7) xv.
- Syssphinx molina*, life-history, PACKARD, pp. 92-96, pl. xxxiii, fig. 4, and larva, pl. iii, fig. 4, pl. xvi, fig. 4, and xlvii, fig. 1, Mem. Ac. Washington ix.
- Tachuda angustipennis*, p. 240, *discreta*, p. 241, S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.
- Talara ornata*, *subcoccinea*, *decepta*, p. 202, *unimoda*, *diversa*, *rugipennis*, p. 203, French Guiana, SCHAUS, t. c. n. spp.
- Talmeca* n. g. *Notodontidae*, *perplexa*, *biplaga*, p. 262, *invisa*, *scirpea*, *pulchra*, p. 263, *consociata*, p. 264, n. spp., S. America, SCHAUS, t. c.

- Tamphana præcipua*, Guiana, SCHAUS, p. 298, t. c. n. sp.  
*Tanadema* n. g. *Limacodidae*, *mas*, *femina*, *incongrua* n. spp., S. America, p. 392, DYAR, P. U. S. Mus. xxix.  
*Taragama dorsalis*, larva, HAMPSON, p. 197, J. Bombay Soc. xvi.  
*T. diluta*, W. Africa, pl. iii, fig. 9, AURIVILLIUS, p. 35, Arkiv Zool. ii, No. 12; *T. capensis*, pl. xvi, fig. 11, *distinguenda*, fig. 13, p. 316, *fusca*, fig. 8, p. 316, Africa, AURIVILLIUS, Tr. ent. Soc. London 1905 : n. spp.  
*Tessellota apostata*, Brazil, SCHAUS, p. 227, P. U. S. Mus. xxix, n. sp.  
*Teucer hypophæa*, Venezuela, HAMPSON, p. 429, Ann. Nat. Hist. (7) xv, n. sp.  
*Thanatopsyche thoracica*, Guiana, SCHAUS, p. 344, P. U. S. Mus. xxix, n. sp.  
*Thyone muricolor*, *perbella*, Guiana, SCHAUS, p. 193, t. c. n. spp.  
*Thyrassia aprepes*, Key Is., SWINHOE, p. 144, Ann. Nat. Hist. (7) xvi, n. sp.  
*Thyridopteryx alcora*, Arizona, BARNES, p. 214, Canad. Ent. 1905; *T. microptera*, Guiana, SCHAUS, p. 345, P. U. S. Mus. xxix : n. spp.  
*Titya nigripuncta*, Guiana, SCHAUS, p. 316, t. c.; *T. fumosa*, Peru, *incerta*, *candida*, Tucuman, DOGNIN, p. 151, Ann. Soc. ent. Belgique 1905 : n. spp.  
*Tolype jamaicensis*, Jamaica, *septemlinea*, *multilinea*, *columbiana*, p. 317, *arocana*, *taruda*, *nigra*, *angustipennis*, p. 318, *lemoulti*, *nebulosa*, *poggia*, p. 319, *gelima*, *cinella*, p. 320, S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.  
*Triacidias postica*, larva, HAMPSON, p. 199, J. Bombay Soc. xvi.  
*Trichæta schultzei*, W. Africa, AURIVILLIUS, p. 24, Arkiv Zool. ii, No. 12, n. sp.  
*Tricheariasis* n. g. *nigella* n. sp., Ecuador, DOGNIN, p. 90, Ann. Soc. ent. Belgique 1905.  
*Trichodesma aurimacula*, Venezuela, SCHAUS, p. 190, P. U. S. Mus. xxix, n. sp.  
*Trichromia* Hübn. = (*Patreliaura*), HAMPSON, p. 429, Ann. Nat. Hist. (7) xv.  
*Tridrepana adelpha*, Khasia Hills, SWINHOE, p. 620, Ann. Nat. Hist. (7) xvi, n. sp.  
*Trigena* n. g. *Cossidae*, for *Cossus parilis* Schaus, DYAR, p. 178, P. U. S. Mus. xxix.  
*Tripocris yampai*, Arizona, BARNES, p. 216, Canad. Ent. 1905, n. sp.  
*Trosia pulchella*, p. 334, *mirabilis*, *ignicornis*, *incostata*, *pureus*, p. 335, S. America, SCHAUS, P. U. S. Mus. xxix, n. spp.  
*Tuerta thomensis*, pl. v, fig. 16, JORDAN, p. 512, Nov. Zool. xii.  
*Urolasia albipuncta*, Venezuela, DRUCE, p. 462, Ann. Nat. Hist. (7) xv, n. sp.  
*Utetheisa pulchella*, larva, pl. vi, fig. 8, p. 192, PIEPERS, Tijdschr. Ent. xlviii.  
*Vipsania unicolor*, Venezuela, DYAR, p. 372, P. U. S. Mus. xxix, n. sp.  
*Vipsophobetron* n. g. *marona*, p. 390, *V. ? marinna*, p. 391, n. spp., S. America, DYAR, t. c.  
*Xanthospilopteryx catori*, JORDAN, pl. v, fig. 1, p. 511, Nov. Zool. xii.  
*Zalissa transiens*, larva, pl. vii, fig. 7, p. 199, PIEPERS, Tijdschr. Ent. xlviii.  
*Zatrephes arenopa*, *modesta*, p. 210, *ossea*, p. 211, Guiana, SCHAUS, P. U. S. Mus. xxix; *Z. dithyris*, p. 440, *flavida trilineata*, p. 441, Cayenne, HAMPSON, Ann. Nat. Hist. (7) xv : n. spp.  
*Zia hemipheca*, Java, HAMPSON, p. 432, t. c. n. sp.  
*Zygæna*, varr. of palæarctic, amendment to Staudinger's Cat., figures, DZIURZYŃSKI, pp. 45-55, pl. ii, Jahresber. Wien. ent. Ver. 1903; *Z. ephialtes* var. n. *aurantiaca*, pl. ii, fig. 11, p. 57, var. n. *metzgeri*, fig. 12, p. 58, HIRSCHKE, t. c.; *Z. trans-alpina* var. n. *flava*, SICHER, p. 91, pl. i, fig. 9, Jahresber. Wien. ent. Ver. 1905; *Z.* varr. HIRSCHKE, pp. 93-95, Jahresber. Wien. ent. Ver. 1905; *Z. wagneri* abb. n.



- achilloides*, *giesekingi*, WAGNER, p. 149, Soc. ent. xix; *Z. carniolica* varr., GAUCKLER, p. 105, Soc. ent. xx; *Z. carniolica* ab. n. *bohatschi*, WAGNER, p. 73, Soc. ent. xx; *Z. jucunda* ab. n. *segregata*, *carniolica* ab. n. *jurassica*, BLACHIER, p. 52, Bull. Soc. ent. France 1905.  
*Z. rosinae*, Armenia, DZIURZYŃSKI, p. 52, pl. ii, fig. 14, Jahresber. Wien. ent. Ver. 1903; *Z. mitisi*, Caucasus, DZIURZYŃSKI, p. 89, pl. i, fig. 8, Jahresber. Wien. ent. Ver. 1905; *Z. aurata*, Atlas, BLACHIER, p. 213, Bull. Soc. ent. France 1905 : n. spp.

## NOCTUIDÆ.

- [Cf. BARNES (77), BETHUNE-BAKER (108, 110, 111), BLACHIER (121, 122), BÖRNER (148), DRAUDT (450), DRUCE (453), DUDGEON (465), DYAR (483), ENGEL (516, 517), HABICH (711), HAMPSON (715, 716, 717, 719), HIRSCHKE (751), HOLLAND (755), HUDSON (794), LOWER (981), LYMAN (996, 997), PETERSEN (1155, 1156), PHILPOTT (1167), PÜNGELER (1221, 1222), ROTHSCHILD & JORDAN (1307), ROUGEMONT (1310), SCHAPOSHNIKOW (1327), SCHRÖDER (1349), SMITH (1415-1417), SOUTH (1429), SWINHOE (1459-1462), THIERRY-MIEG (1493), VÁZQUEZ (1535), WARREN (1575), WARREN & ROTHSCHILD (1576), WILLIAMS (1633).]
- Descriptive Catalogue of *Lepidoptera*, vol. v, *Hadena allies*; HAMPSON, Cat. Lep. Phalænæ v.  
 Variation of ♂ genitalia, *Hadena adusta* as a differentiating species, its varieties, PETERSEN, Arch. Rassen ii, pp. 641 etc.
- Acontia dimidiata*, p. 208, *pima*, *aniluna*, p. 209, *alata*, *eudryada*, p. 210, *cuta*, p. 212, Arizona, SMITH, J. N. York Ent. Soc. xiii, n. spp.
- Acronycta menyanthidis* var. *salicis*, SCHRÖDER, p. 104, Arch. Ver. Mecklenb. lviii; *A. euphrasie* ab. pl. 1, fig. 3, *euphorbie* larva, pl. 1, fig. 4, ROUGEMONT, Bull. Soc. Neuchatel xxix; *A. dactylina* var. n. *denvera*, p. 189, *A. sperata* n. race *speratina*, p. 190, SMITH, J. N. York Ent. Soc. xiii.
- A. eidora*, p. 189, *similana*, p. 190, *cæsarea*, p. 191, N. America, SMITH, t. c. n. spp.
- Adaphænura* n. g. for *Daphænura minuscula*, HAMPSON, p. 460, Cat. Lep. Phalænæ v.
- Adrapsa curiosalis*, Khasia Hills, SWINHOE, p. 162, Ann. Nat. Hist. (7) xv, n. sp.
- A. atratalis*, Khasia Hills, SWINHOE, p. 501, t. c. n. sp.
- Aglossesstra* n. g. *deserticola* n. sp., Egypt, HAMPSON, p. 225, Cat. Lep. Phalænæ v.
- Agrophila burmana*, Beeling, SWINHOE, p. 153, Ann. Nat. Hist. (7) xv, n. sp.
- Agrotis niveivenosa* Grote = (*Protagrotis viralis*), HAMPSON, p. 451, Ann. Nat. Hist. (7) xv; *A. margaritacea*, melanic, pl. ii, fig. 13, MÖBIUS, Iris Dresden xviii; *A. multangula*, larva, pl. 1, fig. 5, *uniformis*, fig. 6, *A. corticea* var. n. *neocomensis*, fig. 7, ROUGEMONT, Bull. Soc. Neuchatel xxix; *A. subcærulea*, habits, larva, DRAUDT, p. 257, pl. v, fig. 1-3, Iris Dresden xvii.
- A. atlantica*, Azores, WARREN, p. 439, Nov. Zool. xii, n. sp.
- Aieta costiplaga*, *meterythra*, W. Africa, HAMPSON, p. 593, Ann. Nat. Hist. (7) xvi, n. spp.
- Amaloptila ptilomela* Low. (as *Metaptila*) = (*triorbis* Turn.), LOWER, p. 180, Tr. R. Soc. S. Austral. xxix.
- Amphipyra satinea*, Switzerland, p. 371, vol. xxix, Bull. Soc. Neuchatel; *A. wichti*, Murcia, HIRSCHKE, p. 41, pl. 1, fig. 4, Jahresber. Wien. ent. Ver. 1903 : n. spp.

- Anarta phæa*, Arctic America, p. 45, pl. 79, fig. 15, *mausi*, Turkestan, p. 46, fig. 16, *zemblica*, Novaya Zembla, p. 47, fig. 17, HAMPSON, Cat. Lep. Phalænæ v, **n. spp.**
- Anchoscelis lunosa* abb. n. *olivacea, rubra*, VÁZQUEZ, p. 121, Bol. Soc. espan. v.
- Anepa n. g.* type *Hypena oxydata* Hamps., and incl. *H. doda* Swinh., SWINHOE, p. 502, Ann. Nat. Hist. (7) xv.
- Aplectoides arufa, fales*, p. 192, *discolor*, p. 193, N. America, SMITH, J. N. York Ent. Soc. xiii, **n. spp.**
- Arcyrophora piperita*, W. Africa, HAMPSON, p. 585, Ann. Nat. Hist. (7) xvi, **n. sp.**
- Argyrothripa nigrostriata*, Fiji, BETHUNE-BAKER, pl. viii, fig. 4, p. 93, P. Zool. Soc. London 1905, i, **n. sp.**
- Ariola xanthobasis*, Nigeria, HAMPSON, p. 601, Ann. Nat. Hist. (7) xvi, **n. sp.**
- Aspidifrontia radiata*, pl. 91, fig. 4, p. 450, *glaucescens*, pl. 91, fig. 5, p. 451, Africa, HAMPSON, Cat. Lep. Phalænæ v, **n. sp.**
- Auchenisa n. g.* near *Trisula*, p. 18, *schausi n. sp.*, Sierra Leone, p. 19, HAMPSON, Ann. Nat. Hist. (7) xvi.
- Avitta surrigens* and *subsignans* distinguished, SWINHOE, p. 501, Ann. Nat. Hist. (7) xv.
- Barasa tetragramma*, Fiji, HAMPSON, p. 549, Ann. Nat. Hist. (7) xvi, **n. sp.**
- Blasticorhinus rivulosa* Walk. (as *Thermesia*)=(*Acantholipes quadripuncta* Swinh.), SWINHOE, p. 500, Ann. Nat. Hist. (7) xv.
- Blennia fumosa*, Khasia Hills, SWINHOE, p. 157, t. c. **n. sp.**
- Blenina salomonis*, Solomon Ids., SWINHOE, p. 151, op. cit. xvi; *B. metanyceta*, p. 543, *brachyptera*, p. 544, New Guinea, *triphenopsis*, p. 545, *chlorophila, malachitis*, p. 546, Singapore, *miota*, p. 547, *leucotis, brunnescens*, p. 548, Trop. Africa, HAMPSON, Ann. Nat. Hist. (7) xvi : **n. spp.**
- Bocana subalbida*, Batjan, SWINHOE, p. 624, Ann. Nat. Hist. (7) xvi, **n. sp.**
- Boethantha bisignata* Walk.=(*Ctypana bocanidia* Butl.), SWINHOE, p. 501, op. cit. xv.
- Bomolocha obductalis*=(*Hypena vestita* Moore), *flexuosa* Moore, is distinct, SWINHOE, p. 502, t. c.
- B. heuloo*, Arizona, SMITH, p. 69, Canad. Ent. 1905, **n. sp.**
- Borolia leucogramma*, E. Africa, pl. 94, fig. 23, p. 559, *rubescens*, Natal, p. 94, fig. 25, *citrinotata*, E. Africa, pl. 94, fig. 27, p. 563, *melanostrota*, S. Africa, pl. 94, fig. 28, p. 564, *stellata*, Japan, pl. 94, fig. 30, p. 565, *acrapex*, E. Africa, pl. 95, fig. 3, *steniptera*, Paraguay, pl. 95, fig. 4, p. 569, *sarcostriga*, Trop. America, pl. 95, fig. 5, p. 570, *rhodoptera*, Colombia, pl. 95, fig. 7, p. 571, *phæochroa*, S. Africa, pl. 95, fig. 9, p. 572, *diopis*, Sokotra, pl. 95, fig. 11, p. 573, *persecta*, pl. 95, fig. 12, *micropis*, pl. 95, fig. 14, p. 574, S. Africa, *cupreata*, pl. 95, fig. 15, *bilineata*, fig. 16, Trop. Africa, *sesamoides*, Algeria, fig. 17, p. 575, HAMPSON, Cat. Lep. Phalænæ v, **n. spp.**
- Britha biguttata*=(*Hypena colubalis* Feld.), SWINHOE, p. 626, Ann. Nat. Hist. (7) xvi.
- Brotolonia periculosa* ab. n. *interrupta*, WARREN, p. 441, Nov. Zool. xii.
- Bryophila khasiana*=(*Apamea repetita* Swinh.), SWINHOE, p. 151, Ann. Nat. Hist. (7) xvi.
- B. viridimedia*, Arizona, SMITH, p. 188, J. N. York Ent. Soc. xiii, **n. sp.**
- Buzara calodesma*, New Guinea, ROTHSCHILD & JORDAN, p. 474, Nov. Zool. xii, **n. sp.**
- Cacyparis cyclops*, Solomon islds., HAMPSON, p. 604, Ann. Nat. Hist. (7) xvi, **n. sp.**

- Calocampa vetusta*, larva ab., pl. 1, f. 12, ROUGEMONT, Bull. Soc. Neuchatel xxix.
- Calophasia albolineata*, Tunis, BLACHIER, p. 53, Bull. Soc. ent. France 1905; *C. adamantina*, Marocco, BLACHIER, p. 215, t. c. n. sp.
- Caradrina respersa*, larva, pl. ii, f. 4, *alsines*, larva, pl. ii, f. 5, *gluteasa*, larva, f. 6, ROUGEMONT, Bull. Soc. Neuchatel xxix.
- C. prætexta*, Khasia Hills, SWINHOE, p. 152, Ann. Nat. Hist. (7) xv, n. sp.
- Cardepiæ* n. g. type *Mamestra irrisor*, HAMPSON, p. 234, Cat. Lep. Phalænæ v.
- C. dione*, Khasia Hills, SWINHOE, p. 159, Ann. Nat. Hist. (7) xv; *C. acypera*, Bali, p. 593, *tumida*, Penang, *diplogramma*, p. 594, *holophæa*, *biviata*, p. 595, Malacca, *endophæa*, Travancore, *pallida*, Burma, *leucocraspis*, Borneo, p. 596, *rubrifusa*, Borneo, *auritincta*, p. 597, *gamma*, *meta-leuca*, Trop. Africa, *mesocausta*, Borneo, p. 598, *albipicta*, Fiji, p. 599, HAMPSON, Ann. Nat. Hist. (7) xvi: n. spp.
- Catabena begallo*, Arizona, BARNES, p. 193, Canad. Ent. 1905, n. sp.
- Catada sabada*, Perak, SWINHOE, p. 162, Ann. Nat. Hist. (7) xv, n. sp.
- Catephiodes* n. g. for *Hadena zuelana* Schaus, HAMPSON, p. 36, Cat. Lep. Phalænæ v.
- Catocala elocata* var. *styx*, KOLLER, p. 4, pl. i, f. 1, Jahresber. Wien. ent. Ver. 1905; *C.*, coloration of hind wing ætiology, SCHRÖDER, pp. 51-63, Biol. Zentrbl. xxv.
- Cerynea rubra*, Borneo, SWINHOE, p. 154, Ann. Nat. Hist. (7) xv, n. sp.
- Chabuata amæba*, E. Africa, pl. 85, f. 15, p. 269, *rectilinea*, Argentina, pl. 85, f. 20, p. 273, *noctuiiformis*, Brazil, pl. 90, f. 3, p. 274, HAMPSON, Cat. Lep. Phalænæ v, n. spp.
- Chandica semiflava*, Borneo, HAMPSON, p. 603, Ann. Nat. Hist. (7) xvi, n. spp.
- Cimelia olga*, BARTEL, p. 25, Soc. ent. xx.
- Cirphis lasiomera*, Java, pl. 92, fig. 3, *ptyonophora*, St Helena, pl. 91, fig. 27, p. 491, *dasuta*, Hawaii, p. 493, *polyrabda*, Natal, pl. 92, fig. 13, p. 507, *goniosigma*, Ceylon, pl. 92, fig. 14, p. 515, *ignita*, Assam, pl. 92, fig. 18, p. 517, *pyrastis*, Paraguay, pl. 92, fig. 19, p. 518, *diagramma*, New Guinea, pl. 96, fig. 15, p. 522, *atrinota*, Mashonaland, pl. 92, fig. 25, p. 523, *albifasciata*, Paraguay, pl. 92, fig. 28, p. 525, *sarcistis*, Costa Rica, pl. 93, fig. 2, p. 527, *sarcophæa*, Peru, pl. 93, fig. 4, p. 528, *polystrota*, S. America, pl. 93, fig. 6, *microsticha*, Centr. America, pl. 93, fig. 7, *megaproctis*, Ceylon, pl. 93, fig. 10, p. 532, *microgonia*, Cent. America, pl. 93, fig. 11, p. 533, *postica*, Japan, pl. 96, fig. 12, p. 535, *alboradiata*, Patagonia, pl. 93, fig. 15, p. 537, *leucosticha*, Mauritius, p. 541, *tritonina*, Colombia, pl. 93, fig. 21, p. 542, *crenulata*, Persian Gulf, pl. 93, fig. 29, p. 547, *pastea*, Assam, pl. 96, fig. 13, p. 550, *metaphæa*, Madras, pl. 93, fig. 32, *hypophæa*, Ceylon, pl. 94, fig. 14, *rubrisecta*, Bhután, pl. 94, fig. 15, p. 533, HAMPSON, Cat. Lep. Phalænæ v, n. spp.
- Cleophana pauli*, pl. xix, fig. 11, *diffuens* var. *maroccana*, fig. 12, MEADE-WALDO, Tr. ent. Soc. London 1905.
- C. gafana*, Tunis, BLACHIER, p. 53, Bull. Soc. ent. France 1905, n. sp.
- Conisania* n. g. for *Noctua leineri* Frr., HAMPSON, p. 472, Cat. Lep. Phalænæ v.
- Conochares* n. g. near *Acontia*, *C. acutus*, p. 207, *interruptus*, p. 208, n. spp., Arizona, SMITH, J. N. York Ent. Soc. xiii.
- Cosmophila excavata*, Borneo, SWINHOE, Ann. Nat. Hist. (7) xv, n. sp.
- Crambodes abalas*, Arizona, SMITH, p. 205, J. N. York Ent. Soc. xiii, n. sp.
- Craterestra* n. g. p. 17, type *Stibæra lucina*, *C. subterminata*, Sikkim, pl. 88, fig. 31, *semifusca*, Uganda, pl. 36, fig. 2, n. spp., HAMPSON, Cat. Lep. Phalænæ v.
- Cucullia arizona*, Arizona, SMITH, p. 206, J. N. York Ent. Soc. xiii, n. sp.

- Dasygaster nephelistis*, S. Australia, pl. 91, fig. 14, p. 475, HAMPSON, Cat. Lep. Phalænæ v.
- Delocoma* n. g. near *Azasia*, *marmorea* n. sp., Celebes, SWINHOE, p. 153, Ann. Nat. Hist. (7) xvi.
- Dichonia aprilina* var. n. *bouveti*, LUCAS, p. 51, pl. v, figg. 2, 3, Ann. Soc. ent. France 1905; *D. convergens*, larva, pl. 1, fig. 9, ROUGEMONT, Bull. Soc. Nouchatel xxix.
- Dilophothripa olivia*, Borneo, HAMPSON, p. 584, Ann. Nat. Hist. (7) xvi, n. sp.
- Discestra* n. g. p. 14, type *Mamestra florida*, *D. arenaria* n. sp., Sind, p. 16, HAMPSON, p. 14, Cat. Lep. Phalænæ v.
- Ectopatria virginea*, Adelaide, LOWER, p. 173, Tr. R. Soc. S. Austral. xxix, n. sp.
- Egnasia rudmuna*, Borneo, SWINHOE, p. 623, Ann. Nat. Hist. (7) xvi, n. sp.
- Eleognatha* n. g. *argyritis*, p. 577, *phæostrota*, p. 578, Panama, n. spp., HAMPSON, Ann. Nat. Hist. (7) xvi.
- Episilia gaudens*, Java, HAMPSON, p. 450, op. cit. xv, n. sp.
- Epizeuxis merricki*, Chicago, SMITH, p. 260, Canad. Ent. 1905, n. sp.
- Erastria crotopha*, Khasia Hills, SWINHOE, p. 620, Ann. Nat. Hist. (7) xvi, n. sp.
- Eriopyga fulvida*, Brazil, *thermistis*, Colombia, DRUCE, p. 374, Ann. Nat. Hist. (7) xv; *E. perfusca*, Mexico, pl. 86, fig. 30, p. 297, *melanopsis*, Arizona, pl. 86, fig. 31, p. 299, *rhodotrichia*, p. 309, *fuscibarbata*, p. 310, Brazil, *vinobarbata*, pl. xc, fig. 5, p. 311, *excavata*, pl. 87, fig. 10, p. 312, *fulvida*, pl. 94, fig. 6, p. 316, Brazil, *orbica*, Mexico, pl. 87, fig. 13, p. 318, *jamaicensis*, Jamaica, pl. 87, fig. 16, p. 321, *brachia*, p. 322, *subolivacea*, p. 325, *melanosticta*, pl. 87, fig. 18, p. 326, *glaucoistis*, pl. 87, fig. 22, p. 331, Brazil, *lobata*, Costa Rica, p. 332, *mesostrigata*, pl. 87, fig. 24, p. 333, *confluens*, p. 338, *pyropis*, pl. 87, fig. 31, p. 342, Centr. America, *hyposcota*, Brazil, pl. 90, fig. 6, p. 349, *affurata*, Canada, pl. 88, fig. 8, p. 350, *thermistis*, Colombia, pl. 94, fig. 8, p. 351, *poliotis*, Ecuador, pl. 88, fig. 10, p. 352, HAMPSON, Cat. Lep. Phalænæ v; *E. fuliginosa*, Japan, pl. 96, fig. 14, p. 609, HAMPSON, t. c. : n. spp.
- Eriopygodes* n. g. type *Noctua imbecilla* Fabr., HAMPSON, p. 353, t. c.
- Erizada semifervens* Walk. (as *Gadirtha*)=(*lichenaria* Walk.=*Tinosoma hyperythrum* Hamps.), SWINHOE, p. 152, Ann. Nat. Hist. (7) xvi.
- E. rufa*, Sula, HAMPSON, p. 586, Ann. Nat. Hist. (7) xvi, n. sp.
- Eublemma scitula*, ♂, pl. iv, fig. 29, p. 25, ROTHSCHILD, Nov. Zool. xii.
- E. atimeta*, Sumatra, SWINHOE, p. 621, Ann. Nat. Hist. (7) xvi, n. sp.
- Eucalyptera gigantea*, Texas, SMITH, p. 67, Canad. Ent. 1905, n. sp.
- Eucocytia meeki*, New Guinea, ROTHSCHILD & JORDAN, p. 474, Nov. Zool. xii, n. sp.
- Euplexia signata*, Tasmania, LOWER, p. 173, Tr. R. Soc. S. Austral. xxix, n. sp.
- Eutelia chrysotermia*, Cayenne, p. 372, *caustiplaga*, Cuba, p. 373, *pyrastis*, Florida, *leucographa*, Africa, p. 374, *diplographa*, Sikkim, p. 375, *mesogona*, Madagascar, p. 376, *geræa*, Mauritius, *flaviluna*, p. 377, *farcticauda*, Singapore, *cautabasis*, p. 378, *holocausta*, *metasarca*, p. 379, *melanopsis*, p. 380, *chlorobasis*, *nigridentula*, p. 381, *albiluna*, *leucodelta*, p. 382, *ochricostata*, p. 383, *ferridorsata*, *cyanotopha*, p. 384, W. Africa, *albidisca*, Cape Colony, *rufula*, Perak, p. 385, *siccata*, Sierra Leone, p. 386, HAMPSON, Ann. Nat. Hist. (7) xvi, n. spp.
- Euxoa emolliens* n. n. for *mollis* Staud. nec Walk., HAMPSON, p. 540, op. cit. xv; *E. brunneigera masoni* var. n., COCKBELL, p. 361, Canad. Ent. 1905.
- E. sotnia*, p. 195, *alcesta*, *anacosta*, p. 196, *bialba*, p. 197, *zembra*, p. 198,

- N. America, SMITH, J. N. York Ent. Soc. xiii; *E. vestitura*, New Brunswick, p. 201, *taura*, Assiniboia, p. 202, *ura*, Utah, p. 203, SMITH, Canad. Ent. 1905 : n. spp.
- Falcimala diacia*, Khasia Hills, SWINHOE, p. 163, Ann. Nat. Hist. (7) xv, n. sp.
- Fishia betsia*, Utah, SMITH, p. 199, J. N. York Ent. Soc. xiii, n. sp.
- Galasa pulverulenta*, Sudan, WARREN & ROTHSCCHILD, p. 26, pl. iv, fig. 34, Nov. Zool. xii, n. sp.
- Giaura leucophaea*, Borneo, p. 541, *nigriscripta*, E. Africa, *strigivenata*, New South Wales, p. 542, *lichenigera*, Sierra Leone, India etc. p. 543, HAMPSON, Ann. Nat. Hist. (7) xvi, n. spp.
- Gortyna ochracea*, notes on rearing, HARRISON, p. 15, Ent. Rec. xvii; *G.*, synonymy of N. American, LYMAN, pp. 29-32, Canad. Ent. 1905.
- G. thalictri*, p. 307, pl. vii, fig. 2, *eupatorii*, p. 312, fig. 3, Canada, LYMAN, t. c. n. spp.
- Graphania* n. g. type *Heliophobus disjungens* Walk., HAMPSON, p. 468, Cat. Lep. Phalænæ v.
- Gyrtona niveivitta*, Sarawak, SWINHOE, p. 158, Ann. Nat. Hist. (7) xv; *G. dialeuca*, Borneo, *phæozona*, India, p. 537, *glaucobasis*, Pulo Laut, *chlorograptæ*, Singapore, *plumbisparsa*, Sikkim, p. 538, *polionota*, Woodlark isld., *polymorpha*, Mauritius, p. 539, HAMPSON, Ann. Nat. Hist. (7) xvi : n. spp.
- Hadena adusta* var. *bathensis* etc., species formation, PETERSEN, Arch. Rassen ii, pp. 641 etc.; *H. polyodon* ab. *infusata*, pl. 1, fig. 10, *basilinea*, larva, pl. ii, fig. 1, *hepatica*, larva, fig. 2, *illyrica*, larva, fig. 3, ROUGEMONT, Bull. Soc. Neuchatel xxix; *H. secalis* ab. *struvei*, pl. ii, fig. 12, MÖBIUS, Iris Dresden xviii; *H. secalis*, larval structure, injuries to corn, BÖRNER, pp. 90-97, Arb. biol. Anstalt Forstwirtschaft v.
- H. bathensis*, Lutzuu n. sp., SLEVOGT, p. 18, Soc. ent. xx; *H. erica*, Utah, SMITH, p. 258, Canad. Ent. 1905; *H. elevistis*, Peru, DRUCE, p. 373, Ann. Nat. Hist. (7) xv; *H. meridionalis*, Rio Janeiro, HAMPSON, p. 211, pl. 84, fig. 11, Cat. Lep. Phalænæ v : n. spp.
- Hadula impia*, Turkestan, pl. 92, fig. 2, p. 248, HAMPSON, t. c. n. sp.
- Nephelistis* n. g. type *congenitalis* n. sp., Guatemala, HAMPSON, p. 250, t. c.
- Harrisimemna trisignata*, pupation, SHERMAN, p. 254, Ent. News Philad. xvi.
- Heliophobus matritensis*, Spain, VÁZQUEZ, p. 115, Bol. Soc. Espan. v, n. sp.
- Heliolithis obsoleta*, natural history, QUAINANCE & BRUES, Bull. U. S. Dep. Agric. ent. No. 50.
- Homodes irretita*, Cachar, SWINHOE, p. 155, Ann. Nat. Hist. (7) xv, n. sp.
- Homopyralis cinetus*, Arizona, SMITH, p. 260, Canad. Ent. 1905, n. sp.
- Hydroeciodes* n. g. p. 253, type *Xanthia alata*, *H. xanthina*, p. 254, *azteca*, p. 256, pl. 85, fig. 5, Mexico, *leucopsis*, Peru, pl. 92, fig. 1, *leucogramma*, Brazil, pl. 85, fig. 7, p. 257, n. spp., HAMPSON, Cat. Lep. Phalænæ v.
- Hypophila prasinana* abb., pl. ii, figg. 2, 3, MÖBIUS, Iris Dresden xviii.
- Hypatra ruïnosa*, Singapore etc., p. 159, *trifasciata*, New Guinea, p. 160, SWINHOE, Ann. Nat. Hist. (7) xv, n. spp.
- Hypena regia*, p. 163, *tylistalis*, New Guinea, *phecomalis*, Khasia Hills, p. 164, SWINHOE, t. c. n. spp.
- Hypenula caminalis*, Arizona, SMITH, p. 70, Canad. Ent. 1905, n. sp.
- Hypobarathra* n. g. for part of *Xylina*, HAMPSON, p. 221, Cat. Lep. Phalænæ v.
- Hypothripa ruficirra*, Japan, *miocroa*, Colombia, HAMPSON, p. 540, Ann. Nat. Hist. (7) xvi, n. spp.
- Hysia sminthistis*, New Zealand, pl. 86, fig. 17, p. 280, *violascens*, China, pl. 85, fig. 28, p. 286, HAMPSON, Cat. Lep. Phalænæ v, n. spp.
- Ingura glauca*, p. 369, *griseifusa*, S. America, *nyctichroma*, Panama, p. 370,

- Leucotrigona*, Borneo, *poliotts*, Singapore, p. 371, HAMPSON, Ann. Nat. Hist. (7) xvi, n. spp.
- Ipimorpha nanaimo*, Brit. Columbia, BARNES, p. 196, Canad. Ent. 1905, n. sp.
- Iscaidia diopis*, Costa Rica, *poliopepla*, Brazil, HAMPSON, p. 579, Ann. Nat. Hist. (7) xvi, n. spp.
- Labanda viridalis*, Khasia Hills, SWINHÖE, p. 156, Ann. Nat. Hist. (7) xv, n. sp.
- Laphygma exigua* in England, early stages, MATHEW, pp. 6–10, Ent. Rec. xvii.
- Lasianobia* n. g. type *Mamestra lauta*, HAMPSON, p. 274, Cat. Lep. Phalænæ v.
- Lasiestra* n. g. type *Dianthoecia phoca*, HAMPSON, p. 47, t. c.
- Lasionycta altaica*, W. Siberia, HAMPSON, p. 58, pl. 79, fig. 30, t. c. n. sp.
- Leucania favicolor* varr., MATHEW, p. 14, Ent. Rec. xvii; *L. favicolor*, life-history, MATHEW, pp. 77–80, Ent. Mag. 1905.
- L. leucosphenia*, p. 196, *cryptargyria*, p. 197, New Guinea, BETHUNE-BAKER, Ann. Nat. Hist. (7) xv; *L. diagramma*, New Guinea, BETHUNE-BAKER, p. 324, t. c.; *L. stulta*, pl. xx, fig. 1, p. 329, *neuræ*, fig. 5, p. 330, New Zealand, PHILPOTT, Tr. New Zealand Inst. xxxvii; *L. dunedinensis*, N. Zealand, pl. 96, fig. 2, p. 591, HAMPSON, Cat. Lep. Phalænæ v; *L. ferricola*, Arizona, SMITH, p. 203, J. N. York Ent. Soc. xiii; *L. pendens*, Florida, SMITH, p. 66, Canad. Ent. 1905: n. spp.
- Lignicida* n. g. *Deltoididæ*, *echana* n. sp., Palawan, SWINHÖE, p. 625, Ann. Nat. Hist. (7) xvi.
- Luperina zollikoferi*, notice, REBEL, pp. 21, 22, Verh. Ges. Wien 1905.
- L. extensa*, Regina, SMITH, p. 203, J. N. York Ent. Soc. xiii, n. sp.
- Lycophotia tetraonis*, Peru, DRUCE, p. 372, Ann. Nat. Hist. (7) xv; *L. strigigrapha*, Patagon. Andes, HAMPSON, p. 451, Ann. Nat. Hist. (7) xv: n. spp.
- Lythrodos semiluna*, Arizona, SMITH, p. 67, Canad. Ent. 1905, n. sp.
- Malaittha marginalis* Walk. (as *Acontia*)=(*stolasa* Swinh.), SWINHÖE, p. 151, Ann. Nat. Hist. (7) xvi.
- M. stolasa*, Khasia Hills, SWINHÖE, p. 154, op. cit. xv, n. sp.
- Mamestra* (*Hadula*) *impia*, Aksu, PÜNGELER, p. 153, Soc. ent. xix; *M. ascula*, Utah, SMITH, p. 257, Canad. Ent. 1905; *M. tufa*, *agnata*, p. 200, *basiplaga*, *imbuna*, p. 201, *uliginosa*, p. 202, N. America, SMITH, J. N. York Ent. Soc. xiii; *M. albifurcata*, Colombia, p. 372, *canosticta*, Bolivia, p. 373, DRUCE, Ann. Nat. Hist. (7) xv: n. spp.
- Masca abactatis* and *Phagytra leucogastralis* Walk. distinguished, SWINHÖE, p. 622, Ann. Nat. Hist. (7) xvi.
- Maurilia albivivula*, p. 599, *heterochroa*, *phæa*, p. 600, Nigeria, HAMPSON, Ann. Nat. Hist. (7) xvi, n. spp.
- Melanchra granti*, Azores, WARREN, p. 440, Nov. Zool. xii; *M. decorata*, p. 328, pl. xx, fig. 2, *levis*, fig. 4, p. 329, New Zealand, PHILPOTT, Tr. New Zealand Inst. xxxvii: n. spp.
- Meliana pectinata*, E. Africa, p. 576, *longipennis*, Centr. Africa, pl. 95, fig. 18, p. 578, *atrifera*, Chile, pl. 95, fig. 19, p. 580, *tenebra*, E. Africa, pl. 95, fig. 30, p. 587, *rubra*, Brazil, pl. 95, fig. 32, HAMPSON, Cat. Lep. Phalænæ v, n. spp.
- Melicleptria fimbria*, California, WILLIAMS, p. 237, Ent. News Philad. xvi, n. sp.
- Metachrostis brunneiplaga*, Khasia Hills, SWINHÖE, p. 500, Ann. Nat. Hist. (7) xv, n. sp.
- Metaptya lucida*, Bali, HAMPSON, p. 587, Ann. Nat. Hist. (7) xvi, n. sp.
- Minofala* n. g. *instans* n. sp., Texas, SMITH, p. 65, Canad. Ent. 1905.
- Monima paromæa*, Japan, pl. 90, fig. 26, p. 429, HAMPSON, Cat. Lep. Phalænæ v, n. sp.

- Morrisonia chryserythra, chlorograptæ*, New Zealand, HAMPSON, p. 452, Ann. Nat. Hist. (7) xv, n. spp.
- Nanaguna aquisoides*, Khasia Hills, SWINHOE, p. 156, Ann. Nat. Hist. (7) xv; *N. brunnea, albisecta*, Assam, HAMPSON, p. 583, op. cit. xvi: n. spp.
- Neocomia n. g.* for *Amphipyra satinea*, ROUGE-MONT, p. 372, Bull. Soc. Neuchatel xxix, and op. cit. xxxi, pl. i, figg. 11, a, b, c.
- Nephelistis conservulodes*, Colombia, DRUCE, p. 374, Ann. Nat. Hist. (7) xv, n. sp.
- Nigusa anisogramma*, Centr. Australia, LOWER, p. 174, Tr. R. Soc. S. Austral. xxix, n. sp.
- Noctua subfusca* Haw., note on the type, BANKES, p. 161, Entomologist 1905.
- N. acarneæ*, Alberta, SMITH, p. 194, J. N. York Ent. Soc. xiii, n. sp.
- Nodaria leechi*, Japan and Korea, SOUTH, p. 74, Entomologist 1905, n. sp.
- Nonagria uniformis*, Bombay, DUDGEON, p. 402, J. Bombay Soc. xvi, n. sp.
- Odontelia n. g.* for *Thargelia margiana*, HAMPSON, p. 219, Cat. Lep. Phalænæ v.
- Odontestra n. g.* p. 205, type *Mamestra vittigera*, *O. albivitta n. sp.*, E. Africa, p. 206, pl. 84, fig. 6, HAMPSON, t. c.
- Odontodes metamelæna*, New Guinea, HAMPSON, p. 533, Ann. Nat. Hist. (7) xvi, n. sp.
- Oncocnemis bakeri*, Nevada, DYAR, p. 211, J. N. York Ent. Soc. xiii, n. sp.
- Onychestra n. g.* for *Mamestra siccanorum*, HAMPSON, p. 223, Cat. Lep. Phalænæ v.
- Oromena noduna*, Ceylon, SWINHOE, p. 152, Ann. Nat. Hist. (7) xvi, n. sp.
- Orrhodia torrida* ab. *faillæ*, p. 39, pl. vi, fig. 17, *O. ragusæ*, pl. vi, figg. 11, 12, p. 41, TURATI, Natural. Sicil. xviii.
- O. insinuata*, Washington, SMITH, p. 205, J. N. York Ent. Soc. xiii, n. sp.
- Orthosia pistacina* var. n. *silesiaca*, SCHULTZ, p. 33, Jahresber. Wien. ent. Ver. 1905; *O. nitida* ab. *garibaldina*, TURATI, p. 39, Natural. Sicil. xviii; *O. witzemannii*, eggs and larva, LUCAS, p. 54, pl. v, fig. 4, Ann. Soc. ent. France 1905.
- O. pallida*, New Zealand, HUDSON, p. 355, Tr. New Zealand Inst. xxxvii, n. sp.
- Oxænanus magniplaga*, Khasia Hills, SWINHOE, p. 624, Ann. Nat. Hist. (7) xvi, n. sp.
- Pais nyassana*, JORDAN, pl. v, f. 3, p. 511, Nov. Zool. xii.
- Palponima n. g.* for *Semiophora orthosioides*, HAMPSON, p. 432, Cat. Lep. Phalænæ v.
- Paraxestis mesogonia*, Abyssinnia, *glaucescens*, Old Calabar, HAMPSON, p. 585, Ann. Nat. Hist. (7) xvi, n. spp.
- Pardasena ferrigrisea*, Gambia, *deleta*, Peru, HAMPSON, p. 541, t. c. n. sp.
- Pericyma fasciolata*, Sudan, WARREN & ROTHSCHILD, p. 24, pl. iv, figg. 11, 21, Nov. Zool. xii, n. sp.
- Perigea flavistriga*, Alberta, SMITH, p. 204, J. N. York Ent. Soc. xiii, n. sp.
- Persectania n. g.* type *Xylophasias ewingii*, HAMPSON, p. 386, Cat. Lep. Phalænæ v.
- Phurys campanilis*, Florida, *carolina*, N. Carolina, SMITH, p. 68, Canad. Ent. 1905, n. spp.
- Plotheta nephelozona*, E. Africa, *canofusa*, Cape Colony, p. 580, *ferrofusa*, India, *leucogonia*, Trop. Africa, p. 581, *geræa*, Queensland, *diplographa*, India, p. 582, HAMPSON, Ann. Nat. Hist. (7) xvi, n. spp.
- Pogonozada n. g.* *Acontiana*, *distorta n. sp.*, Ichang, HAMPSON, p. 586, t. c.
- Polia ruficincta*, larva, pl. 1, f. 8, ROUGE-MONT, Bull. Soc. Neuchatel xxix.
- P. canities*, California, p. 80, pl. 80, f. 14, *rubrifusa*, New Mexico, p. 85, pl. 80, f. 23, *tenebra*, Kashmir, p. 87, pl. 80, f. 26, *fuscirufa*, Africa, p. 100, pl. 81, f. 4, *veneta*, E. Africa, p. 104, pl. 81, f. 5, *glaucoptis*, p. 106, pl. 81, f. 6, *dodi*, Canada, p. 150, pl. 82, f. 12, *chalcia*, Guatemala, p. 154, pl. 82, f. 18, *atrivena*, E. Africa, p. 158, pl. 82, f. 25, *cuprescens*,

- Mashonaland, p. 163, pl. 82, f. 32, *stenotis*, California, p. 168, pl. 83, f. 8, *bilinea*, Japan, pl. 96, f. 11, p. 603, HAMPSON, Cat. Lep. Phalænæ v. n. spp.
- Polidodes* n. g. type *Mamestra flavidentula*, HAMPSON, p. 359, t. c.; *P. viola*, Peru, DRUCE, p. 375, Ann. Nat. Hist. (7) xv, n. sp.
- Polytelodes* n. g. for *Polytela florifera*, HAMPSON, p. 454, Cat. Lep. Phalænæ v.
- Polysenta temecula*, Arizona, BARNES, p. 194, Canad. Ent. 1905, n. sp.
- Pronotestra* n. g. for *Mamestra silenides*, HAMPSON, p. 224, Cat. Lep. Phalænæ v.
- Proteinania* n. g. type *Chloridea vigasia*, HAMPSON, p. 290, t. c.
- Pseudobryophila* n. g. p. 192, *preciosa* n. sp., Peru, p. 193, THIERRY-MIEG, Naturaliste 1905.
- Pseudohadena schlumbergeri*, p. 265, *P. ? crassipuncta*, p. 266, Centr. Asia, PÜNGELER, Iris Dresden xvii, n. spp.
- Pseudophia haife*, Syria, HABICH, p. 21, Verh. Ges. Wien 1905, n. sp.
- Pterognia irrorata*, Sikkim, DUDGEON, p. 402, J. Bombay Soc. xvi, n. sp.
- Raparna bipuncta*, p. 25, pl. iv, f. 24, *minima*, p. 26, f. 23, Sudan, WARREN & ROTHSCHILD, Nov. Zool. xii, n. spp.
- Renia rigida*, Arizona, SMITH, p. 70, Canad. Ent. 1905, n. sp.
- Rhesala tenuilinea*, Sumatra, SWINHOE, p. 623, Ann. Nat. Hist. (7) xvi, n. sp.
- Rhizagrotis perolivalis*, Calgary, SMITH, p. 194, J. N. York Ent. Soc. xiii, n. sp.
- Rivula niveipuncta*, Khasia Hills, SWINHOE, p. 154, Ann. Nat. Hist. (7) xv; *R. magniplaga*, Khasia Hills, SWINHOE, p. 622, op. cit. xvi: n. spp.
- Sarrothripa mesoplaga*, Singapore, HAMPSON, p. 584, Ann. Nat. Hist. (7) xvi, n. sp.
- Scoliopteryx libatrix*, as a cave-insect, GADEAU, p. 54, Bull. Soc. ent. France 1905.
- Scopelosoma*; tolerance of freezing, ENGEL, p. 167, Canad. Ent. 1905.
- Scotogramma submedianata*, E. Africa, p. 27, *mendosica*, Argentina, p. 35, pl. 79, f. 11, HAMPSON, Cat. Lep. Phalænæ v, n. spp.
- Scriptania* n. g. type *Agrotis michaelsoni* Staud., *S. syzygia*, Patagonia, n. sp., pl. 91, f. 11, p. 464, HAMPSON, t. c.
- Sesamia albicostata*, Victoria, LOWER, p. 175, Tr. R. Soc. S. Austral. xxix, n. sp.
- Siglophora hematica*, Borneo, HAMPSON, p. 603, Ann. Nat. Hist. (7) xvi, n. sp.
- Simplicia albisinuata*, Arizona, SMITH, p. 71, Canad. Ent. 1905, n. sp.
- Sinna floralis*, Penang, *atrifusa*, Java, HAMPSON, p. 602, Ann. Nat. Hist. (7) xvi, n. spp.
- Spragueia fumata*, Nevada, SMITH, p. 259, Canad. Ent. 1905, n. sp.
- Stictoptera crinopis*, Ashanti, p. 533, *hemithyris*, India, *pheobasis*, Perak, p. 534, *leucostriga*, Penang, *ferruginea*, Borneo, p. 535, *anemia*, Solomon Islds., *hyphenistis*, Burma, p. 536, HAMPSON, Ann. Nat. Hist. (7) xvi, n. spp.
- Stiria aliaga*, Arizona, BARNES, p. 213, Canad. Ent. 1905, n. sp.
- Strigania* n. g. type *Heliophobus lithophilus* Butl., HAMPSON, p. 466, Cat. Lep. Phalænæ v.
- Synthimia exsiccata*, Sudan, WARREN & ROTHSCHILD, p. 25, pl. iv, figg. 19, 30, Nov. Zool. xii, n. sp.
- Talapa birthana*, Khasia Hills, SWINHOE, p. 161, Ann. Nat. Hist. (7) xv, n. sp.
- Tarache procrita*, Khasia Hills, SWINHOE, p. 621, op. cit. xvi, n. sp.
- Thalpochares jatava*, Arizona, BARNES, p. 213, Canad. Ent. 1905, n. sp.
- Thyrestra* n. g. for *Euplexia hyalophora*, HAMPSON, p. 6, Cat. Lep. Phalænæ v.



- Timora albida*, Algeria, HAMPSON, p. 450, Ann. Nat. Hist. (7) xv, n. sp.  
*Titulcia meterythra*, Borneo, HAMPSON, p. 603, op. cit. xvi, n. sp.  
*Tmetolophota* n. g. type *Leucania propria* Walk., HAMPSON, p. 470, Cat. Lep. Phalænæ v; *T. polygona*, Peru, DRUCE, p. 375, Ann. Nat. Hist. (7) xv, n. sp.  
*Topadesa sanguinea*, sexes, SWINHOE, p. 157, Ann. Nat. Hist. (7) xv.  
*Tortriciforma chloroplaga*, Perak, HAMPSON, p. 587, Ann. Nat. Hist. (7) xvi, n. sp.  
*Trichanarta*=(*Ala*), HAMPSON, p. 450, op. cit. xv; *Trichanarta*=(*Ala* St. nec Lock.), COCKERELL, p. 23, Entomologist 1905.  
*Trichestra* n. g. for pt. of *Celæna*, HAMPSON, p. 8, Cat. Lep. Phalænæ v.  
*Tricheurois* n. g. type *nigrocuprea* Moore, HAMPSON, p. 451, Ann. Nat. Hist. (7) xv.  
*Trichoclea atalantica*, Madeira, pl. 84, f. 24, *cholica*, Kashmir, f. 25, p. 239, HAMPSON, Cat. Lep. Phalænæ v, n. spp.  
*Tricholita baranca*, Texas, BARNES, p. 196, Canad. Ent. 1905, n. sp.  
*Trichorhiza* n. g. for *Rhizogramma peterseni*, HAMPSON, p. 13, Cat. Lep. Phalænæ v.  
*Trichorthosia parallela* Gr. = (*Tæniocampa terminatissima* Dyar), DYAR, p. 29, P. ent. Soc. Washington vii.  
*Tyana acypera*, China, HAMPSON, p. 601, Ann. Nat. Hist. (7) xvi, n. sp.  
*Tympanistes flavescens*, Khasia Hills, SWINHOE, p. 158, Ann. Nat. Hist. (7) xv, n. sp.  
*Urbona microcyma*, W. Africa, HAMPSON, p. 588, Ann. Nat. Hist. (7) xvi, n. sp.  
*Westermannia cuprea*, p. 588, *leucogonia*, *agrapha*, *argyropлага*, p. 589, *trigonica*, *aræogramma*, p. 590, *nocturna*, *phæocephala*, *stalactitis*, p. 591, *geministra*, *digamma*, *selenitis*, p. 592, Trop. Africa, HAMPSON, t. c. n. spp.  
*Xylomania* n. g. type *Xylomiges hiemalis*, HAMPSON, p. 389, Cat. Lep. Phalænæ v.  
*Xanthia sulphurago* ab. *innotata*, TURATI, p. 40, pl. vi, f. 14, Natural. Sicil. xviii; *X. fulvago* ab. *n. decolor*, SCHULTZ, p. 89, Jahresber. Wien. ent. Ver. 1904; *X. gilvago*, *palleago* is an ab., RONDOU, p. xliii, Pr.-verb. Soc. Linn. Bordeaux lx.  
*Xyline nigrescens*, N. America, ENGEL, p. 143, Canad. Ent. 1905; *X. atincta*, Manitoba, SMITH, p. 206, J. N. York Ent. Soc. xiii: n. spp.  
*Xylophasia flavistigma*, with numerous synonyms, to *Euplexia*, SWINHOE, p. 153, Ann. Nat. Hist. (7) xv.  
*Frias irentis*, Arizona, SMITH, p. 259, Canad. Ent. 1905, n. sp.  
*Zanclognatha tarsipennalis* and *tarsiplumalis*, distinctions of sexual structures, PETERSEN, pp. 68-71, cuts, Mem. Ac. St. Petersb. (8) xvi, No. 2.  
*Zethes subapicalis*, Cachar, SWINHOE, p. 154, Ann. Nat. Hist. (7) xvi; *Z. pallidiplaga*, Solomon Islds., p. 160, *enigmaria*, Khasia Hills, p. 161, SWINHOE, op. cit. xv: n. spp.

## GEOMETRIDÆ.

- [Cf. BASTELBERGER (80-83), BETHUNE-BAKER (108), DRAUDT (450), DYAR (470, 474, 476), FUCHS (624), HUDSON (794), JORDAN (823), KAYE (828), LONGSTAFF (974), LOWER (981), MEYRICK (1041), PEARSALL (1142), PETERSEN (1155), PHILPOTT (1167), PROUT (1217, 1218), PUNGELER (1224), ROTHSCHILD & JORDAN (1307), SWINHOE (1459, 1460, 1462), THIERRY-MIEG (1493), TURATI (1508), VÁZQUEZ (1535), WARREN (1569-1575), WARREN & ROTHSCHILD (1576).]

- Synonymy of *Geometridæ* described by Strecker, DYAR, pp. 93, 94, P. ent. Soc. Washington vii.
- Abdominal organ in ♂ for scent-distribution, JORDAN, pp. 506-508, Nov. Zool. xii.
- Abraxas grossulariata*, varieties and food, COLLINGE, J. econ. Biol. i, pp. 14-16, cut; *A. grossulariata*, change of food-plant, GIARD, p. 130, Feuille Natural. xxxv; varr. on *Euonymus*, PICTET, t. c. p. 167; *A. grossulariata*, numerous varr., OBERTHÜR, p. 58, Bull. Soc. ent. France 1905.
- A. privata*, Sumba, BASTELBERGER, p. 5, Ent. Zeitschr. Guben xix; *A. parvipunctata*, Sumatra, WARREN, p. 13, Nov. Zool. xii; *A. interpunctata*, Cagayan Sulu, WARREN, p. 429, t. c. : n. spp.
- Acadra simplicilinea*, Usambara, WARREN, p. 401, t. c. n. sp.
- Acanthocampa n. g.* p. 951, *excavata* n. sp., Japan, p. 952, DYAR, P. U. S. Mus. xxviii.
- Acidalia* and allies, notes on affinities, larvæ etc., PROUT, pp. 6-11, 43-48, Entomologist 1905; *A. tabianaria*, Parma, p. 43, pl. viii, figg. 5-14, *gianellaria*, Aosta, p. 44, figg. 15-17, TURATI, Natural. Sicil. xviii; *A. perornata*, Mozambique, THIERRY-MIEG, p. 192, Naturaliste 1905 : n. spp.
- Acolutha imbecilla, semifulva*, Hainan, WARREN, p. 426, Nov. Zool. xii, n. spp.
- Acrotomodes croceata*, p. 365, *sporadata*, p. 366, Peru, WARREN, t. c. n. spp.
- Actenochroma ochreipicta*, Khasia Hills, SWINHOE, p. 166, Ann. Nat. Hist. (7) xv, n. sp.
- Æschropteryx tetragonata* ab. n. *solitaria*, WARREN, p. 366, Nov. Zool. xii.
- Agathia ithearia*, Borneo, p. 166, *solaria*, Singapore, p. 167, SWINHOE, Ann. Nat. Hist. (7) xv; *A. olivacea*, Solomon Islds., WARREN, p. 420, Nov. Zool. xii : n. spp.
- Agathiopsis subflavata*, Solomon Islds., WARREN, p. 421, t. c. n. sp.
- Agraptochlora analiplaga*, E. Africa, WARREN, p. 384, t. c. n. sp.
- Alcis acutangula*, Natal, WARREN, p. 36, t. c.; *A. vitensis*, pl. viii, fig. 5, p. 93, *nausori*, fig. 6, p. 94, Fiji, BETHUNE-BAKER, P. Zool. Soc. London 1905, i : n. spp.
- Alex longipecten*, Solomon Islds., WARREN, p. 417, Nov. Zool. xii, n. sp.
- Amaurinia cærulea*, Argentina, WARREN, p. 51, t. c. n. sp.
- Amblychia schistacea*, Batchian, WARREN, p. 14, t. c. n. sp.
- Amelora anthracia*, W. Australia, LOWER, p. 177, Tr. R. Soc. S. Austral. xxix, n. sp.
- Ameria latiorata*, Purnio, WARREN, p. 341, Nov. Zool. xii, n. sp.
- Anapalta flavilucens*, Colorado, WARREN, p. 327, t. c.; *A. niveseata*, Peru, WARREN, p. 47, t. c. n. spp.
- Anemplocia n. g.* *Heterusiineæ, flammifera* n. sp., Colombia, WARREN, p. 344, t. c.
- Angerona prunaria* abb., pl. ii, figg. 10, 11, MÖBIUS, Iris Dresden xviii.
- A. simulatrix*, Cayenne, THIERRY-MIEG, p. 193, Naturaliste 1905, n. sp.
- Anisodes subpallida* ab. n. *figurata*, WARREN, p. 320, Nov. Zool. xii.
- A. ruficosta*, Brit. Guiana, WARREN, p. 45, t. c. n. sp.
- Anisogamia albifimbria* ♂, WARREN, p. 421, t. c.
- Anisoperas albimorsa*, Peru, WARREN, p. 65, t. c.; *A. bimaculata*, Bolivia, WARREN, p. 366, t. c. n. sp.
- Antepirrhoë n. g.* type *E. delimitata* Warr., includes *Larentia homophana* and *latifusata*, also *A. vacillans* n. sp., Bolivia, WARREN, p. 327, t. c.
- Antharmostes interalbicans*, characters, WARREN, p. 384, t. c.
- Anthrax subfulva*, p. 11, *subnigrata*, p. 12, Solomon Islds., WARREN, t. c. n. spp.
- Anthometra unipuncta*, Kashmir, SWINHOE, p. 629, Ann. Nat. Hist. (7) xvi, n. sp.

- Aperusia n. g. punctistriata n. sp.*, Peru, WARREN, p. 328, Nov. Zool. xii.  
*Aplogompha læta*, Peru, WARREN, p. 54, t. c. n. sp.  
*Apocheima fuliginosa*, Natal, WARREN, p. 36, t. c. n. sp.  
*Argyrotome muricolor*, Peru, WARREN, p. 346 t. c. n. sp.  
*Arhodia retractaria* ab. n. *carnea*, WARREN, p. 9, t. c.  
*Ascotis margarita* = (*Blepharoctenucha albescens* Warr.), WARREN, p. 432, t. c.  
*Authyala n. g. Cyllopodinae*, p. 311, *obliquaria n. sp.*, Peru, p. 312, WARREN, t. c.  
*Axiodes figurata*, p. 407, *inangulata, intricata sinuata*, p. 408, S. Africa, WARREN, t. c. n. spp.  
*Azata fulvida*, Hainan, WARREN, p. 433, t. c. n. sp.  
*Azelina, poaphilaria* is type, WARREN, p. 367, t. c.  
*A. fulvata*, Sta. Martha, WARREN, p. 65, t. c.; *A. geminipuncta*, Peru, WARREN, p. 367, t. c. : n. spp.  
*Bagodares pallidicosta*, Ecuador, WARREN, p. 358, t. c. n. sp.  
*Berberodes penumbrata*, Peru, WARREN, p. 346, t. c. n. sp.  
*Biston pomonaria* hybr. *pilsii*, pl. ii, fig. 6, MÖBIUS, Iris Dresden xviii; *B. græcarius* var. *florentina*, ROSTAGNO, p. 92, Boll. Soc. zool. ital. xiv.  
*Boarmia properata*, characters and synonymy, SWINHOE, p. 503, Ann. Nat. Hist. (7) xv.  
*B. fortunaria*, Spain, VÁZQUEZ, p. 116, Bol. Soc. espan. v, n. sp.  
*Bordeta ampliplaga*, Solomon Islds., WARREN, p. 429, Nov. Zool. xii, n. sp.  
*Bronchelia consimilis*, Mexico, *plumbilinea*, p. 62, *semicompleta*, p. 63, Peru, WARREN, t. c. n. spp.  
*Bryoptera discata* ab. n. *cretata*, WARREN, p. 353, t. c.  
*B. distincta*, Parana, WARREN, p. 353, t. c. n. sp.  
*Bulonga trilineata*, Borneo, BASTELBERGER, p. 5, Ent. Zeitschr. Guben xix, n. sp.  
*Bupalus piniarius* ab., pl. ii, fig. 7, MÖBIUS, Iris Dresden xviii.  
*Bursada albilunata*, p. 429, *conjunctiva*, Obi, *dependens, restricta*, p. 430, Solomon Islds., WARREN, Nov. Zool. xii, n. spp.  
*Bursadopsis sectinota*, Halmaheira, *waterstradti*, Batchian, WARREN, p. 431, t. c. n. spp.  
*Callipia bultcata*, Peru, WARREN, p. 72, t. c. n. sp.  
*Cambogia trillista*, Peru, WARREN, p. 51, t. c. n. sp.  
*Campylona aurata*, Bogota, WARREN, p. 312, t. c. n. sp.  
*Cartaletis concolor*, Zululand, WARREN, p. 34, t. c. n. sp.  
*Cartelodes olivaria*, Peru, WARREN, p. 367, t. c. n. sp.  
*Catoria lucidata*, Solomon Islds., WARREN, p. 15, t. c.; *C. subalbata*, Sumatra, WARREN, p. 432, t. c. : n. spp.  
*Certima strigifera*, Peru, WARREN, p. 66, t. c.; *C. leucaniata*, Peru, WARREN, p. 368, t. c. n. sp.  
*Cerynia cupreata*, p. 52, *pamphilata*, p. 53, Peru, WARREN, t. c. n. spp.  
*Chiasmia maculilinea*, Celebes, *minuta*, Borneo, WARREN, p. 433, t. c. n. spp.  
*Chlorochroma quieta* Luc. (as *Iodis*) = (*Cenochlora felix* Warr.), WARREN, p. 422, t. c.  
*C. imparicornis*, Queensland, WARREN, p. 422, t. c. n. sp.  
*Chloroclystis sandycias*, New Zealand, MEYRICK, p. 220, Tr. ent. Soc. London 1905; *C. minima*, New Zealand, HUDSON, p. 356, Tr. New Zealand Inst. xxxvii : n. spp.  
*Chogada alienaria* ab. n. *nigrifasciata*, *C. decisaria* ab. n. *nigristigma*, WARREN, p. 432, t. c.  
*C. funesta*, Natal, WARREN, p. 398, t. c. n. sp.  
*Chrotoclora n. g. Geometrinae, perpulchra n. sp.*, Peru, WARREN, p. 317, t. c.  
*Chrysochloroma nubecula*, New Guinea, WARREN, p. 421, t. c. n. sp.  
*Chrysocraspeda fulviplaga, conspicuaria*, Khasia Hills, SWINHOE, p. 165, Ann. Nat. Hist. (7) xv, n. spp.

- Cidaria* and allies, PROUT, pp. 53-56, Tr. City London Soc. 1904; *C. tophaceata* larva, pl. ii, fig. 8, ROUGEMONT, Bull. Soc. Neuchatel xxix.
- C. selka*, Peru, THIERRY-MIEG, p. 181, Naturaliste 1905, n. sp.
- Cidariophanes stellaris*, Bolivia, WARREN, p. 358, Nov. Zool. xii, n. sp.
- Cimicodes angustipennis*, Bolivia, p. 66, *ferruginea*, Peru, p. 67, WARREN, t. c. n. sp.
- Cirrhorheuma* n. g. *Hydriomeninae*, *pallidimargo* n. sp., Peru, WARREN, p. 329, t. c.
- Cirrhosoma* n. g. near *Berberodes*, p. 54, *translucida* n. sp., Peru, p. 55, WARREN, t. c.
- Cnemodes simplex*, Peru, WARREN, p. 320, t. c. n. sp.
- Cnephora catocalaria*, Peru, WARREN, p. 368, t. c. n. sp.
- Celura dissocia*, Paraguay, WARREN, p. 41, t. c. n. sp.
- Centrocalpe custodiata* Guen. (= *centrostrigaria* Wall.), WARREN, p. 442, t. c.
- C. euboliata*, p. 329, *ignifera*, *nitida*, p. 330, Peru, WARREN, t. c. n. spp.
- Colpodonta* n. g. type *Azelina prinienta* Dogn. (= *phyllodontaria* Warr.), WARREN, p. 369, t. c.
- Cophocrotis casta*, Peru, WARREN, p. 341, t. c. n. sp.
- Cosymbia maderensis* ab. n. *irrufata*, WARREN, p. 441, t. c.
- C. marcida*, Sudan, WARREN & ROTHSCHILD, p. 27, pl. iv, fig. 28, t. c.; *C. nitidata*, Natal, WARREN, p. 387, t. c. n. spp.
- Craspedia immaculata*, Ivory Coast, WARREN, p. 388, t. c. n. sp.
- Craspedosis albistriata*, Batchesian, WARREN, p. 431, t. c.; *C. cyanea*, *desmiata*, New Guinea, ROTHSCHILD & JORDAN, p. 468, Nov. Zool. xii : n. spp.
- Crocallis elinguarua* abb., pl. ii, fig. 9, MÖBIUS, Iris Dresden xviii.
- Crypsimetalla fimbriata*, *flava*, Solomon Islds., WARREN, p. 428, Nov. Zool. xii, n. spp.
- Crypsityla subrosea*, Colombia, WARREN, p. 321, t. c. n. sp.
- Ctenistochlora* n. g. *Deiliniinae* for *Aplochloa fallax*, WARREN, p. 428, t. c.
- Cylopeda latiflava*, Colombia, *tenuis*, Parana, WARREN, p. 312, t. c. n. spp.
- Cymatophora subcrinita*, Peru, WARREN, p. 63, t. c.; *C. limbata*, *muscitincta*, Peru, WARREN, p. 354, t. c. n. spp.
- Decetia uniformis*, Solomon Islds., WARREN, p. 8, t. c. n. sp.
- Deinoptila peninsula* Dogn., ♀, WARREN, p. 331, t. c.
- Derambila* = (*Rambara* Moore, and ? *Chionopteryx* Snell.), WARREN, p. 382, t. c.
- D. costipunctata*, Sierra Leone, WARREN, p. 383, t. c. n. sp.
- Diastictris festa* Hulst, validity of, TAYLOR, p. 62, Canad. Ent. 1905.
- Dichromatopoda hepaticata*, Colombia, WARREN, p. 321, Nov. Zool. xii, n. sp.
- Dichromodes ida*, New Zealand, pl. xxii, fig. 2, p. 356, HUDSON, Tr. N. Zealand Inst. xxxvii, n. sp.
- Dilophodes amplificata*, Sikkim, BASTELBERGER, p. 22, Ent. Zeitschr. Guben xix, n. sp.
- Diopsis vitrifera*, Peru, WARREN, p. 43, Nov. Zool. xii; *D. vacuata*, Panama, WARREN, p. 313, t. c. n. spp.
- Dirades unicauda*, sex distinctions, DUDGEON, p. 404, J. Bombay Soc. xvi.
- Dysphania*, synonymical notes and varr. n., BASTELBERGER, pp. 201-224, Stettin Ent. Zeit. lxvi; *D. cyane*, *flavimargo* is distinct, WARREN, p. 440, Nov. Zool. xii.
- D. interrupta*, Sumatra, p. 206, *nigrostriata*, Borneo, p. 211, *goramensis*, Goram, p. 214, *splendida*, Cooktown, p. 216, *sericata*, Sumatra, p. 219, BASTELBERGER, Stettin Ent. Zeit. lxvi; *D. azurea*, p. 115, *cancelata*, N. Borneo, *peregrina*, Obi, p. 116, BASTELBERGER, Ent. Zeitschr. Guben xviii : n. spp.
- Ectropis (Tephrosia) consonaria*, ab. n. *nigra*, BANKES, p. 89, Ent. Mag. 1905.

- E. inelegans*, Niger, WARREN, p. 398, Nov. Zool. xii, n. sp.  
*Emmiltis bisinuata*, Angola, p. 388, *cervinata*, W. Africa, *khakiata*, Natal, p. 389, WARREN, Nov. Zool. xii; *E. elyra*, Kashmir, SWINHOE, p. 628, Ann. Nat. Hist. (7) xvi; *E. placida*, *plenistigma*, Solomon Ids., WARREN, p. 423, t. c.; *E. malepicta*, Peru, WARREN, p. 46, t. c.; *E. inquitnatula*, Peru, p. 321, *ochratipennis*, Venezuela, p. 322, WARREN, t. c. n. spp.  
*Enconista oberthuri*, Madrid, VÁZQUEZ, p. 119, Bol. Soc. espan. v, n. sp.  
*Entephria* (= *Glaucopteryx*) *ochribasis*, Argentina, WARREN, p. 333, Nov. Zool. xii.  
*Ephemerophila penumbrata*, Sierra Leone, WARREN, p. 395, t. c. n. sp.  
*Ephialtias aperta*, Peru, *dorsispilota*, p. 313, *repetita*, Colombia, *percurrens*, Peru, p. 314, WARREN, t. c. n. spp.  
*Epiplema asinina*, p. 380, *fumigera*. Natal, *subdistincta*, Sierra Leone, p. 381, WARREN, t. c.; *E. brunnea*, Obi, p. 411, *catenigera*, *cretisivriga*, Solomon Ids., *exsanguis*, Hainan, p. 412, *guttata*, *lignicolor*, Solomon Ids., p. 413, *nigropustulata*, Obi, *umbrimargo*, p. 414, *ustanalis*, Solomon Ids., *ustiplaga*, Hainan, p. 414, *vacuata*, Solomon Ids., *vinculata*, N. Guinea, p. 416, WARREN, t. c.; *E. pæcilaria*, Sumatra, SWINHOE, p. 626, Ann. Nat. Hist. (7) xvi; *E. triangulifera*, Solomon Ids., WARREN, p. 8, Nov. Zool. xii; *E. rotundata*, Paraguay, WARREN, p. 307, t. c. : n. spp.  
*Erateina albiradiata*, Bolivia, p. 344, *hyaloplaga*, Peru, p. 345, WARREN, t. c. n. sp.  
*Erebochlora albistrotata*, Peru, WARREN, p. 331, t. c. n. sp.  
*Eriopygidia subrubescens*, Peru, WARREN, p. 332, t. c. n. sp.  
*Erosia veninotata*, Costa Rica, WARREN, p. 42, t. c. n. sp.  
*Euchlæna astylusaria*, life-history, DYAR, p. 43, Psyche xii.  
*Euchloris dissimilis*, Sudan, WARREN & ROTHSCHILD, p. 26, pl. iv, fig. 27, Nov. Zool. xii, n. sp.  
*Euchoeca comptaria*, synonymy, TAYLOR, p. 411, Canad. Ent. 1905.  
*E. salienta*, N. America, PEARSALL, p. 126, Canad. Ent. 1905, n. sp.  
*Eudysia ochrivitta*, Bolivia, WARREN, p. 369, Nov. Zool. xii, n. sp.  
*Eucrostes undulilinea*, Sierra Leone, WARREN, p. 384, t. c. n. sp.  
*Eucymatoge versiplaga*, Peru, WARREN, p. 339, t. c. n. sp.  
*Eudule flavinota* ab. n. *nigrata*, WARREN, p. 342, t. c.  
*E. annuligera*, La Merced, *dioploides*, Costa Rica, p. 341, *plurinotata*, Bolivia, *rnfithorax*, Colombia, p. 342, WARREN, t. c. n. spp.  
*Eumacrodus* n. g. near *Ptychopoda*, *gracilis* n. sp., Venezuela, WARREN, p. 322, t. c.  
*Eumelea albimacula* Warr. to *Desmobathra*, WARREN, p. 419, t. c.  
*E. infulata*, Solomon Ids., p. 417, *phanissa*, Obi, p. 418, WARREN, t. c. n. spp.  
*Eumera regina*, early stages, REBEL, p. 398, Verh. Ges. Wien 1905.  
*Euomea ochrea*, Natal, WARREN, p. 409, Nov. Zool. xii, n. sp.  
*Eupileta* n. g. *Fidominae hirsuta* n. sp., Tijuco, WARREN, p. 362, t. c.  
*Eupithecia rigida* Swinh. to *Eucymatoge*, WARREN, p. 425, t. c.; *E. interruptofasciata*, larva, FLETCHER & GIBSON, p. 262, Canad. Ent. 1905; *E. sinusaria*, larva, DRAUDT, p. 259, pl. v, figg. 4-9, Iris Dresden xvii.  
*Eurythecodes fimosa*, Sierra Leone, WARREN, p. 38, Nov. Zool. xii, n. sp.  
*Euschema malayaria* var. n. *paupera*, *E. remota* varr. n. *auctata*, *albimacula*, THIERRY-MIEG, p. 181, Naturaliste 1905. Cf. also *Pareuschema*.  
*E. auriplea*, Waigiou, THIERRY-MIEG, p. 181, t. c. n. sp.  
*Eutomopepla albicollaris*, Peru, WARREN, p. 369, Nov. Zool. xii, n. sp.  
*Exelis ansorgei*, Niger Coast, WARREN, p. 409, t. c. n. sp.  
*Gathynia biocellata*, Peru, WARREN, p. 308, t. c. n. sp.  
*Geitonia* n. g. near *Anisoperas*, *gracilinea* n. sp., Chiriqui, WARREN, p. 370, t. c.

- Gelasma clemens*, Ecuador, WARREN, p. 317, t. c. n. sp.  
*Geometra papilionaria* varr. and larva, BURROWS, pp. 200–205, 221–227, pl. viii, Ent. Rec. xvii.  
*Gonanticlea deleta*, New Guinea, WARREN, p. 11, Nov. Zool. xii, n. sp.  
*Gonodela suberetata*, Uganda, WARREN, p. 37, t. c.; *G. apicepallens*, p. 401, *lunivallata*, *punctiversa*, p. 402, *rectilinea*, *unicolor*, p. 403, Africa, WARREN, t. c.; *G. semilutea*, Shan States, WARREN, p. 434, t. c. : n. spp.  
*Gullaca exilis*, Assam, BASTELBERGER, p. 5, Ent. Zeitschr. Guben xix;  
*G. derasata*, Madagascar, BASTELBERGER, p. 77, t. c. : n. spp.  
*Gymnoplodia* n. g. for *Epiplema parvidens* Dogn., WARREN, p. 42, Nov. Zool. xii.  
*Gynopteryx ligulifera*, Parana, WARREN, p. 370, Nov. Zool. xii, n. sp.  
*Hæmalea griseocens*, Peru, WARREN, p. 46, Nov. Zool. xii; *H. brunneata*, Colombia, p. 322, *rufifimbria*, Peru, p. 323, WARREN, t. c. : n. spp.  
*Haggardia spissata*, subalbata, Natal, WARREN, p. 396, t. c. n. spp.  
*Hammaptera dispansa*, Sta. Martha, *fumida*, Peru, WARREN, p. 47, t. c. n. spp.  
*Hemiplothis immaculata*, Grenada, WARREN, p. 352, P. U. S. Mus. xxix, n. sp.  
*Herbita castanea*, Costa Rica, WARREN, p. 371, Nov. Zool. xii, n. sp.  
*Heterephyra duplicata*, Colombia, WARREN, p. 323, t. c. n. sp.  
*Heteroplasta lasioplaca* Lower, to *Polyclysta*, BASTELBERGER, p. 22, Ent. Zeitschr. Guben xix.  
*Heterusia ovaliplaga*, Peru, WARREN, p. 53, Nov. Zool. xii; *H. cæcata*, Peru, WARREN, p. 345, t. c. : n. spp.  
*Hirasa denticulata* to *Hirasodes*, WARREN, p. 396, t. c.  
*Holorista dentatilinea*, Solomon Ids., WARREN, p. 428, t. c. n. sp.  
*Homospora rhodospica* Low. (as *Onychodes*)=(*procrita* Turn.), LOWER, p. 178, Tr. R. Soc. S. Austral. xxix.  
*Hyalopola marginata*, Peru, WARREN, p. 56, Nov. Zool. xii, n. sp.  
*Hygrochroma* † *ceruinata*, Colombia, WARREN, p. 371, t. c. n. sp.  
*Hylemera subfulva*, Sierra Leone, WARREN, p. 395, t. c. n. sp.  
*Hypedyle divisa*, Peru, WARREN, p. 43, t. c. n. sp.  
*Hypocæla uniformis*, Uganda, WARREN, p. 385, t. c. n. sp.  
*Hypolepis fulva*, *fuscata*, Peru, WARREN, p. 48, t. c. n. spp.  
*Hypophracta* n. g. *Ænochrominæ*, *persimilis* n. sp., East Africa, WARREN, p. 382, t. c.  
*Hyposidra leprosata*, Uganda, WARREN, p. 38, t. c.; *H. rauca*, *vittata*, Cagayan Sulu, WARREN, p. 437, t. c. : n. spp.  
*Hyrmina protecta*, Brit. Guiana, KAYE, p. 121, pl. iii, fig. 8, Ent. Rec. xvii, n. sp.  
*Ira capnodiata* ab. n. *reducta*, WARREN, p. 372, Nov. Zool. xii.  
*I. crenulata*, Peru, WARREN, p. 372, t. c. n. sp.  
*Iridopsis griseocens*, Quito, *subnigrata*, Peru, WARREN, p. 355, t. c. n. spp.  
*Ischnopteris conjungens*, p. 59, *projectata*, p. 60, Peru, WARREN, t. c.;  
*I. brunneoviridis*, p. 359, *degener*, p. 360, Peru, WARREN, t. c. : n. spp.  
*Isochromodes denotata*, distinct not var. of *auxilians*, WARREN, p. 372, t. c.  
*I. straminea*, p. 67, *turbinata*, p. 68, Peru, WARREN, t. c. n. spp.  
*Iulocera* n. g. type *Azata variegata* Warr., *I. albiapicata* n. sp., Halmaheira, WARREN, p. 434, t. c.  
*Iza mediovineta*, Amazons, WARREN, p. 307, t. c. n. sp.  
*Josia radians*, Sta. Marta, WARREN, p. 44, t. c.; *J. turgida*, with ab. n. *conifera*, Venezuela, WARREN, p. 314, t. c. : n. spp.  
*Larentia sordidata* and *autumnalis*, sexual differences, PETERSEN, p. 73, cuts, Mem. Ac. St. Petersb. (8) xvi, No. 2; *L. multistrigaria*, melanism, MORLEY, pp. 170, 171, Ent. Rec. xvii.

- L. eximiata*, Rhine, FUCHS, Ent. Zeitschr. Guben xviii, No. 32, Beilage;  
*L. revaensis*, Fiji, pl. viii, fig. 7, p. 94, BETHUNE-BAKER, P. Zool. Soc.  
 London 1905, i : n. spp.
- Lasiopates* n. g. *Mecoceratinæ*, p. 310, *hyacinthina* n. sp., Ecuador, p. 311,  
 WARREN, Nov. Zool. xii.
- Lasiophanes* n. g. near *Perizoma*, *rusticta* n. sp., Peru, WARREN,  
 p. 333, t. c.
- Leptaletis variabilis* ab. n. *ampliflava*, WARREN, p. 383, t. c.
- Leptesthes circumflexaria* = (*Hyposidra megaspila* Moore, Hamps.),  
 SWINHOE, p. 627, Ann. Nat. Hist. (7) xvi.
- Leptomeris quinquelinearia*, life-history, DYAR, p. 93, Psyche xii.
- Leucodesmia confusa*, Ceylon, WARREN, p. 422, Nov. Zool. xii, n. sp.
- Leucula meganira* ab. n. *astigma*, WARREN, p. 350, t. c.
- Lignyoptera thaumastaria* ♀, REBEL, p. 23, Verh. Ges. Wien 1905.
- Lipocentris* n. g. near *Emmiltis*, *rubriceps* n. sp., Angola, WARREN, p. 389,  
 Nov. Zool. xii.
- Lipomelia rubicunda*, Trinidad, WARREN, p. 324, t. c. n. sp.
- Lisomma* n. g. near *Hypographa humerata* n. sp., S. Australia, and includes  
*Monocentrias minuta* Swinh., WARREN, p. 418, t. c.
- Lissochlora intacta*, Dominica, WARREN, p. 318, t. c. n. sp.
- Lissopsis margarita*, Peru, WARREN, p. 343, t. c. n. sp.
- Lomaspilis casta*, Transvaal, WARREN, p. 35, t. c. n. sp.
- Lomographa extremata*, Peru, WARREN, p. 53, t. c.; *L. inæquata*, p. 348,  
*venata*, p. 349, Peru, WARREN, t. c. : n. spp.
- Loxapicia cognata*, Peru, WARREN, p. 68, t. c. n. sp.
- Loxotephria* n. g. *Semiothisinæ*, p. 13, *olivacea*, n. sp., p. 14, Hainan,  
 WARREN, t. c.
- Lythria purpuraria cruentaria*, DEMAISON, p. 255, Bull. Soc. ent. France  
 1905; *L. purpuraria*, varr. at Reims, DEMAISON, p. 125, t. c.; *L.*  
*purpuraria*, variation, DEMAISON, Bull. Soc. Reims xiv, p. 30.
- L. fulva*, New Zealand, HUDSON, p. 357, pl. xxii, fig. 3, Tr. N. Zealand  
 Inst. xxxvii, n. sp.
- Macaria liturata* ab. n. *nigrofulvata*, COLLINS, p. 45, Ent. Rec. xvii.
- Marmopteryx griseata*, and ab. *subrufata*, Bolivia, WARREN, p. 343, Nov.  
 Zool. xii, n. sp.
- Medasina leledaria*, Khasia Hills, SWINHOE, p. 503, Ann. Nat. Hist. (7) xv;  
*M. pallidimargo*, Kashmir, SWINHOE, p. 627, op. cit. xvi : n. spp.
- Melanchroia albifascia*, *astigma*, Peru, WARREN, p. 349, t. c. n. sp.
- Melanolophia canadaria*, life-history, DYAR, p. 58, Psyche xii.
- Melinodes fulvitincta*, Argentina, WARREN, p. 69, Nov. Zool. xii, n. sp.
- Melinoessa subalbida*, Uganda, WARREN, p. 35, t. c. n. sp.
- Mesocela seriata*, Angola, WARREN, p. 38, t. c. n. sp.
- Mesoleuca vasiliata*, life-history, DYAR, p. 25, Psyche xii.
- Mesothisa* n. g. near *Hyposidra*, p. 403, *M. flaccida*, *gracilinea* n. sp.,  
 W. Africa, p. 404, WARREN, Nov. Zool. xii.
- Mesotrophe?* *subrubata*, Solomon Ids., WARREN, p. 10, t. c. n. sp.
- Metallospora* n. g. near *Hypephyra*, p. 38, *catori* n. sp., Sierra Leone,  
 p. 39, WARREN, t. c.
- Miantochora*, the female, WARREN, p. 405, t. c.
- Microgonia affinis* ab. n. *intensa*, p. 373, *M. præditaria* ab. n. *rufa*, p. 375,  
 WARREN, t. c.
- M. alternata*, p. 373, *crepusculata*, Dominica, *coarctata*, Peru, p. 374,  
 WARREN, t. c.; *M. roseata*, S. Africa, WARREN, p. 385, t. c.; *M.*  
*vestigiata*, Kashmir, SWINHOE, p. 629, Ann. Nat. Hist. (7) xvi :  
 n. spp.
- Microxydia gigantula*, *pumaria*, Peru, WARREN, p. 375, Nov. Zool. xii,  
 n. spp.
- Milonia glauca* var. n. *basirubra*, THIERRY-MIEG, p. 181, Naturaliste 1905.

- M. pericallis*, *callima*, p. 467, *aglaia*, p. 468, New Guinea, ROTHSCHILD & JORDAN, Nov. Zool. xii, **n. spp.**
- Mimaletis albipennis*, Sierra Leone, WARREN, p. 384, Nov. Zool. xii, **n. sp.**
- Miwocera torsilinea*, Paraguay, WARREN, p. 44, t. c. **n. sp.**
- Mnesiloba seminigra*, Assam, BASTELBERGER, p. 77, Ent. Zeitschr. Guben xix, **n. sp.**
- Monobolodes schistacea*, Solomon Ids., WARREN, p. 8, Nov. Zool. xii, **n. sp.**
- Myrice* Walk. (= *Hemigymnodes* Warr.), WARREN, p. 315, t. c.
- Myrmecophantes assimilis*, Peru, WARREN, p. 56, t. c. **n. sp.**
- Nadagarodes pulverata*, p. 435, *purpuraria*, p. 436, Solomon Ids., WARREN, t. c. **n. spp.**
- Negla tenuiorata* and *nachtigali*, distinguished, WARREN, p. 394, t. c.
- Nelo decipiens*, Ecuador, *tricolor*, Bolivia, THIERRY-MIEG, p. 181, Naturaliste 1905, **n. spp.**
- Nemoria dorsicristata*, Natal, WARREN, p. 34, Nov. Zool. xii, **n. sp.**
- Neodesmodes n. g.* near *Ischnopteris*, p. 360, *semialbata n. sp.*, Peru, p. 361, WARREN, t. c.
- Neoscelis cristata* Warr. (as *Gymnoscelis*) (= *rivula* Hamps.), WARREN, p. 11, t. c.
- Neostega flavata*, *obscurata*, W. Africa, WARREN, p. 393, t. c. **n. spp.**
- Nesophila n. g.* *Semiothisinae*, *vulgaris n. sp.*, Solomon Ids., WARREN, p. 436, t. c.
- Nipteria dispansa* ab. *n. infurcata*, WARREN, p. 57, t. c.
- N. directa*, p. 56, *elongaria*, *fumosata*, p. 57, *pallidilinea*, *subbrunnea*, p. 58, Peru, WARREN, t. c.; *N. excavata*, *flavipectus*, p. 350, *infirma*, *pierridaria*, *subsordida*, p. 351, S. America, WARREN, t. c. : **n. spp.**
- Nomenia n. g.* for *Epirrhita duodecimlineata* Pack., PEARSALL, p. 126, Canad. Ent. 1905; *Nomenia*, cf. also *Venusia*.
- Nopia admiranda*, Natal, WARREN, p. 406, Nov. Zool. xii, **n. sp.**
- Noreia dentilineata*, Cagayan Sulu, WARREN, p. 419, t. c. **n. sp.**
- Notoreas ischnocyma*, New Zealand, MEYRICK, Tr. ent. Soc. London 1905, **n. sp.**
- Numia deceptrix*, Tucuman, WARREN, p. 69, Nov. Zool. xii, **n. sp.**
- Obolcola despecta*, Ivory Coast, WARREN, p. 400, t. c. **n. sp.**
- Ochroplutodes crocea*, Durban, WARREN, p. 392, t. c. **n. sp.**
- Ochyria discata*, Natal, WARREN, p. 391, t. c.; *O. amaura*, Quito, WARREN, p. 333, t. c. : **n. spp.**
- Enoptila ? subconfusa*, p. 60, *Æ. subfasciata*, p. 61, Peru, WARREN, t. c. **n. spp.**
- Enospila stellata*, variation, WARREN, p. 422, t. c.
- Omphalucha n. g.* *Bistoninae*, p. 396, *hirta*, Durban, p. 397, *O. ? rufinubes*, Angola, **n. spp.**, p. 398, and incl. *Aphilopota ambusta*, WARREN, t. c.
- Oospila depressa*, Costa Rica, WARREN, p. 45, t. c.; *O. thalassina*, Peru, WARREN, p. 318, t. c. : **n. spp.**
- Opisthoxia argenticincta*, Peru, WARREN, p. 55, t. c.; *O. fulvata*, Venezuela, p. 347, *scintillans*, Peru, p. 348, WARREN, t. c. : **n. spp.**
- Ophthalmophora chouya*, Peru, THIERRY-MIEG, p. 193, Naturaliste 1905; *O. humilis*, Peru, WARREN, p. 55, Nov. Zool. xii; *O. hybridata*, Bolivia, WARREN, p. 347, t. c. : **n. spp.**
- Orsonoba ? euryscopa*, Queensland, LOWER, p. 178, Tr. R. Soc. S. Austral. xxix; *O. orthogrammaria*, Hong Kong, LONGSTAFF, p. 184, Ent. Mag. 1905 : **n. spp.**
- Orthonama pudibunda*, Peru, *straminea*, Bolivia, WARREN, p. 334, Nov. Zool. xii.
- Orthoprora albiplaga*, *balteata*, Peru, WARREN, p. 49, t. c. **n. spp.**
- Ourapteryx gisela*, Java, THIERRY-MIEG, p. 192, Naturaliste 1905, **n. sp.**
- Oxyfidonia n. g.* *Fidoniinae*, *fulvida n. sp.*, Sierra Leone, WARREN, p. 400, Nov. Zool. xii.



- Ozola convergens*, Ceylon, WARREN, p. 419, t. c. n. sp.  
*Panthera semiconfluens*, Peru, WARREN, p. 56, t. c. n. sp.  
*Parachoreutes* merged in *Leptoctenopsis*, WARREN, p. 310, t. c.  
*Paracomistis maculata*, Peru, WARREN, p. 69, t. c. n. sp.  
*Paradarisa* ? *viriditincta*, Usambara, WARREN, p. 399, t. c. n. sp.  
*Paragramma* n. g. *Hydriomenineæ*, p. 424, *mimula* n. sp., Solomon Ids., p. 425, WARREN, t. c.  
*Paragyrtis* n. g. *Monocteniidæ* for *Panagra inostentata* Walk., MÉYRICK, p. 222, Tr. ent. Soc. London 1905.  
*Parascotia nisseni*, Algeria, TURATI, p. 42, pl. viii, fig. 1, Natural. Sicil. xviii, n. sp.  
*Pareclipsis insolita*, Sierra Leone, WARREN, p. 39, Nov. Zool. xii, n. sp.  
*Pareuschema* n. g. for *Eusch. regalis* Butl., THIERRY-MIEG, p. 181, Naturaliste 1905.  
*Penthophlebia subvenata*, Peru, WARREN, p. 59, Nov. Zool. xii; *P. fuscicosta*, *posticaria*, *subapicata*, S. America, WARREN, p. 352, t. c. : n. spp.  
*Peratophyga bifasciata*, Hainan, WARREN, p. 13, t. c. n. sp.  
*Pergama dissimilis*, Peru, WARREN, p. 375, t. c. n. sp.  
*Peridela butaria* ab. n. *spilota*, WARREN, p. 405, t. c.; *P. ochracea* to *Xénoecista*, WARREN, p. 437, t. c.  
*P. sudanata*, Sudan, WARREN & ROTHSCHILD, p. 28, pl. iv, fig. 26, Nov. Zool. xii, n. sp.  
*Perigramma repetita*, Costa Rica, WARREN, p. 352, Nov. Zool. xii, n. sp.  
*Perixera impudens*, locality is Galapagos Islds., WARREN, p. 72, t. c.  
*P. ustipennis*, Solomon Islds., WARREN, p. 423, t. c. n. sp.  
*Perizoma albirasa*, *carnepieta*, p. 335, *fallax*, Peru, *ochritincta*, Huatuxco, p. 336, WARREN, t. c. n. spp.  
*Pero eaternata*, Parana, *ravida*, Peru, WARREN, p. 376, t. c. n. spp.  
*Perusia verticata*, Peru, WARREN, p. 377, t. c. n. sp.  
*Petrophora convallaria*, life-history, DYAR, p. 69, Psyche xii.  
*Phasiana clathrata* var. *aurata*, p. 45, pl. ix, figg. 5-12, *P. partitaria* ab. *titoralaria*, p. 46, figg. 13-20, TURATI, Natural. Sicil. xviii.  
*Phelloë semiplaga*, Colombia, WARREN, p. 315, Nov. Zool. xii, n. sp.  
*Pherotesia alterata*, *flavicincta*, *potens*, p. 356, *subjecta*, p. 357, S. America, WARREN, t. c. n. spp.  
*Phorodesma rubrimaculata*, Natal, WARREN, p. 385, t. c. n. sp.  
*Phrygonis cruorata*, Dominica, WARREN, p. 345, t. c. n. sp.  
*Phyllodonta carneata* to *Euclysia*, WARREN, p. 67, t. c.  
*Pterocymia* ? *rhombifascia*, Peru, WARREN, p. 337, t. c. n. sp.  
*Polla fuscata*, Peru, WARREN, p. 70, t. c. n. sp.  
*Prasinoscia* n. g. *Geometrinea*, p. 318, *insolens* n. sp., Venezuela, p. 319, WARREN, t. c.  
*Problepsis venus*, Amboina, *maxima*, Japan, *mozambica*, Africa, THIERRY-MIEG, p. 192, Naturaliste 1905, n. spp.  
*Psaliodes tripartita* to *Hypolepsis*, WARREN, p. 49, Nov. Zool. xii.  
*P. brachiata*, *dislocata*, Peru, WARREN, p. 50, t. c.; *P. marmorata*, Peru, WARREN, p. 337, t. c. : n. spp.  
*Psamathia parallelaria*, Costa Rica, WARREN, p. 308, t. c. n. sp.  
*Pseudasthena grataria*, abb. n. *marginata* and *perflava*, WARREN, p. 426, t. c.  
*Pterocypha simplicata*, Argentina, WARREN, p. 338, t. c. n. sp.  
*Ptychopa informipennis*, Peru, WARREN, p. 324, t. c. n. sp.  
*Ptychopoda crasssquama*, pl. iv, fig. 36, *microptera*, fig. 7, p. 27, *granulosa*, fig. 38, p. 28, Sudan, WARREN & ROTHSCHILD, Nov. Zool. xii, n. spp.  
*Pungaleria capreolaria*, pl. 11, fig. 7, ROUGEMONT, Bull. Soc. Neuchatel xxix.  
*Pynostega* n. g. near *Neostega*, p. 393, *obscura* n. sp., Niger Riv. p. 394, WARREN, Nov. Zool. xii.  
*Pyrinia abditaria*, p. 377, *hemixantha*, *humerala*, Peru, *tenuilinea*, Colombia, p. 378, WARREN, t. c. n. spp.

- Racasta caberaria* distinct from *spatiaria*, *extendata* Dogn. syn. of *caberaria*, WARREN, p. 310, t. c.
- Racheolopha rufilimes*, Ecuador, WARREN, p. 319, t. c. n. sp.
- Racheospila megastigma*, Costa Rica, WARREN, p. 45, t. c.; *R. tenuimargo*, Tijuco, WARREN, p. 319, t. c. : n. spp.
- Rhinoprora ochriplaga*, New Guinea, WARREN, p. 425, t. c. n. sp.
- Rhodesia* n. g. *Geometrinae*, *viridalbata* n. sp., Natal, and incl. *Comibæna alboviridata* Saalm., WARREN, p. 386, t. c.
- Rhodochlora exquisita*, Peru, WARREN, p. 320, t. c. n. sp.
- Rhodophthitus procellosa*, Angola, WARREN, p. 394, t. c. n. sp.
- Rhomborista intermaculata*, Senegambia, WARREN, p. 387, t. c. n. sp.
- Ripula mahometaria* var. n. *chiffa*, THIERRY-MIEG, p. 192, Naturaliste 1905.
- Saccoploca excisa nigrosticta* ab. ? nov., WARREN, p. 43, t. c.
- Sangalopsis basidentata*, Peru, WARREN, p. 349, t. c. n. sp.
- Sarcinodes subfulvida* ab. n. *olivata*, WARREN, p. 9, t. c.
- Sauris angusta*, Solomon Islds., WARREN, p. 12, t. c. n. sp.
- Scardamia ditissima*, Mozambique, THIERRY-MIEG, p. 192, Naturaliste 1905, n. sp.
- Seea angustimargo*, Paraguay, WARREN, p. 315, Nov. Zool. xii, n. sp.
- Selidosema pungata* Fed. = (*fasciata* Philp.), MEYRICK, p. 223, Tr. ent. Soc. London 1905.
- Semiothisa crassisquama*, Paraguay, *orthodisca*, Peru, WARREN, p. 64, Nov. Zool. xii; *S. flavida*, *nigrescens*, p. 363, *salsa*, Colombia, *quadricaudata*, Costa Rica, p. 364, *vulpina*, Ecuador, p. 365, WARREN, t. c. : n. spp.
- Sericosema angulata*, Vancouver, p. 361, *lignata*, Galapagos Islds., p. 362, WARREN, t. c. n. spp.
- Schematorhages* n. g. near *Ptychopoda*, p. 324, *arhostiodes* n. sp., Peru, p. 325, WARREN, t. c.
- Sciagraphia nephata*, life-history, DYAR, p. 115, Psyche xii.
- Somatina nucleata*, Sierra Leone, *rufitacta*, Durban, WARREN, p. 390, Nov. Zool. xii, n. sp.
- Somatolophia umbripennis* Hulst, validity of, TAYLOR, p. 61, Canad. Ent. 1905.
- Sparmania nigrifasciata*, Peru, WARREN, p. 338, Nov. Zool. xii, n. sp.
- Stenalcidia*? *divisata*, St. Lucia, WARREN, p. 358, t. c. n. sp.
- Stenodonta* n. g. near *Pero*, *incurvata* n. sp., Argentina, WARREN, p. 379, t. c.
- Sterrha irrufata*, S. Africa, WARREN, p. 391, t. c. n. sp.
- Stibarostoma pulverata*, Queensland, WARREN, p. 424, t. c. n. sp.
- Stigma kuldshaensis* var. n. *negrita*, THIERRY-MIEG, p. 193, Naturaliste 1905.
- Syndromodes delicata*, Natal, WARREN, p. 34, Nov. Zool. xii, n. sp.
- Synelys pudens*, Natal, WARREN, p. 35, t. c.; *S. lubricata*, Angola, WARREN, p. 391, t. c.; *S. ochreolata*, Peru, WARREN, p. 325, t. c. : n. spp.
- Syngria griseata*, Peru, WARREN, p. 309, t. c. n. sp.
- Syngriodes discolor*, Costa Rica, WARREN, p. 309, t. c. n. sp.
- Systematica xanthastis* Low., genus ?, LOWER, p. 179, Tr. R. Soc. S. Austral. xxix.
- Tephrina bleusei*, Algeria, THIERRY-MIEG, p. 192, Naturaliste 1905, n. sp.
- Tephroclystia* and *Chloroclystis*, the distinction of species by sexual structures, PETERSEN, pp. 63-68, cuts, Mem. Ac. St. Petersb. (8) xvi, No. 2; *T. atomaria* ♀, WARREN, p. 392, Nov. Zool. xii.
- T. dissertata*, Wallis, PÜNGELER, p. 138, Soc. ent. xx; *T. latipennis*, Madeira, *ogilviata*, Azores, WARREN, p. 443, Nov. Zool. xii; *T. harlequinaria*, Seattle, DYAR, p. 29, P. ent. Soc. Washington vii;

- T. cuneilineata*, Peru, WARREN, p. 52, Nov. Zool. xii; *T. albiceps*, p. 339, *fumifascia*, *latitans*, p. 340, Peru, WARREN, t. c. : n. spp.
- Thalassodes subviridis*, Christmas Isld., WARREN, p. 10, t. c. n. sp.
- Therapis sordida*, Congo, WARREN, p. 40, t. c. n. sp.
- Thinopteryx pretoraria* Feld. (as *Urapteryx*), habitat and varr., SWINHOE, p. 154, Ann. Nat. Hist. (7) xvi.
- Thysanocraspeda nudata*, Peru, WARREN, p. 309, Nov. Zool. xii, n. sp.
- Thysanopyga nigricosta*, Peru, WARREN, p. 61, t. c. n. sp.
- Timandra amata* ab., pl. ii, fig. 5, MÖBIUS, Iris Dresden xviii.
- Tithraustes albinigra*, *fumosa*, Chiriqui, WARREN, p. 316, Nov. Zool. xii, n. spp.
- Tricentra commixta*, Peru, p. 325, *decorata*, Ecuador, *flavimargo*, Colombia, p. 326, WARREN, t. c. n. spp.
- Trigonometæa nigristigma*, Natal, WARREN, p. 309, t. c. n. sp.
- Triphosia dubitata*, as a cave-insect, GADEAU, p. 54, Bull. Soc. ent. France 1905.
- Trotogonia* n. g. *Ennominae*, p. 70, *pallidata*, Peru, *subornata*, Colombia, n. spp., p. 71, WARREN, Nov. Zool. xii.
- Uranodoaca longicornis* ab. n. *maculata*, WARREN, p. 432, t. c.
- Victoria fuscithorax*, Uganda, WARREN, p. 387, t. c. n. sp.
- Venusia cambrica*, life-history, synonymy, varr. n., PROUT, pp. 33-45, Tr. City London Soc. 1904; *V.* and *Nomenia* criticised, TAYLOR, pp. 239, 240, Canad. Ent. 1905; *V.*, PEARSALL again, t. c. pp. 331, 332.
- Xanthorhoë inæquata*, Azores, WARREN, p. 443, Nov. Zool. xii; *X. imperfecta*, pl. xx, fig. 6, *recta*, fig. 3, PHILPOTT, p. 330, Tr. New Zealand Inst. xxxvii; *X. periphæa*, New Zealand, MEYRICK, p. 220, Tr. ent. Soc. London 1905 : n. spp.
- Xanthyrus planitimbata*, Peru, WARREN, p. 316, Nov. Zool. xii, n. sp.
- Xenimpia* and *Procypha*, *X. erosa* ♂, WARREN, p. 407, t. c.
- Xenoecista persimilis*, Solomon Islds., WARREN, p. 437, t. c.; *X. lapidata*, Tijuco, WARREN, p. 65, n. spp.
- Zanclopera calidata*, Hainan, WARREN, p. 438, t. c. n. sp.

## PYRALIDÆ, THYRIDIDÆ.

[Cf. BETHUNE-BAKER (108), CHAPMAN (305), DAECKE (385), DOGNIN (438), DUDGEON (465), DYAR (470, 474), HAMPSON (718, 719), KEARFOTT (831), LOWER (980, 981), MEYRICK (1041), ROTHSCHILD & JORDAN (1307), SCHÜTZE (1366), SWINHOE (1460), TURNER (1509), VÁZQUEZ (1535), WARREN (1568, 1569, 1571-1575), WARREN & ROTHSCHILD (1576).]

- Acridura fortunata*, Bolivia, DOGNIN, p. 71, Ann. Soc. ent. Belgique 1905, n. sp.
- Acrobasis kearfottella*, Ohio, DYAR, p. 34, P. ent. Soc. Washington vii, n. sp.
- Actenia brunnealis*, larva, pl. i, fig. 1, p. 93, KRONE, Jahresber. Wien. ent. Verh. 1904.
- Ædiodes bigeminalis*, Bolivia, DOGNIN, p. 68, Ann. Soc. ent. Belgique 1905, n. sp.
- Ampycophora holophæa*, Brisbane, TURNER, p. 42, P. Soc. Queensland xix, n. sp.
- Ancyclodes penicillata*, Australia, TURNER, p. 46, t. c. n. sp.
- Anerastria plinthina*, *rhodoneura*, Australia, TURNER, p. 43, t. c. n. spp.
- Argyractis decoralis*, Ecuador, DOGNIN, p. 65, Ann. Soc. ent. Belgique 1905, n. sp.
- Argyria strophæa*, New Zealand, MEYRICK, Tr. ent. Soc. London 1905, n. sp.

- Banisia dohertyi* ab. n. *nigriflexa*, WARREN, p. 410, Nov. Zool. xii.  
*B. discata*, Natal, WARREN, p. 380, t. c.; *B. plagiata*, Solomon Ids.,  
 WARREN, p. 410, t. c. : n. spp.  
*Barberia* n. g. near *Hypsotropa*, *affinitella* n. sp., Texas, DYAR, p. 39,  
 P. ent. Soc. Washington vii.  
*Belonoptera sanguinea*, Guiana, WARREN, p. 347, P. U. S. Mus. xxix,  
 n. sp.  
*Brixia neapolitana*, *guttulosa*, Guiana, WARREN, p. 348, t. c. n. sp.  
*Cacotherapia flexilinealis*, Texas, DYAR, p. 30, P. ent. Soc. Washington vii,  
 n. sp.  
*Cacozelia alboplagialis*, Arizona, DYAR, p. 30, t. c. n. sp.  
*Canæa*, characters, WARREN, p. 410, Nov. Zool. xii.  
*C. hyæna*, Solomon Ids., *venustula*, New Guinea, WARREN, p. 6, t. c.  
 n. spp.  
*Cataclysta lemnata*, egg, larva, and larval habits, CHAPMAN, pp. 1-5, 38-43,  
 pl. i, Entomologist 1905.  
*Chilo auricilia*, India, DUDGEON, p. 405, J. Bombay Soc. xvi, n. sp.  
*Clupeosoma rhodea*, Queensland, LOWER, p. 107, Tr. R. Soc. S. Austral.  
 xxix, n. sp.  
*Cirrhochrista gaujonialis*, Colombia, DOGNIN, p. 75, Ann. Soc. ent. Belgique  
 1905, n. spp.  
*Cænostola confusalis*, Ecuador, DOGNIN, p. 71, t. c. n. sp.  
*Crambus heteraulus*, p. 225, *sophistes*, p. 226, New Zealand, MEYRICK, Tr.  
 ent. Soc. London 1905, n. spp.  
*Cryptoblabes centroleuca*, N. S. Wales, LOWER, p. 106, Tr. R. Soc. S.  
 Austral. xxix, n. sp.  
*Cybolomia rivasalis*, Spain, VÁZQUEZ, p. 120, Bol. Soc. espan. v; *C. simplex*,  
 Sudan, WARREN & ROTHSCHILD, p. 30, pl. iv, fig. 5, Nov. Zool. xii; *C. langustalis*,  
 Ecuador, DOGNIN, p. 78, Ann. Soc. ent. Belgique 1905 : n. spp.  
*Diadexia* n. g. near *Culladia*, *parodes* n. sp., N. W. Australia, TURNER,  
 p. 56, P. Soc. Queensland xix.  
*Diptychophora diargema*, Queensland, TURNER, p. 58, t. c.; *D. microdera*,  
 New Zealand, MEYRICK, p. 227, Tr. ent. Soc. London 1905 : n. spp.  
*Draconia basipecta*, Guiana, WARREN, p. 349, P. U. S. Mus. xxix, n. sp.  
*Ebulea submundalis*, p. 81, *subochralis*, p. 84, Ecuador, DOGNIN, Ann.  
 Soc. ent. Belgique 1905, n. spp.  
*Endotricha flammealis* varr. *adustalis*, *lutealis*, TURATI, p. 48, Natural.  
 Sicil. xviii.  
*E. baryptera*, Queensland, LOWER, p. 180, Tr. R. Soc. S. Austral. xxix;  
*E. caustopa*, Queensland, TURNER, p. 58, P. Soc. Queensland xix :  
 n. spp.  
*Ephestiopsis poliella*, Queensland, LOWER, p. 106, Tr. R. Soc. S. Austral.  
 xxix, n. sp.  
*Epipaschia cletolis*, p. 62, *lygropa*, p. 63, Queensland, TURNER, P. Soc.  
 Queensland xix, n. spp.  
*Epischnia cinerosalis*, Sudan, WARREN & ROTHSCHILD, p. 31, pl. iv, fig. 2,  
 Nov. Zool. xii, n. sp.  
*Eurythmia spaldingella*, Utah, DYAR, p. 39, P. ent. Soc. Washington vii,  
 n. sp.  
*Euzophera bigella*, larva, pl. i, fig. 2, p. 93, KRONE, Jahresber. Wien. ent.  
 Ver. 1904.  
*E. trigeminata*, Sudan, WARREN & ROTHSCHILD, p. 30, pl. iv, fig. 6, Nov.  
 Zool. xii, n. sp.  
*Euzopherodes poliocrana*, N. S. Wales, LOWER, p. 104, Tr. R. Soc. S.  
 Austral. xxix, n. sp.  
*Evergestis obliquialis*, Peru, DOGNIN, p. 75, Ann. Soc. ent. Belgique 1905,  
 n. sp.

- Glyphodes limitalis*, p. 72, *adealis*, *circumfumata*, p. 73, *impunctalis*, *extorris*, *tenialis*, p. 74, S. America, DOGNIN, t. c. n. spp.
- Hemiptocha* n. g. near *Crambus*, *agraphella* n. sp., Tucuman, DOGNIN, p. 61, t. c.
- Heterographis rivulalis*, Sudan, WARREN & ROTHSCHILD, p. 31, pl. iv, fig. 7, Nov. Zool. xii, n. sp.
- Heteromicia pæodes*, Queensland, TURNER, p. 54, P. Soc. Queensland xix, n. sp.
- Heterudea* n. g. *Pyraustinae*, *illustralis*, *grisealis*, Ecuador, n. spp., DOGNIN, p. 80, Ann. Soc. ent. Belgique 1905.
- Homæosoma electellum*, larva, KEARFOTT, p. 123, Canad. Ent. 1905.
- H. ostarellum*, *striatellum*, N. America, DYAR, p. 38, P. ent. Soc. Washington vii, n. spp.
- Hyalæa boliviensis*, Bolivia, DOGNIN, p. 68, Ann. Soc. ent. Belgique 1905, n. sp.
- Hyphantidium hyposcopa*, Melbourne, LOWER, p. 105, Tr. R. Soc. S. Austral. xxix; *H. hemibaphes*, Tasmania, TURNER, p. 47, P. Soc. Queensland xix: n. spp.
- Hypolamprus subumbrata*, Shan States, WARREN, p. 6, Nov. Zool. xii, n. sp.
- Hypsotropha stereosticha*, Thursday Is., TURNER, p. 41, P. Soc. Queensland xix, n. sp.
- Iza lilacina*, Brazil, WARREN, p. 349, P. U. S. Mus. xxix, n. sp.
- Laetilia ephestiella* = (*Mariocopa lustrella* Dyar), DYAR, p. 37, P. ent. Soc. Washington vii.
- Lammoria ænochroa*, Queensland, TURNER, p. 55, P. Soc. Queensland xix, n. sp.
- Letchena furva*, Guiana, WARREN, p. 350, P. U. S. Mus. xxix, n. sp.
- Locastra drucei*, Fiji, pl. viii, fig. 8, p. 94, BETHUNE-BAKER, P. Zool. Soc. London 1905, i, n. sp.
- Macalla mniarias*, p. 60, *dochmoscia*, p. 61, Queensland, TURNER, P. Soc. Queensland xix: n. spp.
- Macropota* n. g. type *Siculodes eupitheciata* Guen., WARREN, p. 350, P. U. S. Mus. xxix.
- Margarona oceanitis* Meyr., pl. viii, fig. 10, p. 95, BETHUNE-BAKER, P. Zool. Soc. London 1905, i.
- Megasis aridella*, Utah, DYAR, p. 35, P. ent. Soc. Washington vii, n. sp.
- Melissoblastes disema*, Victoria, LOWER, p. 103, Tr. R. Soc. S. Austral. xxix; *M. homochroa*, Brisbane, TURNER, p. 53, P. Soc. Queensland xix: n. spp.
- Melitara fernaldalis* = (*Euzophera gigantella* Rag.), DYAR, p. 36, P. ent. Soc. Washington vii.
- Meroptera afflictella* Hulst = (*liquidambarella* Dyar), DYAR, p. 34, t. c.
- M. ciatella* (sic), Chicago, DYAR, p. 34, t. c. n. sp.
- Metallotricha metallica*, Queensland, LOWER, p. 105, Tr. R. Soc. S. Austral. xxix, n. sp.
- Metracopsis* n. g. *Schoenobiinae*, *cuneatalis* n. sp., Ecuador, DOGNIN, p. 63, Ann. Soc. ent. Belgique 1905.
- Micrelephas* n. g. *Pyraustinae*, *crassipalpis* n. sp., Ecuador, DOGNIN, p. 77, t. c.
- Mimudea lividalis*, Ecuador, DOGNIN, p. 79, t. c., n. sp.
- Myeloides annuliferella*, *caliginoidella*, N. America, DYAR, p. 33, P. ent. Soc. Washington vii, n. spp.
- Nacoleia albisectalis*, Costa Rica, DOGNIN, p. 72, Ann. Soc. ent. Belgique 1905, n. sp.
- Neomabra* n. g. *Hydrocampinae*, *nitidalis* n. sp., Ecuador, DOGNIN, p. 67, t. c.
- Nephoptyx habrostola*, Queensland, LOWER, p. 105, Tr. R. Soc. S. Austral.

- xxix ; *N. decipientella*, N. America, DYAR, p. 34, P. ent. Soc. Washington vii : n. spp.
- Notarcha clytalis*, larval habits, FROGGATT, p. 230, cut, Agric. Gaz. N. S. W. xvi.
- Orocrambus machæristes*, N. Zealand, MEYRIEK, p. 224, Tr. ent. Soc. London 1905, n. sp.
- Orthaga percnodes*, Queensland, TURNER, p. 63, P. Soc. Queensland xix, n. sp.
- Oxyalicia* n. g. *Chrysauginæ*, p. 64, *ovifera* n. sp., Ecuador, p. 65, DOGNIN, Ann. Soc. ent. Belgique 1905.
- Pachypodistes* n. g. *Chrysauginæ*, *goeldii* n. sp., Amazons, HAMPSON, p. 245, Tr. ent. Soc. London 1905.
- Pachyzancla straminealis*, Ecuador, DOGNIN, p. 76, Ann. Soc. ent. Belgique 1905, n. sp.
- Pelinopsis* n. g. *Hydrocampinæ*, *pachyzancloides* n. sp., Ecuador, DOGNIN, p. 67, t. c.
- Phlyctenodes comptalis*, early stages, CHRÉTIEN, p. 113, Naturaliste 1905.
- P. punctinotalis*, Ecuador, p. 76, *cemulalis*, Bolivia, p. 77, DOGNIN, Ann. Soc. ent. Belgique 1905, n. spp.
- Phycita auchmodes*, Brisbane, TURNER, p. 50, P. Soc. Queensland xix, n. sp.
- Pileocera chrysoxycta* Meyr. (as *Semioceros*) = (*Nacoleia contingens* Moore), SWINHOE, p. 505, Ann. Nat. Hist. (7) xv.
- Pilocrocis pallidipuncta*, *subcandidalis*, *plumipes*, Ecuador, DOGNIN, p. 70, Ann. Soc. ent. Belgique 1905, n. spp.
- Pionea hyalactis*, *acutalis*, p. 78, *internexalis*, p. 79, Ecuador, DOGNIN, t. c. n. spp.
- Platytes impar*, Sudan, WARREN & JORDAN, p. 32, pl. iv, fig. 8, Nov. Zool. xii ; *P. poliopepla*, Victoria, LOWER, p. 104, Tr. R. Soc. S. Austral. xxix ; *P. lojanalis*, Ecuador, DOGNIN, p. 61, Ann. Soc. ent. Belgique 1905 : n. spp.
- Pococera tertiella*, Texas, DYAR, p. 32, P. ent. Soc. Washington viii, n. sp.
- Polygrammodes obfuscalis*, Ecuador, DOGNIN, p. 76, Ann. Soc. ent. Belgique 1905, n. sp.
- Polyocha anerastiodes*, Sudan, WARREN & ROTHSCCHILD, p. 31, pl. iv, fig. 3, Nov. Zool. xii ; *P. saccharella*, Bengal, DUDGEON, p. 405, J. Bombay Soc. xvi : n. spp.
- Prionapteryx nebulifera*, larval habits, tubes, DÆCKE, pp. 12–14, pl. ii, Ent. News Philad. xvi.
- Ptyobathra* n. g. near *Myelois*, p. 48, *hypolepidota* n. sp., N. W. Australia, p. 49, TURNER, P. Soc. Queensland xix.
- Pyalopsis* n. g. *Schoenobiinæ*, p. 63, *peruviensis* n. sp., Peru, p. 64, DOGNIN, Ann. Soc. ent. Belgique 1905.
- Pyrausta trinacis*, larva, p. 95, pl. i, figg. 4, 4A, 4B, KRONE, Jahresber. Wien. ent. Ver. 1904.
- P. polygona*, Japan, DYAR, p. 955, P. U. S. Mus. xxviii ; *P. atrisquamalis*, Ecuador, DOGNIN, p. 81, Ann. Soc. ent. Belgique 1905 : n. spp.
- Rhodogonia subfusca*, Guiana, WARREN, p. 351, P. U. S. Mus. xxix, n. sp.
- Rhodoneura candidatalis*, *mollicellalis*, p. 504, *turbatalis*, p. 505, N. E. India, SWINHOE, Ann. Nat. Hist. (7) xv, n. spp.
- Rhodophaea intransitella*, Arizona, DYAR, p. 33, P. ent. Soc. Washington vii, n. sp.
- Salebria patumbella*, larva, natural history, SCHÜTZE, pp. 195–199, Iris Dresden xvii.
- S. yumaella*, *nogalesella*, Arizona, DYAR, p. 35, P. ent. Soc. Washington vii, n. spp.
- Scoparia ægripennalis*, p. 444, *cæcimaculalis*, p. 445, *interlinealis* with ab. *pallidimarginalis*, *semiamplalis*, p. 446, Azores, WARREN, Nov. Zool.

- xii; *S. platymera*, Tasmania, LOWER, p. 107, Tr. R. Soc. S. Austral. xxix; *S. meliturga*, p. 228, *thyridias*, *dochmia*, p. 229, *triclara*, *phalerias*, p. 230, *sideraspis*, p. 231, New Zealand, MEYRICK, Tr. ent. Soc. London 1905: n. spp.
- Sedenia leucopepla*, N. W. Australia, TURNER, p. 56, P. Soc. Queensland xix, n. sp.
- Selagia argyrella*, larva and habits, SCHÜTZE, Iris Dresden xvii, pp. 192-195.
- Sindris magnifica*, pl. v, fig. 4, JORDAN, p. 511, Nov. Zool. xii.
- Sporophyla* n. g. for *Crocyclophora aenospora*, MEYRICK, p. 224, Tr. ent. Soc. London 1905.
- Staudingeria albipennella* (= *perluteella* and *olivacella* Dyar), DYAR, p. 38, P. ent. Soc. Washington vii.
- Stenachroia myrmecophila*, Queensland, TURNER, p. 54, P. Soc. Queensland xix, n. sp.
- Stenia lubricalis*, Ecuador, DOGNIN, p. 66, Ann. Soc. ent. Belgique 1905, n. sp.
- Stenorista* n. g. *Pyraustinae*, *elongalis* n. sp., Ecuador, DOGNIN, p. 84, t. c.
- Stereobela* n. g. near *Cryptoblabe*, p. 51, *leucomera* n. sp., Queensland, p. 52, TURNER, P. Soc. Queensland xix.
- Striglina scalata* ab. n. *nigrata*, WARREN, Nov. Zool. xii.
- S. ignepicta*, Bombay, p. 196, pl. d, fig. 6, HAMPSON, J. Bombay Soc. xvi; *S. floccosa*, *scintillans*, New Guinea, WARREN, p. 7, Nov. Zool. xii; *S. curvilinea*, Solomon Ids., WARREN, p. 411, t. c.; *S. brunneata*, Guiana, WARREN, p. 351, P. U. S. Mus. xxix: n. spp.
- Surattha hedyscopa*, N. S. Wales, LOWER, p. 103, Tr. R. Soc. S. Austral. xxix, n. sp.
- Synchronia xanthosoma*, Ecuador, DOGNIN, p. 81, Ann. Soc. ent. Belgique 1905, n. sp.
- Syntrita* n. g. *Hydrocampinae*, p. 65, *umbralis* n. sp., Ecuador, p. 66, DOGNIN, t. c.
- Syntypica* n. g. near *Homæosoma*, p. 44, *aleurodes* n. sp., Australia, p. 45, TURNER, P. Soc. Queensland xix.
- Tauroscopta trapezitis*, New Zealand, MEYRICK, p. 227, Tr. ent. Soc. London 1905, n. sp.
- Tetralopha*, synonymy of N. American, DYAR, pp. 30-32, P. ent. Soc. Washington vii.
- Thaumatoopsis fernaldella*, *nortella* with var., Assiniboia, KEARFOTT, p. 121, Canad. Ent. 1905, n. sp.
- Titania pyrenæalis*, larva, pl. i, figg. 3a, b, p. 94, KRONE, Jahresber. Wien. ent. Ver. 1904.
- Trithyris flavifimbria*, Ecuador, DOGNIN, p. 69, Ann. Soc. ent. Belgique 1905, n. sp.
- Troctoceras* n. g. *Pyraustinae*, *occlusalis* n. sp., Ecuador, DOGNIN, p. 69, t. c.
- Udea albipunctalis*, Ecuador, DOGNIN, p. 79, t. c. n. sp.
- Unadilla apatelia*, Brisbane, TURNER, p. 45, P. Soc. Queensland xix, n. sp.
- Vitessidia* n. g. *diaphana* n. sp., New Guinea, ROTHSCHILD & JORDAN, p. 475, Nov. Zool. xii.
- Xenophasma* n. g. *Schoenobiinae*, *notodontoides* n. sp., Brazil, DOGNIN, p. 62, Ann. Soc. ent. Belgique 1905.
- Yosemetia maidella*, *mysiella*, Utah, DYAR, p. 36, P. ent. Soc. Washington vii, n. spp.
- Zeuzerodes fasciata*, Peru, WARREN, p. 41, Nov. Zool. xii, n. sp.
- Zophodia grossulariæ* (= *bella* Hulst), DYAR, p. 37, P. ent. Soc. Washington vii.
- Z. perdubiella*, Utah, DYAR, p. 37, t. c. n. sp.

## PTEROPHORIDÆ and ORNEODIDÆ.

[Cf. HAMPSON (718), HOUARD (780), MEYRICK (1041, 1043), TUTT (1512).]

The types of *Pterophoridae* etc., TUTT, pp. 34-37, Ent. Rec. xvii.

The following *n. genn.* are proposed by TUTT, *Gillmeria* type *ochrodactyla*, *Fredericina* type *calodactyla*, *Capperia* type *heterodactyla*, *Adkinia* type *bipunctulactyla*, *Ovendenia* type *septodactyla*, *Buckleria* type *paludum*, *Adkinia* type *microdactyla*, *Hellinsia* type *osteodactylus*, *Emmelina* type *monodactyla*, *Merrifieldia* type *tridactyla*, *Porrittia* type *galactodactyla*, *Wheeleria* type *spilodactyla*, Ent. Rec. xvii, p. 37.

*Alucita sesamitis*, Burma, MEYRICK, p. 582, J. Bombay Soc. xvi, *n. sp.*

*Orneodes hübnert*, galls, HOUARD, p. 31, Marcellia iv.

*O. thapsina*, *ischalea*, Ceylon, MEYRICK, p. 583, J. Bombay Soc. xvi, *n. spp.*

*Oxyptilus zanclistes*, p. 581, Burma, *causodes*, Ceylon, p. 582, MEYRICK, t. c. *n. spp.*

*Platyptilia epotis*, New Zealand, MEYRICK, Tr. ent. Soc. London 1905, *n. sp.*

*Titanoptilus n. g.* near *Trichoptilus*, p. 248, *melanodonta n. sp.*, Uganda, p. 249, HAMPSON, Tr. ent. Soc. London 1905.

*Triscædecia n. g. Orneodidæ, dactyloptera n. sp.*, Ceylon, HAMPSON, p. 247, t. c.

## TORTRICIDÆ.

[Cf. DEWITZ (411, 412), DISQUÉ (420), DOGNIN (438), FERNALD (555, 556, 735), KEARFOTT (829-832), MEYRICK (1041, 1043), PETERSEN (1155).]

DISQUÉ gives brief note as to larvæ, food-plates, dates of a large number of Central-European species; Iris Dresden xvii, pp. 209-256.

*Acleris heindelana*, N. America, FERNALD, p. 170, Amer. Natural. xxxix, *n. sp.*

*Amphisa joannisiana* Rag., natural history, CHRÉTIEN, p. 129, Naturaliste 1905.

*Ancylis albacostana*, p. 360, *diminuatana*, p. 361, N. Carolina, KEARFOTT, P. U. S. Mus. xxviii, *n. spp.*

*Anchips stricanus*, Canada, FERNALD, p. 399, Canad. Ent. 1905, *n. sp.*

*Ascerodes n. g.* near *Harmotoga, prochlora n. sp.*, New Zealand, MEYRICK, p. 234, Tr. ent. Soc. London 1905, *n. sp.*

*Cacoecia epicyrta*, Ceylon, MEYRICK, p. 589, J. Bombay Soc. xvi, *n. sp.*

*Catoptria rufana* Steph. and *expallidana* Haw., synonymical query, SOUTH, p. 100, Entomologist 1905.

*Cnephasia sinuana* and *incanana* Steph., synonymical query, SOUTH, p. 98, Entomologist 1905.

*Conchylis austrinana, santolinana*, natural history, CHRÉTIEN, p. 130, Naturaliste 1905; *C. sanguisorbana*, larva, GILLMER, p. 315, Iris Dresden xvii; *C. ambiguaella*, natural history, DEWITZ, Zeitschr. Insbil. i, pp. 193-199, 338 etc.

*Cydia imbridana*, N. America, FERNALD, p. 400, Canad. Ent. 1905, *n. sp.*

*Dipterina hemichlita*, New Zealand, MEYRICK, p. 233, Tr. ent. Soc. London 1905, *n. sp.*

*Epagoge siderantha*, Ceylon, MEYRICK, p. 588, J. Bombay Soc. xvi, *n. sp.*

*Epalxiphora azenana*, sexes, variation, early stages, QUAIL, pp. 343-350, pl. xxi, Tr. New Zealand Inst. xxxvii.

*Eucelis critica*, Bombay, MEYRICK, p. 587, J. Bombay Soc. xvi, *n. sp.*

*Eucosma robinsoniana* var. *n. tryonana*, p. 350, *dorsisignatana* varr. *n. confuana, diffusa*, p. 355, KEARFOTT, P. U. S. Mus. xxviii.

*E. graciliana*, p. 352, *pallidipalpiana*, p. 353, *minutana*, p. 356, *sombreana*, p. 357, *rusticana, fiskeana*, p. 358, N. Carolina, KEARFOTT, t. c.; *E.*



- pergandeana*, North America, FERNALD, p. 399, Canad. Ent. 1905 :  
n. spp.
- Eulia pinatubana*, N. America, KEARFOTT, p. 9, Canad. Ent. 1905, n. sp.
- Eurythecta zelæa*, N. Zealand, MEYRICK, p. 233, Tr. ent. Soc. London 1905,  
n. sp.
- Evetria gemistrigulana*, N. Carolina, KEARFOTT, p. 349, P. U. S. Mus. xxviii,  
n. sp.
- Grapholitha gemmiferana*, larva, pl. 1, fig. 5 a, b, p. 96, KRONE, Jahresber.  
Wien. ent. Ver. 1904.
- Hastula hyperana*, natural history notes, CHAPMAN, pp. 100-104, Ent. Mag.  
1905.
- Lipoptycha ochropa*, Ceylon, MEYRICK, p. 587, J. Bombay Soc. xvi, n. sp.
- Noteraula sideritis*, New Zealand, MEYRICK, p. 232, Tr. ent. Soc. London  
1905, n. sp.
- Notocelia helota*, Ceylon, MEYRICK, p. 586, J. Bombay Soc. xvi, n. sp.
- Olethreutes*, species distinguished by sex differences, PETERSEN, p. 74, Mem.  
Ac. St. Petersb. (8) xvi, No. 2.
- O. deceptana*, Assiniboia, KEARFOTT, p. 41, Canad. Ent. 1905, n. sp.
- Orthocomotis* n. g. near *Tortrix*, *olivata* n. sp., Colombia, DOGNIN, p. 85,  
Ann. Soc. ent. Belgique 1905.
- Orthotenia* ? *scardiana*, Ecuador, DOGNIN, p. 86, t. c. n. sp.
- Oxygrapha sagmatias*, Ceylon, MEYRICK, p. 588, J. Bombay Soc. xvi, n. sp.
- Pandemis canadana*, N. America, KEARFOTT, p. 90, Canad. Ent. 1905, n. sp.
- Phalonia badiana*, larval food-habits, BANKES, pp. 275, 276, Entomologist  
1905 ; *P. angustana* Clem., synonymy, KEARFOTT, p. 363, P. U. S. Mus.  
xxviii.
- P. winniana*, N. America, KEARFOTT, p. 10, Canad. Ent. 1905, n. sp.
- Platyepplus hedraea*, *harmonica*, *erotias*, p. 584, *phyllochloa*, *ereserias*,  
*threnodes*, p. 585, *hemiopta*, *rhynchias*, p. 586, Ceylon, MEYRICK,  
J. Bombay Soc. xvi, n. spp.
- Polychrosis* ; the N. American, KEARFOTT, pp. 287-299, pls. xix, xx, Tr.  
Amer. ent. Soc. xxx.
- P. liriiodendrana*, p. 293, *slingerlandana*, p. 295, *rhoifrustrana*, p. 296,  
N. America, KEARFOTT, t. c. n. spp.
- Polyortha* n. g. near *Acalla*, *niveopunctata* n. sp., Ecuador, DOGNIN, p. 85,  
Ann. Soc. ent. Belgique 1905.
- Protopteras moffatiana*, N. America, FERNALD, p. 16, Canad. Ent. 1905,  
n. sp.
- Sciaphila trigonana* = (*Hemerophila kincaidiiella* Busck), KEARFOTT, p. 188,  
Canad. Ent. 1905.
- Sparganothis puritana* var. n. *vocaridorsana*, KEARFOTT, p. 89, Canad. Ent.  
1905.
- Strepsicrates dolopæa*, New Zealand, MEYRICK, p. 232, Tr. ent. Soc. London  
1905, n. sp.
- Thiodia dorsiatomana*, p. 44, *triangulana*, p. 47, Assiniboia, KEARFOTT,  
Canad. Ent. 1905, n. spp.
- Tortrix albicomana* var. n. *semipurpurana*, KEARFOTT, p. 9, t. c.
- T. symphoricarpana*, N. America, KEARFOTT, p. 92, t. c. n. sp.
- Tribonica* n. g. near *Heterocrossa*, p. 589, *eremitis* n. sp., Ceylon, p. 590,  
MEYRICK, J. Bombay Soc. xvi.
- Trymalitis* n. g. near *Commophila*, *margaris* n. sp., Ceylon, MEYRICK,  
p. 590, t. c.

## TINEIDÆ.

[Cf. CHRÉTIEN (316-319), DIETZ (419), DOGNIN (438), ENDERLEIN (506),  
KEARFOTT (831, 833), KRONE (897), LOWER (980), MEYRICK (1041,  
1043), MURTFELDT (1081), PORTIER (1215), SCHÜTZE (1366) SICH

- (1391), SITOWSKI (1402), SORHAGEN (1428), WALSINGHAM (1564), WARREN & ROTHSCHILD (1576), ZANDER (1653).]
- ZANDER describes the ♂ genitalia of *Butalidæ* and criticises the previous work of Stitz in 1900; *Zeitschr. wiss. Zool.* lxxix, pp. 308-340.
- Leaf-mining larvæ, SICH, *Tr. City London Soc.* 1904, pp. 45-53.
- Mining in leaves and protection, PORTIER, pp. 605-607, *C.R. Soc. Biol.* lviii.
- Monograph of *Amydriinæ* and *Tineinæ* of N. America, DIETZ, pp. 1-96, *Tr. Amer. ent. Soc.* xxxi.
- Epipyropidæ* n. fam.; see *Bombyces*.
- Abacobia* n. g. *Tineinæ*, p. 29, *carbonella* n. sp., Pennsylvania, pl. v, fig. 1, p. 30, DIETZ, t. c.
- Acanthophila alacella*, larval structure, SORHAGEN, p. 257, *Zeitschr. Insbiol.* i.
- Atavona semilactea*, Sudan, ROTHSCHILD & WARREN, p. 32, pl. iv, fig. 12, *Nov. Zool.* xii, n. sp.
- Allochita francoeurie*, Algeria, WALSINGHAM, p. 126, *Ent. Mag.* 1905, n. sp.
- Amphoritis* n. g. near *Xylorycta*, *camelodes*, p. 601, *nycterodes*, p. 602, n. spp., Ceylon, MEYRICK, *J. Bombay Soc.* xvi.
- Amydria brevipennella*, p. 5, *coloradella*, *arizonella*, p. 6, *apachella*, p. 7, *curvistrigella*, *pandurella*, *confusella*, p. 8, *onagella* with var. *occidentella*, p. 9, *obliquella*, p. 10, *dyarella*, pl. i, fig. 1, *margoriella*, pl. iii, fig. 5, p. 11, N. America, DIETZ, *Tr. Amer. ent. Soc.* xxxi, n. spp.
- Anarsia monetella* Feld. to *Tipha*, MEYRICK, p. 593, *J. Bombay Soc.* xvi.
- Anticrates* n. g. *Plutellidæ*, *chrysantha* n. sp., Ceylon, MEYRICK, p. 612, t. c.
- Antiochtha* n. g. near *Onebala*, *balbidota* n. sp., Ceylon, MEYRICK, p. 598, t. c.
- Aponoea* n. g. near *Holcophora*, *obtusipalpis* n. sp., Algeria, WALSINGHAM, p. 125, *Ent. Mag.* 1905.
- Apotomia* n. g. *Amydriinæ*, *fractiliniella* n. sp., California, DIETZ, p. 17, *Tr. Amer. ent. Soc.* xxxi.
- Apreta* n. g. *Amydriinæ*, p. 20, *paradoxella* n. sp., California, p. 21, DIETZ, t. c.
- Aproerema zonariella*, *mitrella*, p. 39, *acanthyllidis*, p. 40, *thaumalea*, p. 41, *deverra*, p. 124, Algeria, WALSINGHAM, *Ent. Rec.* 1905, n. sp.
- Archimaga* n. g. *Plutellidæ*, p. 608, *pyractis* n. sp., Ceylon, p. 609, MEYRICK, *J. Bombay Soc.* xvi.
- Aristotelia youngella*, Ontario, KEARFOTT, p. 15, *Canad. Ent.* 1905, n. sp., but is a synonym of *Enchrysa dissectella* Zell., BUSCK, t. c. p. 87.
- Artenacia* n. g. *Hyponomeutides*, *jaurella* n. sp., S. France, CHRÉTIEN, p. 30, *Naturaliste* 1905.
- Borkhausenia luteella*, larva, pl. i, fig. 9, p. 98, KRONE, *Jahresber. Wien. ent. Ver.* 1904; *B. cinnamomea*, larva, SCHÜLTZ, p. 201, *Iris Dresden* xvii.
- B. zophosema*, N. S. Wales, LOWER, p. 108, *Tr. R. Soc. S. Austral.* xxix; *B. (Ecophora) penthalea*, *B. chloradelpa*, p. 239, *thranias*, *melanamma*, p. 240, *loxotis*, *pharmactis*, p. 241, New Zealand, MEYRICK, *Tr. ent. Soc. London* 1905; *B. argentidisca*, Brazil, DOGNIN, p. 90, *Ann. Soc. ent. Belgique* 1905: n. spp.
- Breckenridgia*? *chrysurella*, Colorado, DIETZ, p. 42, *Tr. Amer. ent. Soc.* xxxi, n. sp.
- Bucculatrix ansiella*, Minnesota, MURTFELDT, p. 218, *Canad. Ent.* 1905, n. sp.
- Calostinea* subg. n.? of *Homosetia*, for pt. of *Semele*, DIETZ, p. 79, *Tr. Amer. ent. Soc.* xxxi.
- Chaliniastis metrodelta*, Ceylon, MEYRICK, p. 591, *J. Bombay Soc.* xvi, n. sp.
- Choregia tenescens*, Ecuador, DOGNIN, p. 90, *Ann. Soc. ent. Belgique* 1905, n. sp.

- Chrysoryctis synæma*, Ceylon, MEYRICK, p. 617, J. Bombay Soc. xvi, n. sp.  
*Coleophora*; larva and cases, SICH, pp. 1-11, P. South London Ent. Soc. 1904-5; *C.*, variation in cases of larvæ, KRONE, p. 103, cuts, Jahresber. Wien. ent. Ver. 1904; *C. livella*, cases, BANKES, p. 71, Ent. Mag. 1905; *C. laricella*, natural history, CECCONI, pp. 103-109, Bull. Soc. ent. Ital. xxxvi.
- C. involucrella*, San Ildefonso, CHRÉTIEN, p. 144, Naturaliste 1905; *C. pudica*, N. S. Wales, LOWER, p. 111, Tr. R. Soc. S. Austral. xxix: n. spp.
- Comodica decaspila, epispora, citrinopa*, Queensland, LOWER, p. 114, Tr. R. Soc. S. Austral. xxix, n. spp.
- Compsistis orthophanes*, New Zealand, MEYRICK, p. 243, Tr. ent. Soc. London 1905, n. sp.
- Copromorpha pleurophanes*, Ceylon, MEYRICK, p. 606, J. Bombay Soc. xvi, n. sp.
- Copromorphidæ* n. fam. for *Copromorpha*, MEYRICK, p. 606, t. c.
- Crobylophora staterias*, Ceylon, MEYRICK, p. 613, t. c. n. sp.
- Cryptolechia spilotella* Walk. to *Torodora*, MEYRICK, p. 600, t. c.
- C. miniata, semibrunnea, asemanta*, p. 88, *C. ? latitans*, p. 89, S. America, DOGNIN, Ann. Soc. ent. Belgique 1905, n. spp.
- Cryptophaga aglaodes*, ♂, *C. blackburnii* = (*Xylorycta neomorpha* Turn.), LOWER, p. 110, Tr. R. Soc. S. Austral. xxix.
- Cuphodes dcastis*, Ceylon, MEYRICK, p. 606, J. Bombay Soc. xvi, n. sp.
- Depressaria hirtipalpis*, larva, KRONE, p. 83, pl. i, fig. 6, Jahresber. Wien. ent. Ver. 1905.
- Dryadula myrrhina*, p. 243, New Zealand, *napæa*, Tasmania, p. 244, MEYRICK, Tr. ent. Soc. 1905, n. spp.
- Elachista heringi*, pl. i, figg. 12 a, b, *hedemanni*, fig. 13, larvæ, p. 101, KRONE, Jahresber. Wien. ent. Ver. 1904.
- Embryonopsisinæ* subf. n. of *Gelechiinæ* for *Embryonopsis* Eat., ENDERLEIN, p. 120, Zool. Anz. xxix.
- Epactris* n. g. near *Tinea*, *melanchæta* n. sp., Ceylon, MEYRICK, p. 617, J. Bombay Soc. xvi.
- Epermenia kroneella*, larva, pl. i, figg. 10 a, b, p. 99, KRONE, Jahresber. Wien. ent. Ver. 1904.
- Epilegis* n. g. *Amydrinæ*, p. 16, *cariosella* n. sp., California, p. 17, DIETZ, Tr. Amer. ent. Soc. xxxi.
- Epithectis studiosa*, Ceylon, MEYRICK, p. 591, J. Bombay Soc. xvi, n. sp.
- Epichæta* n. g. *Amydrinæ*, *nepotella* n. sp., California, DIETZ, p. 21, Tr. Amer. ent. Soc. xxxi.
- Ereunetis streptogramma*, Queensland, LOWER, p. 115, Tr. R. Soc. S. Austral. xxix, n. sp.
- Eulechia autogramma*, Ceylon, MEYRICK, p. 603, J. Bombay Soc. xvi, n. sp.
- Eumimographe* n. g. p. 86, *cupreata, longimaculata*, p. 87, n. spp., Ecuador, DOGNIN, Ann. Soc. ent. Belgique 1905.
- Gelechia continuella*, larva, SCHÜTZE, p. 199, Iris Dresden xvii.
- Glyphipteryx calliscopa, perimetalla*, Victoria, LOWER, p. 112, Tr. R. Soc. S. Austral. xxix, n. spp.
- Gracilaria perisphena*, Ceylon, MEYRICK, p. 613, J. Bombay Soc. xvi, n. sp.
- Gymnobathra bryaula*, New Zealand, MEYRICK, p. 238, Tr. ent. Soc. London 1905, n. sp.
- Hilarographa caminodes*, Ceylon, MEYRICK, p. 610, J. Bombay Soc. xvi, n. sp.
- Homosaces* merged in *Phaosaces*, MEYRICK, p. 605, t. c.
- Homosetia obscurella*, p. 82, *chrysoadpersella*, pl. ii, fig. 8, p. 83, *maculatella*, p. 84, *H. (Stenoptinea subg. n. ?) ornatella*, pl. iv, fig. 3, *auriferella*, p. 87, *H. ? heteropalpella*, pl. iii, fig. 3, p. 88, DIETZ, Tr. Amer. ent. Soc. xxxi, n. spp.

- Homostinea* n. g. *Tineinæ*, *curviliniella* n. sp., N. America, pl. vi, fig. 8, DIETZ, p. 71, t. c.
- Hypelictis* n. g. near *Ypsolophus*, *acrochlora* n. sp., Ceylon, MEYRICK, p. 600, J. Bombay Soc. xvi.
- Hypercallia aletis*, New Zealand, MEYRICK, p. 235, Tr. ent. Soc. London 1905; *H. obliquistriga*, Ecuador, DOGNIN, p. 89, Ann. Soc. ent. Belgique 1905 : n. spp.
- Hypertricha stenadelpha*, N. S. Wales, LOWER, p. 110, Tr. R. Soc. S. Austral. xxix, n. sp.
- Hyponomeutinæ*, characters of genera, CHRÉTIEN, pp. 65, 66, Naturaliste 1905.
- Incurvaria rheumapterella*, Colorado, pl. i, fig. 4, p. 37, *aureovirens*, Pennsylvania, p. 39, DIETZ, Tr. Amer. ent. Soc. xxxi, n. spp.
- Irianassa* n. g. near *Hilarographa*, *sapphiropa* n. sp., Ceylon, MEYRICK, p. 609, J. Bombay Soc. xvi.
- Isocorypha* n. g. *Tineinæ*, type *mediostriatella* Clem., p. 42, *chrysocomella* n. sp., Kansas, p. 43, DIETZ, Tr. Amer. ent. Soc. xxxi.
- Izatha (Semiocosma) metadelta*, New Zealand, MEYRICK, p. 238, Tr. ent. Soc. 1900, n. sp.
- Leucomela* n. g. *Tineinæ*, p. 89, *miriamella* n. sp., N. America, pl. iii, fig. 8, p. 90, DIETZ, Tr. Amer. ent. Soc. xxxi.
- Lithocolletis acaciella*, larva, pl. i, fig. 14, p. 102, KRONE, Jahresber. Wien. ent. Ver. 1904.
- Macrobathra gastroleuca*, N. S. Wales, LOWER, p. 109, Tr. R. Soc. S. Austral. xxix, n. sp.
- Macrosaces* n. g. near *Phaosaces*, *thermopa* n. sp., Ceylon, MEYRICK, p. 604, J. Bombay Soc. xvi.
- Macrotona platyconta*, Ceylon, MEYRICK, p. 597, t. c. n. sp.
- Melasinia tetraspila*, p. 615, *autadelpha*, *platyzona*, *energa*, p. 616, Ceylon, MEYRICK, t. c. n. spp.
- Mesoptycha hebes*, Colombia, DOGNIN, p. 89, Ann. Soc. ent. Belgique 1905, n. sp.
- Monopis dicycla*, *tripetala*, Ceylon, MEYRICK, p. 618, J. Bombay Soc. xvi; *M. irrorella*, Pennsylvania, DIETZ, p. 34, Tr. Amer. ent. Soc. xxxi : n. spp.
- Nemotois corybantis*, Ceylon, MEYRICK, p. 619, J. Bombay Soc. xvi, n. sp.
- Nephantis* n. g. near *Xylorycta*, *serinopa* n. sp., Ceylon, MEYRICK, p. 603, t. c.
- Nepticula lusatica*, Germany, SCHÜTZE, p. 204, Iris Dresden xvii, n. sp.
- Edematopoda cypris*, Ceylon, MEYRICK, p. 608, J. Bombay Soc. xvi, n. sp.
- Onebala cremnaspis*, Ceylon, MEYRICK, p. 598, t. c. n. sp.
- Opostega zelopa*, Ceylon, MEYRICK, p. 613, t. c. n. sp.
- Ornix sauberiella*, Hamburg, SORHAGEN, p. 256 and p. 320, Zeitschr. Insbiol. i, n. sp.
- Orthenches droschalca*, New Zealand, MEYRICK, p. 242, Tr. ent. Soc. London 1905, n. sp.
- Paraneura* n. g. *Amydriinæ*, p. 12, *simulella*, *ehrhornella*, p. 13, *cruciferella*, p. 14, n. spp., California, DIETZ, Tr. Amer. ent. Soc. xxxi.
- Paraplesia* n. g. *Amydriinæ*, *buskiella* n. sp., Arizona, DIETZ, p. 12, t. c.
- Paraspistes* n. g. near *Nothris*, *ioloncha* n. sp., Ceylon, MEYRICK, p. 600, J. Bombay Soc. xvi.
- Paratheta cyclozona*, Queensland, LOWER, p. 109, Tr. R. Soc. S. Austral. xxix, n. sp.
- Perissomastix* n. g. near *Tinea*, *nigriceps* n. sp., Sudan, pl. iv, fig. 9, WARREN & ROTHSCHILD, p. 33, Nov. Zool. xii, n. sp.
- Phaosaces chrysocoma*, *orthotoma*, *aganopsis*, Ceylon, MEYRICK, p. 605, J. Bombay Soc. xvi, n. spp.
- Pharangitis* n. g. near *Macrotona*, *spathias* n. sp., Ceylon, MEYRICK, p. 597, t. c.

- Phryganostola macrantha*, Victoria, LOWER, p. 113, Tr. R. Soc. S. Austral. xxix, n. sp.
- Phylacodes* n. g. *Plutellidæ*, p. 241, *cauta* n. sp., New Zealand, p. 242, MEYRICK, Tr. ent. Soc. London 1905.
- Pleurota hastiformis*, Algeria, WALSINGHAM, p. 128, Ent. Mag. 1905; *P. xiphochrysa*, Victoria, *perisema*, Tasmania, LOWER, p. 108, Tr. R. Soc. S. Austral. xxix, n. spp.
- Plodia interpunctella*, larval habits, REBEL, pp. 166, 167, Verh. Ges. Wien 1905.
- Pringleophaga* n. g. *Tineinæ*, p. 120, *kerquelenensis*, Kerguelen, p. 122, var. *nigritarsis*, p. 123, *crozetensis*, Crozet Islds., p. 125, n. spp., ENDERLEIN, Zool. Anz. xxix.
- Progonia* n. g. *Tineinæ*, *skinnerella*, p. 76, New Jersey, *bipunctella*, pl. vi, fig. 1, *floridella*, Florida, p. 77, n. spp., DIETZ, Tr. Amer. ent. Soc. xxxi.
- Promasia* n. g. near *Dysmasia*, p. 257, *ataxella* n. sp., S. France, with metamorphosis, CHRÉTIEN, p. 258, Naturaliste 1905.
- Pronomeuta* n. g. *Plutellidæ*, *sarcopis* n. sp., Ceylon, MEYRICK, p. 608, J. Bombay Soc. xvi.
- Proteodes profunda*, New Zealand, MEYRICK, p. 236, Tr. ent. Soc. London 1905, n. sp.
- Psaltica* n. g. near *Phæosaces*, *monochorda* n. sp., Ceylon, MEYRICK, p. 604, J. Bombay Soc. xvi.
- Ptocheuusa abnormella*, larva, pl. i, fig. 6, p. 97, KRONE, Jahresber. Wien. ent. Ver. 1904.
- Pyroderces selenopis*, p. 606, *magica*, *spodochtha*, *scaesema*, p. 607, Ceylon, MEYRICK, J. Bombay Soc. xvi, n. spp.
- Saptha smaragditiis*, Ceylon, MEYRICK, p. 610, t. c. n. sp.
- Scardia coloradella*, p. 25, *approximatella*, pl. i, fig. 8, p. 27, N. America, DIETZ, Tr. Amer. ent. Soc. xxxi, n. spp.
- Scythris restigerella*, larva, pl. i, figg. 11, a, p. 100, KRONE, Jahresber. Wien. ent. Ver. 1904; *S. palustris*, larva, natural history, SCHÜTZE, p. 202, Iris Dresden xvii.
- Semiota* n. g. *Amydriinæ*, type *inamænella* Zell., p. 18, *transversestrigella* n. sp., California, p. 20, DIETZ, Tr. Amer. ent. Soc. xxxi.
- Setomorpha majorella*, p. 15, *sigmoidella*, p. 16, N. America, DIETZ, t. c. n. sp.
- Simæthis hypocalla*, Queensland, LOWER, p. 113, Tr. R. Soc. S. Austral. xxix, n. sp.
- Solenobia clathrella*, larva, pl. i, figg. 15, a, b, p. 102, KRONE, Jahresber. Wien. ent. Ver. 1904.
- Stachyotis* n. g. *Plutellidæ*, *epichrysa* n. sp., Ceylon, MEYRICK, p. 612, J. Bombay Soc. xvi.
- Stagmatophora rebeli*, Fiume, KRONE, p. 83, pl. i, fig. 5, larva, fig. 5a, Jahresber. Wien. ent. Ver. 1905, n. sp.
- Stenoptinea* subg. n., cf. *Homosetia*.
- Struthisca* n. g. near *Melasina*, *holoscia*, *mesocentra*, p. 614, *thranitis*, *siderarcha*, p. 615, n. spp., Ceylon, MEYRICK, J. Bombay Soc. xvi.
- Symmoca ponerius*, *calidella*, p. 37, *obliterata*, *molitor*, p. 38, Algeria, WALSINGHAM, Ent. Mag. 1905, n. spp.
- Thiotricha orthiastis*, Punjab, MEYRICK, p. 591, J. Bombay Soc. xvi, n. sp.
- Timrya* Walk. = (*Decuria* Walk.), MEYRICK, p. 595, t. c.
- T. machlas*, p. 595, *metallanthes*, *sphenias*, p. 596, Ceylon, id. t. c. n. spp.
- Tinea contactella* Walk. to *Heterocrossa*, MEYRICK, p. 235, Tr. ent. Soc. London 1905.
- T. brachychlora*, p. 618, *pachyspila*, p. 619, Ceylon, MEYRICK, J. Bombay Soc. xvi; *T. tetraspila*, S. Australia, LOWER, p. 115, Tr. R. Soc. S. Austral. xxix; *T. tuscanella*, Arizona, p. 53, *vicinella*, Florida, p. 55,

- ophrionella*, New York, pl. iii, fig. 6, *xanthostictella*, Georgia, p. 56, *mandarinella*, pl. iii, fig. 1, Ohio, p. 57, *roburella*, New Jersey, pl. ii, fig. 3, p. 58, *multistriatella*, Canada, pl. ii, fig. 5, *rileyi*, Florida, p. 59, *molybdanella*, California, pl. iii, fig. 7, p. 61, *geniculatella*, California, p. 62, *apicisignatella*, Pennsylvania, *angulifasciella*, pl. ii, fig. 7, Maryland, p. 65, *interstictella*, Georgia, *fulvisuffusella*, New Hampshire, p. 68, *nigroatomella*, New Jersey, pl. iii, fig. 4, p. 70, DIETZ, Tr. Amer. ent. Soc. xxxi : n. spp.
- Tineola*; food, digestion, SITOWSKI, Bull. Ac. Cracovie 1905, pp. 534-548, pl. xv.
- Tipha* Walk. = (*Cacogamia* Snell.), characters, MEYRICK, p. 592, J. Bombay Soc. xvi.
- T. pharetrata*, *spectralis*, p. 593, *pyrophanes*, *phalaritis*, *brochias*, p. 594, Ceylon, id. t. c. n. spp.
- Tischeria*, larval habits, defect of mine and mortality, PORTIER, C.R. Soc. Biol. lviii, pp. 605-607.
- Tonza citrorrhoea*, Ceylon, MEYRICK, p. 614, J. Bombay Soc. xvi, n. sp.
- Topeutis criella*, larva, pl. i, fig. 8, p. 98, KRONE, Jahresber. Wien. ent. Ver. 1904.
- Torodora verastis*, Punjab, *episticta*, *epomia*, Ceylon, MEYRICK, p. 599, J. Bombay Soc. xvi, n. spp.
- Tortricomorpha grammarcha*, *diptherina*, *ergasia*, Ceylon, MEYRICK, p. 611, t. c. n. spp.
- Trachypepla phaeoptila*, p. 236, *lathriopa*, p. 237, New Zealand, MEYRICK, Tr. ent. Soc. London 1905, n. spp.
- Tryptodema* n. g. *Tineinae*, *sepulchrella* n. sp., Maryland, pl. i, fig. 3, DIETZ p. 74, Tr. Amer. ent. Soc. xxxi.
- Wockia asperipunctella*, larva, CHRÉTIEN, p. 66, Naturaliste 1905.
- Xylesthia kearfottella*, New Jersey, DIETZ, p. 29, Tr. Amer. ent. Soc. xxxi, n. sp.
- Xylorycta*; in this are merged *Lichenaula*, *Telecrates*, *Clerarcha*, *Plectrophila*, *Chalarotona*, MEYRICK, p. 602, J. Bombay Soc. xvi.
- X. paracyrta*, *psilotis*, Ceylon, MEYRICK, p. 602, t. c. n. spp.
- Ypsolophus renigerellus*, larva, pl. i, figg. 7, a, b, p. 97, KRONE, Jahresber. Wien. ent. Ver. 1904.
- Y. deltaspis*, Ceylon, MEYRICK, p. 601, J. Bombay Soc. xvi, n. sp.

## (D.) DIPTERA.

- Catalogue of palæarctic *Diptera*, vol. iv, BECKER & BEZZI (90).  
 Catalogue and Bibliography of N. American (including Centr. America and Antilles) *Diptera*, ALDRICH (14).  
 WAHLGREN commences a work on Swedish *Diptera*; pt. i includes the families *Tipulidæ*–*Rhyphidæ*, Ent. Tidskr. xxvi, pp. 89–154.  
 The genera of Linnæus, COQUILLET, pp. 66–68, P. ent. Soc. Washington vii.  
 Introductory work, *Diptera* of Minnesota, WASHBURN (1577).  
 The mouth parts of *Diptera*, in Bohemian, WIMMER, Rozp. Ceske Ak. Prave xiii, No. 1, 10 pp., 2 pls., with abstract in German, Bull. Ceska Ac. ix, pp. 28–31.  
 Sense-organs in wings, NOÉ (1106).  
 New terminology for leg-bristles, GRIMSHAW, Ent. Mag. 1905, pp. 173–176.

## CECIDOMYIIDÆ.

- [Cf. COQUILLET (368), HEINDEL (735), KIEFFER (683, 844–846), KIEFFER & PABLO (848), KIEFFER & TROTTER (849), MEUNIER (1034, 1040), RÜBSAAMEN (1315, 1316), TROTTER (1503).]
- Xylophilous *Cecidomyiidæ*, KIEFFER, Ann. Soc. Bruxelles xxviii, pp. 367–410.  
*Cecidomyiidæ* on *Pinus longifolia*, STEBBING, Indian Forest. xxxi, p. 429, pl. xxxviii.  
 Cecidomyiid galls from Brazil and Peru, RÜBSAAMEN, Marcellia iv, pp. 65 etc.  
 Six galls of *Cecid.* from Chile, KIEFFER & PABLO, Zeitschr. Insbiol. i, pp. 64, 65.  
*Cecid.* galls on *Juniperus*, HOUARD, Rev. gen. Sci. xvii, 1905, pp. 199–222, and Ann. Sci. nat. Bot. (ix) i, pp. 67–100 (not seen by Recorder: cf. Marcellia iv, Bibl. pp. ix, x).  
 Gall, unnamed, on *Daphne*, HOUARD, Marcellia iv, pp. 59–64, cuts.  
*Aphidoletes* n. g. for part of *Bremia*, KIEFFER, p. 384, Ann. Soc. Bruxelles xxviii.  
*Atrichosema* n. g. p. 347, *aceris* n. sp., Europe, p. 348, KIEFFER, t. c.  
*Brachyneura squamata*, p. 377, *minima*, p. 379, Bitche, KIEFFER, t. c. n. spp.  
*Bremia*, larva, KIEFFER, p. 386, t. c.  
*B. fallacicornis*, p. 391, *ciliata*, p. 392, *ramosa*, p. 394, *bifurcata*, p. 396, *brevitarsis*, p. 398, *emarginata*, p. 399, *longicornis*, p. 401, BITCHE, Ann. Soc. Bruxelles xxviii, n. spp.  
*Campylomyza pulchricornis*, p. 404, *melanoptera*, p. 405, Bitche, KIEFFER, t. c. n. spp.  
*Cecidomyia saliciperda* and four others on osiers, MACDOUGALL, pp. 499–503, J. Board Agric. London xii.  
*Daphnephila* n. g. near *Asphondylia*, *haasi*, p. 144, *glandifex*, p. 148, *linderae*, p. 149, Bengal, KIEFFER, Ann. Soc. Bruxelles xxix, n. spp.  
*Dicrodiplosis*, characters, KIEFFER, p. 384, op. cit. xxviii.  
*Frauenfeldiella* n. g. *Diplosis* group, *coussapœ* n. sp., Amazons, RÜBSAAMEN, p. 122, Marcellia iv.

- Janetiella goiranica*, Italy, galls on *Carpesium*, TROTTER, p. 54, Marcellia iv, n. sp.
- Lasioptera cerealis* var. n. *fasciata*, KIEFFER, p. 342, Ann. Soc. Bruxelles xxviii.
- L. rufa*, Bitche, p. 338, *nigrocincta*, Algeria, p. 339, *longipes*, p. 340, *niveocincta*, p. 341, Bitche, KIEFFER, t. c.; *L. textor*, Bengal, KIEFFER, p. 155, op. cit. xxix; *L. cerei*, Rio de Janeiro, RÜBSAAMEN, p. 81, Marcellia iv: n. spp.
- Ledomyia cardui*, Paris, KIEFFER, p. 346, Ann. Soc. Bruxelles xxviii; *L. lineata*, p. 369, *connata*, p. 370, *obscuripennis*, p. 371, *divisa*, p. 372, Bitche, KIEFFER, t. c.: n. spp.
- Leptosyna quercus*, Bitche, KIEFFER, p. 407, t. c. n. sp.
- Leptodiplosis (Coprodiplosis) longiforceps*, Bitche, KIEFFER, p. 403, t. c.; *L. kiefferis*, Madagascar in copal, MEUNIER, p. 90, Miscell. ent. xiii: n. spp.
- Læwiola serratulae*, France, KIEFFER, p. 201, Feuille Natural. xxxv [stated probably erroneously to be a *Hymenopteron*], n. sp.
- Meunieria* n. g. near *Lasioptera*, *dalechampiæ* n. sp., Brazil, RÜBSAAMEN, p. 137, Marcellia iv.
- Peromyia bengalensis*, Bengal, KIEFFER, p. 158, Ann. Soc. Bruxelles xxix, n. sp.
- Perrisia mali*, Europe, KIEFFER, p. 345, t. c.; *P. brachypsectra*, Bitche, KIEFFER, p. 379, t. c.; *P. vincae*, Avellino, KIEFFER, p. 64, Marcellia iii: n. spp.
- Porricondyla*, taxonomy, KIEFFER, p. 409, Ann. Soc. Bruxelles xxviii.
- P. (Epidosis) gossipii*, Barbados, COQUILLET, p. 200, Canad. Ent. 1905, n. sp.
- Psectrosema* n. g. near *Rhopalomyia*, p. 343, for *tamaricis* De Stefani, KIEFFER, Ann. Soc. Bruxelles xxviii.
- Pseudhormomyia subterranea*, Avellino, KIEFFER, p. 65, Marcellia iii, n. sp.
- Rhabdophaga heterobia*, natural history, CARPENTER, pp. 302-304, cuts, Econ. P. Dublin Soc. i; *R. strobiloides*, *brassicoides*, galls and occupants, HEINDEL, Amer. Natural. xxxix, pp. 859-873.
- Rhizomyia fasciata*, p. 374, *silvicola*, p. 375, Bitche, KIEFFER, Ann. Soc. Bruxelles xxviii, n. spp.
- Rhopalomyia millefolii*, galls, DAGUILLON, Rev. gen. Sci. xvii, pp. 241-253.
- R. haasi*, Bengal, p. 151, KIEFFER, Ann. Soc. Bruxelles xxix, n. sp.
- Stomatosema* n. g. *nemorum* n. sp., Bitche, KIEFFER, p. 380, op. cit. xxviii.
- Uleia* n. g. near *Oligotrophus*, *clusiæ* n. sp., Brazil, RÜBSAAMEN, p. 85, Marcellia iv.
- Xylodiplosis æstivalis*, Bitche, KIEFFER, p. 382, Ann. Soc. Bruxelles xxviii, n. sp.
- Zeuxidiplosis* n. g. for *giardiana* Kieff., KIEFFER, p. 349, t. c.

## MYCETOPHILIDÆ.

[Cf. COQUILLET (61, 366), DEL GUERCIO (393), MEUNIER (1034).]

*Mycetophilidæ* in amber, see p. 129, Palæontology.

*Anactinia coxalis*, Brit. Columbia, COQUILLET, p. 68, J. N. York Ent. Soc. xiii, n. sp.

*Ceroplastus terminalis*, Brit. Columbia, COQUILLET, p. 69, t. c. n. sp.

*Lejomya* = (*Neoglaphyoptera*) *hyalina*, New Mexico, COQUILLET, p. 68, t. c. n. sp.

*Mycetophila vitrea*, N. America, COQUILLET, p. 68, t. c.; *M. trifasciata*, p. 18, *fenestrata*, p. 19, California, COQUILLET, Invert. pacif. i: n. spp.



- Neompheria pullata*, California, COQUILLET, p. 19, t. c. n. sp.  
*Sciara analis*, metamorphosis and natural history, var. n. *bezzii*, p. 288, BEZZI, Redia ii, pp. 280-305.  
*Sciophila calcarata*, California, COQUILLET, p. 19, Invert. pacif. i; *S. fuscipennis*, *simplex*, *brevivitta*, N. America, COQUILLET, p. 67, J. N. York Ent. Soc. xiii : n. spp.

## CHIRONOMIDÆ.

[Cf. COQUILLET (366), GOELDI (672), JOHANNSEN (820), KNAB (872), KULAGIN (902), LAUTERBORN (921), MEUNIER (1034), MÜLLER (1077), NOÉ (1105), SCHNEIDER (1335).]

Monograph of the aquatic *Chironomidæ* of N. America, with table of the genera of the World, and numerous descriptions of early stages, and table of larvæ according to genera, JOHANNSEN, Bull. N. York. Mus. lxxxvi, pp. 76-327, pls. xvi-xxxvii.

*Chironomidæ* in amber, see p. 130, Palæoentomology.

Deep-water larvæ, *Chironomus* and *Tanyppus*, respiration etc., SCHNEIDER, Mt. Ges. Bern 1904, pp. 165-195.

The dorsal vessel, POPOVICI-BAZANOSANU, Jena. Zeitschr. xxxiii, pp. 667-697, pl. xxviii.

The antennal sense-organs of some larvæ, LAUTERBORN, l. c.

Knee-joint of a *Chironomid*, IMHOF, p. 511, cut, C.R. Congr. Zool. vi.

Nucleus of salivary gland, KULAGIN (902).

LAUTERBORN describes some remarkable case-bearing larvæ from the Rhine, unfortunately not named, Zool. Anz. xxix, pp. 207-217. TAYLOR, t. c. p. 451 makes some suggestions as to names.

*Ablabesmyia* n. g. p. 135, for *Tanyppus*, part, *A. flavifrons*, p. 150, *fastuosa*, p. 151, n. spp., New York, JOHANNSEN, Bull. N. York Mus. lxxxvi.

*Anatopynia* n. g. type *Tanyppus plumipes* Fries, JOHANNSEN, p. 135, t. c.

*Camptocladius fumosus*, New York, JOHANNSEN, p. 261, t. c. n. sp.

*Centrotypus irritans* Noé to *Mycteropus* n. g., NOÉ, p. 118, Rend. Acc. Lincei xiv, ii.

*Ceratopogon mulleri*, metamorphosis, MÜLLER, pp. 224-230, pl. vii.

*C. setipes*, *pruinosis*, p. 59, *bivittatus*, *flavoniger*, *pictus*, N. America, *gibber*, Cuba, p. 60, *nubifer*, *slossonæ*, *magnus*, p. 61, *gilvus*, *curriei*, N. America, *scaber*, Mexico, p. 62, *caudelli*, *fusicornis*, *monilicornis*, p. 63, *maculipennis*, *cinctipes*, N. America, *calcaratus*, Mexico, *tenebrosus*, p. 64, *unicolor*, p. 65, N. America, COQUILLET, J. N. York Ent. Soc. xiii, n. spp.

*Chasmatonotus fascipennis*, p. 66, *hyalinus*, p. 67, N. America, COQUILLET, t. c. n. spp.

*Chironomus brunneipennis*, *caliginosus*, p. 205, *fallax*, p. 210, *californicus*, p. 217, *nigricans*, p. 219, *aberrans*, *fumidus*, p. 221, *fulvus*, p. 224, *flavus*, p. 225, *fulviventris*, p. 229, *pallidus*, *frequens*, p. 230, *dut*, p. 231, *similis*, p. 236, *decorus*, p. 239, N. America, *willistoni*, St Vincent, p. 235, JOHANNSEN, Bull. N. York Mus. lxxxvi; *C. calligraphus*, p. 134, *holoprasinus*, p. 135, Brazil, eggs and larvæ, pl. p, GOELDI, Mem. Mus. Goeldi iv : n. spp.

*Cricotopus exilis*, New York, JOHANNSEN, p. 255, Bull. N. York Mus. lxxxvi, n. sp.

*Hæmatomyidium* n. g. [position said to be doubtful but probably a *Ceratopogon*. D.S.] for *H. paraense* n. sp., Pará, the "mirium" of the district, GOELDI, p. 137, pl. p, Mem. Mus. Goeldi iv.

*Metricnemus knabi*, in *Sarracenia*, habits, metamorphosis, KNAB, pp. 69-73, pl. vi, J. N. York Ent. Soc. xiii.

- M. flavifrons*, *par*, p. 301, New York, *landbeckii*, Greenland, p. 302, *exagitans*, New York, p. 303, JOHANNSEN, Bull. N. York Mus. lxxxvi, n. spp.
- Mycterotypus* n. g. *bezzii* n. sp., Rome, NOÉ, p. 114, Rend. Acc. Lincei xiv, ii.
- Orthocladius flavus*, p. 270, *sordens*, p. 272, *absurdus*, p. 277, *fugax*, p. 279, *obumbratus*, p. 281, New York, JOHANNSEN, Bull. N. York Mus. lxxxvi, n. spp.
- Procladius caliginosus*, p. 131, *adumbratus*, p. 132, New York, JOHANNSEN, t. c. n. spp.
- Tanypus miripes*, *sinuosus*, p. 65, *nubifer*, *heteropus*, *tenebrosus*, p. 66, N. America, COQUILLET, J. N. York Ent. Soc. xiii, n. spp.
- Tanytarsus nigripilis*, p. 287, *deflectus*, *dives*, p. 288, *fatigans*, *dissimilis*, p. 292, *fulvescens*, p. 293, *muticus*, *exiguus*, p. 294, New York, JOHANNSEN, Bull. N. York Mus. lxxxvi, n. spp.

## CULICIDÆ.

- [Cf. ADIE & ALCOCK (11), BILLET (118), BLANCHARD (124), CHALMERS (297), COQUILLET (367, 371), DASSONVILLE (388), DYAR (473, 475, 477-481, 484), EYSELL (532), FELT (554), GILES (654), GOELDI (672, 673), GRABHAM (684), GREEN (690), GROSSBECK (701), GRÜNBERG (705, 706), HOWARD (787), KULAGIN (901), LEVANDER (946), LUDLOW (984-986), LUTZ (159), MARCHOUX & SIMOND (1007), NEVEU-LEMAIRE (1096, 1097), NUTTALL (1112), PATTON (1140), PRESSAT (1216), SERGENT (1382-1384), STEPHENS & CHRISTOPHER (1448), SMITH (1421), SMITH & GROSSBECK (1422), THEOBALD (1476-1484), UNDERWOOD (1521), VENTRILLON (1537, 1538), WATERHOUSE (1591), WELCH (1613).]

General work on the family: systematic and Natural History, BLANCHARD, (124).

Work on *Culicidæ* for medical men, STEPHENS & CHRISTOPHERS (1448). Also PRESSAT (1216).

Mosquitoes, short and popular account, FROGGATT (617).

Improved classification of *Culicidæ*, LUTZ (159) and DYAR, P. ent. Soc. Washington 1905, pp. 188-190.

The genera of *Culicidæ*, according to ♂ characters, DYAR, pp. 42-49, P. ent. Soc. Washington vii.

The genera of *Culicidæ* with lists of the species, THEOBALD, Gen. ins. fasc. xxvi.

Classification; separation of *Corethridæ* and *Anophelidæ* as distinct families, EYSELL, Ins. Börse 1905, pp. 51 etc.

Natural history of mosquitoes in Brazil, their bearing on disease etc., GOELDI, Mem. Mus. Para iv, 154 pp., pls. A-P and i-v.

Handbook of the *Culicidæ* of Jamaica, with descriptions, and information as to larvæ and habits, THEOBALD (1484).

The structure of the head in imago of *Culex* and *Anopheles*, mode of sucking etc., and shorter account of larva and pupa, KULAGIN, Zeitschr. wiss. Zool. lxxxiii, pp. 285-335, pls. xii-xiv.

Notes on genitalia of ♂ *Culicidæ*, DYAR, J. N. York Ent. Soc. xiii, pp. 53-56, 185-188, pls. iv, v, viii.

*Culicidæ* that convey malaria, SERGENT & SERGENT, C.R. Soc. Biol. lix, pp. 499, 500.

Wing-scales, IMHOF, C.R. Congr. Zool. vi, p. 509.

Hibernation of species with larvæ of arboreal habits, DYAR, pp. 107, 108, J. N. York Ent. Soc. xiii.

Table of characters of mosquito larvæ of N. America, DYAR, pp. 22-26, t. c. *Culex*, attracted by petrol, DASSONVILLE, C.R. Soc. Biol. lix, pp. 334, 335.

- Ædimorphus albo-annulatus*, W. Africa, THEOBALD, p. 154, Entomologist 1905, n. sp.
- Aldrichia*, a double homonym, COCKERELL, p. 236, Entomologist 1905.
- Anisocheleomyia* n. g. near *Uranotenia*, p. 52, *nivipes*, Queensland, p. 53, *alboannulata*, India, p. 55, n. spp., THEOBALD, Entomologist 1905.
- Anisocheleomyia? albatarsis*, Luzon, LUDLOW, p. 131, Canad. Ent. 1905, n. sp.
- Anophelina*, revision with table of genera and species, GILES (654).
- Anophelinae* of Ceylon, list, distribution, CHALMERS, pp. 165-178, maps, *Spolia Zeylan.* ii.
- Anopheles chaudoyei* in Algeria, BILLET, C.R. Soc. Biol. lviii, pp. 380-382; *A. listoni* in Calcutta, enemies, ADIE & ALCOCK, P. R. Soc. London lxxvi, pp. 319-321; *A. maculipennis, bifurcatus*, variation in abundance, NUTTALL, pp. 485-487, J. Hygiene v; *A. claviger*, natural history, seasons etc. in Finland 1902, 1903, LEVANDER, pp. 52-60, Medd. Soc. Faun. Fenn. xxx; *Anopheles*, position in biting, SMITH, Science xxi, p. 71.
- A. smithii*, W. Africa, THEOBALD, p. 101, Entomologist 1905; *A. arabiensis*, p. 625, *athali*, p. 627, *A. (Nssorhynchus) tibani*, p. 629, *A. (Myzomyia) jehafi*, p. 630, *azriki*, p. 632, Aden, PATTON, J. Bombay Soc. xvi: n. spp.
- Bironella* n. g. *Anophelina, gracilis* n. sp., New Guinea, THEOBALD, p. 69, Ann. Mus. Hungar. iii.
- Cellia argyrotarsis*, natural history, pp. 129-133, pl. ii, figg. 10, *a* and *b*, early stages, pl. o, var. *tarsimaculata*, p. 133, GOELDI, Mem. Mus. Goeldi iv.
- Coquillettidia* n. g. type *perturbans* Walk., DYAR, p. 47, P. ent. Soc. Washington vii.
- Corethra* and *Dixa* to be a distinct family called *Corethridæ*; table of the larvæ of N. American *Corethridæ*, DYAR, pp. 13-16, P. ent. Soc. Washington vii.
- Culex similis* ♂, THEOBALD, p. 33, J. econ. Biol. i; *C. diversus*, ♂, THEOBALD, p. 675, Ann. Nat. Hist. (7) xvi; *C. reptans* Meig., name invalid, p. 107, *discolor* Coq. to *Feltidia, inconspicuus* Grossb. to *Culicelsa, and lazarensis* to *Grabhamia*, p. 108, DYAR, J. N. York Ent. Soc. xiii; *C. consobrinus, impiger, cantator, abfitchii*, larvæ, DYAR, pp. 26-29, t. c.; *C. confirmatus*, larva, GRABHAM, p. 405, Canad. Ent. 1905; *C. squamiger*, larva, p. 13, *niveitarsis*, larva, p. 14, *siphonalis*, larva, p. 16, *pretans*, larva, p. 17, *inconspicuus*, larva, p. 18, SMITH & GROSSBECK, Psyche xii; *C. fatigans* and other Brazilian species, early stages and natural history, GOELDI, Mem. Mus. Goeldi iv, pp. 86 etc., pl. i, etc., and pls. A, B etc.
- C. waterhousei*, England, THEOBALD, p. 674, Ann. Nat. Hist. (7) xvi; *C. birai*, p. 82, *trimaculatus*, p. 86, Bombay, *pullus*, New Guinea, p. 87, *quasimodestus*, Tunis, p. 89, THEOBALD, Ann. Mus. Hungar. iii; *C. arabiensis*, Aden, PATTON, p. 633, J. Bombay Soc. xvi; *C. simpsoni*, p. iv, fig. 10, p. 28, *bostocki*, p. 29, *minutus*, pl. iv, fig. 9, p. 30, *bifoliata*, fig. 11, p. 31, Transvaal, *pallidothorax*, India, p. 32, THEOBALD, J. econ. Biol. i; *C. condylodesmus*, p. 385, *mundulus*, p. 388, W. Africa, GRÜNBERG, Zool. Anz. xxix; *C. flavus*, Madagascar, VENTRILLON, p. 550, Bull. Mus. Paris x; *C. tuberculatus*, Australia, COQUILLET, p. 116, Ent. News Philad. xvi; *C. mitchellæ*, N. America, DYAR, p. 74, J. N. York Ent. Soc. xiii; *C. brittoni*, Connecticut, FELT, p. 79, Ent. News Philad. xvi; *C. knabi*, Mexico, p. 183, *bracteatus*, Cuba, p. 184, COQUILLET, P. ent. Soc. Washington 1905; *C. pallidohirta*, p. 359, *saxatilis*, p. 360, New Jersey, GROSSBECK, Canad. Ent. 1905; *C. microsquamatus*, Jamaica, THEOBALD, p. 407, Canad. Ent. 1905; *C. portoricensis*, Porto Rico, LUDLOW, p. 386, Canad. Ent. 1905: n. spp.

- Culicida*, characters, *C. bupengaryensis*, pl. iii, fig. 4, Australia, THEOBALD, p. 20, J. econ. Biol. i, n. sp.
- Culiseta consobrinus* Desv. = (*magnipennis* Felt), DYAR, p. 107, J. N. York Ent. Soc. xiii.
- Danielsia wellmanni*, Angola, THEOBALD, p. 103, Entomologist 1905, n. sp.
- Deinocerites cancer*, larva, DYAR, p. 27, J. N. York Ent. Soc. xiii.
- Dendromyia mitchellii*, Jamaica, THEOBALD, p. 37, Culicidae of Jamaica, n. sp.
- Eretmapodites condei*, Madagascar, VENTRILLON, p. 444, Arch. parasit. ix, n. sp.
- Eucorethra underwoodi*, natural history, UNDERWOOD (1521), pp. 17-20, 4 figg.
- Feltidia* n. g. type *jamaicensis* Theob., DYAR, p. 47, P. ent. Soc. Washington vii.
- Ficalbia nigripes*, Sierra Leone, THEOBALD, p. 199, Ann. Nat. Hist. (7) xv, n. sp.
- Finlaya* ? *nigra*, Illinois, LUDLOW, p. 387, Canad. Ent. 1905, n. sp.
- Gnophodeomyia* n. g. near *Danielsia*, *inornata* n. sp., New Amsterdam, pl. iv, fig. 8, THEOBALD, p. 21, J. econ. Biol. i.
- Grabhamia*, table of species, DYAR, p. 187, J. N. York Ent. Soc. xiii ; *G. curriei*, larva, DYAR, p. 28, t. c.
- G. subtilis*, Biskra, SERGENT, p. 673, C.R. Soc. Biol. lviii ; *G. subtilis*, Algeria, SERGENT, p. 240, Bull. Mus. Paris 1905 ; *G. longisquamosa*, p. 103, *maculata*, p. 105, Tunis, THEOBALD, Ann. Mus. Hungar. iii ; *G. ochracea*, India, THEOBALD, p. 25, J. econ. Biol. i : n. spp.
- Gymnomatopa* n. g. type *Stegomyia mediovitata* Coq., *albonotata* n. sp., S. Domingo, W. I., COQUILLET, p. 183, P. ent. Soc. Washington 1905.
- Heizmannia* n. g. near *Dendromyia*, *scintillans* n. sp., Luzon, LUDLOW, p. 130, Canad. Ent. 1905.
- Heptaphlebomyia* and *H. simplex*, characters, THEOBALD, pp. 156-158, Entomologist 1905.
- H. argenteopunctata*, p. 446, *monforti*, p. 448, Madagascar, VENTRILLON, Arch. parasit. ix, n. spp.
- Howardina walkeri*, larva, DYAR, p. 27, J. N. York Ent. Soc. xiii.
- Ianthinosoma musica* and *lutzi*, natural history, GOELDI, pp. 116-119, pls. iv & k, Mem. Mus. Goeldi iv.
- J. johnstonii*, Jamaica, GRABHAM, p. 410, Canad. Ent. 1905, n. sp.
- Joblotia nivipes*, natural history, p. 120, pl. v, figg. 21, 22, and pl. L, GOELDI, Mem. Mus. Goeldi iv.
- Kerteszia* n. g. near *Myzorhynchus*, *boliviensis* n. sp., Bolivia, THEOBALD, p. 66, Ann. Mus. Hungar. iii.
- Lepidotomyia* n. g. near *Danielsia*, *magna* n. sp., Bombay, THEOBALD, p. 22, Gen. ins. fasc. xxvi.
- Lepidotomyia* n. g. near *Culex*, *alboscuteolata* n. sp., New Guinea, THEOBALD, p. 80, Ann. Mus. Hungar. iii.
- Leptosomatomyia* n. g. near *Aedes*, *lateralis* n. sp., New Guinea, THEOBALD, p. 110, t. c.
- Limatus durhami*, natural history, p. 122, pl. v, fig. 20, and pl. M, GOELDI, Mem. Mus. Goeldi iv.
- Lophoceratomyia* n. g. near *Culex*, *uniformis* n. sp., Ceylon, THEOBALD, p. 245, J. Bombay Soc. xvi.
- Lophoceratomyia* n. g. near *Culex*, p. 93, *fraudatrix*, New Guinea, p. 94, *brevipalpus*, Singapore, p. 96, n. spp., THEOBALD, Ann. Mus. Hungar. iii.
- Mansonia titillans*, early stages etc., GOELDI, p. 114, pls. iii & J, Mem. Mus. Goeldi iv.
- M. septempunctata*, New Guinea, THEOBALD, p. 107, Ann. Mus. Hungar. iii ;

- M. fascipes*, Costa Rica, COQUILLET, p. 182, P. ent. Soc. Washington 1905 : n. spp.
- Megarhinus portoricensis*, larva, p. 281, pl. x, HERRICK, Ent. News Philad. xvi; *M. separatus*, early stages etc., GOELDI, p. 124, pl. v, fig. 19, & pl. n, Mem. Mus. Goeldi iv.
- M. minimus*, Ceylon, THEOBALD, p. 237, J. Bombay Soc. xvi, n. sp.
- Melanoconion atratus* n. sp., Theo., larva, GRABHAM, p. 404, Canad. Ent. 1905; *M. melamurus*, hibernation, larval, DYAR, p. 28, J. N. York Ent. Soc. xiii.
- M. ornatus*, p. 100, *pallidiceps*, p. 101, New Guinea, THEOBALD, Ann. Mus. Hungar. iii, n. spp.
- Micraëdes* n. g. near *Aedes*, *bisulcatus* n. sp., Antilles, COQUILLET, p. 185, P. ent. Soc. Washington 1905.
- Mochlonyx velutinus*, metamorphosis, WIMMER, Rozp. Ceske Ak. Praze xiii, No. 1; with abstract in German, Bull. Ceska Ac. xiii, p. 28, pl. i.
- Myzomyia bisignata*, p. 378, *unicolor*, p. 379, W. Afrika, GRÜNBERG, Zool. Anz. xxix, n. spp.
- Myzorhynchus obscurus*, Cameroons, GRÜNBERG, p. 380, t. c. n. sp.
- Neoculex* n. g. type *irritans* Walk., DYAR, p. 48, P. ent. Soc. Washington vii.
- Nyssorhynchus bozasi*, Centr. Africa, NEVEU-LEMAIRE, p. 32, C.R. Soc. Biol. lix, n. sp.
- Oreillia* n. g. *luzonensis* n. sp., Philippines, LUDLOW, p. 101, Canad. Ent. 1905.
- Pecomia* n. g. near *Grabhamia*, *maculata* n. sp., India, pl. iv, fig. 7, THEOBALD, J. econ. Biol. i.
- Phagomyia* n. g. *Stegomyia gubernatoris* etc., THEOBALD, p. 21, Gen. ins. fasc. xxvi.
- Phoniomyia bimaculipes*, New Guinea, p. 114, *indica*, Singapore, p. 115, *magna*, Bolivia, p. 117, THEOBALD, Ann. Mus. Hungar. iii, n. spp.
- Pneumaculex* n. g. type *signifer* Coq., DYAR, p. 46, P. ent. Soc. Washington vii.
- Polylepidomyia* n. g. *argenteiventris* n. sp., New Guinea, THEOBALD, p. 118, Ann. Mus. Hungar. iii.
- Polyleptomyia* n. g. for *albocephala* Th., THEOBALD, p. 21, Gen. ins. fasc. xxvi.
- Popea* n. g. near *Finlaya*, p. 95, *lutea* n. sp., Luzon, p. 96, LUDLOW, Canad. Ent. 1905.
- Pseudoculex* n. g. type *aurifer* Coq., DYAR, p. 47, P. ent. Soc. Washington vii.
- Pseudograbhamia* n. g. near *Grabhamia*, *maculata* n. sp., Ceylon, THEOBALD, p. 243, J. Bombay Soc. xvi.
- Pseudouranotenia* n. g. near *Uranotenia*, p. 33, *rowlandii* n. sp., Brit. Guiana, pl. iv, figg. 4, 6, p. 34, THEOBALD, J. econ. Biol. i.
- Pyretophorus austeni*, Angola, THEOBALD, p. 102, Entomologist 1905; *P. pitchfordi*, Zululand, GILES, Rev. Anoph. p. 34; *P. ardensis*, Natal, THEOBALD, p. 17, pl. iii, fig. 3, J. econ. Biol. i : n. spp.
- Rachionotomyia* n. g. *ceylonensis* n. sp., Ceylon, THEOBALD, p. 248, J. Bombay Soc. xvi.
- Reedomyia* n. g. *pampangensis* n. sp., Philippines, LUDLOW, p. 94, Canad. Ent. 1905.
- Reedomyia niveoscutella*, India, pl. iii, fig. 5, THEOBALD, p. 22, J. econ. Biol. i, n. sp.
- Sabethes longipes*, pl. v, figg. 18, 18a, pp. 127-129, GOELDI, Mem. Mus. Goeldi iv.
- Sabelthoides undosus*, Trinidad, COQUILLET, p. 186, P. ent. Soc. Washington 1905, n. sp.
- Sayomyia queenslandensis*, Queensland, THEOBALD, p. 43, Gen. ins. fasc. xxvi, n. sp.

- Skusea funerea* var. n. *ornata*, THEOBALD, p. 79, Ann. Mus. Hungar. iii.  
*S. culiciformis*, New Guinea, THEOBALD, p. 77, t. c. n. sp.  
*Stegomyia fasciata*, observations and experiments on, natural history, GOELDI, Mem. Mus. Goeldi iv, pls. and figg.; *S. fasciata*, distribution in N. America, HOWARD (787); *S. suguensis*, habits, egg, larva, PATON, p. 634, pl. D, J. Bombay Soc. xvi.  
*S. brumpti*, Harar, NEVEU-LEMAIRE, p. 10, Bull. Soc. zool. France xxx;  
*S. longipalpis*, Cameroons, GRÜNBERG, p. 383, Zool. Anz. xxix; *S. simpsoni*, Transvaal, THEOBALD, p. 224, Entomologist 1905; *S. poweri*, Natal, THEOBALD, p. 19, pl. iii, fig. 2, J. econ. Biol. i; *S. lamberti*, Madagascar, VENTRILLON, p. 552, Bull. Mus. Paris x; *S. lamberti*, Madagascar, VENTRILLON, p. 441, Arch. parasit. ix; *S. W-alba*, India, p. 74, *pseudonivea*, Singapore, p. 75, THEOBALD, Ann. Mus. Hungar. iii; *S. annulirostris*, p. 239, *mediopunctata*, p. 240, Ceylon, THEOBALD, J. Bombay Soc. xvi; *S. gardneri*, Luzon, LUDLOW, p. 99, Canad. Ent. 1905: n. spp.  
*Stethomyia pallida*, Luzon, LUDLOW, p. 129, t. c. n. sp.  
*Tæniorhynchus*, natural history of Brazilian, GOELDI, Mem. Mus. Goeldi iv, pp. 106 etc., pls. ii and G.  
*T. argenteus*, Luzon, LUDLOW, p. 98, Canad. Ent. 1905; *T. lineatopennis*, Luzon, LUDLOW, p. 133, t. c.; *T. sierrensis*, California, LUDLOW, p. 231, t. c.; *T. flaveolus*, St. Thomas, W. I., COQUILLET, p. 182, P. ent. Soc. Washington 1905; n. spp.  
*Tinolestes* n. g. near *Aedes*, *latisquama* n. sp., Costa Rica, COQUILLET, p. 185, P. ent. Soc. Washington 1905.  
*Toxorhynchites immisericors*, habits, metamorphosis, GREEN, pp. 159-164, pl., Spolia Zeylan. ii.  
*Trichopronomyia* n. g. near *Culex*, *annulata* n. sp., New Guinea, THEOBALD, p. 98, Ann. Mus. Hungar. iii.  
*Trichorhynchus* n. g. near *Culex* and *Stegomyia*, p. 241, *fuscus* n. sp., Ceylon, p. 242, THEOBALD, J. Bombay Soc. xvi.  
*Uranotaenia caeruleocephala* var. n. *lateralis*, LUDLOW, p. 385, Canad. Ent. 1905; *U. lowii*, larva and pupa, GRABHAM, pp. 401, 402, Canad. Ent. 1905; *U. socialis* n. sp., Theo., larva, GRABHAM, p. 403, t. c.  
*U. testacea*, Singapore, p. 113, *atra*, New Guinea, p. 114, THEOBALD, Ann. Mus. Hungar. iii, n. spp.  
*Verrallina latermaria*, Trinidad, COQUILLET, p. 184, P. ent. Soc. Washington 1905, n. sp.  
*Wyeomyia smithii*, larva, MITCHELL, p. 332, cat., Canad. Ent. 1905.  
*W. greenii*, Ceylon, THEOBALD, p. 247, J. Bombay Soc. xvi, n. sp.

### PSYCHODIDÆ and TERMITOMASTIDÆ.

[Cf. DELL (395), HOLMGREN (756), MEUNIER (1035, 1039).]

Monograph of *Psychodidæ* in amber, cf. MEUNIER and Palæoentomology, p. 128, table of phylogeny, id., Ann. Mus. Hungar. p. 239.

*Termitomastidæ* defined, HOLMGREN, p. 534, Zool. Anz. xxix.

*Phebotomus pungens*, pl. figg. 1, 2, p. 209, MEUNIER, Rev. Sci. Bourbonnais 1905.

*Psychoda sexpunctata*, life-history, anatomy of larva and fly, DELL, Tr. ent. Soc. London 1905, pp. 293-311.

*Termitadelphos* n. g. *silvestrii* n. sp., Peru, with *Eutermes*, HOLMGREN, p. 530, Zool. Anz. xxix.

*Termitodipteron* n. g. *wasmanii* n. sp., Peru, with *Eutermes*, HOLMGREN, p. 533, t. c.

## TIPULIDÆ and RHYPHIDÆ.

[Cf. COQUILLET (366, 369), ENDERLEIN (505), JOHNSON (821), STROBL (1455), WAHLGREN (1559, 1560).]

- Bittacomorpha jonesi*, N. Carolina, JOHNSON, p. 75, Psyche xii, n. sp.  
*Dactylolabis sermaculata* var. *longipennis* Strobl, is a distinct species, STROBL, p. 578, Wiss. Mitt. Bosnien ix.  
*Dicranomyia stagnipennis*, California, COQUILLET, p. 56, J. N. York Ent. Soc. xiii, n. sp.  
*Dicranota gracilipes*, Sweden, WAHLGREN, p. 70, Ent. Tidskr. xxvi, n. sp.  
*Gnophomyia aperta*, Brit. Columbia, COQUILLET, p. 58, J. N. York Ent. Soc. xiii, n. sp.  
*Limnobia maculicosta, bestigma*, Brit. Columbia, COQUILLET, p. 57, t. c. n. spp.  
*Limnophila robusta*, Sweden, WAHLGREN, p. 69, Ent. Tidskr. xxvi; *L. antennata*, Brit. Columbia, COQUILLET, p. 58, J. N. York Ent. Soc. xiii; *L.? aspidoptera*, New Mexico, COQUILLET, p. 347, Canad. Ent. 1905: n. spp.  
*Molophilus nitidus*, California, COQUILLET, p. 58, J. N. York Ent. Soc. xiii, n. sp.  
*Rhypholophus convergens*, Brit. Columbia, COQUILLET, p. 57, t. c. n. sp.  
*Rhyphus fenestralis* injuring bee comb, THEOBALD, p. 12, Rep. Econ. Zool. Wye 1905.  
*Tipula mutila*, p. 70, *obscurinervis*, p. 71, Sweden, WAHLGREN, Ent. Tidskr. xxvi; *T. appressocaudata*, S. E. Europe, STROBL, p. 575, Wiss. Mitt. Bosnien ix: n. spp.  
*Tricyphona aperta*, Brit. Columbia, COQUILLET, p. 59, J. N. York Ent. Soc. xiii, n. sp.  
*Zalusa* n. g. *Limnobiinae*, p. 70, *falklandica* n. sp., Falkland Islands, p. 71, ENDERLEIN, Zool. Anz. xxix.

## BIBIONIDÆ and SIMULIIDÆ.

- [Cf. COQUILLET (61), ENDERLEIN (515), GIRAULT (664), GOELDI (672).]  
*Bibio femorata*, oviposition, GIRAULT, pp. 322-330, Canad. Ent. 1905.  
*Dilophus occipitalis*, California, COQUILLET, p. 20, Invert. pacif. i, n. sp.  
*Simulium amazonicum*, Amazons, GOELDI, p. 138, Mém. Mus. Goeldi iv, n. sp.  
*Thripimorpha* n. g. near *Scatopse, paludicola* n. sp., Berlin, ENDERLEIN, p. 448, pl. xxii, Zool. Jahrb. Syst. xxi.

## STRATIOMYIIDÆ, SCENOPINIDÆ.

- Clitellaria*: application of this name, SPEISER, p. 406, Zeitschr. Insbiol. i.  
*Nemotelus serbicus*, S. E. Europe, STROBL, p. 520, Wiss. Mitt. Bosnien ix, n. sp.  
*Odontomyia (Psellidotus) byzantina*, S. E. Europe, STROBL, p. 522, t. c. n. sp.  
*Scenopinus lesinensis*, S. E. Europe, STROBL, p. 533, t. c. n. sp.

## TABANIDÆ.

[Cf. COQUILLET (61), DAECKE (386), HINE (749), LAVERAN (923), LÉCAILLON (930), RICARDO (1266), SPEISER (1432), VILLENEUVÉ (1560, 1551).]

Meigen's types of *Tabanidæ* in the Paris Museum identified, VILLENEUVE, pp. 306-310, Ann. Soc. ent. France 1905.

Notes on Prussian *Tabanidæ*, SPEISER (1432).

*Atylotus rusticus*=(*Tab. rousselii* Macq.), RICARDO, p. 197, Ann. Nat. Hist. (7) xvi.

*A. eatoni*, Algeria, RICARDO, p. 198, t. c. n. sp.

*Chrysops bistellatus*, p. 249, *amazon*, p. 250, New Jersey, DÆCKE, Ent. News Philad. xvi; *C. melanopterus*, *pachycnemius*, p. 391, *calopterus*, p. 392, Guatemala, *dimmocki*, Massachusetts, p. 393, HINE, Ohio Natural. vi: n. spp.

*Tabanus*; synonymy of Walker's palæarctic species, RICARDO, pp. 200-202, Ann. Nat. Hist. (7) xvi; *T. erberi* var., *bromius* var., VILLENEUVE, p. 60, Feuille Natural. xxxv; *T. quatuornotatus*, oviposition, larval habits, LÉCAILLON, Ann. Soc. ent. France 1905, pp. 20-28, pl. ii.

*T. opacus*, Nevada, COQUILLET, p. 21, Invert. pacif. i, n. sp.

*Therioplectes bisignatus* ♂, VILLENEUVE, p. 59, Feuille Natural. xxxv.

#### LEPTIDÆ, THEREVIDÆ.

[Cf. COQUILLET (61), STROBL (1455).]

*Atherix apfelbecki*, S. E. Europe, STROBL, p. 535, Wiss. Mitt. Bosnien ix, n. sp.

*Leptis balcanica*, S. E. Europe, STROBL, p. 534, t. c.; *L. flavonigra*, Nevada, COQUILLET, p. 20, Invert. pacif. i: n. spp.

*Pheneus opacus*, Nevada, COQUILLET, p. 20, t. c. n. sp.

*Ptiolina phragmitophila* ♀, LICHTWARDT, p. 310, Zeitschr. Hym. Dipt. v.

*Thereva flavicauda*, Nevada, COQUILLET, p. 23, Invert. pacif. i, n. sp.

#### ASILIDÆ.

[Cf. COQUILLET (61), BRÈTHES (188), HERMANN (740), PANDELLÉ (1133), STROBL (1455).]

PANDELLÉ rejects Loew's division of *Asilus*, and tabulates the European forms, about 50 spp., Rev. Ent. franc. 1905, pp. 44-98.

Asilid, capturing large *Cicada*, GLEADOW, p. 501, J. Bombay Soc. xvi.

*Andrenosoma trigoniferum*, Pamir, p. 14, *serratum*, Smyrna, p. 15, *pusillum*, Greece, p. 16, HERMANN, Berlin. ent. Zeitschr. l, n. spp.

*Asilus flaviscopula*, S. France, *involutus*, France, p. 72, *cyaneocinctus*, Pyrenees, p. 74, *stbellifer*, Prussia, p. 80, *lativentris*, Spain, p. 81, *hiulcus*, S. France, p. 84, *diagonalis*, p. 87, *vermicularis*, p. 88, Corsica, *fulcularis*, S. France, p. 94, PANDELLÉ, Rev. Ent. franc. 1905, n. spp.

*Dasygogon rubiginipennis* Macq. to *Heteropogon*, HERMANN, p. 23, Berlin. ent. Zeitschr. l.

*D. rubidus*, Issyk-Kul, HERMANN, p. 25, t. c. n. sp.

*Dioctria calceata* var. n. *nigriventris* vel. n. sp.? S. E. Europe, STROBL, p. 530, Wiss. Mitt. Bosnien ix.

*Erax lateralis*, larva, TITUS, pp. 15, 16, cut, Bull. U. S. Dep. Agric. Ent. No. 54.

*Heteropogon pyrinus*, Askhabad, p. 19, *lugubris*, Pamir, p. 20, HERMANN, Berlin. ent. Zeitschr. l, n. sp.

*Hystrihopogon* n. g. near *Cyrtopogon*, p. 26, *hirticeps* n. sp., Pamir, p. 27, HERMANN, t. c.

*Laphria caspica*, Lenkoran, HERMANN, p. 18, t. c. n. sp.

*Laphystia carnea*, p. 39, *metallescens*, p. 40, HERMANN, t. c. n. spp.

*Leptogaster tornowii*, Tucumán, BRÈTHES, p. 337, An. Mus. Buenos Aires (3) iv, n. sp.



- Leptomtydas hirtus, concinnus*, California, COQUILLET, p. 39, Invert. pacif. i, n. spp.  
*Myolestes n. g.* near *Allopon*, p. 338, *lynchii n. sp.*, Tucumán, p. 339, BRÈTHES, An. Mus. Buenos Aires (3) iv.  
*Perasis n. g.* near *Laphystia*, p. 37, *sareptana n. sp.*, Sarepta, p. 38, HERMANN, Berlin. ent. Zeitschr. i.

## BOMBYLIIDÆ and ACRO CERIDÆ.

[Cf. BEZZI (115), COQUILLET (61), KÜNCKEL (906, 907), STROBL (1455), VASSILIEW (1534), VILLENEUVE (1550).]

Meigen's types of *Bombyliidæ* in the Paris Museum identified, VILLENEUVE, pp. 304–306, Ann. Soc. ent. France 1905.

- Acrocera bakeri*, Nevada, COQUILLET, p. 23, Invert. pacif. i, n. sp.  
*Anthrax flava*, natural history, pupa, KÜNCKEL, p. 143, cuts, Bull. Sci. France Belgique xxxix; *A. morio* and others, secondary parasites, VASSILIEW, p. 174, Zeitschr. Insbol. i.  
*Systropus barbiellinii*, p. 271, *chinensis*, p. 275, Pekin, BEZZI, Redia ii; *S. conopoides*, Buenos Ayres, KÜNCKEL, p. 147, pl. iv, figg. 13–15, Bull. Sci. France Belgique xxxix : n. spp.  
*Usia novakii*, Zara, STROBL, p. 526, Wiss. Mitt. Bosnien ix, n. sp.

## EMPIDÆ.

[Cf. BEZZI (113, 114), COQUILLET (61), STROBL (1455).]

Catalogue of neotropical *Empidæ*, 185 species, BEZZI, pp. 456–460, Ann. Mus. Hungar. iii.

- Apalocnemis variegata*, Peru, BEZZI, p. 450, Ann. Mus. Hungar. iii, n. sp.  
*Cladodromia* subg. n. cf. *Hemerodromia*.  
*Clinocera (Ræderia) czernyi*, Italy, p. 362, *C. (Wiedemannia) oxystoma*, p. 364, S. France, *tricuspidata*, *Mehadia*, p. 365, BEZZI, t. c. n. spp.  
*Empis ambigua*, p. 439, *lucidilabris*, p. 440, *micropyga*, p. 441, Peru, *bullata*, Bolivia, p. 442, BEZZI, t. c. n. spp.  
*Haplomera gymnopoda*, p. 448, Peru, *notogramma*, p. 449, Bolivia, BEZZI, t. c. n. spp.  
*Hemerodromia (Cladodromia* subg. n. p. 453) *inca*, p. 454, *cana*, p. 455, Peru, BEZZI, t. c. n. spp.  
*Hilara tetragramma*, exserted sacs, LICHTWARDT, p. 310, Zeitschr. Hym. Dipt. v.  
*Hilarempis n. g.* p. 443, for part of *Hilara* from the southern hemisphere, and *xanthocera*, p. 444, *polychæta*, p. 445, *nudifacies*, p. 446, n. spp., Peru, BEZZI, Ann. Mus. Hungar. iii.  
*Hybos hyalopterus*, p. 425, *neotropicus*, p. 426, Peru, BEZZI, t. c. n. spp.  
*Lampremis tuberifera*, p. 435, *calopoda*, p. 436, Peru, *gemmea*, Bolivia, p. 437, BEZZI, t. c. n. spp.  
*Microphorus dalmatinus*, S. E. Europe, STROBL, p. 527, Wiss. Mitt. Bosnien ix, n. sp.  
*Rhamphomyia curvipes*, California, COQUILLET, p. 24, Invert. pacif. i; *R. boliviana*, p. 429, *leucophenga*, *villosipes*, p. 430, *dolichocera*, *orthoneura*, p. 431, *pulchriventris*, p. 432, *abdominalis*, *rotundipennis*, p. 433, Peru or Bolivia, BEZZI, Ann. Mus. Hungar. iii : n. spp.  
*Syneches phæopterus*, p. 427, *pyramidatus*, p. 428, Peru, BEZZI, t. c. n. spp.  
*Tachydromia fascipes* var. n. *obscurior*, STROBL, p. 528, Wiss. Mitt. Bosnien ix.  
*T. dalmatina*, S. E. Europe, STROBL, p. 527, t. c. n. sp.

## DOLICHOPIDÆ.

- Catalogue and tables of British *Dolichopodidæ* continued, VERRALL, pp. 50 etc., etc.
- Table of genera of N. American *Dolichopidæ*, ALDRICH, pp. 269-272, Tr. Amer. ent. Soc. xxx.
- Agonosoma rotundiceps*, Florida, *costale*, Tifton, ALDRICH, p. 286, t. c. n. spp.
- Cryptophleps* allied to *Chrysotus* ♂, LICHTWARDT, p. 309, Zeitschr. Hym. Dipt. v.
- Hercostomus grillator*, and *pilifer* are one, LICHTWARDT, p. 309, t. c.
- Paracrius vicinus*, Massachusetts, ALDRICH, p. 277, Tr. Amer. ent. Soc. xxx, n. sp.
- Pelastoneurus scutatus*, *parvus*, p. 276, *falcatus*, p. 277, *proximus*, p. 278, N. America, ALDRICH, t. c. n. spp.
- Psilopodinus pilicornis*, N. America, *gracilis*, Brazil, p. 282, *crinitus*, Florida, *imperator*, Brazil, p. 283, *viridicoxa*, *flavipes*, N. America, p. 284, ALDRICH, t. c. n. spp.

## PIPUNCULIDÆ.

- Natural history, larva and puparium, PERKINS, Bull. exp. Stat. Hawaii i, pt. iv.
- Pipunculus cruciator*, p. 137, *eucalypto*, *erinyis*, p. 138, *hyleus*, p. 139, *dolichostigmus*, p. 140, *fullax*, *lamellifer*, *comitans*, *agamus*, p. 141, *cinerascens*, p. 142, *beneficiens*, p. 143, *helluo*, *kabelei*, p. 144, *monas picrodes*, p. 145, *anthracias*, *erypsichalcus*, p. 146, *microdes*, p. 147, *homeophanes*, *xanthocnemis*, p. 148, *heterostigmus*, p. 149, *synadelphus*, *epichalcus*, p. 150, *pseudophanes*, *leimonias*, p. 151, *nyctias*, p. 152, Australia, *juvator*, p. 152, *oahuensis*, *terryi*, p. 153, *swezeyi*, p. 154, *hawaiensis*, p. 155, Hawaiian Islds., PERKINS, Bull. exp. Stat. Hawaii i, pt. 4, n. spp.

## SYRPHIDÆ.

- [Cf. BRÈTHES (188), COQUILLET (61), MOODIE (1061), PANDELLÉ (1132), STROBL (1455), TERRY (1475), WOOD (1641).]
- Baccha siphanticida*, p. 177, pl. x, fig. 5, *puparium*, fig. 6, *monobia*, p. 178, Queensland, PERKINS, Bull. Lab. Hawaii i, pt. v; *B. bonariensis*, S. America, BRÈTHES, p. 340, An. Mus. Buenos Aires (3) iv : n. spp.
- Cheilostia*; monograph of French species, PANDELLÉ, Rev. Ent. franc. 1905, pp. 25-44.
- C. plumosa*, Nevada, COQUILLET, p. 25, Invert. pacif. i, n. sp.
- Milesia mida*, Arizona, MOODIE, p. 138, Ent. News Philad. xvi, n. sp.
- Orthoneura nobilis* var. n. *byzantina*, STROBL, p. 538, Wiss. Mitt. Bosnien ix.
- Syrphus flavomarginatus*, S. E. Europe, STROBL, p. 539, t. c. n. sp.
- Xanthandrus comtus*, larva and larval habits, pupa, CHAPMAN, p. 150, Ent. Mag. 1905; *X. comtus*, seasons, BILLUPS, p. 185, Ent. Mag. 1905.

## CONOPIDÆ.

- Glossigona nigratarsis*, S. E. Europe, STROBL, p. 543, Wiss. Mitt. Bosnien ix, n. sp.

## PHORIDÆ.

[Cf. BRUES (200, 201), MEUNIER (1036, 1040).]

*Phoridæ* mining in wings of *Morpho*, SZILÁDY (1470).

*Aphiochæta peruviana*, p. 396, *tarsata*, *delicatula*, p. 397, *bella*, p. 398, Peru, BRUES, Ann. Mus. Hungar. iii; *A. apicalis*, p. 544, *tibialis*, p. 545, *limbata*, India, *rustica*, p. 546, *planifrons*, p. 547, New Guinea, *crassimana*, p. 548, *debilis*, Australia, *minutissima*, New Guinea, p. 549, *sodalis*, Sydney, p. 550, BRUES, t. c. n. spp.

*Chonocephalus similis*, Bombay, BRUES, p. 554, t. c. n. sp.

*Conicera bicolor*, Singapore, *simplex*, New Guinea, BRUES, p. 553, t. c.; *C. kerteszi*, Peru, BRUES, p. 399, t. c. : n. spp.

*Dorniphora*, subg. of *Phora*, the species, BRUES, p. 542, t. c.

*Hypocera difformis*, New Guinea, BRUES, p. 543, t. c. n. sp.

*Phora* sp. in Madagascar copal, MEUNIER, p. 92, Miscell. ent. xiii.

*P. copalina*, p. 211, pl. i, figg. 3, 4, 5, *ethiopia*, p. 212, figg. 6, 7, Zanzibar, copal, MEUNIER, Rev. Sci. Bourbonnais 1905; *P. papuana*, New Guinea, BRUES, p. 541, Ann. Mus. Hungar. iii, n. sp.

*Plastophora* n. g. p. 551, *beirne* n. sp., New Guinea, p. 552, and *Phora formicarum* varr., BRUES, t. c.

*Puliciphora occidentalis*, sexes, BARBER, p. 2, P. ent. Soc. Washington vii.

## CESTRIDÆ.

Popular notes as to *Hypoderma*, larvæ, KERTÉSZ, pp. 513-517, Termes. Kozl. Magyar Tars 1905.

*Cuterebra abdominalis*, p. 182, *albifrons*, p. 183, *fasciata*, p. 184, N. America, SWENK, J. N. York Ent. Soc. xiii, n. spp.

## MUSCIDÆ CALYPTRATÆ.

[Cf. AUSTEN (45-47), CARPENTER (280), COQUILLET (61, 370), DÖNITZ (448), DU ROSELE (467), DUTTON, etc. (469), GEDOELST (647), GRIMSHAW (694), GRÜNBERG (707), KRAMER (888, 889), LAMPA (912), MEUNIER (1036, 1040), MINCHIN (1044), RÖHLER (1288), SANDER (1319), STEPHENS (1447), STROBL (1455), TULLGREN (1555), WAINWRIGHT (1561), XAMBEU (1645).]

Notes on various larvæ, supposed to be those of *Muscidæ*, or *Cestridæ*, found in Africa, in man and mammals, with bibliography of the subject, GEDOELST, Arch. parasit. ix, pp. 568-592.

*Admontia setigera*, California, COQUILLET, p. 36, Invert. pacif. i, n. sp.

*Anthomyia conformis*, habits, GROSSER, p. 4, Jahresber. Schlesisch. Ges. lxxxii; *A. antiqua*, natural history, LAMPA, pp. 60-64, pl. i, Ent. Tidskr. xxvi; *A. dissimilipes*, natural history, TULLGREN, pp. 172-176, Ent. Tidskr. xxvi; *A. (Achantiptera) signata* Brischke, overlooked, habits, occurrence in Scotland, SPEISER, p. 463, Zeitschr. Insbiol. i.

*Auchmeromyia luteola*, larval habits, DUTTON, p. 90, J. trop. Med. viii; *A. luteola*, natural history, DUTTON, TODD & CHRISTY, pp. 49-54, pl. iii, Thompson Yates Lab. Rep. vi.

*Biomya mutabilis*, Nevada, COQUILLET, p. 37, Invert. pacif. i, n. sp.

*Bucentes* Latr. to be used instead of *Siphonæ* (cf. *Siphona*), SPEISER, p. 462, Zeitschr. Insbiol. i.

*Cænosa argentata*, p. 33, *majuscula*, p. 34, California, COQUILLET, Invert. pacif. i, n. spp.

- Cordylobia murium*, E. Africa, in dogs, DÖNITZ, p. 246, plate, SB. Ges. naturf. Berlin 1905, n. sp.
- Erigone rudis* etc., synonymy, AUSTEN, pp. 57-60, Ent. Mag. 1905: WAINWRIGHT, t. c. pp. 204, 205. Cf. also *Varichæta*.
- Exorista aristella*, natural history, XAMBEU, p. 57, Naturaliste 1905; *E. vulgaris*, host and parasite, FRIEDRICH, p. 494, Zeitschr. Insbiol. i.
- Glossina*; SANDER (1319); *G. palpalis*, anatomy, MINCHIN, P. R. Soc. lxxvi, pp. 531-547; *G.*; map of distribution, pl. iii, p. 217, *G. tachinoides*=(*descorsei* Br.), BRUMPT, Arch. parasit. ix; *G.*, distribution of the species, AUSTEN, pp. 278-282, map, Rep. Sleeping-sick, Comm. No. vi; *G. palpalis*, pupal characters, AUSTEN, p. 7, op. cit. No. v; *G. palpalis*, ♂ genitalia, WESCHÉ, J. Quekett Club (2) ix, pp. 233-258, pl. xv; *G. palpalis*, distribution, *wellmani* subsp. n., AUSTEN, p. 390, Ann. Nat. Hist. (7) xv.
- Homalomyia schëmbrii, ornata*, distinguished, STROBL, p. 553, Wiss. Mitt. Bosnien ix; *H. canicularis*, larva in man, description of larva, STEPHENS, p. 120, Thompson Yates Lab. Rep. vi.
- Hydrotaea*; revision of British, GRIMSHAW, pp. 237-249 (to be cont.), Ent. Mag. 1905.
- Hypostena setiventris*, parasitic on *Tetrix*, RODZIANKO, p. 696, C.R. Congr. Zool. vi.
- Lispa polita*, Nevada, COQUILLET, p. 34, Invert. pacif. i, n. sp.
- Lucilia sericata* and allied forms in Australia, FROGGATT, pp. 16-22, 1 pl., Agric. Gaz. N. S. W. xvi.
- Micropalpus*; the British species, WAINWRIGHT, pp. 199-202, Ent. Mag. 1905.
- Musca corvina*, larva attacking man, description of larva, STEPHENS, p. 119, Thompson Yates Lab. Rep. vi; *M. vomitoria*, antenna and its sense-organs, RÖHLER, Zool. Jahrb. Anat. xxii, pp. 273-279.
- Myobia multiciliata*, Madagascar, in copal, MEUNIER, p. 91, Miscell. ent. xiii, n. sp.
- Phorocera (Parasetigena) nigrofasciata*, S. E. Europe, STROBL, p. 548, Wiss. Mitt. Bosnien ix, n. sp.
- Parasteinina* n. n. for *Tetrachæta* Stein, COCKERELL, p. 361, Canad. Ent. 1905.
- Pegomyia betæ*, natural history, metamorphosis, CARPENTER, pp. 289-291, pls. xxiii, xxiv, Econ. Proc. Dublin Soc. i.
- Phaonia fimbriata*, Nevada, COQUILLET, p. 35, Invert. pacif. i, n. sp.
- Plagia hülfi*, S. E. Europe, STROBL, p. 546, Wiss. Mitt. Bosnien ix, n. sp.
- Roeselia antiqua* and *pallipes* distinguished, WAINWRIGHT, p. 203, Ent. Mag. 1905.
- Sarcophaga*; ♂ genitalia with numerous figures, DU ROSELLE, pp. 5-11, pls. 1 & 2, Mem. Soc. Nord France xi; *S.*; specific characters of European, KRAMER, pp. 12-16, cuts, Zeitschr. Hymn. Dipt. v.
- S. kuntzei*, p. 13, *neglecta*, p. 14, Europe, KRAMER, t. c.; *S. paucisetæ, ambigua*, p. 331, *appendiculata, lusatica*, p. 332, Germany, KRAMER, t. c.: n. spp.
- Siphona irritans*, not *Hematobia*, SPEISER, p. 461, Zeitschr. Insbiol. i.
- Thelairodes ischyri*, Cuba, COQUILLET, p. 362, Canad. Ent. 1905, n. sp.
- Thryptocera media*, Zanzibar, copal, MEUNIER, p. 212, pl. i, figg. 8, 9, Rev. Sci. Bourbonnais 1905.
- Varichæta* Speiser=(*Erigone* auctt.), WAINWRIGHT, p. 205, Ent. Mag. 1905.

## MUSCIDÆ ACALYPTRATÆ.

- [Cf. ADAMS (6), BECKER (89), BENHAM (96), BRÈTHES (188), BROUN (195), CARPENTER (278), COQUILLET (61), LESNE (942), DE MEIJERE (1024), MEUNIER (1038, 1040), NIELSEN (1100), NOEL (1107), SPEISER (1434), STROBL (1455).]

- Agromyza*, fossil, see Palæoentomology. *A. abiens* var. n. *apfelbecki*, STROBL, p. 566, Wiss. Mitt. Bosnien ix; *A. carbonaria*, natural history, its effects on wood, NIELSEN, pp. 221, 222, Zool. Anz. xxix; *A. simplex*, larva and pupa, LESNE, p. 14, Bull. Soc. ent. France 1905.
- A. remotinervis*, p. 566, *novakii*, p. 567, S. E. Europe, STROBL, Wiss. Mitt. Bosnien ix, n. sp.
- Chlorops novakii*, S. E. Europe, STROBL, p. 562, t. c. n. sp.
- Chyliza robusta*, Nevada, COQUILLET, p. 28, Invert. pacif. i, n. sp.
- Cyclocephala* n. g. *Notiphilinae*, *margininervis* n. sp., S. E. Europe, STROBL, p. 563, Wiss. Mitt. Bosnien ix, n. sp.
- Dacus* (*Tephritis*) *xanthodes*, New Zealand, in imported fruit, BROWN, p. 327, Tr. New Zealand Inst. xxxvii, n. sp.
- Diptotoxa* (*Pseudopachychæta* subg. n.) *pachycera*, S. E. Europe, STROBL, p. 561, Wiss. Mitt. Bosnien ix, n. sp.
- Drosophila melanogaster* Meig. = (*ampelophila* Loew), injuring grapes in England, AUSTEN, pp. 276-278, Ent. Mag. 1905; *D.*, in vinegar factories, NOEL, p. 13, Naturaliste 1905; *D.*, experiments as to movements, CARPENTER, pp. 157-171, Amer. Natural. xxxix.
- Ecoptomeru simplex*, Nevada, COQUILLET, p. 32, Invert. pacif. i, n. sp.
- Ephydra* sp., New Zealand, larva, BENHAM, p. 308, pl. xvii, Tr. New Zealand Inst. xxxvii.
- Euaressta adspersa*, California, COQUILLET, p. 30, Invert. pacif. i, n. sp.
- Euxesta argentina*, Tucumán, BRÈTHES, p. 342, An. Mus. Buenos Aires (3) iv, n. sp.
- Hippelates microcentrus*, California, COQUILLET, p. 28, Invert. pacif. i, n. sp.
- Mélieria occidentalis*, Nevada, COQUILLET, p. 29, t. c. n. sp.
- Ochthiphila juncorum* var. n. *flavicornis*, STROBL, p. 565, Wiss. Mitt. Bosnien ix.
- Oscinis*; table of N. American, ADAMS, pp. 109, 110, Ent. News Philad. xvi.
- O. minor*, *nuda*, *ovalis*, p. 110, *trisulcata*, p. 111, Louisiana and Texas, ADAMS, t. c. n. spp.
- Phytomyza abdominalis*, natural history, SPEISER, pp. 465-467, Zeitschr. Insbiol. i; *P. abdominalis*, natural history, SPEISER, pp. 194-196, Schr. Ges. Königsb. 1905.
- P. flavotibialis*, S. E. Europe, STROBL, p. 567, Wiss. Mitt. Bosnien ix, n. sp.
- Platyparea pæcioptera*, larval habits, LESNE, p. 12, Bull. Soc. ent. France 1905, cut.
- Pseudopachychæta* subg. n. cf. *Diptotoxa*.
- Pseudosphærocera* n. g. *luteipennis* n. sp., STROBL, p. 568, Wiss. Mitt. Bosnien ix.
- Sapromyza cesia*, Nevada, p. 31, *univittata*, California, p. 32, Invert. pacif. i, n. spp.
- Scatophila curtipennis*, Ile des États, BECKER, p. 192, Ann. Soc. ent. Belgique 1905, n. sp.
- Siphonella fucicola*, Java, DE MEIJERE, p. 160, Notes Leyden Mus. xxv, n. sp.
- Spilographa inæqualis*, Nevada, COQUILLET, p. 29, Invert. pacif. i, n. sp.
- Tephritis palpatis*, Nevada, BAKER, p. 30, Invert. pacif. i, n. sp.
- Tetanocera punctulata* reared from *Dichrorampha*, CROMBRUGGHE, p. 205, Ann. Soc. ent. Belgique 1905.
- Zagonia* n. g. *Geomyzidae*, *flava* n. sp., California, COQUILLET, p. 27, Invert. pacif. i.

## PUPIPARA.

[Cf. RIBEIRO (1265), SPEISER (1437).]

*Basilia* n. g. *ferruginea* n. sp. on *Vespertilio*, Minas Geraes, RIBEIRO, Arch. Mus. Rio. Jan. xii, p. 175, pl. i.

*Hippobosca capensis* = (*Ornithomyia chinensis* Gigl.), SPEISER, p. 349, Zeitschr. Hym. Dipt. v.

*Icosta* n. g. type *Olfersia dioxyrhina*, SPEISER, p. 358, t. c.

*Lipoptena cervi* = (*Ornith. nigrirostris* Roser), p. 351, *L. chalconelena*, p. 352, SPEISER, t. c.

*L. efovea*, Ceylon, p. 352, *sepiacea*, S. Africa, p. 353, *conifera*, Brazil, p. 354, SPEISER, t. c. n. spp.

*Olfersia nigra*, p. 356, SPEISER, t. c.

*O. trita*, Tenasserim, p. 357, *nigrita*, Manila, p. 358, SPEISER, t. c. n. spp.

*Ornithomyia anchineuria* n. n. for *pallida* Say, p. 348, *paricella* n. n. for *chilensis* Reed, *O. chloropus*, p. 350, SPEISER, t. c.

*Pseudolfersia mycetifera*, Red Sea, SPEISER, p. 359, t. c. n. sp.

## APHANIPTERA.

[Cf. BAKER (53, 55, 62, 67), ENDERLEIN (508), GROSS (700), HERZOG (741), KOHAUT (873), LASS (918), MEISSNER (1025), NOC (1104), RAINBOW (1232), ROTHSCHILD (1299-1303).]

New classification and list, BAKER, P. U. S. Mus. xxix, No. 1417.

Structure and metamorphosis of *Pulex canis* with some notes on habits; LASS, Zeitschr. wiss. Zool. lxxix, pp. 73-131, pls. v, vi.

GROSS, Zool. Anz. xxix, pp. 229-232, remarks on the work of Lass, and adds some corrections.

Fleas that will bite man, MEISSNER, p. 68, etc., Soc. ent. xx.

\*A new species of rat flea, HERZOG (741).

Flea, popular account in Hungarian, KOHAUT, Termes. Kozl. Magyar Tars. xxxvii, pp. 369-386.

Fleas and disease, see Economic, p. 99.

*Anomiopsyllus californicus*, Los Angeles, BAKER, p. 39, Invert. pacif. i, n. sp. *Argopsylla* n. g. for *Sarcopsylla gallinacea*, ENDERLEIN, p. 263, Valdivia Exp. iii. [overlooked in 1903].

*Ceratophyllus farreni*, England, ROTHSCHILD, p. 255, Ent. Mag. 1905; *C. telchinum*, p. 153, pl. viii, fig. 21, *peantis*, p. 155, pl. vii, figg. 22, 23, *acamantis*, p. 156, pl. viii, figg. 24, 25, *terinus*, p. 158, pl. viii, fig. 26, and ix, fig. 29, *bacchi*, p. 159, pl. ix, fig. 34, *eumolpi*, p. 161, pl. vi, figg. 3, 4, *quirini*, p. 163, pl. vi, fig. 1, *abantis*, p. 164, pl. vi, fig. 10, *euphorbi*, p. 165, pl. vi, fig. 11, *ager*, p. 166, pl. vi, figg. 5, 7, 9, *agilis*, p. 167, pl. vii, figg. 16-18, *nepos*, p. 168, pl. vii, figg. 13, 14, *acasti*, p. 168, pl. vii, figg. 19, 20, *lucifer*, p. 170, pl. vi, fig. 12, *pollionis*, p. 171, pl. ix, figg. 28, 31, 32, *telegoni*, p. 172, pl. ix, figg. 27, 30, ROTHSCHILD, Nov. Zool. xii; *C. calceatus*, p. 481, pl. xiii, figg. 3, 4, *robinsoni*, p. 483, pl. xiii, fig. 6, Malay States, *vicinus*, Namaqualand, pl. xiii, fig. 7, *stratiotes*, Gaboon, pl. xiv, fig. 8, p. 484, ROTHSCHILD, t. c.; *C. rothschildi*, N. S. Wales, on *Dasyurus*, RAINBOW, p. 103, Rec. Austral. Mus. vi; *C. acutus*, California, BAKER, p. 40, Invert. pacif. i: n. spp.

*Ceratopsyllidae* n. fam., BAKER, p. 137, P. U. S. Mus. xxix.

*Ceratopsyllus crosbyi* n. sp., Missouri, BAKER, p. 137, t. c.

*Ctenocephalus canis* and *felis* not distinct, BAKER, p. 131, t. c.

*Ctenopsyllide* n. fam., BAKER, p. 136, t. c.

- C. ellobius*, Namaqualand, ROTHSCHILD, p. 490, pl. xiv, figg. 13-15, Nov. Zool. xii, **n. sp.**
- Dolichopsylla* **n. g.** for *Ceratophyllus stylosus*, BAKER, p. 135, P. U. S. Mus. xxix.
- Echidnophaga ambulans* Olliff, RAINBOW, pp. 100-102, pl. xxiii, Rec. Austral. Mus. vi.
- Goniopsyllus* **n. g.** type *kerquelensis*, BAKER, p. 128, P. U. S. Mus. xxix.
- Hystriehopsyllidæ* **n. fam.**, BAKER, p. 136, t. c.
- Hoplopsyllus* **n. g.** type *anomalus*, BAKER, p. 129, t. c.
- Lycopsyllidæ* **n. fam.** for *Lycopsylla* Rothsch., BAKER, p. 127, t. c.
- Macropsylla* **n. g.** near *Hystriehopsylla, hercules* **n. sp.**, Tasmania, pl. xiv, figg. 9, 10, ROTHSCHILD, p. 486, Nov. Zool. xii.
- Malacopsylla*; the three species, BAKER, p. 126, P. U. S. Mus. xxix.
- M. tolypentiis*, Argentina, ENDERLEIN, p. 139, Zool. Anz. xxix, **n. sp.**
- Odontopsyllus* **n. g.** type *multispinosus*, p. 129, BAKER, P. U. S. Mus. xxix.
- Pulex canis* and *felis* distinguished, ROTHSCHILD, Nov. Zool. xii, p. 192, cuts.
- P. philippinensis*, HERZOG, Bull. Lab. Manila No. 23 [not seen by Recorder]; *P. roberti*, Brazil, p. 479, pl. xiii, figg. 1, 2, *scopulifer*, Zululand, p. 480, pl. xiii, fig. 5, ROTHSCHILD, Nov. Zool. xii: **n. spp.**
- Rhopalopsyllus* **n. g.** type *lutzi*, BAKER, p. 129, P. U. S. Mus. xxix.
- Spilopsyllus* **n. g.** type *leporis*, BAKER, p. 129, t. c.
- Stephanocircus*; RAINBOW, p. 107, Rec. Austral. Mus. 107; *S. dasyuri*, male, ROTHSCHILD, p. 61, Ent. Mag. 1905.
- S. simsoni*, Tasmania, ROTHSCHILD, p. 61, t. c. **n. sp.**
- Uropsylla* **n. g.** p. 487, *tasmanicus* **n. sp.**, Launceston, p. 488, pl. xiv, figg. 11, 12, ROTHSCHILD, Nov. Zool. xii.

(E.) *HEMIPTERA* 'OR *RHYNCHOTA*.

*Cimex*; the type, KIRKALDY, p. 76, Entomologist 1905: BLANFORD, t. c. p. 110.

Miscellaneous bibliographic notes, KIRKALDY, pp. 304-308, Entomologist 1905.

Glands, salivary, cephalic, metathoracic, *Gerridae*, *Nepidae*, *Notonectidae*, BORDAS (136).

Chromosomes in spermatogenesis of *Hemiptera*, WILSON, J. exp. Zool. ii, pp. 371-405 and 507-545.

## HEMIPTERA-HETEROPTERA.

## PENTATOMIDÆ.

[Cf. BERGROTH (97, 98), BREDDIN (180, 181, 183, 184), HEIDEMANN (732), HORVÁTH (776), KIRKALDY (856), KUHLGATZ (898), MORRILL (1070), REUTER (1261), SCHOUTEDEN (1339-1344, 1347), VAN DUZEE (1527).]

The genera of the subfam. *Graphisomatinae* with lists of the species, SCHOUTEDEN, Gen. ins. fasc. xxx, 46 pp., 3 pls.

*Acanthosoma expansum*, Japan, HORVÁTH, p. 413, Ann. Mus. Hungar. iii, n. sp.

*Adrisa willeyi*, Lifu, KIRKALDY, p. 358, Tr. ent. Soc. London 1905, n. sp.

*Aeliomorpha viridis* ♂, BERGROTH, p. 369, Ann. Soc. ent. Belgique 1905.

*Agapophyta bipunctata*, larval stages, KUHLGATZ, Zool. Jahrb. Suppl. viii, pp. 595-616.

*Amphiturgia* n. g. *Acanthosomini*, *bicallulosa* n. sp., E. Africa, BREDDIN, p. 12, Soc. ent. xx.

*Anasa repetita*, Washington, HEIDEMANN, p. 11, P. ent. Soc. Washington vii, n. sp.

*Andrallus* n. n. for *Audinetia* Ell., BERGROTH, p. 370, Ann. Soc. ent. Belgique 1905.

*Andriscus cinctus, terminalis*, Victoria, p. 213, VAN DUZEE, Bull. Amer. Mus. xxi, n. spp.

*Antestia oliva*, N. S. Wales, pl. viii, fig. 7, p. 206, VAN DUZEE, t. c. n. sp.

*Apines geminata*, N. S. Wales, pl. viii, fig. 8, p. 206, VAN DUZEE, t. c. n. sp.

*Aspavia brunnea = cœlatata* Dist., SCHOUTEDEN, p. 51, Wien. ent. Zeit. xxiv.

*Brachycerocoris congoanus*, Ubanghi, SCHOUTEDEN, p. 141, Ann. Soc. ent. Belgique 1905, n. sp.

*Brachystethus improvisus*, Venezuela, BREDDIN, p. 26, Soc. ent. xx, n. sp.

*Calliphara oculatorum*, Solomon Islds., *placida*, New Guinea, *paradisiaca*, Sumba, BREDDIN, p. 186, Soc. ent. xix, n. spp.

*Canthecona alluaudi*, p. 143, *signitenens*, p. 276, Madagascar, SCHOUTEDEN, Rhynch. athiop. n. spp.

*Catacanthus reuteri*, Madagascar, SCHOUTEDEN, p. 51, Wien. ent. Zeit. xxiv.

*Chiptatula typica* ♂, *Cœnomorpha splendida* ♀, of one species; *Chiptatula capitata* ♂, *Cœn. crassa* ♀, of one species; SCHOUTEDEN, p. 51, t. c.



- Chrysocoris bouvieri*, S. India, *prætextatus*, Cochin China, p. 186, *cingulatus*, Banguay Isld., *trabeatus*, Mindanao, *pontificalis*, Celebes, p. 187, BREDDIN, Soc. ent. xix, n. spp.
- Coleotichus*, monograph, SCHOUTEDEN, pp. 317-361, pls. viii, ix, Ann. Mus. Hungar. iii.
- C. handlirschi*, Australia, p. 332, *biroi*, New Guinea, p. 340, *breddini*, Marianne Islds., p. 344, SCHOUTEDEN, t. c. n. spp.
- Commius minor*, Queensland, BERGROTH, p. 152, P. Zool. Soc. London 1905, ii, n. sp.
- Cuspicona carneola*, N. S. Wales, pl. viii, fig. 9, p. 207, *beutenmulleri*, Victoria, fig. 10, p. 208, VAN DUZEE, Bull. Amer. Mus. xxi, n. spp.
- Dalsira albopunctulata* var. n. *pallida*, SCHOUTEDEN, p. 55, Wien. ent. Zeit. xxiv.
- Delocephalus congo*, Africa, p. 212, SCHOUTEDEN, Rhynch. æthiop. n. sp.
- Deroploa affinis*, Australia, SCHOUTEDEN, p. 143, Ann. Soc. ent. Belgique 1905, n. sp.
- Dichobothrium kraepelini*, Java, BREDDIN, p. 117, Mt. Mus. Hamburg xxii, n. sp.
- Dictyotus? pallidus*, N. S. Wales, pl. viii, fig. 6, p. 203, VAN DUZEE, Bull. Amer. Mus. xxi, n. sp.
- Dissocolpus* n. g. near *Neococalus*, p. 368, *fissiceps* n. sp., Madagascar, p. 369, BERGROTH, Ann. Soc. ent. Belgique 1905.
- Dybouskya* distinguished from *Bolbocoris*, BREDDIN, pp. 29-31, Wien. ent. Zeit. xxiv.
- Ectmetocora intermedia*, Ivory Coast, SCHOUTEDEN, p. 233, Rhynch. æthiop. n. sp.
- Edessa signoreti, davidi*, BERGROTH, p. 104, Rev. Ent. franc. 1905.
- E. elaphus, helicoceras, jo, nodamentosa*, S. America, *cerastes*, Costa Rica, p. 26, *gnu, stillativentris*, S. America, p. 27, BREDDIN, Soc. ent. xii, n. spp.
- Erlangerella* n. g. near *Lerida, pulchra* n. sp., Sidimun, SCHOUTEDEN, p. 13, Ann. Soc. ent. Belgique 1905.
- Eurydema oleraceum*, n. subvarr., ROYER, pp. 135, 190, Bull. Soc. ent. France 1905.
- Euryannus* n. g. near *Oncocoris*, p. 153, *lippus* n. sp., Queensland, p. 154, BERGROTH, P. Zool. Soc. London 1905, ii.
- Eusthenes teucer*, Java, BREDDIN, p. 116, Mt. Mus. Hamburg xxii, n. sp.
- Garsauria, haglundiana* n. n. for *haglundii*, SCHOUTEDEN, p. 51, Wien. ent. Zeit. xxiv; *Garsauria*=(*Brachyrrhamphus* Hagl.), SCHOUTEDEN, p. 49, Ann. Soc. ent. Belgique 1905; *G. usambarica*, Africa, SCHOUTEDEN, p. 50, t. c. n. sp.
- Gynenica tellim*, Erythrea, SCHOUTEDEN, p. 8, t. c. n. sp.
- Halyomorpha erlangeri*, Abyssinia, SCHOUTEDEN, p. 12, t. c. n. sp.
- Hilrya* n. g. *Graphosomini, tibialis* n. sp., Java, SCHOUTEDEN, p. 142, t. c.
- Hypencha alata*, Banguay, BREDDIN, p. 210, Mt. Mus. Hamburg xxii, n. sp.
- Ilerda* Stål=*Lerida* Karsch=*Menuthias* Kirk., SCHOUTEDEN, p. 51, Wien. ent. Zeit. xxiv.
- Levenna* n. g. near *Commius*, p. 151, *salax* n. sp., Queensland, p. 152, BERGROTH, P. Zool. Soc. London 1905, ii.
- Lobopeltista* n. n. for *Lobopelta* Schout.; SCHOUTEDEN, p. 55, Wien. ent. Zeit. xxiv.
- Mecidea tellinii*, Erythrea, SCHOUTEDEN, p. 7, Ann. Soc. ent. Belgique 1905, n. sp.
- Megaedæum karschi*, Cameroons, SCHOUTEDEN, p. 236, Rhynch. æthiop. n. sp.
- Megarkaphis dallasi*, Madagascar, SCHOUTEDEN, p. 181, t. c. n. sp.
- Menestheus brevis*, N. S. Wales, pl. viii, fig. 3, p. 200, VAN DUZEE, Bull. Amer. Mus. xxi, n. sp.

- Montandonista* n. n. for *Montandoniella*, SCHOUTEDEN, p. 51, Wien. ent. Zeit. xxiv.
- Montandonistella* n. n. for *Montandonista* Schout., SCHOUTEDEN, p. 50, Ann. Soc. ent. Belgique 1905.
- Nezara emmerezi*, Mauritius, p. 53, *soror*, Madagascar, p. 54, *congo*, Africa, p. 55, SCHOUTEDEN, Wien. ent. Zeit. xxiv, n. spp.
- Niarus tryoni*, Queensland, BERGROTH, p. 150, P. Zool. Soc. London 1905, ii, n. sp.
- Oncocoris*; list of species, BERGROTH, pp. 148-150, t. c.
- O. ovalis*, Queensland, BERGROTH, p. 153, t. c. n. sp.
- Pentatoma ligata*, natural history, eggs, MORRILL (1070).
- Phimodera*; synonymy and variation, REUTER, pp. 61-64, Bull. Soc. ent. France 1905.
- Phyllocephala tumidifrons*, N. W. Australia, pl. viii, fig. 12, p. 211, VAN DUZEE, Bull. Amer. Mus. xxi, n. sp.
- Piezosternum calidum breddini* subsp. n., p. 217, larva, p. 275, fig. 133, SCHOUTEDEN, Rhynch. æthiop.
- Pisena horvathi*, p. 268, *aberrans*, p. 270, Madagascar, SCHOUTEDEN, t. c. n. spp.
- Platycoraria*, new division of *Halyinae* for stridulating forms, BERGROTH, p. 147, P. Zool. Soc. London 1905, ii.
- Platycoris scutellatus*, p. 190, pl. viii, fig. 1, *rufescens*, fig. 2, p. 191, Australia, VAN DUZEE, Bull. Amer. Mus. xxi, n. spp.
- Pæcilometis stigmatus*, N. S. Wales, pl. viii, fig. 3, *edwardsi*, Victoria, fig. 4, p. 198, VAN DUZEE, t. c. n. spp.
- Protestrica* subg. n. of *Testrica* for *emarginata* Snell., etc., SCHOUTEDEN, p. 25, Gen. ins. fasc. xxx.
- Schiædtia* n. n. for *Philia* Stål, KIRKALDY, p. 79, Entomologist 1905.
- Schismatops gelei* to *Dalsira*, SCHOUTEDEN, p. 55, Wien. ent. Zeit. xxiv.
- Schizops icterica* Gerst. to *Dalsira*, SCHOUTEDEN, p. 55, t. c.
- Scotinophara longipes*, Trichinopoli, SCHOUTEDEN, p. 147, Ann. Soc. ent. Belgique 1905, n. sp.
- Sibaria andicola*, Ecuador, BREDDIN, p. 27, Soc. ent. xx, n. sp.
- Stictocarenum subrufescens*, Victoria, VAN DUZEE, p. 214, Bull. Amer. Mus. xxi, n. sp.
- Stictonotus* n. n. for *Stictocoris* Kirk., KIRKALDY, p. 268, Wien. ent. Zeit. xxiv.
- Storthogaster junodi* var. n. *rikatlensis*, SCHOUTEDEN, p. 55, Wien. ent. Zeit. xxiv.
- Testrica stali* n. n. for *emarginata* Stål, SCHOUTEDEN, p. 26, Gen. ins. fasc. xxx.
- Testricoides* n. g. *Graphosomini*, *pulcherrimus* n. sp., Victoria, SCHOUTEDEN, p. 144, Ann. Soc. ent. Belgique 1905.
- Urostylinae*, note, DISTANT, p. 94, Ent. Mag. 1905.
- Urostylis instructivus*, India, REUTER, p. 65, Ent. Mag. 1905, n. sp.
- Weda* n. g. *Graphosomini*, *horvathi* n. sp., Colorado, SCHOUTEDEN, p. 145, Ann. Soc. ent. Belgique 1905.

## COREIDÆ.

[Of ANNANDALE (29), BERGROTH (98, 99), BREDDIN (180, 181), KIRKALDY (856).]

*Acidomeria nigricornis*, habitat, var., BERGROTH, p. 107, Rev. Ent. franc. 1905.

*Alydus calcaratus*, relations with ants, MJÖBERG, pp. 68-76, Arkiv Zool. ii, No. 17.

- Chorosoma schillingii*, eggs, MjöBERG, pl. figg. 6, 7, p. 61, Arkiv Zool. ii, No. 17.
- Cletomorpha spinijugis*, Madagascar, BERGROTH, p. 370, Ann. Soc. ent. Belgique 1905, n. sp.
- Cletus armatulus* n. n. for *pugnator* Dall, p. 118, *punctulatus* var. n. *javanus*, p. 119, BREDDIN, Mt. Mus. Hamburg xxii.
- Colpura hebeticolis*, Banguey, BREDDIN, p. 212, t. c. n. sp.
- Dalader acuticosta*, egg and young larva, ANNANDALE, pp. 53-59, pl. viii, Tr. ent. Soc. London 1905.
- Lybindus*, characters and position, BERGROTH, p. 106, Rev. Ent. franc. 1905.
- L. subterrivittatus*, Brazil, BERGROTH, p. 105, t. c. n. sp.
- Pendulinus pontifex*, Banguey, BREDDIN, p. 212, Mt. Mus. Hamburg xxii, n. sp.
- Priocnemisoris albithorax* var. nov. *patricius*, KIRKALDY, p. 352, Tr. ent. Soc. London 1905.
- Riptortus imperialis*, New Britain, KIRKALDY, p. 351, t. c. n. sp.
- Savius bergi*, Brazil, BERGROTH, p. 107, Rev. Ent. franc. 1905, n. sp.
- Spathocera*, food-habits, ROYER, pp. 164-166, Bull. Soc. ent. France 1905.

## LYGÆIDÆ.

- [Cf. BERGROTH (98), BERGROTH & SCHOUTEDEN (100), BREDDIN (180, 181), DISTANT (433, 435), HORVÁTH (776, 779), KIRKALDY (856).]
- Blissus diplopterus*, Cape Colony, DISTANT, p. 434, Tr. S. African Soc. xiv, n. sp.
- Cligenes ethiops*, Cape Colony, DISTANT, p. 435, t. c. n. sp.
- Cymus nocturnus*, *waelbroecki*, Congo, BERGROTH, p. 380, Ann. Soc. ent. Belgique 1905, n. sp.
- Geocoris itonis*, Japan, HORVÁTH, p. 414, Ann. Mus. Hungar. iii; *G. willeyi*, New Britain, KIRKALDY, p. 349, pl. xvii, fig. 8, Tr. ent. Soc. London 1905 : n. spp.
- Lethæus nodulinervis*, Madagascar, BERGROTH, p. 373, Ann. Soc. ent. Belgique 1905, n. sp.
- Letheaster* n. g. p. 124, *anthocorides* n. sp., Java, p. 125, BREDDIN, Mt. Mus. Hamburg xxii.
- Nesodromus* n. g. *Aphanaria*, p. 371, *pleuriticus* n. sp., Madagascar, p. 372, BERGROTH, Ann. Soc. ent. Belgique 1905.
- Oxycarenus hyalinipennis*, pp. 88-90, pl. iii, figg. 12-18, larva, p. 101, figg. 15-17, KUHLGATZ, Mt. Mus. Berlin iii.
- O. breddini*, Congo, BERGROTH, p. 380, Ann. Soc. ent. Belgique 1905; *O. exitiosus*, Cape Town (injurious to peach etc.), DISTANT, p. 169, Entomologist 1905; *O. lifuanus*, Lifu, KIRKALDY, p. 347, Tr. ent. Soc. London 1905 : n. spp.
- Pachygrontha miriformis*, Banguey, BREDDIN, p. 213, Mt. Mus. Hamburg xxii, n. sp.
- Pachymerus nereis*, Lifu, KIRKALDY, p. 347, pl. xvii, fig. 7, Tr. ent. Soc. London 1905, n. sp.
- Pamera lounsburyi*, Cape Colony, DISTANT, p. 435, Tr. S. African Soc. xiv, n. sp.
- Peritrechus gracilicornis* var. n. *xanthopus*, HORVÁTH, p. 272, Bol. Soc. espan. v.
- Ptochiomera kydippe*, Lifu, KIRKALDY, p. 346, Tr. ent. Soc. London 1905, n. sp.
- Pyrrhobaphus satrapa*, Java, p. 119, *regulus*, Sumbawa, p. 120, BREDDIN, Mt. Mus. Hamburg xxii, n. spp.

*Taphropeltus championi*, Guadarrama, REUTER, p. 52, Tr. ent. Soc. London 1905, n. sp.

*Vertomannus tener*, Java, BREDDIN, p. 121, Mt. Mus. Hamburg xxii, n. sp.

## PYRRHOCORIDÆ.

[Cf. BERGROTH (98), BREDDIN (181), KIRKALDY (856), KUHLGATZ (898, 899), SCHOUTEDEN (1341).]

*Ceneus exsanguis* Gerst. to *Odontopus*, BERGROTH, p. 371, Ann. Soc. ent. Belgique 1905.

*Dynamenus* n. g. for *Ectatops venustus* Walk., KIRKALDY, p. 343, Tr. ent. Soc. London 1905.

*Dysdercus cingulatus*, larval stages, KUHLGATZ, pp. 595–616, Zool. Jahrb. Suppl. viii; *D. sida*, valid sp., p. 81, pl. ii, figg. 8, 9, *cingulatus*, pl. ii, figg. 15, 16, p. 83, *superstitiosus* and allies, pp. 86, 87, natural history, larval notes, pp. 98–101, KUHLGATZ, Mt. Mus. Berlin iii.

*Scantius circumcinctus*, characters and var., BERGROTH, p. 371, Ann. Soc. ent. Belgique 1905; *S. abyssinicus*, SCHOUTEDEN, p. 10, Ann. Soc. ent. Belgique 1905.

*Physopelta seria*, Java, BREDDIN, p. 127, Mt. Mus. Hamburg xxii, n. sp.

## TINGIDÆ.

[Cf. BERGROTH & SCHOUTEDEN (100), DISTANT (435), HORVÁTH (777, 779), KIRKALDY (859).]

*Acalypta carpathica*, Roumania, *sejuncta*, Armenia, HORVÁTH, p. 561, Ann. Mus. Hungar. iii, n. spp.

*Acanthocheila kahavalu*, Peru, KIRKALDY, p. 216, Bull. Soc. ent. France 1905, n. sp.

*Aconchus* subg. n. cf. *Galeatus*.

*Americia annæ*, Peru, KIRKALDY, p. 216, Bull. Soc. ent. France 1905, n. sp.

*Astolphos* n. g. near *Phatnoma*, p. 428, *capitatus* n. sp., Cape Town, pl. viii, fig. 5, p. 429, DISTANT, Tr. S. African Soc. xiv.

*Biskria sareptana* var. n. *adelpa*, HORVÁTH, p. 563, Ann. Mus. Hungar. iii.

*B. lepida*, Tunis, HORVÁTH, p. 562, t. c. n. sp.

*Campylosteira falleni* var. n. *miridita*, p. 558, *pilifera* var. n. *humilis*, p. 560, and var. n. *diminuta*, p. 561, HORVÁTH, t. c.

*C. dispar*, p. 558, *cognata*, p. 559, *sororcula*, 560, Algeria, HORVÁTH, t. c. n. spp.

*Catoplatus nigriceps*, Europe, HORVÁTH, p. 569, t. c. n. sp.

*Compseuta montandoni*, Delagoa Bay, pl. viii, fig. 15, DISTANT, p. 434, Tr. S. African Soc. xiv, n. sp.

*Copium glabricorne* to *Eurycera*, fig. pl. viii, fig. 9, DISTANT, p. 430, t. c.

*Derephysia nigricosta*, Spain, HORVÁTH, p. 272, Bol. Soc. espan. v, n. sp.

*Dictyonota tricornis* varr., HORVÁTH, p. 563, Ann. Mus. Hungar. iii.

*D. æthiops*, Algeria, p. 563, *iberica*, S. Spain, p. 563, HORVÁTH, t. c. n. spp.

*Galeatus consimilis*, Spain, HORVÁTH, p. 273, Bol. Soc. espan. v; *G. (Aconchus)* subg. n. p. 566, *urbanus*, Italy, p. 565, HORVÁTH, Ann. Mus. Hungar. iii: n. spp.

*Hædus* n. g. near *Leptostyla*, *clypeatus* n. sp., Cape Colony, p. viii, fig. 12, DISTANT, p. 432, Tr. S. African Soc. xiv.

*Hanuata* n. g. near *Euryparsa*, *leinahoni* n. sp., Peru, KIRKALDY, p. 217, Bull. Soc. ent. France 1905.

- Hyalochiton* subg. n. of *Galeatus*, for *G. komaroffi* Jak., HORVÁTH, p. 566, Ann. Mus. Hungar. iii.
- Lullius* n. g. near *Serenthia*, p. 429, *major*, pl. viii, fig. 7, *L. minor*, fig. 8, n. spp., Cape Colony, p. 430, DISTANT, Tr. S. African Soc. xiv.
- Monanthia montandoni* var. n. *rivalis*, p. 570, *putoni* var. n. *pulla*, p. 572, HORVÁTH, Ann. Mus. Hungar. iii.
- M. ruficeps*, Tunis, *subdola*, Araxes Valley, HORVÁTH, p. 571, t. c.; *M. mitrata*, Grahamstown, pl. viii, fig. 14, DISTANT, p. 433, Tr. S. African Soc. xiv : n. spp.
- Monosteira cleopatra*, Egypt, HORVÁTH, p. 572, Ann. Mus. Hungar. iii, n. sp.
- Physatocheila confinis*, S. E. Europe etc., HORVÁTH, p. 570, t. c. n. sp.
- Phyllontocheila vaelbroeckii*, Congo, SCHOUTEDEN, p. 381, Ann. Soc. ent. Belgique 1905; *P. jumodi*, Transvaal, pl. viii, fig. 10, DISTANT, p. 431, Tr. S. African Soc. xiv : n. spp.
- Sanazarius* n. g. *Tingidaria*, *cuneatus* n. sp., Cape Colony, pl. viii, fig. 11, DISTANT, p. 431, t. c.
- Serenthia ruficornis* var. n. *dubia*, *femoratis* var. n. *antennata*, p. 556, and varr. n. *thoracica*, *imbecilla*, p. 557, *læta* var. n. *apicicornis*, p. 557, *nigra* var. n. *collaris*, p. 558, HORVÁTH, Ann. Mus. Hungar. iii.
- S. turanica*, Turkestan, p. 556, *blandula*, Caucasus, p. 558, HORVÁTH, t. c.; *S. peringueyi*, Cape Town, DISTANT, pl. viii, fig. 6, p. 429, Tr. S. African Soc. xiv : n. spp.
- Sinalda* n. g. p. 426 for part of *Phatnoma*, *elegans*, pl. viii, fig. 2, *reticulata*, fig. 3, p. 427, *nebulosa*, fig. 4, p. 428, n. spp., S. Africa, DISTANT, t. c.
- Stephanitis azaleæ* n. n. for *T. pyrioides* Scott, HORVÁTH, p. 568, Ann. Mus. Hungar. iii.
- S. rhododendri*, Holland, HORVÁTH, p. 567, t. c. n. sp.
- Teleonemia australis*, Cape Town, pl. viii, fig. 13, DISTANT, p. 432, Tr. S. African Soc. xiv, n. sp.
- Tingis chlorophana* to *Stephanitis*, *auriculata* varr. n., HORVÁTH, p. 569, Ann. Mus. Hungar. iii.
- Ulmus* n. g. *Cantacaderaria*, p. 425, *testudineatus* n. sp., S. Africa, pl. viii, fig. 1, p. 426, DISTANT, Tr. S. African Soc. xiv.

## BERYTIDÆ and ARADIDÆ.

[Cf. DISTANT (434), HORVÁTH (774, 776).]

- Aneurys greeni*, Ceylon, DISTANT, p. 194, Entomologist 1905, n. sp.
- Aradus consentaneus*, Japan, HORVÁTH, p. 415, Ann. Mus. Hungar. iii, n. sp.
- Megalomerium tenellum*, New Guinea, *breviceps*, Hungary, HORVÁTH, p. 57, t. c. n. spp.
- Parajalysus andinus*, *conceivis*, Peru, HORVÁTH, p. 60, t. c. n. spp.
- Pneustocerus* n. g. *nigricornis* n. sp., New Guinea, HORVÁTH, p. 59, t. c.
- Triconulus* n. g. *ægyptius* n. sp., Egypt, HORVÁTH, p. 58, t. c.
- Yemma* n. g. *exilis* n. sp., Japan, HORVÁTH, p. 56, t. c.

## HYDROMETRIDÆ.

[Cf. BREDDIN (180), BUENO (210), DISTANT (435), HORVÁTH (776), MjöBERG (1050), SCHOUTEDEN (100).]

- Angillia germari*, Cape Colony, DISTANT, p. 436, Tr. S. African Soc. xiv, n. sp.

- Gerris ysolt*, Java, BREDDIN, p. 130, Mt. Mus. Hamburg xxii, **n. sp.**  
*Hydrometra martini*, habits, BUENO, pp. 12-14, Canad. Ent. 1905; *H. australis* Say, a good species, BUENO, p. 284, t. c.  
*H. procera*, Japan, HORVÁTH, p. 416, Ann. Mus. Hungar. iii; *H. australis*, Georgia, BUENO, p. 15, Canad. Ent. 1905: **n. spp.**  
*Mesovelina proxima*, Congo, SCHOUTEDEN, p. 388, Ann. Soc. ent. Belgique 1905, **n. sp.**  
*Metrocoris strangulator*, Java, BREDDIN, p. 134, Mt. Mus. Hamburg xxii, **n. sp.**  
*Perittopus vicarians*, Java, BREDDIN, p. 129, t. c. **n. sp.**  
*Ptilomera asbolus*, Java, BREDDIN, p. 132, t. c. **n. sp.**  
*Rhagadotarsus n. g.* near *Rhagovelia*, p. 136, *kraepelini n. sp.*, Java, p. 137, BREDDIN, t. c. **n. spp.**

## REDUVIIDÆ.

- [Cf. BERGROTH (98, 99), BERGROTH & SCHOUTEDEN (100), BREDDIN (180-182), KIRKALDY (856), VARELA (1532, 1533).]
- Alloæorrhynchus piceus*, Java, BREDDIN, p. 145, Mt. Mus. Hamburg xxii, **n. sp.**  
*A. perminutus*, Congo, BERGROTH, p. 386, Ann. Soc. ent. Belgique 1905, **n. sp.**  
*Breddinia lobata*, p. 98, *B. ? gracilis*, p. 99, W. Africa, VARELA, Bol. Soc. espan. v, **n. spp.**  
*Diarthrotarsus n. n.* for *Lycimna* Stål, BERGROTH, p. 112, Rev. Ent. franc. 1905.  
*Ghilianella congoensis*, Africa, SCHOUTEDEN, p. 385, Ann. Soc. ent. Belgique 1905, **n. sp.**  
*Harpactor (Harpiscus) ausmeti*, Guinea, VARELA, p. 97, Bol. Soc. espan. v, **n. sp.**  
*Heteropinus* and *Platymicrus* distinguished, BREDDIN, p. 264, Wien. ent. Zeit. xxiv.  
*Heza signoreti* Fallou, BERGROTH, p. 108, Rev. Ent. franc. 1905.  
*Katanga fuscolivens*, Congo, BERGROTH, p. 373, Ann. Soc. ent. Belgique 1905, **n. sp.**  
*Margasus ornatus*, p. 145, *martini*, p. 146, *nitidus, elegans*, p. 147, Madagascar, VARELA, Bol. Soc. espan. v, **n. spp.**  
*Munia n. g.* near *Irantha*, p. 99, *schoutedeni n. sp.*, Cameroons, p. 100, VARELA, t. c.  
*Oncocephalus amen*, New Britain, KIRKALDY, p. 340, Tr. ent. Soc. London 1905, **n. sp.**  
*Pasiropsis nabidoides*, Java, BREDDIN, p. 145, Mt. Mus. Hamburg xxii, **n. sp.**  
*Patago n. n.* for *Hoplogenus* Stål, BERGROTH, p. 112, Rev. Ent. franc. 1905.  
*Physoderus azrael*, New Britain, KIRKALDY, p. 339, Tr. ent. Soc. London 1905, **n. sp.**  
*Pirates grandis* Fallou, BERGROTH, p. 109, Rev. Ent. franc. 1905.  
*Platymicrus aneuroides*, Cameroons, BREDDIN, p. 263, Wien. ent. Zeit. xxiv, **n. sp.**  
*Pselliopus n. n.* for *Milyas* Stål, BERGROTH, p. 112, Rev. Ent. franc. 1905.  
*Pygolampis kinchassæ*, Congo, SCHOUTEDEN, p. 384, Ann. Soc. ent. Belgique 1905, **n. sp.**  
*Sastrapada noctivaga*, BERGROTH, p. 382, *vicina, S. (Harpagochares) signata*, p. 383, SCHOUTEDEN, Congo, Ann. Soc. ent. Belgique 1905: **n. spp.**  
*Scadra nigritula*, Java, BREDDIN, p. 147, Mt. Mus. Hamburg xxii, **n. sp.**  
*Sphedanolestes albigula*, Java, BREDDIN, p. 148, t. c. **n. sp.**

- Spiniger bergi*, p. 110, *paganus*, p. 111, Brazil, BERGROTH, Rev. Ent. franc. 1905, n. spp.  
*Sycanus rhombogaster*, Banguay, BREDDIN, p. 217, Mt. Mus. Hamburg xxii, n. sp.  
*Toxopus n. g. Ectrichodiince*, p. 374, *politus n. sp.*, Madagascar, p. 375, BERGROTH, Ann. Soc. ent. Belgique 1905.  
*Tragelaphodes bergrothi*, E. Africa, BREDDIN, p. 264, Wien. ent. Zeit. xxiv, n. sp.  
*Tribelocephala breviceps*, Congo, BERGROTH, p. 375, Ann. Soc. ent. Belgique 1905, n. sp.  
*Zelus peregrinus*, natural history, eggs, SWEZEY, p. 232, pl. xvi, Rep. exp. Stat. Hawaii i.  
*Z. gradarius*, Brazil, BERGROTH, p. 109, Rev. Ent. franc. 1905, n. sp.

## CIMICIDÆ, ANTHOCORIDÆ, HENICOCEPHALIDÆ, CERATOCOMBIDÆ.

- [Cf. BERGROTH (98), BERGROTH & SCHOUTEDEN (100), BREDDIN (180), GIRAULT (666, 667), HEIDEMANN (733), HORVÁTH (776).]  
*Ænitopechys n. g. Henicocephalidæ*, p. 139, *neopinatus n. sp.*, Java, p. 140, BREDDIN, Mt. Mus. Hamburg xxii.  
*Cocles n. g. Henicocephalidæ, contemplator n. sp.*, Madagascar, BREDDIN, p. 142, t. c.  
*Clinocoris lectularia*, life-history, food-habits, longevity, GIRAULT, Psyche xii, pp. 61-74; *C. lectularius* attacks mice, and *C. columbarius* attacks man and mouse, GIRAULT, pp. 117-123, t. c.  
*Glyptocombus n. g. Ceratocombidæ*, p. 192, *G. saltator n. sp.*, Plummer's Is., p. 194, HEIDEMANN, P. ent. Soc. Washington 1905.  
*Henicocephalus hymenæus, laticollis*, Madagascar, p. 376, *tuberculatus*, Congo, p. 377, BERGROTH, Ann. Soc. ent. Belgique 1905; *H. cornifrons*, Congo, SCHOUTEDEN, p. 385, Ann. Soc. ent. Belgique 1905; *H. soriculus*, p. 143, *sanguinipes*, p. 144, Java, BREDDIN, Mt. Mus. Hamburg xxii : n. spp.  
*Hypselosoma matsumurae*, Japan, HORVÁTH, p. 417, Ann. Mus. Hungar. iii, n. sp.  
*Piezostethus congoensis*, Congo, BERGROTH, p. 386, Ann. Soc. ent. Belgique 1905, n. sp.

## CAPSIDÆ.

- [Cf. BREDDIN (180), HEIDEMANN (734), HORVÁTH (776, 779), KIRKALDY (856), REUTER (300, 1259, 1262).]  
*Adelphocoris torquatus*, p. 12, *apicalis, divergens*, p. 13, *luridus*, p. 14, *fasciiger*, p. 17, *tæniophorus*, p. 18, China, REUTER, Annuaire Mus. St. Petersb. 1905; *A. demissus*, Japan, HORVÁTH, p. 418, Ann. Mus. Hungar. iii : n. spp.  
*Amblytylus scutellaris*, Spain, HORVÁTH, p. 274, Bol. Soc. espan. v, n. sp.  
*Atractotomus nitidus*, Spain, HORVÁTH, p. 275, t. c. n. sp.  
*Chlamydatus longirostris* Hérault, REUTER, p. 8, Bull. Soc. ent. France 1905, n. sp.  
*Cobalorrhynchus n. g. Bryocoraria*, p. 1, *biquadrangulifer n. sp.*, China, p. 2, REUTER, Annuaire Mus. St. Petersb. 1905.  
*Cyphodema hilare*, Japan, HORVÁTH, p. 419, Ann. Mus. Hungar. iii, n. sp.  
*Deræocoris ater* var. n. *amplus*, HORVÁTH, p. 419, t. c.  
*D. pallidus*, p. 419, *elegantulus*, p. 420, Japan, id. t. c. n. spp.  
*Dicyphus nigrifrons*, China, REUTER, p. 61, Annuaire Mus. St. Petersb. 1905, n. sp.

- Ectenellus* n. g. near *Phylidea*, p. 66; *tibialis* n. sp., China, p. 67, REUTER, t. c.
- Ectmetopterus* n. g. near *Halticus*, p. 59, *angusticeps* n. sp., China, p. 60, REUTER, t. c.
- Eucharicoris* n. g. near *Phylus*, p. 64, *pallidipennis* n. sp., China, p. 65, REUTER, t. c.
- Halticus micantulus*, Japan, HORVÁTH, p. 422, Ann. Mus. Hungar. iii, n. sp.
- Imogen* n. g. p. 337, *formosa* n. sp., New Britain, p. 338, KIRKALDY, Tr. ent. Soc. London 1905.
- Læmocoris*? *javanus*, Borobudur, BREDDIN, p. 149, Mt. Mus. Hamburg xxii, n. sp.
- Leucodellus* n. g. near *Plagiognathus*, p. 68, *albidus* n. sp., China, p. 69, REUTER, Annuaire Mus. St. Petersb. 1905.
- Liistonotus* n. g. near *Liocoris*, p. 54, *xanthomelas*, p. 55, n. sp., Gansu, REUTER, t. c.
- Liocoridea melanostoma*, China, REUTER, p. 53, t. c. n. sp.
- Lopistus* n. n. for *Lopus* Spin. nec Hahn, KIRKALDY, p. 268, Wien. ent. Zeit. xxiv.
- Lygus flavigenis*, Japan, HORVÁTH, p. 419, Ann. Mus. Hungar. iii; *L. rugosicollis*, p. 28, *longipennis*, p. 29, *striicornis*, p. 31, *pulchellus*, p. 33, *potanini*, p. 35, *dasypterus*, p. 37, *trivittulatus*, p. 39, *clavicornis*, p. 41, *validicornis*, p. 42, *bianchii*, p. 44, China, REUTER, Annuaire Mus. St. Petersb. 1905: n. spp.
- Mecomma chinensis*, Schubagu, REUTER, p. 63, t. c. n. sp.
- Orthocephalus beresovskii*, Gansu, REUTER, p. 57, t. c. n. sp.
- Pachytomella cursitans*, Cantabrian Mts., REUTER, p. 53, Tr. ent. Soc. London 1905, n. sp.
- Pantiliodes piceus*, China, REUTER, p. 7, Annuaire Mus. St. Petersb. 1905, n. sp.
- Phytocoridae* n. g. near *Phytocoris*, p. 21, *dispar* n. sp., China, p. 22, REUTER, t. c.
- Phytocoris potanini*, China, REUTER, p. 4, t. c. n. sp.
- Pilophorus setulosus*, Japan, HORVÁTH, p. 421, Ann. Mus. Hungar. iii, n. sp.
- Plagiognathus lividus*, China, REUTER, p. 73, Annuaire Mus. St. Petersb. 1905, n. sp.
- Psallus holomelas*, p. 69, *alpestris*, p. 70, *opacus*, p. 72, China, REUTER, t. c.; *P. juniperi*, New York, HEIDEMANN, p. 49, J. N. York Ent. Soc. xiii: n. spp.
- Pseudoloxops* n. n. for *Loxops*, Fieb. *P. coccinatus* n. n. for *coccineus* Mey., KIRKALDY, p. 268, Wien. ent. Zeit. xxiv.
- Reuteroscopus* n. n. for *Episcopus* Reut., KIRKALDY, p. 268, t. c.
- Stenodema rubrinerve*, Japan, HORVÁTH, p. 417, Ann. Mus. Hungar. iii, n. sp.
- Sthenarus potanini*, p. 77, *pallidipes*, p. 78, *interruptus*, p. 79, *niveoarcuatus*, p. 80, REUTER, Annuaire Mus. St. Petersb. 1905, n. spp.
- Strongylocoris obscurus* var. n. *oberthuri*, REUTER, p. 8, Bull. Soc. ent. France 1905.

## HYDROCORISÆ.

[Cf. BORDAS (138, 139), BREDDIN (180, 185), BUENO (208, 209, 211-213), HORVÁTH (776), HÜBER (795), KIRKALDY (862), MONTANDON (1058, 1059), WIELOWIEYSKI (1631).]

Making collections, BUENO, Canad. Ent. 1905, pp. 137-142.

German *Hydrocorisæ*, HÜBER, Jahresh. Ver. Württemb. lxi, pp. 91-175.



- Primary reprod. organs, ♂ *Nepa*, BORDAS, C.R. Soc. Biol. lviii, pp. 382-384.  
 Alimentary canal, *Nepa*, BORDAS, t. c. pp. 169, 170.
- Anisops occipitalis*, Java, BREDDIN, p. 153, Mt. Mus. Hamburg xxii, n. sp.  
*Enithares intricatus*, Java, BREDDIN, p. 154, t. c. n. sp.  
*Gelastocoridae*, the American, BUENO, p. 290, Ohio Natural. v.  
*Ilyocoris cimicoides*, natural history, KIRKALDY, pp. 173-176, Entomologist 1905.
- Matinus americanus*, Brazil, MONTANDON, p. 404, Ann. Mus. Hungar. iii, n. sp.
- Micronecta*, table and characters of Javanese, BREDDIN, pp. 155-160, Mt. Mus. Hamburg xxii.
- M. vanduzeei*, Philippines, *thelxina*, *memonoides*, Ceylon, *annæ*, p. 262, *erato*, p. 263, Australia, KIRKALDY, Ent. News Philad. xvi; *M. quadristrigata*, *fugitans*, *ludibunda*, *pardalina*, *inflata*, Java, BREDDIN, p. 57, Soc. ent. xx; *M. sedula*, Japan, HORVÁTH, p. 423, Ann. Mus. Hungar. iii: n. spp.
- Mononyx peruviana*, Callanga, MONTANDON, p. 403, Ann. Mus. Hungar. iii, n. sp.
- Nerthra stygica*, pp. 287-289, BUENO, Ohio Natural. v.  
*Notonecta glauca*, migration, PROWAZEK, p. 67, Zeitschr. Insbiol. i.  
*N. howardii*, Arizona, BUENO, p. 151, J. N. York Ent. Soc. xiii, n. sp.  
*Pelocoris horvathi*, Brazil, MONTANDON, p. 405, Ann. Mus. Hungar. iii, n. sp.  
*Ranatra*, stridulation, BUENO, pp. 85-87, Canad. Ent. 1905; *R. longipes* and *varipes*, BREDDIN, p. 152, Mt. Mus. Hamburg xxii.
- R. parvata*, p. 389, *annulipes*, p. 393, *macrophthalma*, p. 395, *unidentata*, p. 397, MONTANDON, Bull. Soc. Bucarest xiv; *R. stali*, Philippines, p. 390, *brevicauda*, p. 391, *signoreti*, p. 392, Brazil, *robusta*, Columbia and Surinam, p. 396, MONTANDON, t. c.; *R. kirkaldyi*, N. America, BUENO, p. 187, Canad. Ent. 1905: n. spp.

## HOMOPTERA.

## CICADIDÆ.

- [Cf. BREDDIN (181), DISTANT (422-432, 670), IMHOF (804), JACOBI (806), KIRKALDY (856), KUHLGATZ (899), UHLER (1515).]
- Structure of the wings of *Cicadidæ*, IMHOF, Zeitschr. wiss. Zool. lxxxiii, pp. 211-223.
- Abagazara* n. g. type *Callipsaltria bicolorata* Dist., DISTANT, p. 206, Ann. Nat. Hist. (7) xvi.
- Abricta castanea*, N. Australia, p. 27, *burgessi*, Queensland, p. 28, DISTANT, t. c.; *A. elseyi*, N. Australia, DISTANT, p. 281, t. c.: n. spp.
- Abroma bowringi*, China, DISTANT, p. 32, Ann. Nat. Hist. (7) xvi; *A. philippinensis*, Palouan, DISTANT, p. 561, t. c.; *A. kedenburgi*, Banguay, BREDDIN, p. 221, Mt. Mus. Hamburg xxii: n. spp.
- Adenia* n. g. *Parnisaria*, p. 210, *yerburyi* n. sp., Aden, p. 311, DISTANT, Ann. Nat. Hist. (7) xvi.
- Ahomana* n. g. *Tibicinaria*, p. 23, *neotropicalis*, Peru, *chilensis*, Chile, p. 24, n. spp., DISTANT, t. c.
- Akamba* n. g. *Chlorocystaria*, *æthiopica* n. sp., Trop. Africa, DISTANT, p. 562, t. c.
- Aola* n. g. type *Pomponia bindusara* Dist., DISTANT, p. 69, op. cit. xv.  
*Arfaka* n. g. type *Cephaloxys fulva* Walk., DISTANT, p. 276, op. cit. xvi.  
*Ariasa* n. g. type *Tympanoterpes colombica* Dist., *A. nigrovittata* n. sp., Brazil, DISTANT, p. 314, op. cit. xv.

- Ayesha* n. g. type *Cosmopsaltria spathulata* Stål, DISTANT, p. 63, t. c.  
*Balinta* n. g. type *Cicada oclonotata* Westw., p. 383, *B. auriginea* n. sp., Mts. Song-Chai, p. 384, DISTANT, t. c.  
*Basa* n. g. type *Dundubia singularis* Walk., DISTANT, p. 309, t. c.  
*Bavea* n. g. type *Cephaloxys concolor* Walk., the habitat being S. Africa, DISTANT, p. 214, op. cit. xvi.  
*Burbunga* n. g. type *Tibicen gilmorei* Dist., *B. inornata* n. sp., W. Australia, DISTANT, p. 29, t. c.  
*Carineta boliviana*, p. 484, *illustris*, p. 485, *peruviana*, p. 486, S. America, DISTANT, op. cit. xv, n. spp.  
*Champaka* n. g. type *Pomponia viridimaculata* Dist., DISTANT, p. 70, t. c.  
*Chonosia* n. g. type *Fidicina crassipennis* Walk., DISTANT, p. 481, t. c.  
*Cicada grossa*, synonymy, UHLER, p. 76, Ent. News Philad. xvi; *C. nubifurca* Walk. to *Abroma* (cf. *Panka* below), DISTANT, p. 35, Ann. Nat. Hist. (7) xvi; *C. complex* Walk., note, DISTANT, p. 274, t. c.; *C. hirundo* Walk. and *confucius* Walk. to *Purana*?, *C. nodosa* and *acutipennis* Walk. to *Diceropyga*?, *C. stipata* Walk. to *Terpnosia*?, DISTANT, p. 553, t. c.  
*C. pulverulenta*, Madagascar and Seychelles, DISTANT, p. 199, Tr. ent. Soc. London 1905; *C. tridentigera*, p. 220, *nesiotes*, p. 221, Banguay, BREDDIN, Mt. Mus. Hamburg xxii; *C. townsendii*, Arizona, UHLER, p. 74, Ent. News Philad. xvi: n. spp.  
*Collina* n. g. near *Tibicen*, for *Odopæa biolleyi* (cut on p. 143) and *medea*, DISTANT, Biol. Centr.-Amer. Homopt. i.  
*Conibosa* n. g. type *Cephaloxys occidentris* Walk., DISTANT, p. 215, Ann. Nat. Hist. (7) xvi.  
*Cosmopsaltria tonkiniana*, Tonkin, JACOBI, p. 429, pl. xxi, fig. 1, Zool. Jahrb. Syst. xxi; *C. alticola*, Borneo, DISTANT, p. 200, Tr. ent. Soc. London 1905: n. spp.  
*Daza* n. g. type *Zummarra montezuma* Walk., DISTANT, p. 480, Ann. Nat. Hist. (7) xv.  
*Derotettix wagneri*, Rio Salado, DISTANT, p. 209, op. cit. xvi, n. sp.  
*Diceropyga boninensis*, Bonin Ids., DISTANT, p. 67, op. cit. xv; *D. aluana*, Solomon Ids., DISTANT, p. 557, op. cit. xvi: n. spp.  
*Diemenia* n. g. type *Cicada coleoprata* Walk., DISTANT, p. 206, t. c.  
*Dokuma* n. g. type *Dundubia nigristigma* Walk., DISTANT, p. 69, op. cit. xv.  
*Drepanopsaltria* merged in *Prasia*, DISTANT, p. 278, op. cit. xvi.  
*Dulderana* n. g. type *Cicada truncatella* Walk., DISTANT, p. 280, t. c.  
*Dundubiaria*, synopsis of genera, DISTANT, pp. 58-70, op. cit. xv.  
*Fatima* n. g. type *Cosmopsaltria capitata* Dist., DISTANT, p. 62, t. c.  
*Fidicina roberti*, p. 315, *lacteipennis*, p. 316, Brazil, *flavibasalis*, Ecuador, p. 317, DISTANT, t. c. n. spp.  
*Gæana vestita*, Yunnan, DISTANT, p. 121, Entomologist 1905, n. sp.  
*Gazuma* n. g. *Tibicinine*; *barrettae*, *delalundei*, *pretoriae* n. spp., S. Africa, DISTANT, p. 268, Ann. Nat. Hist. (7) xvi.  
*Graptotettix rubromaculatus*, Celebes, DISTANT, p. 482, op. cit. xv, n. sp.  
*Guaranisaria* n. g. *Carinetaria*, *dissimilis* n. sp., Argentina, DISTANT, p. 660, op. cit. xvi.  
*Gudanga* n. g. *Parnisaria*, *boulayi* n. sp., W. Australia, DISTANT, p. 208, t. c.  
*Gymnotympana olivacea*, New Guinea, DISTANT, p. 563, t. c. n. sp.  
*Haphsa* n. g. type *Dundubia nicomache* Walk., *H. crassa* n. sp., Yunnan, DISTANT, p. 64, op. cit. xv.  
*Hemisciara durhami*, Brazil, DISTANT, p. 317, t. c. n. sp.  
*Herrera* n. g. type *Cicada marginella* Walk., DISTANT, p. 486, t. c.  
*Hovana* n. g. type *Hemidictya distanti* Brancs., DISTANT, p. 279, op. cit. xvi.

- Inyamana* n. g. *Tibicininae*, p. 266, *hæmaris*, *ochracea* n. spp., E. Africa p. 267, DISTANT, t. c.
- Iruana* n. g. near *Lacetas*, *sulcata* n. sp., E. Africa, DISTANT, p. 278, t. c.
- Jacatra* n. g. *Tibicininae*, *typica* n. sp., Java, DISTANT, p. 277, t. c.
- Kamalata javanensis*, Java, DISTANT, p. 308, op. cit. xv, n. sp.
- Khimbya* n. g. type *Dundubia evanescens* Walk., DISTANT, p. 307, t. c.
- Kongoia muiri*, Natal, DISTANT, p. 671, op. cit. xvi, n. sp.
- Koranna* n. g. *Parnisaria*, *analís* n. sp., E. Africa, DISTANT, p. 207, t. c.
- Kumanga* n. g. type *Bacturia sandaracata* Dist., DISTANT, p. 215, t. c.
- Lahugada* n. g. type *Pomponia doherlyi* Dist., DISTANT, p. 304, op. cit. xv.
- Lahugadaria*, division defined, DISTANT, p. 304, t. c.
- Lemuriana* n. g. type *Cicada apicalis* Germ., p. 32, *L. flavocostata*, E. Africa, *sikoreæ*, Madagascar, p. 33, n. spp., DISTANT, op. cit. xvi.
- Lethama* n. g. type *Cephaloxys locusta* Walk., DISTANT, p. 308, op. cit. xv.
- Majeorona* n. g. type *Fidicina aper* Walk., *M. bovilla* n. sp., Chapada, DISTANT, p. 318, t. c.
- Mapondera* n. g. type *Cicada pulchella* Stål, DISTANT, p. 212, op. cit. xvi.
- Mardalana* n. g. for *Cicada congrua* Walk. = (*Chlorocysta macrula* Stål), DISTANT, p. 215, t. c.
- Masupha dregei*, S. Africa, DISTANT, p. 208, t. c. n. sp.
- Mauu* n. g. type *Cicada quadrituberculata* Sign., *M. affinis* n. sp., Borneo, DISTANT, p. 61, op. cit. xv.
- Meinuma* n. g. type *Dundubia tripurasura* Dist., DISTANT, p. 67, t. c.
- Melampsalta godingi*, Australia, *æthiopica*, Zomba, p. 270, *waterhousei*, *lactea*, p. 271, *issoides*, p. 272, Australia, DISTANT, op. cit. xvi, n. spp.
- Miranha* n. g. type *Zammara imbellis* Walk., DISTANT, p. 381, op. cit. xv.
- Mogannia caesar*, pl. 21, fig. 4, p. 433, JACOBI, Zool. Jahrb. Syst. xxi.
- M. mandarina*, Hong Kong, p. 385, *horsfieldi*, Java, p. 386, DISTANT, Ann. Nat. Hist. (7) xv, n. spp.
- Monomatapa socotrane*, Socotra, DISTANT, p. 31, op. cit. xvi, n. sp.
- Munza revoili*, Somaliland, DISTANT, p. 192, pl. xi, fig. 5, Tr. ent. Soc. London 1905, n. sp.
- Mura* n. g. *Tibicininae*, *elegantula* n. sp., Panama, DISTANT, p. 144, Biol. Centr.-Amer. Homopt. i.
- Nelcynda madagascariensis*, Madagascar, DISTANT, p. 35, Ann. Nat. Hist. (7) xvi, n. sp.
- Odopœa perspicua*, São Thomé, DISTANT, p. 380, op. cit. xv, n. sp.
- Okanagana* n. g. type *Cicada rimosa* Say, DISTANT, p. 23, op. cit. xvi.
- Ollanta* n. g. type *mexicana* Dist., DISTANT, p. 313, op. cit. xv.
- O. mexicana*, Atoyac, DISTANT, p. 141, Biol. Centr.-Amer. Homopt. i, n. sp.
- Oncotympana virescens*, Tibet, DISTANT, p. 201, Tr. ent. Soc. London 1905; *O. fuscata*, N. China, p. 558, *stratoria*, Yunnan, p. 559, DISTANT, Ann. Nat. Hist. (7) xvi : n. spp.
- Orapa* n. g. type *Pycna numa* Dist., DISTANT, p. 480, op. cit. xv.
- Orellana* n. g. type *Zammara columbia* Dist., p. 381, *O. brevis* n. sp., Colombia, p. 382, DISTANT, t. c.
- Pacarina* n. g. type *Cicada signifera* Walk., DISTANT, p. 314, t. c.; *P. schumanni*, Mexico, DISTANT, p. 142, Biol. Centr.-Amer. Homopt. i : n. sp.
- Paharia* n. g. type *Cephaloxys lacteipennis* Walk., DISTANT, p. 25, Ann. Nat. Hist. (7) xvi.
- Panka* n. g. type *simulata* Dist. = (*Tibicen nubifurca* Dist.), p. 34, *P. africana* n. sp., Fernando Po, p. 35, DISTANT, t. c.

- Parnkalla* n. g. type *Tibicen mulleri* Dist., DISTANT, p. 29, t. c.  
*Parvityta* n. g. near *Graptotettix*, p. 482, *samura* n. sp., Philippines, p. 483, DISTANT, op. cit. xv.  
*Pauropsalta stigmatica, dameli*, Australia, DISTANT, p. 273, op. cit. xvi, n. spp.  
*Platylomia* Stål recharacterised, *assamensis*, Assam, p. 65, *virescens*, Borneo, *albomaculata*, Philippines, p. 66, DISTANT, op. cit. xv; *P. juno*, p. 200, *diana*, p. 201, Ta-tsien-low, DISTANT, Tr. ent. Soc. London 1905 : n. spp.  
*Platypleura attenuata*, Nigeria, DISTANT, p. 554, Ann. Nat. Hist. (7) xvi; *P. spicata*, Madagascar, p. 192, *seraphina*, p. 193, *esa*, p. 194, Africa, DISTANT, Tr. ent. Soc. London 1905; *P. lineatella*, Sunda Ids., *lindiana*, E. Africa, p. 668, *murchisoni*, Transvaal, p. 669, *ridleyana*, Malacca, *harmandi*, Cochin China, p. 670, DISTANT, Ann. Nat. Hist. (7) xvi; *P. vitreolimbata*, Banguay, BREDDIN, p. 218, Mt. Mus. Hamburg xxii : n. spp.  
*Plautillaria*; n. div., *Plautilla* Stål, characters, DISTANT, p. 563, Ann. Nat. Hist. (7) xvi.  
*Pomponia piceata*, Tonkin, DISTANT, p. 558, t. c.; *P. merula*, Borneo, *intermedia*, Tenasserim, DISTANT, p. 68, op. cit. xv, n. spp.  
*Proarna germari* n. n. for *Cicada grisea* Germ., DISTANT, p. 140, Biol. Centr.-Amer. Homopt. i.  
*P. insignis*, Centr. and S. America = (*albida* var. *insignis*), id. p. 141; *P. heidemanni*, p. 311, *bufo*, p. 312, Argentina, DISTANT, Ann. Nat. Hist. (7) xv : n. spp.  
*Parana* n. g. type *Dundubia tigrina*, DISTANT, p. 60, t. c.; *P. davidi*, Kiang-Si, *pigmentata*, Siam, DISTANT, p. 555, op. cit. xvi, n. spp.  
*Pycna natalensis*, Natal, DISTANT, p. 197, pl. xi, fig. 4, Tr. ent. Soc. London 1905, n. sp.  
*Quesada* n. g. type *Cicada gigas* Ol., DISTANT, p. 478, Ann. Nat. Hist. (7) xv.  
*Quintilia soulii*, Yunnan, DISTANT, p. 561, op. cit. xvi; *Q. mogannia*, China, *maculiventris*, Transvaal, DISTANT, p. 205, t. c. n. spp.  
*Rihana martini, hova*, Madagascar, DISTANT, p. 198, Tr. ent. Soc. London 1905, n. spp.  
*Sadaka hyalina*, W. Africa, DISTANT, p. 191, t. c. n. sp.  
*Sapantanga* n. g. type *Cephaloxys nutans* Walk., DISTANT, p. 276, Ann. Nat. Hist. (7) xvi.  
*Sawda* n. g. type *Cosmopsaltria mimica* Dist., *S. gestroei* n. sp., New Guinea, DISTANT, p. 63, op. cit. xv; *S. pratti*, p. 556, *sharpi*, p. 557, New Guinea, DISTANT, op. cit. xvi, n. spp.  
*Sena* n. g. type *Cicada quærula* Pall., DISTANT, p. 307, op. cit. xv.  
*Stagira darwini*, Mauritius, DISTANT, p. 213, op. cit. xvi, n. sp.  
*Taipinga* n. g. type *Cicada nana* Walk., DISTANT, p. 210, t. c.  
*Talainga distanti*, pl. 21, fig. 3, p. 432, JACOBI, Zool. Jahrb. Syst. xxi.  
*Tamasa* n. g. type *Cicada tristigma* Germ., DISTANT, p. 386, Ann. Nat. Hist. (7) xv.  
*Tanna* n. g. type *Pomponia japonensis*, DISTANT, p. 62, t. c.  
*Terpnosia confusa*, India, DISTANT, p. 306, t. c. n. sp.  
*Tibicen reductus*, pl. 21, fig. 5, p. 434, JACOBI, Zool. Jahrb. Syst. xxi.  
*T. dahl*, Bismarck Arch., KÜHLGATZ, p. 77, pl. iii, figg. 10 & 13, Mt. Mus. Berlin iii, n. sp.  
*Tibicina chinensis*, N. China, DISTANT, p. 23, Ann. Nat. Hist. (7) xvi, n. sp.  
*Trismarcha atrata*, Congo, *angolensis*, Angola, DISTANT, p. 30, t. c. n. spp.  
*Tympanoterpes alboapicata*, Argentina, DISTANT, p. 313, op. cit. xv, n. sp.  
*Ueana* n. g. type *Cicada lifuana* Montr., DISTANT, p. 28, op. cit. xvi; *U. harmonia*, pl. xvii, fig. 1, *polymnia*, fig. 2, Lifu, KIRKALDY, p. 329, Tr. ent. Soc. London 1905, n. spp.

- Umjada alluaudi*, Madagascar, DISTANT, p. 196, pl. xi, fig. 1, Tr. ent. Soc. London 1905, n. sp.  
*Urabinana* n. g. *Tibicininae*, *segmentaria* n. sp., Queensland, DISTANT, p. 274, Ann. Nat. Hist. (7) xvi.  
*Xosopsaltria fuliginosa*, E. Africa, DISTANT, p. 206, t. c. n. sp.  
*Vanga bouvieri*, p. 194, pl. xi, fig. 2, *grandidieri*, p. 195, fig. 3, Madagascar, DISTANT, Tr. ent. Soc. London 1905, n. spp.

## FULGORIDÆ.

- [Cf. BALL (69), BREDDIN (181), DISTANT (429, 430, 670), FOWLER (670), HORVÁTH (775), JACOBI (806), KIRKALDY (856), LESNE (941, 944), MELICAR (1029, 1030), OSBORN (1125), ROUBAL (1308), SCHMIDT (1332, 1333), TORKA (1501).]
- Achamenes niger*, Usambara, MELICAR, p. 283, Wien. ent. Zeit. xxiv, n. sp.  
*Acmonia? sanguinalis*, Mexico, pl. xiii, fig. 24, DISTANT, p. 145, Biol. Centr.-Amer. Homopt. i, n. sp.  
*Acrophia crepusculascens*, pl. xiii, fig. 25, *montezuma*, p. 144, *simillima*, *astralis*, fig. 27, p. 145, DISTANT, t. c. n. spp.  
*Anecphora minor*, p. 369, *olivacea*, *sanguineopunctata*, p. 370, *sanguinea*, p. 371, W. Africa, SCHMIDT, Stettin Ent. Zeit. lxvi, n. spp.  
*Anigrus fuscomaculatus*, E. Africa, MELICAR, p. 284, Wien. ent. Zeit. xxiv, n. sp.  
*Aphena bimaculata*, Sumatra, SCHMIDT, p. 376, Stettin Ent. Zeit. lxvi, n. sp.  
*Aselgeia longiceps*, E. Africa, MELICAR, p. 281, Wien. ent. Zeit. xxiv, n. sp.  
*Bladina fuscovenosa* Stål, SCHMIDT, p. 183, Stettin Ent. Zeit. lxvi.  
*Coloptera sinuata* Burm. = (*marginalis* Burm.), p. 129, figure, pl. xii, fig. 32, FOWLER, Biol. Centr.-Amer. Homopt. i.  
*Copicerus irroratus*, pl. xiii, figg. 1, 2, synonymy, p. 130, FOWLER, t. c.  
*Corethrura iocnemis*, p. 437, pl. xxi, fig. 6, *impunctata*, p. 438, fig. 7, JACOBI, Zool. Jahrb. Syst. xxi, n. spp.  
*Cyphopterus*, defined, *Hysteropterus fauveli*, and *Issus retusus* referred to it, MELICAR, pp. 475-477, Ann. Mus. Hungar. iii.  
*Delphax (Aecopus) dorsata*, E. Africa, MELICAR, p. 286, Wien. ent. Zeit. xxiv, n. sp.  
*Dicranotropis lunaris*, E. Africa, MELICAR, p. 286, t. c. n. sp.  
*Epibidis* n. g. *Delphacidae*, *godmani*, pl. xiii, figg. 3-5, p. 131, *brunnea*, fig. 6, p. 132, n. spp., Panama, FOWLER, Biol. Centr.-Amer. Homopt. i.  
*Episcius bolivianus*, Bolivia, DISTANT, p. 673, Ann. Nat. Hist. (7) xvi, n. sp.  
*Eodelphax serendiba* = (*Eudelphax setulosus* Mel.), KIRKALDY, p. 266, Wien. ent. Zeit. xxiv.  
*Fulgora basinigra*, Borneo, p. 345, *erecta*, Java, p. 346, *dohrni*, Sumatra, p. 347, *heringi*, p. 351, *bicolor*, p. 355, Borneo, *cardinalis*, Tonkin, p. 356, SCHMIDT, Stettin Ent. Zeit. lxvi; *F. siderea*, Borneo, p. 566, *evanescens*, Nias, p. 567, DISTANT, Ann. Nat. Hist. (7) xvi: n. spp.  
*Goniolcium* n. g. *Delphacidae*, *granulosum*, pl. xiii, figg. 7, 8, p. 132, *testaceum*, fig. 9, p. 133, n. spp., Centr. America, FOWLER, Biol. Centr.-Amer. Homopt. i.  
*Hajar* n. g. near *Tarundia*, p. 335, *fornicatus* n. sp., New Britain, p. 336, KIRKALDY, Tr. ent. Soc. London 1905.  
*Helicoptera karaseki*, E. Africa, MELICAR, p. 285, Wien. ent. Zeit. xxiv, n. sp.  
*Holodictya karschi*, E. Africa, SCHMIDT, p. 375, Stettin Ent. Zeit. lxvi, n. sp.  
*Itzalana* n. g. near *Acmonia*, *formosa* n. sp., Mexico, pl. xiii, fig. 23,

- DISTANT, p. 146, Biol. Centr.-Amer. Homopt. i; *I. submaculata*, Surinam, SCHMIDT, p. 377, Stettin Ent. Zeit. lxvi, **n. sp.**
- Lagoana n. g.* near *Lyncides*, *bipunctata*, Delagoa Bay, p. 473, *longiceps*, E. Africa, p. 474, **n. spp.**, MELICHAH, Ann. Mus. Hungar. iii.
- Lamentia lactea*, p. 284, *angustifrons*, p. 285, E. Africa, MELICHAH, Wien. ent. Zeit. xxiv, **n. spp.**
- Liburnia seminigra*, E. Africa, MELICHAH, p. 286, Wien. ent. Zeit. xxiv; *L. atrior*, pl. xiii, figg. 10, 11, *basifuscata*, fig. 12, p. 134, *teape*, fig. 13, *albolineosa*, fig. 14, *marginicornis*, fig. 15, p. 135, *apicimacula*, fig. 16, *sagata*, fig. 17, p. 136, *paludata*, fig. 18, p. 137, Central America, FOWLER, Biol. Centr.-Amer. Homopt. i: **n. spp.**
- Lichena incriminata*, Madagascar, SCHMIDT, p. 380, Stettin Ent. Zeit. lxvi, **n. sp.**
- Malfeytia n. g.* near *Anecphora*, *flavopunctata n. sp.*, Congo, SCHMIDT, p. 366, t. c.
- Megamelanus elongatus*, Florida, p. 118, *rustivittatus*, Thompsonville, p. 119, BALL, P. Soc. Washington xviii; *M. spartini*, N. America, OSBORN, p. 375, Ohio Natural. v: **n. spp.**
- Megamelus angulatus*, Pennsylvania, OSBORN, p. 374, t. c. **n. sp.**
- Metaphæna n. g.* type *Aphana novemmaculata* Dist., p. 360, *basirufa*, *tricolor*, p. 363, **n. spp.**, Africa, SCHMIDT, Stettin Ent. Zeit. lxvi.
- Nogodina fruhstorferi*, Java, SCHMIDT, p. 186, t. c. **n. sp.**
- Ecleus snowi*, Arizona, BALL, p. 117, P. Soc. Washington xviii, **n. sp.**
- Oliarus latus*, p. 281, *vitreus*, *frontalis*, p. 282, E. Africa, MELICHAH, Wien. ent. Zeit. xxiv; *O. musca*, Banguay, BREDDIN, p. 224, Mt. Mus. Hamburg xxii: **n. spp.**
- Ommatidiotus*, monograph, HORVÁTH, pp. 378, 387, Ann. Mus. Hungar. iii.
- O. acutus*, Mongolia, *iranicus*, Persia, p. 380, *viduus*, Syria, p. 381, *concinuus*, Hungary, p. 383, HORVÁTH, t. c. **n. sp.**
- Ormenis suturalis*, E. Africa, MELICHAH, p. 289, Wien. ent. Zeit. xxiv, **n. sp.**
- Peggioga n. g.* near *Dictyophara*, *formosa n. sp.*, Lifu, pl. xvii, fig. 6, KIRKALDY, p. 336, Tr. ent. Soc. London 1905.
- Phantiopsis n. g.* *Flatida*, p. 474, *australiaca n. sp.*, Sydney, p. 475, MELICHAH, Ann. Mus. Hungar. iii.
- Phricetus hoffmannsi*, Chanchamayo, p. 338, *mebiusi*, Antioquia, p. 340, SCHMIDT, Stettin Ent. Zeit. lxvi; *P. auromaculatus*, Bolivia, DISTANT, p. 672, Ann. Nat. Hist. (7) xvi: **n. spp.**
- Phyllyphanta birarae*, New Britain, KIRKALDY, p. 335, Tr. ent. Soc. London 1905, **n. sp.**
- Phyma usambaræ*, E. Africa, MELICHAH, p. 289, Wien. ent. Zeit. xxiv, **n. sp.**
- Picumna varians*, pl. xii, fig. 28, *ovatipennis*, figg. 29, 30, FOWLER, p. 128, Biol. Centr.-Amer. Homopt. i.
- P. venosa*, Mexico, pl. xii, fig. 31, p. 128, FOWLER, t. c. **n. sp.**
- Poblicia pallidoconspersa*, Mexico, DISTANT, p. 145, pl. xiii, fig. 26, Biol. Centr.-Amer. Homopt. i, **n. sp.**
- Pochazia dohrni*, Sumatra, SCHMIDT, p. 169, Stettin Ent. Zeit. lxvi, **n. sp.**
- Pochazoides conspersus*, E. Africa, MELICHAH, p. 287, Wien. ent. Zeit. xxiv; *P. schoutedeni*, p. 196, *quinquemaculatus*, p. 197, E. Africa, SCHMIDT, Stettin Ent. Zeit. lxvi: **n. spp.**
- Pristiopsis n. g.* for *Fulgora serrata* Fabr., SCHMIDT, p. 332, t. c.
- Prokelisia n. g.* *setigera n. sp.*, N. America, OSBORN, p. 373, Ohio Natural. v.
- Pyrops rendalli*, Zomba, *pulmunculus*, p. 564, *tapirus*, Java, *dalyi*, Siam, p. 565, DISTANT, Ann. Nat. Hist. (7) xvi, **n. spp.**
- Rhotala ambigua*, Panama, pl. xiii, figg. 19, 20, p. 138, FOWLER, Biol. Centr.-Amer. Homopt. i, **n. sp.**
- Ricania karaseki*, Usambara, MELICHAH, p. 287, Wien. ent. Zeit. xxiv;

- R. bitaniata*, Borneo, p. 174, *lurida*, Java, p. 176, *quinquepunctata*, E. Africa, p. 195, SCHMIDT, Stettin Ent. Zeit. lxvi : n. spp.  
*Ricanopsis unipunctata*, Cameroons, SCHMIDT, p. 177, t. c. n. sp.  
*R. straminea*, Kei Isld., p. 179, *prominula*, Queensland, p. 180, SCHMIDT, t. c.; *R. hyalinomaculata*, MELICHAR, p. 288, Wien. ent. Zeit. xxiv : n. spp.  
*Sassula apicalis*, Ecuador, SCHMIDT, p. 189, Stettin Ent. Zeit. lxvi, n. sp.  
*Scolopsella* n. g. *Dictyopharidæ*, *reticulata* n. sp., Arizona, BALL, p. 118, P. Soc. Washington xviii.  
*Seliza sinuata*, E. Africa, MELICHAR, p. 290, Wien. ent. Zeit. xxiv, n. sp.  
*Sephena nigrifrons*, Australia, SCHMIDT, p. 378, Stettin Ent. Zeit. lxvi, n. sp.  
*Stobara pallida*, p. 375, *minuta*, p. 376, N. America, OSBORN, Ohio Natural. v, n. sp.  
*Syntames* n. g. p. 138, *delicatus* n. sp., Centr. America, p. 139, pl. xiii, fig. 21, with var. *chiriquensis*, fig. 22, FOWLER, Biol. Centr.-Amer. Homopt. i.  
*Tettigometra*; relations with ants, historical, LESNE, pp. 161-164, Bull. Soc. ent. France 1905; *T. atra* relations with *Lasius*, ROUBAL, p. 168, Wien. ent. Zeit. xxiv; *T. obliqua*, natural history, GORKA, Zeitschr. Insbiol. i, pp. 451-455.  
*Thionia pictifrons*, pl. xii, fig. 22, *conspersa*, fig. 23, *caviceps*, fig. 24, p. 125, *soluta*, fig. 25, p. 126, *stipes*, figg. 26, 27, p. 127, Centr. America, FOWLER, Biol. Centr.-Amer. Homopt. i, n: spp.

## MEMBRACIDÆ.

- Anchon minor*, E. Africa, MELICHAR, p. 296, Wien. ent. Zeit. xxiv, n. sp.  
*Acutalis inornata*, Florida, BALL, p. 119, P. Soc. Washington xviii, n. sp.  
*Micreune ? electa*, E. Africa, MELICHAR, p. 296, Wien. ent. Zeit. xxiv, n. sp.  
*Monocentrus* n. g. *delectus* n. sp., E. Africa, MELICHAR, p. 297, t. c.  
*Otionotus griseus*, E. Africa, MELICHAR, p. 295, t. c. n. sp.  
*Oxyrhacis gibbulus*, E. Africa, MELICHAR, p. 294, t. c. n. sp.

## CERCOPIDÆ.

[Cf. JACOBI (805, 806), KIRKALDY (856), MELICHAR (1029).]

- Aufidus hyperion*, New Britain, KIRKALDY, p. 332, pl. xvii, fig. 4, Tr. ent. Soc. London 1905, n. sp.  
*Clovioa birarensis*, p. 330, pl. xvii, fig. 3, *dryas*, p. 331, New Britain, KIRKALDY, t. c. n. spp.  
*Cosmoscarta fruhstorferi*, pl. 21, fig. 8, *trichodias*, fig. 9, JACOBI, p. 441, Zool. Jahrb. Syst. xxi.  
*C. cerata*, pl. i, fig. 3, *papua*, fig. 13, p. 9, *latipennis*, fig. 16, p. 10, *geniculata*, fig. 4, p. 11, New Guinea, *torquata*, fig. 6, Palawan, p. 12, *sangaris*, Luzon, fig. 5, *coronis*, fig. 12, p. 13, *rubiana*, New Guinea, *nycteis*, ASSAM, fig. 11, p. 14, *jucunda*, fig. 2, p. 15, *cerulans*, p. 16, Sumatra, *ledrina*, fig. 9, p. 17, Java, JACOBI, Mt. Mus. Berlin iii, n. spp.  
*Eoscarta limbipennis*, Sumatra, JACOBI, p. 22, t. c. n. sp.  
*Hemipterus viridicollis*, E. Africa, MELICHAR, p. 291, Wien. ent. Zeit. xxiv, n. sp.  
*Mioscarta semperi*, Philippines, pl. i, fig. 1, JACOBI, Mt. Mus. Berlin iii, n. sp.  
*Phymatostetha stellata*, pl. i, fig. 14, JACOBI, p. 19, t. c.; *P. dislocata* = (*Tomaspsis nympha* St.), JACOBI, p. 21, t. c.; *P. martyr* n. n., p. 442, pl. xxi, fig. 10, JACOBI, Zool. Jahrb. Syst. xxi.

- P. icterica*, pl. xxi, fig. 11, *quadriplagiata*, fig. 12, p. 443, *moi*, fig. 13, *pellasta*, fig. 14, p. 444, Tonkin, JACOBI, t. c.; *P. axillaris*, Java, p. 19, *birmanica*, pl. i, fig. 8, Burma, *inops*, fig. 15, p. 20, *lais*, p. 21, Borneo, JACOBI, Mt. Mus. Berlin iii : n. spp.  
*Sialoscarta* n. g. *concinna* n. sp., Java, pl. i, fig. 10, JACOBI, p. 23, t. c.  
*Sphenorhina bicolor* Fall. to *Notoscarta*, ♂, JACOBI, p. 22, t. c.  
*Tomaspis subsanguinea*, E. Africa, MELICHAIR, p. 290, Wien. ent. Zeit. xxiv, n. sp.  
*Trichoscarta centrodes*, Borneo, JACOBI, pl. i, fig. 7, p. 18, Mt. Mus. Berlin iii, n. sp.

## JASSIDÆ.

- [Cf. BAKER (56-60), BALL (69, 70), BREDDIN (181), BRÈTHES (188), HORVÁTH (779), JACOBI (806, 807), KIRKALDY (856, 858), MELICHAIR (1029), OSBORN (1126).]
- Alebra sanguinolinea*, Nicaragua, BAKER, p. 5, Invert. pacif. i, n. sp.  
*Amblydisca superciliaris*, *callidula*, p. 165, *pullula*, *horvathi*, p. 166, *pomposula*, p. 167, Peru, JACOBI, SB. Ges. naturf. Berlin 1905, n. spp.  
*Annidion* n. g. near *Hecalus*, p. 267, *pulcherrimum* n. sp., Bouake, p. 268, KIRKALDY, Wien. ent. Zeit. xxiv.  
*Deltocephalus liliputanus*, E. Africa, MELICHAIR, p. 303, Wien. ent. Zeit. xxiv; *D. slossoni*, Florida, p. 119, *littoralis*, New Jersey, p. 120, BALL P. Soc. Washington xviii : n. spp.  
*Empoasca lineata*, Nicaragua, BAKER, p. 7, Invert. pacif. i, n. sp.  
*Erythria donaldsoni*, *guzmani*, *montealegrei*, p. 4, *deschoni*, p. 5, Nicaragua, BAKER, t. c. n. spp.  
*Eualebra notata*, Guatemala, BAKER, p. 7, t. c. n. sp.  
*Eugnathodus* n. g. p. 1, for *Gnathodus abdominalis* van D., and the following n. spp., *nevadensis*, N. America, p. 1, *flavescens*, *vermiculatus*, *delicatus*, *lacteus*, Nicaragua, *tumidus*, Guatemala, p. 2, BAKER, t. c.  
*Eupteryx quinquemaculata*, California, BAKER, p. 8, t. c. n. sp.  
*Eutettix ramosus*, E. Africa, MELICHAIR, p. 302, Wien. ent. Zeit. xxiv; *E. bicolorata*, Arkansas, BALL, p. 212, Canad. Ent. 1905 : n. spp.  
*Gnathodus rubrotinctus*, E. Africa, MELICHAIR, p. 304, Wien. ent. Zeit. xxiv, n. sp.  
*Gypona kungrensis*, India, KIRKALDY, p. 267, Wien. ent. Zeit. xxiv, n. sp.  
*Jassus flavostriatus*, p. 301, *piceolus*, p. 302, E. Africa, MELICHAIR, Wien. ent. Zeit. xxiv; *J. bellus*, p. 185, *dissolutus*, p. 186, *rufigosta*, *montanus*, p. 187, *tergipictus*, p. 188, Peru, JACOBI, SB. Ges. naturf. Berlin 1905; *J. tornowii*, Tucuman, BRÈTHES, p. 344, An. Mus. Buenos Aires (3) iv : n. spp.  
*Macropsis nicaraguensis*, San Marcos, p. 11, *franciscana*, California, p. 12, BAKER, Invert. pacif. i, n. spp.  
*Motschulskyia* n. n. for *Conometopus* Motsch. nec Fieb.; KIRKALDY, p. 266, Wien. ent. Zeit. xxiv.  
*Oclasma* n. g. *Scaridæ*, p. 293, *degenerata* n. sp., Usambara, p. 294, MELICHAIR, Wien. ent. Zeit. xxiv.  
*Pachynus nigrofuscus*, E. Africa, MELICHAIR, p. 298, t. c. n. sp.  
*Paramesus immaculatus*, Colorado, BALL, p. 212, Canad. Ent. 1905, n. sp.  
*Pediopsis virescens* var. n. *lineola*, HORVÁTH, p. 276, Bol. Soc. espan. v.  
*Phereurhinus* n. g. near *Phera*, *batillus*, p. 168, *cochlear*, p. 169, n. spp., Peru, JACOBI, SB. Ges. naturf. Berlin 1905.  
*Phlepsius maculatus*, Ohio, OSBORN, p. 276, Ohio Natural. v; *P. slossoni*, p. 209, *fastuosus*, *nigrifrons*, p. 210, N. America, BALL, Canad. Ent. 1905 : n. spp.  
*Platymetopius obscurus*, Ohio, OSBORN, p. 274, t. c. n. sp.



- Platyretus cinctus*, E. Africa, MELICHAR, p. 301, Wien. ent. Zeit. xxiv, n. sp.
- Protalebra nicaraguensis, maculata*, Nicaragua, *transversalis*, Mexico, p. 6, *octolineata*, Nicaragua, p. 7, BAKER, Invert. pacif. i, n. spp.
- Selenocephalus strigulatus, usambara*, E. Africa, MELICHAR, p. 300, Wien. ent. Zeit. xxiv, n. sp.
- Signoretia karaseki*, E. Africa, MELICHAR, p. 299, t. c. n. sp.
- Siva reticulata*, E. Africa, MELICHAR, p. 300, t. c. n. sp.
- Sphæropogonia miniatula*, Peru, JACOBI, p. 172, SB. Ges. naturf. Berlin 1905, n. sp.
- Stictocoris* Thoms. 1869, omiss. nom., KIRKALDY, p. 268, Wien. ent. Zeit. xxiv.
- Straganiopsis* n. g. for *Macropsis, idioceroides*, BAKER, p. 10, Invert. pacif. i.
- Tettigonia willeyi*, New Britain, KIRKALDY, p. 333, Tr. ent. Soc. London 1905, n. sp.
- Tettigoniella sorora*, Usambara, MELICHAR, p. 298, Wien. ent. Zeit. xxiv; *T. indosinica*, Tonkin, JACOBI, p. 445, Zool. Jahrb. Syst. xxi; *T. rubellula*, Banguay, BREDDIN, p. 223, Mt. Mus. Hamburg xxii; *T. (Dilobopterus) syrphoidula, T. hyacinthinula*, p. 170, *marquardti, geminatus*, p. 171, *T. (Amblyscarta) cervicula, partitula*, p. 172, *obliquatulula, arctula*, p. 173, *T. bracteatulula, dilectula*, p. 174, *stabellula, obesula*, p. 175, *halticula, mucidula*, p. 176, *perspicillatulula, pedisequla*, p. 177, *fissonustula, aurivagula, flammidula*, p. 178, *amicula, triplicula*, p. 179, *imitatricula, sertigerula, scapula*, p. 180, *braccatulula, pruriginosula, personatulula*, p. 181, *tractatulula, grandinula*, p. 182, *habenula, quadrigula, cyclopula*, p. 183, *prætextatulula, rudicula, facetula*, p. 184, *coronula, paganula*, p. 185, Peru, JACOBI, SB. Ges. naturf. Berlin 1905: n. spp.
- Thalattoscopus* n. g. near *Bythoscopus, T. dryas* n. sp., New Britain, pl. xvii, fig. 5, KIRKALDY, p. 334, Tr. ent. Soc. London 1905.
- Thamnotettix furculatus*, Ohio, OSBORN, p. 275, Ohio Natural. v, n. sp.
- Thomsonia* (= *Thomsoniella* Sign.), KIRKALDY, p. 267, Wien. ent. Zeit. xxiv.
- Typhlocyba exornatus*, Spain, HORVÁTH, p. 275, Bol. Soc. espan. v; *T. pseudomaculata, verticis*, p. 8, *pseudoobliqua, bimaculata*, p. 9, Central America, BAKER, Invert. pacif. i: n. spp.
- Typhlocybella* n. g. *minima* n. sp., Nicaragua, BAKER, p. 3, t. c.
- Wolfella lata*, E. Africa, MELICHAR, p. 299, Wien. ent. Zeit. xxiv, n. sp.
- Xestocephalus subfuscus*, E. Africa, MELICHAR, p. 303, t. c. n. sp.
- Zygina punctigera*, Spain, HORVÁTH, p. 276, Bol. Soc. espan. v; *Z. scutata* E. Africa, MELICHAR, p. 304, t. c. n. spp.

## PSYLLIDÆ.

[Cf. CARPENTIER (281), FROGGATT (612), HORVÁTH (779), KIEFFER (846), KIEFFER & PABLO (848), KIRKALDY (861), RÜBSAAMEN (1315).]

*Psyllidæ*, nomenclature of nervures, KIEFFER, p. 159, Ann. Soc. Bruxelles xxix.

*Psyllinæ*, table of genera, KIEFFER, pp. 161-165, t. c.

Two *Psyllid* galls from Chile, KIEFFER & PABLO, Zeitschr. Ins. biol. i, p. 65.

*Aphalara picta*, variation in wing-nervures, CARPENTIER, pp. 11-24, 1 pl. Mem. Soc. Nord France xi.

*A. dahli*, Bismarck Arch., RÜBSAAMEN, p. 23, Marcellia iv, n. sp.

*Floria blandula*, Spain, HORVÁTH, p. 277, Bol. Soc. espan. v, n. sp.

*Callistohermes* n. g. *rubrovariegata* n. sp., Queensland, KIRKALDY, p. 291 Canad. Ent. 1905.

- Cecidopsylla* n. g. p. 160, *schimæ* n. sp., Bengal, p. 165, KIEFFER, Ann. Soc. Bruxelles xxix.  
*Neotrioza* n. g. p. 175, *machili* n. sp., Bengal, p. 176, KIEFFER, t. c.  
*Ozotrioza* n. g. p. 178, *styracearum*, p. 179, *lauriensearum*, p. 180, n. spp., Bengal, KIEFFER, t. c.  
*Pauropsylla* recharacterised, p. 167, *ficicola*, p. 169, *globuli*, p. 172, n. spp., Bengal, KIEFFER, t. c.  
*Psylla sterculiæ*, habits, FROGGATT, p. 231, pl. fig. 3, Agric. Gaz. N. S. W. xvi.  
*P. cedrelæ*, Bengal, KIEFFER, p. 174, Ann. Soc. Bruxelles xxix, n. sp.  
*Psyllia* n. n. for *Psylla* auctt., KIRKALDY, p. 268, Wien. ent. Zeit. xxiv.  
*Trioza koebeleri*, Mexico, KIRKALDY, p. 290, Canad. Ent. 1905, n. sp.

## APHIDÆ.

- [Cf. BIGNELL (116), BURDON (218), CHOLODKOVSKY (315), COCKERELL (352, 353), DEL GUERCIO (391, 392, 394), FLÜGEL (583), FROGGATT (618), HORVÁTH (773), JACOBI (808), LÉCAILLON (931), RÜBSAAMEN (1315), SCHOUTEDEN (1348), SCHUSTER (1364), STAUFFACHER (1444), STEVENS (1449), THEOBALD (1485), WASHBURN (1578).]
- List of genera of *Aphidæ*, and of species described since 1885, KIRKALDY, pp. 414-420 (incomplete), Canad. Ent. 1905.  
 Natural history notes, with extensive list of food-plants and parasites of *Aphidæ*, BIGNELL, Rep. Cornwall Soc. 1904, pp. 55-89.  
 Monograph of *Aphis ribis* completed, FLÜGEL, Zeitschr. Insbiol. i, pp. 49-63 etc.  
 History of *Phylloxera vastatrix* in Hesse, SCHUSTER, Ber. Oberhess. Ges. xviii, pp. 105-127.  
 Reproduction of *Aphis*, STEVENS, J. exp. Zool. ii, pp. 314-333, 4 pls.  
 Salivary glands of *Chermes*, CHOLODKOVSKY, Zeitschr. Insbiol. i, pp. 167-167.  
*Aphidæ*; vitality, WASHBURN (1578).  
 Protective function of the cornicula, HORVÁTH, p. 421, C.R. Congr. Zool. vi.  
*Aphis papaveris* and beet, natural history, LÉCAILLON, pp. 258-260, Bull. Soc. ent. France 1905; *A. pomi*, *sorbi*, *fitchii*, on apple, THEOBALD, pp. 22-33, Rep. econ. Zool. Wye 1905.  
*Aristaphis* n. n. for *Cladobius* Koch, KIRKALDY, p. 416, Canad. Ent. 1905.  
*Ceratopemphigus* n. g. *zehntneri* n. sp., Ceylon, SCHOUTEDEN, p. 187, pl. figg. 7-9, Spolia Zeylan. ii.  
*Chermes abietis*, life-cycle, galls, BURDON, pp. 12-19, P. Cambridge Soc. xiii.  
*Greenidea* n. g. for *Siphonophora artocarpæ* Westw., SCHOUTEDEN, p. 181, pl. figg. 1-3, Spolia Zeylan. ii.  
*Kallistaphis* n. n. for *Callipterus* Buckton, KIRKALDY, p. 417, Canad. Ent. 1905.  
*Lachnus greeni*, Ceylon, SCHOUTEDEN, p. 184, Spolia Zeylan. ii, n. sp.  
*Oregma bambusæ* = (*Ceratovacuna lanigera* Zehntn.), females, SCHOUTEDEN, p. 184, t. c.  
*Paracletus cimiciformis*, the sexual forms, characters, biological notes, DEL GUERCIO, pp. 90-97, pl. viii, Redia ii.  
*Pemphigus coweni*, Colorado, COCKERELL, p. 392, Canad. Ent. 1905, n. sp.  
*Phylloxera*; static organ, STAUFFACHER, Zeitschr. wiss. Zool. lxxxii, pp. 379-388, pl. xxii.  
*Rhizomaria* defined, p. 190, *R. piceæ*, natural history, pp. 177-197, pl. ii, JACOBI, Tharand. forst. Jahrb. lv.  
*Rhopalosiphum nymphacææ*, in North America, COCKERELL, p. 764, Science xxii.

- Schizoneura lanigera*, the cycle of, [in Russian, previously omitted] MOKRZECKI, Zapiski Novoross. Obsch. xx (2), pp. 23-28; *S. recumuri* to *Pachypappa*, characters, natural history, DEL GUERCIO, pp. 306-315, cuts, Redia ii.
- Schoutedenia n. g. ratumensis n. sp.*, Bismarck Arch., RÜBSAAMEN, p. 19, Marcellia iv.
- Sipha*; monograph, with notes on natural history, DEL GUERCIO, pp. 127-151, Redia ii, *S. glyceriæ* var. n. *italica*, p. 142, t. c.
- S. elegans*, Firenze, id. t. c. p. 137, n. sp.
- Siphonophora granaria*, in Australia, FROGGATT, pp. 1180-1184, Agric. Gaz. N. S. W. xvi.
- S. fragariella*, Britain, THEOBALD, pp. 33-38, Rep. econ. Zool. Wye, n. sp.

## ALEURODIDÆ.

- Aleyrodes actææ*, Connecticut, BRITTON, p. 64, Ent. News Philad. xvi, n. sp.

## COCCIDÆ.

- [Cf. COCKERELL (338, 354-357), FABRE (533), GREEN (687-689), LEONARDI (936-939), LINDINGER (966-968), MARCHAL (1005), RÜBSAAMEN (1315), SASAKI (1320), YORK (1647).]
- The "mining" of some *Coccidæ*, *Diaspis* on Orchids, LINDINGER, pp. 291, 292, Zeitschr. Insbiol. i.
- Aonidia echinata*, pl. i, figg. 17-19, *pusilla*, figg. 20-21, Ceylon, GREEN, p. 347, J. Bombay Soc. xvi; *A. javanensis*, Java, GREEN, p. 31, Ent. Mag. 1905; *A. (Greeniella) pulchra*, Victoria, p. 4, pl. figg. 2, 3, GREEN, Victorian Naturalist xxii : n. spp.
- Aonidomytilus n. g.* for *Mytilaspis concolor* Cock., LEONARDI, p. 103, sep. copy, Ann. Scuol. Agric. Portici v.
- Aspidiotus*, Mexican species, table, COCKERELL, pp. 45, 46, Amer. Natural. xxxix; *A. occultus* var. n. *elongatus*, pl. i, figg. 12, 13, p. 345, GREEN, J. Bombay, Soc. xvi; *A. (Evaspidiotus) subrubescens* var. n. *corticoides*, p. 3, pl. fig. 1, GREEN, Victorian Naturalist xxii.
- A. cuculus*, pl. H, figg. 2, 3, *A. (Chrysomphalus) pedronis*, pl. H, fig. 4, p. 341, *malleolus*, figg. 5, 6, *cistuloides*, pl. i, figg. 7, 8, p. 342, *quadriclavatus*, fig. 9, p. 343, *A. (Aonidiella) taprobanus*, fig. 10, *A. (Targionia) phyllanthi*, fig. 11, p. 344, Ceylon, GREEN, J. Bombay Soc. xvi; *A. (Evaspidiotus) pustulans*, Java, GREEN, p. 31, Ent. Mag. 1905; *A. (Diaspidiotus) ohioensis*, Ohio, YORK, p. 325, Ohio Natural. v; *A. riveræ*, Chile, COCKERELL, p. 160, Ent. News Philad. xvi : n. spp.
- Asterolecanium greeni*, Ceylon, and Paris hothouse, MARCHAL, p. 456, Bull. Mus. Paris x, n. sp.
- Cerooplastes schrottkyi, sanguineus*, Paraguay, COCKERELL, p. 162, Ent. News Philad. xvi, n. spp.
- Chionaspis theæ* var. n. *ceylonica*, GREEN, p. 354, J. Bombay Soc. xvi.
- C. (Phenacaspis) ceratonixæ*, p. 453, *bupleuri*, p. 455, Algeria, MARCHAL, Bull. Mus. Paris x; *C. subcorticalis*, pl. K, fig. 31, p. 351, *strobilanthi*, p. 352, fig. 32, *coronifera*, p. 353, figg. 33, 34, *cinnamoni*, figg. 35, 36, p. 354, Ceylon, GREEN, J. Bombay Soc. xvi; *C. candida*, Victoria, GREEN, p. 6, fig. 7, Victorian Natural. xxii : n. spp.
- Coccus pruni* Burm., omitted from Fernald Cat., KIRKALDY, p. 78, Entomologist 1905.
- Cryptoparlatorea n. g. leucaspis n. sp.*, Japan, LINDINGER, p. 132, Ins. Börse 1905.

- Cryptophyllaspis rubsaameni*, Bismarck Arch., COCKERELL; p. 9, Marcellia iv, n. sp.
- Diaspis pentagona* as an Italian insect, synonymy, Farneti's views, LEONARDI, Riv. agraria Napoli xv, No. 44.
- Dorthesia characias*, natural history, FABRE, Souvenirs ix, chap. xxiv.
- Ericerus pela*, SASAKI (1920).
- Eriopeltis coloradensis*, COCKERELL, p. 136, Canad. Ent. 1905, n. sp.
- Eulecanium folsomi*, characters, COCKERELL, p. 129, P. ent. Soc. Washington vii.
- Fernaldella* n. g. for *Mytilaspis indentata* Green, LEONARDI, Ann. Scuol. Agric. Portici v, sep. copy, p. 105.
- Fiorinia cockerelli*, de Charin., to *Leucaspis*, p. 354, pl. k, figg. 37-40, GREEN, J. Bombay Soc. xvi.
- F. bidens*, Ceylon, pl. j, figg. 29, 30, p. 351, GREEN, t. c. n. sp.
- Gymnaspis spinomarginata*, Ceylon, GREEN, pl. j, figg. 24, 25, p. 348, t. c. n. sp.
- Howardia lobulata*, cf. *Leucaspis ricca*.
- Kermes*: natural history of species of holm-oak, FABRE, Souvenirs ix, chap. xxv.
- Lecanium limnanthermi*, GOURY, p. 130, Feuille Natural. xxxv; is probably leech's egg-mass, GIARD, t. c. p. 130; *L. perlatum* in Paraguay, COCKERELL, p. 397, Nature lxxii.
- Lepidosaphes ungulata*, Java, GREEN, p. 30, Ent. Mag. 1905, n. sp.
- Leucaspis*; position and affinity, LEONARDI, Ann. Scuol. Agric. Portici v, pp. 15-18 sep. copy; *L. ricca*, nymph=(*Howardia lobulata* Del Guerc.), description and life-history, LEONARDI, t. c. pp. 3-15, sep. copy, 1 pl.
- L. corsa*, Corsica, p. 252; *kermanensis*, Persia, p. 253, LINDINGER, Zool. Anz. xxix, n. spp.
- Mytilaspides*, monograph, LEONARDI, Ann. Scuol. Agric. Portici v, 114 pp.: *Parlatoria* monograph, LEONARDI, t. c. 59 pp.
- Mytilaspis intermedia* var. n. *victoriae*, GREEN, p. 5, Victorian Naturalist xxii.
- M. wilga*, Australia, p. 43, *multipora*, New Zealand, p. 47, LEONARDI, Ann. Scuol. Agric. Portici v, sep. copy; *cassiniae*, p. 4, figg. 4, 5, *M. (Cocomytilus) hymenantherae*, p. 5, fig. 6, Victoria, GREEN, Victorian Naturalist xxii: n. spp.
- Mytilella* n. g. for *Mytilaspis carinata* Cock., LEONARDI, p. 20, sep. copy, Ann. Scuol. Agric. Portici v.
- Odonaspis penicillata*, Ceylon, pl. i, figg. 14-16, p. 346, GREEN, J. Bombay Soc. xvi, n. sp.
- Opuntiaspis javanensis*, Java, GREEN, p. 28, Ent. Rec. 1905, n. sp.
- Orthezia olivacea*, Colorado, COCKERELL, p. 136, Canad. Ent. 1905, n. sp.
- Parlatoria pergandii* var. n. *phyllanthi*, pl. j, fig. 27, p. 350, GREEN, J. Bombay Soc. xvi.
- P. pseudaspidiotus*, Singapore, on Orchids, LINDINGER, p. 131, Ins. Börse 1905; *P. (Websteriella) atalantiae*, Ceylon, pl. j, fig. 28, p. 350, GREEN, J. Bombay Soc. xvi: n. spp.
- Pulvinaria coulteri*, Colorado, COCKERELL, p. 514, Zool. Anz. xxix, n. sp.
- Rhopaloaspis* Del Guerc., not valid, LEONARDI, Ann. Scuol. Agric. Portici v. p. 4, sep. copy.
- Sphaerococcus pustulans*, Victoria, GREEN, p. 7, fig. 8, Victorian Naturalist xxii, n. sp.
- Tachardia glomerella*, New Mexico, COCKERELL, p. 52, Ent. News Philad. xvi, n. sp.
- Trabutina* n. g. *Dactylopiini, elastica* n. sp., Algeria, MARCHAL, p. 449, Bull. Mus. Paris x.
- Trionymus nanus*, Colorado, COCKERELL, p. 136, Canad. Ent. 1905, n. sp.

## ANOPLURA.

[Cf. ENDERLEIN (501, 509), GALLI-VALERIO (635), GROSS (699), HANDLIRSCH (722), SPEISER (1435).]

Morphology of head and trophi, ENDERLEIN, pp. 626 etc., Zool. Anz. xxviii.

Distinctions of sexes, young and adult, ENDERLEIN, p. 192, op. cit. xxix.

The relations of *Mallophaga* and *Pediculidæ*, HANDLIRSCH, pp. 668-670, Zool. Anz. xxviii.

The ovaries of *Pediculidæ* and the classification of the group, GROSS, Zool. Jahrb. Anat. xxii, pp. 347-386, pls. xx, xxi.

*Linognathus* n. n. for *Trichaulus* Enderl. 1904, ENDERLEIN, p. 194, Zool. Anz. xxix.

*Polyplax spinulosa*, sex distinctions, ENDERLEIN, pp. 192-194, t. c.

*P. villosa*, Switzerland on *Arvicola nivalis*, GALLI-VALERIO, p. 521, Zool. Anz. xxviii; *P. miacantha*, Abyssinia, SPEISER, p. 318, Centrbl. Bakter. xxxviii (1) : n. spp.

(F.) *NEUROPTERA*, s. l.

## TRICHOPTERA.

[Cf. BANKS (71, 72), BUCHNER (207), Klapálek (868), MARSHALL & VORHIES (1013), MORTON (1074, 1075), RIS (1268, 1269), THIENEMANN (1491, 1492), ULMER (1517-1520).]

The groups *Estropides*, and *Macronematinae*, ULMER, pp. 38-41, Stettin Ent. Zeit. lxvi.

The geographical distribution of *Trichoptera* considered for each genus, ULMER, Zeitschr. Insbiol. i, pp. 16-32, 68-80, 119-126.

THIENEMANN gives an extended review of the pupa as regards structure and habits, with a complete bibliography, and many remarks on classification, and the early stages, as well as on mandibles in the imago, Zool. Jahrb. Syst. xxii, pp. 489-574, pls. xvi-xx.

Sexual distinctions of European *Trichoptera*, RIS, pp. 64, 65, Mt. Schweiz. ent. Ges. xi.

Peculiar organ, *Æcetis* ♂, RIS, Vierteljahrschr. Ges. Zurich xlix, p. 370, pl. xii.

Anomalous ♂ structure *Æcetis*, RIS, p. 63, Mt. Schweiz. ent. Ges. xi.

The cases from the point of view of utility of details etc., BUCHNER, Zeitschr. Insbiol. i, pp. 374-378.

*Æthalopectera sexpunctata*, pl. i, fig. 40, p. 50, ULMER, Stettin Ent. Zeit. lxvi; *Æ. dispar*, variation, ULMER, p. 25, Ann. Soc. ent. Belgique 1905.

*Amphipsyche africana*, W. Africa, pl. i, figg. 36-39, p. 48, ULMER, Stettin Ent. Zeit. lxvi, n. sp.

*Anabolia bimaculata*, p. 61, figg. 6-8, ULMER, Ann. Hofmus. Wien xx.

*Arctopsyche japonica*, Japan, BANKS, p. 111, P. ent. Soc. Washington vii;

*A. irrorata*, N. Carolina, BANKS, p. 217, Bull. Amer. Mus. xxi : n. spp.

*Atomyia modesta*, N. Carolina, BANKS, p. 217, t. c. n. sp.

*Barypenthus claudens* and *rufipes*, ULMER, p. 70, Ann. Hofmus. Wien xx;

*B.* Burm., pl. i, figg. 16-18, p. 20, ULMER, Stettin Ent. Zeit. lxvi.

*Blepharopus diaphanus* Kol., pl. i, figg. 41-43, p. 51, ULMER, t. c.

*B. reticulatus*, Sta. Catharina, pl. iv, fig. 147, p. 52, ULMER, t. c. n. sp.

*Brachycentrus vernalis*, Japan, BANKS, p. 108, P. ent. Soc. Washington vii, n. sp.

*Calamoceratinae*, table of genera, ULMER, p. 80, Ann. Hofmus. Wien xx.

*Centromacronema* n. g. p. 86 for part of *Macronema*, *C. apicale* Walk., p. 87, fig. 57, ULMER, t. c.

*Chlostigma ruficolle*, Japan, ULMER, pl. i, figg. 12, 13, p. 14, Stettin Ent. Zeit. lxvi, n. sp.

*Chimarra morio* Burm., pl. ii, figg. 74, 75, p. 94, ULMER, t. c.

*C. brasiliana*, Sta. Catharina, pl. iv, figg. 128, 129, p. 96, *concolor*, Sumatra, pl. ii, fig. 76, p. 97, ULMER, t. c. n. spp.

*Crunoecia albicornis*, Japan, BANKS, p. 109, P. ent. Soc. Washington vii, n. sp.

- Crunoeciella* n. g. *Lepidostomatides*, *brunnea* n. sp., Madagascar, ULMER, p. 68, figg. 24-27, Ann. Hofmus. Wien xx.
- Dicentropus* n. g. *Sericostomatidæ*, *flavipes* n. sp., Sta. Catharina, ULMER, p. 16, Stettin Ent. Zeit. lxvi.
- Dicosmoecus atripes* Hag., p. 63, figg. 11-13, ULMER, Ann. Hofmus. Wien xx.
- D. grandis*, Washington Terr., p. 62, figg. 9, 10, *coloradensis*, Colorado, p. 64, figg. 15, 16, *nordenskiöldii*, Argentina, p. 65, figg. 18, 19, ULMER, t. c. n. spp.
- Dinarthrum armatum*, Assam, ULMER, p. 69, figg. 28-31, t. c. n. sp.
- Dipseudopsis*, revision, ULMER, pp. 92-97, t. c.; *D. nebulosa* Alb., pl. ii, fig. 79, p. 100, ULMER, Stettin Ent. Zeit. lxvi.
- D. africana*, Gaboon, pl. ii, figg. 77, 78, p. 99, ULMER, t. c.; *D. unguicularis*, p. 36, *furcata*, p. 37, Madagascar, ULMER, Ann. Soc. ent. Belgique 1905; *D. immaculata*, Borneo, p. 92, figg. 68, 69, *sciassa*, Congo, p. 94, fig. 71, ULMER, Ann. Hofmus. Wien xx : n. spp.
- Ecnomus tropicus*, Congo, ULMER, p. 35, Ann. Soc. ent. Belgique 1905, n. sp.
- Ganonema brunneum*, Sumatra, pl. i, fig. 26, p. 31, ULMER, Stettin Ent. Zeit. lxvi, n. sp.
- Goera conclusa*, Java, ULMER, p. 89, Mt. Mus. Hamburg xxii; *G. japonica*, Japan, BANKS, p. 108, P. ent. Soc. Washington vii; *G. fuscata*, N. Carolina, BANKS, p. 216, Bull. Amer. Mus. xxi : n. spp.
- Homæoplectron* n. g. *Leptoceridæ*, p. 33, *abdominale*, Are-as (sic), pl. i, figg. 30, 31, p. 34, *assimile*, Sta. Catharina, p. 36, *tricalcaratum*, Brazil, pl. i, fig. 32, p. 37, n. spp., ULMER, Stettin Ent. Zeit. lxvi.
- Hydromanicus*, table, ULMER, p. 97, Mt. Mus. Hamburg xxii.
- H. annulatus*, Java, p. 93, *aspersus*, p. 95, ULMER, t. c.; *H. luctuosus*, Sikkim, pl. iv, figg. 125-127, p. 92, *fasciatus*, Philippines, p. 93, ULMER, Stettin Ent. Zeit. lxvi : n. spp.
- Hydropsyche auricolor*, Mexico, ULMER, p. 33, Ann. Soc. ent. Belgique 1905; *H. hamifera*, Celebes, pl. iv, figg. 115-118, p. 88, *javanica*, Java, figg. 119-121, p. 90, *asiatica*, Sikkim, pl. iv, figg. 122-124, p. 91, ULMER, Stettin Ent. Zeit. lxvi : n. spp.
- Hydropsyche* n. g. for part of *Hydropsyche*, with *albomaculata* n. sp., Congo, ULMER, p. 34, Ann. Soc. ent. Belgique 1905; *H. kraepelini*, Java, ULMER, p. 98, Mt. Mus. Hamburg xxii : n. sp.
- Hydroptila consimilis*, p. 65, *delineatus*, *spatulata*, p. 66, *hamata*, *perdita*, p. 67, New York, MORTON, Bull. N. York Mus. lxxxvi, n. spp.
- Ithytrichia clavata*, p. 67, *confusa*, p. 69, New York, MORTON, t. c. n. spp.
- Leptocella exquisita* Walk., p. 73, figg. 34, 35, *gemma* Müll., p. 74, figg. 36, 37, ULMER, Ann. Hofmus. Wien xx.
- L. punctata*, figg. 38, 39, Brazil, *jenseni*, Argentina, figg. 40-43, ULMER, p. 76, t. c.; *L. mulleri*, Sta. Catharina, pl. iii, figg. 94, 95, p. 29, ULMER, Stettin Ent. Zeit. lxvi : n. spp.
- Leptocerus*, wing-connections, IMHOF, p. 510, C.R. Congr. Zool. vi.
- L. excisus*, Finland, MORTON, p. 67, Medd. Soc. Faun. Fenn. xxx; *L. squamosus*, p. 21, *trivittatus*, p. 22, Congo, ULMER, Ann. Soc. ent. Belgique 1905 : n. spp.
- Leptonema agraphum* Kol., pl. i, fig. 44, pl. ii, figg. 45-47, p. 55, *alborens* Walk., pl. ii, figg. 48, 49, pl. iii, fig. 102, p. 56, *speciosum* Burm., pl. ii, figg. 56-59, p. 62, ULMER, Stettin Ent. Zeit. lxvi.
- L. affine*, Madagascar, ULMER, p. 27, Ann. Soc. ent. Belgique 1905; *L. madagascariense*, Madagascar, ULMER, p. 81, Ann. Hofmus. Wien xx; *L. furcatum*, pl. ii, figg. 50, 51, p. 57, *crassum*, figg. 52, 53, p. 58, *stigmaosum*, pl. iii, fig. 103, p. 60, *columbianum*, fig. 104, p. 61, *cinctum*, fig. 105, p. 64, S. America, ULMER, Stettin Ent. Zeit. lxvi : n. spp.
- Limnophilus sitchensis*, pl. i, figg. 2, 3, ULMER, p. 7, t. c.

- L. amurensis*, Amur land, pl. i, figg. 4, 5, p. 8, *appendix*, Centr. Asia, p. 9, figg. 6, 7, ULMER, t. c.; *L. meridionalis*, Patagonia, ULMER, p. 18, Ann. Soc. ent. Belgique 1905 : n. spp.
- Macronematinæ*, table of genera, ULMER, p. 88, Ann. Hofmus. Wien xx.
- Macronema aculeata*, type, not a *Macr.*, ULMER, p. 17, Ann. Soc. ent. Belgique 1905; *M. excisum* ♂, ULMER, p. 29, t. c.; *M. sp.*, larva, THIENEMANN, pp. 289–291, Zeitschr. Insbiol. i; *M. chalybeum* Hag., p. 83, fig. 53, *lineatum* Pict., p. 85, fig. 56, ULMER, Ann. Hofmus. Wien xx; *M. hyalinum* Pict., pl. ii, figg. 60–62, p. 67, *fasciatum* Alb., p. 72, *auripenne* Ramb., pl. ii, figg. 68–71, p. 81, *oculatum* Walk., pl. ii, fig. 72, p. 84, ULMER, Stettin Ent. Zeit. lxvi.
- M. tuberosum*, Brazil, p. 82, fig. 51, *opulentum*, Ceylon, p. 84, fig. 54, *santaerite*, p. 85, fig. 55, Brazil, ULMER, Ann. Hofmus. Wien xx; *M. dubium*, Australia, p. 28, *madagascariense*, Madagascar, p. 31, ULMER, Ann. Soc. ent. Belgique 1905; *M. dohrni*, pl. ii, fig. 63, p. 69, *distinguendum*, p. 71, Sumatra, *parvum*, pl. iii, fig. 107, p. 73, *bicolor*, pl. iv, figg. 109, 110, p. 75, *M. (Leptonema?) sparsum*, pl. ii, fig. 64, p. 76, *M. argentilineatum*, pl. iv, figg. 111–113, p. 77, *fulvum*, pl. ii, figg. 65–67, p. 78, *obscurum*, p. 83, *excisum*, pl. iv, fig. 114, p. 85, S. America, ULMER, Stettin Ent. Zeit. lxvi : n. spp.
- Marilia albicornis* Burm., pl. i, figg. 20–22, p. 24, *major* Müll., pl. iii, fig. 91, p. 25, ULMER, t. c.
- M. flexuosa*, Santa Catharina, ULMER, p. 70, Ann. Hofmus. Wien xx, n. sp.
- Molanna moesta*, Japan, BANKS, p. 110, P. ent. Soc. Washington vii, n. sp.
- Moropsyche* n. g. *Limnophilides, parvula* n. sp., Japan, BANKS, p. 108, t. c.
- Musarna*, the species, ULMER, p. 22, pl. i, fig. 19, Stettin Ent. Zeit. lxvi.
- Mystacides brasiliiana* Br. to *Notantolica*, ULMER, p. 72, fig. 33, Ann. Hofmus. Wien xx.
- Nemotaulius* n. g. type *Gr. brevilinea* McL., BANKS, p. 107, P. ent. Soc. Washington vii.
- Neotrichia* n. g. *collata* n. sp., N. America, MORTON, p. 72, Bull. N. York Mus. lxxxvi.
- Neuronia semifasciata*, p. 60, figg. 1, 2, *ocellifera*, p. 61, figg. 3, 4, ULMER, Ann. Hofmus. Wien xx.
- Notantolica*, larva, ULMER, p. 91, Mt. Mus. Hamburg xxii.
- Nothopsyche* n. g. for *Chilostigma ruficolle* Ulm., and *N. pallipes* n. sp., Japan, BANKS, p. 107, P. ent. Soc. Washington vii.
- Notidobia distincta*, Maine, ULMER, p. 67, figg. 21–23, Ann. Hofmus. Wien xx, n. sp.
- Notiopsyche latipennis*, N. Carolina, BANKS, p. 216, Bull. Amer. Mus. xxi, n. sp.
- Odontocerina*, table of genera, ULMER, p. 72, Ann. Hofmus. Wien xx.
- Odontocerum japonicum*, Gifu, BANKS, p. 110, P. ent. Soc. Washington vii, n. sp.
- Æstropsis fusca*, Sumatra, pl. iii, fig. 96, p. 42, ULMER, Stettin Ent. Zeit. lxvi, n. sp.
- Oligophlebodes* n. g. *Limnophilides, coloradensis* n. sp., N. America, ULMER, p. 66, Ann. Hofmus. Wien xx.
- Orthotrichia brachiata*, New York, MORTON, p. 70, Bull. N. York Mus. lxxxvi, n. sp.
- Oxyethira coercens*, p. 70, *viminalis, dualis*, p. 71, N. America, MORTON, t. c. n. spp.
- Perissoneura paradoxo* McLachl., pl. i, figg. 14, 15, p. 19, ULMER, Stettin Ent. Zeit. lxvi.
- P. similis, japonica*, Japan, BANKS, p. 109, P. ent. Soc. Washington vii, n. spp.
- Phanostoma senegalense*, nervuration, ULMER, p. 26, Bull. Soc. ent. Belgique 1905.



- Philopotamus japonicus*, Japan, BANKS, p. 111, P. ent. Soc. Washington vii, n. sp.
- Phryganea rotundata*, Lake Balkasch, pl. i, fig. 1, p. 5, ULMER, Stettin Ent. Zeit. lxvi; *P. latipennis*, Japan, BANKS, p. 107, P. ent. Soc. Washington vii : n. spp.
- Phylloicus*, p. 77, fig. 45, *aneus* Hag., p. 79, fig. 49, ULMER, Ann. Hofmus. Wien xx.
- P. angustior*, Brazil, p. 78, figg. 46-48, ULMER, t. c. n. sp.
- Platycentropus* n. g. for *Halesus maculipennis* Kol., ULMER, p. 13, Stettin Ent. Zeit. lxvi.
- Platyphylax nigrovittatus* queried, ULMER, p. 20, Ann. Soc. ent. Belgique 1905; *P. designatus*, repair of cases after injury, MARSHALL & VORHIES, pp. 232-244, Biol. Bull. ix.
- Plectrocnemia aurea*, Sikkim, pl. iv, figg. 130, 131, p. 101, ULMER, Stettin Ent. Zeit. lxvi; *P. auriceps*, N. Carolina, BANKS, p. 218, Bull. Amer. Mus. xxi : n. spp.
- Polycentropus carolinensis*, N. Carolina, BANKS, p. 217, t. c. n. sp.
- Polymorphanus* Walk. = (*Estropsis* Brauer), ULMER, p. 24, Ann. Soc. ent. Belgique 1905.
- Polyplectropus* n. g. *Polycentropinae*, *flavicornis* n. sp., Sta. Catharina, ULMER, p. 103, pl. iv, figg. 132-135, Stettin Ent. Zeit. lxvi; *P. annulicornis*, Brazil, fig. 64, *javanicus*, Java, figg. 65-67, ULMER, p. 91, Ann. Hofmus. Wien xx : n. spp.
- Protomacronema hyalinum*, ULMER, p. 26, Bull. Soc. ent. Belgique 1905.
- P. splendens*, Gaboon, pl. iii, fig. 106, p. 65, ULMER, Stettin Ent. Zeit. lxvi, n. sp.
- Pseudomacronema* n. g. near *Macronema*, p. 86, *vittatum* n. sp., Bogota, p. 87, pl. ii, fig. 73, ULMER, t. c.
- Pseudosetodes* n. g. near *Setodes*, p. 76, figg. 44, *punctipennis* n. sp., Brazil, p. 77, ULMER, Ann. Hofmus. Wien xx.
- Psilochorema indicum*, India, ULMER, p. 39, Ann. Soc. ent. Belgique 1905; *P. longipenne* (no locality), pl. iv, figg. 144-146, p. 110, ULMER, Stettin Ent. Zeit. lxvi : n. spp.
- Rhabdoceas* n. g. *Leptoceridae*, p. 31, *japonicum*, Japan, n. sp., p. 32, ULMER, t. c.
- Rhyacophila tristis*, *aquitana*, *philopotamoides*, larvæ, THIENEMANN, pp. 285-287, Zeitschr. Insbiol. i.
- R. maculipennis*, Kuku-Nor., pl. ii, figg. 80, 81, p. 108, ULMER, Stettin Ent. Zeit. lxvi; *R. excisa*, Moupin, ULMER, p. 37, Ann. Soc. ent. Belgique 1905 : n. spp.
- Rhyacophylax columbianus*, pl. iv, figg. 138-140, p. 106, *brasilianus*, figg. 141-143, p. 108, S. America, ULMER, Stettin Ent. Zeit. lxvi, n. spp.
- Rhyacopsyche hageni*, metamorphoses, THIENEMANN, pp. 287-289, Zeitschr. Insbiol. i.
- Setodes brunnea*, Java, ULMER, p. 90, Mt. Mus. Hamburg xxii, n. sp.
- Smicridea nivea* Billopp., pl. iv, figg. 136, 137, p. 104, ULMER, Stettin Ent. Zeit. lxvi, n. sp.
- Stenophylax latus*, Centr. Asia, pl. i, fig. 8, ULMER, p. 11, t. c. n. sp.
- Synagapetus ater*, Transsylvania, KLAPÁLEK, p. 729, Vestnik Ceske Ak. xiii, n. sp.
- Synæstropsis* n. g. near *Æstropsis*, *pedicillata*, pl. iii, figg. 97-100, p. 43, *obliqua*, fig. 101, p. 45, *punctipennis*, pl. i, fig. 34, p. 47, n. spp., S. America, ULMER, Stettin Ent. Zeit. lxvi.
- Tetanonema* n. g. near *Helicopsyche*, p. 17, *clarum* n. sp., Sta. Catharina, p. 18, ULMER, t. c.
- Trienodes albicornis*, Algiers, ULMER, p. 23, Ann. Soc. ent. Belgique 1905, n. sp.

- Triplectides* and *Notantolica*, ULMER, p. 71, Ann. Hofmus. Wien xx;  
*Triplectides*, p. 29, *T. gracilis* Burm., pl. i, figg. 23-25, p. 27, ULMER,  
 Stettin Ent. Zeit. lxvi.  
*Wormaldia mexicana*, Mexico, p. 89, figg. 58-60, *parva*, Brazil, p. 90,  
 figg. 61-63, ULMER, Ann. Hofmus. Wien xx, n. spp.

### NEUROPTERA-PLANIPENNIA (incl. PANORPIDÆ).

- [Cf. BAKER (64), BANKS (71), CURRIE (383), DZIĘDZIELEWICZA (485),  
 ENDERLEIN (512, 514), KLAPÁLEK (868), NAVÁS (1084, 1085),  
 NEEDHAM (1092), TERRY (1475), VAN DER WEELE (1595).]
- ENDERLEIN in Zool. Anz. xxix, pp. 225-227, sketches his paper on  
*Coniopterygidae* and proposes and tabulates the new generic names.
- Ancylopteryx buttkoferi*, Liberia, VAN DER WEELE, Notes Leyden Mus.  
 xxv, p. 166, n. sp.
- Ascalaphus khaui*, Japan, NAVÁS, p. 49, pl. ii, fig. 1, Bol. Soc. Aragon. iv,  
 n. sp.
- Berotha occidentalis*, Nevada, BANKS, p. 89, Invert. pacif. i, n. sp.
- Brachynemurus irregularis*, Texas, CURRIE, p. 186, P. ent. Soc. Washington  
 1905, n. sp.
- Ohrysopa microphya*, early stages, TERRY, p. 175, pl. x, figg. 1-3, Bull. exp.  
 Stat. Hawaii i.
- C. marginalis*, Spain, NAVÁS, p. 122, Bol. Soc. Aragon. iv, n. sp.
- Coniopterygidae* of Silesia, monograph, in Polish, DZIĘDZIELEWICZA, pp.  
 377-385, 1 plate, Kosmos polski. xxx.
- Glenurus pupillatus*, Himalaya, NAVÁS, p. 54, pl. ii, fig. 4, Bol. Soc.  
 Aragon. iv, n. sp.
- Hemerobius striatellus*, Transsylvania, KLAPÁLEK, p. 725, Vestnik Ceske  
 Ak. xiii, n. sp.
- Mantispa rugicollis*, Himalaya, NAVÁS, p. 54, Bol. Soc. Aragon. iv, n. sp.
- Megalomus minor*, Nicaragua, BANKS, p. 90, Invert. pacif. i, n. sp.
- Micromus jonas*, New York, NEEDHAM, p. 15, Bull. N. York Mus. lxxxvi,  
 p. 15, n. sp.
- Myrmeleon ocreatus*, characters, NAVÁS, p. 112, Bol. Soc. Aragon. iv.
- Palmobius* n. g. type *H. amicus* Fitch, NEEDHAM, p. 17, Bull. N. York  
 Mus. lxxxvi.
- Panorpa pura*, Transsylvania, KLAPÁLEK, p. 727, Vestnik Ceske Ak. xiii ;  
*P. carolinensis*, N. Carolina, BANKS, p. 216, Bull. Amer. Mus. xxi :  
 n. spp.
- Panorpodes carolinensis*, N. Carolina, BANKS, p. 215, t. c. n. sp.
- Parasemidalis* n. g. *Coniopterygidae*, p. 197, *annæ* n. sp.; Berlin, p. 198,  
 ENDERLEIN, Wien. ent. Zeit. xxiv.
- Semidalis* n. g. for *Coniopteryx aleurodiformis* Steph., ENDERLEIN, p. 197,  
 t. c.
- Sisyrura* n. g. near *Sisyr. pectinata* n. sp., Shanghai, NAVÁS, p. 51, pl. ii,  
 fig. 2, Bol. Soc. Aragon. iv.
- Spadobius* n. g. type *H. occidentalis* Fitch, NEEDHAM, p. 16, Bull. N.  
 York Mus. lxxxvi.

### PSEUDO-NEUROPTERA.

#### PSOCIDÆ.

- [Cf. ENDERLEIN (497, 507, 513), RIBAGA (1263, 1264), SNODGRASS (1424).]  
 Revision of *Atropides* and *Troctides*, with table of the families of *Copea-  
 natha*, ENDERLEIN, Jägerskiöld exp. No. 18, 51 pp.

- SNODGRASS, pp. 300-302, describes and figures pl. viii, figg. 9-16, the mouth-parts of *Peripsocus californicus* and of *Troctes divinatorius*, compares them with *Mallophaga* and finds a morphological identity, Tr. Amer. ent. Soc. xxxi.
- Parthenogenesis, *Ectopsocus*, RIBAGA, Redia ii, pp. 33-36.
- Amphientotum*, in amber, cf. Palæontology, p. 130.
- Embidopsocus luteus* Hag., ENDERLEIN, p. 51, fig. 11, Jägerskiöld exp. No. 18.
- Embidotroctes* n. g. p. 48, *paradoxus* n. sp., Cameroons, p. 49, ENDERLEIN, t. c.
- Lepidilla* n. g. subfam. n. *Lepidillinae*, p. 99, *kelloggi* n. sp., California, p. 100, pl. ix, RIBAGA, Redia ii.
- Lepinotus reticulatus*, Cairo, ENDERLEIN, p. 31, Jägerskiöld exp. No. 18, n. sp.
- Myopsocnema* n. g. for *Clothilla annulata* Hag., ENDERLEIN, p. 17, t. c.
- Pachytroctes* n. g. *ægyptius* n. sp., Cairo, ENDERLEIN, p. 46, figg. 9, 37-43, t. c.
- Philotarsus falklandicus*, Falkland Ids., ENDERLEIN, p. 126, Zool. Anz. xxix, n. sp.
- Stenotroctes* n. g. type *Troctes needhami*, with *S. virgatus* n. sp., S. America, p. 44, figg. 29, 31, 33, ENDERLEIN, Jägerskiöld exp. No. 18.
- S. enderleini*, Florence, RIBAGA, p. 106, pl. x, figg. 12-15, Redia ii, n. sp.

## MALLOPHAGA.

- [Cf. FULMEK (627), GROSS (699), SNODGRASS (1424).]
- SNODGRASS describes, pp. 302-305, and figures, pl. viii, figg. 1-8, the mouth-parts of *Lembothrium gypsis* and *Ancistrona gigas*, compares them with those of *Psocidæ* and finds them morphologically identical, Tr. Amer. ent. Soc. xxxi.
- Structure of heart, FULMEK, Zool. Anz. xxix, pp. 619-621.
- Bird-louse of *Cypselus affinis*, as intermediary host of *Filaria cypseli*, fig. pl. v, DUTTON, p. 139, Thompson Yates Lab. Rep. vi.
- The ovaries of *Mallophaga*, and the affinities of the group, GROSS, Zool. Jahrb. Anat. xxii, pp. 347-386, pls. xx, xxi.
- Eggs of "Pediculines" of birds, TEMPÈRE, Microgr. prep. xiii, p. 34, pl. iii, figg. 1-11.

## TERMITIDÆ or ISOPTERA.

- [Cf. BRUNELLI (203, 204), DESNEUX (401, 402), DOFLEIN (437), ROBINSON (1285), SJÖSTEDT (1404).]
- Account of Australian *Termitidæ*, nests, economics, systematic, FROGGATT, Agric. Gaz. N. S. W. xvi, pp. 632-656, 753-774, plates and illustrations.
- Fungus-culture, building habits etc. *Termes obscuriceps*, DOFLEIN, pp. 140-149, Verh. Deutsch. zool. Ges. 1905.
- Structure of ovary, and oogenesis, BRUNELLI (203).
- Acanthotermes laticeps*, Congo, SJÖSTEDT, p. 4, Arkiv Zool. ii, No. 16, n. sp.
- Calotermes chilensis*, valid sp., characters, DESNEUX, p. 337, Ann. Soc. ent. Belgique 1905; *C. adamsoni* Frogg. to *Porotermes*, DESNEUX, p. 360, Ann. Soc. ent. Belgique 1905; *C.* rendered infertile by *Protozoa*, BRUNELLI, pp. 718-721, Rend. Acc. Lincei xiv, ii.
- C. papua*, New Guinea, DESNEUX, p. 367, Ann. Mus. Hungar. iii, n. sp.
- Eutermes rhinoceros*, p. 11, *corniferus*, p. 12, *bycanistes*, p. 14, *lamanianus*, p. 15, *mandibularis*, p. 17, *mirandus*, p. 18, *bettonianus*, p. 19, Africa, SJÖSTEDT, Arkiv Zool. ii, No. 16, n. spp.

- Hodotermes macrocephalus*, Sind, DESNEUX, p. 344, Ann. Soc. ent. Belgique 1905; *H. pulcher*, Congo, SJÖSTEDT, p. 1, Arkiv Zool. ii, No. 16 : **n. spp.**
- Rhinotermes dimorphus*, New Guinea, DESNEUX, p. 368, Ann. Mus. Hungar. iii, **n. sp.**
- Termes gestroi*, natural history, ROBINSON, J. Fed. Malay Mus. i, pp. 2-12; *T. tubiformans*, imago, p. 338, *tenuirostris*, imago, p. 341, *cinereus*, soldier, p. 342, *T. ripperti* subsp. n. *dendrophilus*, p. 357, *T. fatalis*, synonymy, with *kœnigi* **n. sp.** (= *fatalis* Hag.), p. 360, *T. longirostris* Br. to *Rhinotermes*, p. 360, DESNEUX, Ann. Soc. ent. Belgique 1905.
- T. apollo*, E. Africa, SJÖSTEDT, p. 6, Arkiv Zool. ii, No. 16; *T. (Coptotermes) elisæ*, p. 368, *T. (Eutermes) biroï*, p. 369, with subsp. *breuior*, p. 370, *odontomachus*, p. 371, *grallator*, p. 374, *princeps*, p. 275, *gracilirostris*, p. 376, New Guinea, DESNEUX, Ann. Mus. Hungar. iii; *T. wheeleri*, Texas, p. 340, *mycophagus*, p. 348, *belli*, p. 352, *sindensis*, p. 354, *theobromæ*, Sao Thomé, p. 355, *hosei*, Sarawak, p. 356, DESNEUX, Ann. Soc. ent. Belgique 1905 : **n. spp.**

## EMBIIDÆ or EMBIOPTERA.

The spinning apparatus, RIMSKY-KORSAKOW, Zool. Anz. xxix, pp. 438-442. Abstract of Verhoeff's paper of last year, ADELUNG, Zool. Zentrbl. 1905, pp. 580-585.

- Embia ramburi*, Alpes-maritimes, RIMSKY-KORSAKOW, Zool. Anz. xxix, p. 434, **n. sp.**
- Oligotoma gurneyi*, habits, FROGGATT, p. 175, P. Linn. Soc. N. S. Wales xxx.

## PERLIDÆ or PLECOPTERA.

[Cf. BAKER (64), BANKS (71, 73), ENDERLEIN (504), FROGGATT (615), KLAPÁLEK (865, 866, 868), NEEDHAM (1089), REUTER (1258), RIS (1270).]

- Amphineumura cinerea*, true ♀, RIS, p. 96, Mt. Schweiz. ent. Ges. xi.
- Antarctoperla* **n. g.** p. 810, *anderssoni*, p. 811, *fuegiana*, p. 813, **n. spp.**, Tierra del Fuego, ENDERLEIN, Zool. Anz. xxviii.
- Arcynopteryx* **n. g.** for *D. compacta* McLachl. etc., KLAPÁLEK, p. 7, Rozp. Ceske Ak. Praze xiii, No. 17.
- Atoperla* **n. g.** type *Perla producta*, BANKS, p. 56, Psyche xii.
- Austroperla* **n. g.** for *Perla cyrene* Newm., NEEDHAM, p. 109, P. Soc. Washington xviii.
- Capnia vidua*, Transsylvania, KLAPÁLEK, p. 723, Vestnik Ceske Ak. xiii, **n. sp.**
- Capnioneura* **n. g.** p. 94, *nemuroides* **n. sp.**, Zurich, p. 95, RIS, Mt. Schweiz. ent. Ges. xi.
- Dictyogenus* **subg. n.** of *Isogenus* for *imhoffi* Pict. etc., KLAPÁLEK, p. 8, Rozp. Ceske Ak. Praze xiii, No. 17.
- Dictyopterygella* **subg. n.** p. 5, with *D. septentrionis* **n. sp.**, Siberia, p. 6, KLAPÁLEK, t. c.
- Isogenus imhoffi*, p. 3, *rubecula*, nymph, p. 8, cuts, KLAPÁLEK, t. c.
- Leuctra antarctica*, Tierra del Fuego, ENDERLEIN, p. 814, Zool. Anz. xxviii, **n. sp.**
- Nemoura japonica*, Kiushiu, NEEDHAM, p. 110, P. Soc. Washington xviii, **n. sp.**
- Neoperla* **n. n.** for *Pseudoperla* Banks, NEEDHAM, p. 108, t. c.; *N. pilosella*, Java, KLAPÁLEK, p. 103, Mt. Mus. Hamburg xxii : **n. sp.**
- Peltoperla* **n. g.** p. 107, *arcuata* **n. sp.**, New York, p. 108, NEEDHAM, P. Soc. Washington xviii.

- Perla myrmidon* Mab. to *Griopteryx*, ENDERLEIN, p. 814, Zool. Anz. xxviii.
- P. tennina*, Japan, NEEDHAM, p. 109, P. Soc. Washington xviii; *P. attenuata*, p. 55, *kansensis*, p. 56, Kansas, BANKS, Psyche xii; *P. californica*, Claremont, BANKS, p. 87, Invert. pacif. i; *P. carolinensis*, N. Carolina, BANKS, p. 215, Bull. Amer. Mus. xxi: n. spp.
- Perlinella cinctipes*, Kansas, BANKS, p. 56, Psyche xii, n. sp.
- Tænionema* n. g. p. 56, *analisis* n. sp. Colorado, p. 57, BANKS, t. c.
- Tænipteryx nebulosa*, appearance in hard weather, REUTER, Medd. Soc. Faun. Fenn. xxx, pp. 99, 100.
- T. tenuis*, Kiushiu, NEEDHAM, p. 110, P. Soc. Washington xviii, n. sp.

## EPHEMERIDÆ or EPHEMEROPTERA.

- [Cf. KLAPÁLEK (866), NAVÁS (1085), NEEDHAM (1093), SEILER (1375).]
- Key to genera of N. American *Ephemeridæ*, NEEDHAM, pp. 22-26, and of the nymphs, pp. 26-28, pls. iv-xii, Bull. N. York Mus. lxxxvi. In this paper the nymphs of various N. American species are also described and figured.
- Investigation of structure and function of ocelli in five species, *Cloëon*, *Bætis*, *Ephemeræ*, *Heptagenia*, *Cænis*, SEILER, Zool. Jahrb. Anat. xxii, pp. 1-40, pls. 1, 2.
- Ameletes ludens*, New York, NEEDHAM, p. 36, Bull. N. York Mus. lxxxvi, n. sp.
- Cænis nigropunctata*, Java, KLAPÁLEK, p. 105, Mt. Mus. Hamburg xxii; *C. allecia*, New York, NEEDHAM, p. 47, Bull. N. York Mus. lxxxvi: n. spp.
- Chirotenetes albomanicatus*, N. York, NEEDHAM, p. 31, pls. 5, 6, t. c. n. sp.
- Cloëon virens*, Java, KLAPÁLEK, p. 106, Mt. Mus. Hamburg xxii, n. sp.
- Drunella* n. g. pp. 27, 42, for *Ephemerella grandis*?, NEEDHAM, Bull. N. York Mus. lxxxvi.
- Ephemerella bispina*, p. 43, *unicornis*, p. 45, Indiana, NEEDHAM, t. c. n. spp.
- Jolia roseli*, the supposed nymph is really *Chirotenetes ignotus*, NEEDHAM, p. 28, t. c.
- Polymitarcys albus*, nymph, HOWARD, p. 60, Bull. N. York Mus. lxxxvi.
- Pseudocloëon* n. g. *kraepelini* n. sp., Java, KLAPÁLEK, p. 105, Mt. Mus. Hamburg xxii, n. sp.
- Rhithrogena ferruginea*, Spain, NAVÁS, p. 123, Bol. Soc. Aragon. iv, n. sp.

## ODONATA or PARANEUROPTERA.

- [Cf. BRAUNER (172), CALVERT (670), EAST (488), EVANS (528), FOERSTER (584), GADEAU (631), GEISSLER (648), KIRBY (851, 852), MORTON (1073), NEEDHAM (1090), OSBURN (1127), TILLYARD (1494, 1495), WILLIAMSON (1635).]
- Census of Selys' collection, SEVERIN, pp. 54-59, Ann. Soc. ent. Belgique 1905.
- Proportions of the sexes in *Odonata*, TILLYARD, pp. 344-349, P. Linn. Soc. N. S. Wales xxx.
- Odonata* of the Crimea (in Russian), BRAUNER, Zapiski Novoross. Obshch. xxiv, pp. 73-102.
- Odonata* near Edinbro, EVANS, P. Phys. Soc. Edinb. xvi, pp. 87-96.
- Æshninae*, synopsis of Centr. American genera, CALVERT, pp. 174, 175, Biol. Centr.-Amer. Neuropt.

- Aeshna dugesi*, pl. viii, figg. 11, 12, p. 184, *williamsoniana*, figg. 13, 14, 19, p. 185, Mexico, CALVERT, t. c. n. spp.
- Cordulegaster annulatus*, oviposition, RIS, p. 113, Ent. News Philad. xvi ; *C. obliquus*, habits, nymph, NEEDHAM, pp. 3, 4, Ent. News Philad. xvi.
- Cyanogomphus ? tumens*, Mexico, CALVERT, p. 169, pl. vii, figg. 11, 41, Biol. Centr.-Amer. Neuropt. n. sp.
- Diplacodes friedericella*, p. 75, *paraguayensis*, p. 76, Paraguay, FÜRSTER, Ins. Börse 1905, n. spp.
- Diplax striolata*, habits in captivity, JOHNSTON, p. 43, Irish Natural. 1905.
- Edonis n. g. Libellulinae*, p. 113, *helena n. sp.*, Ypiranga, p. 114, NEEDHAM, P. Soc. Washington xviii.
- Eriptogomphus eutainia*, p. 162, pl. vii, figg. 24-27, 39, *ophibolus*, p. 163, figg. 30-32, 46, *sipedon*, p. 165, figg. 30, 40, 42, Mexico, *diadophis*, Texas, p. 167, pl. vii, figg. 35, 47, CALVERT, Biol. Centr.-Amer. Neuropt. n. spp.
- Gomphinae*, the Centr.-American genera, CALVERT, pp. 146-148, t. c.
- Gomphoides volsella*, Mexico, p. 156, pl. vii, figg. 10, 13, 14, CALVERT, t. c. n. sp.
- Heterogomphus naninus*, Tonkin, FOERSTER, p. 19, Wien. ent. Zeit. xxiv, n. sp.
- Ischnura elegans* var. n. *infuscans*, CAMPION, p. 299, Entomologist 1905 ; *I. heterosticta*, dimorphic ♀, TILLYARD, p. 302, P. Linn. Soc. N. S. Wales xxx ; *I. elegans*, rearing and crossing spp. with dimorphic ♀, DONCASTER, p. 110, Entomologist 1905.
- I. fountainai*, Algeria, MORTON, p. 147, Ent. Mag. 1905, n. sp.
- Libellulinae*, synopsis of Centr.-American genera, CALVERT, pp. 198-205, Biol. Centr.-Amer. Neuropt.
- Misthotus n. g.* near *Orthetrum*, *marshalli*, p. 192, *ambiguus*, p. 194, n. spp., S. Africa, KIRBY, Ann. Nat. Hist. (7) xv.
- Onychothemis notabilis*, Tonkin, KIRBY, p. 277, t. c. n. sp.
- Progomphus clendonii*, pl. vii, figg. 8, 9, p. 150, Mexico, CALVERT, Biol. Centr.-Amer. Neuropt. n. sp.
- Selysiophlebia n. g.* near *Gynacantha*, *aratrix n. sp.*, Paraguay, FÜRSTER, p. 75, Ins. Börse 1905.
- Somatochlora linearis* and nymph, NEEDHAM, p. 6, Ent. News Philad. xvi.
- Sympetrum pallipes*, *madidum*, characters, OSBURN, pp. 193-195, cuts, Ent. News Philad. xvi.
- Tetragoneuria cynosura*, oviposition, WILLIAMSON, p. 255, Ent. News Philad. xvi.
- Toeschna n. g.* near *Brachytron*, p. 21, *fontinalis n. sp.*, Tonkin, p. 25, FOERSTER, Wien. ent. Zeit. xxiv.
- Zygonidia ceylonica*, Ceylon, p. 273, *ænea*, Tonkin, p. 275, KIRBY, Ann. Nat. Hist. (7) xv, n. spp.

## THYSANOPTERA.

[Cf. ASHMEAD (37), HINDS (748), REUTER (1260).]

- Euthrips nicotianaæ*, Florida, HINDS, p. 198, P. Soc. Washington xviii, n. sp.
- Heliothrips hæmorrhoidalis*, injurious habits, LEONARDI, Bull. Ent. agraria v, 4 pp.
- Idolothrips tibialis*, Manila, ASHMEAD, p. 20, Ent. News Philad. xvi, n. sp.
- Leucothrips n. g.* near *Heliothrips*, p. 107, *nigripennis n. sp.*, Finland, in hothouses, p. 108, REUTER, Medd. Soc. Faun. Fenn. xxx.

(g.) *APTERA* or *THYSANURA* and  
*COLLEMBOLA*.

## THYSANURA.

[Cf. BOUVIER (162), ESCHERICH (525), HEYMONS (745), NAVAS (1085), VON OLFERS (1120), SILVESTRI (1394-1397), TEMPÈRE (1472), VERHOEFF (1539).]

The scales of *Collembola* and *Thysanura*, TEMPÈRE, Microgr. prep. xiii, pp. 254-260, pls. xxvii, xxviii.

Classification of *Thysanura*, SILVESTRI, Zool. Jahrb. Suppl. vi, p. 774.

Monograph of *Lepismatidae*, classification and external morphology, ESCHERICH, Zoologica, Heft. 43.

The family *Projapygidae*, SILVESTRI, pp. 638-641, Zool. Anz. xxviii.

The structure of the head and mouth of *Machilis*, VERHOEFF, Acta Ac. German. lxxxiv.

Embryology of *Machilis*, HEYMONS (745).

*Acrotelsa* n. g. p. 105, for part of *Lepisma*, *A. gigantea*, West Indies, p. 109, *producta*, Australia, p. 111, *impudica*, Colombia, p. 112, n. spp., ESCHERICH, Zoologica xliii.

*Anajapyx vesiculösus*, characters, anatomy, classification, SILVESTRI, Ann. Scuol. Agric. Portici vi, 15 pp.

*Anelpistina* subg. n. cf. *Nicoletica*.

*Atelura pseudolepisma*, habits, FRIEDRICHS, p. 498, Zeitschr. Insbiol. i.

*A. wheeleri*, Texas, p. 125, *anommatidis*, Congo, p. 128, *desneuxi*, Java, p. 147, ESCHERICH, Zoologica xliii, n. spp.

*Braunsiella* n. g. p. 67, *heymonsii*, p. 68, *grassii*, p. 69, n. spp., S. Africa, ESCHERICH, t. c.

*Braunsina* n. n. for *Braunsiella* (supra), ESCHERICH, p. 144, t. c.

*Campodea*, morphology of head, abdomen etc., SILVESTRI, Zool. Jahrb. Suppl. vi, pp. 777-780.

*C. pacifica*, Chile, SILVESTRI, p. 780, Zool. Jahrb. Suppl. vi, n. sp.

*Otenolepissima* n. g. p. 75, for part of *Lepisma*, *C. michaelsoni*, Egypt, p. 80, *longicaudata*, S. Africa, p. 83, *versluysi*, Neotropical region, p. 84, *grandipalpis*, p. 85, *weberi*, p. 86, S. Africa, *albida*, Egypt, p. 87, *transcaspica*, Balchany, p. 89, *kräpelini*, Athens, p. 90, ESCHERICH, Zoologica xliii, n. spp.

*Eutrichocampa breviseta*, Chile, SILVESTRI, p. 784, Zool. Jahrb. Suppl. vi, n. sp.

*Maïndronina*, subfam. n. of *Lepismatidae*, ESCHERICH, p. 37, Zoologica xliii.

*Microcoryphina*, n. order for *Machilis*, VERHOEFF, Acta Ac. German. lxxxiv, p. 109.

*Heterolepisma* n. g. for *L. pampeana* and *andina* Silv., ESCHERICH, p. 63, Zoologica xliii.

*Isolepisma* n. g. p. 61, *trisetosa* n. sp., Lombok, p. 62, ESCHERICH, t. c.

*Japyx*, validity and synonymy of various species, SILVESTRI, pp. 641-643, Zool. Anz. xxviii; *J. dux* var. *n. soulieri*, BOUVIER, p. 30, Bull. Soc. ent. France 1905; *J. megalocerus* = (*chilensis* Verh.), SILVESTRI, p. 786, Zool. Jahrb. Suppl. vi.

*Lepidospora* n. g. p. 131, *braueri* n. sp., Seychelles, p. 132, *gracilis*, Sumatra, n. sp., p. 148, ESCHERICH, Zoologica xliii.

- Lepisma globosa*, p. 50, *oudemansi*, p. 53, S. Africa, *crassipes*, Tunis, p. 54, *skorkowi*, Sevastopol, p. 59, ESCHERICH, t. c. n. spp.  
*Lepismina argentea*, Spain, NAVÁS, p. 130, Bol. Soc. Aragon. iv ; *L. persica*, Persia, p. 73, ESCHERICH, Zoologica xliii : n. spp.  
*Machilidæ*, morphology of abdomen, SILVESTRI, pp. 794-797, Zool. Jahrb. Suppl. vi.  
*Machilis torquata*, p. 109, *constricta*, p. 115, Spain, NAVÁS, Bol. Soc. Aragon. iv, n. spp.  
*Nicoletia grassii*, Sicily = (*phytophila* G. & R. nec Gerv.), p. 134, ESCHERICH, Zoologica xliii ; *N.* (subg. n. *Anelpistina*) *wheeleri*, p. 111, *ruckeri*, p. 113, Texas, *meinerti*, p. 114, Venezuela, SILVESTRI, pl. xi, Redia ii : n. spp.  
*Procampodea* n. g. p. 115, *brevicauda* n. sp., S. Italy, p. 117, pl. xii, SILVESTRI, t. c.  
*Silvestrella* n. g. p. 65, *S. termitophila*, p. 66, *myrmecophila*, p. 67, n. spp., S. Africa, ESCHERICH, Zoologica xliii.  
*Thermobia longimana*, Thebes, ESCHERICH, p. 104, t. c. n. sp.  
*Trinemophora schaefferi*, Chile, SILVESTRI, p. 790, Zool. Jahrb. Suppl. vi, n. sp.

## COLLEMBOLA or APONTOPTERA.

[Cf. AXELSON (49), BECKER (88), CARL & LEBEDINSKY (277), FRANKLIN (597), HOFFMANN (753), KRAUSBAUER (891), LEBEDINSKY (929).]

Structure and function of the mouth-parts in *Tomocerus*, HOFFMANN, Zeitschr. wiss. Zool. lxxxii, pp. 638-663, pl. xxxiv.

- Achorutes armatus* var. n. *pallens*, KRAUSBAUER, p. 89, Ber. Oberhess. Ges. xviii ; *A.*, 6 varr. n. from Finland, AXELSON, p. 788, Zool. Anz. xxviii.  
*A. frigidus*, Finland, AXELSON, p. 788, t. c. ; *A. assimilis*, Germany, KRAUSBAUER, p. 88, Ber. Oberhess. Ges. xviii : n. spp.  
*Entomobrya marginata* var. n. *pallida*, KRAUSBAUER, p. 75, t. c.  
*E. superba*, Germany, KRAUSBAUER, p. 75, t. c. ; *E. albicollis*, Massachusetts, FRANKLIN, p. 77, Ent. News Philad. xvi : n. spp.  
*Isotoma fimetaria* var. n. *caldaria*, AXELSON, p. 790, Zool. Anz. xxviii.  
*I. borealis, angularis*, Finland, AXELSON, p. 791, t. c. ; *I. schaefferi*, Germany, KRAUSBAUER, p. 70, Ber. Oberhess. Ges. xviii : n. spp.  
*Isotomini*, new sections *Furcati* and *Afurcati*, KRAUSBAUER, pp. 33, 34, t. c.  
*Oncopodura* n. g. subf. n. *Oncopodurinae, hamata* n. sp., Krimea in caverns, CARL & LEBEDINSKY, p. 562, Zool. Anz. xxviii.  
*Neanura coronifera*, p. 789, *reticulata*, p. 790, Finland, AXELSON, Zool. Anz. xxviii, n. spp.  
*Papirius minutus* varr. n. pp. 59, 60, KRAUSBAUER, Ber. Oberhess. Ges. xviii.  
*P. violaceus*, p. 61, *setosus*, p. 63, Germany, KRAUSBAUER, t. c. n. spp.  
*Pseudachorutes dubius*, Germany, KRAUSBAUER, p. 94, t. c. n. sp.  
*Pseudachorutides* n. g. *bogoyavlensky* n. sp., Persian Gulf, BECKER, p. 72, Zool. Anz. xxix.  
*Sira platani* var. n. *argenteocincta*, p. 81, *elongata* var. n. *fasciata*, p. 82, KRAUSBAUER, Ber. Oberhess. Ges. xviii.  
*Sminthurides cruciatus*, p. 792, *annulicornis*, p. 793, Finland, AXELSON, Zool. Anz. xxviii, n. spp.  
*Sminthurinus*, 3 varr. n., AXELSON, p. 794, t. c. ; *S. pallipes* = (*speciosus* Krausb.), p. 42, *S. aureus* varr. n., pp. 45, 46, KRAUSBAUER, Ber. Oberhess. Ges. xxxiv.  
*S. quinquefasciatus*, p. 42, *pumilis*, p. 47, *signatus*, p. 52, *parvulus*, p. 53, *assimilis*, p. 54, Germany, KRAUSBAUER, t. c. n. spp.  
*Xenylla borneri*, Finland, AXELSON, p. 789, Zool. Anz. xxviii, n. sp.



## (H.) ORTHOPTERA.

- Regeneration of appendages, BORDAGE, Bull. Sci. France Belgique, pp. 307-454.  
 Synopsis of Orthopt. of W. Europe continued, BURR, Ent. Rec. xv, pp. 10 etc.

## FORFICULIDÆ.

- [Cf. BORELLI (144, 145), BURR (219-222), CAUDELL (287, 288), GADEAU (632), KRAUSS (892), PAOLI (1137), PLANET (1209), REHN (1237), SOPP (1426), TERRY (1475), VERHOEFF (1539).]
- Notes on Kirby's Catalogue, CAUDELL, pp. 84, 85, P. ent. Soc. Washington vii.  
 Structure of the head and mouth, *Dermaptera*, VERHOEFF (1539).  
 Use of forceps and variability in male, SOPP, Rep. Lancashire ent. Soc. 1904, pp. 38-43.  
 Perce-oreille, origin of name, use of forceps, GADEAU DE KERVILLE, Bull. Soc. zool. France 1905, pp. 55-63.
- Ancistrogaster kervillei*, Venezuela, BURR, p. 490, Ann. Nat. Hist. (7) xvi ;  
*A. falcifera*, Peru, REHN, p. 510, P. U. S. Mus. xxix : n. spp.  
*Anechura athymia* (= *coa* Sem.), BURR, p. 495, Ann. Nat. Hist. (7) xvi.  
*A. sokotrana*, Sokotra, BURR, p. 493, t. c. ; *A. torquata*, Tonkin, BURR, p. 85, Ent. Mag. 1905 : n. spp.  
*Anisolabis pluto*, Liberia, REHN, p. 506, P. U. S. Mus. xxix, n. sp.  
*Chetospania capella*, Madagascar, BURR, p. 84, Ent. Mag. 1905 ; *C. confusa*, Mentawai, BURR, p. 489, Ann. Nat. Hist. (7) xvi : n. spp.  
*Chelidura sinuata* var. n. *opisthogona*, p. 50, cut, *dilatata* var. on Canigou, p. 51, BORELLI, Feuille Natural. xxxv.  
*Chelisoches flavipennis* Fabr. (= *variegata* Kirby = *vittatus* Burr), *C. shelfordi*, *hercules* is the ♂, BURR, p. 496, Ann. Nat. Hist. (7) xvi ; *C. morio*, abdominal structure, development of antennæ, life-history, TERRY, pp. 164-171, pl. viii, Bull. exp. Stat. Hawaii i, pt. v.  
*C. stratioticus*, Siam, REHN, p. 509, P. U. S. Mus. xxix, n. sp.  
*Diplatys gladiator*, India, BURR, p. 29, J. P. Asiat. Soc. Bengal i, n. sp.  
*Forficula auricularia* var. n. *nigra*, p. 270, *decepiens*, variation, p. 271, PAOLI, Boll. Soc. zool. Ital ; *F. auricularia*, fighting with *Atypus*, PLANET, p. 239, Naturaliste 1905 ; *F. lesnei* in France, PLANET, pp. 80, 81, t. c.  
*F. obtusangula*, Montenegro, KRAUSS, p. 5, SB. Bohmisch. Ges. 1904, No. 10 ; *F. canariensis*, Tenerife, p. 493, *redempta*, Sokotra, *vidua*, Guatemala, p. 494, BURR, Ann. Nat. Hist. (7) xvi ; *F. acer*, p. 30, *celer*, p. 21, India, BURR, J. P. Asiat. Soc. Bengal i ; *F. interrogans*, Darjiling, *davidi*, Mou-Pin, BURR, p. 85, Ent. Mag. 1905 ; *F. schwarzi*, Cuba, REHN, p. 513, P. U. S. Mus. xxix : n. spp.  
*Gonolabis verhoeffi*, S. Australia, BURR, p. 487, Ann. Nat. Hist. (7) xvi, n. sp.

- Labia laminata*, Java, BURR, p. 84, Ent. Mag. 1905; *L. nigroflavida*, Queensland, REHN, p. 507, P. U. S. Mus. xxix; *L. silvestrii*, Paraguay, BORELLI, p. 8, Boll. Mus. Torino xx, No. 516; *L. tenuipes*, Peru, BURR, p. 487, Ann. Nat. Hist. (7) xvi : n. spp.
- Labidura mongolica*, Pekin, REHN, p. 503, P. U. S. Mus. xxix, n. sp.
- Labidurodes magnificus*, Siam, REHN, p. 504, t. c. n. sp.
- Mecomera kervillei*, Java, BURR, p. 489, Ann. Nat. Hist. (7) xvi, n. sp.
- Nesogaster dolichus* Burr (as *Labia*) = *fruhstorferi* Verh., BURR, p. 495, t. c.
- Opisthocosmia poultoni*, Batchian, p. 491, *formosa*, Cameroons, p. 492, BURR, t. c.; *O. aesculapius*, India, BURR, p. 530, Bol. Soc. espan. v; *O. vivax*, India, BURR, p. 30, J. P. Asiat. Soc. Bengal i; *O. bogotensis*, Colombia, REHN, p. 511, P. U. S. Mus. xxix : n. spp.
- Psalis burri*, Paraguay, BORELLI, p. 2, Boll. Mus. Torino xx, No. 516, n. sp.
- Pygidicrana peruviana*, Peru, REHN, p. 510, P. U. S. Mus. xxix, n. sp.
- Sparatta incerta*, Paraguay, BORELLI, p. 11, Boll. Mus. Torino xx, No. 516, n. sp.
- Spingolubis semifulva* Borm., *furcifera* is the ♀, BURR, p. 495, Ann. Nat. Hist. (7) xvi.
- Spongophora apicidentata*, Arizona, CAUDELL, p. 461, P. U. S. Mus. xxviii; *S. bertonii*, p. 5, *confusa*, p. 6, Paraguay, BORELLI, Boll. Mus. Torino xx, No. 516 : n. spp.

## BLATTIDÆ and HEMIMERIDÆ.

- [Cf. ADELUNG (8), BOLIVAR (128), CAUDELL (288, 293, 294), REHN (1239).]
- Notes on Kirby's Catalogue, with list of omitted genera and species, CAUDELL, pp. 85-88, P. ent. Soc. Washington vii.
- Anaplecta abortiva*, Brownsville, CAUDELL, p. 105, Bull. Brooklyn Inst. i, n. sp.
- Attaphila aptera*, Colombia, *sexdentis*, Brazil, p. 137, *schuppi*, Porto Alegre, p. 138, BOLIVAR, Mt. Schweiz. ent. Ges. xi, n. spp.
- Atticola* n. g. *Corydiens* ?, p. 140, *mortoni* n. sp., San Leopoldo, in nests of *Camponotus*, p. 141, BOLIVAR, t. c.
- Blaberus biolleyi*, Costa Rica, REHN, p. 792, P. Ac. Philad. 1905, n. sp.
- Blatta sciwana*, p. 421, *B. (Phyllodromia) desertorum*, p. 424, E. Africa, ADELUNG, Annuaire Mus. St. Petersb. ix, n. spp.
- Ceratinoptera bolivari*, Galla land, ADELUNG, p. 431, t. c. n. sp.
- Derocalymma* : characters, pp. 473-476, ADELUNG, t. c.
- Deropeltis gracilis*, p. 455, *negus*, p. 458, *erythropeza*, p. 460, Abyssinia, *dmitriewi*, Galla land, p. 463, ADELUNG, t. c. n. spp.
- Hemimerus talpoides*, habits, MACLAUD, p. 174, Bull. Soc. ent. France 1905.
- Ischnoptera adusta*, Porto Rico, CAUDELL, p. 237, Canad. Ent. 1905, n. sp.
- Litaneutria minor* and allies, CAUDELL, p. 463, P. U. S. Mus. xxviii.
- Loboptera ras*, Abyssinia, ADELUNG, p. 436, Annuaire Mus. St. Petersb. ix, n. sp.
- Mallotoblatta kraussi*, Abyssinia, ADELUNG, p. 428, t. c. n. sp.
- Nothoblatta* n. g. p. 139, *N. wasmanni* n. sp., San Leopoldo, in nests of *Camponotus*, p. 140, BOLIVAR, Mt. Schweiz. ent. Ges. xi.
- Oxyhaloa lukjanovi*, Abyssinia, ADELUNG, p. 467, Annuaire Mus. St. Petersb. ix, n. sp.
- Phorticolea* n. g. *Ectobiens*, p. 138, *testacea* n. sp., Rio Grande do Sul, p. 139, BOLIVAR, Mt. Schweiz. ent. Ges. xi.
- Pseudoderopeltis conspersipennis*, p. 448, *spectabilis*, p. 451, Abyssinia, ADELUNG, Annuaire Mus. St. Petersb. ix, n. spp.
- Stylopyga flavilatera* ♂, ADELUNG, p. 439, t. c.
- Temnopteryx brunneri*, Abyssinia, ADELUNG, p. 433, t. c. n. sp.

## MANTIDÆ.

[Cf. TEPPER (1473), WERNER (1615).]

- Brunneria borealis*, pl. iii, fig. 3, p. 82, CAUDELL, J. N. York Ent. Soc. xiii.  
*Centromantis* n. g. type *Eremiaphila hedenborgi*, WERNER, p. 404, Anz. Ak. Wien 1904.  
*Eremiaphila tunetana*, Tunis, *heluanensis*, *pyramidum*, Egypt, WERNER, p. 405, t. c. n. spp.  
*Fischeria quinquelobata*, Centr. Australia, TEPPER, p. 238, Tr. R. Soc. S. Austral. xxix, n. sp.  
*Gongylus gongylodes*, WILLEY, p. 198, 2 plates, Spolia Zeylan. ii.  
*Mantis religiosa* in East France, VUILLEMIN, pp. 57, 58, Feuille Natural. xxxv.  
*Tenodera sinensis*, failure of its introduction in New Jersey, SMITH, p. 247, Ent. News Philad. xvi.; *T. sinensis*, persists in N. J., WENZEL, p. 312, t. c.  
*Vates townsendi*, pl. iii, figg. 1, 2, p. 83, CAUDELL, J. N. York Ent. Soc. xiii.

## PHASMIDÆ.

[Cf. BAKER (63), CAUDELL (291, 292, 294), FROGGATT (614), KIRBY (853), LEA (927), REHN (1239), TEPPER (1473).]

- Acrophylla tasmaniensis*, Tasmania, LEA, p. 81, plate, P. Soc. Tasmania 1902; *A. nubilosa*, p. 241, *paula*, p. 242, Australia, TEPPER, Tr. R. Soc. S. Austral. xxix: n. spp.  
*Aplopus mayeri*, Florida, CAUDELL, p. 83, J. N. York Ent. Soc. xiii, n. sp.  
*Bacillus peristhenellus*, Australia, TEPPER, p. 244, Tr. R. Soc. S. Austral. xxix, n. sp.  
*Bucunculus blatchleyi*, Indiana, CAUDELL, p. 212, J. N. York Ent. Soc. xiii, n. sp.  
*Bostra*, table, REHN, p. 795, P. Ac. Philad. 1905.  
*B. jugalis*, Nicaragua, REHN, p. 72, Invert. pacif. i, n. sp.  
*Cyphocrania cornuta*, Australia, TEPPER, p. 240, Tr. R. Soc. S. Austral. xxix, n. sp.  
*Diapheromera persimilis*, Brownsville, CAUDELL, p. 107, Bull. Brooklyn Inst. i, n. sp.  
*Extatosoma tiaratum*, habits, FROGGATT, pp. 519, 520, cuts, Agric. Gaz. N. S. W. xvi.  
*Hoplolibethra* n. g. near *Caulonia*, *tuberculata* n. sp., Brownsville, pl. vi, figg. 1, 2, CAUDELL, p. 108, Bull. Brooklyn Inst. i.  
*Libethra auritus*, Costa Rica, REHN, p. 796, P. Ac. Philad. 1905, n. sp.  
*Lonchodes caurus*, Australia, TEPPER, p. 239, Tr. R. Soc. S. Austral. xxix, n. sp.  
*Necrosia bella*, Australia, TEPPER, p. 243, t. c. n. sp.  
*Ocyphides viridipes*, Costa Rica, REHN, p. 798, P. Ac. Philad. 1905, n. sp.  
*Palophus allridgei*, W. Africa, KIRBY, p. 279, Ann. Nat. Hist. (7) xv, n. sp.  
*Phibalosoma hypharpax*, WILLEY, p. 199, pl., Spolia Zeylan. ii.  
*Podacanthus wilkinsoni*, abundant and injurious in Australia, FROGGATT, p. 515, pl. with fig. of egg, Agric. Gaz. N. S. W. xvi.

## GRYLLIDÆ.

[Cf. BAKER (63), BOLÍVAR (133), CSIKI (379), HANCOCK (720), MORSE (1072), REHN (1239), REHN & HEBARD (1242), VIEHMAYER (1548), VOSS (1555), WASMANN (1588).]

The thorax and organs of flight of *Gryllus domesticus*, Voss, Zeitschr. wiss. Zool. lxxviii.

*Amphiacustes bahamensis*, Bahamas, MORSE, p. 23, Psyche xii, n. sp.

*Cyrtoxipha granadensis*, Nicaragua, REHN, p. 80, Invert. pacif. i, n. sp.

*Éctotrypa brevis*, Costa Rica, REHN, p. 836, P. Ac. Philad. 1905, n. sp.

*Gryllomorpha maghzeni*, Mogador, BOLÍVAR, p. 350, Bol. Soc. espan. v, n. sp.

*Gryllus bryanti*, Bahamas, MORSE, p. 22, Psyche xii, n. sp.

*Liphoptus zebra*, Florida, REHN, p. 49, pl. i, fig. 12, P. Ac. Philad. lviii, n. sp.

*Mogistoplistus baibourii*, Bahamas, MORSE, p. 21, Psyche xii, n. sp.

*Myrmecophila acervorum*, sexes distinguished, CSIKI, Allatt. Kozl. Magyar Tars. iv, pp. 97-100, pl. iv; *M. acervorum*, relations with ants, VIEHMEYER, p. 293, Zeitschr. Insbiol. i; WASMANN, t. c. pp. 333-336.

*Nemobius alleni*, Bahamas, MORSE, p. 21, Psyche xii, n. sp.

*Æcanthus fasciatus*, sex-relations, oviposition, HANCOCK, Amer. Natural. xxxix, pp. 1-11, cuts.

*Æ. marcosensis*, Nicaragua, *rileyi*, p. 81, *rehnii*, p. 82, California, BAKER, Invert. pacif. i, n. spp.

#### LOCUSTIDÆ.

[Cf. BAKER (63), BOLÍVAR (129, 131, 132), BRÈTHES (189), CAUDELL (290), DAVIS (390), DOHRN (443), FROGGATT (613), FUSCHINI (628), KRAUSZE (894), MORSE (1072), NAVÁS (1086), REHN & HEBARD (1242), SCHUSTER (1363), SNODGRASS (1425), SWEZEY (1458), WALKER (1562).]

Wing-dimorphism, in *Xiphidium*, SWEZEY, pp. 218-222, Rep. exp. Stat. Hawaii i.

*Amblycorypha iselyi*, Kansas, CAUDELL, p. 50, J. N. York Ent. Soc. xiii; *A. floridana*, Florida, REHN, p. 42, pl. i, fig. 5, P. Ac. Philad. lviii; n. spp.

*Anabropsis marmorata*, p. 827, *costaricensis*, p. 830, Costa Rica, REHN, P. Ac. Philad. 1905, n. spp.

*Anaulacomera digitata*, Costa Rica, REHN, p. 810, t. c. n. sp.

*Anostosoma*, in Australia, FROGGATT, pp. 480, 481, Agric. Gaz. N. S. W. xvi.

*Anterastes raymondi*, ♂ characters, COBELLI, p. 369, Verh. Ges. Wien 1905.

*Anthracites geniculatus*, Mindanao, *femorialis*, Celebes, DOHRN, p. 241, Stettin Ent. Zeit. lxvi, n. spp.

*Ceuthophilus*, characters of N. American, WALKER, pp. 114-119, pls. iv, v, Canad. Ent. 1905.

*C. pallidipes*, Canada, WALKER, p. 115, pl. iv, fig. 2, t. c. n. sp.

*Cigarra*: this Spanish term is applied to *Locustidae* not to *Cicada*, BOLÍVAR, pp. 90-94, Bol. Soc. espan. v.

*Cocconotus ravus*, Costa Rica, REHN, p. 818, P. Ac. Philad. 1905, n. sp.

*Conocephalus striatus*, *subtilis*, Tonkin, KRAUSZE, p. 43, Ent. Zeitschr. Guben xviii; *C. caudellianus*, New Jersey, DAVIS, p. 289, Canad. Ent. 1905; *C. diversus*, Costa Rica, REHN, p. 825, P. Ac. Philad. 1905; *C. tyristes*, p. 45, pl. i, figg. 8, 9, *hoplomachus*, p. 46, figg. 10, 11, Florida, REHN, P. Ac. Philad. lviii; n. spp.

*Dasyscelus normalis* (= *Pleminiã argentina* Berg), natural history, BRÈTHES, pp. 67-73.

*Ephippigera vitium*, natural history, Germany, SCHUSTER, pp. 81-85, Zool. Garten xlvi.

*Heterocoëtis* (sic) *bakeri*, Nicaragua, REHN, p. 83, Invert. pacif. i, n. sp.

- Hexacentrus fruhstorferi*, Tonkin, p. 237, *femoralis*, Sumatra, p. 238, DOHRN, Stettin Ent. Zeit. lxvi, n. spp.
- Lichenochrus marmoratus*, Costa Rica, REHN, p. 814, P. Ac. Philad. 1905, n. sp.
- Lobaspis hageni*, New Guinea, p. 238, *minuta*, Sumba, *thoracica*, Obi, p. 239, DOHRN, Stettin Ent. Zeit. lxvi, n. spp.
- Macroviphus atomarius*, p. 243, *pictipes*, p. 245, Borneo, *nigrifrons*, Sumatra, p. 246, DOHRN, t. c.; *M. chyzeri*, New Guinea, BOLÍVAR, p. 390, Ann. Mus. Hungar. iii : n. spp.
- Microcentrum rostratum*, Florida, REHN, p. 43, pl. i, figg. 6, 7, P. Ac. Philad. lvii, n. sp.
- Orchelimum erythrocephalum*, New Jersey, DAVIS, p. 288, Canad. Ent. 1905, n. sp.
- Orthoviphus* n. g. for *Agroecia spada* Br., DOHRN, p. 240, Stettin Ent. Zeit. lxvi.
- Parateuthras* n. g. *Conocephalides*, p. 393, *truncatus* n. sp., New Guinea, p. 394, BOLÍVAR, Ann. Mus. Hungar. iii.
- Peranabrus scabricollis*, habits, SNODGRASS, pp. 74-82, pls. i, ii, J. N. York Ent. Soc. xiii.
- Phaneroptera quadripunctata*, attacking galls of *Phylloxera* on vine-leaves, FUSCHINI, pp. 120-126.
- Platēhippius* n. g. for *Platystolus ustulatus* Ramb., NAVÁS, p. 275, Bol. Soc. Aragon. iv.
- Pynogaster cucullata* Charp. (= *jugicola* Graells = *bolivari* Br.), NAVÁS, p. 276, t. c.
- Racoleis maroccana*, Tangier, BOLÍVAR, p. 345, Bol. Soc. espan. v, n. sp.
- Sathrophyllia rugosa*, WILLEY, p. 199, pl., Spolia Zeylan. ii.
- Steirodon*, the type, REHN, p. 807, P. Ac. Philad. 1905.
- Synēhippius* n. g. for *Platystolus obvius* Nav., NAVÁS, p. 275, Bol. Soc. Aragon. iv.
- Teuthras arachnoides*, p. 391, *rubrosignatus*, p. 392, *crassipes*, p. 393, New Guinea, BOLÍVAR, Ann. Mus. Hungar. iii, n. spp.
- Teuthroides* n. g. *Conocephalides*, p. 394, *mimeticus* n. sp., New Guinea, p. 395, BOLÍVAR, t. c.
- Turpilia linearis*, Costa Rica, REHN, p. 812, P. Ac. Philad. 1905, n. sp.
- Xerophyllopteryx* n. n. for *Xeropteryx* Br., REHN, p. 180, Ent. News Philad. xvi.
- Xestophrys horvathi*, New Guinea, BOLÍVAR, p. 388, Ann. Mus. Hungar. iii, n. sp.
- Xiphidiopsis longicercata*, New Guinea, p. 390, *teuthroides*, p. 391, Singapore, BOLÍVAR, t. c. n. spp.
- Xiphidium chavesi*, Azores, BOLÍVAR, p. 180, Bol. Soc. espan. v; *X. redtenbackeri*, New Guinea, BOLÍVAR, p. 389, Ann. Mus. Hungar. iii; *X. insulare*, Bahamas, MORSE, p. 20, Psyche xii; *X. varipenne*, Hawaii, SWEZEY, p. 216, pl. xiv, Rep. exp. Stat. Hawaii, i : n. spp.

## ACRIDIIDÆ.

[Cf. BOLÍVAR (127, 130), BRUNER (205, 206, 670), CAUDELL (287, 289, 294), KUTHY (908), MORSE (1072), NAVÁS (1084), REHN (1238, 1240, 1241), REHN & HEBARD (1242), RÖHLER (1288), SJÖSTEDT (1405).]

Migratory locusts at Velletri, GALLI (634).

Migratory locusts, Africa, SJÖSTEDT, Ent. Tidskr. xxvi, pp. 80-84.

*Achurum minimipenne*, Brownsville, pl. vi, figg. 3, 4, CAUDELL, p. 110, Bull. Brooklyn Inst. i, n. sp.

*Acmophyllum xerophylloide*, *conradti*, p. 211, *nigropunctatum*, p. 212, Africa, BOLÍVAR, Mem. Soc. Espan. i, n. spp.

- Acridium peregrinum*, colour variation, FISCHER, p. 369, J. Bombay Soc. xvi.
- Acrotylus inornatus*, Ilysk, KUTHY, p. 216, Ann. Mus. Hungar. iii, n. sp.
- Ageneotettix australis*, Arizona, BRUNER, p. 110, Biol. Centr.-Amer. Orthopt. ii, n. sp.
- Algete* n. g. *Atractomorphine*, p. 213, *brunneri* n. sp., Pernambuco, p. 214, BOLÍVAR, Bol. Soc. espan. v.
- Annandalea* n. g. *Tagastine*, *robinsoni* n. sp., Malay penins., BOLÍVAR, p. 111, t. c.
- Anniceris truncatus*, Costa Rica, REHN, p. 421, P. Ac. Philad. lvii, n. sp.
- Apotettix minutus*, Florida, REHN, p. 34, t. c. n. sp.
- Aptenopedes clara*, variation, REHN, p. 41, t. c.
- Arbuscula* n. g. *Desmopterine*, p. 110, *cambodjiana* n. sp., Cambodia, p. 111, BOLÍVAR, Bol. Soc. espan. v.
- Arescentica karschi*, Biafra, BOLÍVAR, p. 238, Mem. Soc. Espan. i, n. sp.
- Arphia*, table of species, BRUNER, pp. 119-123, Biol. Centr.-Amer. Orthopt. ii.
- A. difficilis*, p. 124, *aurantipennis*, p. 125, *imperfecta*, p. 126, *calida*, p. 127, *crassa*, p. 128, *townsendi*, *aberrans*, p. 129, *pallidipennis*, *pulchripennis*, p. 131, *decepta*, p. 132, *kæbeleii*, p. 133, N. America and Mexico, id. t. c.; *A. aberrans*, Arizona, BRUNER, p. 467, P. U. S. Mus. xxviii: n. spp.
- Atractomorpha aurivillii* valid, NAVÁS, p. 273, Bol. Soc. Aragon. iv; *A.* table of species, with varr. n., BOLÍVAR, pp. 196-199, Bol. Soc. espan. v.
- A. lanceolata*, Padang, p. 202, *burri*, p. 203, *himalayica*, p. 204, N. India, *sinensis*, China, p. 205, *blanchardi*, Sind, p. 206, *augusta*, Moupin, p. 207, *ambigua*, Shang-hai, *australiana*, Rockhampton, p. 209, *dentifrons*, Ceram, p. 210, *philippina*, Dolores, *dohrni*, Borneo, p. 212, BOLÍVAR, t. c. n. spp.
- Autocara brevipenne*, Mexico, BRUNER, p. 111, Biol. Centr.-Amer. Orthopt. ii, n. sp.
- Badistica ornata*, Ashanti, BOLÍVAR, p. 229, Mem. Soc. Espan. i, n. sp.
- Brunniella* n. g. *Pyrgomorphidae*, p. 299, *antistes* n. sp. ♀, New Guinea ?, p. 300, BOLÍVAR, Bol. Soc. espan. v.
- Buyssoniella* n. g. *Atractomorphine*, *madecassia* n. sp., Nossibé, BOLÍVAR, p. 216, t. c.
- Chimarocephala*; the spp. and varr., *pacifica* varr. n. *incisa*, *obtusa*, CAU-DELL, p. 124, P. ent. Soc. Washington vii.
- Chortophaga meridionalis*, Costa Rica, BRUNER, p. 136, Biol. Centr.-Amer. Orthopt. ii, n. sp.
- Cibotopteryx* n. g. near *Elaeochlora*, *variegata* n. sp., Costa Rica, REHN, p. 408, P. Ac. Philad. lvii.
- Climocephalus pulcher*, Florida, REHN, p. 36, pl. i, figg. 1, 2, t. c. n. sp.
- Colpolopha bruneri*, Costa Rica, REHN, p. 406, t. c. n. sp.
- Coptacra mellifica*, Biafra, BOLÍVAR, p. 235, Mem. Soc. Espan. i, n. sp.
- Coptotettix bilineatus*, p. 217, *minutus*, *angulatus*, p. 218, Africa, BOLÍVAR, t. c. n. spp.
- Crotogonus turanicus*, Ilysk, KUTHY, p. 217, Ann. Mus. Hungar. iii, n. sp.
- Dellia miniatula*, p. 423, *bimaculata*, p. 426, *ovatipennis*, p. 428, Costa Rica, REHN, P. Ac. Philad. lvii, n. spp.
- Deraspiella* n. n. for *Deraspis*, BOLÍVAR, p. 216, Bol. Soc. espan. v.
- Desmoptera moluccensis*, Obi, p. 108, *prasina*, Bismarck Arch., *biroi*, New Guinea, p. 109, BOLÍVAR, t. c. n. spp.
- Dichroplus morosus* ♂, REHN, p. 805, P. Ac. Philad. 1905.
- D. morosus*, Costa Rica, REHN, p. 442, t. c. n. sp.
- Dinotettix* n. g. near *Coptotettix*, *biafrensis*, p. 214, *elegans*, *major*, p. 215 n. spp., Africa, BOLÍVAR, Mem. Soc. Espan. i.

- Dissosteira pictipennis*, p. 163, *planipennis*, p. 164, California, BRUNER, Biol. Centr.-Amer. Orthopt. ii, n. spp.
- Doriella paradoxa*, New Guinea, BOLÍVAR, p. 299, Bol. Soc. espan. v, n. sp.
- Duromia poeensis*, W. Africa, BOLÍVAR, p. 221, Mem. Soc. Espan. i, n. sp.
- Encotolophus coloradensis*, *montanus*, p. 140, *fuliginosus*, *herbaceus*, pl. ii, fig. 13, p. 141, *californicus*, *texensis*, p. 142, N. America and Mexico, BRUNER, Biol. Centr.-Amer. Orthopt. ii, n. spp.
- Eremobia stummeri*, Hysk, KUTHY, p. 217, Ann. Mus. Hungar. iii, n. sp.
- Escalera* n. g. near *Pristocorypha*, p. 231, *opilionoides* n. sp., Biafra, p. 232, BOLÍVAR, Mem. Soc. Espan. i.
- Geloius crassicornis*, Madagascar, BOLÍVAR, p. 285, Bol. Soc. espan. v, n. sp.
- Gerista* n. g. p. 233, *dimidiata* n. sp., W. Africa, p. 234, BOLÍVAR, Mem. Soc. Espan. i.
- Goniatron* n. g. near *Ligurotettix*, p. 112, *planum* n. sp., Mexico, p. 113, pl. i, fig. 20, BRUNER, Biol. Centr.-Amer. Orthopt. ii.
- Hedotettix puellus*, *equestris*, Philippines, NAVÁS, p. 52, Bol. Soc. Aragon. iv, n. spp.
- Heliasius benjamini*, Arizona, CAUDELL, p. 474, P. U. S. Mus. xxviii; *H. costaricensis*, Costa Rica, REHN, p. 402, P. Ac. Philad. lvii: n. spp.
- Hesperotettix curtipennis*, ♂, CAUDELL, p. 465, P. U. S. Mus. xxviii.
- Hippiscus australis*, Mexico, BRUNER, p. 157, Biol. Centr.-Amer. Orthopt. ii, n. sp.
- Ichthiacris* n. g. *Orthacrine*, p. 287, *costulata*, *rehni*, p. 288, *californica*, p. 289, n. spp., Lower California, BOLÍVAR, Bol. Soc. espan. v.
- Jodacris?* *costaricensis*, Carrillo, REHN, p. 430, P. Ac. Philad. lvii, n. sp.
- Lactista oslari*, Arizona, CAUDELL, p. 468, P. U. S. Mus. xxviii, n. sp.
- Leprus interior*, Utah, BRUNER, p. 160, Biol. Centr.-Amer. Orthopt. ii, n. sp.
- Leptomeringthoprora* n. g. near *Xiphola*, p. 436, *brevipennis* n. sp., Costa Rica, p. 437, REHN, P. Ac. Philad. lvii.
- Melanoplus sonomaensis*, California, CAUDELL, p. 124, P. ent. Soc. Washington vii, n. sp.
- Mestobregma gracilipes*, Arizona, CAUDELL, p. 471, P. U. S. Mus. xxviii, n. sp.
- Microtylopteryx* n. g. near *Polysarcus*, *hebaridi*, p. 448, *fusiformis*, p. 449, n. spp., Costa Rica, REHN, P. Ac. Philad. lvii.
- Minorissa* Walk. = (*Phymaptera* Bol.), *M. pustulata* = (*P. jucunda* Bol.), BOLÍVAR, Bol. Soc. espan. v.
- Morphopus* n. g. for African *Amorphopus*, *M. affinis* n. sp., Cameroons, BOLÍVAR, p. 216, Mem. Soc. Espan. i.
- Nerenia* n. g. *Orthacrine*, p. 280, *francoisi* n. sp., Madagascar, p. 281, BOLÍVAR, Bol. Soc. espan. v.
- Odontomelus biafrensis*, p. 219, Africa, BOLÍVAR, Mem. Soc. espan. i, n. sp.
- Edalometopon* n. g. near *Bucephalacris*, *petasatum* n. sp., Costa Rica, REHN, p. 418, P. Ac. Philad. lvii.
- Omura* Walk. = (*Protomachus* Stål) *O. congrua* = (*P. depressus*), BOLÍVAR, p. 215, Bol. Soc. espan. v.
- Orphulella balloui*, Barbados, REHN, p. 178, pl. viii, figg. 2, 3, Ent. News Philad. xvi, n. sp.
- Orthacris maindroni*, India, BOLÍVAR, p. 278, Bol. Soc. espan. v, n. sp.
- Paracinema superba*, East Africa, BOLÍVAR, p. 223, Mem. Soc. Espan. i, n. sp.
- Paroxya dissimilis*, Bahamas, MORSE, p. 20, Psyche xii, n. sp.
- Piezotettix karschi*, BOLÍVAR, p. 213, Mem. Soc. Espan. i, n. sp.
- Platypterna latipes*, Africa, BOLÍVAR, p. 222, t. c. n. sp.
- Plectrotettix varipes*, Paraguay, BRUNER, p. 214, Ent. News Philad. xvi, n. sp.

- Podisma almasyi*, Tien-Shan, KUTHY, p. 218, Ann. Mus. Hungar. iii, n. sp.
- Pristocorypha latruncularia* ♂, BOLÍVAR, p. 232, Mem. Soc. Espan. i.
- Pterotiltus apicalis*, p. 226, *cæruleocephalus*, p. 227, W. Africa, BOLÍVAR, t. c. n. spp.
- P. impennis*-var. n. *multicolor*, BOLÍVAR, p. 228, t. c.
- Rhachicreagra* n. g. near *Polysarcus*, *nothra* n. sp., Costa Rica, REHN, p. 444, P. Ac. Philad. lvii.
- Rhienoderma humilis*, Costa Rica, REHN, p. 414, t. c. n. sp.
- Schistocerca malachitica*, Costa Rica, REHN, p. 439, t. c. n. sp.
- Schultessia* n. g. *Atractomorphinae*, *biplagiata* n. sp., Madagascar, BOLÍVAR, p. 217, Bol. Soc. espan. v.
- Scolocephalus* n. g. *Proscopidae*, *mirabilis* n. sp., Costa Rica, BRUNER, p. 315, Ent. News Philad. xvi.
- Scyllina rubripes*, Himalaya, NAVÁS, p. 53, Bol. Soc. Aragon. iv, n. sp.
- Serpusia blanchardi*, Liberia, BOLÍVAR, p. 238, Mem. Soc. Espan. i, n. sp.
- Sphenacris granulatus*, New Caledonia, BOLÍVAR, p. 279, Bol. Soc. espan. v, n. sp.
- Stenoxypus variegatus* Blanch., BOLÍVAR, p. 105, t. c.
- Strapteleura salina*, *meridionalis*, p. 107, *brachyptera*, p. 108, Mexico, BRUNER, Biol. Centr.-Amer. Orthopt. ii, n. spp.
- Syletria* n. g. *Xipholarum*, *angulata* n. sp., Costa Rica, REHN, p. 433, P. Ac. Philad. lvii.
- Systella siccifolia* hab. ?, p. 304, *annandalei*, Malay penins., p. 305, *gestroi*, Engano, p. 306, *dusmeti*, Borneo, p. 307, BOLÍVAR, Bol. Soc. espan. v, n. spp.
- Teniopoda varipennis*, Costa Rica, REHN, p. 410, P. Ac. Philad. lvii, n. sp.
- Tagasta* n. n. for *Mestra*, p. 111, *insularis* n. sp., Lombok, p. 114, BOLÍVAR, Bol. Soc. espan. v.
- Taxiarchus* n. g. *Proscopidae*, *septentrionalis* n. sp., Costa Rica, BRUNER, p. 314, Ent. News Philad. xvi.
- Teratodes monticollis*, WILLEY, p. 200, pl., Spolia Zeylan. ii.
- Tomonotus ferruginosus*, Arizona, CAUDELL, p. 470, P. U. S. Mus. xxviii, n. sp.
- Trachyrhachis* (= *Mestobregma* Scudd.), BRUNER, p. 259, Ent. News Philad. xvi.
- T. compacta*, N. America, p. 175, *inconspicua*, *townsendi*, Mexico, p. 176, BRUNER, Biol. Centr.-Amer. Orthopt. ii : n. spp.
- Trigonopteryx punctata* var. n. *multireticulata*, BOLÍVAR, p. 302.
- Trimerotropis titusi*, California, CAUDELL, p. 125, P. ent. Soc. Washington vii ; *T. schaefferi*, Brownsville, CAUDELL, p. 112, Bull. Brooklyn Inst. i : n. spp.
- Tropinotus regularis*, Paraguay, BRUNER, p. 215, Ent. News Philad. xvi, n. sp.
- Tryxalis nasuta*, habits and sense organs, RÖHLER, Zool. Jahrb. Anat. xxii, pp. 254-273.
- Uhagonia* n. g. *Atractomorphinae*, p. 214, *sphenarioides* n. sp., Madagascar, p. 215, BOLÍVAR, Bol. Soc. espan. v.
- Verdulia* n. g. for *Pyrgomorpha cycloideum* de Haan, p. 281, *dohrni*, p. 283, *olivacea*, p. 284, n. spp., Sumatra, BOLÍVAR, t. c.
- Zygoclistron* n. g. near *Paraleuas*, *trachystictum* n. sp., Paraguay, REHN, p. 39, Ent. News Philad. xvi.







## XIV. ECHINODERMA.

BY

M. GRANT.

## CONTENTS.

	Page
Introduction . . . . .	3
Corrigenda in Previous Records . . . . .	8
I.—TITLES . . . . .	8
II.—BIOLOGY.	
A. Evolution.	
i General Principles . . . . .	37
ii Relations of Echinoderma . . . . .	38
iii Phylogenies of smaller groups . . . . .	38
B. Morphology.	
i Anatomy . . . . .	38
(This is divided into Classes a—h, as under IV, and each Class is subdivided as follows):—	
1. General Accounts.	
2. Symmetries.	
3. Homologies of Classes.	
4. Skeletal tissue or Stereom.	
5. Skeletal anatomy.	
6. Hydrocoel and associated cavities, Respiratory organs.	
7. Coelom and other Body-cavities and their Contents.	
8. Digestive system. Cuvierian organs.	
9. Nervous systems and sense-organs.	
10. Mesodermal tissues (exc. skeletal).	
11. Axial organ or Ovoid gland.	
12. Generative organs and gonads.	
ii Variation:—	
a. In form . . . . .	(Vacant)
b. In form and surface-characters . . . . .	40
c. In colour . . . . .	40
d. Meristic (1 & 2) . . . . .	40
e. Abnormalities . . . . .	41

	Page
iii Secondary Sexual Characters :—	
a. Differences of Form or Structure . . . . .	(Vacant)
b. Differences of colour . . . . .	(Vacant)
c. Protection of young . . . . .	41
c. Physiology :—	
i General . . . . .	(Vacant)
ii Circulation . . . . .	41
iii Respiration . . . . .	41
iv Alimentation and Digestion . . . . .	(Vacant)
v Excretion and its Products . . . . .	41
vi Sensation . . . . .	41
vii Miscellanea and Experimental . . . . .	41
d. Bionomics :—	
i General Accounts . . . . .	41
ii Special habits . . . . .	41
iii Habitat . . . . .	42
iv Feeding . . . . .	42
v Defence and Protection . . . . .	42
vi Locomotion . . . . .	42
vii Autotomy and Regeneration . . . . .	42
viii Parasites and Commensals . . . . .	42
ix Echinoderms as Food . . . . .	43
x Echinoderms in Geological Aspect . . . . .	43
(Under each of the above a—h indicate Classes as under IV.)	
e. Miscellaneous :—	
i Research and Instruction (a. Preservation. b. Methods of research. c. Museum exhibits and Collections. d. Instruction) . . . . .	43
ii Economics . . . . .	43
iii Bibliography . . . . .	43
iv Historical, Popular notions, &c. . . . .	44
f. Auxology :—	
i General principles . . . . .	44
ii General accounts . . . . .	44
iii Formation of Gonads . . . . .	44
iv Oviposition, Fertilisation, Segmentation . . . . .	44
v Larval stages . . . . .	44
vi Organogeny, 1-12, as under II, B, i. . . . .	44
vii Post-larval growth-stages . . . . .	44
viii Developmental mechanics and Experimental Embryology . . . . .	45

### III.—DISTRIBUTION.

a. Geographical :—	
i General . . . . .	46
ii Atlantic Ocean and adjacent Seas . . . . .	46
iii Indian Ocean and adjacent Seas . . . . .	47
iv Pacific Ocean and adjacent Seas . . . . .	48
v Arctic Ocean and adjacent Seas . . . . .	48
vi Antarctic Ocean and adjacent Seas . . . . .	49

	Page
B. Geological :—	
i General . . . . .	49
ii Cainozoic :—	
a. General . . . . .	49
b. Pleistocene . . . . .	49
c. Pleiocene . . . . .	49
d. Meiocene . . . . .	49
e. Oligocene . . . . .	50
f. Eocene . . . . .	50
iii Mesozoic :—	
a. General . . . . .	50
b. Cretaceous (1. Upper. 2. Lower) . . . . .	51
c. Jurassic (1. Upper. 2. Middle. 3. Lower) . . . . .	53
d. Lias (including Rhaetic) . . . . .	54
e. Trias . . . . .	54
iv Palæozoic :—	
a. General . . . . .	(Vacant)
b. Permian . . . . .	(Vacant)
c. Permo-Carboniferous . . . . .	(Vacant)
d. Upper Carboniferous . . . . .	55
e. Lower Carboniferous . . . . .	55
f. Devonian . . . . .	55
g. Silurian . . . . .	56
h. Ordovician . . . . .	56
k. Cambrian . . . . .	56
l. Pre-Cambrian . . . . .	(Vacant)
IV.—SYSTEMATIC.	
A. Echinoderma, general . . . . .	56
B. Holothurioidea . . . . .	56
C. Echinoidea . . . . .	61
D. Asteroidea . . . . .	77
E. Ophiuroidea . . . . .	82
F. Crinoidea . . . . .	86
G. Cystidea and Edrioasteroidea . . . . .	91
H. Blastoidea . . . . .	91
K. Incertæ Sedis . . . . .	92

## INTRODUCTION.

When official decree stopped the assistance which for thirteen years it has been my pride and pleasure to offer to my colleagues, I was fortunate in persuading Miss Grant to take over the manuscript already prepared for the present issue and to complete the work with such supervision as I could give. She in turn has persuaded me to contribute this introduction and to insert within [ ], as usual, any remarks that might appear serviceable in the body of the Record. Consequently this, the last issue before the *Zoological Record* is amalgamated with the *International Catalogue*, preserves the style of its thirteen predecessors.

I. TITLES. The total 381 exceeds by 11 the number contained in the Record for 1900, when a special effort was made. Of these, however, 36 have not been seen. This is due, not to lack of effort, but mainly to the fact that I handed over to the Recorder a list of over 50 titles, many of which I had been trying to see for several years. A few of these have now been seen; others have been entirely excluded; 14, about which something definite is known, are placed in the ordinary list; while the remaining 22 form an appendix. Thus, it is hoped, these unseen works will not be entirely lost sight of, while at least those published after 1900 may receive attention in the *International Catalogue*.

The numbered titles belong to the following years: uncertain, 2; 1890, 1; 1893, 1; 1894, 3; 1895, 1; 1896, 1; 1897, 2; 1898, 5; 1899, 4; 1900, 3; 1901, 10; 1902, 10; 1903, 18; 1904, 35; 1905, 284; 1906, 1. The number 284 for the titular year has previously only been exceeded by the 288 of 1903, for which year we now know of 335 works. It is therefore probable that over 50 works remain to be recorded for 1905.

II. BIOLOGY. Although no work is conspicuous for either extent or fundamental character, several minor problems receive solutions while others are brought into prominence.

**Anatomy.**—In WOODLAND'S account of spicule-formation in *Echinus* (344) the point of chief interest to us is that the spicule does not begin as a tetrahedron but as an intracellular granule which becomes triradiate. The axial organ and ovoid gland of echinoderms have long afforded matter for controversy. Not unnaturally, since PIETSOHMANN (256) discussing the varied histology and functions of the axial organ in Asteroids, and its connection with the oral blood-lacunae and with their radial extensions, proves that here as in crinoids different organs are confused. For *Isoocrinus* these have been disentangled by REICHENSBERGER (267), who has been able to prove by excellent material of *I. decorus* that an adoral cell-complex, distinct from the glandular portion of the axial organ, but intimately connected with the labial blood-plexus, manufactures lymph-cells, which wander radially outward to the genital rachides of the arms and pinnules, becoming gonads on the way. His paper contains other interesting additions to our knowledge. Holothurians have no axial organ, but one seems to recognise something similar in RUSSO & POLARA'S (283) statement that the formation of gonads in *Phyllophorus* and *Strongylocentrotus* is accompanied by a development of supporting and glandular cells, which latter nourish the gonads. POLARA (258) further shows that in *Phyllophorus* the bilateral symmetry of the genital caeca is not accompanied by corresponding symmetry of the genital lacuna and aboral sinus as is the case in *Synapta*.

By consideration of previous observations and by observation of unstalked Crinoids preserved in alcohol, MINCKERT (214) confirms the views already expressed that the hypozygal and epizygal are complete brachial elements (Bather 1892, Bosshard 1900), and that the syzygy assists autotomy and provides a base for regeneration (Walther 1886, Bather 1896, 1900); he divides regeneration of brachia into simply reproductive, i.e. reproducing the branch as it existed before amputation, and augmentative, i.e. increasing the number of branches by the introduction of axillaries; to the latter he ascribes the origin, both phylogenetic and ontogenetic, of all bifurcations beyond the first; thus, species with more than 10 final series (to which he restricts the term "arms") owe the increased number not to normal growth, but to amputation, presumably autotomous, and augmentative regeneration. It remains for future workers to prove or disprove this ingenious theory by cultivating some many-branched species from early stages onwards.

Minor anatomical notes are scattered through the larger faunistic and systematic memoirs to be mentioned later. Among the smaller papers BELL (25) notes the restriction of podial pores to the proximal arm-region, with probable absence of podia, in *Ophiozona*, *Ophiura*, and *Ophiolipus*, and suggests search for a respiratory compound. KIERNIK (154, 155) shows that in the echinoids examined by him the glandular epithelium of the pedicellariae is columnar in a single layer, that the poison emerges by a single opening, that there are both striped and unstriped muscle fibres, quite distinct, the former probably effecting the rapid movements. The structure of various Palaeozoic Ophiurids leads BATHER (21) to suggest that the vertebrae of this class may be composed of two successive pairs of so-called ambulacra.

**Physiology, Bionomics, Auxology.**—Students of experimental mor-

phology, in which echinoderms are so often the corpora vilia, will find a useful summary and guide in PRZIBRAM (262). Papers on normal development are few. HENDERSON (134) describes the early stages of an asterid, in general like the corresponding stages of *Asterina gibbosa*, but with more yolk. In a paper by VALETTE (324) dealing with new Chalk echinoids, the most valuable part is a study of young *Micraster coranquinum*; these facts of ontogenesis should now be compared with the phylogenetic results of ROWE. Among the important papers on the experimental side are those by GARBOWSKI (106, 107), the remarks on pigment in the latter being of general interest. It is also interesting to learn that GODLEWSKI (115) has reared plutei of Echinoid × Crinoid origin. To the advances in the study of artificial parthenogenesis we cannot here refer, but may note abundant confirmation of the view previously expressed in these pages, that the most exact determination of the species or even variety under examination is a necessity for the purest of physiologists. Interesting physiological and bionomic notes will be found duly indexed, but attention may be directed to the discussion by LUKAS (201) of the stage of consciousness at which Echinoderms have arrived; though based mainly on the observations of others, it presents the matter in a novel and interesting light. The economically important subject of trepang fishery is considered in a pamphlet written for the government of the Dutch East Indies by Dr KONINGSBERGER (166) of Buitenzorg, Java.

III. DISTRIBUTION. DOEDERLEIN (79, 80) contributes to Roemer & Schaudinn's 'Fauna Arctica' a discussion of the distribution of 27 species of Echinoids and 6 of Crinoids, which makes it noteworthy that the only species obtained by those gentlemen in the Arctic were *Stronglocentrotus droebachiensis*, *Antedon eschrichti*, and *A. proluxa*. KEMP (152) has drawn up a useful list of shallow and deep water echinoderms from W. Ireland, marred only by misuse of brackets. KOEHLER & VANEY (164) discuss the deep sea Holothurian fauna of the Indian Ocean as dredged by H.M.S. Investigator, and consider that in general the deep-sea fauna is more broken up and less cosmopolitan than was once supposed. The distribution of various Asterids and Ophiurids collected by the Swedish Magellan Expedition is discussed by LUDWIG (199) who gives many interesting anatomical details. Such are also contained in the description of Holothurians from the Horn and from New Zealand by R. PERRIER (249), who considers that bipolarity is no general principle but a peculiar distribution of a few species, demanding independent explanation in each case. The increased collections of FOURTAU enable him (98) to add much valuable information concerning the Eocene and Upper Cretaceous Echinoids of Egypt.

IV. SYSTEMATIC. Species unfortunately have been founded on larvae before now, but GARBOWSKI (107) is the first to base a systematic division on a minute difference in the ovum alone. On the other hand, the real aid that biometry can render taxonomy is admirably illustrated by EDWARDS (88) from two species of *Holothuria*.

GROBEN (124), following Metschnikoff, places the *Echinoderma* and *Enteropneusta* in a phylum *Ambulacraria* characterized by a prostoma functioning as anus, a secondary ventral mouth-opening, and a hydrocoel.

Among Holothurians, new species of *Myriotrochinae*, a subfamily hitherto known only from Arctic or Sub-Arctic Europe, are described from Korea by ÖSTERGREN (236), whose description (325) of new species of Scandinavian and Arctic Synaptids contains important notes on taxonomy. Keferstein's little known *Rhabdomolgus*, rediscovered off Helgoland, is proved by LUDWIG (196) to be a low form of *Synaptidae*. A new *Psolus* from California is described by FISHER (93). KOEHLER & VANEY (164) introduce 59 new species and the following new genera of deep-sea Holothurians: *Dendrothuria*, *Pseudothuria*, *Allopatides*, *Perizona*,

*Bathyzona*, *Amphideima*, *Benthophyces*, *Euri* [? Eurino-, or Eury-] *plastes*, *Filithuria*, *Gephyrothuria*; perhaps they never recognised the scholarly aptness of the names due to Théel.

New Echinoids from Arctic and Antarctic regions are briefly described by MORTENSEN (220). DOEDERLEIN (78) bases the following new genera on Echinoids obtained by the 'Valdivia': *Pygmaeocidaris*, *Lamprechinus*, *Orechinus*, *Notechinus*, *Mortensenia*; these are distinguished by minute, though not necessarily trivial, characters; the many new species are not figured. Tertiary Echinoids from Italy and Sardinia, Lower Cretaceous Echinoids from Capri, and interesting new species of *Diademopsis* and *Mesodiadema* from the Middle Lias of Italy, are described by AIRAGHI. With the cooperation of LAMBERT, SAVIN (286) has revised the fossil Echinoids of Isère, describing some new species; and in an appendix LAMBERT founds the new genus *Eosalenia*, which apparently is not a Salenid. The paper appears in three forms with two titles and three independent paginations; the fate of my (21) enables me to sympathise with Col. SAVIN in this misfortune. DONCIEUX (81) in collaboration with MIQUEL (215) & LAMBERT (171) has published a useful catalogue of the Nummulitic (Lower Lutetian) fossils of l'Aude and l'Hérault; the Echinoids are specially described by LAMBERT, in whose chapter so many novelties are concealed that one is sincerely grateful for the light shed on them by his own review, but would it not be simpler to use the expressions n. fam., n. g., etc. in the paper itself? His new genera appear to be *Stenaster* (afterwards *Parmulechinus*) and *Pseudobrissus*, neither from the rocks under discussion. The W. African Eocene fauna is increased by an interesting *Echinolampas* described by LAMBERT in CHAUTARD (47). Discussing the Eocene Spatangids of Egypt, FOURTAU (97) proposes the new genera *Heterospatangus* and *Plagiopneustes* and the new subgenus of *Euspatangus*—*Perispatangus*; he places the last two in a new group—*Megapneustidae*, but *Heterospatangus* and *Euspatangus* in the *Euspatangidae*; the genotype of *Hypsospatangus* having been proved a *Trachyspatangus*, FOURTAU thinks to resuscitate the genus by selecting a new genotype, and gives its name to yet another of this sort of family. All these divisions show the danger of relying on the fascioles, and no wonder Mr FOURTAU is sometimes "assez embarrassé." *Fibulina* is a new genus described with other new Eocene Echinoids from Madagascar by TORNIQUIST (316). P. DE LORIOU (195) describes a new Cretaceous *Astropecten* from Patagonia and many new Echinoids from the Tertiary of Spain and Africa, the Lower Cretaceous and Upper Jurassic of Portugal and Mt. Salève. He reestablishes *Echinites excavatus* Leske.

Continuing his report on the *Echinoderma* found off the coast of S. Africa, BELL (25, 26, 27) describes Asteroids, Ophiuroids, and Crinoids, and notes resemblance to both N. Atlantic and Indian Ocean faunas. Inter alia, he describes a new *Palmipes* with 9 rays instead of the usual 5.

The most important work of the year is LUDWIG'S (197) account of the Asteroidea dredged by the Albatross in 1891 and 1899-1900, which establishes the genera *Parastropecten*, *Albatrossia* (nom. preocc.), *Pauliella*, *Sarkaster*, and *Alexandraster*. Although general morphological and taxonomic conclusions are reserved for the author's memoir on the starfish of the German Deep-Sea Expedition, still the present beautiful volume is full of new observations on the skeletal and internal anatomy. FISHER (92) describes, without figuring, 24 new species of starfish from Californian and Alaskan deep waters, including *Cryptopeltaster* n. g. and *Eremicaster* and *Myxoderma* n. s.-gg. The monograph of British Cretaceous Asteroidea is being continued by SPENCER (305) who describes some new species; the previous descriptions by SLADEN are completed by SEARLE'S excellent drawings. The littoral Ophiurids collected by the Siboga are described by KOEHLER (160) who establishes 60 new species and the



genera *Ophiogypsis* and *Astrochalcis*. BATHER (21) describes a new Devonian Ophiurid *Sympterura*.

There is much to be said for MINCKERT'S (213) establishment of a new genus *Decametrocrinus* for the species of *Promachocrinus* with simple arms, and something to be said for his new family *Decametrocrinidae*; but one is curious to know what he will find to say in favour of his Orders *Eleutheroocrinoidea* and *Stylocrinoidea*, which resuscitate an idea that one had thought dead and buried. But even *Palaeocrinoidea* and *Neocrinoidea* are still in the text-books. If the long obscure genus *Cleioocrinus* still remains a puzzle, this is not the fault of SPRINGER'S masterly description (306); it is noteworthy that his appeal to Cisatlantic phylogenists was independently answered in almost the same sense by two of them. Mignon TALBOT (312) publishes interesting and well-illustrated notes on several Lower Devonian crinoids of New York, but still fails to straighten out *Melocrinus* and *Mariocrinus*. Equal confusion attaches to *Cyathocrinus ornatisimus*, a figure of which adorns the cover of the Geological Report of the Fourth District, N.Y. (1843). The original material contained two distinct species of dicyclic inadunate crinoids with pinnulate arms, which in species A are heterotomous, but in species B bifurcate only once. J. M. CLARKE in a memoir (4) published two years ago, but not yet seen in this country, appears to have regarded a specimen of B as the holotype of *C. ornatisimus*. WHITFIELD (339) however has little difficulty in proving that the holotype was a specimen of A, which he agrees with JAEKEL to place in *Cosmocrinus*. For B, WHITFIELD establishes the new genus *Maragnierinus*, which seems intermediate between the Silurian *Gothocrinus* and the Carboniferous *Scytalocrinus*, to which latter CLARKE (4 & 57) referred the genotype. Continuing his researches on the fossil Echinoderms of Stramborg, REMEŠ (269) describes a curious new genus, *Pseudosaccocoma*. BENECKE'S fine monograph on the fossils of the Iron-ore formation of Lothringen and Luxemburg (29) describes an *Isocrinus* known as *Pentacrinus personatus*.

A Professional Paper on Lead, Zinc, and Fluorspar deposits is the hiding-place chosen by ULRICH (321) for valuable notes and excellent figures of Carboniferous Echinoderms including some new Blastoids. A new writer G. H. HUDSON (144) has published some admirable descriptions of interesting Ordovician crinoids and a cystid. Among problematica one mentions *pour mémoire* the *Astrechinus* of JAEKEL (145) though he has not yet published the description.

The following table gives the numbers of the new names proposed in the works indexed.

	New genera	Altered generic names	New sub-genera	New species	New varieties
Holothurioidea	10	0	0	68	8
Echinoidea	12	1	1	81	4
Asteroidea	6	0	2	86	2
Ophiuroidea	3	0	0	64	1
Crinoidea	3	0	0	15	0
Cystidea	0	0	0	1	0
Blastoidea	0	0	0	5	1
Incertae sedis	1 n.n.	0	0	0	0
Total	34 + 1 n.n.	1	3	320	16

Further remarks by me are placed in [ ].

F. A. BATHER.

December, 1906.

## CORRIGENDA in previous Records.

Record for 1900, vol. xxxvii:—

- p. 103. *Phymosoma abbatei*. For 'Santonian not Turonian' read 'Santonian as well as Turonian.'

Record for 1902, vol. xxxix:—

- p. 29. No. 247. For "pp. 1-23" read "pp. 265-287."

Record for 1904, vol. xli:—

- p. 48. *Cucumaria frondosa*, entry under CLARK should read "that recorded from Florida reef probably not this sp., that from Alaska and N. Pacific probably *C. japonica*."
- p. 93. *Agelacrinus chapmani*; AMI (7). Dr Ami desires to explain that, on p. 61 G of his paper, "*Agelacrinites Chapmani*, Billings" is a clerical error for "*Agelacrinites Billingsi*, Chapman."

It is hoped that corrections will, as heretofore, be furnished by authors, so that they may be inserted in future volumes.

## I. TITLES\*.

- ABICH, H. (1) Zool. Rec. 1902. Abstract by N. J. KARAKASCH, Annuaire geol. min. Russie, vii, p. 42.
1. AEBERHARDT, B. Note sur la faune de l'Oxfordien inférieur du Jura bernois. Eclog. geol. Helvet. viii, pp. 439-444. (Jan.)  
[III, B, iii, c, 2.]
2. AGASSIZ, A. On the progress of the Albatross Expedition to the Eastern Pacific. Amer. J. Sci. (4), xix, pp. 143-148. (Feb.)  
[III, A, iv.]
3. ——. Albatross Expedition to the Eastern Pacific. Science (n. s.), xxi, pp. 178-183. (3 Feb.)  
[III, A, iv.]  
Same as the first letter in AGASSIZ (4).
4. ——. Three letters from Alexander Agassiz to the Hon. George M. Bowers, United States Fish Commissioner, on the Cruise, in the Eastern Pacific, of the U.S. Fish Commission steamer "Albatross," Lieut.-Commander L. M. Garrett, U.S.N., commanding. Bull. Mus. Harvard, xlvi, pp. 65-84. (April.)  
[III, A, iv.]
- AIRAGHI, C. (2 & 3) Zool. Rec. 1903. Abstracts: Boll. Com. geol. Ital. xxxv, p. 268 (1904).
5. ——. Echinodermi miocenici dei dintorni di S. Maria Tiberina (Umbria). Atti Acc. Torino, xl, pp. 43-54, i pl. (Jan.)  
[III, B, ii, d. iv, c.]  
Review: by J. LAMBERT, Rev. paleozool. ix, p. 97 (April, 1905).  
Abstract by P. E. V[INASSA DE REGNY], Riv. ital. Pal. xi, p. 37 (June, 1905).

\* An asterisk prefixed to a title indicates that the Recorder has not seen the Paper or Work referred to.

The Symbols in [ ] refer to the divisions of the Subject-Index, II, III, IV. Those referring to the Systematic portion [IV, A-K] are inserted only when some question of definite importance to the systematist is dealt with in the work. The names of the genera mentioned in any work can generally be gathered from the lists given under Distribution [III, A or B], and the species can then be traced by turning to Section IV. Only where this was not possible have names been inserted after the title.

6. [AIRAGHI, C.] *Appunti di Echinologia fossile. Atti Mus. Milano*, xlv, pp. 1-10, pl. i. [III, B, ii, d, f; iii, d. iv, c.]  
Abstracts: by J. LAMBERT, *Rev. paleozool.* ix, p. 161 (July, 1905); by VINASSA DE REGNY, *Riv. ital. Pal.* xi, p. 93 (Aug. 1905).
7. ——. *Echinodermi infracretacei dell' isola di Capri. Riv. ital. Pal.* xi, pp. 82-90, pl. i. (15 May [i.e. end of June].) [III, B, iii, b, 2. iv, c.]
8. ——. *Echinidi miocenici della Sardegna raccolti dal Dott. Capeder. Atti Mus. Milano*, xlvi, pp. 209-217, 2 text-figg. [III, B, ii, d.]
9. ALBERT [HONORÉ CHARLES] (Prince de Monaco). *Sur la campagne de la Princesse Alice. C.R. Ac. Sci.* cxl, pp. 1373-1376. (22 May.) Reprinted as *Bull. Mus. Monaco*, No. 39, 5 pp. (5 June.) [III, A, ii.]
10. AMEGHINO, F. *L'age des formations sédimentaires de Patagonie. An. Soc. Argent.* li, pp. 65-91; liv, pp. 161-180. (April, 1901; Oct. 1902.) [III, B, ii, a.]  
Parts of a series of papers under this title beginning in vol. I, p. 109 (Sept. 1900).
11. AMI, H. M. Preliminary lists of fossil organic remains from the Potsdam, Beekmantown (Calcareous), Chazy, Black River, Trenton, Utica, and Pleistocene formations comprised within the Perth Sheet (No. 119) in Eastern Ontario. Being Appendix to a Report on the Geology by R. W. ELLS. *Ann. Rep. geol. Surv. Canada*, xiv, pp. 80J-89J. (Published separately 1904, volume 1905.) [III, B, iv, h.]
12. AMMON, L. v. *Zur Geologie von Togo und vom Nigerlande. Mt. geogr. Ges. München*, i, pp. 393-474, pl. xix, text-figg. [IV, B, ii, f.]
- ANTHULA, D. J. (18) *Zool. Rec.* 1899. Abstract by N. J. KARAKASCH, *Annuaire geol. min. Russie*, vii, p. 42 (1905).
- ARIOLA, V. (13) *Zool. Rec.* 1904. Abstract by P. MAYER, *Zool. Jahresber.* 1904, p. 15 (Aug. 1905).
- 12A. ——. *Le ipotesi nella partenogenesi sperimentale e la fecondazione normale. Atti Soc. Ligustica*, xiv, pp. 149-159. (1903.) [II, F, viii.]
- 12B. ——. *La merogonia e l' ufficio del nucleo nella fecondazione. Atti Soc. Ligustica*, xv, pp. 196-203. (Dec. 1904, recd. Aug. 1905.) [II, F, viii.]
- 12C. BAGLIONI, S. *Ueber das Sauerstoff bedürfnis des Zentralnervensystems bei Seetieren. Zeitschr. allg. Physiol.* v, pp. 415-434. [II, C, vi.]
13. BAKALOW, P. *Vorläufige Mitteilung ueber die Fauna der Trias und des Jura von Kotel (Bulgarien). Centrbl. Mineral.* 1905, pp. 481-483. (Sept.) [III, B, iii, d, e.]
14. BALL, J. *Kharga Oasis: its topography and geology. Rep. geol. Surv. Egypt*, 1899, Part II, 116 pp., xix pls. (April, 1901.) [III, B, ii, f; iii, b, I.]
15. ——. *On the topographical and geological results of a reconnaissance survey of Jebel Garra and the oasis of Kurkur. Surv. Dept. Egypt*, 8vo, 40 pp., vii pls. Cairo. (1902.) [III, B, ii, f; iii, b, I.]
16. BASSANI, F. *La ittiofauna delle argille marmose plioceniche di Taranto e di Nardò (Terra d' Otranto). Atti Acc. Napoli* (2), xii, No. 3, 59 pp., iii pls. [III, B, ii, b.]  
Abstract by Author, *Riv. ital. Pal.* xii, p. 1 (Feb. 1906).
- BASSLER, R. S. See UNITED STATES NATIONAL MUSEUM (322).

17. BATAILLON, E. La parthénogénèse expérimentale d'après les derniers travaux de J. Loeb. Arch. zool. exp. Notes (4), iii, pp. ccxxxiii-ccxxxv. (Sept.) [II, F, viii.]  
Review of LOEB, J. (185, 186, 187).
18. BATE, DOROTHY M. A. On the ossiferous cave-deposits of Cyprus. Geol. Mag. (n. s.), dec. v, vol. i, pp. 324-325. (July, 1904.) [III, B, ii, d.]
19. BATHER, F. A. The Echinoid name *Discoidea subucula*. Ann. Nat. Hist. (7), xv, pp. 145-148. (Jan.) [II, E, iii. IV, C.]  
Review: by J. LAMBERT, Rev. paleozool. ix, pp. 95-96 (April, 1905). Abstract: by Author, Geol. Centrbl. vi, p. 311 (15 Mar. 1905).
20. —. [Remarks on *Clypeaster ultus* var. *portentosus* from Cyprus, in discussion on paper by C. V. BELLAMY.] P. Geol. Soc. London, 1904-05, pp. 30-31. (Jan.) [III, B, ii, d.]
21. —. *Sympterura minveri*, n. g. et sp.: a Devonian Ophiurid from Cornwall. Geol. Mag. (n. s.), dec. v, vol. ii, pp. 161-169, pl. vi. (April.) [II, B, i, e, 5. III, B, iv, f. IV, E.]  
Republished with *unauthorised* title "A new Ophiurid from Cornwall (*Sympterura Minveri*, n. g. et sp.)," in Tr. geol. Soc. Cornwall, xiii, pp. 71-85, pl. ii: June.  
Abstracts: in J. R. Micr. Soc. 1905, p. 319 (June); by Author, Geol. Centrbl. vi, p. 669 (1 July, 1905); by KAYSER, N. Jahrb. Min. 1906, i, p. -301- (21 April, 1906); in LUDWIG (200).  
— See also BELLAMY (28), NEWTON (227), SPRINGER (306), STOBBS (308), U. S. NAT. MUS. (322).
22. BEADNELL, H. J. L. The Cretaceous region of Abu Roash near the Pyramids of Giza. Rep. geol. Surv. Egypt, 1900, Pt. II, 48 pp., xiii pls., folding map. (1902.) [III, B, iii, b, I.]
23. —. The relations of the Eocene and Cretaceous systems in the Esna-Aswan reach of the Nile Valley. Quart. J. Geol. Soc. lxi, pp. 667-678, text-figg. (30 Nov.) [III, B, iii, b, I.]
24. —. The topography and geology of the Fayum Province of Egypt. Surv. Dept. Egypt, 4to, 102 pp., xxiv pls. Cairo. [III, B, ii, f.]
25. BELL, F. J. The Echinoderma found off the coast of South Africa. Part III. Ophiuroidea. "Marine investigations in S. Africa," vol. iii, pp. 255-260, pl. i. Cape Town. (8 May.) [II, B, i, e, 6. III, A, iii. IV, E.]  
Abstract: J. R. Micr. Soc. 1905, p. 443 (Aug.).
26. —. The Echinoderma found off the coast of South Africa. Part II. Asteroidea. "Marine investigations in S. Africa," vol. iii, pp. 241-253. Cape Town. (9 May.) [II, E, i, a. III, A, iii. IV, D.]  
Abstract: J. R. Micr. Soc. 1905, p. 443 (Aug.).
27. —. The Echinoderma found off the coast of South Africa. Part IV. Crinoidea. "Marine investigations in S. Africa," vol. iv, pp. 139-142, pls. ii-iv. (28 Aug.) [III, A, iii. IV, F.]
28. BELLAMY, C. V. & JUKES-BROWNE, A. J. The geology of Cyprus. 8vo, 72 pp. Printed at Plymouth: "Published by Authority" [? whose]. (July.) [III, B, ii, d.]  
*Ech.* determined by F. A. BATHER.  
— See also BATHER (20).

29. BENECKE, E. W. Die Versteinerungen der Eisenerzformation von Deutsch-Lothringen und Luxemburg. Abh. geol. Karte Elsass (n. s.), vi, 598 pp., lix pls., 4 text-figg. (May.) [III, B, iii, c, 3. IV, F.]
- BERG, L. (24) Zool. Rec. 1904. Abstract by N. J. KARAKASCH, *Annuaire geol. min. Russie*, vii, p. 49 (1905).
30. BERGMANN, W. Echinoderma für 1893. *Arch. Naturg.* 1899, Bd. ii, pp. 461-494. (Nov.) [II, E, iii.]
31. \*BIGNEY, A. J. Experiments on developing eggs. *P. Indiana Ac.* 1901, pp. 95-96. (1902.) [II, F, viii.]
- BLANCKENHORN, M. See FOURTEAU, R.
32. BLASCHKE, F. Die Gastropodenfauna der Pachycardientuffe der Seiseralpe in Südtirol nebst einem Nachtrag zur Gastropodenfauna der roten Raibler Schichten vom Schlernplateau. *Beitr. Pal. Oesterr.-Ung.* xvii, pp. 161-221, pls. xix-xx. [III, B, iii, e.]
33. BOCHENEK, A. O systemie nerwowym mięczaków, oślonic i szkartupni. (Recherches sur le système nerveux des invertébrés — *Anodonta, Distalpia, Synapta.*) *Bull. Ac. Cracovie*, 1905, pp. 205-220, pl. v, 2 text-figg. (Feb.) [II, B, i, b, 9.]  
Abstract in LUDWIG (200).
- BOEHM, J. See VALETTE, A.
34. BOHN, G. Les mystères de la formation de l'oeuf. *Rev. Idées*, ii, pp. 307-310. (15 April.) [II, F, viii.]  
— See also VIGUIER (328).
35. BOISTEL, A. Les fossiles néogènes du Maroc rapportés par M. Paul Lemoine. *Bull. Soc. geol. France* (4), v, pp. 201-208. (July.) [III, B, ii, c.]  
*Rotuloidea* discussed by J. LAMBERT.  
Abstract: by J. LAMBERT, *Rev. paleozool.* x, p. 64 (Jan. 1906).
36. BOLAU, H. Seestern und Einsiedlerkrebse. *Zool. Garten*, xlvi, p. 53. (Feb.) [II, D, iv, d.]
- 36A. BORCHGREVINK, C. Das Festland am Suedpol. Die Expedition zum Südpolarland in den Jahren 1898-1900. 8vo, vi+610 pp., v pls., 321 text-figg., 6 maps. Breslau: Schottlaender. M. 13.50. [III, A, i; vi.]
37. BOUVIER, E. L. & SEURAT, G. *Eumedon convictor*, crabe commensal d'un Oursin. *C.R. Ac. Sci.* cxl, pp. 629-631. (Mar.) [II, D, viii, c.]  
Abstracts: *Nature*, lxxi, p. 479 (16 March, 1905); *J. R. Micr. Soc.* 1905, p. 311 (June).
38. BOVERI, T. Zellen-Studien. v. Ueber die Abhängigkeit der Kerngrösse und Zellenzahl der Seeigel-Larven von der Chromosomenzahl der Ausgangszellen. *Jena Zeitschr.* xxxix, pp. 445-524, pls. xix, xx, 7 text-figg. (18 Apr.) [II, F, viii.]  
Abstracts: *J. R. Micr. Soc.* 1905, p. 574 (Oct. 1905); *Amer. Natural.* xxxix, p. 757 (Oct. 1905); by R. GOLDSCHMIDT, *Zool. Zentrbl.* xii, p. 549 (10 Oct. 1905); in LUDWIG (200).
39. —. Ueber Doppelbefruchtung. *SB. Ges. Wurzburg*, 1905, pp. 8-9. (June.) [II, F, viii.]
40. \*BREITFUSS, L. L. Expedition für wissenschaftlich-praktische Untersuchungen an der Murman-Küste. Zoologische Studien im Barents-Meere auf Grund der Untersuchungen der Expedition; vorläufige Berichte. I. Liste der Fauna des Barents-Meeres. 8 pp. Petersburg. (1904.) [III, A, v.]

41. BRESSON, —. Feuilles de Luz, Tarbes, Urdos. Bull. Carte geol. France, xvi, pp. 87-94. [III, B, iv, h.]
42. BRIVES, A. Les Terrains crétacés dans le Maroc occidental. Bull. Soc. geol. France (4), v, pp. 81-96, pl. i. (April.) [III, B, iii, b, 2.]
- BROILI, F. (32) Zool. Rec. 1902. Abstract by N. J. KARAKASCH, Annuaire geol. min. Russie, vii, p. 41.
43. BROWNE, E. T. Notes on the Pelagic fauna of the Firth of Clyde (1901-1902). P. R. Soc. Edinb. xxv, pp. 779-791. (July.) [III, A, ii.]
44. BUEN, O. DE. La région méditerranéenne des Baléares. Bull. Soc. zool. France, iii, pp. 98-106. (June.) [II, D, iii, a. III, A, ii.]
45. CALVET, L. La station zoologique de Cette. (Son origine, son évolution, son organisation actuelle, avec une esquisse de la faune et de la flore marines de la région et un compte rendu des fêtes jubilaires de la station.) Trav. Inst. Montpellier (2), xv, vi+96 pp., xvi pls. [III, A, ii.]
46. CAREZ, L. La géologie des Pyrénées françaises. Fascicule II : Feuilles de Tarbes et de Luz, pp. 745-1230, pls. iii-xiii. Paris. (1904, recd. Jan. 1906.) [III, B, i.]
- CARPENTER, G. H. See KEMP (152).
- CAZIOT, E. See MAURY (210).
47. CHAUTARD, J. Notes sur les formations éocènes du Sénégal. Bull. Soc. geol. France (4), v, pp. 141-153, pls. iv-v. (July.)  
*Echinolampas anceps* by J. LAMBERT. [III, B, ii, f. IV, c.]  
Abstract by J. LAMBERT, Rev. paleozool. x, p. 64 (Jan. 1906).
- CHECCHIA, G. (39 & 40) Zool. Rec. 1902. Abstracts : by VINASSA DE REGNY, Geol. Centrbl. vii, pp. 504-505 (15 Jan. 1906).—(30) Zool. Rec. 1903. Abstract : Boll. Com. geol. Ital. xxxv, p. 290 (1904).
48. —. Contributo alla conoscenza del Pliocene della Capitanata. L'Escursionista Meridionale, i, pp. 1-3. (March.) [III, B, ii, c.]
49. —. Il gen. *Arbacina* trovato vivente la prima volta in Italia. Natural. Sicil. xvii, pp. 249-252. (1 June.) [III, A, ii.]
50. CHOFFAT, P. Contributions à la connaissance géologique des colonies portugaises d'Afrique. II. Nouvelles données sur la zone littorale d'Angola. 4to, pp. 31-78, iv pls. Lisboa : Commis. geol. Portugal. (July.) [III, B, ii, d ; iii, b, 1.]
51. —. Le Crétacique dans l'Arrabida et dans la contrée d'Ericeira. Commun. geol. Portugal, vi, pp. 1-55. [III, B, iii, b, 1, 2. IV, c.]  
*Echinoderma* determined by P. DE LORIOI.
52. — & DOLLFUS, G. Quelques cordons littoraux marins du Pleistocène du Portugal. Bull. Soc. geol. France (4), iv, pp. 739-753. (Feb.) Also reprinted in Commun. geol. Portugal, vi, pp. 158-173. [III, B, ii, b.]  
Review by J. LAMBERT, Rev. paleozool. ix, p. 164 (July, 1905).
53. CISNEROS, D. JIMÉNEZ DE. De la existencia del lías superior, del tithónico y del infracretáceo en la región NO. de la provincia de Murcia. Bol. Soc. espan. iii, pp. 294-301. (1903.) [III, B, iii, b, 2 ; c, 1.]
54. —. El nummulítico de Agost. Bol. Soc. espan. v, pp. 523-530, 9 text-figg. (Dec.) [III, B, ii, f.]
- CLARK, H. L. (38) Zool. Rec. 1904. Abstract in LUDWIG (200).

55. [CLARK, H. L.] Fauna of New England. 4. List of the Echinodermata. Pap. Boston Soc. vii, 16 pp. (Feb.) [II, E, iv. III, A, ii.]  
Abstract: in LUDWIG (200).
56. CLARKE, E. The fossils of the Waitemata and Papakuru series. Tr. N. Zealand Inst. xxxvii, pp. 413-421, pl. xxxii. (June.)  
[III, B, ii, f.]
- CLARKE, J. M. (69) Zool. Rec. 1901. Abstract by J. LAMBERT, Rev. paleozool. x, p. 227 (Oct. 1906).
57. —. Catalogue of Type Specimens of Paleozoic fossils. Supplement I. Bull. N. York Mus. lxxx, pp. 43-133. (Feb.) [II, E, i, c.]
58. —. With regard to Portage Crinoids. Amer. Geol. xxxv, pp. 246-247. (Apr.) [III, B, iv, f.]
59. —. Professor James Hall and the Troost manuscript. Amer. Geol. xxxv, pp. 256-257. (Apr.) [II, E, iii.]
60. —. Catalogue of Type Specimens of Paleozoic fossils. Supplement II. Rep. N. York Mus. lviii, pp. 58-128. [II, E, i, c.]
- CLAUS, C. See GROBEN (124).
- COCKERELL, T. D. A. See SPRINGER (306).
61. COLGAN, N. Notes on the invertebrate fauna of Skerries, Co. Dublin. Irish Natural. xiv, pp. 205-213. (Oct.)  
[II, E, iv. III, A, ii.]
62. COLTON, B. P. Zoology: Descriptive and practical. Part I. Descriptive, pp. x+376, frontisp. & text-figg. Part II. Practical, pp. xviii+204, 8vo. Boston: Heath & Co. (s.a. [i.e. 1903]). London. (s.a. [i.e. Feb. 1904].) [II, B, i, c & d, I: E, i, d.]  
Review: by J. H. GEROULD in Science (n.s.), xviii, pp. 112-113 (24 July, 1903).
63. COUFFON, O. Étude critique sur les faluns de Chalennes. (Gisement des Pierres-Blanches.) Bull. Soc. Angers (n.s.), xxxiv, pp. 155-222. [III, B, ii, d.]
64. CRAGIN, F. W. Palaeontology of the Malone Jurassic formation of Texas. With stratigraphical notes on Malone Mountain and the surrounding region near Sierra Blanca, Texas, by T. W. STANTON. Bull. U. S. Geol. Surv. No. 266, 172 pp., xxix pls.  
[III, B, iii, b, 2; c, I.]  
Abstract: by A. H. F[oord], Geol. Mag. (n.s.), dec. v, vol. iii, p. 328 (July, 1906).
- CROSSMAN, R. W. See WEED (322).
- CUENOT, L. See LOEB (192).
65. DACQUÉ, E. Beiträge zur Geologie des Somalilandes. II Teil. Oberer Jura. Beitr. Pal. Oesterr.-Ung. xvii, pp. 119-159, pls. xiv-xviii. (Feb.) [III, B, iii, c, I. IV, c.]  
Abstract in LUDWIG (200).
- DALL, W. H. See UNITED STATES NATIONAL MUSEUM (322).
66. DAVEY, E. C. The Neocomian sponges, Bryozoa, Foraminifera, and other fossils of the sponge-gravel beds at Little Coxwell, near Farringdon. 8vo, 44 pp., v pls. London: Dulau, 5/-. (April.)  
[III, B, iii, b, 2.]
67. —. The leading fossils of the Upper and Lower Greensands of Wilts and Berks. P. Bath Club, x, pp. 412-422, map.  
[III, B, iii, b, I, 2.]

68. DAVIS, J. R. A. The natural history of animals. 8 half-vols., 8vo, numerous text-figg. 7s. each. London: Gresham Press. (1903.)  
[II, B, i, a, I: B, i, a, 9;  
iii, c: c, iii: D, ii; iv, a; v; vi; vii, d; ix: E, ii: F, ii, a.]
69. DEECKE, W. Einige neue Aufschlüsse im Flötzgebirge Vorpommerns und allgemeine Charakterisierung der pommerischen Kreideformation. *Zeitschr. Deutsch. geol. Ges.* lvii, Briefl. Mitt. pp. 11-26.  
[III, B, iii, b, I.]
70. DELAGE, Y. Nouvelles expériences de parthénogénèse expérimentale chez *Asterias*. *C.R. Ac. Sci.* cxl, pp. 1369-1370. (22 May.)  
Abstract in LUDWIG (200). [II, F, viii.]
71. ——. Nouvelles expériences de parthénogénèse expérimentale. *Arch. zool. exp. Notes* (4), iii, pp. clxiv-clxviii. (July.) [II, F, viii.]  
Abstract in LUDWIG (200).
72. ——. Influence de quelques facteurs sur la parthénogénèse expérimentale. *C.R. Ac. Sci.* cxli, pp. 1201-1204. (26 Dec.) [II, F, viii.]  
Abstract: *J. R. Micr. Soc.* 1906, p. 422 (Aug.).
73. DENINGER, K. Die Jura- und Kreidebildungen in Nord- und Ost-Sardinien. *N. Jahrb. Min., Beil. Bd.* xx, pp. 436-444. (20 July.)  
[III, B, iii, c, 3.]
74. DEPÉRET, C. Aperçu sommaire sur la géologie du massif du Canigou. *Soc. Pyrenees-or.* xlvi, pp. 421-441. [III, B, iv, h.]
75. DE STEFANO, G. Fossili cretacei nel Bartoniano di Platì (Calabria). *Atti Mus. Milano*, xliii, pp. 331-382, i pl. (Jan.) [III, B, iii, b, I.]
76. DIBLEY, G. E. The fauna and lithological features of the Chalk in the Rochester district. *Rochester Natural.* iii, pp. 297-304. (Jan.)  
[III, B, iii, b, I.]
77. DITLEVSEN, A. Meddelelse om Fiskeriundersøgelserne ved Færøerne og Nord Island i Sommeren 1902. [Communication on fishery investigations at the Faeroes and N. Iceland during the summer of 1902.] *Fiskeri-Beretn. for 1901-1902.* (1903 [recd. in London, Feb. 1906].) [II, D, ix.]
78. DOEDERLEIN, L. Ueber Seeigel der deutschen Tiefsee-Expedition. *Zool. Anz.* xxviii, pp. 621-624. (14 March.)  
Abstract in LUDWIG (200). [III, A, iii. iv, c.]
79. ——. Arktische Seeigel. *Fauna Arctica*, iv, pp. 373-394. (7 Sept.)  
[II, E, iii. III, A, v.]
80. ——. Arktische Crinoiden. *Fauna Arctica*, iv, pp. 395-406. (7 Sept.)  
[II, E, iii. III, A, v.]
- DOLLFUS, G. See CHOFFAT (52).
81. DONCIEUX, L. Catalogue descriptif des fossiles nummulitiques de l'Aude et de l'Hérault. Première Partie: Montagne Noire et Minervoises. *Ann. Univ. Lyon* (n. s.), i, fascicule 17, 184 pp., v pls.  
[III, B, ii, f.]  
En collaboration avec J. MIQUEL et J. LAMBERT [qq. v.]
82. DOUGLASS, E. Some notes on the geology of south-western Montana. *Ann. Carnegie Mus.* iii, pp. 407-428. (Mar.) [III, B, iv, e.]
83. DOUVILLÉ, H. Le Terrain nummulitique du bassin de l'Adour. *Bull. Soc. geol. France* (4), v, pp. 9-54. (Apr.) [III, B, i; ii, f.]  
——. See also ROESSINGER (278).
84. DOUVILLÉ, R. & JOURD'Y, H. Le Jurassique du sud Tunisien. *Bull. Soc. geol. France* (4) v, pp. 567-568. (Nov.) [III, B, iii, c, I.]
- DRIESCH, H. (70) *Zool. Rec.* 1903. Abstract: by O. MAAS, *Zool. Zentrbl.* xii, p. 424 (22 Aug. 1905).



85. [DRIESCH, H.] Zur Cytologie parthenogenetischer Larven von *Strongylocentrotus*. Arch. Entwicklmech. xix, pp. 648-657, 6 text-figg. (28 July.)  
Abstract in LUDWIG (200). [II, F, viii.]
86. —. Ueber das Mesenchym von unharmonisch zusammengesetzten Keimen der Echiniden. Arch. Entwicklmech. xix, pp. 658-679, 9 text-figg. (28 July.) [II, F, viii.]  
Abstract in LUDWIG (200).
87. —. Altes und Neues zur Entwicklungsphysiologie des jungen Asteridenkeimes. Arch. Entwicklmech. xx, pp. 1-20, 26 text-figg. (20 Oct.) [II, B, i, d, 2: F, viii.]  
Abstract in LUDWIG (200).
- DUBOIS, A. See SCHARDT, H.
- DU TOIT, A. L. See TOIT, A. L. DU (315).
88. EDWARDS, C. L. A quantitative study of *Holothuria atra* Jäger and the re-establishment of *Holothuria floridana* Pourtalés (= *Holothuria mexicana* Ludwig). Science (n. s.), xxi, pp. 383-384. (10 March.) [II, B, i, b: F, vii, b. IV, B.]  
Abstract in J. R. Micr. Soc. 1905, p. 704 (Dec.).
- ERTBORN, O. VAN. See VAN ERTBORN, O.
89. ESCHER-HESS, C. Mikroskopische Untersuchung einiger Sedimente. 8vo, 28 pp., 14 tables, vi pls. [Zürich]. (1903.) [II, D, x.]  
Abstract: by C. SARASIN, Eclog. geol. Helvet. viii, pp. 288-291 (Oct. 1904).
- F[ARMER], J. B. See MAAS (202).
90. \*FAUVEL, P. Histoire naturelle de la presqu'île du Contentin. III Faune. Extrait de "Cherbourg et le Contentin," volume publié à l'occasion du congrès de l'Ass. franc. Av. Sci. à Cherbourg, pp. 47-92. [III, A, ii.]
91. FAVRE, J. W. Myelov'iya Okamenyelosti Slavjanoserbskagho Uyezda Ekaterinoslavskoi ghub. (Sur les fossiles crétacés au district de Slavianoserbsk du gouvernement d'Ekatherinoslaw.) Trudi Kharkov. Univ. xxxviii (2), pp. 89-174, pls. i-iv. (1904.) [III, B, iii, b, 1.]
- 91A. FISCHER, M. H. & OSTWALD, W. Zur physikalisch-chemischen Theorie der Befruchtung. Arch. ges. Physiol. cvi, pp. 229-266. (1 Feb.) [II, F, viii.]
92. FISHER, W. K. New starfishes from deep water off California and Alaska. Bull. U. S. Bureau Fisheries, xxiv, pp. 291-320. (10 June.) [II, B, ii, c: D, viii, d. III, A, iv. IV, D.]
93. —. A new *Psolus* from Monterey Bay, California. Zool. Anz. xxix, pp. 573-576, 13 text-figg. (12 Dec.) [III, A, iv. IV, B.]
94. FLEGEL, K. Die obere Kreide in der Gegend von Oppeln, nach R. LEONHARD. Zeitschr. Deutsch. geol. Ges. lvi, Protok. pp. 256-259. (1904 i.e. 1905, recd. December.) [III, B, iii, b, 1.]
95. —. Exkursion auf die Heuscheuer. Zeitschr. Deutsch. geol. Ges. lvi, Protok. pp. 303-306, 1 text-fig. (1904, i.e. 1905, recd. December.) [III, B, iii, b, 1.]
- F[OORD], A. H. See CRAGIN (64).
96. FOUREAU, F. Documents scientifiques de la Mission Saharienne. Mission Foureau-Lamy, Tome ii, comprising pp. 555-1210, pls. vi-xxx. Chap. VII, Geologie, pp. 555-749. Paris: Masson.  
For Palaeontology, see HAUG (130). [III, B, i; iv, e.]
- FOURTAU, R. (88) Zool. Rec. 1903. Abstract by M. BLANCKENHORN, Geol. Centrbl. viii, p. 573 (15 Nov. 1906).

97. [FOURTAU, R.] Sur quelques "Spatangidae" de l'Éocène d'Égypte. C.R. Ass. Franc. xxxiii, pp. 602-613, pl. i. [III, B, ii, f.]  
Review: by J. LAMBERT, Rev. paleozool. x, pp. 184-185 (July, 1906).
98. —. Notes sur les Échinides fossiles de l'Égypte. Bull. Inst. Egypt. (4), v, pp. 121-140, pl. i. (Dec.) [II, B, ii, e. III, B, ii, f; iii, b, 1. IV, c.]  
Review: by J. LAMBERT, Rev. paleozool. x, pp. 181-183 (July, 1906).
- FOX-STRANGWAYS, C. See STRANGWAYS, C. F.
99. \*FRAIPONT, J. Choix de fossiles caractéristiques des dépôts sédimentaires à l'usage des étudiants en géologie et des ingénieurs des mines. 2nd edition, 12mo, xlv pls. Paris and Liège: Béranger. (1901.) [II, E, i, d.]
- FRIC, A. See FRITSCH, A.
- 99A. FRIEDENTHAL, H. Ueber einen experimentellen Nachweis von Blutverwandtschaft. Arch. Anat. Physiol. 1900, pp. 494-508. (1900.) [II, c, vii.]
100. FRITSCH, A. Vorläufige Notiz ueber Miscellanea palaeontologica aus Böhmen und America. SB. Bohmisch. Ges. 1905, No. xxi, 3 pp. (25 July.) [III, B, iv, h. IV, f.]  
Abstract: by J. PERNER, Geol. Centrbl. vii, p. 431 (1 Jan. 1906).
101. FUCHS, T. Ueber *Parapsonema cryptophysa* [sic] Clarke und deren Stellung im System. Centrbl. Mineral. 1905, pp. 357-359. (15 June.) [IV, k.]
102. FUCINI, A. *Loriolella ludovicii* Mngh. Nuovo genere di echino irregolare. Ann. Univ. Toscane, xxiv, 8 pp., i pl. (1904.) [III, B, iii, d. IV, c.]  
Abstract: by VINASSA DE REGNY, Geol. Centrbl. vi, p. 311 (15 Mar. 1905).
- 102A. FURNEAUX, W. S. The sea shore. 8vo, xviii + 436 pp., viii pls., 313 text-figg. London: Longmans, 6s. net. (1903.) [II, B, i, a, 1: E, i, a.]
103. GAÁL, S. Adatok az Osztróski-Vepor andesit-tufáinak mediterrán faunájához. Foldtani Kozl. xxxv, pp. 288-313, 7 text-figg. Beiträge zur mediterranen Fauna des Osztróski-Vepor Gebirges, pp. 338-365. (July.) [III, B, ii, d.]
104. GALLUP, ANNA B. The starfish and its relatives. Children's Museum News, 1905, pp. 57-60. (March.) [II, D, i.]  
GARBOWSKI, T. (96) Zool. Rec. 1904. Abstract: by O. MAAS, Zool. Zentrbl. xiii, pp. 109-110 (27 Feb. 1906).
105. \*—. Z badań nad sztuczną partenogenezą u rozgwiazd. [...artificial parthenogenesis in starfish.] Rospr. Ak. Krakow, xliii. (1904.) [II, F, viii.]
106. O rozwoju larw jeżowców bez entodermy. (Ueber die Entwicklung von Seeigellarven ohne Entoderm.) Bull. Ac. Cracovie, Cl. Math. Nat., 1905, pp. 581-598, 6 text-figg. (Oct.) [II, F, viii.]  
Abstracts: by O. MAAS, Zool. Zentrbl. xiii, p. iii (27 Feb. 1906); in LUDWIG (200).
107. —. O biegunowości jaja jeżowców (Ueber die Polarität des Seeigelleies.) Bull. Ac. Cracovie, Cl. Math. Nat., 1905, pp. 599-635, pl. xvii. (Oct.) [II, c, v: F, iii; v, c; viii. IV, c.]  
Abstract in LUDWIG (200).

108. GARREY, W. E. The osmotic pressure of sea water and of the blood of marine animals, including some observations on the permeability of animal membranes. Biol. Bull. viii, pp. 257-270. (March.) [II, c, iii.]  
Abstract: T. c. pp. 239-240.
- GAUTHIER, V. (100) Zool. Rec. 1903. Abstract by A. TORNQUIST, N. Jahrb. Min. Bd. i, 1906, p. 156. (3 Feb.)
109. \*GERBER, E. Beiträge zur Geologie der ostlichen Kientaleralpen. Denk. Schweiz. Ges. xl, pp. 19-88, iii pls., 29 text-figg. [II, B, ii, f.]
- GEROULD, J. H. See COLTON (62).
110. GIARD, A. Les origines de l'amour maternel. Rev. Idées ii, pp. 249-274. (15 April.) [II, B, iii, c: d, viii, a.]
111. —. La Poecilogonie. Congr. Zool. internat. vi, pp. 617-646. (25 May.) [II, F, i.]
112. GIRARDOT, A. Études géologiques sur la Franche-Comté septentrionale. Paléontostatique Jurassique. 8vo, vi+398 pp. Besançon: Marion. [III, B, iii, c, 3, d.]
113. GIRTY, G. H. The relations of some Carboniferous faunas. P. Washington Ac. vii, pp. 1-26. (20 June.) [III, B, iv, d.]
114. GLENN, L. C. Gerard Troost. Amer. Geol. xxxv, pp. 72-94, pl. v. (Feb.) [II, E, iv.]
115. GODLEWSKI, E., JUN. Skrzyżowanie jeżowców z liliowcami. Die Hybridisation der Echinideen- und Crinoideenfamilie. Bull. Ac. Cracovie, 1905, pp. 501-506. (July.) [II, F, viii.]  
Abstract: in J. R. Micr. Soc. 1906, p. 33 (Feb.).
- GOLDSCHMIDT, R. See BOVERI (38), GURWITSCH (126), KRAHELSKA (168), LOEB (186), PETRUNKEWITSCH, A.
116. GOSSELET, J. Les assises crétaciques et tertiaires dans les fosses et les sondages du nord de la France. Fascicule I: Région de Douai. xii+146 pp. (1904.) [III, B, iii, b, I.]
117. GRAEFFE, E. Uebersicht der Fauna des Golfes von Triest nebst Notizen ueber Vorkommen, Lebensweise, Erscheinungsweise und Laichzeit der einzelnen Arten. x. Arb. Inst. Wien, xv, pp. 317-332. (July.) [II, D, viii, f.]
118. GRAVE, C. The tentacle reflex in a Holothurian *Cucumaria pulcherrima*. ["C. sp.?" Auct. corr.] Johns Hopkins Univ. Circ. No. 178, pp. 25-27. (May.) [II, c, vi: d, iii, b.]  
Abstracts: in LUDWIG (200); in J. R. Micr. Soc. 1905, p. 704 (Dec.).
119. —. The Fisheries Laboratory at Beaufort, sixth season. Science (n. s.), xxi, pp. 732-737. (12 May.) [II, D, vii, c. II, F, viii.]
120. GREGORY, EMILY R. An unnoticed organ of the Sand-dollar, *Echinarachnius parma*. Prelim. Abstr.: Science (n. s.), xxi, p. 270. (17 Feb.) [II, B, i, c, 8.]
121. GRIEG, J. A. *Goniaster nidarosiensis*, Storm og dens synonymer. Bergens Mus. Aarbog, 1905, No. 3, 14 pp., 5 text-figg. (April.) [II, B, ii, b. III, A, ii. IV, D.]
122. —. Nogle Bemaerkninger om *Pentagonaster granularis* Retz. Norske Selsk. Skr. 1905, No. 6, 14 pp. (Dec.) [II, B, ii, b; d, I. III, A, ii. IV, D.]  
— See also NORDGAARD (230).

123. GRIFFITHS, A. B. On Echinoderm and other Invertebrate pigments. *Chemical News*, xci, pp. 90-91. (24 Feb.)  
[II, B, ii, c : c, v.]
124. GROBBEN, K. *Lehrbuch der Zoologie, begründet von C. CLAUS, von KARL GROBBEN. 7. neu bearbeitete Auflage. Zweite Hälfte.* (Bogen 31-60), 8vo, pp. i-x & 481-955, text-figg. 508-906. Marburg i. H.: Elwert, M. 7.50. [II, A, ii : B, i, a, 1 : E, i, d. IV, A.]  
*Echinodermata* pp. 653-680.  
Abstract : by A. SCHUBERG, *Zool. Zentrbl.* xiii, pp. 142-145 (27 Mar. 1906).
- GUÉBHARD, A. See KILIAN (156).
125. GURWITSCH, A. *Morphologie und Biologie der Zelle.* 8vo, xxii+438 pp., 239 text-figg. Jena: Fischer, M. 9. (1904.)  
[II, F, viii.]
126. —. Ueber die Zerstörbarkeit des Protoplasmas im Echinodermen. (Vorläufige Mitteilung.) *Anat. Anz.* xxvii, pp. 481-487, 1 text-fig.  
[II, c, vii.]  
Abstract : by R. GOLDSCHMIDT, *Zool. Zentrbl.* xiii, p. 212 (27 April, 1906).
127. HALLEZ, P. Quelques réflexions sur la classification embryologique des Métazoaires, &c. *Rev. Biol. Nord France*, vi, pp. 1-39. (Oct. 1893.) [II, A, ii.]
128. —. Notes fauniques. *Arch. Zool. exp.* (4), iii, pp. xlvii-lii. (Feb.) [III, A, ii.]
129. HAMANN, O. Echinodermen (Stachelhäuter). v Klasse. Crinoidea, Seelilien. *Bronn's Klassen und Ordnungen des Thierreichs*, ii, Abth. 3, Lief. 67-70, pp. 1431-1494, pls. i-iv. (Jan.) [II, B, i, f, 1, 4, 5, 6, 7, 9, 10, 11 : E, iii, iv.]
- HARBORT, —. See WEGNER (333).
130. HAUG, E. Documents scientifiques de la Mission Saharienne. Mission Foureau-Lamy par F. Foureau. Tome II, chapter VIII. Paléontologie. 4to, pp. 751-832, pls. xii-xvii. Paris: Masson.  
See FOUREAU (96). [III, B, iv, e, f.]
131. HAWELKA, V. Einige geologische Beobachtungsdaten ueber das Gacko polje und seine Umgebung. *Verh. geol. Reichsanst.* 1905, pp. 113-118. [III, B, ii, f.]
132. HAYDEN, H. H. Preliminary note on the geology of the provinces of Tsang and Ü in Tibet. *Rec. Geol. Surv. India*, xxxii, pp. 160-174, pl. vii. [III, B, iii, b, c.]
133. HEDLEY, C. "exhibited...a holothuria." *P. Linn. Soc. N. S. Wales*, xxx, p. 101. (14 July.) [III, A, iv.]
134. HENDERSON, E. H. Some observations on the development of an Asterid with large yolky eggs from the Franklin Islands. *Ann. Nat. Hist.* (7), xvi, pp. 387-392, pls. xii-xiii. (Oct.) [II, E, i, b : F, v, d.]
- HÉROUARD, E. (121) *Zool. Rec.* 1904. See KEMNA (151).
135. HERTEL, E. Ueber die Einwirkung von Lichtstrahlen auf den Zellheilungsprozess. *Zeitschr. allg. Physiol.* v, pp. 535-565, 8 text-figg. [II, F, viii.]  
Abstract in LUDWIG (200).
136. HERTWIG, R. A manual of zoology. Translated and edited from the 5th German edition by J. S. KINGSLEY. 8vo, xii + 704 pp., 672 text-figg. New York: Holt (1902); London: Bell, 12s. 6d. (Oct. 1903.) [II, B, i, a, 1 ; b, 1 ; f, 8 : E, i, d.]  
*Echinoderma* pp. 329-351. American genera marked with asterisk.

- 136A. [HERTWIG, R.] Lehrbuch der Zoologie. 7<sup>te</sup> Auflage. 8vo, xii + 624 pp., 581 text-figg. Jena: Fischer. (May.) M. 11.50.  
[II, B, i, a, 1: E, i, d. IV, F.]
137. —. Ueber das Problem der sexuellen Differenzierung. Verh. Deutsch. zool. Ges. 1905, pp. 186-214. [II, F, iii.]  
HERTWIG, O. See JAEKEL (145).
138. HIND, W. A monograph of the British Carboniferous Lamelli-branchiata. Vol. ii, Part 2, pp. 35-124, pls. vii-xxi. London: Palaeontogr. Soc. (1903.) [III, B, iv, d.]
139. —. Life-zones in the British Carboniferous rocks. Report of the Committee. Rep. Brit. Ass. 1904, pp. 226-237, 4 text-figg. (May.) [III, B, iv, d, e.]  
— See also STROBIS (308).
140. HITZEL, E. Sur les fossiles de l'étage Albien recueillis par M. A. Guébard dans la région d'Escagnolles (A.-M.). Bull. Soc. geol. France (4), ii, pp. 874-881. (Aug.) [III, B, iii, b, 1.]  
Also published in Trav. Lab. geol. Grenoble, vii, pp. 436-442.  
Review: by J. LAMBERT, Rev. paleozool. x, p. 62 (Jan. 1906).
141. HODGSON, T. V. Preliminary report of the biological collections of the "Discovery." Geogr. Journ. xxv, pp. 396-401. (April.) [III, A, vi.]
142. HØRRING, R. Rapport om Fiskeriundersøgelserne under Færøerne og Island i Sommeren 1901. Fiskeri-Beretn. for 1900-1901, pp. 181-209. (1902, recd. in London, Feb. 1906.)  
[II, D, iii, a; ix. III, A, ii.]
143. HUCKE, K. Gault in Bartin bei Degow (Hinterpommern). Zeitschr. Deutsch. geol. Ges. lvi, pp. 165-173, pl. xxiii, 2 text-figg. (1904, i.e. 1905, received in December.) [II, B, i, c, 5. III, B, iii, b, 1.]
144. HUDSON, G. H. Contributions to the fauna of the Chazy Limestone on Valcour Island, Lake Champlain. Bull. N. York Mus. lxxx=Rep. N. York State Paleontologist, 1903, pp. 270-295, v pls. (Feb.) [II, A, i. III, B, iv, h. IV, F, G.]  
HUTTON, F. W. (129) Zool. Rec. 1904. Abstract: by J. MEISENHEIMER, Zool. Zentrbl. xii, pp. 700-702 (14 Nov. 1905).
145. JAEKEL, O. *Astrechinus pentagonus*. Verh. Deutsch. zool. Ges. xv, pp. 153-154. (Nov.)  
Discussion only, by H. E. ZIEGLER, R. HERTWIG, & O. HERTWIG.  
JANSSENS, F. A. (136) Zool. Rec. 1904. Abstract: by P., Rev. Scient. (5), iii, p. 250 (25 Feb. 1905).  
JIMÉNEZ DE CISNEROS, D. See CISNEROS, D. JIMÉNEZ DE.
146. JOHNSON, C. W. Annotated list of the types of invertebrate Cretaceous fossils in the collection of the Academy of Natural Sciences, Philadelphia. P. Ac. Philad. lvii, pp. 4-28. (March.) [II, E, i, c. III, B, iii, b.]
147. JOHNSTONE, J. Trawling observations and results. P. Liverp. biol. Soc. xix, pp. 216-241. [III, A, ii.]
148. JONKER, H. G. Beiträge zur Kenntnis der Sedimentärgeschiebe in Niederland. Der "Hondsrug" in der Provinz Groningen. Einleitung—Cambrische und untersilurische Geschiebe. Mt. min.-geol. Inst. Groningen, i, pp. 45-172. (Dec.) [III, B, iv, h.]

149. JOUBIN, L. [M. A. O. E.] Cours d'Océanographie fondé à Paris par S.A.S. le Prince de Monaco. Leçons I-V. Bull. Mus. Monaco, No. 45, 185 pp., i pl., 177 text-figg. (June.) [II, D, i.]  
Abstract : by F. ZSCHOKKE, Zool. Zentrbl. xiii (27 Mar. 1906).
- JOURDY, H. See DOUVILLÉ (84).
150. JUKES-BROWNE, A. J. The geology of the country south and east of Devizes. (Explanation of Sheet 282.) Mem. geol. Surv. England and Wales, vi+62 pp. [III, B, iii, b, 1.]  
— See also BELLAMY (28).
- KARAKASCH, N. J. (143) Zool. Rec. 1902 and (163) Zool. Rec. 1903. Abstract by Author, Annuaire geol. min. Russie, vii, p. 40 (1905).  
— See also ABICH, H., ANTHULA, D. J., BERG, L., BROILL, F., SIEMIRADZKI (301).
- KAYSER, —. See BATHER (21).
151. KEMNA, A. Une nouvelle phylogénie des échinodermes : la "Pentasomaea" de Hérouard. Bull. Soc. zool. malac. Belgique, xl, pp. xxxix-xlvi. (Nov.) [II, A, ii.]  
— See also NEVIANI, A.
152. KEMP, S. W. The marine fauna of the west coast of Ireland. Part III. Echinoderms of Ballynakill and Bofin Harbours, Co. Galway, and of the deep water off the west coast of Ireland. Rep. Fishery Board Ireland, 1902-03, Pt. 2, No. vi, pp. 176-206, pl. xxxv, 2 maps.  
[II, B, ii, b, c, d, 1 : D, ii ; iii, b ; ix. III, A, ii. IV, B, c, D, E.]  
Abstracts : by G. H. CARPENTER, Irish Natural. xv, p. 203 (Sept. 1906) ; in LUDWIG (200).
153. KERR, R. Nature through microscope and camera. 8vo, 198 pp., lxx pls. London : Religious Tract Society, 6s. net. [II, B, i, c, 4.]
154. KIERNIK, E. Przyczynek do histologii kleszczy jeżowców, w szczególności mięśni. Beitrag zur Kenntnis der Histologie der Pedicellarien der Echiniden insbesondere der Muskeln. Bull. Ac. Cracovie, 1905, pp. 520-532, pl. xiii. (July.) [II, B, i, c, 9, 10.]  
Abstracts : in LUDWIG (200) ; in J. R. Micr. Soc. 1906, p. 33 (Feb.).
155. —. Beitrag zur Histologie der Pedicellarien der Echiniden, insbesondere der Muskeln. Zool. Anz. xxix, pp. 610-614, 2 text-figg. (29 Dec.) [II, B, i, c, 9, 10.]  
Gives gist of (154) with better figures.
- KILIAN, W. See MATTE, H.
156. — & GUÉBHARD, A. Étude paléontologique et stratigraphique du Système Jurassique dans les Préalpes maritimes. Bull. Soc. geol. France (4), ii, pp. 737-828, pls. xlviii-1, 1 text-fig. (Aug.) [III, B, iii, c, 1, 2, 3.]
157. — & LAMBERT, [J.] Empreintes d'Échinides sur un caillou du miocène de Langogne (Lozère). C.R. Ass. franc. xxxiii, pp. 638-639 [III, B, iii, c, 1. IV, c.]  
Abstracts : by J. LAMBERT, Rev. paleozool. x, p. 61 (Jan. 1906) ; by W. KILIAN, Geol. Centrbl. vii, p. 732 (15 Mar. 1906).  
— & RÉVIL, J. (166) Zool. Rec. 1903. Reprinted with different pagination—Bull. Soc. stat. Isere (4) vii (=xxxiii) pp. 453-479 (1904, recd. London 1906).
- KINDLE, E. M. See WILLIAMS (342).
- KINGSLEY, J. S. See HERTWIG (136).

158. \*KOCH, A. Az erdélyi részek másodkori képződményei. (Geologisches aus Siebenbürgen.) *Ertés. Erdel. Muz.* xxvii, pp. 90-149.  
KOEHLER, R. (144) *Zool. Rec.* 1904. Abstract in LUDWIG (200).
159. —. Note préliminaire sur les Ophiures du Travailleur et du Talisman. *Bull. Mus. Paris*, 1905, pp. 55-56. (March.)  
Abstract in LUDWIG (200). [III, A, ii.]
160. —. Ophiures de l'expédition du Siboga. 2e. Partie: Ophiures littorales. *Monogr.* xlv b. *Uitkomst. H.M. Siboga... uitgegeven Max Weber.* 4to, 142 pp., xviii pls. Leiden: Brill. (March.)  
[II, B, ii, c, d, 1: D, viii, e: F, vii, e. III, A, iii. IV, E.]  
Abstract in LUDWIG (200).
161. —. Echinides, Astéries et Ophiures recueillis par M. Gravier dans la Mer Rouge (Golfe de Tadjourah). *Bull. Mus. Paris*, 1905, pp. 184-185, text-fig. (May.) [III, A, iii. IV, C.]  
Abstract in LUDWIG (200).
162. — & VANEY, C. Holothuries abyssales recueillies par l'Investigateur dans l'Océan Indien. *Congr. Zool. internat.* vi, pp. 610-613. (25 May.)  
Prelim. Abstract of KOEHLER & VANEY (164).
163. — & —. Description d'une nouvelle Holothurie des côtes de France (*Pseudocucumis cuenoti* nov. sp.). *Rev. Suisse Zool.* xiii, pp. 395-400, text-figg. (31 May.) [III, A, ii. IV, B.]  
Abstract: *J. R. Micr. Soc.* 1905, p. 599 (Oct.).
164. — & —. [Main title] Echinoderma of the Indian Museum. Holothurioidea. An account of the deep-sea Holothurioidea collected by the Royal Indian Marine Survey Ship Investigator. [Subsidiary title] Holothuries recueillies par l'Investigateur dans l'Océan Indien. I. Les Holothuries de mer profonde. 4to, vi + 124 + ii pp., xv pls. Calcutta: Indian Museum. 16 Rupees.  
[II, B, i, b, 1; ii, c: D, viii, b. III, A, iii. IV, B.]  
Review: by J. P[earson], *Nature*, lxxiii, pp. 114, 115 (30 Nov. 1905).  
Abstracts: (162) and in LUDWIG (200).
165. KOKEN, E. Fuehrer durch die Sammlungen des geologisch-mineralogischen Instituts in Tuebingen. 8vo, 110 pp., vi pls., 3 plans, text-figg. Stuttgart: E. Nägele. [II, E, i, c.]
166. KONINGSBERGER, J. C. Tripang en Tripangsvisscherij in Nederlandsch-Indië. *Med. Plantentuin Java*, lxxi, vi + 72 pp., ix pls. (1904.) [II, B, i, b, 1; ii, c: D, i, b: E, ii, iv: F, ii, b; iv, b. III, A, iii.]
167. KOSSMATT, F. Ueber einige Kreideversteinerungen vom Gabun. *SB. Ak. Wien*, cii, pp. 575-590, pls. i, ii. (1893 [i.e. 1894].)  
[III, B, iii, b, 1. IV, C.]
168. KRAHELKA, MARYA. Zapłodnienie odłamków jaj jeżowców i pierwsze okresy ich podziatu. (Sur le développement mérogonique des oeufs du *Psammochinus*). *Bull. Ac. Cracovie*, 1905, pp. 49-65, pls. ii-iv, 2 text-figg. (Jan.) [II, F, viii.]  
Abstracts: *J. R. Micr. Soc.* 1905, p. 598 (Oct. 1905); by R. GOLDSCHMIDT, *Zool. Zentrbl.* xii, p. 564 (10 Oct. 1905); in LUDWIG (200).
- LAMBERT, J. (176) *Zool. Rec.* 1903. Abstracts: by Author, *Bull. Soc. Yonne*, lviii, C.R., pp. viii-x (1905); by A. TORNQVIST, *N. Jahrb. Min. Bd.* i, 1906, p. -155- (3 Feb.).

169. [LAMBERT, J.] Souvenirs géologiques sur le Sénonais. Bull. Soc. Yonne, lvi, pp. 91-111. (1903.) [III, B, iii, b, 1.]
170. —. Note sur quelques Échinides du Barrémien du Gard communiqués par MM. Sayn et Roman. Bull. Soc. géol. France (4), iv, pp. 841-846, 2 text-figg. (1904 [i.e. Feb. 1905].) [III, B, iii, b, 2. IV, c.]  
Abstract by Author, Rev. paleozool. ix, p. 162 (July, 1905).
171. —. Échinides éocéniques de l'Aude et de l'Hérault. Part of L. DONCIEUX (81). Ann. Univ. Lyon (n. s.), i, fasc. 17, pp. 129-164, pl. v. [III, B, ii, e, f. IV, c.]  
Review: by Author, Rev. paleozool. x, pp. 62-64 (Jan. 1906).
172. —. Échinides du sud de la Tunisie (environs de Tatahouine). Bull. Soc. géol. France (4), v, pp. 569-577, pl. xxii. (Nov.) [III, B, iii, c, 1. IV, c.]  
Abstract: by Author, Rev. paleozool. x, p. 126 (April, 1906).
173. — & SAVIN, L. Note sur deux Échinides nouveaux de la mollasse burdigalienne dite de Vence (Alpes-maritimes). Bull. Soc. géol. France (4), ii, pp. 881-884, pl. lix. (Aug.) [III, B, ii, d. IV, c.]  
Abstract: by J. LAMBERT, Rev. paleozool. x, p. 64 (Jan. 1906).  
— See also AIRAGHI (5 & 6), BATHER (19), BOISTEL (35), CHAUTARD (47), CHOFFAT (52), CLARKE, J. M., FOURTAU (97 & 98), HITZEL (140), KILIAN (157), LORIOU (195), MEUNIER (212), MIQUEL (216), PAQUIER (238), PERON (247), REMESŠ (269), SAVIN (286), SPRINGER (306), TALBOT (312), TORNIQUIST (316), ULRICH (321), VALETTE (324), WHITFIELD (339).
174. LAMPLUGH, G. W. ET ALII. The geology of the country around Cork and Cork Harbour. (Explanation of the Cork colour-printed Drift map.) Mem. geol. Surv. Ireland, viii + 136 pp., vi pls., text-illustr. [III, B, iv, e.]
175. LANKESTER, E. R. Extinct animals. 8vo, xxiv + 332 pp., portrait frontispiece, text-figg. London: Constable, 7s. 6d. (Sept.) [IV, F, *Pentacr.*, *Antedon.*]
176. LAPPARENT, A. DE. Note sur la présence de l'étage lutétien au Soudan français. Bull. Soc. géol. France (4), iii, pp. 299-302. (Aug. 1903.) [III, B, ii, f.]  
Essentially same as LAPPARENT (181, 182, 183), Zool. Rec. 1903.
177. —. Sur l'extension des mers crétacées en Afrique. C.R. Ac. Sci. cxl, pp. 349-350. (Feb.) [III, B, iii, b, 1.]  
Reprinted in Bull. Soc. Belge Geol. xix, p. 123 (May, 1905).
178. LEE, G. W. Contribution à l'étude stratigraphique et paléontologique de la Chaîne de la Faucille. Abh. Schweiz. pal. Ges. xxxii, Mem. v, 91 pp., iii pls. [III, B, iii, c, 2.]
179. LENDENFELD, R. VON. Ueber die Fauna der Antarktis. Biol. Centrbl. xxv, pp. 574-580. (1 Sept.)  
Gives account of HODGSON (141).
180. LEPPLA, A. Blatt Pressberg-Rüdesheim. Erlaut. geol. Karte Preussen, 68 pp. (1904.) [III, B, iv, f.]
181. —. Blatt Caub. Erlaut. geol. Karte Preussen, 34 pp. (1904.) [III, B, iv, f.]
182. LE ROI, O. Zwei neue parasitische Cirripeden aus der Gruppe der Ascothoracida. Zool. Anz. xxix, pp. 399-401. (19 Sept.)  
Abstract in LUDWIG (200). [II, D, viii, d.]
- LEUTHARDT, F. (152) Zool. Rec. 1904. Abstract: by C. SARASIN, Eclog. geol. Helvet. viii, pp. 698-700 (Jan. 1906).



183. LISSAJOUS, M. Bajocien et Bathonien des environs de Macon. Bull. Soc. geol. France (4), v, pp. 689-698. (1905 ?) [III, B, iii, c, 3.]
184. LOEB, J. Untersuchungen ueber die physiologischen Wirkungen des Sauerstoffmangels. Arch. ges. Physiol. lxii, pp. 249-294, pls. iii, iv. (11 Dec. 1895.) [II, F, viii.]  
Translated in LOEB (192).
185. —. On fertilization, artificial parthenogenesis, and cytolysis of the sea urchin egg. Univ. Calif. publ. Physiol. ii, pp. 73-81. (2 Feb.) [II, F, viii.]
186. —. On an improved method of artificial parthenogenesis. Univ. Calif. publ. Physiol. ii, pp. 83-86. (25 Feb.) [II, F, viii.]  
Abstract: by R. GOLDSCHMIDT, Zool. Zentrbl. xii, p. 551 (10 Oct. 1905); in LUDWIG (200).
187. —. On an improved method of artificial parthenogenesis. (Second communication.) Univ. Calif. publ. Physiol. ii, pp. 89-92. (16 March.)  
Abstract in LUDWIG (200). [II, F, viii.]
188. —. On chemical fertilization. (Abstract Report of Soc. for exper. biol. and medicine.) Science (n. s.), xxi, pp. 743-744. (12 May.) [II, F, viii.]
189. —. On an improved method of artificial parthenogenesis. (Third communication.) Univ. Calif. publ. Physiol. ii, pp. 113-123. (18 May.) [II, F, viii.]  
Abstract in LUDWIG (200).
190. —. Artificial membrane-formation and chemical fertilization in a starfish (*Asterina*). Univ. Calif. publ. Physiol. ii, pp. 147-158. (Sept.) [II, F, viii.]  
Abstract in LUDWIG (200).
191. —. Weitere bemerkungen zur theorie der antagonistischen Salzwirkungen. Arch. ges. Physiol. cvii, pp. 252-262. [II, F, viii.]
192. —. Studies in general physiology. Decenn. publ. Univ. Chicago (2), xv, xii + 782 pp. in 2 parts.  
Contains reprints or translations of: LOEB, Zool. Rec. 1891; (151) Zool. Rec. 1893; (62A) Zool. Rec. 1894; (85) Zool. Rec. 1895; (152) Zool. Rec. 1899; (199, 201, & 202) Zool. Rec. 1900; (189) Zool. Rec. 1901; (170 & 172) Zool. Rec. 1902; and (184) this Record.  
Review; by L. CUÉNOT, Rev. gen. Sci. xvi, pp. 786-787 (15 Sept. 1905).
- See also BATAILLON (17), BOHN (34).
193. LOISEL, G. Revue annuelle d'Embryologie. Rev. gen. Sci. xvi, pp. 376-392. (30 Apr.) [II, F, iv, viii.]
194. —. Les substances grasses dans les glandes génitales d'oursin en activité sexuelle. C.R. Soc. Biol. lix, pp. 586-587. (15 Dec.) [II, c, vii.]
195. LORIOL, P. DE. Notes pour servir a l'étude des échinodermes. (2e. sér.), Fascicule III. 4to, 32 pp., ii pls. [= pp. 117-146, pls. viii-x of series.] (Jan.) [III, B, ii, d, f; iii, b, b2, c, 1, 2.]  
Review: by J. LAMBERT, Rev. paleozool. ix, p. 94 (April, 1905) and Note, op. cit. x, p. 60 (Jan. 1906).  
Abstract in LUDWIG (200).
- See also CHOFFAT (51), MAIRE (206).

196. LUDWIG, H. Ein wiedergefundenes Tier : *Rhabdomolgus ruber* Keferstein. (Vorläufige Mitteilung.) Zool. Anz. xxviii, pp. 458-459. (Jan.) [III, A, ii. IV, B.]  
Abstract in LUDWIG (200).
197. —. Asteroidea (=No. 35 of Reports on an exploration...by the U.S. ss. "Albatross," during 1891...and No. 7 of Reports on scientific results of the expedition to the tropical Pacific... 1899-1900...). Mem. Mus. Harvard, xxxii, xii + 292 pp., xxxv pls., 1 chart. (July.) [II, B, i, d, I, 5; ii, d, I: D, iii, d; vii, d; viii, d: F, vii, d. III, A, iv. IV, D.]
198. —. Ein entoparasitischer Chaetopod in einer Tiefsee-Ophiure. Zool. Anz. xxix, pp. 397-399. (19 Sept.) [II, D, viii, e. III, A, iv.]  
Abstracts: in LUDWIG (200); in J. R. Micr. Soc. 1905, p. 700 (Dec.).
199. —. Asterien und Ophiuren der schwedischen Expedition nach den Magalhaenslaendern 1895-1897. Zeitschr. wiss. Zool. lxxxii, pp. 39-79, pls. v-vi. (10 Nov.) [II, B, i, d, I, 5; iii, c: D, iii, d: F, iv; vii, d. III, A, vi. IV, D, E.]  
Abstract in LUDWIG (200).
200. —. Echinoderma. Zool. Jahresber. for 1905. (Aug. 1906.) [II, E, iii.]  
Gives Literature for 1905, and Abstracts of: BATHER (21), BOCHENEK (33), BOVERI (38), CLARK, H. L., CLARK (55), DACQUÉ (65), DELAGE (70, 71), DOEDERLEIN (78), DRIESCH (85-87), GARBOWSKI (106, 107), GRAVE (118), HERTEL (135), KEMP (152), KIERNIK (154), KOEHLER, R., KOEHLER (159-161), KOEHLER & VANEY (164), KRAHELKA (168), LE ROI (182), LOEB (186, 187, 189, 190), LORIOU (195), LUDWIG (198, 199), MEYER, E., MINCKERT (213, 214), MONKS, SARAH P., MORTENSEN (220), ÖSTERGREN (235, 236), PERRIER (249), PETER (251, 252), PIETSCHEMANN (256), PIZON (257), RUSSO (283), SPENCER, W. K., SPENCER (305), SPERRY, W. L., VANEY (326), WHEELER (337), WOODLAND (344).
201. LUKAS, F. Psychologie der niedersten Tiere. Eine Untersuchung ueber die ersten Spuren psychischen Lebens im Tierreiche. 8vo, viii + 276 pp., text-figg. Wien und Leipzig: Braumüller. [II, B, i, a, 9: c, vi: D, iv, a; vi; vii, a.]  
Echinoderms, pp. 133-200, 265-269.
202. MAAS, O. Einführung in die Experimentelle Entwicklungsgeschichte. (Entwicklungsmechanik), [ii +] xvi + 204 pp., 135 text-figg. Wiesbaden: J. F. Bergmann, M. 7. (1903.) [II, D, vii, a: E, i, d: F, viii.]  
Review: by J. B. F[ARMER], Nature, lxix, pp. 241-242 (14 Jan. 1904).  
— See also DRIESCH, H., GARBOWSKI, T., GARBOWSKI (106).
203. \*McCALLIE, S. W. Report on the coal deposits of Georgia. Bull. Geol. Surv. Georgia, xii, p. 16. (1904.) [II, B, iv, d.]
204. McINTOSH, W. C. On budding in animals. Zoologist (4), ix, pp. 1-21. (16 Jan.) [II, D, vii, d: F, v, a.]  
Popular.
205. MACNAIR, P. On Pseudogaylussite dredged from the Clyde at Cardross, and other recent additions to the mineral collections in the Kelvingrove Museum. P. Phil. Soc. Glasgow, xxxv, pp. 250-262, pls. i, ii. [II, D, x. III, B, ii, b.]

206. MAIRE, V. Études géologiques et paléontologiques sur l'arrondissement de Gray. Faune du Rauracien inférieur de la région de Champlitte. Bull. Soc. Grayloise d'Émul. viii, pp. 145-248.  
*Echinoderma* determined by P. DE LORIOU. [III, B, iii, c, 2.]
207. MALLADA, L. Explicación del Mapa geológico de España. II. Sistemas Cambriano y Siluriano. Mem. Com. geol. Espana, 516 pp. (1896.) [III, B, iv, g, h, k.]
208. ——. Explicación del Mapa geológico de España. III. Sistemas Devoniano y Carbonífero. Mem. Com. geol. Espana, 406 pp. (1898.) [III, B, iv, d, f, g.]
209. MARTELLI, A. Il livello di Wengen nel Montenegro meridionale. Boll. Soc. geol. Ital. xxiii, pp. 324-361, pl. xi. (Feb.) [III, B, iii, e.]
- MARTIN, G. C. See STANTON (307).
- MATTE, H. (197) Zool. Rec. 1902. In addition to Trav. Lab. geol. Grenoble vi, and Ann. Univ. Grenoble xiv, this has appeared with yet a third pagination—Bull. Soc. stat. Isere (4) vi (=xxxii) pp. 289-382, map, pls. ii, iii, 30 text-figg. (1902, recd. London 1906). Add to title "sous la direction de W. KILIAN": the paper is sometimes quoted as by KILIAN & MATTE.
210. MAURY, E. & CAZIOT, E. Étude géologique de la presqu'île St Jean (Alpes-Maritimes). Bull. Soc. geol. France (4), v, pp. 581-592. (Nov.) [III, B, iii, b, 1 ; c, 2.]
211. MAWSON, D. The geology of the New Hebrides. P. Linn. Soc. N. S. Wales, xxx, pp. 400-484, pls. xiv-xxix. (20 Dec.)  
*Echinoidea* determined by T. WHITELEGGE. [III, B, ii, b.]
- MAYER, P. See ARIOLA, V.
- MEISENHEIMER, J. See HUTTON, F. W.
- MERRILL, G. P. See UNITED STATES NATIONAL MUSEUM (322).
212. MEUNIER, S. Contribution à la connaissance des formations lutéciennes au Sénégal. C.R. Ac. Sci. cxxxviii, pp. 62-63. (Jan. 1904.) [III, B, ii, f. IV, c.]  
*Plagiopygus* n. sp. by J. LAMBERT.
- MEYER, Ed. (Kasan). (190) Zool. Rec. 1904. Prelim. Abstract: Congr. Zool. internat. vi, p. 367 (25 May, 1905); in LUDWIG (200).
213. MINCKERT, W. Das genus *Promachocrinus*, zugleich ein Beitrag zur Faunistik der Antarktis. Zool. Anz. xxviii, pp. 490-501, 2 text-figg. (31 Jan.) [II, D, vii, f. III, A, vi. IV, F.]  
Abstracts: in J. R. Micr. Soc. 1905, p. 189 (April); in LUDWIG (200).
214. ——. Ueber Regeneration bei Comatuliden nebst Ausführungen ueber die Auffassung und Bedeutung der Syzygieen. Arch. Naturg. lxxi, Bd. I, pp. 163-244, pl. vii, 14 text-figg. (Aug.) [II, B, i, f, 5 ; ii, d, 2 : D, vii, f. IV, F.]  
Abstracts: in LUDWIG (200); in J. R. Micr. Soc. 1905, p. 705 (Dec.).
215. MIQUEL, J. Essai sur le Nummulitique du département de l'Hérault. Ann. Univ. Lyon (n. s.), i, fasc. 17, pp. 15-28.  
Part of DONCEUX (81). [III, B, ii, f.]
216. ——. Essai sur le Cambrien de la Montagne noire Coulouma.—L'Acadien. Bull. Soc. geol. France (4), v, pp. 465-483, pl. xv. (Nov.) [III, B, iv, k. IV, G.]  
Review: by J. LAMBERT, Rev. paleozool. x, pp. 123-124 (April, 1906).

- MONACO, PRINCE DE. See ALBERT (9).
- MONKS, SARAH P. (193) Zool. Rec. 1904. Abstract in LUDWIG (200).
217. MOORE, B., ROAF, H. E., & WHITLEY, E. On the effects of alkalis and acids, and of alkaline and acid salts, upon growth and cell division in the fertilised eggs of *Echinus esculentus*. A study in relationship to the causation of malignant disease. P. R. Soc. London, B, lxxvii, pp. 102-136, 30 text-figg. (Dec.) [II, F, viii.]  
Abstracts: Nature, lxxiii, p. 213 (28 Dec. 1905); in J. R. Micr. Soc. 1906, p. 421 (Aug.).
218. MORGAN, J. DE. Note sur la géologie de la Perse et sur les travaux paléontologiques de M. H. Douvillé sur cette région. Bull. Soc. geol. France (4), v, pp. 170-189, 2 text-figg. (July.)  
[III, B, ii, f; iii, b, 1, 2.]
219. \*MORICH, H. Die Rüdersteine. Natur u. Haus. xiii, pp. 168-169, 4 text-figg. [IV, F, *Echinus*.]  
Popular.
220. MORTENSEN, T. Some new species of *Echinoidea*. Vid. Medd. 1905, pp. 241-243. (5 Oct.) [II, B, iii, c. III, A, ii, v, vi. IV, c.]  
Abstract in LUDWIG (200).
- See also SCHMIDT (291).
221. MUEHLBERG, F. Erläuterungen zu den geologischen Karten des Grenzgebietes zwischen dem Ketten- und Tafeljura. II. Teil. Geologische Karte des untern Aare-, Reuss- und Limmataales. Eclog. geol. Helvet. viii, pp. 487-538. (Aug.) [III, B, iii, c, 1.]
222. MULDER, J. F. The Eocene deposits of Corio Bay. Geelong Natural. vi, pp. 12-17. (Aug. 1897.) [III, B, ii, f.]
223. MURGOCCI, G. M. Tertiary formations of Oltenia with regard to salt, petroleum, and mineral springs. J. Geol. xiii, pp. 670-712. (Dec.) [III, B, ii, f.]
224. NEVIANI, A. *Capsulina loculicida* Seg. (pedicellaria fossile, preteso foraminifero). Boll. Soc. geol. Ital. xxiv, pp. 165-168, text-fig. (18 May.) [IV, c.]  
Abstracts: by VINASSA DE REGNY, Riv. ital. Pal. xi, p. 99 (Aug. 1905); by A. KEMNA, Bull. Soc. zool. malac. Belgique, xl, p. lxxiv.
225. NEWTON, E. T. List of fossils from green clay between tide marks ...S.E. shore of Loch Fyne...Appendix to the geology of Mid-Argyll. Mem. geol. Surv. Scotland, Explan. sheet 37, p. 159. [III, B, ii, b.]
226. NEWTON, R. B. Eocene shells from Nigeria. Ann. Nat. Hist. (7), xv, pp. 83-91, pl. v. (Jan.) [II, B, ii, f.]
227. —. The Tertiary fossils of Somaliland, as represented in the British Museum (Natural History). Quart. J. Geol. Soc. lxi, pp. 155-180, pls. xvii-xxi. (Feb.) [III, B, ii, f.]  
*Echinoidea* determined by F. A. BATHER.
228. [NOBRE, A.] Catalogo do Gabinete de Zoologia, 1900-1901. Annuar. Ac. Porto, 1900-1901, pp. 81-217. (1901.) [III, A, ii.]
229. [—.] Fauna Portuguesa. Annuar. Ac. Porto, 1903-1904, pp. 86-146. (1904.) [III, A, ii.]
- NOELLI, A. (243) Zool. Rec. 1900. Abstract: by VINASSA DE REGNY, Geol. Centrbl. vii, p. 504 (15 Jan. 1906).

230. NORDGAARD, O. Hydrographical and biological investigations in Norwegian fiords. *Bergens Mus. Skrift*, 4to, 256 pp., xxi pls., 10 text-figg. (Feb.) [II, D, iii, b, d, e; ix, b. III, A, i, ii.]  
*Holothuroidea* determined by H. ØSTERGREN; the other Echinoderms by J. A. GRIEG.
231. NORDMANN, V. Echinoderm- og Mollusk-Faunaen i Yoldialeret ved Esbjerg. [The Echinoderm and Mollusc fauna in the Yoldia Clay at Esbjerg.] *Medd. Dansk. Geol. For. No. 10*, pp. 138-140. (1904, i.e. 1905.) [III, B, ii, b.]
232. NORMAN, A. M. On *Cucumaria montagui* Fleming. *Ann. Nat. Hist.* (7), xvi, pp. 352-359, pl. xi. (Sept.) [III, A, ii. IV, B.]  
 Abstract in *J. R. Micr. Soc.* 1905, p. 704 (Dec.)
233. —. *Ophiopsila annulosa* (M. Sars), a British Ophiurid. *Ann. Nat. Hist.* (7), xvi, pp. 360-361. (Sept.) [III, A, ii. IV, E.]
234. ORTMANN, A. Die Decapoden-Krebse des Strassburger Museums. VIII. Theil. *Zool. Jahrb. Syst.* vii, pp. 683-772, pl. xxiii (31 May 1894.) [II, D, viii, c.]
235. ØSTERGREN, H. Zur Kenntnis der skandinavischen und arktischen Synaptiden. *Arch. zool. exp. Notes* (4), iii, pp. cxxxiii-clxiv, 2 text-figg. (July.) [II, B, i, b, 1: D, vii, b: E, i, b. III, A, ii, v. IV, B.]  
 Abstract in LUDWIG (200).
236. —. Zwei koreanische Holothurien. *Arch. zool. exp. Notes* (4), iii, pp. cxcii-cxcix, text-fig. (Aug.) [III, A, iv. IV, B.]  
 Abstract in LUDWIG (200).  
 —. See also NORDGAARD (230).
237. PANNEKOEK, J. J. Geologische Aufnahme der Umgebung von Seelisberg am Vierwaldstättersee. *Beitr. geol. Karte Schweiz* (n. s.), xvii, x+25 pp., 1 map, 8 text-figg. Fr. 5. [III, B, iii, b, 2.]
238. PAQUIER, V. Revision de la feuille de Grenoble. *Bull. Carte geol. France* xvi, pp. 133-138, 1 text-fig. [III, B, iii, b, 1.]  
*Ech.* determined by J. LAMBERT.
239. PARK, J. On the subdivision of the Lower Mesozoic rocks of New Zealand. *Tr. N. Zealand Inst.* xxxvi, pp. 373-404, pls. xxviii-xxxi. (Aug. 1904.) [III, B, iii, e.]
240. —. On the jurassic age of the Maitai Series. *Tr. N. Zealand Inst.* xxxvi, pp. 431-446, pls. xxxiii, xxxiv. (Aug. 1904.) [III, B, iii, e.]
241. —. On the marine Tertiaries of Otago and Canterbury, with special reference to the relations existing between the Pareora and Oamaru Series. *Tr. N. Zealand Inst.* xxxvii, pp. 489-551, 17 text-figg. (June.) [III, B, ii, d.]
242. PARONA, C. F. Nuove osservazioni sulla fauna dei calcari con ellipsactinidi dell' isola di Capri. *Rend. Acc. Lincei*, xiv, pp. 59-69. (22 Jan.) [III, B, iii, c, 1.]
243. PAULCKE, W. Geologische Beobachtungen im Antirhätikon. *Ber. Ges. Freiburg*, xiv, pp. 257-298, pl. ix. (Oct. 1904.) [II, D, x. III, B, iii, b; d.]  
 P[EARSON], J. See KOEHLER & VANEY (164).
244. PELLAT, E. Sur l'Aptien de Laval St.-Roman (Gard) et sur le gisement de l'*Actinometra vagnasensis* de Loriol. *Bull. Soc. geol. France* (4) v, pp. 564-565, text-fig. (Nov.) [III, B, iii, b, 2.]

245. [PELLAT, E.] La partie supérieure de l'Aptien du Gard tel que M. Carez l'a décrit, appartient-elle à l'Aptien ou au Gault? Bull. Soc. geol. France (4), v, pp. 565-566. (Nov.) [III, B, iii, b, 2.]
246. \*PÉREZ, C. Sur quelques commensaux des Echinodermes. Pr.-verb. Soc. Sci. Bordeaux, 1904/5, pp. 57, 58. [II, D, viii, a.]
- PERNER, [J.]. See FRITSCHE (100).
247. PERON, [P.] A. Au sujet de l'existence du Crétacé supérieur au Senegal. Bull. Soc. geol. France (4), v, pp. 166-170. (July.)  
*Physaster* discussed by J. LAMBERT. [III, B, iii, b, 1. IV, C.]  
 Abstract: by J. LAMBERT, Rev. paleozool. x, p. 62 (Jan. 1906).
248. —. Note stratigraphique sur l'étage Aptien dans l'est du bassin Parisien. Bull. Soc. geol. France (4), v, pp. 359-378. (Oct.)  
 [III, B, iii, b, 2.]
249. PERRIER, R. Holothuries antarctiques du Muséum d'Histoire naturelle de Paris. Ann. Sci. Nat. (9), i, pp. 1-80 (May); 81-146, pls. i-v, text-figg. (July.) [II, B, i, b, 1, 6. III, A, i, iv, vi. IV, B.]  
 Abstracts: in LUDWIG (200); in J. R. Micr. Soc. 1906, p. 33 (Feb.).
250. PERVINQUIÈRE, L. Le Jurassique du sud Tunisie. Bull. Soc. geol. France (4), v, pp. 568-569. (Nov.) [III, B, iii, c, 1.]  
 —. See also VALETTE (324).
251. PETER, K. Der Grad der Beschleunigung thierischer Entwicklung durch erhöhte temperatur. Arch. Entwicklmech xx, pp. 130-154. (20 Oct.) [II, F, viii.]  
 Abstract in LUDWIG (200).
252. —. Untersuchungen ueber individuelle Variationen in der tierischen Entwicklung. SB. Ak. Berlin, 1905, pp. 884-889, 4 text-figg. (2 Nov.) [II, F, viii.]  
 Abstracts in LUDWIG (200); in J. R. Micr. Soc. 1906, p. 317 (June).
253. PETERSEN, C. G. J. Om den almindelige Søstjernes Værdi som Gødningsmiddel. [Value of the common starfish as manure.] Beretn. x. Dansk. biol. Stat. pp. 34-35 in Fiskeri-Beretn. for 1900-01. (1902 [recd. in London, Feb. 1906].) [II, E, ii.]  
 Abstract by F. ZSCHOKKE, Zool. Zentrbl. x, p. 779 (17 Nov. 1903).
254. PETRASCHECK, W. Die Zone des *Actinocamax plenus* in der Kreide des oestlichen Boehmen. Jahrb. geol. Reichsanst. lv; pp. 399-434, pl. x, 8 text-figg. [III, B, iii, b, 1.]
- PETRUNKEWITSCH, A. (217) Zool. Rec. 1904. Abstract: by R. GOLDSCHMIDT, Zool. Zentrbl. xii, p. 423 (22 Aug.).
255. \*PHILIPPI, R. A. Especies nuevas para la fauna de Chile. Revist. chilena, ii, pp. 88, 89. (1898.) [IV, C, *Echinus*.]
256. PIETSCHMANN, V. Zur Kenntniss des Axialorgans und der ventralen Bluträume der Asteriden. Arb. Inst. Wien, xvi, pp. 63-86, ii pls., 5 text-figg. (15 Oct.) [II, B, i, d, 7, 11: c, ii, v: E, i, b; iv.]  
 Abstracts: in LUDWIG (200); in J. R. Micr. Soc. 1906, p. 32 (Feb.).
257. PIZON, A. Recherches sur une prétendue ovulase des spermatozoïdes. C.R. Ac. Sci. cxli, pp. 908-910. (27 Nov.) [II, F, viii.]  
 Abstract in LUDWIG (200).
258. POLARA, G. Sull' organo genitale e sulle lacune aborali del *Philolophorus* [sic] *urna* (Grube). Atti Ac. Gioen. (4), xviii, Mem. ix, 9 pp., i pl., 1 text-fig. [II, B, i, b, 7, 12.]

259. \*PORTER, C. E. Memorandum de Zoolojia conforme a los últimos adelantos de la Ciencia. Entrega III. Equinodermos i Vermes. (1899 ?) [II, B, i, a, 1: E, i, d.]
260. —. Los equinidos chilenos del viaje del buque explorador "Challenger" extractados y adicionados de varias notas. Revist. chilena, ix, p. 131. (30 June.) [III, A, iv.]
261. PROSSER, C. S. The Delaware Limestone. J. Geol. xiii, pp. 413-442. (Aug.) [III, B, iv, f.]
262. PRZIBRAM, H. Einleitung in die experimentelle Morphologie der Tiere. 8vo, viii + 142 pp. Leipzig & Wien: Deuticke. M. 4. (1904.) [II, A, i: B, ii, d, 2; e: C, vi, vii: D, vii, a: E, i, d: F, i, viii. IV, A.]
263. PUETTER, A. Leuchtende Organismen. Zeitschr. allg. Physiol. v, Sammelreferate, pp. 17-53. [II, D, ii.]
264. QVIGSTAD, J. Lappiske Navne paa Pattedyr, Krybdyr og Padder, Fiske, Leddyr og lavere Dyr. [Lapp names for mammals, reptiles, and batrachians, fish, arthropods, and lower animals.] Nyt Mag. Naturv. xlii, pp. 339-387. (Dec. 1904.) [II, E, iv.]
265. RAYMOND, P. E. The fauna of the Chazy Limestone. Amer. J. Sci. (4), xx, pp. 353-382. (Nov.) [III, B, iv, h.]
- REBOUL, P. See SAVIN (286).
266. REDLICH, K. A. Die Geologie des Gurk- und Goertschitztales. Jahrb. geol. Reichsanst. lv, pp. 327-348, pls. vi, vii, 3 text-figg. (20 June.) [III, B, ii, f.]
267. REICHENSBERGER, A. Zur Anatomie von *Pentacrinus decorus* Wy. Th. Zeitschr. wiss. Zool. lxxx, pp. 22-55, pls. iii-v, 1 text-fig. (26 Sept.) Also published as No. 41 of Reports on the results of dredging...in the Gulf of Mexico...1877-80, by the U. S. Coast Survey Steamer "Blake"...Bull. Mus. Harvard, xlv, pp. 169-200, pls. i-iii, text-figg. (Dec.) [II, B, i, f, 1, 9, 11, 12; ii, d, 2: E, i, b.]  
Abstract in J. R. Micr. Soc. 1906, p. 317 (June).
268. REMEŠ, M. Štramberský tithon [Tithonian of Stramberg]. Vestník Ceske Ak. xiii, pp. 201-217; 277-295; 360-381, 2 text-figg., i pl. (1904.) [III, B, iii, c, 1.]  
Abstract by Author, Geol. Centrbl. iv, p. 571 (Oct. 1904).
269. —. Nachträge zur Fauna von Stramberg. vi. Crinoiden-, Asteriden- und Echinoiden-Reste aus dem weissen Kalkstein von Stramberg. Beitr. Pal. Oesterr.-Ung. xviii, pp. 59-63, pl. vii. (Aug.) [III, B, iii, c, 1. IV, c, F.]  
Abstracts: by J. LAMBERT, Rev. paleozool. x, p. 61 (Jan. 1906); by Author, Geol. Centrbl. vii, p. 362 (15 Dec. 1905).
270. —. Fauna der sog. exotischen Bloecke des Stramberger Kalksteins in Rychaltitz (Mähren). Bull. Ceska Ac. x, pp. 1-5. [III, B, iii, c, 1.]
271. —. Fauna t. zv. exotických balvanů štramberského vápence v Rychalticích na Moravě. [For translation, see 270.] Ceska Ak. Praze, xiv, číslo vi, pp. 1-9. [III, B, iii, c, 1.]  
This is fuller than 270.
272. —. Nové naleziště štramberského vápence ve Vlčovicích u Příboru. [New discoveries of Stramberg limestone at Vlčovic near Příbor.] Časopisu moravského musea zemského, v, pp. 1-5. [III, B, iii, c, 1.]
273. —. Nové nálezy v tithonském vápenci u Skaličky. [New finds in the Tithonian Limestone of Skaliz. Časop. moravsk. mus. zemsk. v, pp. 255-263. [III, B, iii, c, 1.]

274. [REMEŠ, M.] Ještě několik slov o novém nalezišti t. zv. červeného vápence kopřivnického. [Still a few words on new discoveries in the so-called red limestone of Kopřivnice.] *Vestník Ceske Ak. xiv*, 2 pp. [III, B, iii, c, 1.]  
 †RENEVIER, E. See ROESSINGER (278).
275. RETZIUS, G. Zur Kenntnis der Spermien der Evertebraten. II. II Die Spermien der Echinodermen. *Biol. Untersuch. xii*, pp. 82–84, pl. xii. (8 March.) [II, F, iii.]  
 RÉVIL, J. See KILIAN, W.
276. RICHARD, J. Campagne scientifique du yacht "Princesse Alice" en 1904. Observations sur la faune bathypélagique, etc. Avec résumé esperanto—kun esperanta resumo. *Bull. Mus. Monaco*, No. 41, 30 pp. (25 June.) [III, A, ii.]
277. RICHARDSON, L. The Rhaetic and contiguous deposits of Glamorganshire. *Quart. J. Geol. Soc. lxi*, pp. 385–424, pl. xxxiii, folding table. (31 Aug.) [III, B, iii, d.]  
 ROAF, H. E. See MOORE (217).
278. ROESSINGER, G. Les couches rouges de Leysin et leur faune. *Ecol. geol. Helvet. viii*, pp. 435–438. (Jan.) [III, B, iii, b, 1.]  
 With letters in determination of the fauna by E. RENEVIER & H. DOUVILLÉ.
279. ROGERS, A. W. An introduction to the geology of Cape Colony. 8vo, xviii + 464 pp., 48 text-figg. & geol. map. London: Longmans, 9s. (Jan.) [III, B, iii, b, 1, 2.]  
 ROLLIER, L. (230) *Zool. Rec. 1904*. Abstract: *Rev. geol. Suisse*, viii, p. 296 (Oct. 1904).
280. —. La poche sidérolithique du Fuet (Jura bernois) contient un lambeau de néocomien fossilifère. *Bull. Soc. Neuchatel*, xxxii, pp. 147–153, 1 text-fig. (1904.) [III, B, iii, b, 2.]
281. ROTHPLETZ, A. Das geotektonische Problem der Glarner Alpen. 8vo, viii + 252 pp., xi pls., 34 text-figg. Jena: Fischer. (1898.) [III, B, iii, b, 1, 2; c, 1, 2, 3; d.]  
 ROWE, A. W. See WHITE (338).
282. ROWLEY, R. R. Missouri palaeontology. *Amer. Geol. xxxv*, pp. 301–311, pl. xxi. (May.) [II, B, ii, d, 2: D, viii, f. III, B, iv, e. IV, F, H.]  
 RUEDEMANN, R. See SPRINGER (306), TALBOT (312).
283. RUSSO, A. & POLARA, G. Sulla secrezione interna delle cellule peritoneali della gonade del *Phyllophorus urna* (Grube). *Atti Ac. Gioen. (4)*, xviii, Mem. iv, 9 pp., 1 pl. [II, F, iii, b, c.]  
 Abstracts: by Authors, *Anat. Anz. xxvii*, pp. 13–19, 6 text-figg. (3 June, 1905); *J. R. Micr. Soc. 1905*, p. 598 (Oct. 1905); in LUDWIG (200).
284. SAFFORD, W. E. The useful plants of the island of Guam with an introductory account of the physical features and natural history of the island, of the character and history of its people, and of their agriculture. *Contr. U. S. Herbarium*, ix, 416 pp., lxix pls. [II, D, vi. III, A, iv.]
285. \*SANZO, L. Trasformazione sperimentale della uova lecitiche diffuse in uova teleocitiche e susseguente modificazione della segmentazione uguale in segmentazione oblastica diseguale. *Ric. Lab. Anat. Roma*, x, pp. 263–272, pl. xvi. (1904.) [II, F, viii.]  
 Abstracts: in LUDWIG (166), *Zool. Rec. 1904*; in *Monit. Zool. ital.* xvi, p. 147 (June, 1905).



- SARASIN, C. See ESCHER-HESS (89), LEUTHARDT, F.
- SAVIN, L. [H.]. (247) Zool. Rec. 1902. Abstract by A. TORNQUIST, N. Jahrb. Min. 1905, ii, p. -326- (Nov.).—(283) Zool. Rec. 1903. Abstract by A. TORNQUIST, N. Jahrb. Min. 1905, ii, p. -325- (Nov.)
286. —. Revision des Échinides fossiles du Département de l'Isère. Bull. Soc. Isere (4), viii, pp. 109-324, pls. i-viii.  
 [II, E, i, a. III, B, ii, d; iii, a, b, I, c, 2, 3, d. IV, c.]  
 Includes "Note sur quelques Échinides de diverses régions" par J. LAMBERT & L. SAVIN (pp. 306-315).  
 Also published under title: "Revision des Échinides du Département de l'Isère." Trav. Lab. geol. Grenoble, vii, pp. 150-363, pls. i-viii. There is also an author's edition (? not published), paged 1-220. Ref. in Subject-index are to the Bull. Soc. Isere pagination.  
 Abstract: by P. REBOUL, Geol. Centrbl. vii, pp. 667-668 (1 Mar. 1906). Review by J. LAMBERT, Rev. paleozool. x, pp. 124-126 (April, 1906).
- 286A. SAYN, G. Sur l'hauterivien et le barrémien du Royans. Bull. Soc. stat. Isere (4) vii (=xxxiii) pp. 536, 537, also pp. 567, 568 (1904, recd. London 1906). [III, B, iii, b, 2.]
287. — & ROMAN, F. L'Hauteurivien et le Barrémien de la rive droite du Rhône et du Bas-Languedoc. Bull. Soc. geol. France (4), iv, pp. 607-640, 3 text-figg. (Jan.) [III, B, iii, b, 2.]
288. SCALIA, S. Sopra alcune nuove specie di fossili del calcare bianco cristallino della Montagna del Casale in provincia di Palermo. (Nota preliminare.) Boll. Acc. Gioen. lxxvi, pp. 33-37. (March, 1903.) [III, B, iii, d.]
- SCHARDT, H. & DUBOIS, A. (285) Zool. Rec. 1903 is reprinted from Bull. Soc. Neuchatel, xxx, pp. 195-304. (1902.)
289. SCHERREN, H. Popular Natural History of Lower Animals (Invertebrates). Cr. 8vo, pp. 238, 168 text-figg. Rel. Tract. Soc. London, 3s. 6d. (Nov. 1903.) [II, B, i, a, I: D, i, a.]  
 Starfish and sea urchins, pp. 201-213.
290. SCHILLER, W. Geologische Untersuchungen im östlichen Unterengadin. I. Lischannogruppen. Ber. Ges. Freiburg, xiv, pp. 107-180, pls. iv-viii. (Oct. 1904.) [III, B, iii, c, I; d; e.]
291. SCHMIDT, J. Fiskeriundersøgelser ved Island og Faerøerne i Sommeren 1903. Skrift. Komm. f. Havundersøgelser No. 1, vi + 148 pp., x charts. (Oct. 1904.) [III, A, ii.]  
 Echinoderms determined by T. MORTENSEN, pp. 18-24.
292. SCHMITT, J. Monographie de l'île d'Anticosti. (Golfo Saint-Laurent.) 8vo, 12 + vi + 372 pp., xlvii pls., map. Paris: Hermann. (1904.)
- SCHUBERG, A. See GROBEN (124).
293. SCHUBERT, R. J. Zur Stratigraphie des istrisch-norddalmatinischen Mitteleocäns. Jahrb. geol. Reichsanst. lv, pp. 153-188, 1 folding table. (30 April.) [III, B, ii, e; f.]
294. —. Die geologischen Verhältnisse des norddalmatinischen Küstenstreifens Zdrilo—Castelvenier-Ražanac und der Skoliengruppe Ražanac. Verh. geol. Reichsanst, 1905, pp. 272-284, text-fig. (31 Aug.) [III, B, ii, f.]
- SCHUCHERT, C. See UNITED STATES NATIONAL MUSEUM (322), WILLIAMS (342).

295. SCHUMACHER, E. Erläuterungen zu Blatt Pfalzburg. Erlaut. geol. specialk. Elsass. 138 pp., 8 text-figg. (1902). [III, B, iii, e.]
296. SCOTT, A. On the tow-nettings collected in the Irish Sea. P. Liverp. biol. Soc. xix, pp. 196-215. (Dec.) [III, A, ii.]
297. SEARS, J. H. The physical geography, geology, mineralogy and palaeontology of Essex County, Massachusetts. 8vo, 28 × 20 cm., 418 pp. (of which several bear, on one side only, 209 text-figg.), 1 portrait frontisp., 1 folding map. Salem: Essex Inst. [III, B, ii, b.]
- SEURAT, G. See BOUVIER (37).
298. SHEARSBY, A. J. On the occurrence of a bed of fossiliferous tuff and lavas between the Silurian and Middle Devonian at Cavan, Yass; similar in age and character to the Snowy River porphyries of Victoria. P. Linn. Soc. N. S. Wales, xxx, pp. 275-288, pl. ix. (27 Sept.) [III, B, iv, g.]
299. SHELDON, J. M. ARMS. Guide to the invertebrates of the Synoptic Collection in the Museum of the Boston Society of Natural History. 8vo, vi+506 pp. Boston: Soc. Nat. Hist. [II, B, i, b-h, 1: E, i, c.]
300. SHIMER, H. W. Upper Siluric and Lower Devonian faunas of Trilobite Mountain, Orange County, New York. Bull. N. York Mus. lxxx, pp. 173-269, iii pls., text-figg. (Feb.) [III, B, iv, f.]
301. SIEMIRADZKI, J. VON. Stratigraphiya verkhne-myelov'ikh otlozheniĭ v Pol'shye. Die stratigraphischen Verhältnisse der oberen Kreide in Polen. Annuaire geol. min. Russie, v, pp. 20-24, 24-27. (1901.) [III, B, iii, b, 1.]  
Abstract: by N. KARAKASCH, Annuaire geol. min. Russie, vii, p. 34 (1905).
302. SKEATS, E. W. On the chemical and mineralogical evidence as to the origin of the Dolomites of Southern Tyrol. Quart. J. Geol. Soc. lxi, pp. 97-141, pls. x-xiv. (Feb.) [II, D, x.]
- +SLADEN, W. P. See SPENCER (305).
- SLUITER, C. P. (150, 151, 152) Zool. Rec. 1895. Re-issued in complete vol. of Bijdr. Dierk. bearing date 1904, without any indication that the papers were published 9 years previously.
303. SMYČKA, F. Novější nálezy v čelechovském devonu. [New finds in the Devonian of Čelechovic (Moravia).] Vestnik Klub. Prostejove, 1904, pp. 55-72, pl. [III, B, iv, f.]
304. SOBOLEW, D. Zur Stratigraphie des oberen Mitteldevons im polnischen Mittelgebirge. Zeitschr. Deutsch. geol. Ges. lvi, Briefl. Mitt. pp. 63-72. (Feb.) [III, B, iv, f.]
- SPENCER, W. K. (264) Zool. Rec. 1904. Abstract in LUDWIG (200).
305. —. A monograph on the British fossil Echinodermata from the Cretaceous Formations. Vol. II. The Asteroidea. Pt. iii, pp. 67-90, pls. xvii-xxvi. Pal. Soc. 1905. [III, B, iii, b, 1. IV, D.]  
[A continuation of SLADEN, W. P. (249) Zool. Rec. 1893.]  
Abstract in LUDWIG (200).
- SPERRY, W. L. (265) Zool. Rec. 1904. Abstract in LUDWIG (200).
306. SPRINGER, F. *Cleiocrinus*. Mem. Mus. Harvard, xxv, pp. 93-114, pl. i. (Jan.) [II, B, i, f, 5. IV, F.]  
Reviews: by T. D. A. C[OCKERELL], Science (n.s.), xxi, pp. 388-389 (10 March, 1905); by F. A. BATHER, Geol. Mag. (n.s.) dec. v, vol. ii, pp. 231-233 (May, 1905); by J. LAMBERT, Rev. paleozool.

- ix, p. 160 (July, 1905); by O. JAEKEL, N. Jahrb. Min. 1905, ii, pp. 145-146 (15 July). Abstract by R. RUEDEMANN, Geol. Centrbl. vii, p. 168 (15 Oct. 1905).
- STANTON, T. W. See CRAGIN (64), UNITED STATES NATIONAL MUSEUM (322).
307. — & MARTIN, G. C. Mesozoic section on Cook inlet and Alaska peninsula. Bull. Geol. Soc. Amer. xvi, pp. 391-410, pls. lxvii-lxx. (24 June.) [III, B, iii, c, 3.]
- STEFANO, G. DE. See DE STEFANO, G.
308. STOBBS, J. T. The marine beds in the Coal Measures of North Staffordshire. With notes on their palaeontology by W. HIND. Quart. J. Geol. Soc. lxi, pp. 495-547, pls. xxxv, xxxvi, text-figg. (31 Aug.) [III, B, iv, d. iv, c.]  
Prelim. Abstr.: P. Geol. Soc. London, 1904-1905, pp. 25-29 (4 Jan. 1905).  
Remarks on *Archaeocidaris* by F. A. BATHER in discussion, p. 547 of paper, p. 28 of abstract.
309. STORM, V. Oversigt over Thronhjems-fjordens fauna. [Synopsis of the fauna of Trondhjem fjord.] Trondhjems biologiske station. Medd. Stationsanlaeggets arbeidskomité 1901, pp. 1-20, 1 map. Trykt som MS. [Printed for private circulation.] (1901.) [II, D, iii, a. III, A, ii.]
310. STRANGWAYS, C. Fox. The geology of the country between Derby, Burton-on-Trent, Ashby-de-la-Zouch and Loughborough. (Explanation of Sheet 14.) Mem. Geol. Surv. England and Wales, vi+84 pp., frontisp. and 7 text-figg. [III, B, iv, e.]
311. TAFF, J. A. Preliminary report on the geology of the Arbuckle and Wichita mountains in Indian Territory and Oklahoma. Prof. Pap. U. S. Geol. Surv. xxxi, 98 pp., viii pls. 1904. [III, B, iv, h.]
312. TALBOT, MIGNON. Revision of the New York Helderbergian Crinoids. Amer. J. Sci. (4), xx, pp. 17-34, pls. i-iv, text-figg. (July.) [III, B, iv, f. iv, F.]  
Abstracts: by R. RUEDEMANN, Geol. Centrbl. vii, p. 575 (1 Feb. 1906); by J. LAMBERT, Rev. paleozool. x, p. 180 (July, 1906).
313. THÉVENIN, A. Étude géologique de la bordure sud-ouest du massif central. Bull. Cart. geol. France, xiv, No. 95, 202 pp., vi pls., 1 map, 51 text-figg. (1903.) [III, B, iii, c, 1, 3; d.]
314. —. Note sur des fossiles du Carbonifère inférieur du Djebel Bechar (Sud Oranais). Bull. Soc. geol. France (4), iv, pp. 818-822. (Feb.) [III, B, iv, e.]
315. TOIT, A. L. DU. Fresh points in the structure of *Apiocrinus*. Tr. Soc. Glasgow, xii, pp. 187-191, 2 text-figg. [II, B, i, f, 5.]
- TORNQUIST, A. (268) Zool. Rec. 1904. Abstract: by H. YABE, J. Geol. Soc. Tokyo, xi, p. 252 (20 June, 1904).
316. —. Ueber eine eocäne Fauna der Westküste von Madagaskar. Abh. Senckenberg. Ges. xxvii, pp. 321-338, pl. xlvi, 3 text-figg. (1 April, 1904.) [II, B, i, c, 5. III, B, ii, f. iv, c.]  
Abstracts: by J. LAMBERT, Rev. paleozool. ix, p. 96 (April, 1905); by Author, Geol. Centrbl. vi, p. 422 (15 April, 1905).  
— See also GAUTHIER, V., LAMBERT, J., SAVIN, L.
317. TOULA, F. Geologische Untersuchungen im östlichen Balkan und in den angrenzenden Gebieten. Denk. Ak. Wien, lvii, pp. 323-400, vii pls. (1890.) [III, B, iii, b, 1, 2; d. iv, F.]

318. [TOULA, F.] Geologische Exkursionen im Gebiete des Liesing- und des Moedlingbaches. Jahrb. geol. Reichsanst. lv, pp. 243-326, pl. v, 34 text-figg. (20 June.) [II, B, iii, b, d, e.]
319. TREACHER, L. & WHITE, H. J. O. Excursion to Marlow, Saturday, July 1st, 1905. P. Geol. Ass. xix, pp. 155-159. (28 Aug.) [II, A, iii. III, B, iii, b, I.]
- See also WHITE (338).
320. UDDEN, J. A. JUN. Geology of Clinton County. Rep. Geol. Surv. Iowa, xv, pp. 369-432, 2 maps. [III, B, iv, g.]
321. ULRICH, E. O. The lead, zinc, and fluorspar deposits of Western Kentucky. Part I. Geology and general relations. Prof. Pap. U. S. Geol. Surv. xxxvi, pp. 7-106, pls. i-vii. [III, B, iv, e. IV, H.]  
Abstract: by J. LAMBERT, Rev. paleozool. x, p. 228 (Oct. 1906).
322. UNITED STATES NATIONAL MUSEUM. Catalogue of the type and figured specimens of fossils, minerals, rocks and ores in the Department of Geology. Prepared under the direction of G. P. MERRILL. Part I. Fossil invertebrates. By C. SCHUCHERT, assisted by W. H. DALL, T. W. STANTON, and R. S. BASSLER. Bull. U. S. Mus. liii, vi+704 pp. (Sept.) [II, E, i, c.]  
Review by F. A. BATHER, Museumskunde ii, pp. 234-235 (18 Oct. 1906).
323. USSHER, W. A. E. The geology of the country around Kingsbridge and Salcombe. (Explanation of Sheets 355 & 356.) Mem. geol. Surv. England, vi+82 pp., 31 text-figg. (1904.) [III, B, iv, f.]
- VALETTE, A. (283) Zool. Rec. 1902. Abstract: by J. BOEHM, N. Jahrb. Min. 1906, i, p. -320- (21 Apr. 1906).
324. — Description de quelques Échinides nouveaux de la craie sénonienne du Département de l'Yonne. Bull. Soc. Yonne, 1904, pp. 21-45, text-figg. [II, F, vii, c. III, B, iii, b, I. IV, c.]  
Abstracts: by J. LAMBERT, Rev. paleozool. ix, p. 162 (July, 1905); by L. PERVINQUIÈRE, Geol. Centrbl. vii, p. 169 (15 Oct. 1905).
325. VAN ERTBORN, O. Un gisement de fossiles d'Edoghem. Bull. Soc. Malac. Belge, xxxvi, p. xv. (15 June, 1901.) [III, B, ii, c.]
326. VANÉY, C. Holothuries recueillies par M. Ch. Gravier sur la côte française des Somalis. Bull. Mus. Paris, 1905, pp. 186-191. [II, B, ii, c. III, A, iii. IV, B.]  
Abstract in LUDWIG (200).  
— See also KOEHLER (162).
- VERRILL, A. E. See SEARS (297).
327. \*VERWORN, M. Allgemeine Physiologie. 3rd edition. 8vo, 632 pp., 295 text-figg. Jena: Fischer. (1900.) [II, F, viii.]
328. VIGUIER, C. Les "Faits biologiques isolés" et les "Faits réunis par une fonction continue," de M. Bohn. C.R. Soc. Biol. lviii, pp. 358-360. [II, F, viii.]
329. — Y a-t-il des oeufs alternativement parthénogénétiques et fécondables? Arch. zool. exp. Notes (4), iii, pp. ccvii-ccxii.  
Abstract: in J. R. Micr. Soc. 1906, p. 33 (Feb.) [II, F, viii.]
- VINASSA DE REGNY, P. [E.] (315) Zool. Rec. 1903. Abstract by Author, Rend. Acc. Bologna (n. s.), vii, pp. 43-44 (1903).
- See also AIRAGHI (5 & 6), CHECCHIA, G., FUCINI (102), NEVIANI (224), NOELLI, A.
330. †WARD, J. Palaeontology of the Pottery Coalfield. Being Part III of the North Staffordshire Coalfields by W. Gibson. Mem. geol. Surv. U. K., England, pp. 285-357. (June.) [III, B, iv, d.]

331. WARDLE, THOMAS. The Wardle Collection of Carboniferous Limestone fossils (chiefly North Staffordshire), presented to the Nicholson Institute by Sir Thomas Wardle. 8vo, 16 pp. Leek: T. Grace, printer. (1905.) [II, E, i, c.]
332. WEED, C. M. & CROSSMAN, R. W. A laboratory guide for beginners in zoology. 8vo, xxvi+106 pp. London: Heath, 1s. 6d. (May, 1903.) [II, E, i, d.]  
Echinoderms, pp. 35-45.
333. WEGNER, T. Die Granulatenkreide des westlichen Münsterlandes. I. Zeitschr. Deutsch. geol. Ges. lvii, pp. 112-232, pls. vii-x. 20 text-figg. (Mar.) [III, B, iii, b, I. iv, c, D, F.]  
Abstract: by HARBORT, —, Geol. Centrbl. viii, pp. 559-561 (15 Nov. 1906).
334. WELLER, S. A fossil starfish from the Cretaceous of Wyoming. J. Geol. xiii, pp. 257-258, text-fig. (May.) [III, B, iii, b, I. iv, D.]
335. WELSCH, J. Étude des terrains du Poitou dans le détroit Poitevin et sur les bords du massif ancien de la Gâtine. Bull. Soc. geol. France (4), iii, pp. 797-881. (Aug.) [III, B, iii, c & d.]
336. —. Coupe des terrains jurassiques sur le versant parisien du Seuil du Poitou, au nord de Ligugé et de Poitiers; présence de la zone a *Amm. cordatus* Sow. Bull. Soc. geol. France (4), iii, pp. 944-954. (Aug.) [III, B, iii, c. iv, c, *Clypeus*.]
337. WHEELER, W. M. A new *Myzostoma*, parasitic in a starfish. Biol. Bull. viii, pp. 75-78, 1 fig. (Jan.) [II, D, viii, d.]  
Abstract in LUDWIG (200).
338. WHITE, H. J. O. & TREACHER, L. On the age and relations of the phosphatic chalk of Taplow. Quart. J. Geol. Soc. lxi, pp. 461-494. (31 Aug.) [III, B, iii, b, I.]  
Remarks on *Echinoderma* by A. W. ROWE, p. 494.  
— See also TREACHER (319).
- WHITELEGGE, T. See MAWSON (211).
339. WHITFIELD, R. P. Notice of a new crinoid and a new mollusk from the Portage Rocks of New York. Bull. Amer. Mus. xxi, pp. 17-20, pls. i-iv. (24 Feb.) [III, B, iv, f. iv, F.]  
Abstract: by J. LAMBERT, Rev. paleozool. x, p. 179 (July, 1906).
340. WHITLEY, E. A note on the effect of acid, alkali, and certain indicators in arresting or otherwise influencing the development of the eggs of *Pleurometes platessa* and *Echinus esculentus*. P. R. Soc. London, lxxvii, pp. 137-149. (Dec.) [II, F, viii.]  
Abstracts: Nature, lxxiii, p. 213 (28 Dec. 1905); J. R. Micr. Soc. 1906, p. 421 (Aug.).  
— See also MOORE (217).
341. WILCKENS, O. Die Meeresablagerungen der Kreide- und Tertiärformation in Patagonien. N. Jahrb. Min., Beil. Bd. xxi, pp. 98-195, pl. v, 3 text-figg. (1 Oct.) [III, B, iii, b, I. iv, c.]
342. WILLIAMS, H. S. & KINDLE, E. M. Contributions to Devonian Paleontology, 1903. Bull. U. S. Geol. Surv. No. 244, 144 pp., iv pls., 3 text-figg. [III, B, iv, f.]  
Review: by C. SCHUCHERT, Amer. J. Sci. (4), xix, pp. 460-463 (1905).

343. WOLLEMANN, A. *Belemnites ultimus* d'Orb. und andere Versteinerungen aus der Kreideformation von Misburg bei Hannover. Monatsber. deutsch. geol. Ges. 1905. Briefe. pp. 265, 266. (Aug.) [III, B, iii, b, I.]  
Reissued in Zeitschr. Deutsch. geol. Ges. lvii (Sept. 1906) without reference to previous date of publication.
344. WOODLAND, W. Studies in spicule formation. III.—On the mode of formation of the spicular skeleton in the pluteus of *Echinus esculentus*. Quart. J. Micr. Soc. (n. s.), xlix, pp. 305–325, pls. xviii, xix, 8 text-figg. (Nov.) [II, B, i, a, c, 4; E, i, a; F, v, c; vi, c, 10.]  
Abstract in LUDWIG (200).
- WOODS, H. (293) Zool. Rec. 1904. Abstract by Author, Geol. Centrbl. vii, p. 362 (15 Dec. 1905).
345. WYSOGÓRSKI, J. Die Trias in Oberschlesien. Zeitschr. Deutsch. geol. Ges. lvi, pp. 260–264—Protok. (1904.) [III, B, iii, e.]
346. YABE, H. Palaeontological Notes. [In Japanese.] J. geol. Soc. Tokyo, xii, pp. 288–291. (20 Sept.) [III, B, ii, a.]  
— See also TORNIQUIST, A.
347. YOUNG, G. W. The Chalk area of north-east Surrey. P. Geol. Ass. xix, pp. 188–219, pl. v. (23 Oct.) [III, B, iii, b, I.]
348. ZAHALKA, C. Pásmo x křidového útvaru v Pojizeří. [The x zone of the Chalk formation in the Isengebirge.] SB. Bohmisch. Ges. 1905, No. 17, 186 pp., 4 pls. [III, B, iii, b, I.]
349. ZELENY, C. Compensatory regulation. J. exp. Zool. ii, pp. 1–102, text-figg. (April.) [II, D, vii, e.]
350. \*——. The relation of the degree of injury to the rate of regeneration. J. exp. Zool. ii, No. 3. [II, D, vii, e.]  
Abstract: in Arch. Entwickmech. xx, p. 324 (28 Nov. 1905).
- ZIEGLER, H. E. See JAEKEL (145).
- ZSCHOKKE, F. See JOUBIN (149), PETERSEN (253).

\*\* *There is reason to believe that the following books and papers contain references to, or descriptions of, echinoderms; but, in spite of every effort short of actual purchase by the Recorder, it has not been possible to see them. Therefore they are not referred to in the Subject Index.*

1. ARNOLD, AUGUSTA F. The Sea beach at ebb tide, a guide to the study of the seaweeds and the lower forms of animal life found between the tide marks. 8vo, x+490 pp., 600 text-figg. New York: The Century Co. (1901.)  
Review: Amer. Natural. xxxv, pp. 937–938 (1901).
2. BADE, E. Naturwissenschaftliche Sammlungen. Das Sammeln, Pflegen und Präparieren von Naturkörpern. 8vo, viii+202 pp., v pls., 50 text-figg. Berlin, Herm. Walther (1899). M. 3.50; geb. M. 4.
3. †BEUSHAUSEN, L. Die Entwicklung der Tierwelt. Weltall und Menschheit. ii, pp. 411–518, 4to. Berlin: Bong & Co.
4. CLARKE, J. M. Naples fauna in Western New York. Mem. N. York Mus. vi, 268 pp., xxvi pls., map. \$2. (1904?)  
Quoted by Whitfield (329) as already published in Feb. 1905; not yet in London, Dec. 1906. See, iv, F, *Scytalocrinus*.
5. — & RUEDEMANN, R. Guelph formation and fauna of New York State. Mem. N. York Mus. v, 196 pp., xxi pls. \$1.50. (July, 1903.)

6. EMERY, CARLO. 1899. *Compendio di Zoologia*. 8vo, viii+456 pp., 1 map and 600 text-figg. Bologna : Zanichelli (1899). 10 lire.  
Review by P. CELESIA, *Riv. Sci. biol.* i, pp. 473-475 (1899).
7. HECK, — & MARTENS, E. von, et alii. *Das Tierreich*. 2222 pp., 1445 text-figg., xii pls. Neudamm : J. Neumann. (1897.)
8. KELLER, C. *Das Leben des Meeres*. 8vo, xvi pls., 350 text-figg. Leipzig : Tauchnitz. M. 18. (189-?)
9. KIAER, J. Group 5 in Asker near Kristiania. *Norges geol. Unders.* xxxiv, English summary. (1902.)
10. KUCKUCK, P. *Der Strandwanderer. Die wichtigsten Strandpflanzen, Meeressalgen und Seetiere der Nord- und Ostsee*. 76 pp., 24 pls., 265 text-figg. München : J. F. Lehmann, M. 6. (1905.)
11. MARSHALL, W. *Bilder-Atlas z. Zoologie der niederen Tiere*. 295 woodcuts. Leipzig u. Wien, M. 2.50. (1899.)
12. MAYER, A. G. *Sea-shore life. The invertebrates of the New York coast*. *New York Aquarium Series*, No. 1. 200 pp. N. Y. Zool. Soc. (1905.)
13. PFURTSCHPELLER, P. *Zoologische Wandtafeln. Tab. v.* Wien und Leipzig : A. Pichler's Witwe und Sohn. (1903.) [*Sphaerechinus*.]
14. PILTZ, E. *Die Gliederung der Trias bei Jena*. *Jahresber. Pfeiffer'schen Lehranst.* Jena. (March, 1901.)
15. PORTER, C. E. *Contribucion a la fauna de la provincia de Valparaiso*. *Rivist. chilena*, ii, pp. 31-33. (1898.)
16. RAUBER, A. *Wirkungen des Alcohols auf Tiere und Pflanzen*. Leipzig. (1902.)
17. REAGAN, A. B. *The fossils of the Red Wall compared with those of the Kansas Coal Measures*. *P. Indiana Ac.* 1903, pp. 249-251. (1904.)
18. SARDESON, F. W. *Palaeozoic Fossils in the Drift*. *Bull. Minnesota Ac.* iii, pp. 317-318. (1902.)  
Reference probably incorrect.
19. SIEMIRADZKI, J. "O wieku wapieni skalistych w pasmie krakowsko wieluńskiem." (Ueber das alter der Felsenkalke im Gebirgszuge zwischen Krakau und Wieluń.) *Abh. math.-nat. Klasse Ak. Wiss. Krakau*, 1901, vol. xli, pp. 289-296. (Reference, probably incorrect, taken from *Geol. Centrbl.* ii, p. 533, 1 Sept. 1902.)
20. SPITZ, E. *Sammlung methodisch geordneter Zeichnungen aus dem Gebiete der wirbellosen Thiere und der Anthropologie zum Selbstunterricht und Schulgebrauch*. 4 Aufl., 8vo, 80 pp. Baden-Baden. (1900.)
21. VANHOEFFEN, E. *Die Tierwelt des Südpolargebeits*. *Zeitschr. Ges. Erdkunde*, Berlin, 1904, pp. 362-370. (1904.)
22. WIMMER, J. *Mechanik der Entwicklung der tierrischen Lebewesen*. 64 pp. Leipzig : J. A. Barth. (1905.)

## II. BIOLOGY.

### (A.) EVOLUTION.

- i. **General Principles** :—Heredity, experimental; PRZIBRAM (262).—A source of weakness forms starting-point for a new line of evolution, e.g. invagination of base in *Lyriocr.* and *Blastoidocr.*; HUDSON (144) p. 272.

- ii. **Relations of Echinoderma**:—Place and definition of *Echinoderma* in an embryologic classification of *Metazoa*; HALLEZ (127).—*Echinoderma* allied with *Enteropneusta* to form a phylum *Ambulacralia*; GROBBEN (124).—Brief account of previous theories, exposition, and criticism of the Pentasomaea of Herouard (121, Zool. Rec. 1904); KEMNA (151).
- iii. **Phylogenies of smaller groups**:—Zonal Evolution of Chalk *Micraster*; TREACHER (319) p. 158.

## (B.) MORPHOLOGY.

i. **Anatomy**:—a. **ECHINODERMA.**

1. General accounts:—GROBBEN (124).—HERTWIG (136 & 136A) pp. 300–320.—PORTER (259).—Popular; SCHERREN (289): littoral Echinoderms; FURNEAUX (102A) pp. 157–171, pl. iv: structure and classification; DAVIS (68) ii, p. 450, text-figg. and coloured plate.
2. Symmetries:—Vacant.
3. Homologies of Classes:—Vacant.
4. Skeletal tissue or Stereom:—The commencing spicule not a tetrahedron; WOODLAND (344) p. 312.
- 5–8. Vacant.
9. Nerve-System and Sense-organs:—LUKAS (201).—“Direction-eyes” in *Ech.* and *Ast.*, popular; DAVIS (68) vii, p. 41.
- 10–12. Vacant.

b. **HOLOTHURIOIDEA.**

1. General Anatomy:—General account, semi-popular; SHELDON (299) pp. 190–195: ditto, in Dutch; KONINGSBERGER (166) pp. 1–12, pls. i–iii.—Anat. *Caudina arenata*, orig. fig.; KINGSLEY in HERTWIG (136).—Anat. *Synapta bergensis*; ØSTERGREN (235).—Anat. notes on various spp., see genera under III, A, iv & vi; PERRIER (249): ditto, see III, A, iii; KOEHLER & VANEY (164).
- 2–5. Vacant.
6. Hydrocoel and associated cavities:—Sucking feet and other podia of *Synallactes*; PERRIER (249) p. 7.
7. Coelom and other body-cavities:—Genital lacuna and aboral sinus in *Phyllophorus*; POLARA (258).
8. Digestive System:—Vacant.
9. Nervous System and Sense-organs:—Nerve-fibrils in perioesophageal ring *Synapta*; BOCHENEK (33).
10. Mesodermal tissues (exc. skeletal):—Vacant.
11. Axial organ:—Vacant.
12. Genital System:—Genital caeca and connection with gonoduct in *Phyllophorus*; POLARA (258).

c. **ECHINOIDEA.**

1. General Account:—Semi-popular; SHELDON (299) pp. 171–190: elementary “sea-urchin”; COLTON (62) I, p. 338.
2. Symmetries:—Vacant.
3. Homologies with other Classes:—Vacant.
4. Stereom:—Formation of spicular skeleton in *Echinus pluteus*; WOODLAND (344).—Section of *Echinus* radiole × 60 diam.; KERR (153) p. 65, pl. xv.



5. Skeletal Anatomy:—Apical system *Schizaster*, TORNQUIST (316) p. 330 and fig.—Jaws, fossil epiphyses; HUCKE (143) p. 166, pl. xxiii.
6. Hydrocoel &c. :—Vacant.
7. Coelom &c. :—Vacant.
8. Digestive System :—Branched caecum of intestine, *Echin-arachnius*; GREGORY (120).
9. Nervous System :—Nerves of pedicellariae; KIERNIK (154 & 155).
10. Mesodermal tissues (exc. skeletal):—Histology of pedicellariae of *Paracentrotus* and *Parechinus*, esp. muscles, smooth and striped; KIERNIK (154 & 155).
- 11, 12. Vacant.

d. ASTEROIDEA.

1. General Account :—Semi-popular; SHELDON (299) pp. 161–169.—Elementary “common starfish”; COLTON (62) I, p. 331.—Anat. notes on anus, podia, superambulacrals, Polian and Tiedemann’s bodies, caeca of gut, septa of body-cavity, arm-muscles, generative organs, and gonads of *Ast.* mostly deep-sea, dredged by Albatross, see genera under III, A, iv; LUDWIG (197).—Anat. notes as above on *Ast.* from S. Patagonia, see genera under III, A, vi; LUDWIG (199).
2. Symmetries:—Plane of symmetry of a  $\frac{1}{2}$ -larva is at right angles to plane of first cleavage; DRIESCH (87).
- 3, 4. Vacant.
5. Skeletal Anatomy :—Pedicellariae; LUDWIG (197) p. 9 et passim.—Actinolateral spines of *Retaster* are modified adambulacral spines; LUDWIG (199) p. 66.
7. Coelom and other body-cavities :—Ventral blood-lacunae in *Astropecten*, *Palmipes*, and *Asterias*, anat. and histol.; PIETSCHMANN (256).
- 8–10. Vacant.
11. Axial organ in *Astropecten*, *Palmipes*, and *Asterias*, anat. and histol.; PIETSCHMANN (256).
12. Genital organs:—Vacant.

e. OPHIUROIDEA.

1. General Account :—Semi-popular; SHELDON (299) pp. 169–171.
- 2–4. Vacant.
5. Skeletal Anatomy :—Vertebrae composed of two successive ambulacral pairs (p. 165), mouth skeleton in primitive *Oph.* p. 167; BATHER (21).
6. Hydrocoel and associated cavities :—Podial pores restricted in *Ophiozona*, *Ophiolipus*, and *Ophiura*, podia absent?; BELL (25) p. 256.
- 7–12. Vacant.

f. CRINOIDEA.

1. General Accounts :—Semi-popular; SHELDON (299) pp. 151–160.—General form and size; HAMANN (129) p. 1445.—General anat. *Pentacr.* [= *Isocr.*] *decorus*, with good diagram section; REICHENSPERGER (267).
- 2, 3. Vacant.
4. Stereom :—Integument and stereom; HAMANN (129) p. 1447.
5. Skeleton :—General account; HAMANN (129) p. 1449.—“Arm” restricted to finial series (p. 166), “Syzygy” restricted as proposed by Bather (21 Zool. Rec. 1897) (p. 167), “Synar-

- thric" for articulation between brachials (p. 168), "Syzygial pair" consists of two independent brachials "hypozygal" and "epizygal," the method of reckoning adopted by Bather (op. cit. et passim) fully adopted and proved (pp. 168-177, 180), more than one branching due to regeneration (see II, D, vii, f); MINCKERT (214).—JBB supposed in *Apiocr.*; TOIT (315).—Complete description of *Cleiochr.*, comparison with *Reteocr.* and *Glyptocr.*; SPRINGER (306).
6. Hydrocoel &c. :—Water-vascular system and pores; HAMANN (129) p. 1480.
  7. Coelom &c. :—General account; HAMANN (129) p. 1487.
  8. Digestive System :—Relations of subvective grooves, mouth, gut and anus in *Antedon*, orig. fig.; KINGSLEY in HERTWIG (136) p. 341.
  9. Nervous Systems :—Axial canals (p. 1466) and nervous system (p. 1468), sense-organs (p. 1478); HAMANN (129).—Dorsal nerve-system *Pentacr.* [= *Isocr.*] commissure in BB, brachial chiasmata, chambered organ blind above, its extensions in stem and cirri, function partly nutritive; REICHENSPERGER (267).
  10. Mesodermal tissues (exc. skeletal) :—Muscles of arms and cirri; HAMANN (129) p. 1463.
  11. Axial organ :—General account; HAMANN (129) p. 1492.—Of *Pentacr.* [= *Isocr.*]; REICHENSPERGER (267).
  12. Generative Organs and Gonads :—Axial complex connected with genital rachides, lymph-cells wander outwards and change into gonads; REICHENSPERGER (267).
- g. *CYSTIDEA*.
1. General Account :—Semi-popular; SHELDON (299) pp. 145-149.
  - 2-12. Vacant.
- h. *BLASTOIDEA*.
1. General Account :—Semi-popular; SHELDON (299) pp. 149-151.
  - 2-12. Vacant.
- ii. Variation :—
- a. In form :—Vacant.
  - b. In form and surface characters :—in *Peltaster nidarosiensis*; GRIEG (121); in *Pentagonaster granularis*; GRIEG (122); in mouth-shields of *Ophiura signata*; KEMP (152) p. 193, pl. xxxv.
  - c. In colour :—in *Ophiopholis* not due to different pigments; GRIFFITHS (123).—Colour in life of various spp. of *Muelleria*, *Stichopus*, *Holothuria*; KONINGSBERGER (166); in life and spirit of deep sea *Hol.*, for genera see III, A, iii; KOEHLER & VANEY (164); in formol of Somali *Hol.*, see III, A, iii; VANEY (326); in life of *Synapta digitata*, *Cucumaria elongata* et juv., *Synapta digitata profundicola* (and in spirit), *Laetmogone violacea*, *Asthenosoma hystrix*; KEMP (152); in life of many *Ast.*, see III, A, iv; FISHER (92).—Colour of littoral *Oph.*, see list of genera III, A, iii; KOEHLER (160).
  - d. Meristic variation :—
    1. Variation from pentamerous symmetry :—4 rayed *Astropecten exiguus*; LUDWIG (197) p. 72.—4 rayed *Nymphaster sub-spinosus*; KEMP (152) p. 189.—4 and 6 rayed *Pentagonaster granularis*; GRIEG (122) p. 5.—5 and 6 rayed *Ophiactis savignyi*; KOEHLER (160) p. 26.
    2. Reduplication or absence of parts :—Apparent discontinuous variation often due to augmentative regeneration; MINCKERT

- (214) & PRZIBRAM (262) p. 89.—Duplication of interradials in *Cryptoblastus*; ROWLEY (282) p. 301.—Suppression of cirrus and corresponding swelling of process from chambered organ in *Pentacr.* [*Isocr.*]; REICHENSBERGER (267) p. 180.
- e. Abnormalities:—in tuberculation and in arrangement of podial pore-pairs, *Cyphosoma abbatei*; FOURTAU (99) p. 123.—Teratogenesis; PRZIBRAM (262).
- iii. **Secondary Sexual Characters**:—
- a. Differences of Form or Structure:—Vacant.
  - b. Differences of Colour:—Vacant.
  - c. Protection of Young:—DAVIS (68) vi, p. 356.—Origin of, compared with symbiosis, instances in *Echinoderma*; GIARD (110) pp. 254, 256.—Marsupial petals in *Amphipneustes koehleri*; MORTENSEN (220) p. 243.—“Eine Art von Brutpflege” in *Asterina imbricata*; LUDWIG (199) p. 63.

(C.) PHYSIOLOGY.

- i. **General**:—Vacant.
- ii. **Circulation**:—in ventral lacunae and podia of *Ast.*; PIETSCHMANN (256).
- iii. **Respiration**:—DAVIS (68) iv, p. 411.—Osmotic pressure of perivisceral fluid in *Thyone*, *Arbacia*, and *Asterias*; GARREY (108).
- iv. **Alimentation and Digestion**:—Vacant.
- v. **Excretion and its Products**:—Lymphocyte formation in axial organ of *Ast.*; PIETSCHMANN (256).—Pigment of ova and larvae of *Ech.*, its origin and biological value; GARBOWSKI (107) p. 615.—Pigment of *Oph.*, esp., *Ophiopholis belli*, chemical and physical analysis; GRIFFITHS (123).
- vi. **Sensation**:—Sensation and sensibility. Have Echinoderms consciousness? not necessary. List of observations bearing on consciousness that remain to be made (p. 260); LUKAS (201).—Taxis and tropism; PRZIBRAM (262).—Tentacle-reflex in *Cucumaria*; GRAVE (118).—Need of central nervous system for oxygen as proved by experiments on *Echinus* and *Ophioderma*; BAGLIONI (12c).
- vii. **Miscellanea and Experimental Physiology**:—Introduction to experimental morphology; PRZIBRAM (262).—Protoplasm of ova broken up by centrifuge, *Asterias*, *Strongylocentrotus*, *Sphaerechinus*; GURWITSCH (126).—Blood of *Ech.* no haemolytic action on blood corpuscles of bird and mammal; FRIEDENTHAL (99A) p. 499.—Lecithin in sexually active gonads of *Toxopneustes*; LOISEL (194).

(D.) BIONOMICS.

- i. **General Accounts**:—(a) popular; GALLUP (104); SCHERREN (289).—Deep-sea Echinoderms, popular, JOUBIN (149) pp. 25, 119, figg. 21–24, 104–139. (b) KONINGSBERGER (166) pp. 22–25.
- ii. **Special habits**:—Burrowing of *Hol.*; DAVIS (68) v, p. 230: of *Ophiocnida brachiata* by podia; KEMP (152) p. 181.—Phosphorescent *Diadema*, *Amphiura*, *Ophiacantha*, *Brisinga*; PUETTER (263) p. 23.
- iii. **Habitat**:—(a) of all species in Trondhjem Fjord; STORM (309).—Various *Hol.*, *Ech.*, *Ast.*, *Oph.*, see III, A, ii, Faeroes and Iceland;

- HØRRING (142).—Various spp. at Balearic Is.; BUEN (44). (b) Of various spp., see lists III, A, ii; KEMP (152).—*Bathyplotes*, *Mesothuria*, *Cucumaria*, *Myriotrochus*, on clay in deep water; NORDGAARD (230) p. 241.—*Cucumaria* at Beaufort, N. C.; GRAVE 118. (c) of various spp., see lists III, A, ii; KEMP (152). (d) Bottom affected by spp. of *Ast.* in Pacific, for genera see III, A, iv; LUDWIG (197): ditto, S. Patagonia, see III, A, vi; LUDWIG (199).—*Ctenodiscus crispatus*, mud-eater; NORDGAARD (230) p. 244. (e) of various spp., see lists III, A, ii; KEMP (152).—*Ophiacantha spectabilis* on *Lophohelia*, ? always; NORDGAARD (230) p. 239. (f) of *Antedon bifida*, bottoms of moored hulks; KEMP (152) p. 179.
- iv. **Feeding**:—(a) LUKAS (201): Food; DAVIS (68) III, p. 153, IV, p. 264. (d) *Asterias rubens* eats hermit-crabs; BOLAU (36).
- v. **Defence and Protection**:—Protection (iv, pp. 285, 287), Protective armour (iv, p. 340), Active defence (iv, p. 361); DAVIS (68).
- vi. **Locomotion**:—(a) movement in general and locomotion; LUKAS (201).—Swimming Echinoderms (v, p. 23), creeping Echinoderms (v, p. 90, figg.); DAVIS (68). (b) *Synapta* movements; SAFFORD (284) p. 89. (d, e, f) Climbing of *Ast.* (v, p. 231), of *Oph.* and *Crin.* (v, p. 278), Locomotion of *Oph.* (v, p. 114); DAVIS (68).
- vii. **Autotomy and Regeneration**:—(a) Autotomy; LUKAS (201).—Regeneration, experimental; MAAS (202) p. 98: and teratogenesis; PRZIBRAM (262). (b) Autotomy or division above coil of gut produces a straight gut, in *Synapta*; ØSTERGREN (235) pp. cxxxv, cxlv. (c) *Pluteus* of *Mellita testudinata* lacks this faculty almost wholly; GRAVE (119). (d) Regeneration, *Ast.*; MCINTOSH (204); DAVIS (68) VI, p. 328.—Forked disc-appendage probably due to regeneration, in *Porcellanaster pacificus*; LUDWIG (197) p. 90. (e) Rate of regeneration of rays in *Ophioglypha*; ZELENY (339) pp. 7-17: more rapid the greater the injury; ZELENY (340). (f) Regenerated parts of a lighter colour than the older parts, in arms of *Antedon* (p. 178), regeneration of cirri, of disc [i.e. tegmen and viscera], of pinnules, of rays [i.e. brachia], of arms [i.e. finials], the last being either simply reproductive or augmentative (pp. 187-205); in *Antedonidae* and *Actinometridae* all arm-branching after the first is due to augmentative regeneration (pp. 210-232), syzygies and modified articulations are predestined planes of autotomy, hypozygals are predestined bases of regeneration (pp. 232-240); MINCKERT (214).—Regeneration of cirri in *Promachoer.* (p. 501), of arms in *Promachoer.* and *Decametrocr.* contrasted (p. 493); MINCKERT (213).
- viii. **Parasites and Commensals**:—(a) PÉREZ (246).—Resemblance of their position to that of the young; GIARD (110) p. 256. (b) *Gasterosiphon* (olim *Entosiphon*), gastropod in *Deima blakei*; KOEHLER & VANEY (164) p. 56. (c) *Pinnaeodes chilensis*, Decapod Crustacean in rectum *Strongylocentrotus*; ORTMANN (234) p. 697.—*Eumedon*, a crab commensal in apical region of *Echinothrix*; BOUVIER (37). (d) *Myzostoma fisheri* in body-cavity of *Tosia leptoceramus* Fisher, S. California; WHEELER (327); FISHER (92) p. 307.—*Dendrogaster*, cirripede in body-cavity of *Dipsacaster* and *Echinaster*; LE ROI (182).—Branched parasite, nondescr., in *Persephonaster armiger*, perhaps parasitic castration; LUDWIG (197) p. 41. (e) Gastropod on *Ophiothrix stelligera*; KOEHLER (160) p. 87.—A Chaetopod, *Ophiuricola cynips*, parasitic on arms of *Ophioglypha tumulosa*; LUDWIG (198). (f) *Myzostoma* on *Antedon*; GRAEFFE (117).—Coral, *Monilopora amplexu* causing swellings on *Crin.* stems, esp. *Platy-cr.*, also constriction of stems by *Bryozoa*; ROWLEY (282) p. 304.

- ix. **Echinoderms as Food**:—(a) DAVIS (68) VII, p. 217. (b) *Stichopus* and *Cucumaria* food of *Gadus callarias*, *Phylloporus* food of *G. aeglefinus*; NORDGAARD (230) p. 161.—*Thyone fusus* in *Scyllium*; KEMP (152) p. 178.—*Hol.* as food of man; KONINGSBERGER (166). (c) *Toxopneustes* as food of *Anarrhichas lupus* (p. 183); DITLEVSEN (77). *Amphidetus cordatus* as food of *Hippoglossoides platessoides* (p. 205); HØRRING (142). (e) *Ophiopholis aculeata* as food of *Gadus callarias* (p. 193), ditto and *Ophioglypha albida* as food of *Hippoglossoides platessoides* (p. 205); HØRRING (142): *Oph.*, of *H. platessoides*; DITLEVSEN (77) p. 206.
- x. **Echinoderms in Geological Aspect**:—Relations of Echinoderm remains to dolomitization; SKEATS (302) pp. 124, 135.—Pseudogaylussite and *Ech.* tests; MACNAIR (205).—*Crin.* as rockformers Trias and Lias of E. Alps; ESCHER-HESS (89).—Crinoid Limestones of Liassic (p. 268), Lower Cretaceous (pp. 271-274), and Upper Cretaceous (pp. 273, 274) of Unterengadin; PAULCKE (243).

## (E.) MISCELLANEOUS.

i. **Research and Instruction**:—

- a. **Preservation**:—Collection and preservation of littoral Echinoderms; FURNEAUX (102A) p. 79.—Curious methods of collecting foss. *Ech.*; SAVIN (286) p. 111.—Formol dangerous for Echinoderms; BELL (26) p. 241.—Staining pluteus of *Echinus* for study of spicules; WOODLAND (344) p. 308.
- b. **Methods of research**:—Importance of biometry in taxonomy; EDWARDS (88).—Method of measuring spicules in *Synapta*; ØSTERGREN (235) p. cxxxvii.—Decalcification and staining, *Pentacr.*; REICHENSBERGER (267).—Study of axial organ in *Ast.*, decalcification; PIETSCHMANN (256).—Celloidin paraffin sections of yolky ova; HENDERSON (134).
- c. **Museum Exhibits and Collections**:—Boston, Mass., museum guide, *Echinoderma* recent and fossil; SHELDON (299) pp. 145-195.—Tübingen Geol. Mus. Guide, mentions Echinoderms in collection, esp. *Pentacr. subangularis*; KOKEN (165).—Nicholson Institute, Leek, Staffs., Carboniferous *Crin.*; WARDLE (331).—Types of Cretaceous *Ech.*, *Ast.*, *Crin.* at Acad. Nat. Sci., Philadelphia; JOHNSON (146).—List of type-specimens of fossil *Echinoderma* in U. S. NAT. MUS. (322): of fossil *Pelmatozoa* in State Mus. N. Y.; CLARKE (57 & 60).
- d. **Instruction**:—Text-books; GROBBEN (124), HERTWIG (136 & 136A), PORTER (259).—Elementary account and guide to practical work of recent Echinoderms, esp. starfish and sea-urchin; COLTON (62) i, p. 331, ii, p. 177.—Dissection of Starfish and Sea-urchin, and Holothurian; WEED (332).—Characteristic fossils; FRAIPONT (99).—Guide to experimental morphology; PRZIBRAM (262).—Ditto, embryology; MAAS (202).
- ii. **Economics**:—see II, D, ix, Echinoderms as food.—Commercially valuable spp. of *Hol.*, districts of trepang-fishery in Dutch E. Indies; KONINGSBERGER (166) pp. 26 et sqq.—*Ech.* as "personal enemies" of man; DAVIS (68) VIII, p. 344.—*Asterias* diminishes numbers of *Pleuronectes platessa* by eating their molluscan food, its value as manure; PETERSEN (253).
- iii. **Bibliography**:—Literature for 1893 abstracted; BERGMANN (30) for 1905; LUDWIG (200): of *Crin.*; HAMANN (129) pp. 1431-1441: of Arctic *Ech.*; DOEDERLEIN (79) p. 393: of Arctic *Crin.*; DOEDER-

LEIN (80) pp. 405-406.—Troost's unpublished monograph on fossil crinoids of Tennessee; CLARKE (59) & GLENN (114) p. 79.—Account of S. A. Renier, Tavola alfabetica delle conchiglie adriatiche, especially as bearing on Molluscan and Echinoderm name *Discooides*; BATHER (19).

- iv. **Historical, Popular notions, &c.**—History of opinion concerning axial organ; PIETSOHMANN (256).—History of discovery, *Crin.*; HAMANN (129) pp. 1442-1444.—Troost's monogr.; CLARKE (59) and GLENN (114).

Popular names at Skerries, Co. Dublin, Crossane for *Uraster rubens*, Morane for *Ophiura albida*; COLGAN (61) p. 213.—Popular names of the commoner New England Echinoderms; CLARK (55).—Lapp names for *Echinus*, *Asterias*; QVIGSTAD (264) pp. 386, 387.—Native names for *Hol.* spp. in use in Malaysia; KONINGSBERGER (166) pp. 27-34, et passim.

#### (F.) AUXOLOGY.

- i. **General Principles**.—Growth in general; PRZIBRAM (262).—Different modes of development—poecilogony—in the same or closely allied species, how originating; GIARD (111) p. 621.
- ii. **General Accounts**.—(a) Life histories; DAVIS (68) VI, p. 354, figg. (b) semipopular, in Dutch; KONINGSBERGER (166) pp. 13-18, pls. iv, v.
- iii. **Formation of Gonads**.—(a) Spermatozoa of *Antedon*, *Brissopsis*, *Mesothuria*; RETZIUS (275). (b) Lining cells of genital caeca develop supporting cells and glandular cells which assist the nutrition of the gonads and the embryo, *Phyllophorus*; RUSSO (283). (c) Glandular elements associated with spermatozoa in *Strongylocentrotus*; RUSSO (283).—Ovum of *Paracentrotus*, pigment ring and relations to axis, polarity of *Ech.* ovum; GARBOWSKI (107). (d) Maturation due to hunger of the ovum, ova of *Asteracanthion* ripened by removal from ovary; HERTWIG (137) p. 202.
- iv. **Oviposition, Fertilisation, and Segmentation**.—Time of breeding-season for *Hol.*; KONINGSBERGER (166) pp. 19-22.—Breeding period of *Asterina fimbriata* (p. 63), two breeding periods per annum in *Cycethra verrucosa* (p. 58); LUDWIG (199).—Fertilisation, summary of recent work, esp. Buller and Giardina; LOISEL (193).
- v. **Larval Stages**.—(a) McINTOSH (204). (c) Pigmentation of larva, its increase by hybridisation; GARBOWSKI (107) p. 613.—Rearing larvae of *Echinus esculentus*; WOODLAND (344) p. 306. (d) Early stages of an Asterid with yolky eggs, anatomy, histology; HENDERSON (134).
- vi. **Organogeny**.—(c) *Echinoidea*:—(10) Origin of mesenchyme in *Echinus*, protoplasmic continuity of cells; WOODLAND (344) p. 308.
- vii. **Post-larval Growth-stages**.—(b) Increase in number of polian vesicles and stone-canals with age in *Holothuria*; EDWARDS (88). (c) Neanic *Micraster coranguinum* 11 to 50 mm. long, studied with reference to development of ambulacra, plastron, apical system, periproct, peristome, and fasciole; VALETTE (324) p. 40. (d) Young stages of *Pararchaster pectinifer* (p. 16), of *Archaster typicus* (p. 53), *Asterina cepheus* (p. 157), *Zoroaster* (p. 177), *Z. longispinus* (p. 183); LUDWIG (197); of *Asterodon*, *Odontaster*, *Porania*, *Cycethra*, *Asterina*; LUDWIG (199). (e) Young stages of various *Oph.*, see list of genera III, A, iii; KOEHLER (160).

viii. **Developmental mechanics and Experimental Embryology**:—General account; MAAS (202).—General chapters on die Zeugung, die notwendigen Stoffe, der Eibau; PRZIBRAM (262).—Echinoderm ovum and sperm-ovum illustrating cellular mechanics, segmentation, and development; GURWITSCH (125) passim, with figg. after previous authors.—Experiments on segmentation, differentiation of tissues and organs, illustrated by *Ech.* and *Ast.*; MAAS (202) pp. 24, 84.—Mesenchym-composition in *Ech.* larvae developed from inharmoniously united blastomeres; DRIESCH (86).—Equipotence of ectoderm and endoderm in larva of *Asterias* and *Astropecten*, larvae from fragments; DRIESCH (87).—Relation of size and number of cells in larvae to chromosomes of ovum; experiments on *Echinus* and *Strongylocentrotus*; BOVERI (38): same continued by doubly fertilised *Ech.* ova; BOVERI (39).—Modification of segmentation by artificial increase of yolk; SANZO (285).—Retardation of development by increased temperature; PETER (251).—*Sphaerechinus* gastrulae developing rapidly in warmth vary in number of mesenchyme-cells more than do those developing slowly in cold; PETER (252).—Effect of removal of oxygen on segmentation of sperm-ova of *Arbacia*; LOEB (184).—Action of spectrum rays, of ultraviolet light, of diffuse light on mitosis of sperm-ova of *Echinus microtuberculatus*; HERTEL (135).—Lithium bromide produces exogastrulation in *Ech.*; GARBOWSKI (106).—Effects of acid, alkali, phenol-phthalein, and di-methyl-amido-azo-benzol on sperm-ova of *Echinus*; WHITLEY (340): ditto, and comparison with cell-growths in malignant disease; MOORE (217).

Hybridization:—BOVERI (38).—*Echinus*, *Strongylocentrotus*, and *Sphaerechinus* ♀ × *Antedon* ♂, and vice versa, brought to plutei, mother-characters only, also gastrulae from enucleated *Ech.* ova × *Antedon*; GODLEWSKI (115).—*Echinus esculentus*, *Paracentrotus lividus*, and *Parechinus miliaris* in various combinations, Plutei without endoderm from *Echinus esculentus* ♂ and *Paracentrotus lividus* ♀; GARBOWSKI (106).—*Paracentrotus lividus* ♀ × *Spatangus purpureus*, *Sphaerechinus granularis*, and *Parechinus microtuberculatus*; GARBOWSKI (107) p. 614.

Artificial Parthenogenesis:—General discussion; ARIOLA (12A).—General summary of recent work, esp. Ariola, Viguier, Loeb, Delage; LOISEL (193).—Summary and discussion of results obtained by Loeb et alii; VERWORN (327).—General discussion of physico-chemical theory of fertilisation; FISCHER (91A).—General discussion as to importance of nucleus; ARIOLA (12B).—Methods of inducing parthenogenetic development of *Ech.* ova; DRIESCH (85) p. 649.—Action of various salts and different concentrations on *Asterias* ova, fused blastulae; DELAGE (70).—*Asterias* ova, increase of osmotic pressure not necessary, segmentation proceeding to blastula in a pure solution of manganese chloride, action of other salts, addition of calcium carbonate to carbonic acid produces fusion of numerous blastulae; DELAGE (71).—Influence of temperature, of acid, on *Ech.* and *Ast.* ova, *Ast.* larva lives 4 months 19 days; DELAGE (72).—Merogonic development sperm-ova *Psammechinus* and *Strongylocentrotus*, mitosis, cellular autotomy; KRAHELSKA (168).—Périer's ovulase disproved by experiments with *Strongylocentrotus lividus*; PIZON (257).—Artificial formation of membrane in unfertilised ova of *Strongylocentrotus* produced by concentrated solutions; LOEB (185): ditto by hypertonic sea-water and ethyl acetate, resulting in normal development; LOEB (186): Remarks on preceding; BOHN (34): Similar results by substituting acetic, formic, or carbonic acid for ethyl acetate; LOEB (187 & 188): ditto, by fatty acid, segmentation after subsequent exposure to hypertonic sea-water for a shorter period, discussion of membrane-

forming acids; LOEB (189): ditto, development in *Asterina*, compared with *Strongylocentrotus* and *Arbacia*; LOEB (190).—Theory of antagonistic action of various salts; LOEB (191).—Artificial fertilisation ova of *Moera atropos*; GRAVE (119).—Cytology of parthenogenetic larvae of *Strongylocentrotus* and *Echinus*; DRIESCH (85).—Reply to BOHN, G.; VIGUIER (328).—Reply to LOISEL (193), parthenogenetic and fertilized *Ech.* ova compared; VIGUIER (329).—See further: BATAILLON (17): BIGNEY (31): BOVERI (38): *Ast.*; GARBOWSKI (105).

### III. DISTRIBUTION\*.

#### A. GEOGRAPHICAL.

- i. **General**:—Distrib. dependent on hydrographical conditions and bottom, evidence from Norwegian Echinoderms (pp. 229–244), *Asterias rubens*, transported by tidal current (p. 232); NORDGAARD (230).—Bipolarity discussed with reference to (inter alia) *Hol.* after Theel; BORCHGREVINK (36A) p. 530.—Bipolarity, *Psolus squamatus* alone among *Hol.*, general discussion of question; PERRIER (249) pp. 65, 124.
  - ii. **Atlantic Ocean and adjacent Seas**:—*Oph.* new to this Ocean are *Ophioglypha flagellata*, *O. inornata*, *O. clemens*, *Ophiotrypa simplex*, *Ophiacantha valenciennesi*, many others are listed; KOEHLER (159).—Distrib. of *Peltaster nidarosiensis*; GRIEG (121) p. 11: of *Pentagonaster granularis*; GRIEG (122) p. 11.
- North Atlantic, Sub-Arctic, vide III, A, v; DOEDERLEIN (79 & 80).—Iceland, *Cucumaria*, *Trochostoma*, *Echinocucumis*, *Benthodytes*, *Strongylocentrotus*, *Brissoopsis*, *Dorocidaris*, *Stereocidaris*, *Porocidaris*, *Phormosoma*, *Calveria*, *Sperosoma*, *Echinus*, *Pourtaleisia*, *Asterias*, *Ctenodiscus*, *Cribrella*, *Bathybiaster*, *Solaster*, *Hymenaster*, *Pontaster*, *Astropecten*, *Goniaster*, *Zoroaster*, *Pentagonaster*, *Mimaster*, *Retaster*, *Pararchaster*, *Astrogonium*, *Pteraster*, *Freyella*, *Ophioglypha*, *Ophiopholis*, *Ophiacantha*, *Ophiopleura*, *Ophioscolex*, *Gorgonocephalus*, *Ophiocten*, *Ophiactis*, *Amphiura*, *Amphilepis*, *Ophiomusium*, *Antedon*; SCHMIDT (291) pp. 18–24.—S. of Iceland, *Urechinus*, *Hemiaster*, and *Pourtaleisia* n. sp.; MORTENSEN (220).—Faeroes and Iceland, *Cucumaria*, *Psolus*, *Echinus*, *Strongylocentrotus*, *Amphidetus*, *Spatangus*, *Asterias*, *Cribrella*, *Solaster*, *Ophiopholis*, *Ophiacantha*, *Ophioglypha*; HØRRING (142).
- Norway:—Fauna of fjords; NORDGAARD (230).—*Synapta* & *Labidoplax* n. spp.; ØSTERGREN (235).—Trondhjem Fjord, locc. for various Echinoderms; STORM (309).
- N. Sea: Echinoderm Plankton. See Bull. d. Resultats Conseil. Internat. p. l'explor. de la mer, 1903–04, Nos. 1–4, Partie D.—Off Helgoland, *Rhabdomolgus*; LUDWIG (196).
- British Coasts:—Firth of Clyde, *Auricularia*, *Bipinnaria*, *Pluteus*; BROWNE (43).—Luce Bay, various Echinoderms; JOHNSTONE (147) p. 221.—Near Plymouth, *Phyllophorus drummondi*, *Cucumaria montagui*; NORMAN (232).—Plymouth, Dartmouth, and Galway, *Ophiopsila*; NORMAN (233).—Irish Sea larval Echinoderms; SCOTT (296).—Irish Sea, Skerries, Co. Dublin, *Comatula*, *Ophiura*, *Ophiocoma*, *Uraster*, *Solaster*, *Asterias*, *Echinus*, *Amphidotus*; COLGAN (61).—Ballynakill and Bofin Harbours, Co. Galway, *Synapta*, *Cucumaria*, *Thyone*, *Holothuria*, *Antedon*, *Astropecten*, *Asterina*,

\* For the species found, refer to generic names under IV.



*Henricia*, *Asterias*, *Ophiura*, *Ophiocnida*, *Amphiura*, *Ophiocoma*, *Ophiothrix*, *Echinus*, *Strongylocentrotus*, *Echinocyamus*, *Spatangus*, *Echinocardium*; KEMP (152).—W. Coast Ireland, outside 50 fm. line, *Synapta*, *Cucumaria*, *Thyone*, *Psolus*, *Phyllophorus*, *Holothuria*, *Stichopus*, *Laetmogone*, *Rhizocr.*, *Antedon*, *Pontaster*, *Plutonaster*, *Astropecten*, *Psilaster*, *Luidia*, *Pentagonaster*, *Nymphaster*, *Porania*, *Cheilaster*, *Palmipes*, *Stichaster*, *Neomorphaster*, *Zoroaster*, *Solaster*, *Pteraster*, *Hymenaster*, *Henricia*, *Asterias*, *Brisinga*, *Ophiura*, *Ophiocten*, *Ophiocyton*, *Ophiomusium*, *Amphiura*, *Ophiactis*, *Ophiopholis*, *Ophiacantha*, *Ophiocoma*, *Ophiothrix*, *Ophiobyrsa*, *Cidaris*, *Asthenosoma*, *Phormosoma*, *Echinus*, *Echinocyamus*, *Spatangus*, *Echinocardium*, *Brissois*; KEMP (152).

Rockall, complete list, *Cucumaria*, *Thyone*, *Holothuria*, *Antedon*, *Pontaster*, *Plutonaster*, *Astropecten*, *Luidia*, *Hippasterias*, *Stichaster*, *Henricia*, *Brisinga*, *Ophiura*, *Ophiactis*, *Ophiopholis*, *Ophiothrix*, *Cidaris*, *Asthenosoma*, *Echinus*, *Spatangus*, *Pourtalesia*; KEMP (152).

French Coasts :—Boulonnais, *Echinus*; HALLEZ (128) p. l.—Cotentin, Echinoderm fauna; FAUVEL (90).—Off Arcachon, *Pseudocucumis* n. sp.; KOEHLER & VANEY (163).

Mediterranean :—near Cette. List of *Crin.* (p. 58), *Ast.*, *Oph.*, *Ech.*, *Hol.* (p. 59); CALVET (45).—Balearic Is., Echinoderms; BUEN (44).—G. of Palermo, *Arbacina*; CHECCHIA (49).

Portugal, additions to Echinoderm fauna; NOBRE (228) p. 82, and (229) pp. 132–134.

Near Canaries, *Pentacr.*, *Benthodytes*, and between Canaries and Azores, 5413 m., *Hyphalaster*, *Neomorphaster*; ALBERT (9): 400–5413 metres, ditto and *Salenia* and *Styracaster*; RICHARD (276) pp. 3, 4.

America, New England Coast, list of spp. of *Hol.*, *Ech.*, *Ast.*, *Oph.*, with locc. and depths; CLARK (55).—Anticosti, season, bottom, and depth of *Asterias*, *Solaster*, *Crossaster*, *Ophiopholis*, *Strongylocentrotus*, *Pentacta*, *Psolus*, *Chirodota*: N. of G. St Lawrence, *Astrophyton*, *Echinarachnius*; SCHMITT (292).

iii. Indian Ocean and adjacent Seas :—Deep-Sea *Hol.* of 'Investigator,' *Mesothuria*, *Synallactes*, *Bathyplores*, *Pelopatides*, *Benthothuria*, *Dendrothuria* n. g., *Pseudothuria* n. g., *Allopatides* n. g., *Perizona* n. g., *Bathyzona* n. g., *Oneiropanta*, *Amphideima* n. g., *Ophnurgus*, *Benthophyces* n. g., *Peniagone*, *Benthothuria*, *Dendrothuria* n. g., *Pseudothuria* n. g., *Allopatides* n. g., *Perizona* n. g., *Bathyzona* n. g., *Oneiropanta*, *Amphideima* n. g., *Euriplastes* n. g., *Benthodytes*, *Euphronides*, *Psychropotes*, *Gephyrothuria* n. g., *Filithuria* n. g., *Psolidium* (?), *Psolus*, *Trochostoma*, *Ankyroderma*, *Protankyra*, and *Anapta*, all with n. spp., also *Pseudostichopus*, *Laetmogone*, *Apodogaster*, *Deima*, and *Ypsilothuria*: comparison of Indian Ocean fauna with that of Sunda Archipelago (p. 6) and with others [Station 199 appears to be in the middle of Ceylon, vide sub *Ankyroderma* et *Trochostoma*]; KOEHLER & VANEY (164).

Red Sea, n. sp. of *Gymnechinus* and list of common *Ech.*, *Ast.*, *Oph.*; KOEHLER (161).—G. of Aden, *Phormosoma* n. sp.; DOEDERLEIN (78).

Off E. Africa down to Cape Colony, and Agulhas current, *Orechinus* n. g., *Palaeolampas*, and n. spp. of *Phormosoma*, *Hygrosoma*, *Sperosoma*, *Lamprechinus* n. g., *Paracentrotus*, and *Spatangus*; DOEDERLEIN (78).—Somali Coast, *Thyone*, *Phyllophorus*, *Holothuria*, *Muelleria*, *Chondrocloea*, and n. spp. of *Cucumaria* and *Colochirus*; VANEY (326).

- S. Africa, S. and E. coasts, various locc., *Ophioderma*, *Amphiura*, *Ophiothamnus*, *Ophiothrix*, *Ophioscolex*, *Gorgonocephalus*, and n. spp. of *Ophiozона* and *Ophiura*; BELL (25): *Pseudarchaster*, *Leptoptychaster*, *Astropecten*, *Psilaster*, *Luidia*, *Pentagonaster*, *Calliaster*, *Culcita*, *Stichaster*, *Solaster*, *Retaster*, *Hymenaster*, *Henricia*, *Asterias*, *Asterina*, *Echinaster*, and n. sp. of *Palmipes*, fauna allied to both N. Atlantic and Indian Ocean; BELL (26): *Antedon* n. spp., *Actinometra*; BELL (27).
- Distrib. in Dutch E. Indies of commercial spp. of *Muelleria*, *Stichopus*, *Holothuria*; KONINGSBERGER (166).—Off Sumatra, *Pygmaecocidaris* n.g., and n. spp. of *Phormosoma* and *Palaeolanpas*; DOEDERLEIN (78).—Littoral *Oph.* of 'Siboga,' *Pectinura*, *Ophiopeza*, *Ophioconis*, *Ophiozона*, *Ophioglypha*, *Ophiactis*, *Ophiocnida*, *Amphiura*, *Ophiacantha*, *Ophiomastix*, *Ophiothrix*, *Ophiopteron*, *Ophiocampsis*, *Ophiopsammium*, *Ophiodera*, *Ophiogypsis* n.g., *Astrophyton*, *Astrochalcis* n.g. all with n. spp., also *Ophiopezella*, *Ophiolepis*, *Ophioplocus*, *Ophiostigma*, *Ophiopsila*, *Ophionerets*, *Ophiocoma*, *Ophiuracna*, *Ophiarthrum*, *Ophiomaza*, *Ophiocnemis*, *Ophiothela*, *Ophiomyxa*, *Astrochema*, *Euryale*, and *Sthenocephalus*, and *Ophiothrix* n. sp. 274 m.; KOEHLER (160).—Diego Garcia, *Mortensenia* n.g. *Ech.*; DOEDERLEIN (78).
- New Amsterdam [?S. Indian Ocean, not Guiana], *Notechinus* n.g.; DOEDERLEIN (78).
- iv. **Pacific Ocean and adjacent Seas**:—Alaska, n. spp. of *Mimaster*, *Pseudarchaster*, *Hippasteria*; FISHER (92).—Monterey Bay, Cal., 120 metres, *Psolus* n. sp.; FISHER (93).—Off California, n. spp. of *Porcellanaster*, *Bathybiaster*, *Dipsacaster*, *Persephonaster*, *Benthopecten*, *Dytaster*, *Odontaster*, *Pseudarchaster*, *Tosia*, *Mediaster*, *Hippasteria*, *Cryptopeltaster* n.g., *Lophaster*, *Peribolaster*, *Pteraster*, *Hymenaster*, *Zoroaster*, *Brisinga*, *Freyella*; FISHER (92).
- E. Pacific, *Hol.*, *Ech.* at great depths (2), various locc., *Aceste*, *Aërope*, *Ankyroderma*, *Deima*, *Scotoplanes*, *Psychropotes* (3 & 4), *Benthodytes*, *Freyella*, *Brisinga* (4); AGASSIZ.—Pacific, Albatross, 1891, with depths, temperature, and bottom, n. spp. of *Cheiraster*, *Pararchaster*, *Plutonaster*, *Persephonaster*, *Dytaster*, *Psilaster*, *Astropecten*, *Parastropecten* n.g., *Luidia*, *Porcellanaster*, *Albatrossia* n.g., *Pseudarchaster*, *Mediaster*, *Nymphaster*, *Pentagonaster*, *Hippasteria*, *Pauliella* n.g., *Zoroaster*, *Sarkaster* n.g., *Hymenaster*, *Retaster*, *Cribrella*, *Alexandriaster* n.g., *Pedicellaster*, *Stolasterius*, *Sporasterias*, *Hydrasterias*, *Brisinga*, and *Freyella*, also *Ctenodiscus* and *Paulia*; LUDWIG (197).—S. W. of Callao, *Ophioglypha tumulosa*, 5203 m.; LUDWIG (198).—Chile, *Arbacia*; PORTER (260).
- Off Korea, n. spp., of *Myriotrochus* and *Eupyrgus*, ÖSTERGREN (236).
- Tropical Pacific, Albatross 1899–1900, *Archaster*, *Astropecten*, *Hyphalaster* n. sp., *Culcita*, *Gymnasteria*, *Asterina*, *Linckia*, *Ophiidiaster*, *Acanthaster*, *Mithrodia*, *Brisinga* n. sp. *Freyella* n. sp.; LUDWIG (197).—Ladrones, Guam Id., *Synapta* and other echinoderms; SAFFORD (284) p. 89.
- Australia: 300 fm. 28 miles east of Sydney Heads, *Pannychia*; HEDLEY (133).—New Zealand, *Stichopus*, *Cucumaria*, *Pseudopsolus*, *Phyllophorus*, *Trochodota* and n. sp. of *Caudina*; PERRIER (249).
- v. **Arctic Ocean and adjacent Seas**:—Arctic and sub-Arctic *Ech.* geogr. and bathymetric distrib., also temperature, comparison with Antarctic; DOEDERLEIN (79): ditto, *Crin.*; DOEDERLEIN (80).—Barents Sea, Echinoderm fauna; BREITFUSS (40).—Denmark Str., *Plexechinus* n. sp., Davis Str., *Pourtalesia* n. sp.; MORTENSEN (220).—N. W. of Jan Mayen, *Myriotrochus* n. sp.; ÖSTERGREN (235).

- vi. **Antarctic Ocean and adjacent Seas**:—*Ech.* and *Crin.* fauna compared with Arctic, vide III, A, v; DOEDERLEIN (79 & 80).
- C. Horn and neighbourhood, *Symallactes*, *Stichopus*, *Cucumaria*, *Thyone*, *Psolidium*, *Psolus*, *Caudina*, *Trochodota*, *Chiridota*; PERRIER (249).—Kerguelen, *Trochostoma*; PERRIER (249) p. 65.—S. Patagonia, Swedish Exped. 1895-97, *Asterodon*, *Odontaster*, *Porania*, *Cycethra*, *Asterina*, *Solaster*, *Retaster*, *Cribrella*, *Cosmasterias*, *Sporasterias*, *Labidiaster*, *Ophioglypha*, *Ophiactis*, *Amphiura*, *Ophiomyxa*; LUDWIG (199).
- Antarctic continent littoral:—Two figures from photographs of *Oph.*, one with young, both labelled "Seestern"; BORCHGREVINK (36A) pp. 518, 519.—"Discovery," *Echinus*, *Cycethra*, *Hemiaster*, *Cucumaria*, *Asterias*, *Ophiosteira*, *Ophionotus*; HODGSON (141) and LENDENFELD (179).—German S. Pole Exped., n. spp. of *Urechinus*, *Plexechinus*, and *Amphipeustes*; MORTENSEN (220): *Promachocr.* n. sp.; MINCKERT (213).

## B. GEOLOGICAL.

## (i) GENERAL.

"Les Echinides ne permettent généralement pas de déterminer l'âge des couches avec une grande précision"; DOUVILLÉ (83) p. 12.

Palaeozoic to Cainozoic of Tarbes and Luz in French Pyrenees, lists of Echinoderms; CAREZ (46) pp. 798, 831, 858, 895, 935.—Sahara, list of specimens collected; FOURÉAU (96) pp. 734, 735.

## (ii) CAINOZOIC.

- a. **General**:—Japan, *Echinolampas*; YABE (336).—Patagonia, lists of *Ech.*; AMEGHINO (10) pp. 88, 162.
- b. **Pleistocene**:—Post-glacial *Ech.* tests in nodules with pseudogaylussite in R. Clyde; MACNAIR (205) p. 254.—Loch Fyne, *Echinus*, *Echinocardium*; NEWTON (225).—Yoldia Clay, Esbjerg, *Psolus*, *Ophioglypha*; NORDMANN (231).—C. d'Espichel, Portugal, *Echinus*, *Strongylocentrotus*; CHOFFAT (52).—(Lower), Otranto, *Antedon*, *Schizaster*, *Spatangus*; BASSANI (16).—Glacial "Leda clay," Lynn, Essex Co., Mass., *Asterias*, *Asteracanthion*; SEARS (297) p. 369.—New Hebrides, Cinder Beds at Epi, *Brissus*, *Clypeaster*, *Laganum* (p. 414), Tasiriki on Santo, *Brissus* (p. 451); MAWSON (211).
- c. **Pleiocene**:—Mt. Gargano, *Cidaris*; CHECCHIA (48).—Djerf el Ihoudi, Morocco, *Rotuloidea*; BOISTEL (35).—Sables d'Edeghem, Belgium, *Cidaris*, VAN ERTBORN (325).
- d. **Meiocene**:—Carcare, Piedmont, *Clypeaster* n. sp.; AIRAGHI (8) p. 212.—Corsica, *Brissopsis*; AIRAGHI (6).—Angola, *Amphiope*; CHOFFAT (50) p. 43.—Africa, Loanda, *Amphiope* n. sp. (p. 133), Oran, *Echinolampas* n. sp. (p. 135); LORIOI (195).—New Zealand, Oamaru series, Black point, *Schizaster* (p. 521), Wharekuri basin, *Crin.* col. (p. 527), Mount Brown beds, *Cidaris* (p. 539), Port Hills, Nelson, *Cidaris* (p. 550); PARK (241).
- Upper.—Chalannes (Maine-et-Loire) *Arbacia*; COUFFON (63).
- Middle.—S. Maria Tiberina, Umbria, *Pentacr.*, *Antedon*, *Cidaris*, *Arbacia*, *Echinocyamus*, *Clypeaster*, *Pliolampas*, *Conolampas*, *Echinolampas*, and n. spp. of *Maretia* and *Pliolampas*; AIRAGHI (5).—Helvetian.—N. Sardinia, *Clypeaster*, *Echinolampas*, *Heteroclypus*, *Schizaster*, *Brissus*, *Hemiaster*; AIRAGHI (8).—C. Pyla, Cyprus, *Clypeaster*; BATHER (20); BATE (18); BELLAMY (28) p. 27.
- Lower.—Upper Mediterranean of Osztroski-Vepor Gebirges, *Cidaris*, 1905. [VOL. XLII.]

- Clypeaster*, *Conoclypeus*, *Echinocyamus*, *Goniaster*, *Scutella*, *Schizaster*, *Spatangus*; GÄAL (103).—Burdigalian,—Alpes-maritimes, n. spp. of *Brissoides*, *Mareta*; LAMBERT (173).—Isère, *Cidaris*, *Echinolampas*, *Spatangus*; SAVIN (286).
- e. **Oligocene**:—Stampian, Gironde, *Stenaster* n. g. et sp.; LAMBERT (171) p. 140.—Kasić, N. Dalmatia, *Porocidaris*; SCHUBERT (293) p. 165.
- f. **Eocene**:—Ostliche Kientaleralpen, Switzerland; GERBER (109).—Fumane, Grola, and Novale, Italy, *Echinanthus*, and n. spp. of *Conoclypeus*, *Schizaster*, *Cyclaster*, *Echinolampas*; AIRAGHI (6).—Verona, *Psammechinus excavatus*; LORIOI (195) p. 131.—Basin of R. Adour, chiefly Biarritz, horizons of *Cidaris*, *Clypeaster*, *Euspatangus*, *Scutella*, *Coptosoma*, *Pygorhynchus*, *Echinolampas*, *Ditremaster*, *Oriolampas*, *Macropneustes*, *Echinocyamus*, *Porocidaris*, *Pentacr.*, *Conocr.*; DOUVILLE (83).—Catalonia, n. spp. of *Coptosoma*, *Triplacidia*, *Echinanthus*, *Schizaster*, *Euspatangus*; LORIOI (195).—Cernica, Galicia, *Porocidaris*, *Conocr.*; HAWELKA (131).—Persia, list of *Ech.*; MORGAN (218).—Egypt,—*Euspatangus*, *Perispatangus* n. sg., *Heterospatangus* n. g., *Fourtanina*, *Hypospatangus*, *Megapneustes*, *Plagiopneustes* n. g., *Macropneustes*, *Plesiospatangus*; FOURTEAU (97): *Rhabdocidaris* with n. sp., *Echinolampas*, *Amblypygus*, *Pericosmus*, *Ditremaster*, *Schizaster*, with n. sp., *Linthia*; FOURTEAU (98).—Makamby Id., Madagascar, n. spp. of *Fibulina* n. g., *Fibularia*, and *Schizaster*; TORNGUIST (316).—Eocene?, Somaliland, *Conoclypeus*?, and from Garraagoi Mt. *Schizaster* and *Linthia*?; NEWTON (227) pp. 157, 173.—Eocene?, *Ech.* in limest. at Tokpli, Nigeria, compared with *Ech.* from Sokoto; AMMON (12) pp. 469, 471.—Corrio Bay, Victoria, *Scutellina*, *Antedon*; MULDER (222).—Lower Oamaru, Papakura, N. Zealand, *Schizaster*; CLARKE (56).
- Upper.—W. Roumania, *Cidaris*, *Bourquetier*; MURGOI (223).
- Middle.—Lower Lutetian, Nummulitic, Hérault, list of *Ech.*; MIQUEL (215): of Aude and Hérault, S. France, *Conocr.*, *Cidaris*, *Rhabdocidaris*, *Heteractis*, *Coptosoma*, *Micropsidia*, *Thylechinus*, *Baueria*, *Echinopsis*, *Rhabdopleurus*, *Hypospatangus*, *Linthia*, *Schizaster*, *Prenaster*, *Eolampas*, *Amblypygus*, *Oriolampas*, *Cassidulus*, *Plagiopygus*, *Echinanthus*, *Conoclypeus*, and n. spp. of *Circopeltis*, *Brissoides*, *Macropneustes*, *Linthia*, *Schizaster*, *Harionia*, *Echinolampas*, *Porpitella*; DONCIEUX (81): LAMBERT (171).—Nummulitic, Carinthia, *Cidaris*, *Echinanthus*, *Linthia*, *Echinolampas*, *Cyphosoma*, *Conoclypeus*, *Harionia*, *Pyrina*, *Pygorhynchus*, *Macropneustes*; REDLICH (266) pp. 342, 343.—Ostrovica, N. Dalmatia, *Micropsis*, *Leiopedina*, *Schizaster*, *Macropneustes*, *Trachypatagus*, *Euspatangus*, *Porocidaris*; SCHUBERT (293) p. 168.—Ljubac, N. Dalmatia, *Porocidaris*, *Echinanthus*, *Leio-pedina*, *Conoclypeus*, *Euspatangus*, *Schizaster*; SCHUBERT (294).—Fayum, Egypt, *Euspatangus*, *Echinolampas*, *Anisaster*, *Dictyopleurus*, *Schizaster*; BEADNELL (24).—Lutetian.—Kalfu-Tamaskie, Sokoto, *Rhabdocidaris*?; NEWTON (226) p. 89: *Plesiolampas*, *Linthia*, *Leiocidaris*, Baol near Dakar, *Echinolampas*; LAPPARENT (176).—Senegal, *Plagiopygus* n. sp.; LAMBERT in MEUNIER (212): *Echinolampas* n. sp.; CHAUTARD (47) pp. 145, 151.—Nummulitic of Agost, Spain, *Balanocr.*, *Pentacr.*, *Podocidaris*, radiole (fig.), *Prenaster*, *Trachyaster*, *Conoclypeus*, *Oriolampas*, *Pliolampas*, *Echinolampas*, *Micropsis*; CISNEROS (54).
- Lower.—Kharga Oasis, Egypt, *Conoclypeus*; BALL (14) p. 90.—Jebel Garra, W. of Assouan, *Rhynchopygus*; BALL (15) p. 30.

## (iii) MESOZOIC.

- a. **General**:—Isère, annotated catalogue of *Ech.* from Infralias to Senonian, comprising n. spp. of *Pygaulus*, *Trematopygus*, *Clitopygus*, *Hemipedina*, *Cidaris*, *Plegiocidaris*, *Rhabdocidaris*; SAVIN (286).

- b. **Cretaceous** :—Unterengadin, Crinoid limestones, *Pentacr.* ; PAULCKE (243) pp. 271–274.—Near Moedling, Austria, *Nucleolites*, *Galerites* ; TOULA (318) p. 321.—Tibet, *Hemiaster*, *Hemipneustes* ; HAYDEN (132) pp. 164, 165.—N. America, *Crin.* 21 spp., *Asi.* 1 sp., and *Cassidulus* ; JOHNSON (146).—Cerro Cazador, Patagonia, *Astropecten* n. sp. ; LORIOI (195) p. 141.
1. **Upper** :—Chalk of Rochester district, Kent, locc. of Echinoderms ; DIBLEY (76).—England, *Mitraster*, *Nymphaster* n. sp., *Pentagonaster* n. spp., *Pentaceros* n. spp. ; SPENCER (305).—Sénonais (l'Yonne) various *Micraster* and *Marsupites* ; LAMBERT (169).—Bohemia, lists of *Ech.*, *Asi.*, *Crin.* ; ZAHALKA (348) pp. 159, 165, 168, 169.—Couches rouges de Leysin, Switzerland, *Echinocorys*, *Micraster*, *Cardiaster*, *Pentacr.*, *Balanocr.* ; ROESSINGER (278).—E. Balkans, *Entrochus insignis* n. sp., and columnals cf. *Encrinus*, *Apiocr.* and *Pentacr.* [now known to be Trias] (p. 347), *Galerites*, *Ananchytes* (p. 362), *Cidaris* (p. 364) ; TOULA (317) p. 392.—Gabun, W. Africa, *Echinobrissus* n. sp. ; KOSSMAT (167).—(?), Telemis valley at the Tosaye bend, R. Niger, *Linthia* ? collected by Lieut. Desplagnes ; LAPPARENT (177).—Roca, Patagonia, *Linthia* ; WILCKENS (341) p. 139.
- Danian, —Persia, locc. of *Ech.* and *Balanocr.* ; MORGAN (218).—Kharga Oasis, Egypt, *Ananchytes* ; BALL (14) p. 88.—Kurkur Oasis, W. of Assouan, *Ananchytes*, *Pentacr.* ; BALL (15) p. 32.—(Upper), Kom Ombo plain, Nile Valley, *Echinocorys* ; BEADNELL (23) p. 668.—Fox Hills beds, Lander, Wyo., *Pentagonaster* n. sp. ; WELLER (334).
- Senonian, —Var, *Cidaris* ; SAVIN (286) p. 307.—l'Yonne, spp. of *Gauthieria*, *Micraster*, and n. spp. of *Cidaris* and *Salenia* ; VALETTE (324).—Presqu'île St Jean (Alpes maritimes) *Micraster arenatus* ; MAURY (210) p. 587.—Ekaterinoslav, *Cidaris*, *Tetragramma*, *Echinoconus*, *Holaster*, *Ananchytes* ; FAVRE (91).—Abu Roach, Egypt, *Echinobrissus* ; BEADNELL (22) pp. 19, 27.
- Upper Senonian, —Phosphatic Chalk, Taplow, *Marsupites*, *Bourgueticr.*, *Uintacr.*, *Cidaris*, *Echinocorys*, *Galerites*, *Micraster*, *Cardiaster*, *Pseudodiadema*, *Pentagonaster*, *Metopaster*, *Oreaster* ; WHITE (338).—*Marsupites* zone, Westphalia, *Marsupites*, *Uintacr.*, *Bourgueticr.*, *Pentacr.*, *Stellaster*, *Zenglopleurus*, *Cassidulus*, *Pygurus*, *Cardiaster*, *Micraster*, *Catopygus* ; WEGNER (333).—Pomerania, *Ananchytes*, *Cardiaster*, *Echinoconus* ; DEECKE (69) pp. 15, 17.—Dakar, Senegal, *Physaster* ; PERON (247).—Umzamba beds, Pondoland, *Hemiaster*, *Holaster*, *Cassidulus* ; ROGERS (279) pp. 324, 326.
- Lower Senonian, —Seewerkalk, Glarner Alp, *Echinocorys* ; ROTHPLETZ (281).—Santonian, Martigues, n. spp. *Goniopygus*, *Micropsis* ; SAVIN (286).—Santonian, Abu Roach, Egypt, *Cyphosoma*, *Goniopygus*, *Catopygus*, *Hemiaster*, *Anthenea*, *Nardoa* ; FOURTAU (98).
- Senonian to Turonian, —Wiltshire, distrib. of zones, *Holaster*, *Micraster*, *Echinocorys*, *Galerites*, *Marsupites* ; JUKES-BROWNE (150) pp. 36–39.—N.E. Surrey, *Bourgueticr.*, *Marsupites*, *Uintacr.*, *Pentacr.*, *Cidaris*, *Cyphosoma*, *Salenia*, *Echinocorys*, *Echinoconus*, *Discoidea*, *Micraster*, *Hemiaster*, *Holaster* ; YOUNG (347).—Marlow, Bucks., *Cidaris*, *Galerites*, *Micraster*, *Echinocorys*, *Infulaster*, *Holaster*, *Bourgueticr.* ; TREACHER (319).—Douai, *Micraster*, *Echinocorys*, *Echinoconus* ; GOSSELET (116) pp. 18, 20, 21, 42.
- Turonian, —Presqu'île St Jean (Alpes Maritimes) *Micraster leskei* ; MAURY (210) p. 586.—Pomerania, *Bourgueticr.* &c. ; DEECKE (69) p. 19.—Poland, *Cidaris*, *Discoidea*, *Cardiaster*, *Holaster*, *Galerites*, *Caratomus*, *Ananchytes*, *Micraster* ; SIEMIRADZKI (301).—Oppeln, Silesia, *Micraster*, *Ananchytes* ; FLEGEL (94).—Heuscheuergebirge, Silesia, *Cardiaster*, *Micraster* ; FLEGEL (95).—Persia, locc. and list

- of *Ech.*; MORGAN (218).—Abu Roach, Egypt, *Cyphosoma*, *Goniopygus*; FOURTAU (98).
- Cenomanian,—Chloritic Marl, Wiltshire, *Discoidea*, *Pseudodiadema*; JUKES-BROWNE (150) p. 29.—Aude, *Plegiocidaris*; SAVIN (286) p. 314.—Calabria, *Epiaster*, *Hemiaster*; DE STEFANO (75).—(Bellasian), Ericeira, Portugal, *Hemiaster*; CHOFFAT (51) p. 32.—Misburg, Hannover, *Pseudodiadema*, *Peltastes*, *Stereocidaris*; WOLLEMANN (343).—Glärner Alp, *Cidaris*, *Holaster*; ROTHPLETZ (281).—Zone of *Actinocamax plenus*, E. Bohemia, *Cidaris*; PETRASCHECK (254) p. 425.—Persia, locc. of *Ech.*; MORGAN (218).—Abu Roach, Egypt, *Hemiaster*, *Cyphosoma*, and other *Ech.*; BEADNELL (22) pp. 19, 21, 26, 32.
- Albian,—near Escragnolles and Nice, *Cidaris*, *Typocidaris*, *Peltastes*, *Diplopodia*, *Polydiadema*, *Discoidea*, *Conulus*, *Pygaulus*, *Catopygus*, *Holaster*, *Epiaster*, *Toxaster*, *Hemiaster*, *Tylocidaris*, *Cardiopelta*; HITZEL (140).—Near Grenoble, *Stereocidaris*, *Cidaris*, *Rhabdocidaris*, *Discoidea*; PAQUIER (238) p. 134.—Angola, *Salenia*, *Pygurus*; CHOFFAT (50) p. 56.—Pomerania, *Ech.* jaws, *Asterias*, *Pentacr.*, *Hol.* (*Uncinulina*); HUCKE (143) p. 166.—Korycaner Quader, E. Bohemia, *Pygurus*, *Catopygus*; PETRASCHECK (254) p. 416.—Persia, locc. of *Ech.*; MORGAN (218).
- Upper Greensand,—England, *Comptonia*, *Astropecten*; SPENCER (305).—Wiltshire, list of *Ech.*; DAVEY (67).—Zone of *Pecten asper*, near Devizes, *Holaster*, *Cardiaster*, *Catopygus*; JUKES-BROWNE (150) p. 25.
- Vraconian?, Angola, *Rhabdocidaris* (pp. 48, 58), *Cidaris*, *Isaster*, *Epiaster*, *Holaster* (p. 58), *Stigmatopygus* (p. 59); CHOFFAT (50).
2. Lower:—Murcia, *Pseudocidaris*, *Heteraster*; CISNEROS (53).—Capri, *Apocr.*, *Rhabdocidaris* n. sp., *Hemicidaris* n. sp., *Orthopsis*; AIRAGHI (7).—E. Balkans, *Toxaster* (p. 341), *Catopygus* (p. 359), *Pseudocidaris* (p. 360); TOULA (317) p. 393.—W. Morocco, *Toxaster*, *Pseudodiadema*; BRIVES (42).—Near Malone Mt., Texas, *Enallaster*, *Epiaster*; STANTON in CRAGIN (64) p. 31.
- Aptian,—Gard, France, *Miotoxaster*, *Diplopodia*; LAMBERT (170) p. 846: *Miotoxaster*, *Phyllobrissus*, *Hemidiadema*; PELLAT (245): (Lower), Laval St. Roman, *Actinometra vagnasensis*, *Miotoxaster collegnoi*; PELLAT (244).—L'Yonne and l'Aube, *Cidaris*, *Salenia*, *Peltastes*, *Pseudodiadema*, *Toxaster*; PERON (248).—Portugal, *Pseudodiadema* n. sp., *Goniopygus*; LORIOI (195) p. 136: C. d'Espichel, *Enallaster*; CHOFFAT (51) pp. 12, 15.—Vierwaldstättersee, *Toxaster* (p. 5), *Cidaris* (p. 6); PANNEKOEK (237).—Persia, locc. of *Ech.*; MORGAN (218).
- Urgonian,—Portugal, *Toxaster* n. sp.; LORIOI (195) p. 138.—Barrêinian, Gard, France, *Holectypus*, *Pygaulus*, *Phyllobrissus*, *Holaster*, *Toxaster*, and n. sp. of *Astrolampas*; LAMBERT (170): *Holectypus*, *Pygaulus*, *Astrolampas*, *Phyllobrissus*, *Holaster*, *Toxaster*, *Miotoxaster*; SAYN (287): Royans, *Toxaster*; SAYN (286A).—Barremian, Portugal, C. d'Espichel, *Pyrina*, *Goniopygus*, *Orthopsis*, *Rhabdocidaris*, *Pseudocidaris*, *Cidaris*, *Codiopsis*, *Circopeltis*, *Pseudodiadema* (pp. 9–11), Ericeira, *Pseudocidaris*, *Pseudodiadema*, *Toxaster*, *Miotoxaster* (pp. 27–30); CHOFFAT (51).—Lower Urgonian, Capri, *Cidaris*, *Pseudocidaris*, *Salenia*; AIRAGHI (7).
- Hauterivian,—Gard, France, *Toxaster*; LAMBERT (170) p. 846.—C. d'Espichel, Portugal, *Pygurus*, *Botryopygus*, *Rhabdocidaris*, *Apocr.* (p. 7), *Holaster* (p. 8); CHOFFAT (51).
- Neocomian,—Sponge-gravels of Faringdon, *Ech.*; DAVEY (66) p. 31 & (67).—Basses Alpes, *Aulacocidaris* n. sp.; LORIOI (195) p. 140.—Mt. Salève, Haute Savoie, *Botriopygus*; op. cit. p. 143.—

- (Upper), Fuet, Bernese Jura, *Pyrina*; ROLLIER (280).—(Lower), Capri, *Cidaris*, *Rhabdocidaris*, *Pseudocidaris*; AIRAGHI (7).—Uitenhage Bods, Zwartkops R., Cape Colony, *Cidaris*; ROGERS (279) p. 294.—Glärner Alp, Upper Valangian, *Cidaris*, *Pygurus* (p. 70), Berriasian, *Cidaris* (p. 57); ROTHPLETZ (281).
- c. **Jurassic**:—Tibet, *Crin.*; HAYDEN (132) p. 166.—Oxfordian to Bajocian near Poitiers, *Ech.*; WELSCH (336).
1. **Upper**:—Pebble with *Collyrites* in Miocene of Langogne, Lozère; KILIAN (157).—Tatahouine, Tunis, *Monodiadema*, *Pygurus*, *Hemicidaris*, *Millerier.*; PERVINQUIÈRE (250).—Dahar Mts., S. Tunis, *Pygurus*, *Acrosalenia*, *Monodiadema*, *Acropeltis*, *Phyllobrissus*; DOUVILLÉ (84).—Hakim, Somaliland, *Cidaris*! and a *Spatangid* [!]; DACQUÉ (65) p. 124.—Malone formation, Texas, *Holactypus*, *Pygurus*; CRAIGIÉ (64).
- Portlandian (=Tithonian):—Murcia, *Collyrites*, *Metaporhinus*; CISNEROS (53).—Glärner Alp, *Cidaris*, *Hemicidaris*; ROTHPLETZ (281) p. 55.—Stramberger Kalk, lists of *Ech.* and *Crin.* from Stramberg and Nesselndorf, and in exotic blocks, with discussion of relations (268) pp. 216, 280, 290, 361, 364, 367, 369, 372: of Stramberg, *Ast.*, *Thiollierier.*, *Diplocidaris*, and n. spp. of *Cyrtocr.*, *Cidaris*, and *Pseudosaccocoma* n. g. (269): Moravia, —various locc., *Thiollierier.*, *Cidaris* (270, 271): Vlcovic, *Balanocr.* (272): Skalitz, *Metaporhinus*, *Pseudodiadema*, *Cidaris*, *Pseudosaccocoma* (273): near Koprivnice, *Thiollierier.* (274); REMÉŠ.—(Upper), Capri, *Salenia*, *Pseudocidaris*, *Rhabdocidaris*, *Cidaris*, *Apiocr.*; PARONA (242).—Préalpes maritimes, *Cidaris*, *Acrocidaris*, *Plegiocidaris*, *Acropeltis*, *Glypticus*, *Stomechinus*, *Pygurus*, *Pedina*; KILIAN (156) p. 818.
- Upper Kimmeridgian and base of Portlandian, *ibid.* *Cidaris*, *Plegiocidaris*, *Glypticus*, *Acropeltis*, *Cardiopeltis*, *Pedina*, *Collyrites*, *Balanocr.*; KILIAN (156) pp. 806, 807.
- Kimmeridgian:—Aare-Thal &c., Switzerland, *Cidaris*, *Rhabdocidaris*, *Collyrites*, *Balanocr.*, Wangener Schichten, *Cidaris*, *Crenularis* Schichten, *Hemicidaris*, *Stomechinus*, *Collyrites*, *Rhabdocidaris*; MUEHLBERG (221) pp. 506–508.—Somaliland, *Pseudocidaris*; DACQUÉ (65).
- Sequanian or Kimmeridgian of Tatahouine, Tunis, *Acrosalenia*, *Acropeltis*, *Pygurus*, and n. spp. of *Pseudocidaris*, *Monodiadema*, *Hologlyptus*, *Phyllobrissus*, *Pygurus*; LAMBERT (172).
- Sequanian:—Préalpes maritimes, *Collyrites*, *Pentacr.*; KILIAN (156) p. 792.—[Corallian?] “calcaire coralligène,” Mt. Salève, Haute Savoie, *Echinobrissus* n. sp.; LORIOLO (195).—Upper Astartian, St. Antonin, Central France, *Pseudodiadema*, *Pygurus*, *Hemicidaris*, *Cidaris*, *Rhabdocidaris*, *Acrosalenia*, *Apiocr.*; THÉVENIN (313) p. 87.—Akanthiουσkalk, Unterengadin, *Crin.*, *Ech.*; SCHILLER (290) p. 131.
2. **Middle**:—Oxfordian:—Of Ardèche, *Eosalenia* n. g. et sp.; SAVIN (286) p. 311.—Préalpes maritimes, *Collyrites*, *Cidaris*, *Rhabdocidaris*, *Plegiocidaris*, *Balanocr.*; KILIAN (156) p. 781.—Birmensdorfer Schichten, —Aarethal, Switzerland, *Cidaris*, *Eugeniocr.*; MUEHLBERG (221) pp. 506–508: Glärner Alp, *Cidaris*, *Rhabdocidaris*, *Pseudodiadema*; ROTHPLETZ (281) pp. 50, 51.—Rauracian, —Presqu’île St. Jean (Alpes Maritimes), *Glypticus*, *Diplocidaris*, *Cidaris*, *Rhabdocidaris*, *Diplopodia*, *Pseudodiadema*, *Acrocidaris*, *Apiocr.*; MAURY (210) p. 583.—Mt. Salève, Haute Savoie, *Diplopodia*, *Stomechinus*; LORIOLO (195).—Lower Rauracian of Champflitte near Gray, France, 52 spp. *Ech.*, *Collyrites*, *Dysaster*, *Pygurus*, *Echinobrissus*, *Hyboclypeus*, *Pyrina*, *Holactypus*, *Pygaster*, *Cidaris*, *Rhabdo-*

- Diplo-*, *Pseudo-*, *Hemi-*, *Acro-cidaris*, *Pseudodiadema*, *Glypticus*, *Magnosia*, *Pedina*, *Stomechinus*, 34 spp., *Crin.*, *Eugeniocr.*, *Apiocr.*, *Millerocr.*, *Pentacr.*, *Extracr.*, *Antedon*, all with locc. and synn.; MAIRE (206).—Lower Oxfordian,—Bernese Jura, comparison of faunas at Graivery and Rouges-Terres, *Cidaris*, *Pseudodiadema*, *Asterias*, *Balanocr.*; AEBERHARDT (1).—La Faucille, S. Jura, *Cidaris*, *Pseudodiadema*; LEE (178).
3. Lower,—Cook inlet, Alaska, *Pentacr.*; STANTON (307) p. 396.—Franche-Comté, lists of *Ech.*, *Ast.*, *Crin.*; GIRARDOT (112) pp. 179–194, 269, 305, 352, 382, 392.
- Bathonian:—near Macon, *Ech.* and *Crin.* under zones; LISSAJOUS (183).—Hte. Saone, *Hemicidaris* n. sp.; SAVIN (286) p. 310.—Préalpes maritimes, *Rhabdocidaris*, *Gymnocidaris*, *Pseudodiadema*, *Stomechinus*, *Pedina*, *Pygurus*, *Acrosalenia*; KILIAN (156) p. 760.—Nurra, Sardinia, *Pentacr.*, *Cidaris*; DENINGER (73).
- Bajocian:—near Macon, *Ech.* and *Crin.* under zones; LISSAJOUS (183).—Préalpes maritimes, *Cidaris*, *Plegiocidaris*, *Diplopodia*, *Stomechinus*, *Pentacr.*; KILIAN (156) p. 743.—Near Bruniquel, Central France, *Cidaris*, *Stomechinus*, *Hemicidaris*; THÉVENIN (313) p. 76.—Glarner Alp, *Cidaris*, *Collyrites*; ROTHPLETZ (281) pp. 35, 38.—(Lower), *Opalinus* zone, Luxemburg, *Astropecten*, *Pentacr.*; BENECKE (29) pp. 75, 76.
- (c & d) Sinemurian (p. 815), Bajocian (pp. 832, 834), Bathonian (p. 842), Callovian (p. 844), Oxfordian (pp. 848, 849), of Poitou, *Ech.* and *Crin.*; WELSCH (335).
- d. **Lias**:—of Franche-Comté, lists of *Ech.* and *Crin.*; GIRARDOT (112) pp. 46, 245, 382.—near Moedling, Austria, *Disaster* (p. 272), *Pentacr.* (p. 322); TOULA (318).—Bulgaria, *Pentacr.*, *Extracr.*; BAKALOW (13).—E. Balkans, *Pentacr.*; TOULA (317) pp. 359, 394.—Lias, Steinsberger Kalk, Unterengadin, *Pentacr.*, *Apiocr.*, *Diademopsis*; SCHILLER (290) p. 126.
- Upper, or Toarcian:—(Upper), St. Antonin, Central France, *Galeropygus*; THÉVENIN (313) pp. 63, 72.
- Middle, or Pliensbachian (= Charmouthian):—Glarner Alp, *Pentacr.*; ROTHPLETZ (281) p. 29.—Italy, *Loriolella* n. g. *Ech.*; FUCINI (102).—Rocchetta, Italy, n. spp. of *Diademopsis* and *Mesodiadema*; AIRAGHI (6).
- Lower, or Sinemurian:—Antirhaeticum, Unterengadin, *Pentacr.*; PAULCKE (243) p. 269.—Palermo, *Pentacr.*, *Diademopsis*, *Asterias*; SCALIA (288).
- Infralias of Ardèche, *Plegiocidaris*; SAVIN (286) p. 312.
- Rhaetic, Pendoylan, Glamorganshire, *Acrosalenia*?, with note on Echinoderms of *Avicula contorta* zone; RICHARDSON (277) p. 405.
- e. **Trias**:—See also III, B, iii, b; TOULA (317).—Bulgaria, *Cidaris*, *Pentacr.*, *Encrinurus*, *Entrochus*; BAKALOW (13).
- Upper:—Pachycardientuffe, Seiseralpe, *Encrinurus*, *Cidaris*; BLASCHKE (32).—? Upper, New Zealand,—Shaw B., Mt. Potts, and Well's Creek, Nelson, *Pentacr.*; PARK (239) pp. 383, 389, 398; Wairoa gorge, Sellen's run, and Eighty-eight Valley, *Pentacr.*; PARK (240) pp. 438, 439.
- Middle:—Wengen Beds, Montenegro, *Encr.*, *Cidaris*; MARTELLI (209).—Muschelkalk,—Upper Silesia, *Dadocr.*, *Encr.*; WYSOGÓRSKI (345).—Gross Läger, Unterengadin, *Dadocr.*; SCHILLER (290) p. 118.—Lower Muschelkalk, Pfalzberg, Elsass, *Cidaris* (p. 105), *Pentacr.* (p. 111); SCHUMACHER (295).—Werfener Schichten, near Moedling, Austria, *Pentacr.*; TOULA (318) p. 286.



## (iv) PALAEOZOIC.

- a. **General**:—Vacant.
- b. **Permian**:—Vacant.
- c. **Permo-Carboniferous**:—Vacant.
- d. **Upper Carboniferous**:—Coal measures—marine band above [i.e. below] the Gin Mine Coal, Nettlebank Sinking, Smallthorne, N. Staffs., *Archaeocidaris*, *Crin.*; HIND (138) p. 121 and (139) p. 235: WARD (330) pp. 294, 320, 343: STOBBS (308) pp. 502, 529, 543, 547, pl. xxxv.—Spain, *Archaeocidaris*, *Poteriocr.*, *Mespilocr.*, *Erisocr.*, *Platycr.*, *Cyathocr.*, *Euryocr.*; MALLADA (208) passim.—Kessler Limestone of Arkansas = Pentremital Limest.; GIRTY (113) p. 9.—Bangor Limestone near Cole City, Georgia, *Pentremites*; McCALLIE (203).
- e. **Lower Carboniferous**:—Carbonif. Limest., Ticknall and Breedon Cloud, S. Derbyshire, list of *Crin.* and *Ech.*; STRANGWAYS (310) p. 14: near Cefn, S. Wales, *Archaeocidaris*, *Crin.*; HIND (139) p. 237.—Cork, list of *Crin.* and *Palaechinus*; LAMPLUGH (174) pp. 26, 29.—S. Oran, Algeria, *Poteriocr.* and *Actinocr.* columnals; THÉVENIN (314). Erg of Issaouan, Algerian Sahara, *Poteriocr.*, *Rhodocr.*; HAUG (130) pp. 793, 795: *Poteriocr.*; FOUREAU (96) p. 574.  
Chester group,—Cypress Sandst., W. Kentucky, *Talarocr.*, *Pentremites* (p. 54), Ste. Genevieve Limest., W. Kentucky, *Platycr.*, *Batochr.*, *Pentremites*, *Mesoblastus* (pp. 42, 47), Kaskaskia Limest. = Birdsville and Tribune, W. Kentucky, *Agassizocr.*, *Pterotochr.*, *Pentremites* n. spp. (pp. 58, 61, 63); ULRICH (321).  
St. Louis Limest., W. Kentucky, *Pentremites* n. sp., *Melonites*, *Archaeocidaris*, *Dichoer.* (p. 33), Spergen Limest., W. Kentucky, *Pentremites* (p. 30); ULRICH (321).  
Missouri, Burlington age, *Cyathocr.* n. sp., *Eretmocr.*, *Cryptoblastus*, *Schizoblastus*, *Lophoblastus* n. sp., *Orophocr.*, *Pentremites*, *Metablastus*, *Mesoblastus*, *Codaster* n. sp.; ROWLEY (282).—Waverly age, Rocky Mts., S. W. Montana, *Cyathocr.*, *Tavocr.*, *Actinocr.*, *Platycr.*, *Rhodocr.*, *Poteriocr.* (pp. 421–423), Madison Lst., Bridger Mts., Montana, *Poteriocr.*, *Platycr.*, *Rhodocr.* (see Miller, 234 & 235 Zool. Rec. 1897) (p. 417); DOUGLASS (82).
- f. **Devonian**:—Spain, *Pradocr.*, *Entrochus*, *Cyathocr.*, *Hexacr.*, *Rhodocr.*, *Pentremiteida*, *Phaenoschisma*, *Troostocr.*; MALLADA (208) p. 6 et passim.—Tassili and Erg of Issaouan, Sahara, *Melocr.*; HAUG (130) p. 766.—Columbus Lst., Ohio, *Nucleocr.*; PROSSER (261).  
Upper Devonian:—Portage beds, N. York, *Maragnier.* n. g. et sp., *Cosmocr.*; WHITFIELD (339): *Cyathocr.*, *Scytalocr.*, *Maragnier.*; CLARKE (58).  
Middle:—Moravia, *Actinocr.*, *Protocidaris*; SMYČKA (303).—Sierżawy-Schichten and Crinoiden-Kalk, Poland, *Haplocr.*; SOBOLEW (304) p. 68.  
Lower:—in Cornwall, England, *Sympterura* n. g. et sp.; BATHER (21).—Meadfoot beds, S. Devonsh. *Hexacr.* and other *Crin.* remains; USSHER (323).—Coblentian Dachschiefer, various locc. near Rudesheim, *Acanthocr.*, *Cyathocr.*; LEPPLA (180) p. 28: at Caub. *Acanthocr.*, *Cyathocr.*; LEPPLA (181) p. 16.  
Helderbergian, New York, *Anomalocystis*, *Lepocr.*, *Homocr.*, *Edriocr.*, *Melocr.*, *Cordylochr.*, *Aspidocr.*, *Brachiochr.*; n. spp. of *Thysanocr.*, *Mariaocr.*, *Ichthyocr.*; TALBOT (312).—Bocraft limestone, Trilobite Mt., N.Y., *Edriocr.*; SHIMER (300).—Silurian? Lower Helderberg, Virginia, *Aspidocr.*; WILLIAMS (342).

- g. **Silurian** :—Spain, *Scyphocr.*; MALLADA (207) p. 294 & (208) p. 61.—Niagara Limest., Clinton co., Iowa, *Caryocr.* (p. 399), *Siphonocr.*, *Saccoocr.*, *Ichthyocr.* (p. 402); ÜDDEN (320).—Silurian, Yass, Victoria, *Cyathocrinus?* and other Crin. columnals; SHEARSBY (298).
- h. **Ordovician** :—Spain, *Echinospaera*; MALLADA (207) p. 307.—W. of Rebouc, Pyrenees, *Echinospaera*, BRESSON (41) p. 91.—(Upper) Canigou, Pyrénées-orient., *Corylocr.*, *Caryocystis*, *Echinospaera*; DEFÉRET (74).—Jewe beds, D1, *Pentaocr.*; JONKER (148) pp. 138-141.—d 2 of Řevnitz, Bohemia, *Camarocr.*; FRITSCH (100).  
Trenton of Pakenham, Ont., *Agelacr.*, *Glyptocr.*, *Pleurocystis*; AMI (11) p. 84J.—Chazy Limestone, Lake Champlain region, *Malocystis*, *Glyptocystis*, *Palaeocystis*; RAYMOND (265) : n. spp. of *Malocystis*, *Lyrocr.?*, *Rhaphanocr.?*, *Carabocr.*; HUDSON (144).—Simpson formation, Arbuckle Mts., U.S.A., *Glyptocystis*, *Platycystis*, *Amygdalocystis*, *Archaeocr.* (pp. 24, 25), Viola Limest., *ibid.* *Cyst.* columnals (p.27); TAFF (311).
- k. **Cambrian** :—Spain, *Trochocystis*, MALLADA (207) pp. 27, 66.—Coulouna, Montagne Noire, Aude, *Ecocystis*, *Trochocystis*, and n. sp. of *Stromatocystis*; MIQUEL (216).

## IV. SYSTEMATIC†.

## (A.)—ECHINODERMA IN GENERAL.

Chapters on “die spezifische Bestimmung” and “die Artwandlung”; PRZIBRAM (262).  
*Echinoderma* divided into *Pelmatozoa* (*Crin.*, *Cyst.*, *Blast.*) and *Echinozoa* (*Ast.*, *Oph.*, *Ech.*, *Hol.*); GROBBEN (124) p. 654.

## (B.)—HOLOTHURIOIDEA.

*Allopatides* n. g. of *Synallactidae*, with genotype *A. dendroides* n. sp., 669 fm. S.W. of Andaman Is.; KOEHLER & VANEY (164) p. 49, pls. iii, xi.  
*Amphideima* n. g. of *Deimatidae*, with genotype *A. investigatoris* n. sp., 250 fm., Andaman Is.; KOEHLER & VANEY (164) p. 59, pls. iv, xii.  
*Amphigygnas multipes* Walsh, genotype, syn. of *Synallactes wood-masoni* (q.v.); KOEHLER & VANEY (164).  
*Anapta* (?) *dubiosa* n. sp., 410 fm., B. of Bengal; KOEHLER & VANEY (164) p. 109, pl. xv.  
*Ankyroderma brevicaudatum* n. sp., 185 fm., Andaman Is. (p. 99, pl. xv), *A. contortum* n. sp., 753 fm., B. of Bengal, Kistna coast (p. 100, pl. xiv), *A. intermedium* n. sp., 637-800 fm., B. of Bengal, Kistna Coast, and Stat. 199, 8° 40' N., 81° 27' 35" E. [this is in the middle of Ceylon] (p. 102, pl. xv), *A. musculus*, incl. *A. spinosum* Ludw., variations in length (p. 95), n. var. *acutum*, 410-947 fm., various locc. B. of

† A dagger prefixed to the name of a species indicates that it is fossil; prefixed to the name of the author, it denotes that the reference is to the species in a fossil state; prefixed to the name of a genus, it indicates that all species in the same paragraph are fossil, and the † is therefore not repeated before each name. The abbreviations *l. c.* and *op. cit.* refer only to the place or work quoted immediately before.

A name and reference quoted without further statement [e.g. *Caudina arenata*; CLARK (55) p. 12] indicate that the quoted author's statement refers to a question of no systematic importance. Further information can usually be gleaned from the cross-references under TITLES.

- Bengal and Arabian Sea (p. 97, pl. xiv), **n. var. undulatum**, 185 fm., Andaman Is., 480 fm. off S.W. Ceylon (p. 99, pl. xv), *A. polymorphum* **n. sp.**, 690–920 fm., N. Coromandel Coast (p. 103, pl. xiv); KOEHLER & VANEY (164).
- Apodogaster* Walsh, discussed, *A. alcocki*, added notes; KOEHLER & VANEY (164) p. 66, pls. v, xii.
- Aspidochirota* n. fam. see *Gephyrothuridae*.
- Bathyplores assimilis* **n. sp.**, 360 fm., S. of Malabar (p. 25, pls. iii, x), *B. crenulatus* **n. sp.**, 405 fm., Andaman Is. (p. 23, pl. x); KOEHLER & VANEY (164). *B. natans*; NORDGAARD (230) pp. 161, 241, *B. papillosus* **n. sp.**, 556–595 fm., W. of Ceylon (p. 28, pl. x), *B. profundus* **n. sp.**, 1644 fm., B. of Bengal (p. 22, pls. iv, x), *B. variabilis* **n. sp.**, 498–726 fm., Palk Str., N. Ceylon (p. 26, pls. v, x); KOEHLER & VANEY (164).
- Bathyzona* **n. g.** of *Synallactidae*, with genotype *B. incerta* **n. sp.**, 1140 fm., N. of Laccadives; KOEHLER & VANEY (164) p. 53, pl. i, xi.
- Benthodytes glutinosa*, added notes; KOEHLER & VANEY (164) p. 72, pl. xii. *B. ianthina*; RICHARD (276) p. 3. *B. sanguinolenta* (p. 72), *B. superbus* **n. sp.**, 1506 fm., N. of Arabian Sea (p. 74, pls. vii, xii); KOEHLER & VANEY (164).
- Benthophyces* **n. g.** of *Deimatidae* (p. 64), genotype *B. fragilis* **n. sp.**, 740 fm., N. of Malabar Coast (p. 65, pls. viii, xii); KOEHLER & VANEY (164).
- Benthothuria* discussed, rediagnosed (p. 40), *B. cristatus* [sic] **n. sp.**, 869–913 fm., N.W. of Nicobar Is. (p. 42, pl. i), *B. distortus* [sic] **n. sp.**, 912–931 fm., N. Malabar Coast (p. 43, pl. iii), *B. fusiformis* (p. 41); KOEHLER & VANEY (164).
- Caudina arenata*; CLARK (55); p. 12: HERTWIG (136). *C. coriacea* **n. var.**, *brevicauda*, New Zealand (pp. 66, 121, fig.), *C. pigmentosa* redescr. and now first figd., wine-red concentric sclerites (p. 69, pl. iv and figg.), *C. pulchella* **n. sp.**, New Zealand (p. 117, pl. v), *C. rugosa*, redescr. and now first figd. (p. 66, pl. iv); PERRIER (249).
- Chiridota chiazji* is either *Labidoplax digitata* or *L. thomsoni*; ØSTERGREN (235) p. clxii. *C. contorta* distinguished from *C. studeri*; PERRIER (249) p. 77. *C. laevis*; CLARK (55) p. 13. *C. marenzelleri*, redescr. and now first figd.; PERRIER (249) p. 79, pl. iv. *C. pellucida*; SCHMITT (292) p. 248. *C. pinnata* is Mediterranean form of *Synapta inhaerens*; ØSTERGREN (235) p. clxii. *C. pisanii*; PERRIER (249) p. 79.
- Chondrocloea striata* **n. var. incurvata**, Somali coast; VANEY (326) p. 190.
- Colochirus*, discussed and restricted (p. 107), no Antarctic spp. (p. 111); PERRIER (249). *C. brevidentis*, vide sub *Cucumaria*. *C. doliolum*? juv. (p. 189), *C. gravei* **n. sp.**, Somali coast, 20 m. (p. 188); VANEY (326). *C. lacazei* distinguished from *Cucumaria montagui*; NORMAN (232) p. 359.
- Cucumaria*, discussed; PERRIER (249) p. 108. *C. sp.*; GRAVE (118). *C. alba* (p. 85) and *C. brevidentis* (Hutton sub *Thyone*) (p. 110), added notes; PERRIER (249). *C. calcigera*; CLARK (55) p. 9. *C. elongata*, descr., with young, distinguished from "*C. pentactes* Linn." Bell; KEMP (152) p. 177, pl. xxxv. *C. filholi*, redescr. and distinguished from *C. alba*; PERRIER (249) p. 88, pl. v. *C. frondosa*; CLARK (55) p. 9: HØRRING (142) pp. 185, 189: NORDGAARD (230) p. 161: SCHMIDT (291) p. 18. *C. hispida*; KEMP (152) p. 185: NORDGAARD (230) pp. 161, 241. *C. huttoni*, added notes; PERRIER (249) p. 93. *C. hyndmani*; KEMP (152) p. 185, 205: incl. spicules figd. as *C. planci* by Bell; NORMAN (232) p. 356. *C. kerguelensis* (p. 29), *C. laevigata*, added notes, distrib. (p. 22), *C. leonina*, distrib. (p. 24), disposition of podia, sclerites, relation to *C. koellikeri* (p. 25, pl. i); PERRIER (249). *C. minuta*; CLARK (55) p. 9. *C. montagui* Fleming was based on

- Montagu's *C. pentactes* var. and therefore incl. *C. normani* Pace, spicules figd., young incl. *Holothuria decollata* Leach MS. and "*C. saxicola*" Pace 1904; NORMAN (232). *C. ocnoides*, descriptions by Dendy & Reiffen harmonised, not related to *Molpadidae* (p. 96, pls. i, v), *C. parva*, podia and sclerites (p. 29, pls. ii, iii); PERRIER (249). *C. planci*; KEMP (152) p. 178; NOBRE (229) p. 132 : spicules, correction of Boll, B. M. Cat. Brit. Echin.; NORMAN (232) p. 356. *C. pulcherrima*; CLARK (55) p. 9. *C. tabulifera*, redescri., now first figd.; PERRIER (249) p. 17, pls. i, iii. *C. transitoria* n. sp., Somali coast, 20 m.; VANEY (326) p. 187.
- Deima blakei*, variations; KOEHLER & VANEY (164) p. 55, pl. xi.
- Deimatidae* n. gg., see *Amphideima*, *Benthophyces*.
- Dendrothuria* n. g. of *Synallactidae* (p. 44) perh. comprises *Pelopatides megalopharynx*, genotype *D. similis* n. sp., 1000 fm. E. of Laccadives (p. 45, pls. xi, xii); KOEHLER & VANEY (164).
- Echinocucumis typica*: SCHMIDT (291) p. 22.
- Elpidia willemoesi* is *Peniagone*; KOEHLER & VANEY (164) p. 68.
- Elpidiidae* n. g., see *Euriplastes*.
- Euphronides bifurcata* n. sp., 1803 fm. S. of B. of Bengal; KOEHLER & VANEY (164) p. 75, pls. viii, xii.
- Eupyrgus pacificus* n. sp., 60-65 m., Korea (p. cxvii, fig.), *E. scaber*, added notes (p. cxvii); ØSTERGREN (236).
- Euriplastes* n. g. of *Elpidiidae* with genotype *Peniagone ecalcareae* Sluiter (p. 70), *E. obscura* n. sp., 1803 fm., S. of B. of Bengal; KOEHLER & VANEY (164) p. 71, pl. iv.
- Filithuria* n. g., incertae fam. (p. 80) with genotype *F. elegans* n. sp., 405 fm. S.W. of Andaman Is. (p. 81, pls. vi, xii); KOEHLER & VANEY (164).
- Gephyrothuria* n. g. (p. 78) with genotype *G. alcocki* n. sp., 1912 fm. S. of Ceylon (p. 79, pl. v); KOEHLER & VANEY (164).
- Gephyrothuridae* n. fam. of *Aspidochirota* for preceding; KOEHLER & VANEY (164) p. 79.
- Holothuria arenicola* (p. 50), *H. argus* (p. 45, pl. ix); KONINGSBERGER (166). *H. aspera*; KEMP (152), p. 186. *H. atra*; KONINGSBERGER (166) p. 47, pl. viii : redefined on statistical basis; EDWARDS (88). *H. coluber* (p. 51, pl. vii), *H. edulis* (p. 49); KONINGSBERGER (166). *H. flava* is anterior end of a Synaptid, ? *S. inhaerens*; ØSTERGREN (235) p. clxii. *H. floridana*, incl. *H. mexicana* Ludw., redefined on statistical basis; EDWARDS (88). *H. fusco-punctata*; VANEY (326) p. 190. *H. graeffii*; KONINGSBERGER (166) p. 47. *H. impatiens*; op. cit. p. 51, pl. viii : VANEY (326) p. 190. *H. inhaerens*; ØSTERGREN (235) p. clxii. *H. intestinalis*; KEMP (152) p. 186. *H. marenzelleri* (p. 46), *H. marmorata* (p. 44); KONINGSBERGER (166). *H. mexicana*, vide *H. floridana*. *H. nigra*; KEMP (152) p. 178. *H. pardalis*; PERRIER (249) p. 15; VANEY (326) p. 189. *H. patagonica*, vide sub *Stichopus*. *H. pyxis*; KONINGSBERGER (166) p. 48. *H. roulei* Koehl. is *Mesothuria*; KOEHLER & VANEY (164) p. 4. *H. scabra* (p. 52, pl. viii), *H. squamifera* (p. 53); KONINGSBERGER (166). *H. tremula*; KEMP (152) p. 186. *H. vagabunda* (p. 50, pl. viii), *H. vitiensis* (p. 45); KONINGSBERGER (166).
- Incertae sedis, n. g. see *Filithuria*.
- Lapidoplax buski*; NORDGAARD (230) p. 161 : redescri.; ØSTERGREN (235) p. clvi. *L. media* n. sp., 45 m., off Bergen; op. cit. p. clviii, fig.
- Laetmogone violaceu*; KOEHLER & VANEY (164) p. 64 : colour; KEMP (152) pp. 186, 183.
- Ludwigia* rejected, vide *Cucumaria ocnoides*; PERRIER (249) p. 105.
- Mesothuria abbreviata* n. sp., 406 fm., Laccadive Is. (p. 11, pl. xii), *M. incerta* n. sp., 360 fm., Laccadive Is. (p. 11, pls. i, ix); KOEHLER &

- VANEY (164). *M. intestinalis*; NORDGAARD (230) pp. 161, 241; REZLIUS (275) p. 83, pl. xii. *M. multipes* (p. 10), *M. squamosa* n. sp., 446 fm., S. Coromandel Coast (p. 13, pls. vi, ix); KOEHLER & VANEY (164).
- Muelleria echinites*; KONINGSBERGER (166) p. 38. *M. lecanora*; op. cit. p. 37, pl. ix; VANEY (326) p. 190. *M. maculata* (p. 36), *M. mauritiana* (p. 40), *M. miliaris* (p. 39); KONINGSBERGER (166).
- Myriotrochinae*, characters of subfam.; ÖSTERGREN (235) p. clxi.
- Myriotrochus*, differences from *Trochoderma*; ÖSTERGREN (235) p. clx. *M. minutus* n. sp., 60-65 m., Korea; ÖSTERGREN (236) p. cxciv, fig. *M. rinki*; NORDGAARD (230) pp. 161, 241. *M. théli* n. sp., 2000 m., N.W. of Jan Mayen; ÖSTERGREN (235) p. clix. *M. vitreus*; NORDGAARD (230) pp. 161, 241.
- Oneirophanta conservata* n. sp., 719 fm., N.E. of Maldives; KOEHLER & VANEY (164) p. 57, pls. vi, xi.
- Ophnurgus*, diagnosis modified (p. 63), *O. glaber* (Walsh, as var. of *O. asper*) (p. 60, pls. viii, xii), *O. invalidus* n. sp., 300 fm., Palk Strait, N. of Ceylon, allied to *Scotodeima* (p. 62, pl. xii); KOEHLER & VANEY (164).
- Pannychia moseleyi*; HEDLEY (133).
- Paroriza* comprises *Stichopus pallens*, diagnosis modified; KOEHLER & VANEY (164) p. 4.
- Pelopatides* discussed (p. 29), *P. fusiformis* Sluiter, is *Benthothuria* (p. 41), *P. gelatinosus* (Walsh sub *Benthodytes*) redescri. (p. 30, pls. v, x), *P. insignis* n. sp., 678 fm., N. Coromandel Coast (p. 38, pls. ii, xi), *P. mammillatus* n. sp., 1506 fm., N. Arabian Sea (p. 39, pl. i), *P. megalopharynx*, perhaps is *Dendrothuria* (pp. 45, 47), *P. modestus* n. sp., 498 fm., Andaman Is., 696 fm., N. Malabar Coast (p. 37, pls. ii, xi), *P. mollis* n. sp., 265-405 fm., Andaman Is. (p. 34), *P. ovalis* (Walsh sub *Benthodytes*) redescri. (p. 35, pls. iii, xi), *P. verrucosus* n. sp., 498 fm., Andaman Is., 695 fm., S.E. of Ceylon (p. 33, pl. x); KOEHLER & VANEY (164).
- Peniagone ecalcareae*, vide *Euriplastes*. *P. expansa* n. sp., 1748 fm. S. of B. of Bengal (p. 68, pls. iv, xii), *P. (?) obscura* n. sp., 1803 fm. S. of B. of Bengal (p. 69, pl. xii), *P. stabilis* n. sp., 1803 fm. S. of B. of Bengal (p. 67, pls. iii, v, xii); KOEHLER & VANEY (164).
- Pentacta frondosa*; SCHMITT (292) p. 248.
- Perizona* n. g. of *Synallactidae*, with genotype *P. magna* n. sp., 740 fm., Laccadives; KOEHLER & VANEY (164) p. 51, pls. i, v, xi.
- Phyllophorus*, probably will merge in *Pseudocucumis*; KOEHLER & VANEY (163). *P. anatinus* (R. Perr. sub *Thyonidium*) redescri.; PERRIER (249) p. 112, pl. v. *P. drummondi* at Plymouth; NORMAN (232) p. 355. *P. ehrenbergi*; VANEY (326) p. 189. *P. pellucidus*; NORDGAARD (230) p. 161. *P. urna*; POLARA (258); RUSSO (283).
- Protankyra conferta* n. sp., 805 fm., Gulf of Manaar, 678 fm., N. Coromandel Coast (p. 105, pl. xv), *P. denticulata* n. sp., 410 fm., N. Coromandel Coast (p. 105, pl. xv), *P. errata* n. sp., 130-150 fm., Andaman Is., 480 fm., B. of Bengal = "*Ankyroderma marenzelleri* Theel" Walsh (p. 106, pl. xv), *P. inflexa* n. sp., 410 fm., B. of Bengal (p. 109, pl. xv), *P. timida* n. sp., 561-650 fm., Andaman Is. (p. 108, pl. xv), *P. tristis* n. sp., 1310 fm., N. of B. of Bengal (p. 107, pl. xv); KOEHLER & VANEY (164).
- Pseudocucumis cuenoti* n. sp., 20-50 m. off Arcachon, allied to *Phyllophorus*; KOEHLER & VANEY (163).
- Pseudopsolus macquariensis*, added notes; PERRIER (249) p. 111.
- Pseudostichopus ocellatus* n. var. *plicatus*, 1644 fm., Andaman Is.; KOEHLER & VANEY (164) p. 9, pls. iii, ix.
- Pseudothuria* n. g. of *Synallactidae* (p. 47), with genotype *P. duplex* n. sp., 902 fm., N. of Laccadives (p. 48, pl. iv); KOEHLER & VANEY (164).

- Psolidium*, diagnosis modified (pp. 46 & 108), key to spp. (p. 55), *P. convergens*, sole, podia, sclerites, passage to *Cucumaria* (p. 38, pl. ii and figg.), *P. dorsipes*, added notes, rediagnosed, p. 48, pl. ii and figg.); PERRIER (249). *P. (?) rugosum* n. sp., 102 fm., off S. Malabar (p. 82, pls. vi, xiii), *P. (?) translucidum* n. sp., 457-589 fm., Gulf of Manaar (p. 83, pls. vi, xiii); KOEHLER & VANEY (164).
- Psolus*, extension of diagnosis; KOEHLER & VANEY (164) p. 86. *P. antarcticus*, added notes, young stages; PERRIER (249) p. 35. *P. californicus* n. sp., Monterey Bay, Cal., 120 m.; FISHER (93). *P. fabricii*; CLARK (55) p. 11: immature; KEMP (152) p. 185: (cf.); †NORDMANN (231). *P. levis* n. sp., 102 fm. off S. Malabar (p. 86, pls. vi, xiii), *P. membranaceus* n. sp., 102 fm. off S. Malabar (p. 84, pls. vi, xiii); KOEHLER & VANEY (164). *P. phantapus*; CLARK (55) p. 11: HØRRING (142) p. 189: NORDGAARD (230) p. 161. *P. squamatus*; CLARK (55) p. 12: SCHMITT (292) p. 248: n. var. *segregatus*, off C. Horn; PERRIER (249) p. 59.
- Psychropotes minutus* n. sp., 1140 fm., Laccadives; KOEHLER & VANEY (164) p. 76, pls. viii, xii.
- Rhabdomolgus ruber*, redescrip., is a low Synaptid; LUDWIG (196).
- Stichopus ananus* (p. 41, pl. vi), *S. chloronotus* (p. 42); KONINGSBERGER (166). *S. fuscus* (p. 16), *S. mollis*, added notes (p. 83); PERRIER (249). *S. pallens* Koehl. is *Paroriza*; KOEHLER & VANEY (164) p. 4. *S. (?) Holothuria) patagonicus*, Sta. Cruz, now first figd. (p. 11, pl. i), *S. torvus* (p. 15); PERRIER (249). *S. tremulus*; NORDGAARD (230) pp. 161, 241. *S. variegatus* (p. 42, pls. vi, vii), *S. vastus* (p. 43); KONINGSBERGER (166).
- Synallactes (?) dubius* n. sp., 480 fm., G. of Manaar (p. 19, pl. ix), *S. horridus* n. sp., 1746 fm., B. of Bengal (p. 16, pl. xii); KOEHLER & VANEY (164). *S. moseleyi* (Theel sub *Stichopus*), redescrip.; PERRIER (249) p. 6, fig. *S. (?) pellucidus* n. sp., 210 fm., S. Coromandel Coast (p. 21, pls. iv, ix), *S. rigidus* n. sp., 1924 fm., Andaman Is. (p. 17, pls. v, ix), *S. wood-masoni* (Walsh) incl. *Amphigymnas multipes* Walsh and *S. reticulatus* Sluiter (p. 14, pl. ix); KOEHLER & VANEY (164).
- Synallactidae*, n. gg., see *Dentrothuria*, *Pseudothuria*, *Allopatides*, *Perizonia*, *Bathyzona*.
- Synapta*, modifications of diagnosis; ÖSTERGREN (235) p. clv. *S. sp.*; BOCHENEK (33); SAFFORD (284) p. 89. *S. acanthia*, straight gut, see II, D, vii (p. cxlv), *S. bergensis* n. sp., 5-50 m. W. Coast of Norway & Sweden, & Faeroes, anatomy (p. cxxxiii, fig.), *S. bifaria* (p. clxiii), *S. decaria* n. sp., 40-70 m. W. Coast Norway & Sweden (p. cxlvi, fig.); ÖSTERGREN (235), *S. digitata* (p. 177), n. var. *profundicola*, 112 fm., 50 miles W. N. W. of Slyne Hd., Galway (p. 184); KEMP (152). *S. duvernaea* (p. clxii), *S. galliennii*, distinguished from *S. inhaerens* and *S. bergensis* (p. cxlii), *S. girardii* (p. cliii), *S. henslowana* (p. clxiii), *S. hispida*, perhaps a *Protankyra* (p. clxiii); ÖSTERGREN (235). *S. inhaerens*; CLARK (55) p. 13: KEMP (152) pp. 177, 184: autotomy (p. cxxxv), redescrip. from type-loc., S. Norway, differences from Mediterranean race and from *S. girardii* (p. cxlix, fig.); ÖSTERGREN (235). *S. macrankyra* compared with *S. bergensis*, and maintained; op. cit. pp. cxlv, cliv. *S. pourtalesi*, probably a *Chondrocloea*; op. cit. p. cliv. *S. roseola*; CLARK (55) p. 13. *S. sarniensis*, synonym of *S. galliennii* (p. cxlii), *S. tenera*, syn. of *S. buski* (p. clxiii); ÖSTERGREN (235).
- Synaptidae*, modification of diagnosis, no ciliated organs; ÖSTERGREN (235) p. clvii.
- Thyone briareus*; CLARK (55) p. 10: GARREY (108). *T. elongata*; CLARK (55) p. 10. *T. fusus*; KEMP (152) pp. 178, 205. *T. lechleri*, sclerites; PERRIER (249) p. 35. *T. raphanus*; KEMP (152) p. 185. *T. sacellus*; VANEY (326) p. 189. *T. scabra*; CLARK (55) p. 10. *T. spectabilis*,

- calcareous ring and other notes; PERRIER (249) p. 32, pl. iii and figg. *T. unisemita*; CLARK (55) p. 10.
- Thyonidium anatinum*, vide sub *Phyllophorus*. *T. pellucidum* and *T. productum*; CLARK (55) p. 11.
- Trochoderma*, differences from *Myriotrochus*; ÖSTERGREN (235) p. clx.
- Trochodota dunedinensis*, added notes (p. 123), *T. purpurea*, added notes (p. 76); PERRIER (249).
- Trochostoma albicans*, added notes (p. 89, pl. xiii), *T. andamenense*, added notes (p. 90, pl. xiii); KOEHLER & VANEY (164). *T. boreale*; SCHMIDT (291) p. 20. *T. concolor* n. sp., 475 fm., B. of Bengal (p. 91, pls. v, xii), n. var., *caudatum*, 637–800 fm., Stat. 199, 8° 40' N., 81° 27' 35" E. [this is in the middle of Ceylon] (p. 92, pl. xiii), *T. ecalcareum* n. sp., 300 fm., S. Coromandel Coast (p. 94, pl. xiii), *T. elongatum* n. sp., 922 fm., N. of Andaman Is. (p. 92, pls. i, xiv), *T. granulatum* (p. 89); KOEHLER & VANEY (164). *T. ooliticum*; CLARK (55) p. 12. *T. pauperum* n. sp., 446 fm., S. Coromandel Coast; KOEHLER & VANEY (164) p. 93, pl. xiii. *T. turgidum*; CLARK (55) p. 12. *T. violaceum*; PERRIER (249) p. 65.
- † *Uncinulina polymorpha*; HUCKE (143) p. 167, pl. xxiii.
- Ypsilothuria bitentaculata* (Ludwig 1894), incl. *Y. attenuata* E. Perrier "1891" [i.e. 1886, in either case has priority and validity]; KOEHLER & VANEY (164) p. 87.

## (C).—ECHINOIDEA.

- † *Acrocidaris*, diagnosis; SAVIN (286) p. 226. *A. formosa*; MAURY (210) p. 583. *A. minor*; SAVIN (286) p. 227, pl. iv. *A. nobilis*; KILLIAN (156) p. 818; MAIRE (206) p. 229; SAVIN (286) p. 226.
- † *Acropeltis*, diagnosis; SAVIN (286) p. 199. *A. aequituberculata*; DOUVILLÉ (84); KILLIAN (156) pp. 807, 818; LAMBERT (172) p. 574; SAVIN (286) p. 200.
- † *Acrosalenia*, diagnosis; SAVIN (286) p. 224. *A. sp.*; THÉVENIN (313) p. 76. *A. meslei*; DOUVILLÉ (84); Gauthier's figure criticised; LAMBERT (172) p. 570. *A. patella*; SAVIN (286) p. 225. *A. cf. pisum*; THÉVENIN (313) p. 87. *A. spinosa*; LISSAJOUS (183) p. 697.
- † *Amblypygus dilatatus*; DONCIEUX (81) p. 107; n. var. *costulatus*, Mid. Eocene, Pyramids of Ghizeh; FOURTAU (98) pp. 133, pl. i.
- Amphidetus cordatus*; COLGAN (61) p. 212. *A. ovatus*; HØRRING (142) p. 189.
- † *Amphiope neuparthi* n. sp., Miocene, Bom Jesus, Loanda; LORIOL (195) p. 133, pl. x; CHOFFAT (50) p. 43.
- Amphipneustes* is related to *Abatus*: *A. koehleri* n. sp., off S. Georgia, Antarctic; MORTENSEN (220) p. 243, no fig.
- † *Ananchytes*, vide *Echinocorys*.
- † *Anisaster gibberulus*; BEADNELL (24) p. 52; variations in fasciole; LAMBERT (171) p. 157 footnote.
- Araeosoma fenestratum*, distrib.; DOEDERLEIN (79) p. 377.
- Arbacia dufresni*; PORTER (260) p. 131. † *A. monilis*; COUFFON (63) pp. 165, 214. *A. nigra*; PORTER (260) p. 131. *A. punctulata*; CLARK (55) p. 8; GARREY (108).
- Arbacina*, discussed and maintained: *A. pallaryi*; CHECCHIA (49). † *A. tenera*; AIRAGHI (5) p. 47.
- † *Archaeocidaris*:—*A. sp.*; HIND (138) p. 121; WARD (330) pp. 294, 320, 343; cf. *benburbensis* et *vetusta*; BATHER in STOBBS (308) and pl. *A. cf. munsterianus* (p. 316), *A. nereis* (p. 196), *A. sixi* (pp. 117, 182, 187); MALLADA (208). *A. urei*; HIND (139) pp. 235, 237. *A. wortheni*; ULRICH (321) p. 33.

- Asterostomidae* Pomel should be used by any who care to accept the group called *Plesiospatangidae* by Duncan; FOURTAU (97) p. 612.
- Asthenosoma hystrix*; KEMP (152) p. 196: vide etiam sub *Calveria*.
- †*Astrechinus pentagonus* nom. nud.; JAEKEL (145).
- †*Astrolampas*:—*A.* sp.; SAYN (287) p. 622: *A. romani* n. sp., Barremian, Seynes (Gard), colln. Roman & Lambert; LAMBERT (170) p. 841, figg.
- †*Aulacocidaris michaleti* n. sp., Neocomian, La Palud de Moustier, Basses Alpes; LORIOL (195) p. 140, pl. x.
- †*Baueria rousseli*; DONCIEUX (81) p. 102; MIQUEL (215) p. 24.
- †*Botriopygus*:—*B. morloti*; LORIOL (195) p. 143. *B. nucula*, vide sub *Pygorhynchus*. *B. savini*; CHOFFAT (51) pp. 7, 35. *B. sueuri* and *B. testudo*, vide sub *Pygorhynchus*. *B. trapeti*, probably *Phyllobrissus*; LAMBERT (172) p. 575. *B. valdensis*, vide sub *Pygorhynchus*.
- Breynella* Gregory 1892 [=1891], syn. of *Pliolampas* Pomel 1888; AIRAGHI (5) p. 50: syn. of *Echinanthus*; LAMBERT (171) p. 144.
- Brissidae*, n. g. vide *Pseudobrissus*.
- †*Brissoides* Klein, Lambert's resuscitation of this rejected in favour of *Euspatangus* (q. v.); LORIOL (195) p. 130: ditto (p. 603), *B. cranium* Klein, unrecognisable (p. 604); FOURTAU (97). *B. mejerei* n. sp., Lutetian, Minerve, Hérault; LAMBERT (171) p. 163, pl. v: DONCIEUX (81) p. 104: MIQUEL (215) p. 20. *B. oppenheimi* n. sp., Burdigalian, Gattières, Alpes-Maritimes; LAMBERT (173) p. 881, pl. lix. *B. savini*; DONCIEUX (81) p. 104: MIQUEL (215) p. 20 & (?) p. 25.
- Brissopsis lyrifera*; KEMP (152) p. 200; RETZIUS (275) p. 82, pl. xii: SCHMIDT (291) p. 21: distrib.; DOEDERLEIN (79) p. 384. †*B. sismondue*, holotype descr.; AIRAGHI (6) p. 3, pl. i.
- †*Brissus*:—*B. carinatus*; MAWSON (211) pp. 414, 451, 479. *B. corsicus* Cott., vide *Pseudobrissus*. *B. oblongus*; AIRAGHI (8) p. 217.
- Calveria hystrix*; SCHMIDT (291) p. 23: distrib.; DOEDERLEIN (79) p. 377: vide etiam sub *Asthenosoma*.
- †*Capsulina loculicida* Seguenza 1879, no foraminifer but an ophicephalous pedicellaria; NEVIANI (224).
- †*Caratomus*, diagnosis, *C. faba*; SAVIN (286) p. 153.
- †*Cardiaster*:—*C.* sp.; WHITE (338) p. 476. *C. ananchytis*; DEEKE (69) p. 17: FLEGEL (95). *C. fossarius*; JUKES-BROWNE (150) p. 25. *C. gillieromi*; ROESSINGER (278) p. 437. *C. jugatus*; WEGNER (333) pp. 128, 133, 139, 140, 150. *C. subtrigonatus*?; ROESSINGER (278) p. 437.
- †*Cardiopelta*, diagnosis; SAVIN (286), p. 143. *C. (Spatangus) carinata*; KILIAN (156) p. 807. *C. hemisphaerica* (A. Gras, sub *Dysaster*) (p. 146), *C. jaccardi* and *C. malbosii* (p. 144); SAVIN (286). *C. moussoni*; HITZEL (140). *C. ovulum*; SAVIN (286) p. 145.
- †*Cassidulus*:—*C. fibularoides*, vide sub *Porpitella*. *C. florealis*, locc. of type and figd. specimens; JOHNSON (146). *C. hayesianus*, vide sub *Porpitella*. *C. lapis-cancræ*; WEGNER (333) pp. 139, 149: *C. ovalis*; DONCIEUX (81) p. 102.
- †*Catopygus*, diagnosis; SAVIN (286) p. 162. *C. albensis*; PETRASCHECK (254) p. 416. *C. cf. carinatus*; TOULA (317) p. 359. *C. columbarius*; JUKES-BROWNE (150) p. 25. *C. cylindricus*; HITZEL (140): SAVIN (286) p. 162. *C. gibbus*; FOURTAU (98) p. 128. *C. obovatus* vide *Pygorhynchus*.
- Cidaridae* n. gg. vide *Lamprechinus*, *Orechinus*, *Pygmaeocidaris*.
- Cidaris* (vide etiam s.-gg. *Doro-*, *Para-*, *Plegio-*, *Podo-*, *Poly-*, *Poro-*, *Rhabdo-*, *Stereo-cidaris*) diagnosis; SAVIN (286) p. 239.
- †*Cidaris* sp.; MARTELLI (209) pp. 327, 333. *C.* sp. nondescr., radiole, Senonian of Var. (p. 307, pl. ii), *C.* sp. nondescr. 1, Hauterivian, Isère, test (p. 247, pl. iii), *C.* sp. nondescr. 2, Hauterivian, Isère, radioles



- (p. 247, pl. iii), *C. aizyensis* (p. 241); SAVIN (286). *C. avenacea* n. sp., Hauterivian of St Pierre de Chérennes, Isère, radiole only; LAMBERT & SAVIN (286) p. 242. *C. avenionensis*; AIRAGHI (5) p. 46; SAVIN (286) p. 240. *C. barroisi*; PAQUIER (238) p. 134. *C. cf. bathonica*; DENINGER (73) p. 438. *C. belgica*; VAN ÉRTBORN (325). *C. blumenbachi*; MAIRE (206) p. 222; ROTHPLETZ (281) p. 51. *C. brauni*; BLASCHKE (32) p. 166. *C. carinifera*; ROTHPLETZ (281) p. 55. *C. cervicalis*; MAIRE (206) p. 224; THÉVENIN (313) p. 87. *C. cherenensis* n. sp., Hauterivian, St-Pierre-de-Chérennes, Malleval, Isère, radioles only; SAVIN (286) p. 245, pl. v. *C. clavigera*; TREACHER (319) p. 156; WHITE (338) pp. 468, 487; YOUNG (347) p. 216. *C. cornifera*; SAVIN (286) p. 253. *C. coronata*; MAIRE (206) p. 223; ROTHPLETZ (281) pp. 50, 51. *C. cucumifera*; LISSAJOUS (183) pp. 691, 692; ROTHPLETZ (281) p. 36. *C. cydonifera*; SAVIN (286) p. 242, pl. xiv. *C. decorata* & *C. dorsata*; BLASCHKE (32) p. 166. *C. elegans*; MAIRE (206) p. 223. *C. faringdonensis*; DAVEY (66) p. 31. *C. filograna*; ROTHPLETZ (281) p. 51. *C. aff. flabellata* & *C. florigemma*; MAIRE (206) p. 224. *C. gevreyi* n. sp., Hauterivian, Malleval & St-Pierre-de-Chérennes, Isère, radioles only; LAMBERT & SAVIN (286) p. 243, pl. v. *C. gibberula*, vide sub *Plegiocidaris*. *C. gibbosa*; KILIAN (156) p. 806. *C. glandifera*; REMEŠ (270, 271, & 273).
- Cidaris gracilis*, probably young *C. purpurata*; KEMP (152) p. 196.
- † *Cidaris grandaeva*; SCHUMACHER (295) p. 105. *C. grossourei*; DONCIEUX (81) p. 98; MIQUEL (215) p. 24. *C. heteracantha*, vide sub *Typocidaris malum*. *C. hirudo*; WHITE (338) pp. 470, 487; YOUNG (347) p. 216. *C. insignis*; SAVIN (286) p. 256. *C. jacobi* n. sp., Hauterivian, St-Pierre-de-Chérennes, Isère, radioles only; LAMBERT & SAVIN (286) p. 244, pl. vi. *C. aff. jullieni*; CHOFFAT (51) p. 42. *C. laeviuscula*; LEE (178) p. 84; ROTHPLETZ (281) pp. 50, 51. *C. lamberti* n. sp., zones of *Holaster placenta*, & *Echinoconus conicus*, near Sens, Yonne, radioles only; VALETTE (324) p. 22, figg. *C. lardyi*; PARONA (242) p. 66; PERON (248) pp. 365, 369; with note by LAMBERT; SAVIN (286) p. 251, pls. ii, iii; radioles; AIRAGHI (7) p. 85, pl. i. *C. malheiri*; CHOFFAT (50) p. 58. *C. malum*; CHOFFAT (51) p. 9. *C. marginata*; MAIRE (206) p. 225. *C. cf. mespilum*; REDLICH (266) p. 342. *C. monilifera*; MAIRE (206) p. 224. *C. moravica* n. sp., Tithonian of Stramberg; REMEŠ (269) p. 63, pl. vii. *C. muricata*; PARONA (242) p. 66; radioles; AIRAGHI (7) p. 84, pl. i. *C. noyareyensis*; SAVIN (286) p. 241. *C. oosteri*; DOUVILLÉ (83) p. 17. *C. oppeli*; ROTHPLETZ (281) p. 50.
- Cidaris papillata*; KEMP (152) pp. 196, 206; NOBRE (229) p. 134.
- † *Cidaris papillata*; CHECCHIA (48); FAVRE (91) p. 99. *C. peroni*; AIRAGHI (5) p. 47. *C. perornata*; TREACHER (319) p. 156; YOUNG (347) p. 216. *C. platyspina*; MAURY (210) p. 583. *C. poculiformis* nom. nud.; BAKALOW (13). *C. pomeli*, vide sub *C. subularis*. *C. pretiosa*; ROTHPLETZ (281) p. 70; SAVIN (286) p. 248. *C. problematica*; op. cit. p. 241. *C. propinqua*; MAIRE (206) p. 225; ROTHPLETZ (281) p. 50. *C. punctatissima*, radioles descr.; SAVIN (286) p. 249. *C. pustulifera*; ROGERS (279) p. 294. *C. pustulosa*, radiole; SAVIN (286) p. 249, pl. ii. *C. reussi*; PETRASCHECK (254) p. 425. *C. ryzacantha*, radioles descr.; SAVIN (286) p. 254. *C. sabaratensis*; DONCIEUX (81) p. 98; MIQUEL (215) p. 26; variation from type; LAMBERT (171) p. 133. *C. sceptrifera*; TREACHER (319) pp. 156, 158; WHITE (338) pp. 468, 473, 487; YOUNG (347) p. 216. *C. schloenbachi*; MAIRE (206) p. 223. *C. semiaspera*; DOUVILLÉ (83) p. 22. *C. semicostata*; BLASCHKE (32) p. 167. *C. serrifera*; TREACHER (319) p. 156; WHITE (338) p. 470. *C. sorigneti*; TOULA (317) p. 364. *C. spinosa*; AEBERHARDT (1) p. 442. *C. spinulosa*; LISSAJOUS (183) p. 691. *C. stylophora*, & cf.;

- SAVIN (286) p. 255, pl. ii. *C. subcoronata*; BLASCHKE (32) p. 166. *C. subvesiculosa*; SAVIN (286) p. 256. *C. subularis*; DONCIEUX (81) p. 99; MIQUEL (215) pp. 19, 24: comprises plates referred by Cotteau to *C. pomeli*; LAMBERT (171) p. 133. *C. cf. subularis*; MURGOCI (223). *C. suevica*; MAIRE (206) p. 225. *C. vafellus*; CHOFFAT (50) p. 61. *C. vesiculosa*; PETRASCHECK (254) p. 425; ROTHPLETZ (281) p. 80. *C. zschokkei*; op. cit. p. 35; THÉVENIN (313) p. 76.
- †*Circopeltis*:—*C. baicherei*; DONCIEUX (81) p. 101. *C. cannati* n. sp., Lower Lutetian, Agel, Hérault; LAMBERT (171) p. 135, pl. v; DONCIEUX (81) p. 101; MIQUEL (215) p. 26. *C. neocomiensis*; CHOFFAT (51) p. 10.
- †*Clitopygus*, diagnosis & *C. grasi*; SAVIN (286) p. 158. *C. gevreyi* n. sp., Valanginian, Malleval, Isère; LAMBERT & SAVIN (286) p. 159, pl. i.
- †*Clypeaster* Lam. 1801, genotype *Echinus rosaceus* Linn. as first limited by Lamarck and not as interpreted by Loven 1887, precedes *Clypeaster* Lam. 1801; LAMBERT (171) p. 142. *C. alticostatus*; AIRAGHI (8) p. 211. *C. altus* var. *portentosus* (q.v.); BATHER (20). *C. biarritzensis*; DOUVILLÉ (83) pp. 17, 27. *C. crassicostatus*; AIRAGHI (5) p. 48; GAÁL (103) pp. 344, 362: incl. *C. rhabdopetalus* Pomel; AIRAGHI (8) p. 210. *C. ellipticus* (p. 213), *C. folium* (p. 214), *C. intermedius* (p. 212); AIRAGHI (8). *C. laganoides*; AIRAGHI (5) p. 49, pl. *C. latirostris* (p. 212), *C. lovisatoi* (p. 214); AIRAGHI (8). *C. portentosus*; BATE (18) p. 324; BELLAMY (28) p. 27: v. et. *altus*. *C. rhabdopetalus*, vide *C. crassicostatus*. *C. sardininiensis*; AIRAGHI (8) p. 213. *C. scutiformis*; MAWSON (211) pp. 414, 479. *C. subfolium* (p. 214), *C. sublaganoides* n. sp., Miocene, Carcare, Piedmont (p. 212); AIRAGHI (8).
- †*Clypeopygus*, diagnosis (p. 165), *C. michelini* & *C. subquadratus* (p. 166); SAVIN (286).
- †*Clypeus*:—*C. altus*; LISSAJOUS (183) p. 695: incl. *C. osterwaldi* Desor; WELSCH (326) p. 947.
- †*Codechinus*, diagnosis (p. 197), *C. rotundus* (p. 198); SAVIN (286).
- †*Codiopsis*, diagnosis; SAVIN (286) p. 192. *C. lorini*; CHOFFAT (51) p. 9; SAVIN (286) p. 193.
- †*Collyrites*, diagnosis; SAVIN (286) p. 141. *C. analis*; LISSAJOUS (183) p. 697. *C. (Spatangus) bicordata*; KILIAN (156) p. 807; MAIRE (206) p. 218; SAVIN (286) p. 142. *C. capistrata*; l. c.: KILIAN (156) p. 792. *C. carinata*, does not incl. specimens referred here by Queenstedt, which are *Cardiopelta*; KILIAN (157). *C. (Dysaster) loryi*; KILIAN (156) p. 807; SAVIN (286) p. 143. *C. ringens*; LISSAJOUS (183) pp. 694, 695; ROTHPLETZ (281) p. 38. *C. verneuili*; CISNEROS (53) p. 299.
- †*Conoclypeus*:—*C. anachoreta*; REDLICH (266) p. 343. *C. caudatus* n. sp., Middle Eocene of Grola and Novale, Italy; AIRAGHI (6) p. 5, pl. i. *C. conoideus*; CISNEROS (54) p. 529; DONCIEUX (81) p. 110; REDLICH (266) p. 343. *C. cf. conoideus*; SCHUBERT (294) p. 280. *C. delanouei*; BALL (14) p. 90. *C. marginatus*; DONCIEUX (81) p. 111; MIQUEL (215) p. 20. *C. plagiosomus*; GAÁL (103) pp. 344, 362: vide etiam sub *Conolampas*. *C. vilanovae*; CISNEROS (54) p. 529.
- †*Conolampas plagiosomus*; AIRAGHI (5) p. 52: vide etiam sub *Conoclypeus*.
- †*Conulus* Leske ex Klein, incl. *Echinites* Leske non Gesner, *Galerites* Lam., and *Echinoconus* d'Orb. ex Breyn. (qq.v.); BATHER (19) p. 146: diagnosis; SAVIN (286) p. 175. *C. castaneus*; l. c.: HITZEL (140). *C. mixtus*; SAVIN (286) p. 177; HITZEL (140): probably syn. of *C. castaneus*; LAMBERT in Review. *C. nuculus* [err. pro *nucula*]; HITZEL (140): SAVIN (286) p. 177.
- †*Coptosoma*:—*C. armatum* n. sp., Eocene, La Antigua Ciudad de Jespú,

- Catalonia; LORIOL (195) p. 120, p. viii. *C. granulare*; DONCIEUX (81) p. 100. *C. pellati*; DOUVILLÉ (83) p. 22. *C. rousseli*; DONCIEUX (81) p. 100. "*C. thevestense* Peron & Gauthier" Gregory (see Zool. Rec. 1898) is *Cyphosoma abbatei*; FOURTAU (98) p. 122.
- †*Corthya* Pomel, merged in *Cardiopelta*; SAVIN (286) p. 146.
- Cottaldia forbesiana* is no *Arbacina*; CHECCHIA (49).
- †*Cyclaster zinae* n. sp., Eocene of Novale, Italy; AIRAGHI (6) p. 8, pl. i.
- †*Cyphosoma* (vide etiam *Phymosoma*):—*C. abbatei*; BEADNELL (22) pp. 19, 21, 26, 32: abnormalities, is neither *Heteractis* nor *Lambertechinus*; FOURTAU (98) p. 121, pl. i: vide Corrigenda. *C. corallare* and *C. koenigi*; YOUNG (347) p. 216. *C. radiatum*; l. c.: vide etiam sub *Gauthieria*. *C. rhenana* Ludw. is *Coptosoma*; LORIOL (195) p. 121.
- Deakia* PAVAY, probably *Macropneustes*; LAMBERT (171) p. 156.
- †*Desorella*, diagnosis, *D. grasi*; SAVIN (286) p. 149.
- Desoria* Gray non Cott., vide sub *Linthia*.
- Diadema*:—†*D. grasi*, vide sub *Polydiadema*. *D. setosum*; PUETTER (263) p. 23.
- †*Diademopsis*, diagnosis; SAVIN (286) p. 221. *D. lamberti* n. sp., Middle Lias, Rocchetta near Arcevia, Italy; AIRAGHI (6) p. 1, pl. i. *D. seriulis*; SAVIN (286) p. 221.
- †*Dicthyopleurus haimi*; BEADNELL (24) p. 52.
- †*Diplocidaris*, diagnosis; SAVIN (286) p. 287. *D. etalloni*; MAIRE (206) p. 227; REMEŠ (269) p. 63; SAVIN (286) p. 289. *D. gevreyi*; op. cit. p. 299. *D. gigantea*; MAIRE (206) p. 227; MAURY (210) p. 583; SAVIN (286) p. 288.
- †*Diplodetus recklinghausenensis*, vide sub *Micraster*.
- †*Diplopodia*, diagnosis; SAVIN (286) p. 236. *D. aroviensis*; LORIOL (195) p. 143. *D. brongniarti*; HITZEL (140); SAVIN (286) p. 237. *D. dubia*; op. cit. p. 236. *D. dumasi*; LAMBERT (170) p. 846. *D. variolaris*; SAVIN (286) p. 238.
- †*Disaster* (seu *Dysaster*), diagnosis; SAVIN (286) p. 139. *D. granulatus*; MAIRE (206) p. 219; SAVIN (286) p. 140. *D. (Collyrites) cf. ovalis*; TOULA (318) p. 272. *D. subelongatus*; SAVIN (286) p. 140.
- †*Discoidea* Gray, err. typ., vide *Discoidea*.
- †*Discoidea* Agassiz 1836 (emend *Discoidea* Gray err. typ.) incl. *Discoides* Klein 1734, *Discoides* Parkinson 1811 non Renier 1804, *Echinites* Duncan 1889, *Protocyamus* Greg. 1900; BATHER (19) but see LAMBERT in Review.
- Discoides* Klein, rejected; FOURTAU (97) p. 604.
- †*Discoides* Parkinson non Renier, syn. of *Discoidea*; BATHER (19).
- †*Discoidea* (seu *Discoides*), diagnosis; SAVIN (286) p. 178. *D. conicus*; HITZEL (140); SAVIN (286) p. 179. *D. cylindricus*; op. cit. p. 181. *D. decorata*; l. c.: PAQUIER (238) p. 134. *D. dixoni*; YOUNG (347) p. 216. *D. favrei* (= *favrina*); SAVIN (286) p. 182. *D. rotulus*; op. cit. p. 180; HITZEL (140); SAVIN (286). *D. subucula* preferred to *subuculus*; BATHER (19).
- †*Ditremaster nux*; DOUVILLÉ (83) pp. 22, 28: var. *aegyptiacus* Gauthier [Nov. 1902], preferred to *Opissaster fourtaui* Lambert [Feb. 1902]; FOURTAU (98) p. 134, pl. i.
- Dorocidaris papillata*; SCHMIDT (291) p. 23: distrib.; DOEDERLEIN (79) p. 375: vide etiam sub *Cidaris*.
- Dysaster*, vide *Disaster*.
- Echinanthinae*, vide sub *Echinolampidae*.
- †*Echinanthopsis* Mun. Ch. rejected; LAMBERT (171) p. 144.
- Echinanthus* Breynius 1732, and Leske, genotype said to be *E. ovatus* Leske with var. *E. issyaviensis*; LAMBERT (171) p. 142.
- Echinanthus* Gray 1825, and Haime 1853, rejected; LAMBERT (171) p. 143.
- †*Echinanthus*:—*E.* sp. ind.; SCHUBERT (294) p. 280. *E. aremoricus*

- and *E. camerinensis*, vide sub *Pliolampas*. *E. cotteaui*; DONCIEUX (81) p. 109. *E. ibericus* n. sp., Eocene, La Antigua Ciudad de Jესpus, Catalonia; LORIOI (195) p. 124, pl. viii: syn. of *Echinolampas morgadesi*; Lambert in Review 1905 and Note 1906. *E. scutella* Cott. non Lam. = *E. arizensis* Cott.: *E. scutella* Lam. is a normal form of the genus: *E. scutella* Leymerie non Lam. = *E. gracilis* Cott.; LAMBERT (171) p. 144. *E. aff. scutella*; SCHUBERT (294) p. 280. *E. subrotundus*; AIRAGHI (6) p. 6, pl. i: DONCIEUX (81) p. 110. *E. subrotundus* Cott., incl. *E. pyrenaicus*, *ataxensis*, *rayssacensis*, *pouechi* pars, *rousseii*, & *heberti*, all of Cotteau; LAMBERT (171) p. 145. *E. tumidus*; REDLICH (266) p. 342. *E. wrighti*; DONCIEUX (81) p. 109; MIQUEL (215) pp. 19, 24.
- Echinavachnius parma*; CLARK (55) p. 8: GREGORY (120): SCHMITT (292) p. 247: distrib.; DOEDERLEIN (79) pp. 382, 391.
- Echinidae* n. g. vide *Notechinus*.
- † *Echinites* Duncan non Müller & Troschel, nec Leske, nec Gesner, vide *Discoidea*.
- † *Echinites* Leske non Gesner, vide *Conulus*. *E. excavatus* Leske, vide sub *Psammecchinus*.
- † *Echinobrissus*, vide etiam *Nucleolites*. *E. atlanticus* n. sp., Upper Cretaceous, Gabun, W. Africa; KOSSMAT (167) p. 585, pl. ii. *E. clunicularis*; LISSAJOUS (183) p. 697. *E. pulvinatus*, probably *Clitopygus*; LAMBERT (172) p. 575. *E. salevensis* n. sp., "calcaire coralligène," Mont Salève, Haute Savoie; LORIOI (195) p. 145, pl. ix: probably *Clitopygus*; LAMBERT in Review. *E. aff. scutatus*; MAIRE (200) p. 221. *E. wultheri*; BEADNELL (22) pp. 19, 27.
- Echinocardium cordatum*; KEMP (152) p. 182: NORDGAARD (230) p. 160: †NEWTON (225): distrib.; DOEDERLEIN (79) p. 384. *E. flavescens*; NORDGAARD (230) p. 160: distrib.; DOEDERLEIN (79) p. 384. *E. pennatifidum*; KEMP (152) pp. 199, 183.
- † *Echinoconus*, vide etiam *Conulus* et *Galerites*. *E. sp.*; FAVRE (91) p. 100. *E. conicus*, cum var. *tumidus*, et *E. sub-rotundus*; YOUNG (347) p. 216. *E. vulgaris*; GOSSELET (116) p. 20.
- † *Echinocorys* (seu *Ananchytes*), diagnosis, *E. cotteaui*; SAVIN (286) p. 136. *A. ovata*; BALL (14) p. 88; and (15) pp. 30, 32: DEECKE (69) pp. 15, 17: FAVRE (91) p. 101, pl. ii: FLEGEL (94): TOULA (317) p. 362. *E. papillosus*?; ROESSINGER (278) p. 437. *E. scutatus*; TREACHER (319) p. 158: WHITE (338) pp. 468, 470, 472, 473, 476, 487: var. cf. *pyramidatus*; WHITE (338) pp. 472, 473. *E. vulgaris*; BEADNELL (23) p. 668: GOSSELET (116) pp. 20, 21: ROESSINGER (278) p. 437: ROTHFLETZ (281) p. 81. *E. vulgaris* Breyneius 1732; SAVIN (286) p. 137. *E. vulgaris* cum varr. *gibbus* et *pyramidatus*; YOUNG (347) pp. 196, 216.
- † *Echinocrinus*, vide *Archaeocidaris*.
- Echinocyamus* vide etiam sub *Fibularia*. † *E. sp.*; MAWSON (211) p. 479. † *E. piriformis*; DOUVILLÉ (83) p. 50. *E. pusillus*; KEMP (152) pp. 182, 199; NOBRE (228) p. 82: NORDGAARD (230) p. 160: distrib.; DOEDERLEIN (79) p. 382. † *E. studeri*; AIRAGHI (5) p. 48. † *E. transylvanicus*; GAÁL (103) pp. 357, 362. † *E. umbonatus*; AIRAGHI (5) p. 48.
- † *Echinolampas*, diagnosis; SAVIN (286) p. 167. *E. africanus*; FOURTAU (98) p. 132. *E. anceps* n. sp., Mid. Eocene, Senegal; LAMBERT in CHAUTARD (47) p. 151, pl. v, also p. 145. *E. angulatus*; AIRAGHI (5) p. 52, pl. *E. bredeahensis* n. sp., Miocene, Chah-Bel Balbiah, near Bredeah, Oran; LORIOI (195) p. 135, pl. ix. *E. crameri*; BEADNELL (24) p. 50. *E. ellipsoidalis*; DOUVILLÉ (83) p. 22. *E. goujoni*; LAPPARENT (176): discussed; LAMBERT in CHAUTARD (47) pp. 142, 152. *E. hemisphaericus*; AIRAGHI (5) p. 53, (8) p. 214: CHOFFAT

- (51) p. 14; SAVIN (286) p. 167. *E. inaequiflos* n. sp., Lutetian of Aude & Hérault; LAMBERT (171) p. 152, pl. v: DONCIEUX (81) p. 110; MIQUEL (215) p. 19. *E. suessi*; REDLICH (266) p. 343. *E. leymeriei*; DONCIEUX (81) p. 110; MIQUEL (215) pp. 19, 24. *E. morgadesi*, vide *Echinanthus ibericus*. *E. osiris*; FOURTAU (98) p. 132. *E. perrieri*; CISNEROS (54) p. 530. *E. prunus* n. sp., Eocene of Fumane, Italy; AIRAGHI (6) p. 7, pl. i. *E. scutiformis*; SAVIN (286) p. 168. *E. stu[d]ieri*; CISNEROS (54) p. 529. *E. yoshiwarae* Loriol; YABE (346) p. 290.
- Echinolampidae* [melius *Echinolampadinae*] diagnosed as sub-fam. [sic.] of *Echinobrissidae* with tribes *Faujasinae*, *Echinanthinae*, and *Plesiolampinae* [melius *Plesiolampadinae*], all diagnosed; LAMBERT (171) p. 141.
- Echinometra oblonga*, vide *Mortensenia*, *Echinometra mathaei* (Blainv.) distinct from *E. oblonga*; DOEDERLEIN (78) p. 624.
- Echinometridae* n. g., vide *Mortensenia*.
- † *Echinopsis elegans*; DONCIEUX (81) p. 103; LAMBERT (171) p. 134; MIQUEL (215) p. 19.
- † *Echinospatagus inflatus*, vide *Physaster*.
- Echinothrix turcarum*?; BOUVIER (37).
- Echinus acutus*; HALLEZ (128) p. 1: distrib.; DOEDERLEIN (79) p. 379: cum. var. *microstoma* et *norvegicus*; KEMP (152) p. 197. *E. affinis*; SCHMIDT (291) p. 24: distrib.; DOEDERLEIN (79) p. 379. *E. alexandri*; SCHMIDT (291) p. 24: distrib.; DOEDERLEIN (79) p. 378. *E. elegans*; NORDGAARD (230) pp. 160, 240; SCHMIDT (291) p. 23: distrib.; DOEDERLEIN (79) p. 378. *E. esculentus*; HØRRING (142) pp. 185, 189; KEMP (152) pp. 182, 197; NOBRE (229) p. 134; NORDGAARD (230) p. 160; WOODLAND (344): distrib.; DOEDERLEIN (79) p. 379: see further under II, F, viii. *E. fueginus* n. sp.; PHILIPPI (255). *E. gilchristi*, probably syn. of *E. hirsutus*; DOEDERLEIN (79) p. 392. *E. gracilis*; KEMP (152) p. 199. *E. hirsutus* n. sp., 70–500 m., off C. of Good Hope; DOEDERLEIN (78) p. 623, no fig. *E. magellanicus*, vide *Notechinus*. *E. margaritaceus*; HODGSON (141). *E. microtuberculatus*; BAGLIONI (12c); PETER (251): see further under II, F, viii. *E. miliaris*; KEMP (152) pp. 181, 206; WOODLAND (344) p. 321. † *E. miliaris* compared with *E. microtuberculatus*; CHOFFAT (52) p. 748: this not congeneric with *E. esculentus* and *E. melo*, LAMBERT in Review. † *E. neglectus*; NEWTON (225). *E. norvegicus*; NORDGAARD (230) p. 160. *E. sphaera*; COLGAN (61) p. 212. *E. tenuispinus*, measurements; KEMP (152) pp. 183, 197, and fig.
- † *Enallaster*, diagnosis; SAVIN (286) p. 125. *E. couloni*; op. cit. p. 127. *E. criminensis* (p. 42), *E. delgadoi* (pp. 12, 15, 42), *E. lepidus* (p. 30); CHOFFAT (51). *E. oblongus*; SAVIN (286) p. 125. *E. texanus*; STANTON in CRAGIN (64) p. 31.
- † *Eolampas toucasi*; DONCIEUX (81) p. 107.
- † *Eosalenia* n. g. of *Pedininae* with genotype *E. miranda* n. sp., Oxfordian of Joyeuse, Ardèche, holotype in Colln. Gevrey; SAVIN (286) p. 311, pl. ii.
- † *Epiaster*, diagnosis; SAVIN (286) p. 120. *E. catumbellensis*; CHOFFAT (50) p. 58. *E. crassissimus* (p. 120), *E. distinctus* (p. 121); SAVIN (286). *E. herberti*; DE STEFANO (75) pp. 350, 357. *E. polygonus*; SAVIN (286) p. 121. *E. trigonalis* and cf.; HITZEL (140). *E. whitei*; STANTON in CRAGIN (64) p. 31.
- Escheria* Merian non Heer, vide sub *Linthia*.
- † *Euspatangus* preferred to *Eupatagus* and *Brissoides* (q. v.); FOURTAU (97) p. 603. *E. blanckenhorni* (p. 36), *E. cairensis* (p. 52), *E. formosus*? (p. 36); BEADNELL (24). *E. formosus*; SCHUBERT (293) p. 168. *E. libycus*, vide *Perispatangus*. *E. ornatus*; DOUVILLÉ (83) pp. 17, 18,

- 21, 27, 46. *E. aff. veronensis*; SCHUBERT (294) p. 280. *E. ventrosus* n. sp., Eocene, La Antigua Ciudad de Jესpus, Catalonia; LORIOI (195) p. 128, pl. ix.
- Favjasinae*, vide sub *Echinolampidae*.
- †*Fibularia*, Lambert's interpretation of this as = *Echinocyamus*, and vice versa, rejected; LORIOI (195) p. 130: maintained; LAMBERT in Review. *F. voeltzkowi* n. sp., Eocene, Makamby, Madagascar, type at Strassburg; TORNQUIST (316) p. 328, pl. xlvi.
- †*Fibulina* n. g. of *Fibulariidae* with genotype, *F. gracilis* n. sp., Eocene, Makamby, Madagascar,—type at Strassburg; TORNQUIST (316) p. 327, pl. xlvi.
- †*Fourtaunia* and *F. santamariai*, discussed, referred to *Hypsospatangidae*; FOURTAU (97) pp. 608, 613.
- †*Galerites*, vide etiam *Conulus* et *Echinoconus*. *G. cf. abbreviatus*; TOULA (317) p. 362. *G. albogalerus*; TREACHER (319) p. 156; WHITE (338) pp. 468, 470, 476, 487. *G. cf. rhotomagensis*; TOULA (317) p. 362. *G. cf. rotula* and *G. subuculus*; TOULA (318) p. 321.
- †*Galeropygus agariciformis*; THÉVENIN (313) pp. 63, 72.
- †*Gauthieria radiata* (Sorignet sub *Cyphosoma*) test and radioles; VALETTE (324) p. 36, figg.
- †*Glypticus*, diagnosis; SAVIN (286) p. 198. *G. hieroglyphicus*; KILIAN (156) pp. 806, 818; MAIRE (206) p. 231; MAURY (210) p. 583. *G. sulcatus*; MAIRE (206) p. 232; SAVIN (286) p. 199.
- †*Goniopygus*, diagnosis; SAVIN (286) p. 200. *G. delphinensis*; DAVEY (66) p. 33; SAVIN (286) p. 202, pl. i. *G. innesi*; FOURTAU (98) p. 127. *G. lamberti* n. sp., Santonian near Martigues, B. du Rhone, radioles only (p. 307, pl. i), *G. loryi* (p. 203), *G. noguesi* (p. 204); SAVIN (286). *G. peltatus*; op. cit. p. 201, pl. viii: anal plates resemble *Arbacia*; LORIOI (195) p. 137, pl. ix: var. *intracatus*; CHOFFAT (51) pp. 9, 10. *G. peroni*, radioles descr. (p. 127, pl. i), *G. cf. royani* Thomas and Gauthier 1889 is *G. innesi* (p. 127); FOURTAU (98).
- †*Grasia*, diagnosis, *G. elongata*; SAVIN (286) p. 148.
- Gymnechinus gravieri* n. sp., G. of Tadjourah, Red Sea; KOEHLER (161).
- †*Gymnocidaris (Asterocidaris) minor*; KILIAN (156) p. 760.
- †*Helicodiadema fragile*, vide sub *Pseudodiadema*.
- Hemiaster*, diagnosis; SAVIN (286) p. 118. †*H. batnensis*; DE STEFANO (75) pp. 350, 357. †*H. bufo*; SAVIN (286) p. 119. *H. cavernosus*; HODGSON (141). †*H. cf. cenomanensis*; HAYDEN (132) p. 164. *H. expergitus*, S. of Iceland; MORTENSEN (220) p. 243. †*H. forbesi*, figd.; ROGERS (279) p. 324. †*H. fourneli*; FOURTAU (98) p. 129. †“*H. (Periaster) fourtau*” Mayer-Eymar, vide *Schizaster foveatus*. †*H. gracilis* et aff. *gracilis*; DE STEFANO (75) pp. 350, 357, pl. viii. †*H. minimus*; HITZEL (140) and ?; SAVIN (286) p. 118: *minimus*; YOUNG (347) p. 217. *H. ovatus*; AIRAGHI (8) p. 216. *H. pullus*, vide *Linthia joannisboehmi*. †*H. ricordeaui*, vide sub *Toxaster ricordeaui*. †*H. rouchensis*; BEADNELL (22) pp. 19, 21. *H. scutiger*; CHOFFAT (51) p. 32.
- †*Hemicidaris*, diagnosis; SAVIN (286) p. 214. *H. alpina*; ROTHPLETZ (281) pp. 55, 57. *H. caprensis* n. sp., radioles; AIRAGHI (7) p. 87, pl. i. *H. cayluxensis*; THÉVENIN (313) p. 62. *H. crenularis*; MAIRE (206) p. 228; SAVIN (286) p. 216. *H. gevreyi* n. sp., Bathonian of Andelarre, Hte. Saône; LAMBERT & SAVIN (286) p. 310, pl. ii. *H. gresslyi* (p. 87), *H. icaunensis* (p. 76); THÉVENIN (313). *H. intermedia*; MAIRE (206) p. 228. *H. lorteti* (Cott. sub *Cidaris*) (p. 215), *H. pseudo-hemicidaris* (p. 216); SAVIN (286). *H. ruthenensis*; THÉVENIN (313) p. 76. *H. undulata*; MAIRE (206) p. 229. *H. zequellensis*; PERVINQUIÈRE (250).
- †*Hemidiadema rugosum*; PELLAT (245).

- †*Hemipedinina*, diagnosis, *H. gevreyi* n. sp., Hauterivian, Malleval, Isère ; LAMBERT & SAVIN (286) p. 219, pl. iii.
- †*Heteractis*, rejected ; FOURTAU (98) p. 125. *H. heteroporus* ; DONCIEUX (81) p. 100.
- †*Heterocidaris*, diagnosis (p. 223), *H. trigeri* (p. 224, pl. iv) ; SAVIN (286).
- †*Heteroclypus* :—*H. elegans* (p. 216), *H. semiglobus* (p. 214, figg.) ; AIRAGHI (8).
- †*Heterospatangus* n. g. of *Spatangidae prymnodesminae* (*Euspatangidae*), with genotype *Macropneustes lefebvrei* de Lor. (p. 606), *H. gauthieri* n. sp., Mid. Eocene, Mokattam, holotype Mus. Hist. Nat. Paris (p. 607, pl. i) ; FOURTAU (97).
- †*Holaster*, diagnosis ; SAVIN (286) p. 130. *H.* sp. ; FAVRE (91) p. 100. *H. dombensis* ; CHOFFAT (50) pp. 58, 59. *H. grasi* ; SAVIN (286) p. 26. *H. indicus* ; ROGERS (279) p. 326. *H. inflatus* vide *Physaster*. *H. intermedius* ; SAVIN (286) p. 131. *H. laevis* ; HITZEL (140) : JUKES-BROWNE (150) pp. 24, 25 ; ROTHPLETZ (281) pp. 80, 81 ; SAVIN (286) p. 132. *H. latissimus* ; ROTHPLETZ (281) p. 80. *H. nodulosus* ; SAVIN (286) p. 135. *H. perezi* ; op. cit. p. 134 ; HITZEL (140). *H. placenta* ; TREACHER (319) p. 158 ; YOUNG (347) p. 217. *H. planus* ; l. c. *H. prestensis* ; SAYN (287) p. 622 : in Barremian ; LAMBERT (170) p. 843. *H. subglobosus* ; SAVIN (286) p. 134 ; ROTHPLETZ (281) p. 81. *H. suborbicularis* ; op. cit. p. 80.
- †*Holectypus*, diagnosis ; SAVIN (286) p. 183. *H.* ? sp. ; CRAGIN (64) p. 35. *H. corallinus* ; MAIRE (206) p. 222 ; SAVIN (286) p. 184. *H. depressus* ; op. cit. p. 183 ; LISSAJOUS (183) p. 697 ; MAIRE (206) p. 222. *H. drogiacus* ; l. c. *H. macropygus* ; LAMBERT (170) p. 841 ; SAVIN (286) p. 185 ; SAYN (287) p. 622. *H. neocomiensis* (p. 186), *H. orificatus* (p. 183) ; SAVIN (286).
- †*Hologlyptus* Pomel, rediagnosed, genotype *Glypticus kaufmanni* Cott. non de Lor. ; *H. douvillei* n. sp., Kimmeridgian, Tatahouine, Tunis ; LAMBERT (172) p. 573, pl. xxii.
- †*Ilyboctypus* :—*H. gibberulus* (p. 697), *H. ovalis* (p. 695) ; LISSAJOUS (183). *H. wrighti* ; MAIRE (206) p. 221.
- Hygrosoma aethiopicum* n. sp., 693–863 m. off E. Africa ; DOEDERLEIN (78) p. 621, no fig.
- Hypsiechinus coronatus* ; DOEDERLEIN (79) p. 378.
- †*Hypospatangus* (seu *Hypospatagus*) rediagnosed with fresh genotype *H. ammon*, the original genotype having proved to be a *Trachyspatangus*, perhaps comprises *H. fischeri* (de Lor.) (p. 608), *H.* sp. Gregory (see Zool. Rec. 1898) is a *Plesiospatangus cotteaui* (p. 612) ; FOURTAU (97). *H. antiquus* ; DONCIEUX (81) p. 103. *H. hispaniae*, vide *Perispatangus*.
- †*Ilurionia sicardi* n. sp., Lutetian, Caunes (Aude) and Minerve (Hérault) ; LAMBERT (171) p. 148, pl. v : DONCIEUX (81) p. 108 ; MIQUEL (215) p. 19.
- Infulaster excentricus* ; TREACHER (319) p. 158.
- †*Isaster benguellensis* ; CHOFFAT (50) p. 58.
- †*Isopneustes muniti* Seunes, is *Cyclaster* ; AIRAGHI (6) p. 9.
- †*Laganum depressum* ; MAWSON (211) pp. 414, 479.
- †*Lambertechinus* discussed ; FOURTAU (98) p. 126.
- Lamprechinus* n. g. of *Cidaridae* with genotype *L. nitidus* n. sp., 500 m., Agulhas Current ; DOEDERLEIN (78) p. 622, no fig.
- †*Leiopedina tollavignesi* ; SCHUBERT (293) p. 168, & (294) p. 280.
- Linthia* Desor 1853, synn. : *Escheria* Merian 1853 non Heer, *Periaster* d'Orb. 1854, *Desoria* Gray 1855 non Cott., *Protenaster* Pomel 1883, *Tripylus* Pomel 1883 non Philippi, and *Plesiaster* Pomel 1887 non 1883 (see *Pseudobrissus*) : discussed, may prove syn. of *Tripylus* Philippi, species placed in six groups ; LAMBERT (171) p. 154.

- † *Linthia* sp., Nigeria; LAPPARENT (177). *L. arizensis*; DONCIEUX (81) p. 105. *L. atacica* n. sp., Lutetian, Caunettes-Hautes, Aude; LAMBERT (171) p. 158, pl. v: DONCIEUX (81) p. 105. *L. cavernosa*, incl. *L. aschersoni* and *L. esnehensis*; FOURTAU (98) p. 139. *L. ducroqui*; LAPPARENT (176). *L. insignis*; DONCIEUX (81) p. 104: variations in fasciole; LAMBERT (171) p. 156. *L. joannis boehmi* Oppenh. identical with "*Hemiaster pullus* Stol. & H. aff. *cristatus* Stol." of C. Burckhardt, 1901; WILCKENS (341) p. 139. *L. locardi* Tournouer is a *Schizobrissus*; LAMBERT (171) p. 156. *L. orbigny*; DONCIEUX (81) p. 105. *L. rousseti*; l. c.: LAMBERT (171) p. 159: MIQUEL (215) pp. 24, 25. *L. savini*; DONCIEUX (81) p. 105: MIQUEL (215) p. 24. *L. scaraboides*; REDLICH (266) p. 342.
- † *Loriolella* n. g. [? of *Pygasteridae*] with genotype *Cidaris ludovicii* Menegh., Mid Lias; FUCINI (102).
- † *Lovenia lorioli* Cott. is *Hemipatagus*; LAMBERT (173) p. 884.  
*Lovenidae* [sic] a subfam. of *Prospatangidae*, with tribes *Platybrissinae*, *Hypsopataginae*, *Maretinae*, *Eypataginae*, *Breyninae*; LAMBERT (171) p. 162.
- † *Macropneustes* only represented in Egyptian Eocene by one indeterminable specimen; FOURTAU (97) p. 610. *M. bertrandi* n. sp., Lutetian, Minerve, Hérault; LAMBERT (171) p. 161, pl. v: DONCIEUX (81) p. 104: MIQUEL (215) p. 20. *M. brissoides*?; SCHUBERT (293) p. 168. *M. crassus*, vide *Plagiopneustes*. *M. deshayesi*; REDLICH (266) p. 343. *M. meneghini*; DOUVILLÉ (83) p. 46. *M. schweinfurthi* Mayer-Eymar is a *Pericosmus spatangoides*; FOURTAU (98) p. 134. *M. similis* Mayer-Eymar, unintelligible; FOURTAU (97) p. 610.
- † *Magnosia*, diagnosis, *M. decorata* (p. 194), *M. globulus* (p. 195); SAVIN (286). *M. nodulosa*; l. c.: MAIRE (206) p. 232. *M. pulchella*; SAVIN (286) p. 196.
- † *Maretia*:—*M. guebhardi* n. sp., Burdigalian, Gattières Alpes-Maritimes; LAMBERT (173) p. 882, pl. lix. *M. saccoi* n. sp., Miocene, C. Dogana, near S. Maria Tiberina, Umbria; AIRAGHI (5) p. 53, pl.
- † *Megapneustes*, ? prymnadete or prymnodesmian; *M. grandis* holotype is prymnadete, but other specimens are prymnodesmian; *M. lorioli* is prymnadete always; *M. sickenbergi* uncertain; FOURTAU (97) p. 609. *Megapneustidae* n. fam. [?] for *Megapneustes*, *Prospatangus*, *Plagiopneustes*, and *Plagiobrissus*; FOURTAU (97) p. 612.  
*Mellita pentapora*; CLARK (55) p. 8. *M. testudinata*; GRAVE (119).
- † *Melonites*:—*M. crassus*, *M. multiporus*; ULRICH (321) p. 33.
- † *Mesodiadema*:—*M. lamberti* n. sp., Middle Lias, Rocchetta near Arcevia, Italy (pl. i), *M. marconissae* is Toarcian; AIRAGHI (6) p. 2.  
*Mesospatangidae*; LAMBERT (171) p. 153: said to be n. subfam. [sic] of *Brissidae*; LAMBERT in Review.
- † *Metaporhinus*, diagnosis; SAVIN (286) p. 137. *M. convexus*; CISNEROS (53) p. 299: REMEŠ (273): SAVIN (286) p. 138. *M. queymardi*; op. cit. p. 139.
- † *Micraster*:—*M. arenatus*; MAURY (210) p. 587. *M. breviporus*; FLEGEL (94) & (95): GOSSELET (116) pp. 18, 20, 42: (?) ROESSINGER (278) p. 437. *M. cf. brevis*; LAMBERT (169) p. 94. *M. coranguinum*; GOSSELET (116) p. 20: LAMBERT (169) pp. 92, 95: WHITE (338) pp. 468, 470, 473 & (?) 472: YOUNG (347) p. 216: young minutely descr.; VALETTE (324) p. 39, figg.: var. *laticor*; WHITE (338) p. 468: var. *rostratus*; YOUNG (347) p. 198. *M. cor-bovis*; TREACHER (319): p. 157: YOUNG (347) p. 217. *M. cortestudinarium*; FLEGEL (94): GOSSELET (116) pp. 18, 20, 21, 42: TREACHER (319) p. 158. *M. decipiens*; GOSSELET (116) p. 18: LAMBERT (169) p. 92. *M. icaunensis*; op. cit. pp. 91, 94. *M. leskei*; l. c.: GOSSELET (116) p. 18: MAURY (210) p. 586: YOUNG (347) p. 217. *M. praecursor*; TREACHER (319)



- p. 158: YOUNG (347) pp. 196, 216: var. *cor-testudinarium*; l. c. *M. recklinghausenensis* (Schlueter sub *Diplodetus*), descr.; WEGNER (333) pp. 123, 125, 150, pl. vii.
- †*Micropsidia*:—*M. gauthieri*; DONCIEUX (81) p. 101. *M. pegoti*; l. c.: MIQUEL (215) pp. 20, 24. *M. savini*; DONCIEUX (81) p. 102.
- †*Micropsina baudouii* is a *Circopeltis*; LAMBERT (171) p. 136.
- †*Micropsis*, diagnosis; SAVIN (286) p. 308. *M. lussieri*; CISNEROS (54) p. 530. *M. savini* n. sp., Santonian near Martigues, B. du Rhone; LAMBERT in SAVIN (286) p. 308, pl. ii. *M. stachei*; SCHUBERT (293) p. 168.
- †*Miotoxaster*, diagnosis; SAVIN (286) p. 128. *M. collegnoi*; l. c.: PELLAT (244 & 245): SAYN (287) p. 622: compared with *Toxaster ricordeaui* (q.v.) and var. *Leymeriei*; LAMBERT (170) p. 846. *M. exilis*; CHOFFAT (51) pp. 27, 30.
- Moera atropos*, see II, F, viii; GRAVE (119).
- †*Monodadema*, discussed; LAMBERT (172) p. 570. *M. cotteai*; DOUVILLÉ (84): PERVINQUIÈRE (250): structure of ambulacra; LAMBERT (172) p. 571, pl. xxii.
- Mortenseia* n. g., with genotype *Echinometra oblonga* Blainville; DOEDERLEIN (78) p. 623.
- Neospatangidae* [sic], n. subfam. of *Brissidae*, distinguished from *Mesospatangidae*, divided into tribes *Opissasterinae*, *Schizasterinae*, *Prenasterinae*, *Pericostidae* [sic], *Brissopsinae*, *Macropneustinae*; LAMBERT (171) p. 153.
- †*Noellingia monteili*, provenance; LAPPARENT (176).
- Notechinus* n. g., with genotype *Echinus magellanicus* Philippi; DOEDERLEIN (78) p. 623.
- Nucleolidae*; LAMBERT (171) p. 141: said to be n. subfam. of *Echino-brissidae*; LAMBERT in Review [melius *Nucleolitinae*].
- †*Nucleolites* (vide etiam *Echinobrissus*):—*N. chaperi*, vide sub *Nucleopygus*. *N. grignonensis* vide *Plagiopygus*. *N. cf. ofiersi*; TOULA (318) p. 321.
- †*Nucleopygus*, diagnosis (p. 160), *N. chaperi* (Cott. sub *Nucleolites*) (p. 162), *N. roberti* (p. 161); SAVIN (286).
- †*Opissaster* discussed, *O. fourtaui* Lambert [Feb. 1902], considered syn. of *Ditremaster nux*, var. *aegyptiacus* Gauthier [Nov. 1902]; FOURTAU (98) p. 134.
- Orechinus* n. g., with genotype *Trigonocidaris monolini* A. Agass.; DOEDERLEIN (78) p. 622.
- †*Oriolampas* Mun. Ch., olim *Neolampas*, with genotype *Amblypygus michelini* Cott., slight distinction from *Plesiolampas*; LAMBERT (171) p. 149: is syn. of *Plesiolampas*; LAMBERT in Review. *O. michelini*; CISNEROS (54) p. 529: DONCIEUX (81) p. 102: DOUVILLÉ (83) p. 41: LAMBERT (171) p. 150: MIQUEL (215) p. 20. *O. rousseli*; op. cit. p. 24: DONCIEUX (81) p. 107: added notes; LAMBERT (171) p. 151.
- Orthocidarinae*, subfam. suppressed, *Orthocidaris* being a Pedinid allied to *Gymnodiadema*; LAMBERT (171) p. 132.
- †*Orthocidaris*, diagnosis, *O. inermis*; SAVIN (286) p. 218.
- †*Orthopsis*, diagnosis; SAVIN (286) p. 222. *O. sp. ind.*; AIRAGHI (7) p. 90, pl. i. *O. repellini*; CHOFFAT (51) p. 9: SAVIN (286) p. 222.
- †*Palaechinus quadriserialis* J. Wr. holotype was from Ballynabointra, 2½ miles W. of Middleton, Cork; LAMPLUGH (174) p. 29.
- Palaeolampas chuni* n. sp., 371 m. Siberut Str., off Sumatra, no fig., *P. crassa*, *P. sumatrana* n. sp., ibid., no fig.; DOEDERLEIN (78) p. 624.
- Paracentrotus agulhensis* n. sp., 500 m., Agulhas Current; DOEDERLEIN (78) p. 623, no fig. *P. lividus* (vide etiam sub *Strongylocentrotus* et *Toxopneustes*); KIERNIK (154) & (155): see also under II, F, viii,

- var. nov. *diffusa* et *rufocincta*** based on pigment of ovum; GARBOWSKI (107) p. 601, pl. xvii.
- †*Paracidaris* (vide etiam sub *Cidaris*), diagnosis (p. 267), *P. bathonica* (p. 268), *P. blumenbachi* (p. 270), *P. spinulosa* (p. 268), *P. zschokkei* (p. 269); SAVIN (286).
- Parechinus* (vide etiam sub *Echinus* et *Psammechinus*):—*P. microtuberculatus*; KIERNIK (154) & (155): see further under II, F, viii, vide etiam *Psammechinus cupreus*. *P. miliaris* distrib.; DODERLEIN (79) p. 378, see further under II, F, viii.
- †*Parmulechinus* n. g., pro *Stenaster* Lamb. non Bill., q. v.; LAMBERT in Review of LAMBERT (171) p. 63, Jan. 1906.
- †*Pedina*, diagnosis; SAVIN (286) p. 217. *P. gervillei*; MAIRE (206) p. 232. *P. sublaevis*; op. cit. p. 233; SAVIN (286) p. 217.
- Pedininae*, n. g. *Eosalenia* q. v.
- †*Peltastes*, diagnosis; SAVIN (286) p. 207. *P. clathratus*; WOLLEMANN (343). *P. lardyi*; PERON (248) pp. 365, 369, 375; DAVEY (66) p. 32. *P. stellulatus*; l. c.: SAVIN (286) p. 208. *P.*, cf. *stellatus*; PERON (248) p. 369. *P. studeri*; HITZEL (140): SAVIN (286) p. 208. *P. valletti*; op. cit. p. 207. *P. wrighti*; DAVEY (66) p. 31.
- Periaster* d'Orb., vide sub *Linthia*.
- †*Pericosmus*:—*P. nelsoni* M'Coy, probably a *Peribrissus*; LAMBERT (171) p. 158. *P. spatangooides*; FOURTAU (98) p. 133.
- †*Perispatangus* n. s.-g. of *Euspatangus*, with genotype *E. libycus* de Lor., and comprising *Hypsospatangus hispaniae* Lamb.; FOURTAU (97) p. 605.
- Phormosoma adenicum* n. sp., 1469 m., G. of Aden, no fig., *P. indicum* n. sp., 463-977 m. off W. Sumatra and E. Africa, no fig.; DOEDERLEIN (78) p. 621. *P. placenta*; KEMP (152) pp. 197, 183; SCHMIDT (291) p. 23: et var. *sigsbeeii*, distrib.; DOEDERLEIN (79) p. 376.
- †*Phyllobrissus*, diagnosis, with note by LAMBERT; SAVIN (286) p. 163. *P.* sp. non-descr. aff. *gresslyi*; DOUVILLÉ (84). *P. jourdyi* n. sp., Kimmeridgian, Tatahouine, Tunis; LAMBERT (172) p. 574, pl. xxii. *P. kiliani*; PELLAT (245). *P. neocomiensis*; LAMBERT (170) p. 841; SAYN (287) p. 622; SAVIN (286) p. 164. *P. nicoleti* and *P. renaudi*; l. c.
- †*Phymosoma* (vide etiam *Cyphosoma*), diagnosis (p. 204), *P. loryi* (p. 205); SAVIN (286).
- †*Physaster* maintained, *P. inflatus* (d'Orb.) discussed, from Senegal; LAMBERT in PERON (247).
- †*Pithodia* Pomel, genotype *Discoidea cylindrica*; BATHER (19) p. 148.
- †*Plagiochasma grasanus* (d'Orb.) Pomel, made *Clitopygus grasi*; SAVIN (286) p. 159.
- Plagiocidaris*, err. typ. pro *Plegiocidaris*; KILIAN (156).
- †*Plagiopneustes* n. g. of *Spatungidae Prymnodesminae*, with genotype *Macropneustes crassus* Desor; FOURTAU (97) p. 609.
- †*Plagiopygus*, Tertiary spp. usually called *Pygorhynchus*, genotype is *Nucleolites grignonensis* Deff.; LAMBERT (170) p. 843, footnote: LAMBERT (171) p. 146. *P. daradensis* n. sp., Mid. Eocene, Balol, Senegal; LAMBERT in MEUNIER (212) p. 63. *P. garuthieri*; DONCIEUX (81) p. 102; MIQUEL (215) p. 20: n. var. *minor*, Lower Lutetian, Aude; LAMBERT (171) p. 147. *P. savini* (Cott. sub *Pygorhynchus*); op. cit. p. 148; DONCIEUX (81) p. 109; MIQUEL (215) pp. 20, 25.
- †*Plegiocidaris* (vide etiam sub *Cidaris*), diagnosis (p. 257), *P.* sp. non-descr., Upper Aptian, Isère, radiole (p. 267, pl. vii), *P. alpina* (p. 263), *P.* cf. *alpina*, interambulacrals (p. 263, pl. iii), *P. charmassei* (p. 257), *P. coronata* (p. 259); SAVIN (286). *P. cucumifera*; op. cit. p. 257; KILIAN (156) p. 743. *P. falsani*, interambulacrals and radioles (p. 312, pl. vii), *P. friburgensis*, radioles (p. 264, pl. iv); SAVIN (286).

- P. geveyi* n. sp., Hauterivian, St. Pierre-de-Chérennes, Isère, radioles only; LAMBERT & SAVIN (286) p. 265, pl. vi. *P. gibberula* (Ag. sub *Cidaris*), radioles; SAVIN (286) p. 314, pl. iv. *P. glandifera*; op. cit. p. 260: KILIAN (156) pp. 806, 818. *P. laeviuscula* (p. 258), *P. lineolata*, radioles (p. 265, pl. vii), *P. locardi* (p. 258), *P. loryi* (p. 262); SAVIN (286). *P. mattheyi*; KILIAN (156) p. 781. *P. meridanensis*, radiole (p. 262, pl. iv), *P. propinqua* (p. 261), *P. punctata* (p. 266), *P. spinigera*, radioles (p. 266, pl. vii); SAVIN (286). *P. spinulosa* and *P. zschokkei*; KILIAN (156) p. 743.
- Plesgiocidaris*; Lambert in Review of KILIAN (156), Rev. paleozool. x, p. 61: err. typ. pro *Plegiocidaris*.
- Plesiaster* Pomel, vide sub *Linthia* et *Pseudobrissus*.
- Plesiolamp[ad]inae*, vide sub *Echinolampidae*.
- †*Plesiolampas*, distinctness from *Oriolampas* questioned; LAMBERT (171) p. 150.
- †*Plesiospatangus*, the genotype *P. cotteauxi* redescrib.; FOURTAU (97) p. 611, pl. i.
- Plexechinus hirsutus* n. sp., Denmark Straits, N. Atlantic, 450–1300 fm., *P. nordenskiöldi* n. sp., Shag Rocks Bank, Antarctic, 160 m.; MORTENSEN (220) p. 242, no figg.
- †*Pliolampas*:—*P. aremoricus* (p. 50, pl.), *P. camerinensis* (p. 51); AIRAGHI (5) pl. *P. gourdoni*, syn. of *Echinanthus arizensis* Cott.; LAMBERT (171). *P. silvestrii* n. sp., Miocene, C. Dogana, near S. Maria Tiberina, Umbria (p. 51), *P. vasalli* [= *vassalli*] (Wright sub *Pygorhynchus*) (p. 49); AIRAGHI (5) pl. *P. vilanovae*; CISNEROS (54) p. 529.
- Podocidaris prionigera* and *P. scutata*, vide *Pygmaeocidaris*.
- †*Polycidaris*, diagnosis (p. 270), *P. collenoti*, test descr., and *P. legayi* (p. 271); SAVIN (286).
- †*Polydiadema*, diagnosis (p. 232), *P. grasi* (Desor, sub *Diadema*) (p. 233); SAVIN (286). *P. rhodani*; l. c.: HITZEL (140).
- Porocidaris* (vide etiam sub *Cidaris*):—†*P. granulosa*; KILIAN (156) p. 818. *P. purpurata*; SCHMIDT (291) p. 23: distrib.; DOEDERLEIN (79) p. 376. †*P. schmideli*; HAWELKA (131) p. 117: SCHUBERT (293) pp. 165, 168. †*P.*, cf. *schmideli*; SCHUBERT (294) p. 280. †*P. serrata*; DOUVILLÉ (83) p. 50.
- †*Porpitella*:—*P. concava*; LAMBERT (171) p. 138. *P. doncieuxi* n. sp., Lower Lutetian, near Saint-Chinian, Hérault; op. cit. p. 136, pl. v: DONCIEUX (81) p. 111: MIQUEL (215) p. 18. *P. fibularoides* distinguished from *P. hayesianae*, probably incl. *Scutellina calvimontana* Cott. (p. 138), *P. porpita*, a fragment figd. by Tournouer is refd. to *Stenaster labrii* (q. v.) (p. 140); LAMBERT (171).
- Powtialesia jeffreysi*, distrib.; DOEDERLEIN (79) p. 385. *P. miranda*; KEMP (152) p. 206 (?); SCHMIDT (291) p. 24. *P. paradoxa* n. sp., S. of Iceland, 843–912 fm.; MORTENSEN (220) p. 243, no fig. *P. phyle*; KEMP (152) p. 206. *P. wandeli* n. sp., Davis Str., N. Atlantic, 845–1715 fm.; MORTENSEN (220) p. 242, no fig.
- †*Prenaster*:—*P. alpinus*; DONCIEUX (81) p. 106. *P. desori*; CISNEROS (54) p. 529.
- Prionechinus* distinguished from *Arbacina*; CHECCHIA (49).
- Protenaster* Pomel, vide sub *Linthia*.
- †*Protocidaris* sp. radiole; SMYČKA (303) p. 60.
- †*Protocyamus* Gregory, vide *Discoidea*.
- Psammechinus* (vide etiam sub *Echinus*), diagnosis (p. 196), †*P.* sp. (p. 197, pl. viii); SAVIN (286). *P. cupreus*, holotype in Senckenberg Mus. is not syn. of *Notechinus magellanicus*, but appears to be *Parechinus microtuberculatus*; DOEDERLEIN (78) p. 623. †*P. excavatus* (Leske sub *Echinites*); LORIOL (195) p. 131, pl. ix. *P. microtuberculatus*; KRAHELKA (168). †*P. mliaris*; CHOFFAT (52).

- †*Psephechinus*, diagnosis, & *P. vacheyi*; SAVIN (286) p. 190, pl. i.
- †*Pseudobrissus* n. g. of *Brissidae*, genotype *Brissus corsicus* Cott., = *Plesiaster* Pomel 1887 pars non 1883; LAMBERT (171).
- †*Pseudocidaris*, diagnosis; SAVIN (286) p. 212. *P. clunifera*; CHOFFAT (51) pp. 9, 10, 11, 21, 36 & (?) pp. 27, 36; PARONA (242) p. 66; TOULA (317) p. 360: radioles; SAVIN (286) p. 213, pl. ii. *P. cf. clunifera*; CISNEROS (53) p. 300: radioles; AIRAGHI (7) p. 88, pl. i. *P. crispicans*, radiole; AIRAGHI (7) p. 89, pl. i. (?) *P. ellenbecki* n. sp., Kimmeridgian, Atschabo, Somaliland, radioles only; DACQUÉ (65) p. 124, pl. xiv. *P. gauthieri* n. sp., Kimmeridgian, Tatahouine, Tunis, radioles previously referred by Gauthier to *Hemicidaris zeyguellensis*; LAMBERT (172) p. 570, pl. xxii. *P. mammosa*; THÉVENIN (313) p. 87. *P. ovifera*; CISNEROS (53) p. 300. *P. quenstedti*; MAIRE (206) p. 228. *P. thurmanni*; CISNEROS (53) p. 300; SAVIN (286) p. 214.
- †*Pseudodiadema*, diagnosis; SAVIN (286) p. 228. *P. areolatum*; ROTHPLETZ (281) p. 50. *P. aroviense*; MAIRE (206) p. 229. *P. brongniarti*; DAVEY (66) p. 34. *P. carthusianum*; SAVIN (286) p. 229. *P. cotteri* n. sp., Aptien, Ribafria, Portugal; LORIOLE (195) p. 136, pl. ix. *P. dupini*; PERON (248) p. 369. *P. duplicatum* (p. 229), *P. florescens* (p. 230); MAIRE (206). *P. (Helcodiadema) fragile*; WHITE (328) pp. 470, 487. *P. cf. guerangeri*; CHOFFAT (51) p. 27. *P. malbosii*; BRIVES (42) p. 87. *P. mamillanum*; MAIRE (206) p. 231. *P. cf. mamillanum*; THÉVENIN (313) p. 87. *P. michelini*; WOLLEMAN (343). *P. picteti*; PERON (248) p. 365. *P. pidanceti*; MAIRE (206) p. 231. *P. priscum*; LEE (178) p. 84. *P. pseudodiadema*; MAIRE (206) p. 230; MAURY (210) p. 583. *P. rotulare*; DAVEY (66) p. 33. *P. scruposum* (pp. 7, 35, 36), *P. sculptile* (pp. 11, 27, 29, 30); CHOFFAT (51). *P. superbium*; AEBERHARDT (1) p. 442. *P. tetragramma*; MAIRE (206) p. 230. *P. ? uniforme* discussed; SAVIN (286) p. 228. *P. variolare*; DAVEY (66) p. 33. *P. wrighti*; LISSAJOUS (183) p. 697.
- †*Pseudosalenia*, diagnosis (p. 211), *P. aspera* (p. 212); SAVIN (286).
- †*Pygaster*, diagnosis & *P. truncatus*; SAVIN (286) p. 187. *P. umbrella*; MAIRE (206) p. 222.
- Pygasteridae*, n. g., vide *Loriolella*.
- Pygaulidae*; LAMBERT (171) p. 141: said to be n. subfam. of *Echino-brissidae*; LAMBERT in Review.
- †*Pygaulus*, diagnosis; SAVIN (286) p. 154. *P. desmoulinsi*; l. c.: LAMBERT (170) p. 841; SAYN (287) p. 622. *P. lamberti* n. sp., Upper Barremian, between Cognin and Malleval, Isère; SAVIN (286) p. 156, pl. i. *P. cf. ovatus* & *P. renevieri*; HITZEL (140).
- Pygmaecidaris* n. g. with genotype *Podocidaris prionigera*, A. Agass. and probably comprising *P. scutata*; DOEDERLEIN (78) p. 621.
- †*Pygorhynchus* Ag. non Auett., diagnosis; SAVIN (286) p. 169: the genotype is *Catopygus obovatus* and not any Tertiary species, vide *Plagiopygus*; LAMBERT (170) p. 843, footnote, & (171) p. 146. *P. cylindricus*; SAVIN (286) p. 171. *P. delbosii*; DOUVILLÉ (83) p. 22. *P. mayeri*; REDLICH (266) p. 343. *P. nucula* (Desor sub *Botriopygus*); SAVIN (286) p. 169. *P. rostratus* vide sub *Pygurus*. *P. savini* Cott., reft. to *Plagiopygus*; LAMBERT (171) p. 148. *P. sueuri* (Desor sub *Botriopygus*) (p. 171), *P. testudo* (Desor sub *Botriopygus*) & *P. valdensis* (de Lor. sub *Botriopygus*) (p. 170); SAVIN (286).
- †*Pygorhytis*, diagnosis & *P. analis*; SAVIN (286) p. 147.
- †*Pygurus*, diagnosis; SAVIN (286) p. 172. *P. sp.*; CRAGIN (64) p. 36. *P. africanus*; CHOFFAT (50) p. 56. *P. blumenbachi*; THÉVENIN (313) p. 87; MAIRE (206) p. 219. *P. costatus*; op. cit. p. 220. *P. depressus*; LISSAJOUS (183) p. 697. *P. aff. durandi*; PERVINQUIÈRE (250). *P. haussmanni*; MAIRE (206) p. 220. *P. lampas*; PETRASCHECK (254) p. 415. *P. loryi*; SAVIN (286) p. 172. *P. meslei*; DOUVILLÉ (84): added notes, belongs to s.-g. *Mepygurus* Pomel; LAMBERT (172)

- p. 575. *P. michelini*; KILIAN (156) p. 760. *P. montmolini*, descr.; SAVIN (286) p. 173. *P. pentagonalis*; MAIRE (206) p. 220. *P. perreti* n. sp., Kimmeridgian, Tatahouine, Tunis; LAMBERT (172) p. 575, pl. xxii. *P. rostratus*; CHOFFAT (51) pp. 7, 35, 36; ROTHPLETZ (281) p. 20; SAVIN (286) p. 174; WEGNER (333) pp. 139, 144, 149.
- †*Pyrina*, diagnosis (p. 149), *P. cylindrica* (p. 151); SAVIN (286). *P. icau-nensis*; MAIRE (206) p. 221. *P. incisa*; CHOFFAT (51) p. 9; SAVIN (286) p. 150. *P. pygaea*; op. cit. p. 151; ROLLIER (280). *P. aff. pygaea*; CHOFFAT (51) p. 10. *P. subsphaeroidalis*; SAVIN (286) p. 152.
- †*Rachiosoma*, diagnosis (p. 205), *R. paucituberculatum* (p. 206); SAVIN (286).
- †*Rhabdocidaris* (vide etiam sub *Cidaris*), diagnosis; SAVIN (286) p. 275. *R.* sp. nondescr.; PAQUIER (238) p. 134. *R. (Leiocidaris) abbatei*, radioles descr.; FOURTAU (98) p. 130, pl. i. *R. capelloi*; CHOFFAT (50) pp. 48, 58. *R. caprimontana*; MAIRE (206) p. 226; ROTHPLETZ (281) p. 51; SAVIN (286) p. 278. *R. cf. caprimontana*; KILIAN (156) p. 781. *R. cerioi* n. sp., radioles; AIRAGHI (7) p. 87, pl. i. *R. copeoides*; MAIRE (206) p. 225; SAVIN (286) p. 278. *R. aff. cortazari*; CHOFFAT (51) p. 42. *R. aff. crassissima*; MAIRE (206) p. 226. *R. delgadoi*; CHOFFAT (51) p. 7. *R. delphinensis* n. sp., Hauterivian, St Pierre-de-Chérennes, Isère; LAMBERT & SAVIN (286) p. 284, pl. vi. *R. gaillardoti*, radioles descr.; FOURTAU (98) p. 130, pl. i. *R. gevreyi*; SAVIN (286) p. 280. *R. horrida*; LISSAJOUS (183) p. 691; SAVIN (286) p. 277. *R. impar*; l. c. *R. cf. insuetus*; CHOFFAT (51) p. 9. *R. itala*, discussed, not found in Egypt, vide *R. jovis-ammonis*; FOURTAU (98) p. 131. *R. jacobi* n. sp., Upper Aptian, Le Rimet, Isère; LAMBERT & SAVIN (286) p. 286, pl. viii. *R. jovis-ammonis* n. sp., based on *R. itala* de Lor. non Laube, Eocene, Syouah, Egypt; FOURTAU (98) p. 132. *R. megalacantha*; MAIRE (206) p. 226. *R. mespilum*; DONCIEUX (81) p. 99; MIQUEL (215) pp. 19, 24. *R. mitrata*; MAIRE (206) p. 225. *R. moreaui*; SAVIN (286) p. 276. *R. nobilis*; op. cit. p. 279; MAURY (210) p. 583. *R. orbignyana*; MAIRE (206) p. 226; THÉVENIN (313) p. 87. *R. pavimentatus* and *R. petitclerci*; SAVIN (286) p. 281. *R. pouechi*; DONCIEUX (81) p. 99; MIQUEL (215) p. 24. *R. salvae*; SAVIN (286) p. 281. *R. subserrata*; DONCIEUX (81) p. 100; MIQUEL (215) p. 24. *R. aff. thurmanni*; MAIRE (206) p. 226. *R. tuberosa*; CHOFFAT (51) pp. 7, 35; PARONA (242) p. 66; radioles; AIRAGHI (7) p. 86, pl. i; SAVIN (286) pp. 282, pl. vii.
- †*Rhabdopleurus ataxensis*; DONCIEUX (81) p. 103.
- †*Rhynchopygus abundans*; BALL (15) p. 30.
- †*Rotuloidea fimbriata* allied to *Heliophora*; LAMBERT in BOISTEL (35) p. 205.
- Salenia*, diagnosis, and †*S. depressa*; SAVIN (286) p. 209. †*S. dombensis*; CHOFFAT (50) p. 56. †*S. folium-querci*; PERON (248) p. 365. †*S. garumnensis* n. sp., Lower Danian of Tuco, Hte. Garonne; VALETTE (324) p. 27, figg. †*S. geometrica*; YOUNG (337) p. 216. †*S. grasi*; SAVIN (286) p. 210. *S. hastigera*; RICHARD (276) p. 3. †*S. incrustata* Cott. distinguished from *S. granulosa* Forbes; VALETTE (324) p. 24. †*S. prestensis*; AIRAGHI (7) p. 89, pl. i; PARONA (242) p. 66; SAVIN (286) p. 210.
- †*Salenidia gauthieri* n. sp., *Marsupites* zone, Saint-Martin-du-Terte, near Sens, Yonne; VALETTE (324) p. 30, figg.
- Schizaster*:—†*S. aff. africanus*; BEADNELL (24) p. 52. †*S. airaghi*; AIRAGHI (6) p. 10. †*S. ataxensis*; DONCIEUX (81) p. 106. †*S. batheri* n. sp., Mid. Eocene, Pyramides de Ghizeh; FOURTAU (98) p. 135, pl. i. †*S. canaliferus*; BASSANI (16). †*S. catalaunicus* n. sp., Eocene, La Antigua Ciudad de Jespus, Catalonia; LORIOL (195) p. 126, pl. ix.

- †*S. foveatus* incl. *Hemiaster fourtaui* Mayer-Eymar; FOURTAU (98) p. 137. *S. fragilis*; NORDGAARD (230) p. 160: distrib.; DOEDERLEIN (79) p. 385. †*S. globulus* (?); SCHUBERT (293) p. 168. †*S. aff. globulus*; SCHUBERT (294) p. 280. †*S. howa* n. sp., Eocene, Makamby, Madagascar, type at Strassburg; TORNGUIST (316) p. 329, pl. xlvii. †*S. jeani* n. sp., Lutetian, Vallée de la Valette, near Aragon, Aude; LAMBERT (171) p. 159, pl. v: DONCIEUX (81) p. 106. †*S. karveri*; GAÁL (103) pp. 344, 362. †*S. mirabilis* n. sp., Mid. Eocene, Novale, Italy; ATRAGHI (6) p. 9, pl. i. †*S. obesus*; DONCIEUX (81) p. 106. †*S. rotundatus*; CLARKE (56) p. 415: (?) PARK (241) p. 521. †*S. rousseli*; DONCIEUX (81) p. 106: MIQUEL (215) p. 20. †*S. santamariai*, young; FOURTAU (98) p. 137, pl. i. †*S. scillae*; ATRAGHI (8) p. 216. †*S. studeri*; ATRAGHI (6) p. 10. †*S. zitteli*, incl. *S. mokattamensis* as var., and *S. rohlfsi* as syn.; FOURTAU (98) p. 138.
- †*Schizobrissus* Pomel, genotype *Brissus cruciatus* Ag., distinguished from *Deakia*, comprises *Linthia locardi* Tournouer; LAMBERT (171) p. 156.
- †*Scutella*:—*S. germanica* Beyr., as figd. by Noetling under *Echinarachnius* comprises two spp., of which the true one is referred to *Stenaster* Lamb.; LAMBERT (171) p. 138. *S. subtetragona*; DOUVILLÉ (83) pp. 17, 18, 27. *S. vindobonensis*; GAÁL (103) pp. 344, 362.
- †*Scutellidae*, n. g. vide *Stenaster*.
- †*Scutellina*:—*S. concava* Gauth., referred to *Porpitella*; LAMBERT (171) p. 138. *S. fibularioides*, vide sub *Porpitella*. *S. patella*; MULDER (222). *S. supera*, vide sub *Porpitella*.
- †*Scutulium* Tournouer, refd. to *Dendrasteridae*; LAMBERT (171) p. 140.
- †*Spaniocyphus*, diagnosis, and *S. theveneti*; SAVIN (286) p. 191.
- Spatangidae*, n. gg. *Plagiopneustes*, *Heterospatangus*, n. s-g. *Perispatangus* (qq. v).
- Spatangus*:—†*S. cf. austriacus*; GAÁL (103) pp. 344, 362. *S. capensis* n. sp., 70–106 m. off Cape Colony; DOEDERLEIN (78) p. 624, no fig. †*S. delphinus* Defr., probably *Brissoides*; LAMBERT (173) p. 883. *S. purpureus*; HØRRING (142) p. 189: KEMP (152) pp. 182, 199, 206: NORDGAARD (230) pp. 160, 235: †BASSANI (16): distrib.; DOEDERLEIN (79) p. 383. *S. raschi*, id.; l. c.: KEMP (152) p. 199.
- Sperosoma durum* n. sp., 1644 m. off E. Africa; DOEDERLEIN (78) p. 621, no fig. *S. grimaldii*; SCHMIDT (291) p. 23: distrib.; DOEDERLEIN (79) p. 377.
- Sphaerechinus granularis*, see under II, c, vii & II, F, viii.
- †*Stenaster* n. g. [nom. preocc. E. Billings pro *Ast.*, vide *Purmulechinus*] of *Scutellidae*?, with genotype *S. labriei* n. sp., Stampian of Espiet, Gironde, colln. Lambert, comprises also *Scutella germanica*; LAMBERT (171) p. 140.
- Stereocidaris*:—†*S. hannoverana*, measurements; WOLLEMAN (343). *S. ingolfiana*; SCHMIDT (291) p. 23: distrib.; DOEDERLEIN (79) p. 376. †*S. malum*; PAQUIER (238) p. 134.
- †*Stigmatopygus malheiroi*; CHOFFAT (50) p. 59.
- †*Stomechinus*, diagnosis; SAVIN (286) p. 188. *S. bigranularis*; l. c.: THÉVENIN (313) p. 76. *S. denudatus*; SAVIN (286) p. 189. *S. aff. gauthieri*; KILIAN (156) p. 743. *S. gyrratus*; MAIRE (206) p. 233. *S. cf. laevis*; KILIAN (156) p. 743. *S. perlatus*; MAIRE (206) p. 233: added notes, LORIOU (195) p. 144.
- †*Striectchinus pouechi* is a *Circopectis*; LAMBERT (171) p. 136.
- Strongylocentrotus* (vide etiam sub *Paracentrotus*):—*S. droebachiensis*; CLARK (55) p. 7: HØRRING (142) pp. 185, 189: NORDGAARD (230) pp. 160, 235: SCHMIDT (291) pp. 18, 19: SCHMITT (292) p. 247: distrib.; DOEDERLEIN (79) p. 380. *S. franciscanus*; op. cit. p. 382: LOEB (190). *S. gibbosus*; ORTMANN (234) p. 697. *S. lividus*; KEMP (152) p. 182: PIZON (257): RUSSO (283) p. 7, fig.: †CHOFFAT (52)

- p. 749 : see also under II, C, vii & II, F, viii. *S. purpuratus*; DOEDERLEIN (79) p. 382 : see also under II, F, viii.
- †*Tetragramma variolare*; FAVRE (91) p. 99.
- †*Thagastea*, link betw. *Fibularia* and *Fibulina*; TORNIQUIST (316) p. 328.
- †*Thylechinus atacicus*; DONCIEUX (81) p. 102.
- †*Tiaromma*, diagnosis (p. 230), *T. rotulare* (p. 231); SAVIN (286).
- †*Toxaster*, diagnosis; SAVIN (286) p. 122: *T. africanus*; BRIVES (42) pp. 85, 87. *T. amplus*; LAMBERT (170) p. 846. *T. broncoensis*; CHOFFAT (51) p. 29. *T. collegnii* (incl. *T. brunneri*); PANNEKOEK (237) p. 5. *T. complanatus* (= *T. retusus*); SAYN (286A). *T. cf. complanatus*; TOULA (317) p. 341. *T. gibbus*; SAVIN (286) p. 123. *T. granosus* et cf. *granosus*, compared with *T. ricordeaui* (p. 845), *T. lorioli* Lambert not to be separated from *T. ricordeaui* (p. 844, footnote); LAMBERT (170). *T. radula* Gauth., refd. to *Hypsaster*; LAMBERT in SAVIN (286) p. 129. *T. retusus*; LAMBERT (170) p. 846; SAVIN (286) p. 123: *T. ribamarensis* n. sp., Urgonian, Barremian, Ribamar, in Ériceira, Portugal; LORIOU (195) p. 138, pl. x: and in CHOFFAT (51) p. 27. *T. ricordeanus* seu *ricordeaui*; PERON (248) p. 365; SAYN (287) p. 622; HITZEL (140): cannot be this sp., does author mean *Hemiaster ricordeaui*?; LAMBERT in Review: variations resembling *Miotoxaster collegnoi*; LAMBERT (170) p. 843. *T. cf. ricordeaui* [sic]; SAVIN (286) p. 122. *T. subcylindricus*; op. cit. p. 124.
- Toxopneustes lividus*; LOISEL (194): vide etiam sub *Paracentrotus* et *Strongylocentrotus*.
- †*Trachyaster heberti*; CISNEROS (54) p. 529.
- †*Trachypatagus meneghini*; SCHUBERT (293) p. 168.
- †*Trematopygus*, diagnosis; SAVIN (286) p. 156. *T. davidsoni*; DAVEY (66) p. 34. *T. grasanus* d'Orb., made *Clitopygus grasi*; SAVIN (286) p. 158. *T. lorioli* n. sp., Upper Aptian, La Fa, Isère; LAMBERT & SAVIN (286) p. 157, pl. i.
- †*Triplacidia vidali* n. sp., Eocene, La Antigua Ciudad de Jესpus, Catalonia; LORIOU (195) p. 122, pl. viii.
- Tripylus*, vide sub *Linthia*.
- †*Trochotiara*, diagnosis (p. 234), *T. depressum* (p. 235); SAVIN (286).
- Tromikosoma koehleri*; DOEDERLEIN (79) p. 377.
- †*Tylocidaris*, diagnosis; SAVIN (286) p. 239. *T. sorigneti*; l. c.: HITZEL (140).
- †*Typocidaris*, diagnosis, and *T. matum*, incl. radioles known as *Cidaris heteracantha* (p. 272), *T. marginata* (p. 275); SAVIN (286). *T. vesiculosa*; HITZEL (140).
- Urechinus drygulskii* n. sp., near Antarctic Continent, 3423 m. (p. 241, no fig.), *U. naresianus*, S. of Iceland (p. 243); MORTENSEN (220).
- †*Zeuglopleurus pusillus*; WEGNER (333) pp. 126, 149.

## (D).—ASTEROIDEA.

- Acanthaster echinites*; LUDWIG (197) p. 215.
- Albatrossia* n. g. of *Porcellanasteridae* [nom. preocc. Jordan & Evermann, 1898, pro *Piscibus*] with genotype *A. semimarginalis* n. sp., Cocos Id., 1408-2149 m.; LUDWIG (197) p. 97, pl. vi.
- Alexandraster* n. g. of *Echinasteridae*, with genotype *A. mirus* n. sp., G. of Panama, Galapagos, 702-837 m.; LUDWIG (197) p. 210, pls. xv, xxxi, xxxii.
- Archaster typicus*, young; LUDWIG (197) p. 53, pl. xxi.
- †*Arthraster dixonii*; SPENCER (305) pl. xviii.
- †*Asteracanthion lincki*, determined by A. E. VERRILL; SEARS (297) pp. 369, 370, fig. 202: vide etiam sub *Asterias*.

- Asterias aurantiaca*; COLGAN (61) p. 212: vide etiam sub *Astropecten*.  
*A. austera*; CLARK (55) p. 3. *A. brandti*; HODGSON (141). *A. calamaris* (p. 251), *A. capensis* (p. 252); BELL (26). *A. forbesi*; CLARK (55) p. 4. *A. glacialis*; BELL (26) p. 252; KEMP (152) p. 179; NOBRE (228) p. 82 and (229) p. 133; NORDGAARD (230) p. 160; PIETSCHMANN (256): see also II, c, vii. †*A. impressae*; HUCKE (143) p. 166 and fig. †*A. jurensis*; AEBERHARDT (1) p. 442. *A. lincki*; NORDGAARD (230) p. 160: vide etiam sub *Asteracanthion*. *A. littoralis*; CLARK (55) p. 4. *A. muelleri*; NORDGAARD (230) pp. 160, 235; SCHMIDT (291) p. 18. *A. rubens*; BOLAU (36); HØRRING (142) pp. 185, 188; KEMP (152) pp. 180, 192; NOBRE (228) p. 82; NORDGAARD (230) pp. 160, 232, 235; PETERSEN (253): vide etiam sub *Uraster*. †*A. stellionura*, determined by A. E. VERRILL; SEARS (297) pp. 369, 370. *A. tenera*; CLARK (55) p. 4. *A. volsellata*; BELL (26) p. 252. *A. vulgaris*; CLARK (55) p. 4; GARREY (108); SCHMITT (292) p. 246.
- Asterina cepheus* juv.; LUDWIG (197) p. 157. *A. coccinea*; BELL (26) p. 248. *A. fimbriata*, distrib., young; LUDWIG (199) p. 59, pls. v, vi. *A. gibbosa*; KEMP (152) p. 179; NOBRE (228) p. 82, & (229) p. 133.
- Asterodon grayi*, vide *Odontaster penicillatus*. *A. pedicellaris*, vide *Odontaster grayi*. *A. singularis*; LUDWIG (199) p. 40, pl. v.
- Astrogonium* Perrier non Müller & Troschel, syn. of *Pararchaster*; FISHER (92) p. 303. *A. boreale* Barrett, vide *Pentagonaster*.
- Astropectinidae* n. g., see *Parastropecten*.
- Astropecten* rediagnosed; SPENCER (305) p. 90. †*A.* sp.; BENECKE (29) pp. 75, 451: Upper Greensand; SPENCER (305) p. 90, pl. xxv. *A. aurantiacus*; PIETSCHMANN (256): vide etiam sub *Asterias*. *A. benthophilus* n. sp., Cocos Id., 1408 m.; LUDWIG (197) p. 69, pl. iv. *A. capensis*; BELL (26) p. 244. *A. exiguus* n. sp., G. of Panama, 232-2136? m.; LUDWIG (197) p. 72, pls. iv, xxii. *A. irregularis*; KEMP (152) pp. 179, 188, 205; NOBRE (229) p. 132; NORDGAARD (230) p. 160. *A. muelleri*; SCHMIDT (291) p. 21. *A. pentacanthus*; PIETSCHMANN (256). *A. polyacanthus*; LUDWIG (197) p. 76. *A. pontoporaeus*; BELL (26) p. 243. *A. subinermis*; NOBRE (229) p. 133. *A. sulcatus* n. sp., C. San Francisco and Cocos Id., 95-121 m.; LUDWIG (197) p. 64, pl. iv. †*A. wilckensis* [sic] n. sp., Cretaceous, Cerro Cazador, Patagonia; LORIOI (195) p. 141, pl. x.
- Bathybiaster pallidus*; SCHMIDT (291) p. 20. *B. pectinatus* n. sp., off San Diego, Cal., 1,059 fm.; FISHER (92) p. 295, no fig.
- Benthopecten acanthonotus* n. sp., off San Diego, Cal., 1059 fm.; FISHER (92) p. 299, no fig.
- Brisenga* sp.; KEMP (152) p. 192. *B. coronata*; l. c. and p. 205; NORDGAARD (230) pp. 160, 241. *B. endecacnemus*; KEMP (152) p. 192. *B. exilis* n. sp., off San Diego, Cal., 620 fm.; FISHER (92) p. 318, no fig. *B. panamensis* n. sp., Cocos Id., Galapagos, G. of Panama, G. of California, 1820-2418 m. (p. 258, pls. xxviii, xxxii), *B. tenella* n. sp., Galapagos, 2418 m. (p. 255), *B. variispina* n. sp., Paumotu Is., 1470 m. (p. 249); LUDWIG (197).
- Calliaster baccatus*; BELL (26) p. 247.
- †*Calliderma mosacum*; SPENCER (305) pl. xxvi.
- Cheiraster agassizii* n. sp., G. of Panama, Galapagos Is., and G. of California, 1271-2323 m.; LUDWIG (197) p. 1, pls. i, ii, xvi.
- †*Comptonia* rediagnosed and *C. comptoni*, redescr. (p. 69, pls. xvii, xviii), *C. elegans*, redescr. from neotype (p. 71, pl. xvii); SPENCER (305).
- Cosmasterias lurida*, distrib.; LUDWIG (199) p. 69.
- Cribrella gracilis* n. sp., Tres Marias Id., C. Corrientes Mexico, and Galapagos, 267-1244 m.; LUDWIG (197) p. 204, pls. xiii, xxx, xxxi.



- C. pagenstecheri*, distrib., notes; LUDWIG (199) p. 68. *C. pectinata*; CLARK (55) p. 3. *C. nana* n. sp., Galapagos, 97 m.; LUDWIG (197) p. 207, pls. xiii, xxxi. *C. sanguinolenta*; CLARK (55) p. 3: HØRRING (142) pp. 185, 188: NORDGAARD (230) p. 160: SCHMIDT (291) pp. 19, 20: vide etiam sub *Henricia*.
- Crossaster papposus*; CLARK (55) p. 2: SCHMITT (292) p. 246: vide etiam sub *Solaster*.
- Cryptopeltaster* n. g. of *Goniasteridae Hippasteriinae*, with genotype *C. lepidonotus* n. sp., off Sta. Cruz Id. Cal., 197–284 fm.; FISHER (92) p. 311, no fig.
- Ctenodiscus crispatus*; CLARK (55) p. 1: NORDGAARD (230) pp. 160, 235, 241: SCHMIDT (291) pp. 18, 19: incl. *C. procurator* Slad. and *C. corniculatus* Michailovskij, distinct fr. *C. australis*; LUDWIG (197) p. 164, pl. vi.
- Culcita novae-guineae*; LUDWIG (197) p. 156. *C. veneris*; BELL (26) p. 248.
- Cycethra verrucosa*; HODGSON (141): incl. *C. nitida*, *C. simplex*, resemblance of young to *Asterina*; LUDWIG (199) p. 53, pl. vi.
- Dipsacaster eximius* n. sp., Los Coronados Is., S.W. Cal., 525 fm.; FISHER (92) p. 296, no fig.: *D. sladeni*, parasitic cirripede; LE ROI (182).
- Dytaster demonstrans* n. sp., G. of Panama, 2418–4082 m.; LUDWIG (197) p. 41, pls. v, xviii, xix, xx. *D. gilberti* n. sp., off San Diego, Cal., 2196–2228 fm.; FISHER (92) p. 300, no fig.
- Echinaster* sp.; BELL (26) p. 252. *E. fallax*, parasitic cirripede; LE ROI (182).
- Echinasteridae* n. g. see *Alexandra*ster.
- Eremicaster* n. s.-g. of *Porcellanaster*, with genotype *P. tenebrarius* (q.v.); FISHER (92) p. 293.
- Freyella* sp. nondescr. aff. *F. elegans*; SCHMIDT (291) p. 24. *F. fecunda* n. sp., Monterey Bay, Cal., 958 fm.; FISHER (92) p. 319, no fig. *F. insignis* n. sp., G. of Panama, Acapulco, 3182–3436 m. (p. 272, pl. xxxii), *F. pacifica* n. sp., Paumotu Is., 1485 m. (p. 267), *F. propinqua* n. sp., G. of Panama, 2877 m. (p. 280); LUDWIG (197).
- Ganeriidae*, i.e. *Ganeria*, *Cycethra*, *Lebrunaster*, *Radiaster*, not to be separated from *Asterinidae*; LUDWIG (199) p. 59.
- Gnathaster pilulatus*, vide *Odontaster penicillatus*.
- Goniaster acutus* Heller; GRIEG (121) p. 3. *G. nidarosiensis*, vide *Peltaster*. *G. phrygianus*; SCHMIDT (291) p. 21. *G. placentaeformis* Heller; GRIEG (121) p. 3.
- Goniasteridae* n. g. *Cryptopeltaster* (q.v.); FISHER (92).
- Gymnasteria carinifera*, added notes; LUDWIG (197) p. 156, pl. xii.
- Henricia ornata* incl. *H. simplex* (Slad.); BELL (26) p. 250. *H. sanguinolenta*; KEMP (152) pp. 179, 191, 205: NOBRE (229) p. 133: vide etiam sub *Cribrella*.
- Hippasteria* (seu *-ias*) *californica* n. sp., off Sta. Cruz Id., Cal., 506–680 fm. (p. 310, no fig.), *H. heathi* n. sp., Clarence Str., Alaska, 206–248 fm. (p. 309, no fig.); FISHER (92). *H. pacifica* n. sp., Las Tres Marias Id., 1244 m.; LUDWIG (197) p. 138, pls. xii, xxiii. *H. phrygiana*; CLARK (55) p. 1: GRIEG (121) p. 4: NORDGAARD (230) pp. 160, 235.
- Hydrasterias* (?) sp., arms of an undescribed sp., Galapagos (p. 246, pl. xxxv), *H. diomedea* n. sp., G. of Panama, Cocos Id., 121–155 m. (p. 242, pls. xxxiv, xxxv); LUDWIG (197).
- Hymenaster* sp.; BELL (26) p. 250: LUDWIG (197) p. 202. *H. gracilis* n. sp., G. of Panama, Galapagos, 2418–3241 m.; op. cit. p. 198, pls. xv, xxxv. *H. pellucidus*; SCHMIDT (291) p. 20. *H. platycanthus* n. sp., Galapagos, G. of Panama, 2487–2877 m. (p. 191, pl. xxxv), *H. purpureus* n. sp., G. of Panama, 2690 m. (p. 194); LUDWIG (197). *H. quadrispinosus* n. sp., off San Diego, Cal., 1059 fm.; FISHER (92)

- p. 315, no fig. *H. violaceus* n. sp., Acapulco, 3436 m.; LUDWIG (197) p. 196.
- Hyphalaster moseri* n. sp., N. of Marquesas, 4504 m.; LUDWIG (197) p. 100, pl. vii.
- Isaster* Verrill, perhaps to be used for s.-g. of *Mediaster*; FISHER (92) p. 308.
- Labidiaster radiosus*, distrib., arm-skeleton; LUDWIG (199) p. 71.
- Leptoptychaster arcticus*; NORDGAARD (230) p. 160. *L. kerguelensis*; BELL (26) p. 242.
- Linckia miliaris* (p. 157), *L. multifora* & *L. pacifica* var. *diplax* (p. 158); LUDWIG (197).
- Lophaster furcilliger* n. sp., between Sta. Barbara & San Nicholas Is., Cal., 1084-1100 fm.; FISHER (92) p. 312, no fig.
- Luidia africana*; BELL (26) p. 245. *L. armata* n. sp., Cocos Id. & G. of Panama, 95-155 m.; LUDWIG (197) p. 85. *L. ciliaris*; KEMP (152) p. 189. *L. ferruginea* n. sp., G. of Panama, 280 m.; LUDWIG (197) p. 80. *L. sarsi*; KEMP (152) pp. 189, 205.
- Mediaster* referred to *Pentagonasteridae* (p. 106), *M. elegans* n. sp., Cocos Id., 1789 m. (p. 125, pls. ix, xxiv): n. var. *abyssi*, Malpelo Id., 3334 m. (p. 128); LUDWIG (197). *M. tenellus* n. sp., off Sta. Cruz Id., Cal., 376-510 fm., perhaps in s.-g. *Isaster*; FISHER (92) p. 307, no fig.
- M. transfuga* n. sp., Acapulco, 902 m.; LUDWIG (197) p. 120, pls. viii, xxii, xxv.
- †*Metopaster*:—*M. mantelli*; SPENCER (305) pl. xvii. *M. parkinsoni*; op. cit. pl. xix; WHITE (338) pp. 472, 487.
- Mimaster swifti* n. sp., Stephen's Passage, Alaska, 131-188 fm.; FISHER (92) p. 301, no fig. *M. tizardi*; SCHMIDT (291) p. 22.
- Mithrodia clavigera*, anat. notes; LUDWIG (197) p. 215.
- †*Mitraster compactus*, redescr.; SPENCER (305) p. 67, pls. xvii, xxvi.
- Myxoderma* n. s.-g. of *Zoroaster*, with genotype *Z. sacculatus* (q.v.); FISHER (92) p. 316.
- Neomorphaster talismani*, 5413 m.; RICHARD (276) p. 3: ALBERT (9).
- Nymphaster* referred to *Pentagonasteridae*; LUDWIG (197) p. 106. †*N. coombii*; SPENCER (305) pl. xix. *N. diomedea* n. sp., Galapagos, Cocos Id., Mariato Pt., 702-1618 m.; LUDWIG (197) p. 128, pls. x, xi.
- †*N. radiatus* n. sp., Lower Chalk, England; SPENCER (305) p. 73, pl. xxv. *N. subspinosus*; KEMP (152) p. 189.
- Odontaster*, connotation discussed; LUDWIG (199) p. 42. *O. crassus* n. sp., off San Diego, Cal., 92 fm.; FISHER (92) p. 302, no fig. *O. grayi* (Bell) incl. *Pentagonaster paxillosus* Bell, *Asterodon pedicellaris* Perr., distrib., young; LUDWIG (199) pp. 42, 48, pl. v. *O. meridionalis*, vide *O. penicillatus*. *O. penicillatus* incl. *Gnathaster pilulatus* Slad., *Asterodon grayi* Perr., *Odontaster meridionalis* Leip., distrib., young; LUDWIG (199) pp. 42, 46, pl. v.
- Ophidiaster cylindricus*; LUDWIG (197) p. 158.
- Oreaster*, vide *Pentaceros*. †*O. bulbiferus*; WHITE (338) p. 476.
- Palmipes membranaceus*; PIETSCHMANN (256). *P. novemradiatus* n. sp., holotype from C. Natal, 48 fm., 3 paratypes other locc.; BELL (26) p. 248. *P. placenta*; KEMP (152) p. 190.
- Pararchaster cognatus* n. sp., 3058 m., G. of Panama; LUDWIG (197) p. 21, pl. xix. *P.* sp. nondescr. aff. *P. fischeri*; SCHMIDT (291) p. 24.
- P. pectinifer* n. sp., 1618 m., Galapagos Is. (p. 10) young (p. 16) (pls. i, xvi, xvii, xviii), *P. spinuliger* n. sp., 1618-2323 m., G. of Panama, Cocos & Galapagos Is. (p. 23, pl. xix); LUDWIG (197).
- Parastropecten* n. g. of *Astropectinidae* with genotype *P. inermis* n. sp., G. of Panama & Cocos Id., 1271-1408 m.; LUDWIG (197) p. 76, pls. iv, xxi, xxii.
- Paulia horrida* redescr., with n. var. *galapagensis*; LUDWIG (197) p. 143, pls. xiii, xxiv, xxv.

- Pauliella* n. g. of *Pentacerotidae* with genotype *P. aenigma* n. sp., Cocos Id., 121 m., perhaps is young of *Paulia horrida*; LUDWIG (197) p. 151, pls. xii, xxiii, xxiv, xxv, xxvi.
- Pedicellaster improvisus* n. sp., Galapagos & Cocos Id., 1618-2419 m.; LUDWIG (197) p. 216, pl. xxxv. *P. typicus*; NORDGAARD (230) p. 160.
- Peltaster hebes* Verrill is syn. of *P. nidarosiensis* (Storm sub *Goniaster*) redescr. and figd., which thus becomes genotype; GRIEG (121) p. 5.
- †*Pentaceros* rediagnosed, incl. *Oreaster* (q.v.) (p. 76), *P. sp.*, Chalk (p. 89, pl. xxv), *P. abbreviatus* n. sp., Upper Chalk, Charlton, Kent (p. 86, pl. xxiv), *P. bispinosus* n. sp., Upper Chalk, Sittingbourne, Kent (p. 87, pl. xxiii), *P. boysii*, redescr., probably incl. *P. senonensis*, Valette (p. 80, pls. xxii, xxiii, xxvi), *P. bulbiferus*, redescr. (p. 77, pls. xx, xxi, xxiii), *P. coronatus*, redescr. (p. 82, pls. xix, xxiv, xxv), *P. ocellatus*, redescr. (p. 85, pl. xxv), *P. pistilliferus*, discussed (p. 88, pl. xxv), *P. punctatus* n. sp., Upper Chalk, England (p. 88, pl. xxvi), *P. squamatus*, redescr. (p. 83, pl. xxv); SPENCER (305).
- Pentacerotidae* n. g. see *Pauliella*.
- Pentagonaster* :—†*P. browni* n. sp., Cretaceous, Fox Hills Sandstone, near Lander, Wyoming; WELLER (334) text-figg. *P. ernesti* n. sp., Cocos Id., 2149 m. leads to *Nymphaster*; LUDWIG (197) p. 136, pl. x. *P. granularis*; KEMP (152) p. 189; NORDGAARD (230) p. 160: incl. *Astrogonium boreale* Barrett, measurements, variations, pedicellariae, spines; GRIEG (122). †*P. megaloplax*; WHITE (338) pp. 470, 472, 476. *P. nidarosiensis*; SCHMIDT (291) p. 22: vide etiam sub *Peltaster*. †*P. obtusus*, redescr.; SPENCER (305) p. 74, pl. xxii. *P. pavillosus*, vide *Odontaster grayi*. *P. placenta*; GRIEG (121) p. 4. †*P. robustus* n. sp., Upper Chalk, Sussex; SPENCER (305) p. 73, pl. xxi. *P. tuberculatus*; BELL (26) p. 246.
- Peribolaster biserialis* n. sp., between Sta. Catalina and Sta. Barbara Is., Cal., 178-195 fm.; FISHER (92) p. 313, no fig.
- Perknaster* "only an aberrant *Echinaster*"; BELL (26) p. 253.
- Persephonaster armiger* n. sp., E. of Cocos Id., 1951 m.; LUDWIG (197) p. 36, no fig. *P. penicillatus* n. sp., off Los Coronados Is. S.W. Cal. 530-638 fm.; FISHER (92) p. 297, no fig.
- Plutonaster abyssicola* n. sp., G. of Panama, 1865-3058 m.; LUDWIG (197) p. 30, pls. iii, xix. *P. bifrons*; KEMP (152) p. 188. *P. pareli*; l. c. & pp. 183, 205; NORDGAARD (230) p. 160.
- Pontaster*, syn. of *Cheiraster*; LUDWIG (197) pp. 1, 8. *P. tenuispinis*; KEMP (152) pp. 187, 205; NORDGAARD (230) p. 160; SCHMIDT (291) p. 20.
- Porania antarctica*; LUDWIG (199) p. 51, pl. vi. *P. pulvillus*; KEMP; (152) p. 189.
- Poraniomorpha rocea* [sic]; NORDGAARD (230) p. 160.
- Porcellanaster pacificus* n. sp., G. of Panama, Cocos Id., Acapulco, Mulpelo Id., 2070-3436 m.; LUDWIG (197) p. 89, pl. vi. *P. (Eremicaster) tenebrarius* n. sp., 200 miles off San Diego, Cal., 2196-2228 fm.; FISHER (92) p. 293, no fig. *P. waltharii* n. sp., G. of Panama, Galapagos and Acapulco, 2418-4082 m.; LUDWIG (197) p. 92, pl. v.
- Porcellanasteridae* n.g., see *Albatrossia*. n. s.g. of *Porcellanaster*, see *Eremicaster*.
- Pseudarchaster* referred to *Pentagonasteridae*; LUDWIG (197) p. 106. *P. alascensis* n. sp., near Yes Bay, Behm Canal, Alaska, 147-205 fm.; FISHER (92) p. 303, no fig. *P. mosaicus* (p. 110), *P. pectinifer* n. sp., G. of Panama, 1865 m. (p. 106, p. vii), *P. pulcher* n. sp., Galapagos and Acapulco, 702-1618 m. (p. 110, pls. viii, xxii); LUDWIG (197). *P. pusillus* n. sp., between Sta. Barbara and San Nicholas Is., Cal., 216-339 fm.; FISHER (92) p. 304, no fig. *P. tessellatus*; BELL (26) p. 242. *P. verrilli* n. sp., G. of Panama, 998 m.; LUDWIG (197) p. 116, pls. vii, xxiii.

- Psilaster acuminatus*; BELL (26) p. 245. *P. andromeda*; KEMP (152) p. 188; NORDGAARD (230) pp. 160, 235, 241. *P. armatus* n. sp., S. of Las Tres Marias Id., 1236 m. (p. 59, pls. xxi, xxii), *P. sladeni* n. sp., Galapagos Is., 1618 m. (p. 57, no fig.); LUDWIG (197).
- Pteraster* sp. non descr. aff. *P. caribaeus*; SCHMIDT (291) p. 24. *P. jordani* n. sp., off San Diego, Cal., 642-650 fm.; FISHER (92) p. 314, no fig. *P. militaris*; CLARK (55) p. 2; NORDGAARD (230) pp. 160, 240. *P. pulvillus*; CLARK (55) p. 2; NORDGAARD (230) p. 160.
- Retaster capensis*; BELL (26) p. 250. *R. diaphanus* n. sp., Cocos Id., 1408 m.; LUDWIG (197) p. 202. *R. gibber*, added notes and corrections; LUDWIG (199) p. 65, pl. vi. *R. multipes*; SCHMIDT (291) p. 22.
- Sarkaster* n. g. of *Solasteridae*, with genotype *S. validus* n. sp., G. of Panama, Galapagos, Tres Marias Id., 523-1244 m.; LUDWIG (197) p. 185, pls. xv, xxix, xxx.
- Solaster affinis*; KEMP (152) pp. 183, 191. *S. australis* (Perr. sub *Crossaster*), small individual; LUDWIG (199) p. 63. *S. sp.* non descr. aff. *S. earlii*; SCHMIDT (291) p. 22. *S. endeca*; CLARK (55) p. 1; HØRRING (142) p. 188; NORDGAARD (230) p. 160; SCHMIDT (292) p. 246. *S. glacialis* Dan. & Kor., incl. *S. echinatus* Storm & *S. syrtensis* Verrill; GRIEG (122) p. 4. *S. papposa*; COLGAN (61) p. 212; NORDGAARD (230) pp. 160, 235; SCHMIDT (291) p. 20. *S. penicillatus*; BELL (26) p. 249. *S. syrtensis*; NORDGAARD (230) pp. 160, 235.
- Solasteridae*, n. g. see *Sarkaster*.
- Sporasterias antarctica*, distrib.; LUDWIG (199) p. 70. *S. cocosana* n. sp., Cocos Id., 245 m. (p. 235, pls. xxxiii, xxxiv), *S. galapagensis* n. sp., S. of Chatham Id., 704 m. (p. 240, pl. xxxiv), *S. mariana* n. sp., Las Tres Marias Id., 1244 m. (p. 231, pl. xxxiii); LUDWIG (197).
- †*Stellaster coombii*, distinction from *Asterias quinqueloba*; WEGNER (333) pp. 123, 149.
- Stichaster albulus*; CLARK (55) p. 3. *S. felipes*; BELL (26) p. 249. *S. roseus*; NORDGAARD (230) p. 160; KEMP (152) pp. 190, 205.
- Stolasterias alexandri* n. sp., G. of Panama, 95-384 m. (p. 221, pl. xxxii), *S. robusta* n. sp., Galapagos, 704 m. (p. 228); LUDWIG (197).
- Tosia leptocerama* n. sp., off Point Loma, near San Diego, Cal., 376-594 fm.; FISHER (92) p. 306, no fig.
- Uraster rubens*; COLGAN (61) p. 212; vide etiam sub *Asterias*.
- Zoroaster* sp. juv., G. of Panama; LUDWIG (197) p. 177, pl. xxvii.
- Z. (Myxoderma) evermanni* n. sp., between San Diego and San Clemente Is., Cal., 500-507 fm.; FISHER (92) p. 317, no fig. *Z. fulgens*; SCHMIDT (291) p. 22. *Z. hirsutus* n. sp., Acapulco, 3436 m. (p. 172, pls. xxviii, xxix). *Z. longispinus* n. sp., G. of California, Galapagos, G. of Panama, 1430-2418 m. (p. 180, pls. xiv, xxix), *Z. magnificus* n. sp., Mariato Pt., 3058 m. (p. 159, pls. xxvi, xxvii), *Z. nudus* n. sp., G. of California, 1820-2599 m. (p. 164, pls. xiv, xxvii, xxviii); LUDWIG (197). *Z. ophiurus* n. sp., off San Diego, Cal., 1059 fm. (p. 315, no fig.), *Z. (Myxoderma) sacculatus* n. sp., Monterey Bay, Cal., 916 fm. (p. 316, no fig.); FISHER (92).
- Zoroasteridae*, n. s.-g. *Myxoderma* (q. v.); FISHER (92).

## (E.)—OPHIUROIDEA.

- Amphilepis norvegica*; NORDGAARD (230) pp. 159, 241. *A. sp.* nondescr. aff. *A. norvegica*; SCHMIDT (291) p. 23.
- Amphiodia*, vide sub *Amphiura*.
- Amphioplus* (vide etiam sub *Amphiura*):—*A. abdita*; CLARK (55) p. 6.
- Amphipholis squamata*; CLARK (55) p. 6.

- Amphiura abbreviata* n. sp., Banda, Sulu, and Java Seas, 13-33 m. (p. 34, pl. iv), *A. ambigua* n. sp., Sulu Archipel, 13 m. (p. 39, pl. iv), *A. (Amphioplus) capax* n. sp., Banda Sea, 18 m., young (p. 50, pl. vi), *A. (Amphioplus) causata* n. sp., Borneo Bank and Gilolo Passage, 59-83 m. (p. 49, pl. v), *A. celata* n. sp., Amboina reefs (p. 35, pl. iv), *A. (Amphioplus) cesarea* n. sp., Banda and Java Seas, 27-91 m. (p. 44, pl. v), *A. coacta* n. sp., off Kei Is., Banda Sea, 22 m. (p. 33, pl. iv), *A. (Amphioplus) condita* n. sp., Pulu Kaniungan Ketjil [Siboga Stat. 89], 11 m. (p. 46, pl. v), *A. depressa*, note on holotype (p. 46), *A. duncani* (p. 33); KOEHLER (160). *A. elegans*; KEMP (152) pp. 181, 195; NOBRE (229) p. 133. *A. (Amphioplus) exsecrata* n. sp., Amboina reefs; KOEHLER (160) p. 48, pl. iii. *A. filiformis*; HERRING (142) p. 189; KEMP (152) pp. 181, 195. *A. (Amphioplus) formata* n. sp., Lesser Sunda Is. (p. 51, pls. v, xvi), *A. hastata*, redescr. (p. 42, pl. v); KOEHLER (160). *A. incana?*; BELL (25) p. 258. *A. instans* n. sp., Banda Sea, 57 m. (p. 38, pl. iii), *A. (Amphioplus) intermedia* n. sp., off E. Java and E. Borneo, 9-59 m. (p. 42, pl. iv), *A. laevis* (p. 41); KOEHLER (160). *A. magellanica*; LUDWIG (199) p. 75. *A. morosa* n. sp., Gilolo Passage, 18 m.; KOEHLER (160) p. 37, pl. iii. *A. patagonica*, viviparous; LUDWIG (199) p. 75. *A. perita* n. sp., Solor Str. E. of Flores, 113 m. (p. 36, pl. iii), *A. (Amphioplus) personata* n. sp., W. Flores (p. 47, pl. v), *A. (Amphioplus) praestans* n. sp., var. locc., Malay Archipel, 32-51 m. (p. 45, pl. iv), *A. (Amphioplus) reflecta* n. sp., Sula Besi, 22 m. (p. 52, pl. vi), *A. relicta* (p. 41), note on cotypes (p. 46), *A. (Amphiodia) reposita* n. sp., Pulu Kaniungan Ketjil [Siboga Stat. 89], 11 m. (p. 40, pl. iv); KOEHLER (160). *A. squamata*; BATHER (21) p. 165; PUETTER (263) p. 23. *A. tenuispina*; SCHMIDT (291) p. 23.
- Astrochalcis* n. g. of *Euryalidae* (p. 129), with genotype *A. tuberculosus* n. sp., var. locc., Malay Archipel, 13-73 m. (p. 130, pl. xvi); KOEHLER (160).
- Astrophyton agassizi*; SCHMITT (292) p. 247. *A. cornutum* (Koehl. sub *Gorgonocephalus*) adult descr. (p. 127, pls. xiii, xviii), *A. elegans* n. sp., Solor Str., E. of Flores, 113 m. (p. 123, pls. xiii, xviii), *A. gracile* n. sp., Lesser Sunda Is., 73 m. (p. 125, pl. xvii); KOEHLER (160).
- Astro[s]chema rousseaui*; KOEHLER (160) p. 123.
- † *Bundenbachia*; BATHER (21) p. 164.
- Euryale studeri*, incl. "*E. aspera*" Koehl. of Investigator; KOEHLER (160) p. 132.
- Euryalidae*, n. g. see *Astrochalcis*.
- Gorgonocephalus agassizii*; CLARK (55) p. 7. *G. eucnemis*; SCHMIDT (291) p. 20. *G. lamarcki*; NORDGAARD (230) p. 160. *G. pourtalesi* (p. 259), *G. verrucosus* (p. 260); BELL (25).
- † *Lapworthuridae*, n. g. vide *Sympterura*.
- Ophiacantha abyssicola*; KEMP (152) pp. 195, 183; NORDGAARD (230) p. 159. *O. audax* n. sp., Java Sea, 69 m.; KOEHLER (160) p. 57, pl. vii. *O. bidentata*; CLARK (55) p. 7; NORDGAARD (230) p. 159; SCHMIDT (291) p. 24. *O. confusa* n. sp., S. of Philippines, 36 m. (p. 59, pls. vi, vii). *O. dallasii* (p. 55); KOEHLER (160). *O. decora*, vide *O. indica*. *O. (Ophiopristis) dissidens* n. sp., Pulu Kaniungan Ketjil [Siboga Stat. 89] 11 m. (p. 56, pl. vii), *O. indica*, incl. *O. decora* Koehl. (p. 56); KOEHLER (160). *O. spectabilis*, distrib., habitat; NORDGAARD (230) pp. 159, 239, 240. *O. spinulosa*; HØRRING (142) p. 185; PUETTER (263) p. 23. *O. suspecta* n. sp., Java Sea, 69 m.; KOEHLER (160) p. 58, pl. vii. *O. valenciennesi*; KOEHLER (159).
- Ophiactis abyssicola*; SCHMIDT (291) pp. 23, 24. *O. affinis* with 5 brachial spines; KOEHLER (160) p. 26. *O. asperula*, distrib.; LUDWIG (199) p. 74. *O. balli*; KEMP (152) pp. 195, 205. *O. conferta* n. sp., Gilolo

- Passage, 18 m. (p. 25, pl. iii), *O. savignyi*, 5 & 6 rays, variations, synonymy discussed, incl. *O. sexradia*, *incisa*, *reinhardti*, *krebsi* (p. 26); KOEHLER (160).
- Ophiarachna inersata*; KOEHLER (160) p. 64.
- Ophiarthrum elegans* (p. 73), *O. pictum* (p. 72); KOEHLER (160).
- Ophiobyrsa hystericis*; KEMP (152) p. 196.
- Ophiocampsis inermis* n. sp., Kei Is. and Banda, 9–36 m.; KOEHLER (160) p. 115, pl. xiii.
- Ophiochiton ternispinis*, not British; KEMP (152) p. 194.
- Ophiocnemis marmorata*; KOEHLER (160) p. 112.
- Ophiocnida aspera* n. sp., Borneo Bank and S. of Philippines, 34 m.; KOEHLER (160) p. 29, pl. ii. *O. brachiata*; KEMP (152) p. 180. *O. dilatata* n. sp., Sulu Archipel. and Banda Sea, 12–45 m. (p. 30, pl. xii), *O. echinata*, added notes, autotomy of disc (p. 32), *O. sexradia* belongs to section *Amphilitimna* Verrill (p. 33), *O. verticillata*, variations from type, differences from *O. putmanni* [*putnami*] Lym. (p. 29, pl. ii); KOEHLER (160).
- Ophiocoma brevipes* (p. 61), *O. doederleini* (p. 60), *O. lineolata* (p. 62); KOEHLER (160). *O. nigra*; KEMP (152) pp. 181, 195. *O. rosula*; COLGAN (61) p. 212. *O. scolopendrina* et var. *erinaceus* (p. 60), *O. wendtii*, redescr. (p. 63, pl. xiv); KOEHLER (160).
- Ophiocoris cincta*, variation from type, structure of teeth (p. 14, pl. ii), *O. cupida* n. sp., var. locc. Sulu Archipel., 13–45 m. (p. 15, pl. i), *O. permixta* n. sp., Buton Str. S. of Celebes, and Kei Is. Banda Sea, 75–94 m. (p. 14, pl. ii); KOEHLER (160).
- Ophiocten sericeum*; NORDGAARD (230) p. 159: SCHMIDT (291) pp. 20, 23, 24.
- Ophiodera compacta* n. sp., Pulu Kaniungan Ketjil [Siboga Stat. 89], 11 m.; KOEHLER (160) p. 120, pl. xiv.
- Ophioderma longicauda*; BAGLIONI (12c): NOBRE (229) p. 134. *O. wahlbergi*, distrib.; BELL (25) p. 255.
- Ophioglypha* (vide etiam sub *Ophiura*):—*O. affinis*; CLARK (55) p. 5. *O. albida*; HØRRING (142) pp. 185, 186, 188. *O. bullata*, *O. clemens*, and *O. flagellata*; KOEHLER (159). *O. forbesi*, variations from type, relations to *Ophiomusium*; KOEHLER (160) p. 22. *O. inornata*; KOEHLER (159). *O. kinbergi*, incl. *O. sinensis*, variations, holotype descr.; KOEHLER (160) p. 22. *O. lacertosa*; ZELENY (349 & 350). *O. lepida* var. *saurura*; SCHMIDT (291) p. 24. *O. lymani*, variations in radial shields, &c.; LUDWIG (199) p. 73. *O. robusta*; CLARK (55) p. 5. *O. sarsi*; op. cit. p. 6: SCHMIDT (291) p. 18: †NORDMANN (231). *O. scabra* n. sp., Kei Is. in Banda Sea, 90 m. (p. 20, pl. ii), *O. sculpta* (p. 22), *O. stellata* (p. 21); KOEHLER (160). *O. texturata*; HØRRING (142), pp. 185, 188. *O. tumulosa*; LUDWIG (198).
- Ophioglyptis* n. g. of *Ophiomyxidae*, with genotype *O. nodosa* n. sp., Banda Sea, E. of Flores, and Lesser Sunda Is., 73–113 m.; KOEHLER (160) p. 121, pl. xii. [†err. typ. pro *Ophioglyptis*.]
- Ophiolepis annulosa* (p. 17), *O. cincta* (p. 16), *O. irregularis*, added notes (p. 17, pl. iii), *O. nodosa* (p. 18), *O. rugosa* (p. 18); KOEHLER (160).
- Ophiomastix annulosa* (p. 65), *O. asperula*, note on cotypes (p. 66, pl. vi), *O. caryophyllata*, variations (p. 67), *O. flaccida* (p. 67), *O. mixta*, redescr. from cotypes and others (p. 68, pls. vi, xv), *O. ornata* n. sp., Borneo Bank, 34 m. (p. 71, pl. vi), *O. pusilla*, with young stage (p. 65, pls. vi, xiii), *O. variabilis* n. sp., Timor, Sulu Archipel., and Java Sea, 12–32 m. (p. 69, pls. vi, xvi); KOEHLER (160).
- Ophiomaza cacaotica*, colour; KOEHLER (160) p. 111.
- Ophiomusium lymani*, locality discussed; KEMP (152) p. 194: SCHMIDT (291) p. 24.
- Ophiomyxa brevispina*, notes, and *O. irregularis* n. sp., based on *O.*

- brevispina* var. *irregularis* Koehl., 1898; KOEHLER (160) p. 119, pl. xii.  
*O. vivipara*; LUDWIG (199) p. 76.
- Ophiomyridae* n. g., see *Ophiogypsis*.
- Ophionereis porrecta*, young (p. 53), *O. semoni* (Doed. sub *Ophiotriton*) (p. 54, pls. vi, xiv), *O. sophiae*, note on a cotype (p. 54, pl. vi); KOEHLER (160).
- Ophionotus victoricae*; HODGSON (141).
- Ophiopeza aster*, variations from type (p. 13), *O. conjungens*, differences of age (p. 12), *O. exilis* n. sp., Flores and Banda Seas, Gilolo Passage, 83-400 m. (p. 12, pl. ii); KOEHLER (160).
- Ophiopezella luetkeni*; KOEHLER (160) p. 13.
- Ophiopholis aculeata*; CLARK (55) p. 6; HØRRING (142) pp. 185, 186, 188, 193; KEMP (152) pp. 195, 205; NORDGAARD (230) p. 159; SCHMIDT (291); SCHMITT (292) p. 246. *O. bellis*; GRIFFITHS (123).
- Ophiopleura borealis*; SCHMIDT (291) p. 20.
- Ophioplocus imbricatus*; KOEHLER (160) p. 18.
- Ophiopristis*, vide sub *Ophiacantha*.
- Ophiopsammium rugosum* n. sp., Aru Is. and Red Sea, 13 m. (p. 116, pl. xiii), *O. semperi*, colour (p. 116); KOEHLER (160).
- Ophiopsila annulosa*, distinguished from *O. aranea*, found at Galway, Plymouth, Dartmouth; NORMAN (233). *O. pantherina*; KOEHLER (160) p. 53.
- Ophiopteron elegans* (p. 112), *O. puncto-coeruleum* n. sp., Flores, Aru, and Rotti, 13-40 m. (p. 114, pls. xii, xv), *O. sibogae* n. sp., Lesser Sunda Is., 73 m. (p. 113, pl. xii); KOEHLER (160).
- Ophiosclex dentatus*; BELL (25) p. 259. *O. glacialis*; SCHMIDT (291) p. 20; NORDGAARD (230) pp. 159, 240, 241; *O. purpureus*; op. cit. pp. 160, 240.
- Ophiosteira antarctica*; HODGSON (141).
- Ophiostigma formosa*, variations from type, holotype descr., young stage; KOEHLER (160) p. 24, pl. ii.
- Ophiothamnus remotus*; BELL (25) p. 258.
- Ophiothela danae*, incl. *O. isidicola*, var. *involuta* given up; KOEHLER (160) p. 117.
- Ophiothrix andersoni*, length of rays, colour; KOEHLER (160) p. 82, pl. xiv.  
*O. aristulata*; BELL (25) p. 258. *O. armata* n. sp., Banda (p. 103, pl. x), *O. bedoti* (p. 83), *O. coronata* n. sp., Gilolo Passage, 83 m. (p. 91, pl. ix), *O. demessa*, added notes (p. 91, pl. ix), *O. diligens* (p. 100), *O. exhibita* n. sp., Lesser Sunda Is., 274 m. (p. 110, pl. x), *O. exigua*, holotype descr., incl. "*O. comata*" Marktanner and de Loriol (p. 86, pl. ix), *O. expedita* n. sp., various locc. Malay Archipel., 12-73 m. (p. 96, pls. ix, xv), *O. foveolata*, incl. *O. insidiosa* Koehl. (p. 76); KOEHLER (160). *O. fragilis*; KEMP (152) pp. 181, 196, 206; NOBRE (228) p. 82; NORDGAARD (230) p. 159. *O. fulgens* n. sp., Banda and Java Seas, 36-90 m. (p. 107, pl. x), *O. galathea* (p. 84), *O. hirsuta*, incl. *O. variabilis* Duncan (pp. 93, 94), *O. infirma* n. sp., Banda and Java Seas, 54-90 m. (p. 89, pl. viii); KOEHLER (160). *O. insidiosa*, vide *O. foveolata*. *O. longipeda* (pp. 92, 94), *O. lorioli*, colour (p. 103); KOEHLER (160). *O. luetkeni*; KEMP (152) p. 196. *O. marginata* n. sp., Aru Is., Banda Sea, 13 m. (p. 79, pl. viii), *O. martensi* (p. 80), *O. melanosticta*, redescrip. holotype and others (p. 77, pls. viii, xiv), *O. miles* n. sp., Malay Archipelago (p. 90, pl. ix), *O. nereidina* (p. 81), *O. nobilis* n. sp., Kei Is., Banda Sea, 90 m. (p. 83, pls. xi, xv), *O. obtusa* n. sp., Java Sea, Lesser Sunda Is., and E. of Flores, 69-113 m. (p. 98, pls. xi, xvi), *O. plana*, variations from type, colour (p. 75, pl. viii), *O. propinqua* (p. 81), *O. proteus* n. sp., var. locc. Malay Archipel., 32-83 m., incl. "*O. comata*" Koehl. 1898, 1900 (p. 100), *O. pulchella* n. sp., var. locc. Malay Archipel., 73-247 m. (p. 106, pls. xi, xv),

- O. punctolimbata*, characters discussed (p. 93), *O. purpurea*, colour (p. 102), *O. pusilla*, added notes (p. 85, pl. ix); KOEHLER (160). *O. roseo-coeruleans*; BELL (25) p. 258. *O. simplex* n. sp., Molo Str., Java Sea, 69–90 m., allied to *Ophiotrichoides* (p. 109, pl. x), *O. spinosissima* n. sp., Lombok and Banda, 9–36m. (p. 104, pl. xi), *O. stelligera*, parasitic gastropod, variations, young (p. 87), n. var. *rugosa*, Banda, Sulu, and Java Seas (p. 88), *O. striolata*, colour (p. 76, pl. xv), *O. tenuis* n. sp., E. of Flores, 40 m. (p. 74, pl. viii); KOEHLER (160). *O. triglochis*; BELL (25) p. 259. *O. trilineata* (p. 73), *O. vitrea* (p. 99); KOEHLER (160).
- Ophiotriton* vide sub *Ophionereis*.
- Ophiotypa simplex*; KOEHLER (159).
- Ophiozona capensis* n. sp., 7 cotypes, off Cape Point, C. St Blaize, Lion's Hd., C. St Francis, 25–900 fm., podial pores restricted to 3 proximal; BELL (25) p. 256, pl. i. *O. projecta* n. sp., Sulu Archipel., Moluccas, Banda Sea, Solor Str., 15–113 m.; KOEHLER (160) p. 19, pl. i.
- Ophiura* (vide etiam sub *Ophioglypha*):—*O. affinis*; KEMP (152) pp. 180, 194. *O. albida*; COLGAN (61) p. 212; KEMP (152) pp. 180, 193; NORDGAARD (230) p. 159. *O. brevispina*; CLARK (55) p. 5. *O. carnea*; NORDGAARD (230) p. 159. *O. ciliaris*; KEMP (152) pp. 180, 192. *O. robusta*; NORDGAARD (230) pp. 159, 235. *O. sarsi*; op. cit. p. 159; KEMP (152) pp. 193, 205. *O. signata*, forms of mouth-shields, distinction from *O. affinis*; op. cit. pp. 183, 193, pl. xxxv. *O. texturata*; COLGAN (61) p. 212. *O. trimeni* n. sp., 4 cotypes, off Lion's Hd., S. Hd. Table Mt., 156–230 fm., podial pores restricted; BELL (25) p. 257, pl. i.
- Pectinura arenosa* (p. 10), *P. gorgonia*, colour (p. 8), *P. infernalis*, added notes, Bell's of 'Alert' coll. perhaps is *P. similis* (p. 7, pl. i), *P. nitens* n. sp., Sapeh Str., Sunda Is., 69 m. (p. 10, pl. i), *P. paucispina* n. sp., Borneo bank & Gilolo Passage, 34–83 m. (p. 4, pl. i), *P. septemspinosa* (p. 9), *P. similis* n. sp., various locc. in Malay Archipelago, 12–59 m. (p. 6, pl. i), *P. sphenisci*, added notes (p. 9), *P. stabilis* n. sp., Pater-noster Is. in Java Sea, and Gilolo Passage, 12–83 m. (p. 5, pl. i); KOEHLER (160).
- †*Protaster sedgwicki*; BATHER (21) p. 164.
- Sthenocephalus indicus*, 204–487 m.; KOEHLER (160) p. 132.
- †*Sympterura* n. g. with genotype *S. minveri* n. sp., Lower Devon., Epp-haven, Cornwall; BATHER (21) pl. vi.

## (F.) CRINOIDEA\*.

- Bearing of autotomy and syzygies on classification of *Antedonidae* and *Actinometridae*; MINCKERT (214).
- Crinoidea* divided into *Palaeocrinoidea* and *Neocrinoidea* [A.D. 1905!]; HERFWIG (136 A) p. 311. *Crinoidea*, or at least recent *Crin.*, divided into two Orders, *Stylocrinoidea*, fixed forms, and *Eleuthero-crinoidea*, free forms; MINCKERT (213) p. 496.
- †*Acanthocrinus rex*; LEPPLA (180) p. 28; LEPPLA (181) p. 16.
- †*Actinocrinus*:—*A.* sp.; THÉVENIN (314): columnals; SMYČKA (303) p. 60. *A. daphne*; CLARKE (60) p. 116.
- Actinometra*, classification of spp. (p. 207), *A. belli*, regeneration of arms (pp. 204, 215, figg.), *A. fimbriata*, ditto (p. 218), *A. multibrachiata*, ditto (pp. 217, 219), *A. nobilis*, ditto (p. 219); MINCKERT (214). *A. parvicirra*, 14–17 fm., various locc. S. Africa; BELL (27) p. 141.

\* Names that are sometimes given the termination *-ites* (e.g. *Pentacrinites*) are here treated as always ending in *-us*.



- A. paucicirra* & *A. quadrata*, regeneration (p. 226), *A. regalis*, ditto (p. 219), *A. sentosa*, ditto (p. 230); MINCKERT (214). †*A. vagnasensis* is Lower Aptian; PELLAT (244).
- †*Agaricocrinus*:—*A. brevis*, *A. bullatus*, *A. wortheni*; ROWLEY (282) p. 310.
- †*Agassizocrinus conicus*; ULRICH (321) p. 58, pl. vi.
- †*Amphoracrinus viminalis*; CLARKE (60) p. 116.
- Antedon* considered to be a misprint for *Anthedon*; MINCKERT (213) p. 496: classification of spp.; MINCKERT (214) p. 206: see also II, B, i, f, 8. *A. sp.*; KEMP (152) p. 187: †MULDER (222). *A. angusticalyx* & *A. angustiradiata*, regeneration; MINCKERT (214) p. 224. *A. barentsi*, syn. of *A. eschrichti*; DOEDERLEIN (80) pp. 397, 399. *A. bifida*; KEMP (152) pp. 179, 187, 205: NOBRE (229) p. 132: vide etiam *A. et Comatula rosacea*. *A. bipartipinna*, regeneration (p. 228), *A. brevipinna*, colour of regenerates (p. 178): regeneration of disc (p. 193), of arms (p. 202 et sqq.); MINCKERT (214). †*A. burgundiaca*; MAIRE (206) p. 242. *A. capensis* n. sp. of *basicurva* group, 13–27 fm., various locc. S. Africa; BELL (27) p. 139, pl. ii. *A. carinata*, partial regeneration of cirri (p. 192), *A. duplex*, regeneration (p. 211); MINCKERT (214). *A. eschrichti*; SCHMIDT (291) p. 19: total regeneration of cirri; MINCKERT (214) p. 189: incl. *A. barentsi* P. H. Carp., distrib.; DOEDERLEIN (80) p. 397: var. *quadrata*, distrib.; loc. cit. p. 398. *A. flexilis*, regeneration; MINCKERT (214) p. 211. †*A. gresslyi*; MAIRE (206) p. 242. *A. inaequalis*, regeneration (p. 224), *A. lusitanica*, ditto (p. 211); MINCKERT (214). *A. magnicirra* n. sp. of *savignyi* group, 300–450 fm., E. London, S. Africa; BELL (27) p. 141, pl. iv. *A. microdiscus*, regeneration (pp. 219, 230), *A. multiradiata*, ditto (p. 221 et sqq., fig. p. 231), *A. multispina*, ditto (pp. 211, 223); MINCKERT (214). *A. petasus*; RETZIUS (275) p. 82, pl. xii. *A. phalangium*; KEMP (152) p. 187: distrib.; DOEDERLEIN (80) p. 402. *A. philiberti*, regeneration; MINCKERT (214) p. 228. *A. proluxa*, distrib., probably local form of *A. tenella* (p. 401), *A. quadrata*, made var. of *A. eschrichti* (q.v.) (p. 398); DOEDERLEIN (80). †*A. rhodanicus*; AIRAGHI (5) pl. 45, pl. *A. rosacea*; †BASSANI (16): GODLEWSKI (115): GRAEFFE (117) p. 331: living attitude; LANKESTER (175) p. 292, fig.: regeneration; MINCKERT (214) p. 209, fig. et sqq.: vide etiam *Comatula* et *A. bifida*. *A. sclateri* n. sp. of *savignyi* group, 250–300 fm., E. London, S. Africa; BELL (27) p. 140, pl. iii. *A. spinifera*, colour of regenerates (p. 184), arm regenerated in place of pinnule (p. 200); MINCKERT (214). *A. tenella*; NORDGAARD (230) pp. 159, 235: SCHMIDT (291) pp. 19, 20: distrib.; DOEDERLEIN (80) p. 400: regeneration; MINCKERT (214) p. 208.
- †*Aorocrinus*:—*A. eris* & *A. helice*; CLARKE (60) p. 117.
- †*Apiocrinus*:—*A. sp.*; REMEŠ (269) p. 61, pl. vii: columnals; AIRAGHI (7) p. 84: PARONA (242) p. 66. *A. elegans*, IBB; TOIT (315) fig. *A. parkinsoni*, *A. polycyphus*; MAIRE (206) p. 234.
- †*Aspidoocrinus*:—*A. callosus*, *A. digitatus*; TALBOT (312) p. 31. *A. scutelliformis*; SHIMER (300) p. 197: WILLIAMS (342) pp. 28, 33, 47: root-nature doubted; TALBOT (312) p. 31.
- †*Balanocrinus* (vide etiam sub *Pentacrinus*):—*B. ? sp.*; ROESSINGER (278) p. 437. *B. bathonicus*; LISSAJOUS (183) p. 696. *B. campichei*; KILIAN (156) pp. 781, 807. *B. pentagonalis*; AEBERHARDT (1) p. 442: KILIAN (156) pp. 776, 781. *B. subteres*; op. cit. pp. 781, 807: REMEŠ (272) p. 4.
- Bathycrinus* regeneration; MINCKERT (214) p. 194. *B. carpenteri*, distrib.; DOEDERLEIN (80) p. 402.
- †*Batocrinus*:—*B. irregularis*; ULRICH (321) p. 47. *B. subaequalis*; ROWLEY (282) p. 310.
- †*Bourgueticrinus*:—*B. sp.*; YOUNG (347) pp. 198, 215. *B. ellipticus*;

- DEECKE (69) p. 19; MURGOCI (223): TREACHER (319) p. 156; WEGNER (333) pp. 123, 125, 126, 132, 148; WHITE (338) pp. 468, 470, 487. *B.* [= *Mesocr.*] *fischeri* (p. 148), *B. listeri* (p. 125); WEGNER (333). *B. thorenti*; MURGOCI (223).
- †*Brachiocrinus* (*Herpetocrinus*?) *nodosarius*, added notes; TALBOT (312) p. 32, pl. iv.
- †*Camerocrinus* [sic] *quarçularum* n. sp., Ordovician d2 of Rėvnitz, Bohemia; FRITSOH (100) for fig. see (88) Zool. Rec. 1904.
- †*Carabocrinus geometricus* n. sp., Chazy Limest., L. Champlain, N. Y.; HUDSON (144) p. 282, pl. i.
- †*Cleioocrinidae* n. fam. of *Dicyclia camerata* for *Cleioocr.*; BATHER in Review of SPRINGER (306).
- †*Cleioocrinus*, morphological description and rediagnosis, intermediate between *Camerata* & *Flexibilia*; SPRINGER (306): referred to *Cleioocrinidae* (q.v.), base an exaggeration of the *Archaeocr.* type; BATHER in Review: "ein spezialisierter Rhodocrinide"; JAEKEL in Review.
- †*Cleistocrinus*, err. pro *Cleioocrinus*; LUDWIG (200).
- †*Cliocrinus*, err. pro *Cleioocr.* (q.v.); LAMBERT in Review of SPRINGER (306). *C. magnificus*, incl. *C. grandis*, redescrib. from types and other specimens, *C. regius*, redescrib. from cotypes; SPRINGER (306) p. 110, pl. *Comatula rosacea*; COLGAN (61) p. 211: vide etiam *Antedon bifida* et *rosacea*.
- †*Conocrinus*:—*C.*? sp., columnals; DONCIEUX (81) p. 111. *C. thorenti*; DOUVILLÉ (83) pp. 19, 21, 27, 50.
- †*Cordylocrinus plumosus*, added notes, perh. incl. *C. pırvus*; TALBOT (312) p. 28, pl. iii.
- †*Cosmocrinus ornatissimus* (Hall sub *Cyathocr.*) distinguished from *Maragnier.*; WHITFIELD (339) p. 19, pls. ii, iii: this accepted; CLARKE (58).
- †*Cyathocrinus*:—*C. formosus* n. sp., Lower Burlington Limest., Louisiana, Mo.; ROWLEY (282) p. 301, pl. xxi. *C. mammillaris*; MALLADA (208) p. 187. *C. ornatissimus* Hall, referred to *Scytalecr.*; CLARKE (57) p. 44: type-specimen refigured and referred to *Cosmocrinus*; WHITFIELD (339) p. 19, pls. ii, iii. *C. pentagonus* (pp. 16, 26), *C. pinnatus* (pp. 21, 26, 27, 50, 53, 55), *C. planus* (p. 187), *C. quinquangularis* (p. 187); MALLADA (208). *C. rhenanus*; LEPPLA (180) p. 28 & (181) p. 16.
- †*Cyrtocrinus digitatus* n. sp., Tithonian of Stramberg; REMEŠ (269) p. 60, pl. vii.
- †*Dadocrinus gracilis*:—*D. kunischi*; WYSOGÓRSKI (345).
- †*Decadocrinus*:—*D. aegina* (p. 117), *D. lyriope*, *D. pleias*, & *D. subtortuosus* (p. 118); CLARKE (60).
- Decametrocrinidae* n. fam. pro *Decametrocr.* & *Promachocr.*; MINCKERT (213) p. 494.
- Decametrocrinus* n. g. for spp. of *Promachocrinus* with unbranched arms [genotype not mentioned, the spp. would be *D. abyssorum* & *D. narsi*, of which the former agrees better with the diagnosis]; MINCKERT (213) p. 494.
- †*Dichocrinus simplex*; ULRICH (321) p. 33.
- †*Dolatocrinus*:—*D. glyptus* var. *intermedius* & *D. liratus* var. *multiliratus* (p. 118), *D. speciosus* (p. 119); CLARKE (60).
- †*Edriocrinidae* n. fam. of *Inadunata fistulata* [= *Dicyclia inadunata*] for *Edriocr.*; TALBOT (312) p. 20.
- †*Edriocrinus*, rediagnosed; TALBOT (312) p. 22. *E. becraftensis*; SHIMER (300) p. 196. *E. pocilliformis*; op. cit. pp. 183, 200, 201, 232, 233, 238, 262: redescrib.; TALBOT (312) p. 23, pl. iv. *E. sacculus*; SHIMER (300) pp. 198, 233.
- Eletherocrinoidea* ord. nov. "die freilebenden Crinoideen"; MINCKERT (213) p. 496.
- †*Encrinus*:—*E.* sp.; MARTELLI (209) p. 332. *E.*? sp. columnals; TOULA

- (317) p. 348, p. vi. *E. aculeatus*; WYSOGÓRSKI (335). *E. cassianus*; MARTELLI (209) p. 331, pl. xi: BLASCHKE (32) p. 166. *E. granulatus*; l. c.; BAKALOW (13): MARTELLI (209) p. 330, pl. xi. *E. liliformis*; WYSOGÓRSKI (345): columnals; MORICH (219) fig.
- †*Entrochus*:—*E. dentatus*; MALLADA (208) pp. 13, 27. *E. insignis* n. sp., Cenomanian [i. e. Trias], Kotel, E. Balkans; TOULA (317) p. 347, pl. vi: BAKALOW (13).
- †*Eretmocrinus*:—*E. coronatus* (p. 310), *E. nodosus* (p. 303, pl. xxi); ROWLEY (282).
- †*Erisocrinus europaeus*; MALLADA (208) pp. 182, 187.
- †*Eugeniocrinus hoferi*; MAIRE (206) p. 234.
- †*Euryocrinus concavus*; MALLADA (208) p. 187.
- †*Extracrinus*, vide sub *Pentacrinus*.
- †*Glyptocrinus*:—*G. dyeri*, fixed pinnules; SPRINGER (306) p. 106, pl. *G. ramulosus*; AMI (11) p. 84j.
- †*Haplocrinus stellaris*; SOBOLÉW (304) pp. 68, 70.
- †*Hexacrinus*:—*H. callosus*; MALLADA (208) p. 17. *H. echinatus*; USSHER (323) p. 16.
- †*Homocrinus scoparius*, added notes; TALBOT (312) p. 19, pl. iii.
- †*Ichthyocrinus*:—*I. laevis*; UDDEN (320) p. 402. *I. schucherti* n. sp., New Scotland Limest., Clarksville, N.Y.; TALBOT (312) p. 30, pl. iii. *Isocrinus*, vide sub *Pentacrinus*.
- †*Lyracrinus*? *beecheri* n. sp., Chazy Limest., L. Champlain, N. Y.; HUDSON (144) p. 277, pl. ii.
- †*Maragnicrinus* n. g. [of *Scytalecrinidae*?], with genotype *M. portlandicus* n. sp., Portage group, Portland, Lake Erie, includes specimen reld. by J. M. CLARKE to *Scytalocr. ornatissimus* (Hall sub *Cyathocr.*); WHITFIELD (339) pp. 17, 18, pl. i: see also CLARKE (58).
- †*Mariacrinus*:—*M. beecheri* n. sp., Coeymans Limest., North Litchfield, N. Y. (pl. i), *M. plumosus*, called genotype [but *M. nobilissimus* is that]; TALBOT (312) p. 25.
- †*Marsupites*:—*M. ornatus* Sow. [sic] slight variations, Westphalia; WEGNER (333) pp. 124, 125, 128, 129, 130, 131, 134, 147. *M. testudinarius*; JUKES-BROWNE (150) p. 39: LAMBERT (169) p. 95: WHITE (338) pp. 470, 473: YOUNG (347) pp. 196, 215.
- †*Melocrinus*:—*M.* (vel *Ctenocr.*) sp. columnals; HAUG (130) p. 766. *M. clarkei*; CLARKE (57) p. 43. *M. nobilissimus* (Hall sub *Mariacr.* 1859) called genotype [N.B. *Melocr.* is 1826; this is really *Mariacr.*], added notes (p. 26, pl. ii), *M. pachydactylus*, added notes (p. 27, pl. i); TALBOT (312).
- †*Mesocrinus fischeri*, vide sub *Bourguetier*.
- †*Mespilocrinus granifer*; MALLADA (208) pp. 182, 183.
- †*Müllericrinus*:—*M. beaudouini*, *M. beaumonti*, *M. buchianus*, *M. conicus*, *M. convexus*, *M. desori*, *M. dilatatus*, *M. dudressieri*, *M. escheri*, *M. goldfussi*, *M. goupilianus*, *M. granulatus*, *M. horridus*, *M. milleri*, *M. munsterianus*, *M. nodotianus*, *M. regularis*, *M. scalaris*, *M. thirriai*; MAIRE (206) pp. 235–240.
- †*Pachylocrinus*:—*P. merope* (p. 119), *P. paternus* (p. 120); CLARKE (60). *Pentacrinula* nom. nov. pro “pentacrinoid larva” of *Antedon* etc.; MINCKERT (214) p. 191.
- Pentacrinus* (including *Balanocr.* (q. v.), *Extracr.* [i. e. *Pentacr.* s. str.] and *Isocr.* [i. e. *Pentacr.* neontologorum] syn. *Cainocr.*).
- † *Pentacr.* sp.; SCHUMACHER (295) p. 111: columnals, Trias; TOULA (317) p. 348, pl. vi. *P. amblyscalaris*; MAIRE (206) p. 241. *P. angulatus*; ROTHPLETZ (281) p. 29. *P. astralis*; HUCKE (143) p. 167, pl. xxiii. *Extracr. babeau*; LISSAJOUS (183) p. 692. *P. bajocensis*; op. cit. p. 691: KILIAN (156) p. 743. *P. basaltiformis*; SCALIA (288). *P. cf. basaltiformis*; ROTHPLETZ (281) p. 29. *P. cf. bavaricus*; TOULA (318)

- p. 286. *P. briareus*; SCALIA (288). *Extracr. buchsgauensis*; MAIRE (206) p. 241. *P. carinatus*, notes; WEGNER (333) pp. 125, 148. *P. cristagalli*; DENINGER (73) pp. 438, 439; KILIAN (156) p. 743; LISSAJOUS (183) p. 691; ROTHPLETZ (281) p. 36.
- P. decorus*, anat.; REICHENSBERGER (267).
- † *P. didactylus*; DOUVILLÉ (83) pp. 20, 21, 27, 43, 50. *P. dixoni*?; ROESSINGER (278) p. 437. *P. fuchsii*; BAKALOW (13). *P. gastaldii*; AIRAGHI (5) p. 45. *P. hiemeri*; LANKESTER (175) p. 287, fig. *P. laevigatus*; BAKALOW (13). *P. marioni*; MAIRE (206) p. 241. *P. cf. nodulosus*; WEGNER (333) pp. 131, 148. *P. oxyscalaris*; MAIRE (206) p. 240. *P. pentagonalis ferratus*, discussed (p. 81), *P. cf. personatus*, specimens from Esch and Rombach descr. (pp. 76, 456, pls. i, ii); BENECKE (29). *P. priscus* Kut.; JONKER (148) p. 141. *P. psilonoti*; ROTHPLETZ (281) p. 29. *P. scalaris*; SCALIA (288). *P. subangularis*, Schwabens Medusenhaupt; KOKEN (165) p. 56, pl. *Extracr. aff. subangularis*; BAKALOW (13). *P. tuberculatus*; op. cit.: PAULKE (243) p. 269. *P. wurttembergicus* (= *P. pentagonalis opalinus* Qu.), discussed; BENECKE (29) p. 81.
- P. wyville-thomsoni*; ALBERT (9): RICHARD (276) p. 3.
- † *Platycrinus*:—*P. bozemanensis*; DOUGLASS (82) pp. 417, 421, 422, 423. *P. contritus*; CLARKE (60) p. 120. *P. douglassi*; DOUGLASS (82) pp. 417, 422, 423. *P. gigas* (p. 184), *P. granulatus* (p. 187); MALLADA (208). *P. graphicus*; CLARKE (60) p. 120. *P. huntsvillae*; ULRICH (321) pp. 42, 47, 50, 58, pl. vi. *P. richfieldensis*; CLARKE (60) p. 120.
- † *Plicatocrinidae*, n. g. *Pseudosaccocoma* q. v.; REMEŠ (269).
- † *Poteriocrinus*:—*P. sp.*; FOURBAU (96) p. 574; THÉVENIN (314): columnals; HAUG (130) pp. 783, 793, pl. xv. *P. crassus*; MALLADA (208) pp. 182, 184, 186, 187, 196, 316. *P. douglassi*; DOUGLASS (82) p. 417. *P. minutus* (pp. 119, 170, 185, 188, 189, 197), *P. originarius* (pp. 183, 186); MALLADA (208).
- † *Pradocrinus baylei*; MALLADA (208) pp. 12, 16, 21, 37.
- Promachocrinus* restricted to spp. with branched arms [genotype *P. kerguelensis*] (p. 494), *P. vanhoeffenianus* n. sp., 66° 2' 9" S., 89° 38' E., 350–400 m. (p. 496 and text-fig.); MINCKERT (213).
- † *Pseudosaccocoma* n. g. of *Plicatocrinidae*? with genotype *P. strambergense* n. sp., Tithonian of Stramberg; REMEŠ (269) p. 62, pl. vii and (273).
- † *Pterotocrinus*:—*P. acutus*, *P. capitalis*, *P. depressus*; ULRICH (321) pp. 58, 61, pl. vi.
- † *Reteocrinus o'nealli*, fixed pinnules, tegmina; SPRINGER (306) p. 107, pl.
- † *Rhaphanocrinus gemmeus* n. sp., Chazy Limest., L. Champlain, N. Y.; HUDSON (144) p. 280, pl. ii.
- Rhizocrinus lofotensis*; NORDGAARD (230) pp. 159, 241: (?); KEMP (152) p. 187: distrib.; DOEDERLEIN (80) p. 402.
- † *Rhodocrinus*:—*R. sp.* columnals; HAUG (130) p. 795, pl. xv. *R. bozemanensis* (pp. 417, 421), *R. bridgerensis* (pp. 417, 422); DOUGLASS (82). *R. crenatus*; MALLADA (208) p. 27. *R. douglassi*; DOUGLASS (82) pp. 417, 421, 422. *R. pinnatus*; MALLADA (208) p. 21.
- † *Saccocrinus christyi*; UDDEN (320) p. 402.
- † *Scaphiocrinus*:—*S. corycia*, *S. crineus*, *S. subcarinatus*; CLARKE (60) p. 121.
- † *Scyphocrinus elegans*; MALLADA (207) p. 294 and (208) p. 61.
- † *Scytalocrinus ornatisissimus* (Hall, sub *Cyathocr.*); CLARKE (57) p. 44 and (58): vide etiam *Maragnier*.
- † *Siphonocrinus armosus*; UDDEN (320) p. 402.
- † *Steganocrinus sculptus*; ROWLEY (282) p. 310.
- Stylocrinoidæ* ord. nov. "die recenten festsitzenden Formen"; MINCKERT (213) p. 496.

- †*Talarocrinus* ; ULRICH (321) p. 54.  
 †*Taxocrinus* :—*T. communis* (p. 121), *T. kelloggi* (p. 122), *T. tardus* (p. 122) ; CLARKE (60).  
 †*Thiolliericrinus* :—*T.* sp. ; REMEŠ (270, 271, 274), *T. flexuosus* (p. 61, pl. vii), *T. heberti* (p. 60) ; REMEŠ (269).  
 †*Thysanocrinus arborescens* n. sp., Coeymans Limest., North Litchfield, N. Y. ; TALBOT (312) p. 23, pl. i.  
 †*Uintacrinus* :—*U.* sp., British ; WHITE (338) p. 470 : YOUNG (347) pp. 197, 215. *U. westfalicus*, cups ; WEGNER (333) pp. 121, 123, 137, 147.

## (G.)—†CYSTIDEA\*

(including EDRIOASTEROIDEA).

- Agelacrinus dicksoni* ; AMI (11) p. 84J. *A. chapmani*, vide Corrigenda.  
*Caryocrinus ornatus* ; UDDEN (320) p. 399.  
*Caryocystis rouvillei* ; DEPÉRET (74) p. 434.  
*Corylocrinus pyriformis* ; DEPÉRET (74) p. 434.  
*Echinospaera baltica* ; DEPÉRET (74) p. 434. *E.* cf. *baltica* ; BRESSON (41) p. 91 : MALLADA (207) p. 307. *E. murchisoni* ; op. cit. pp. 267, 384.  
*Eocystis primaeva* at Coulouma ; MIQUEL (216) p. 476.  
*Glyptocystis forbesi* ; RAYMOND (265) p. 357.  
*Malocystis* sp. ; RAYMOND (265) p. 358. *M. emmonsii* n. sp., Chazy Limest., L. Champlain, N. Y. ; HUDSON (144) p. 270, pl. i : CLARKE (60) p. 119 : RAYMOND (265) pp. 357, 358. *M. murchisoni* ; op. cit. pp. 357, 363, 364.  
*Palaeocystis* sp. (p. 358), *P. tenuiradiata* (p. 357) ; RAYMOND (265).  
*Pleurocystis squamosa* ; AMI (11) p. 84J.  
*Stromatocystis cannati* (Miquel, sub *Trochocystis*), Cambrian, Coulouma, Aude, redescrib. and now first figd. ; MIQUEL (216), pp. 476, 482, pl. xv.  
*Trochocystis* sp., nondescr. (p. 476), *T. barrandei* (pp. 474, 475) ; MIQUEL (216). *T. bohémica* ; MALLADA (207) pp. 27, 66.

## (H.)—†BLASTOIDEA.

- Blastoidocrinus carcharidens* ; HUDSON (144) p. 272.  
*Codaster gracillimus*, hydrospires in anal area (p. 307), pl. xxi), *C. grandis* (p. 309, pl. xxi), *C. laeviculus*, ? *Phaenoschisma* (p. 309, pl. xxi), *C. superbus* n. sp., Upper Burlington Chert, Louisiana, Mo. (p. 308, pl. xxi) ; ROWLEY (282).  
*Cryptoblastus melo* ; ROWLEY (282) p. 301, pl. xxi.  
*Lophoblastus pentagonus* n. sp., Lower Carbonif. Chouteau Limest., Bowling Green, Mo. ; ROWLEY (282) p. 302, pl. xxi.  
*Mesoblastus glaber* ; ULRICH (321) p. 47, (?) p. 57, pl. vi. *M. kirkwoodensis* ? ; ROWLEY (282) p. 307, pl. xxi.  
*Metablastus bipyramidalis* with brachiolae (p. 307, pl. xxi), *M. lineatus* with stem (pp. 306, 307, pl. xxi) ; ROWLEY (282).  
*Nucleocrinus verneuili* ; PROSSER (261).  
*Orophocrinus conicus* ? (p. 306, pl. xxi), *O. stelliformis* (p. 305, pl. xxi), ? juv. (p. 306, pl. xxi) ; ROWLEY (282).

† All extinct.

\* Names that are sometimes given the termination *-ites* (e.g. *Anomalocystites*) are here treated as always ending in *-us*, *-a*, or *-is*, as the case may be.

- Pentremites* sp.; GIRTY (113): [afterwards *maccalliei*]; McCALLIE (203).  
*P. cavus* n. sp., Lower St. Louis Limest., near Princeton, Ky.;  
 ULRICH (321) pp. 33, 57, pl. vi. *P. conoideus*; op. cit. pp. 30, 47,  
 57, pl. vi: ROWLEY (282) p. 306, pl. xxi. *P. florealis* (pp. 42, 47, 50,  
 58, pl. vi), *P. foxi* n. sp., Birdsville formation of Chester group, near  
 Princeton, Ky. (pp. 63, 64, pl. vii), var. *marionensis* n. var., Birds-  
 ville formn. near Marion, Ky. (p. 64, pl. vii), *P. godoni* (pp. 54, 58,  
 pl. vi) & (? p. 47); ULRICH (321). *P. leda*; CLARKE (57) p. 44. *P.*  
*obesus* (pp. 63, 64, pl. vii), *P. pyramidatus* n. sp., Birdsville formn. of  
 Chester group, W. Kentucky (p. 64, pl. vii), *P. pyriformis* (p. 57,  
 pl. vi), *P. sulcatus* (p. 61); ULRICH (321).  
*Pentremitidea angulata* (p. 27), *P. lusitanica* (p. 27), *P. malladae* (p. 37),  
*P. paillettei* & *P. schultzi* (pp. 27, 37); MALLADA (208).  
*Phaenoschisma acuta* (p. 37), *P. archiaci* (p. 27), *P. nobile* (p. 37), *P.*  
*verneuili* (p. 27); MALLADA (208).  
*Schizoblastus sayi*, covering plates; ROWLEY (282) p. 302, pl. xxi.  
*Troostocrinus hispanicus*; MALLADA (208) p. 37.

## (K.)—†INCERTAE SEDIS.

- Astrechinus pentagonus* nom. nud.; JAEKEL (145).  
*Paropsonema cryptophysa* [sic.] Clarke (1900) not an Echinoderm but  
 cast of a jelly-fish allied to *Porpita*; FUCHS (101).

---

 † All extinct.

## XV. VERMES.

BY

CORA B. SANDERS, F.L.S.

## CONTENTS.

	Page		Page
INTRODUCTION . . . . .	2	ROTIFERA	
I. TITLES . . . . .	3	Distribution . . . . .	33
II. SUBJECT-INDEX		Parasitism and Symbiosis . . . . .	33
VERMES (general) . . . . .	24	Morphology . . . . .	33
Distribution . . . . .	24	General Biology . . . . .	34
Parasitism and Symbiosis . . . . .	25	HEMICHORDATA	
Morphology . . . . .	25	Biology and Geography . . . . .	34
General Biology . . . . .	25	III. SYSTEMATIC	
Embryology, Development, . . . . .		ANNELIDA	
Evolution . . . . .	25	<i>Gephyrea</i> . . . . .	34
Geology . . . . .	25	<i>Archannelida</i> . . . . .	36
ANNELIDA (incl. of <i>Gephyrea</i> . . . . .		<i>Polychæta</i> . . . . .	36
and <i>Hirudinea</i> )		Nereidiformia . . . . .	36
Distribution . . . . .	26	Spioniformia . . . . .	40
Parasitism and Symbiosis . . . . .	26	Terebelliformia . . . . .	41
Morphology . . . . .	27	Capitelliformia . . . . .	42
Physiology . . . . .	27	Scolosciiformia . . . . .	42
General Biology . . . . .	28	Sabelliformia . . . . .	43
Embryology and Develop- . . . . .		<i>Myzostomaria</i> . . . . .	46
ment . . . . .	28	<i>Oligochæta</i> . . . . .	46
Geology . . . . .	29	<i>Terricolæ</i> . . . . .	46
PLATYHELMINTHES		<i>Limicolæ</i> . . . . .	50
Distribution . . . . .	29	HIRUDINEA . . . . .	53
Parasitism and Symbiosis . . . . .	29	PLATYHELMINTHES	
Morphology . . . . .	30	<i>Turbellaria</i> . . . . .	53
Physiology . . . . .	30	<i>Acæta</i> . . . . .	53
General Biology . . . . .	31	<i>Rhabdocæta</i> . . . . .	53
Embryology and Develop- . . . . .		<i>Tricladida</i> . . . . .	55
ment . . . . .	31	<i>Polycladida</i> . . . . .	55
NEMATHELMINTHES & NEMER- . . . . .		<i>Cestoda</i> . . . . .	56
TINEA		<i>Trematoda</i> . . . . .	59
Distribution . . . . .	31	NEMATHELMINTHES	
Parasitism and Symbiosis . . . . .	31	<i>Nematoda</i> . . . . .	62
Morphology . . . . .	32	<i>Ancathocephala</i> , incl. <i>Gor-</i> . . . . .	66
Physiology . . . . .	32	<i>diæca</i> . . . . .	66
General Biology . . . . .	32	NEMERTINEA . . . . .	67
Embryology and Develop- . . . . .		CHÆTOGNATHA . . . . .	69
ment . . . . .	33	ROTIFERA . . . . .	69
CHÆTOGNATHA		GASTROTRICHA . . . . .	72
General Subject . . . . .	33	KINORHYNCHA (Vacant)	
Distribution . . . . .	33	MESOZOA . . . . .	73
		HEMICHORDATA (incl. PHO- . . . . .	73
		RONIS)	

## INTRODUCTION.

THE work recorded for 1905 shows less numerous titles than that of the preceding year. A considerable number of those here recorded being really publications of previous years which were either sent late to London, or omitted. There are however a number of interesting papers on various subjects of importance; and the new species and genera make a considerable addition to the general catalogue. Parasites have been a subject of widespread study, particularly *Ankylostoma* and *Filaria*. On the former Looss' experimental work leads to highly interesting conclusions as to the passage of the larvæ to the intestine.

Amongst the monographs dealing with faunistic questions are EISEN, COE, *Nemertinea* of California from the Harriman Expedition, etc.; and KATHERINE BUSH, Tubicolous Annelids from Alaska. Also a series of papers by BENHAM on New Zealand earth-worms. Italian *Oligochaeta* are dealt with by DE MARTIIS; parasitic faunas appear also treated at some length in the United States Fisheries Reports. The Royal Society reports on the Pearl Oyster Fisheries; and there are amongst other treatises monographs on the Trematoda of Eastern Europe. A general Survey of Canadian parasites is also in this year's record.

The fauna of the Baikal district has received a good deal of attention, and in some papers presents bionomical material of some interest. In fact the bionomical Plankton Surveys form a distinct feature of the work of the year; some are to hand from Belgium, from Switzerland and the North Italian Alps, as well as from lakes in S.E. Europe. The most interesting amongst these is the work by VOIGT on the distribution of Tricladida in the mountain streams of Alsace. Voigt is able to trace to an apparently sufficient cause the migration of genera, and the supplanting of one form due to the inroads made on its food supply by a competing population. The work of ZACHARIAS and HUBER on Swiss lake Rotifers is also of bionomical interest. Amongst various notes on the Tanganyika problem may be mentioned GRAVIER's paper, as the most considerable contribution. Intimately connected with this is the subject dealt with by PELSENER in his paper "Sur l'origine des animaux d'eau douce." COE's interesting paper may be mentioned here on the degenerate sense organ in terrestrial *Nemertea*, adducing their descent from marine forms.

A number of papers will be found dealing with regeneration; and a great deal of minute histological work; in some cases these subjects are treated in connection with physiological problems; NUSBAUM's paper is one of three recording the degenerate condition of the reproductive organs induced in "Starvation" experiments. TREADWELL treats of degeneration in *Heteronereis*.

Following closely upon these are the observations on the reproductive processes of the Palolo. Amongst these are papers by IZUKA & MINTOSH. The former treats at some length of the segmental organ, the histological development of which is carefully given in the literature and should prove of great interest.

Perhaps the most important contribution to physiological knowledge is in the papers of CAMILLE SPIESS on the presence and function of cells containing biliary pigments in the digestive tracts of *Aulostoma* and *Hirudinea*. In connection with this work he makes a most valuable observation of the behaviour of the enzyme-secreting cells during digestion—noting the nuclear activity apparently quite comparable to that seen in other digesting tissues.



There is also a considerable amount of Embryological work done; several studies in developmental anatomy have thrown some light on the many phylogenetic problems with which this aggregation of groups teems.

WOLTERECK maintains in a study of its development that *Polygordius* is proved to be a true precursor of the Annelida.

Separate studies of Systematic are rare (GRAFF's on the *Turbellaria Acela* may be mentioned), but numerous notes appear in the faunistic papers, see:—MICHAELSEN, VON LINSTOW, MONTICELLI, DE MARTIIS, BENHAM, KATHERINE BUSH, EISEN, ARTHUR WILLEY, MARENZELLER, A. E. SHIPLEY, HLAVA, GRAVIER, ZOUBIN, SABUSSOW.

---

### I. TITLES.\*

1. [ANON.] Le Dragonneau. On *Gordius aquaticus*. [Children's article.] Natural. Canad. xxxii, 11, pp. 117-122.
3. ABRIC, PAUL. Sur la systématique des Chétognathes. C.R. Ac. Sci. cxli, pp. 222-224, 1905.
4. ALESSANDRI, G. In un ambiente liquido possono svilupparsi le uova di *Uncinaria*? Boll. Soc. zool. Ital. Ser. 2, vi, pts. 4-6, pp. 163-166.
5. ——. Su di alcuni Uncinariæ parassite dell' uomo e di altri vertebrati. T. c. pts. 1-3, pp. 23-48.
6. ANNANDALE, N. Notes on an Indian worm of the Genus *Chaetogaster*, n. sp. P. Asiat. Soc. Bengal i, 1905, No. 4, pp. 117-120.
7. ARIOLA, V. I Cestodi e la metagenesi. Atti Soc. Ligustica xvi, 2, 1905, pp. 138-143.
8. ——. I Cestodi e la metagenesi. Boll. Mus. Genova 1905, No. 130.
9. ARMANANTE, ZOFÉ. Osservazioni sul *Protodrilus hypoleucus* Arm. Arch. zool. ital. ii, 2, 1905, pp. 137-147.
10. ASHWORTH, J. H. Notes on Laboratory work at Port Erin Biol. Station. Reproduction and development in *Arenicola*. P. Liverpool. biol. Soc. xix, p. 15, 1905.
11. BALFOUR, ANDREW. Parasites from the Soudan. Rep. Wellcome Research Lab. Khartoum 1904, pp. 51-59.
12. †BATHER, F. A. The Mount Torlesse Annelid. Geol. Mag. No. 498, Dec. 1905, pp. 532-540.
13. BEAUCHAMP, P. M. DE. Sur l'organe rétro-cérébral de certains Rotifères. C.R. Ac. Sci. cxli, pt. 22, pp. 961-963, 1905.
14. ——. Remarques sur deux Rotifères parasites. *Pleurotrocha parasitica* and *Driphaga delagei*. Bull. Soc. zool. France xxx, 6, 1905, pp. 117-124.
15. ——. Première liste de Rotifères observés aux environs de Paris. T. c. 1905, pp. 15-17.
16. ——. Remarques sur *Eosphora digitata* et description de son male. Arch. zool. exp. Notes, Ser. 4, iii, p. 225.

---

\* An asterisk prefixed to a quotation indicates that the Recorder has not seen the Paper or Work referred to.

† Prefixed to a quotation indicates a Geological reference.

17. [BEAUCHAMP, P. M. DE.] Études sur les Cestodes des Sélaciens. Arch. parasit. ix, No. 4, pp. 461-539.
18. BEDDARD, F. E. On a new Enchytraeid worm destructive to the eggs of a locust. India. P. Z. S. 1905, ii, pt. 2, pp. 61-64.
19. ——. On a new species of worm of the genus *Pontodrilus* from the shores of the Red Sea. T. c, pp. 558-561.
20. †BELLINI, R. Le varie facies del Miocene medio nelle Colline di Torino. Boll. Soc. geol. Ital. xxiv, 1905, pp. 607-653.
21. BENHAM, W. B. Earthworms from the Kermadecs. Tr. N. Zealand Inst. xxxvii, pp. 298-300.
22. ——. The *Oligochaeta* of the Southern Islands of the New Zealand region. T. c. pp. 285-297.
23. ——. The Sipunculids of New Zealand. Op. cit. xxxvi, pp. 173-184. [Omitted 1904.]
24. ——. On a new species of Leech (*H. antipodum*) recently discovered in New Zealand. T. c. pp. 185-192. [Omitted 1904.]
25. ——. Note on the *Oligochaeta* of the New Zealand lakes (spp. recorded 1903). T. c. pp. 192-198. [Omitted 1904.]
26. ——. Some earthworms from the North Island of New Zealand. Op. cit. xxxvii, pp. 281-285.
27. ——. On some edible and other new species of Earthworms from the North Island of New Zealand. P. Zool. Soc. London 1904, vol. 2, pp. 220-263.
28. BENOIT-BAZILLE, H. & DRAMARD, J. L'Ascaride du Lion. Microgr. prep. xiii, pt. 5, 1905, pp. 222-224.
29. ——. Deux nouveaux parasites du tigre royal. Naturaliste, Ser. 2, 428, p. 10.
30. BERGMAN, W. & COLLIN, A. [Record of] Vermes (excl. Nematelminthes, Gordius, Inermis, Trematodes, Cestodes) für 1893. Arch. Naturg. lxiv, ii, 3, pp. 129-229.
31. \*BERNARD, MATILDA. The anatomy and life-history of *Anchylostoma duodenale* Dub. [Monograph]. Rec. Egypt. School Med. iii, pp. 6-159, 10 pls.
32. BIGOT, M. Collection De France au Mus. d'hist. Nat. à Caen. Catalogue critique. Vers. Bull. Soc. Normand. Ser. 5, viii, pp. 251-268, 1905.
33. BLANCHARD, R. Observations sur un cas de bilharziose. Arch. parasit. ix, pp. 148-150.
34. ——. Prophylaxie de la maladie Hydatique. T. c. No. 4, pp. 451-462.
35. ——. Trichocéphales chez les typhiques. T. c. p. 322.
36. BLOCHMANN, F. Epithel und Bindegewebe bei *Hirudo*. Anat. Anz. xxvi, 9 to 10, pp. 269-271.
37. BOLSIUS, H. Le sperme de la *Hæmenteria costata*, du spermatophore à Poviducte. C.R. Congr. Zool. Berne vi, pp. 368-372.
38. BORREL, M. A. Infection vermineuse et Spirochètes chez les souris cancéreuses. C.R. Soc. Biol. lvii, i, p. 770, 1905.
39. BORELLI, A. Sulla presenza della *Planaria alpina* e della *Polycelis cornuta* nei Pirenei. Boll. Mus. Torino xx, No. 483, pp. 1-4.

- BORING, A. M. [See STEVENS & BORING (416).]
40. BOSE, F. J. & E. Conservation indéfini du virus Claveleux procédé de la Sangsue. C.R. Soc. Biol. lvii, 1, pp. 299-301.
41. BOURQUIN, J. Cestodes des mammifères. Le genre *Bertia*. [With Bibliogr.] Rev. Suisse Zool. xiii, 1905, pp. 414-506.
42. ——. Contribution à l'étude des Cestodes de mammifères. Le genre *Bertia*. Zool. Anz. xxviii, No. 11, pp. 417-419.
43. BOUTCHINSKY, P. Note sur la faune de Kujalnik, 1904. *Macrostomum hystrix*. Mem. Soc. nouv. Russ. xxvii, pp. 135-142.
44. BRANCH, C. W. Uncinaria and other intestinal parasites, W. Indies. J. trop. Medicine viii, p. 261, 1905.
45. BRASIL, LOUIS. La résorption phagocytaire des éléments reproducteurs dans *Lumbricus herculeus*. Note. C.R. Ac. Sci. xl, pt. 9, p. 597, 1905.
46. BREEM, J. VAN. Plankton van Noord- en Zuider-Zee. Tijdschr. Nederland. Dierk. Ver. Ser. 2, ix, 1 & 2, p. 210.
47. BREHM, V. & ZEDERBAUER, E. Das September-Plankton des Skutari-sees. (*Rotifera*.) Verh. Ges. Wien lv, 1 & 2, pp. 47-52.
48. — & —. Beiträge zur Planktonuntersuchung Alpiner Seen. (*Rotifera*.) T. c. 3 & 4, pp. 222-240.
49. BRÉHON. Fréquence de l'uncinaire et de quelques autres vers intestinaux dans une région du Bassin du Pas-de-Calais. Arch. parasit. ix, No. 4, pp. 540-545.
50. BRETSCHER K. Beobachtungen über die Oligochaeten der Schweiz. [Lakes Lugano and Muzzano and district.] Rev. Suisse Zool. xiii, 1905, pp. 663-677.
51. BRIOT & VAN GAVET. Changements survenus dans la faune du vieux port de Marseilles. [Nereids and Nemertines.] C.R. Soc. Biol. lvii, 1905, pp. 1095-1097.
- BROWN, A. J. JUKES. [See JUKES-BROWN (225).]
52. BROWNE, EDWARD T. Notes on the pelagic fauna of the Firth of Clyde. P.R. Soc. Edinb. xxv, 1905, pp. 779-791.
53. BRUNELLI, G. & SCHOENER, H. Die Frage der Fortpflanzungsperiodizität des Palolowurms im Lichte der allgemeinen Biologie der Chaetopoden. Annexe 1. C.R. Congr. Zool. vi, Berne, pp. 647-663.
54. BUGNION, E. & POPOFF, N. La spermatogénèse du *Lombric* terrestre. Arch. Zool. exp. Ser. 4, iii, pp. 339-389.
55. ——. Spermatogénèse du *Lombric*, figg. C.R. Congr. Zool. vi, Berne, pp. 410-420.
56. BÜRGER, OTTO. Nemertinen. Expedition Antarctique Belge, Résultats du voyage du S.Y. Belgica. Rapports Scientifiques, Zoologie. Anvers, 1904. (Omitted 1904.)
- 56A. ——. Nemertini. Bronn's Klassen und Ordnungen des Thierreiches. iv, Suppl. pp. 385-480, pls. xx & xxi.
57. BUSH, KATHERINE, J. Tubicolous Annelids of the tribes Sabellides and Serpulides from the Pacific Ocean. Harriman Alaska Exped. xii, New York, 1905, pp. 171-268.
58. CAMERANO, L. Gordii dei Pirenei. Boll. Mus. Torino xx, No. 505.

59. [CAMERANO, L.] Osservazioni intorno al *Chordodes festæ* Camer. T. c. No. 504, 2 pp.
60. †CAPEDER, G. Contribuzione alla conoscenza della origine di alcuni rilievi e di alcune impronte organiche e fisiologiche Fossili. Boll. Soc. geol. Ital. xxiv, F. 1, 1905, pp. 169-189.
61. †CAREZ, L. La Géologie des Pyrénées Françaises; feuilles de Tarbes et de Luz. Mem. Carte geol. France, Fasc. ii, pp. 745-1224. [Omitted 1904.]
62. CARL, —. Die thierischen Parasiten der Schlactthiere des Karlsruher Schlacthauses. Mt. Zool. Vereins. Baden xvii, pp. 117-120.
63. CARPENTER, GEORGE H. Injurious insects and other animals observed in Ireland, 1904. [*Tylenchus devastatrix*, Co. Down.] Econ. P. Dublin Soc. i, pt. 6, p. 285, 1905.
64. CATOIS, —. Note sur une anomalie du *Tenia saginata* (*T. fenestrata*). Bull. Soc. Normand. Ser. 5, viii, p. 249, 1905.
65. CATTO, JOHN. *Schistosoma cattoi*, a new blood fluke in man occurring with filarial infection. J. trop. Medicine viii, 1905, pp. 70-73.
66. —. *Schistosoma cattoi*, a new blood fluke of man. Brit. Med. J. 1905, i, pp. 11-13, fig. 9, 1 pl.
67. CAULLERY, M. & MESNIL, F. Comparaison des cycles évolutifs des *Orthonectides* et des *Dicyemides*. C.R. Ac. Sci. cxli, pt. 21, pp. 774-776, 1905.
68. — & —. Sur quelques nouvelles *Haplosporidies* d'Annélide. C.R. Soc. Biol. 1905, lvii, 1, p. 581.
69. — & —. Comparaison des cycles évolutifs des *Orthonectides* et des *Dicyémides*. Op. cit. ii, p. 431-433.
70. — & —. Recherches sur les *Haplosporidies*. List of hosts. Arch. Zool. exp. Ser. 4, iii, 3, pp. 1-80.
71. — & LAVALLÉE, A. Sur les larves ciliés produites par la femelle d'un *Orthonectide* *Rhopalura ophiocoma*. C.R. Soc. Biol. 1905, ii, pp. 265 & 266.
72. CECCONI, J. Sur l'*Auclorina sagitata*, parasite de la *Capitella capitata*. Arch. Protistenk. vi, Heft. 3, pp. 230-245.
73. CINITZVINA, D. T. Materials to the study of Trematoda (Distoma). Warsaw, 1905.
74. †CISNERO, J. DE. El nummulitico de Agost. Bol. Soc. espan. v, No. 10, pp. 52-57.
75. CHALMERS, A. *Cysticercus cellulosa* in a Tamil woman's muscles and brain, fig. Spolia Zeylan. ii, 8, pp. 179-181.
76. \*CHILD, C. M. Studies on Regulation. vii. Further experiments on form regulation in *Leptoplana*. J. exp. Zool. ii, pp. 253-285, 34 text-figg.
77. —. Studies on Regulation. ix. The positions and proportions of parts during regulation in *Cestoplana* in the presence of the Cephalic Ganglia. Arch. Entwickmech. xx, pp. 48-75, 53 text-figg.
78. —. Studies on Regulation. x. The positions and proportions of parts during regulation in *Cestoplana* in the absence of the Cephalic Ganglia. T. c. pp. 157-186, 68 text-figg.

79. [CHILD, C. M.] Studies on Regulation. VIII. Functional regulation and regeneration in *Cestoplana*. Op. cit. xix, pp. 261-294, 46 text-figg.
80. †CLARKE, J. M. Type specimens of paleozoic fossils. Bull. N. York Mus. lxxx, paleont. 10, Append. 3, Vermes, pp. 44-46.
81. †— & LUTHER, D. D. Stratigraphical and paleontological map of Canandaigua and Naples quadrangles. Rep. N. York Mus. Vol. lvi, pt. 2, Bull. lxiii, Paleont. 7, pp. 1-76. See p. 40.
82. †— & MERRILL, J. H. Catalogue of type specimens of paleozoic fossils in New York State Museum. Rep. N. York Mus. lvi, pt. 2, Bull. lv, Paleont. 8, Vermes, pp. 80-94.
83. CLERC, W. Courte notice sur mes excursions zoologiques 1903 & 1904. [Lists of Helminthes and Avian hosts. Ourals.] Bull. Soc. Oural. xxv, pp. 18-28.
84. —. Notice sur quelques collections helmintologiques inédites. Bull. Soc. Oural. xxv, pp. 28-34.
85. CLÈVES, V. DE. Les vers d'eau douce. [Biological notes.] Naturaliste, Ser. 7, No. ccccl, pp. 271-273, ccccli, pp. 286-288.
86. COE, W. R. Anatomy and development of the terrestrial Nemertean (*Geonemertes agricola*) of Bermuda. P. Boston Soc. xxxi, No. 10, pp. 531-570.
87. —. Synopsis of North American invertebrates. XXI. The Nemerteans. Pt. 1. Amer. Natural. xxxix, No. 463, pp. 425-447. figg.
- 87A. —. Nemerteans of the Pacific Coast of N. America. Parts I. & II. Harriman Alaska Exped. xi, pp. 220, 22 plates.  
Part I, pp. 1-110 was published in P. Washington Ac. iii, 1901, and is here reprinted.
- 87B. —. Nemerteans of the West and Northwest Coasts of North America. Bull. Mus. Harvard xlvii, pp. 1-318, plates i-xxv.
88. —. Sexual phases in *Geonemertes*, figg. Zool. Anz. xxviii, No. 12, pp. 454-458.
89. COLE, —. Note on the occurrence of an Earthworm with bifid tail, Manningtree, Essex. Essex Natural. xii, p. 70, 1905.
90. COLE, L. J. The German Carp in the United States. Parasitic *Echinorhynchus*. Rep. Bureau of Fisheries, Washington, 1905, p. 576.
91. COLLIN, A. Verzeichniss der Publikationen mit Inhaltsangabe für Rotatoria und Gastrotricha 1897. Arch. Naturg. lxiv, ii, 3, pp. 1-24.  
— [See also BERGMANN & COLLIN (30).]
92. CRIMP-LYDSTONE, —. Relative position of *Schistosoma cattoi* and *Bilharzia* as regards pathogeny. Bilharziosis in appendix and liver. J. trop. Medicine viii, 1905, pp. 67 & 68.
93. CROSSLAND, C. Ecology and deposits of Cape Verde Marine Fauna. P. Z. S. 1905, i, pt. 2, pp. 170-186.
94. \*CURTIS, W. C. Work on the life histories of some Cestode Parasites of Fishes. Biol. Bull. viii, p. 231. [Title only.]
95. CZERSKI, ST. & NUSBAUM, J. Beiträge zur Kenntnis der Regenerationsvorgänge bei den Capitelliden. Bull. Ac. Cracovie, No. 7, 1905, pp. 471-477.

96. †DACQUÉ, F. Beiträge zur Geologie des Somalilandes. II. Teil. Oberer Jura. Beitr. Pal. Oesterr.-Ung. xvii, pt. 3 & 4, pp. 119-159.
97. DADAY, E. VON. Untersuchungen über die Süßwasser-Mikrofauna Paraguays. Zoologica, 1905, Bd. xviii, Heft. 44, pp. 48-87 & 327. [Nematoda, Nematorhyncha, Rotatoria.]
98. DAWYDOFF, C. *Hydroctema salenskii*. Mem. Ac. St. Petersb. xiv, No. 9, 1903. (Omitted 1903.)
99. DELAP, M. & C. Notes on the Plankton of Valencia Harbour. Ann. Rep. Fish. Ireland, 1902 & 1903, pt. ii, App. 1 (1905), pp. 3-20.
100. DEPDOLLA, PH. Untersuchungen über die Spermatogenese von *Lumbricus terrestris*. Zool. Anz. xxviii, No. 16 & 17, pp. 545-557.
101. DÉVÉ, M. F. L'éosinophilie locale des Kystes hydatiques. C.R. Soc. Biol. 1905, pp. 49-51.
102. —. La prolifération vésiculaire exogène dans l'échinococcose humain. T. c. pp. 98-100.
103. —. Caractères zoologiques de l'Échinococcose alvéolaire Bavaro-Tyrolienne. [Young forms.] T. c. 1905, 1, pp. 126-128.
104. —. Échinococcose hépatique secondaire, d'origine biliaire. [Infection in bronchiæ.] T. c. pp. 246-248.
105. —. Échinococcose multioculaire du Bœuf, et échinococcose alvéolaire humaine (Bavaro-Tyrolienne). T. c. p. 297-299.
106. —. Échinococcose des ganglions lymphatiques chez un mouton. T. c. pp. 299 & 300.
107. DOMASCHKO, A. Die Wandung der Gonade von *Ascaris megalocephala*. Ein Beitrag zur Zellenlehre. Arb. Zool. Inst. Wien xv, 1905, pp. 257-280.
108. †DONGIEUX, L. Fossiles nummulitiques de l'Aude et du Hérault, *Serpula*. Ann. Univ. Lyon xvii, 1905, pp. 94-96.
109. DOUVILLÉ, H. Le terrain nummulitique du Bassin de l'Adour. Bull. Soc. geol. France, Ser. 4, v, No. 1, pp. 9-55.  
DRAMARD, —. [See BENOIT-BAZILLE & DRAMARD (28).]
110. DUBREILLE, W. Cutaneous Ankylostomiasis. The cause of "ground itch." Presse médicale, Apr. 15, 1905.
111. DUTTON, J. EVERETT. Intermediary host of *Filaria cypseli*: the *Filaria* of the African Swift. Note. J. trop. Medicine viii, 1905, p. 108.
112. DYÉ, LÉON. Les parasites des Cœlicides (*Platyhelminthes*, *Nemathelminthes*). Arch. parasit. ix, pp. 1-77.
113. EDMOND, —. & SERGENT, E. Sur des embryons de filaires dans le sang du dromadaire. C.R. Soc. Biol. lvii, 1, 1905, pp. 672 & 673.
114. EHLERS, E. Anneliden der Sammlung Schauinsland. Zool. Jahrb. Syst. xxii, 3, pp. 281-302, pl. ix.
115. EISEN, G. Enchytræids. Harriman Alaska Exped. xii, New York, 1904.
116. EMERY, C. Proposta di una nuova partizione generale dei metazoi, [with discussion on Phylogeny of *Polycladida*]. Rend. Acc. Bologna viii, 1903-1904, pt. 4, pp. 61-75.

117. ENDERS, H. G. Notes on the Commensals found in the tubes of *Chaetopterus pergamentus*. Amer. Natural. xxxix, No. 457, pp. 37-40.
118. ENGLER, K. Abnormer Darmverlauf bei *Opisthorchis felinus*. Zool. Anz. xxviii, 1904, No. 5, pp. 186-188. (Omitted 1904.)
119. ENRIQUES, P. Della circolazione oscillante nella *Phoronis psammophila*. Atti Acc. Lincei xiv, Nov. 1905, pp. 451-454.
120. ENTZ, G. [*Ascaris hystax* in infant aged 8 months. Note.] Allätt. Kozl. Magyar Tars. iv, 4 & 5, 1905, p. 244.
121. EVANS, WILLIAM. Additions to Scott & Lindsay's list of Animals found in the Upper Elf Loch. Ann. Scott. Nat. Hist. lvi, p. 215, 1905.
122. ——. *Rhynchodemus terrestris* in the Edinburgh district. Op. cit. liii, 1905, p. 57.
123. FAGE, LOUIS. Modifications et rôle des organes segmentaires chez les formes épitoques d'*Annélides Polychètes, Heteronereis*. C.R. Ac. Sci. cxli, pt. 1, pp. 61-64.
124. ——. Les organes segmentaires au moment de la maturité sexuelle chez les *Hésioniens* et les *Lycoridiens*. T. c. pt. 2, pp. 130-132, 1905.
125. ——. Sur la forme épitoque de *Nereis fucata*. [Descript. and discussion of literature.] Bull. Mus. Paris 1904, No. 7, pp. 485-491.
126. FASCIOLA, A. Strobilo fuso in *Tenia saginata*. Boll. Mus. Genova 1905, No. 131.
- 126A. ——. Strobilo fuso di *Tenia saginata*. (Duplicate publication.) Atti Soc. Ligustica xvi, 2, 1905, pp. 134-137.
127. FAUVEL, P. Les otocystes du *Branchiomma vesiculosum* [experimental] figg. C.R. Congr. Zool. vi, Berne, pp. 360-364.
128. †FAVRE, JEAN. Sur les fossiles crétacés au district de Slaviansk-Ekatherinoslaw, *Serpula gordialis*. Trudui Kharkov. Univ. xxxviii, 2, pp. 102-162.
129. FINCKH, A. E. Biology of the Reef-forming organisms at Funafuti Atoll. From "The Atoll of Funafuti," R. Soc. 1904, pp. 125-150.
130. \*FOOT, KATHARINE & STROBELL, E. C. Prophases and Metaphase of the first maturation spindle of *Allolobophora fetida*. Amer. J. Anat. iv, pp. 199-243, 9 pls.
131. FORSELL, A. L. *Echinorhynchus semermis* n. sp. [Gulf of Finland.] Medd. Soc. Faun. Fenn. 1903-1904, pp. 175-179.
132. FOWLER, HERBERT. Biscayan Plankton collected during a cruise of H. M. S. "Research." *Chaetognatha*. Tr. Linn. Soc., Ser. 2, x, pt. 3, pp. 55-87.
133. FRANCAVIGLIA, M. C. Anomalie riscontrate in due esemplari di *Tenia saginata*. Boll. Soc. zool. Ital., Ser. 2, vi, pts. 7 & 8, pp. 273-282.
134. FRÉDÉRIQ, LÉON. *Planaria alpina* in the Helle, Gore and Hægue, Belgium. Note. Bull. Ac. Belgique 1905, No. 5, p. 199.
135. FREEMAN, R. Fauna and Flora of Norfolk *Rotifera*. [List of species with localities and frequent occurrence noted.] Tr. Norfolk Soc. viii, pt. 1, pp. 137-147.
136. FREUDWEILER, HEDWIG. Studien über das Gefässsystem niederer Oligochäten. [*Enchytræida*. Anat. and histol., Plates.] Jena. Zeitschr. xl, pt. 2, 1905, pp. 383-422.

137. FRIEDLÄNDER, B. Zur Geschichte der Palolofrage (controversial note). Zool. Anz. xxvii, pp. 716-721. (Omitted 1904.)
138. FUHRMANN, O. Über Ostasiatische Vogel-Cestoden. Figg. Zool. Jahrb. Syst. xxii, 3, pp. 303-320.
139. FULLER, W. N. & RAYMOND PEARL. Variation and Correlation in the Earthworm. Biometrika iv, pt. 2, p. 211, 1905.
140. GALVAGNI, E. *Ctenodrilus*, Histologische Untersuchung des Genus. Arb. Zool. Inst. Wien xv, pp. 47-81.
141. GAMBLE, F. W. & KEEBLE, F. On the isolation of the infecting organism (*Zoochlorella*) of *Convoluta roscoffensis*. P. R. Soc. London lxxvii, No. 514, p. 66, 1905.
- GAVET, VAN. [See BRIOT & VAN GAVET (51).]
142. GAUTIER, C. Microfilaires du sang coincidant avec une flaire de Pœil. C.R. Soc. Biol. lvii, 1, 1905, pp. 632-634.
143. GHORGHEVYGH, Z. [Plankton organisms from Lakes of the Balkans (Rotifera).] Ghlas Srpska Ak. lxix, 27, pp. 190-279.
144. GIARD, A. La pœcilogonie (pp. 622-627). Annee 1. C.R. Congr. Zool. vi, Berne, pp. 617-646.
145. GILBERT, N. C. Occurrence of *Echinostomum spinosum* (fig.). Amer. Natural. xxxix, No. 468, pp. 925 & 926.
146. — & MARSHALL, W. S. Three new Trematodes found principally in Black Bass. Zool. Jahrb. Syst. xxii, 4, pp. 477-488.
147. — & —. Notes on the food and parasites of some fresh-water fishes from the Lakes at Madison, Wis. Report Bureau of Fisheries, Washington, 1905, pp. 515-522.
148. GILBERT, A. & LEREBoulLET, —. Kystes hydatiques du foie et cholémie familiale. C.R. Soc. Biol. lvii, 1, 1905, pp. 571-575.
149. GOLDSCHMIDT, R. Embryonal Entwicklung des *Zoogonus mirus*. Zool. Jahrb. Anat. xxii, 4, pp. 606-654.
150. —. Über die Cuticula von *Ascaris*. Zool. Anz. xxviii, 1904, No. 7, pp. 259-266.
151. GOUGH, L. G. Report on the Plankton of the English Channel in 1903. Charts. North Sea Fisheries Investigation Committee, Rep. 2 (S. area), pp. 325-377.
152. —. Plankton collected at Irish Light Stations 1904. Fisheries, Ireland, Sci. Invest. 1904, vi, pp. 12-53.
153. GRAEFE, ED. Übersicht der Fauna des Golfes von Triest, nebst Notizen über Vorkommen, Lebensweise, Erscheinungs- und Laichzeit. Vermes, Theil i. Arb. Inst. Wien xv, 1905, pp. 317-331.
154. GRAFF, LUDWIG VON. *Turbellaria* I. *Acela*. Das Tierreich Lief. xxiii. Berlin, 1905, 34 pp.
155. —. Marine Turbellarien Orotavas u. der Küsten Europas. *Rhabdocela*. Zeitschr. wiss. Zool. vol. lxxxiii, pp. 68-150.
156. \*GRAHAM, W. M. Guinea-worm and its hosts. Brit. Med. J. 1905, ii, pp. 1263-1266, 3 text-figg.
157. —. Guinea-worm and its hosts; intermediary host a *Cyclops*. J. trop. Medicine viii, p. 248, 1905.



158. GRAVIER, CH. *Ptychodera erythræa*. [*Balanoglossus* from Suez.] Bull. Soc. Philom. Ser. 9, vii, pt. 2, p. 69, 1905.
159. —. Sur un Polynoïdien, *Lepidasthenia digueti* n. sp. [Commensal with *Balanoglossus*.] California. T. c. pt. 3, pp. 160-173.
160. —. Sur les Néréidiens d'eau douce [with new species, Taraururoa, Pacific]. T. c. pt. 4, p. 212.
161. —. Sur l'organe nucal des *Chétophériens*. [Note on *Rauzania* and *Telepsanus*.] C.R. Ass. Franc. 1904, p. 784.
162. —. Organe externe de Néphridies chez le *Chétophère*. T. c. pp. 785-788.
163. —. Sur les Annélidos Polychètes de la mer Rouge. *Cirratulida*, *Spionida*, *Aricida*. Bull. Mus. Paris 1905, No. 1, pp. 42-51.
164. —. Sur *Ptychodera erythræa* Spengel. [Description and figg.] T. c. pp. 46-51.
165. —. Annélides Polychètes de la mer Rouge, *Flabelligerida*, *Opheliida*, *Capitellida*, *Chætopterida*. T. c. pp. 89-94.
166. —. Polynoïde commensal d'un Balanoglosse de Basse-Californie. T. c. pp. 177-181. (See also C.R. Ac. Sci. cxl, pt. 13.)
167. —. Sur les genres *Lepidasthenia* et *Lepidometria*. T. c. pp. 181-184.
168. —. Annélides polychètes de la mer Rouge. Cirratulien, Amphicéliens, Térébéliens. T. c. pp. 319-327.
169. —. Sur les Annélides Polychètes de la mer Rouge. Op. cit. 1904, pt. 7, pp. 472-476.
170. —. Sur un type nouveau de la famille des *Capitellien*. [Red Sea.] T. c. No. 8, pp. 557-561.
171. —. Sur un Polynoïdien commensal d'un *Balanoglosse* du Golfe de Californie. C.R. Ac. Sci. cxl, pt. 13, pp. 875-878, 1905. (See also Bull. Mus. Paris 1905, No. 3.)
172. —. Sur l'évolution des formes sexuées chez les Néréidiens d'eau douce. [With altered function of parapodia.] T. c. pp. 1561 & 1562, 1905.
173. —. Sur un prétendu cas de reproduction par bourgeonnement chez les Annélides polychètes. [Tentacles of a new Polycirrid, Somaliland.] Op. cit. cxli, pt. 22, pp. 905 & 906, 1905.
174. —. Sur un nouveau Syllidien, *Alluaudella* nov. gen. *madagascariensis* nov. sp. figg. C.R. Congr. Zool. vi, Berne, pp. 372-376.
175. GREGORY, LOUISE H. Hermaphroditism in *Sabella microphthalama* Verrill. Biol. Bull. ix, 5, 1905, pp. 287-291.
176. GROBBEN, KARL. Claus' Lehrbuch der Zoologie, 7<sup>te</sup> Auflage. Enteropneusta, with *Discocephala* and *Balanocephala*, Vermes. Pt. i, 1904, Pt. ii, pp. 680-686.
177. GRONKOWSKY, K. [Histology of Cercariæ.] Protok. Kazan. Univ. 1904, No. 223.
178. GROSSER, W. Einige Schädlinge unserer Culturpflanzen. [Note on occurrence of *Heterodera* in plant roots.] Jahresber. Schlesisch. Ges. lxxxii, 1904, Abt. ii, p. 5.
179. GUÉGUEN, F. Nouveau cas de Pseudo-parasitisme d'un *Gordius* dans le tube digestif de l'homme. C.R. Soc. Biol. 1905, pp. 398-400.

180. GUIART, J. Action pathogène des parasites de l'intestin. Arch. parasit. ix, p. 175.
181. GUNGL, OTTO. Anatomie und Histologie der Lumbricidenblutgefäße. Arb. Inst. Wien xv, 1905, pp. 155-182.
- 181A. HARMER, S. F. The Pterobranchia of the Siboga-Expedition with an account on other species. Siboga-Expeditie. Monograph xxvi bis. 132 pp., xiv plates.
- 181B. —. Hemichordata. Cambr. Nat. Hist. vii, pp. 3-32, 1904.
182. \*HARPER, E. H. Reactions to light and mechanical stimuli in the Earthworm *Perichæta bermudensis* (Beddard). Biol. Bull. x, pp. 17-34, 6 text-figg.
183. HALLEZ, PAUL. Note préliminaire sur des Polyclades recueillis dans l'expédition antarctique du "Français." Bull. Soc. zool. France xxx, pt. 6, 1905, pp. 124-129.
184. HAWELKA, V. Einige geologische Beobachtungen über das Gackopolje und seine Umgebung. Verh. geol. Reichsanst. 1905, No. 5, pp. 113-118.
185. HEIM, A. Zur Kenntnis des Glarner Überfaltungsdecken. Zeitschr. Deutsch. geol. Ges. lvii, pt. 2, pp. 88-111 & 145-232.
186. HENRY, A. & RAILLET, A. Un nouveau Scélérostomien parasite de l'homme. *Tridontophorus deminutus*. C.R. Soc. Biol. lvii, i, 1905, pp. 569-571.
187. — & —. Encore un nouveau Scélérostomien parasite de l'homme, *Æsophagostomum brumpti* n. sp. T. c. pp. 643-645.
188. — & —. Nouveau Scélérostomien, parasite de l'homme et la cachexie africaine. Bull. Mus. Paris 1905, No. 4, pp. 269-272.
189. HÉRUBEL, A. M. Sur un nouveau Siponcle. Bull. Mus. Paris 1905, No. 1, pp. 51-54.
190. —. Sur les Sipunculides nouveaux rapportés de la mer Rouge par M. Ch. Gravier. Op. cit. 1904, No. 7, pp. 476-480.
191. —. Liste de Sipunculides et de Échiurides rapportés du Golfe de Tadjourah par M. Ch. Gravier. T. c. No. 8, pp. 562-566.
192. —. Les productions tegumentaires des Sipunculides. Bull. Soc. zool. France xxx, 7, pp. 90-97, 1905.
193. —. Sur une nouvelle espèce du genre *Sipunculus*. Figg. Annexe i. C.R. Congr. Zool. vi, Berne, pp. 690-693.
194. HESSE, E. Microsporidie parasite de *Limnodrilus hoffmeisteri*. C.R. Soc. Biol. lvii, i, 1905, pp. 12 & 13.
195. HEYMANN, G. Neue Distomen aus Cheloniern. Zool. Jahrb. Syst. xxi, 1 & 2, pp. 81-100, pl. vi.
196. HINDE, G. J. Report on materials from the Borings at Funafuti Atoll. From "The Atoll of Funafuti," R. Soc. 1904, pp. 186-301.
197. HLAVA, S. Über eine Rädertierart aus der Gattung *Albertia*. Zool. Anz. xxviii, No. 10, pp. 365-368.
198. —. Über die systematische Stellung von *Polyarthra fusiformis* Spencer. T. c. Nos. 8 & 9, pp. 331-336.
199. —. Beiträge zur Kenntnis der Rädertiere, über die Anatomie von *Conochiloides natans*. Zeitschr. wiss. Zool. lxxx, pt. 2, pp. 283-326.

200. HOEK, P. P. Report of the International Marine Investigation. Introductory. Résumé of hauls at Plankton Stations. Reports Intern. Mar. Expl. iii, p. 111, 1905.
201. —. . . . . Rep. Brit. Del. to International Council for Exploration of the Sea. Op. cit. vol. ii, p. 71.
202. HORNELL, JAMES & SHIPLEY, A. E. The parasites of the Pearl Oyster. Roy. Soc. Rep. on Pearl Oyster Fisheries ii, p. 77, 1904.
203. — & —. Further report on parasites found in connection with Pearl Oyster Fisheries at Ceylon. Op. cit. iii, 1905, p. 49.
204. HUARD, VICTOR A. Traité élémentaire de Zoologie et d'Hygiène. Supplément du Natural. Canad. 1905, pp. 210-214.
- 204A. HUBER, G. Monographische Studien im Gebiete der Montigglerseen (Sudtirol) mit besonderer Berücksichtigung ihrer Biologie. Arch. Hydrobiol. i, pp. 1-81 & 123-208.
205. IJIMA, I. On a new Cestode larva parasitic in man. J. Coll. Tokyo xx, No. 7, pp. 1-22.
206. ISOLA, D. Esiste in Italia l'*Uncinaria americana*? Boll. Mus. Genova 1904, No. 129.
207. ISSEL, R. Oligocheiti inferiori della fauna italiana. I. Enchitreidi di Val Pellice. Zool. Jahrb. Syst. xxii, pp. 451-476, pls. xiii & xiv.
208. —. Intorno agli escreti linfociti (Osservazioni su *Allolobophora nematogena* Rosa). Arch. zool. ital. ii, 2, 1905, pp. 125-135.
209. IVERUS, J. Sur un Cestode du *Rhombus maximus*. C.R. Congr. Zool. vi, Berne, Annexe 1, p. 702.
210. IZUKA, AKIRA. On some points in the organisation of *Ceratocephale osawai*. [Japanese Palolo.] Annot. zool. Japon. v, pt. 4, pp. 239-250.
211. JÄGERSKIÖLD, L. A. *Bunonema richtersi* n. gen. et sp. Ein eigentümlicher neuer Land Nematode aus dem Schwarz-Wald, von Kerguelen und Possession-Inland. Zool. Anz. xxviii, Nos. 16 & 17, pp. 557-561, fig.
212. JAMMES, L. & MANDOUL, H. Sur la spécificité des hôtes des Cestodes. C.R. Soc. Biol. 1905, pp. 104-106.
213. — & —. Sur la biologie des Cestodes. [Note on the bactericide juices in certain Helminthes; power not confined to Cestoda. Nutrition of Cestoda.] C.R. Ac. Sci. cxl, pt. 4, p. 271, 1905.
214. JANICKI, C. v. Beutlercestoden der Niederländischen Neu-Guinea Expedition. Zugleich einiges Neue aus dem Geschlechtsleben der Cestoden. figg. Zool. Anz. xxix, No. 4, pp. 127-132.
215. —. Über Säugetier-Cestoden. Nachtrag u. Berichtigung. Op. cit. xxviii, 1904, No. 7, pp. 230 & 231.
216. JANOWSKY, R. Über die *Polygordius*larve des Hafens von Triest. Arb. Inst. Wien xv, 1905, pp. 197-212.
217. †JOHNSON, C. W. List of the types of invertebrate Cretaceous fossils in the Collection of the Academy of Natural Sciences, Philadelphia. P. Ac. Philad. lviii, i, pp. 4-28.
218. JOHNSTONE, JAS. Internal Parasites and diseased conditions of Fishes. *Trematoda* and *Cestoda*, Sea fisheries laboratory. P. Liverp. biol. Soc. xix, pp. 278-292.

219. JOUBIN, L. Cours d'océanographie. Bull. Mus. Monaco, No. 45, 1905.
220. —. Note sur un Némertien recueilli à Tonkin par M. L. Boutan. Bull. Soc. zool. France xxx, 7, pp. 144-147, 1905.
221. —. Note sur quelques Némertes recueillies par M. Ch. Gravier dans le Golfe de Tadjourah, Red Sea. [New species described.] Bull. Mus. Paris 1904, No. 6, pp. 326-343.
222. —. Notice sur la Collection Lamarck. [Some *Annelida* included.] T. c. No. 67, p. 459.
223. —. Sur quelques Némertiens recueillis en Basse-Californie par M. Diguët. Op. cit. 1905, No. 5, pp. 309-315.
224. —. Un Némertien recueilli par l'expédition Antarctique du Dr Charcot. T. c. pp. 315-318.
225. †JUKES-BROWN, A. J. The geology of the country S. and E. of Devizes. Mem. geol. Surv. U. K. July, 1905, pp. 1-61.
226. \*KAND, H. W. The behaviour of the epidermis of the Earthworm in Regeneration. Arch. Entwickmech. xix, pp. 16-57, pls. i-iii.
227. †KATZER, T. Beiträge zur Geologie von Böhmen. x. Beiträge zur Petrologischen Kenntnis des älteren Paläozoikums in Mittel Böhmen. Verh. geol. Reichsanst. 1905, No. 2, pp. 37-61.  
KEEBLE, F. [See GAMBLE & KEEBLE (141).]
228. KERR, J. S. *Schistosomum japonicum*, a new human parasite. Trans. from article in Annot. zool. Japon. v, 3. J. trop. Medicine viii, 1905, p. 108.
229. KLÆR, HANS. Notes on dredgings of the Drøbaksund, Norway. Nyt Mag. Naturv. xvii, 1, pp. 61-89, 1904.
230. KHOURI, A. Le Halzoun. [Infection by *Fasciola hepatica*]. Arch. parasit. ix, pp. 78-94.
231. KLEIN, WALTER. Neue Distomen aus *Rana hexadactyla*. Zool. Jahrb. Syst. xxii, pp. 59-79.
- 231A. KUNDSSEN, M. Bulletin trimestriel de résultats publié par le bureau du Conseil permanent international pour l'exploration de la Mer. 1905-6. No. 2 D, pp. 30-57, Février, Mai, Juillet.
232. KOHN, F. G. Einiges über *Paramermis contorta* (v. Linstow) = *Mermis contorta* v. Linstow. Arb. Inst. Wien xv, 1905, pp. 213-256.
233. KOSTANECKI, K. Études expérimentales sur l'origine des centrioles du premier fuseau de segmentation chez *Myzostoma glabrum*. Bull. Ac. Cracovie, No. 7, 1905, pp. 411-416.
234. KOWALEWSKI, M. [Materials for Polish helminthological parasitic fauna. iv.] Bull. Ac. Cracovie 1905, No. 6, pp. 391 & 392.
235. —. Helminthological Studies. ix. On two species of tape-worms of the genus *Hymenolepsis*. T. c. No. 7, 1905, pp. 532-534.
236. KRAWANY, J. Untersuchungen über das Zentral Nervensystem des Regenwurms. Arb. Inst. Wien xv, 1905, pp. 281-316.
237. LADREY, T. Sur les tubes de Poli de *Sipunculus nudus*. Note. Arch. zool. exp. Notes, Ser. 4, iii, 9, pp. 215-222.
238. LAIDLAW, FRANK FORTESCUE. Report on the Polyclad Turbellaria collected by Prof. Herdman at Ceylon. Roy. Soc. Rep. on Pearl Oyster Fisheries ii, 1904, p. 127.

239. LAMÈRE, A. [Résumé and Critique of MAX. HARTMANN's work on *Dicyemidae*.] Bull. Ac. Belgique 1905, xii, p. 625.
240. LANCHESTER, W. F. On a collection of *Sipunculids* made at Singapore and Malacca. P. Z. S. 1905, i. pt. 1, pp. 26-28.
241. —. Marine Fauna of Zanzibar, *Gephyrea*. T. c. pp. 28-35.
242. —. Sipunculids and Echiurids from the Skeat expedition to the Malay Peninsula. T. c. pp. 35-41.
- 242A. LANGERON, M. Note sur l'emploi du lactophénol pour le montage des nématodes. C.R. Soc. Biol. lvii, 1, 1905, p. 749.
243. LANKESTER, E. R. On a new species of *Cephalodiscus* (*C. nigrescens*) from the Antarctic ocean. P.R. Soc. London lxxvi, pp. 400-402, pl. viii.
244. LAUTERBORN, R. Nordische Plankton-Rotatorien. [Notes on life history prefatory to monograph.] Nordisches Plankton x, 1905, Lief. 3, pp. 18-42.
- LAVALLÉE, A. [See CAULLERY & LAVALLÉE (71).]
245. LEIDY, JOSEPH. Researches in Helminthology and Parasitology [a reprint], with a bibliography. Smithson. Collect. No. 1477, Vol. xlv, 281 pp.
- LEREBoullet, —. [See GILBERT & LEREBoullet (148).]
246. LETULLE, M. Bilharziose intestinale. Arch. parasit. ix, No. 3, pp. 329-439.
247. —. Phlébites bilharziennes. C.R. Soc. Biol. lvii, 1, 1905, pp. 607-609.
248. LEVANDER, K. M. On the occurrence of larvæ of *Ligula intestinalis*. Med. Soc. Faun. Fenn. 1903 & 1904, p. 109.
249. LIGNAN, N. Zur Frage über die Regenerationserscheinungen bei den Anneliden. Mem. Soc. nouv. Russ. xxvii, pp. 1-41.
250. LILLIE, R. S. The structure and development of the Nephridia of *Arenicola cristata*. Mt. Stat. Neapel xvii, pt. 3, pp. 341-405.
251. LINDER, CHS. À propos de *Mastigocerca blanci*. Notice rectificative. Zool. Anz. xxviii, 1904, No. 6, pp. 193 & 194.
252. LINSTOW, VON. Helminthen aus Ceylon und aus dem arktischen Gebiet. Zeitschr. wiss. Zool. lxxxii, pp. 182-193.
253. —. Über eine neue Art der Copula bei Distomen. Zool. Anz. xxviii, No. 7, 1904, pp. 252-254.
254. —. Helminthologische Beobachtungen. Arch. mikr. Anat. lxvi, pt. 3, pp. 355-366.
255. —. *Nemathelminthes, Gordius Trematodes, Cestodes*. [Record for 1902.] Arch. Naturg. lxiv, ii, 3, pp. 25-80.
256. —. Neue *Helminthen*. Op. cit. lxxi, i, 3, pp. 267-276.
257. LINTON, EDWIN. Parasites of Fishes of Beaufort, North Carolina. Bull. Bureau Fish. Washington (for 1904), xxiv, 1905, pp. 323-428.
258. —. Notes on Cestode cysts, *Tenia chamissonii* n. sp., from a Porpoise, figg. P. U. S. Mus. xxviii, 1905, pp. 819-822.
259. LOOSS, A. Die Wanderung der Ancylostomum- und Strongyloides-Larven von der Haut nach dem Darm. [Experimental.] C.R. Congr. Zool. vi, Berne, pp. 225-233.

260. \*[Looss, A.] The anatomy and life-history of *Agchylostoma duodenale* Dub. [Monograph.] Translated from the original German manuscript by Matilda Bernard. Rec. Egypt. School Med. iii, pp. 6-159, 10 pls.
261. \*——. Note on intestinal worms found in African Pygmies. Lancet 1905, ii, pp. 430 & 431.
262. LÜHE, —. Geschichte und Ergebnisse der Echinorhynchen-Forschung. Zool. Ann. i, pt. 3, 1905, pp. 251-353.
263. LUTHER, A. Note on *Tenia solium* and *T. saginata*, Finland. Medd. Soc. Faun. Fenn. 1903-1904, p. 48.
264. ———. *Mesostoma uljanini* Sabussow = *Bothromesostoma essenii* Braun, 1885. T. c. p. 65.  
†LUTHER, D. D. [See CLARKE & LUTHER (81).]
265. LYNCH, G. W. A. Note on the occurrence of *Filaria* in Fijians [in blood, *F. nocturna* and *F. persistans*]. J. trop. Medicine viii, 1905, p. 99.
266. MACCALLUM, W. G. On two new Amphistome parasites of Sumatran fishes. [Voyage of Dr W. Volz.] Zool. Jahrb. Syst. xxii, 6, pp. 669-678.
267. MACDONALD, G. A. Elephantiasis of the scalp: [patient infected with *Filaria*.] J. trop. Medicine viii, 1905, p. 97.
268. MAN, J. G. DE. Nématodes libres. Expédition Antarctique Belge. Résultats du voyage du S. Y. Belgica. Rapports Scientifiques, Zoologie 1904, Anvers.  
MANDOUL, H. [See JAMMES & MANDOUL (212).]
269. MAGALHÃES, P. S. DE. Notes d'Helminthologie Brésilienne. Arch. parasit. ix, pp. 305-318.
270. MALAQUIN, M. A. Les phénomènes histogéniques de la reproduction asexuelle chez les *Salmalines* et les *Filogramnes*. C.R. Ac. Sci. cxl, pp. 1484-1486.
271. MARENZELLER, E. VON. Zoologische Ergebnisse XIII. Polychäten des Grundes-Expedit. S. M. Schiff 'Pola' in das Östliche Mittelmeer. Denk. Ak. Wien lxxiv, 1904, pp. 295-323.  
MARSHALL, W. S. [See GILBERT & MARSHALL (146 & 147).]
272. MARTINI, L. C. DE. Gli oligocheti della regione neotropicale. Pt. I. Mem. Acc. Torino lvi, 1906, pp. 1-72; 1 pl.
273. ———. Lombrichi liguri del Museo Civico di Genova. Res Ligusticæ xxxvi, pp. 1-26.
274. ———. Oligocheti dell' isola d' Elba e di Pianosa. Boll. Mus. Torino xx, No. 490, pp. 1-6.
275. ———. Oligocheti raccolti nel Darien dal Dr E. Festa. T. c. No. 495, pp. 1-7.
276. ———. Sui pepto nefridi degli Oligocheti. T. c. No. 512.
277. MARVAL, L. DE. Monographie des Acanthocéphales d'oiseaux. Rev. Suisse Zool. xiii, 1905, pp. 195-387.
278. McDILL, J. R. & WHERRY, W. B. Notes on a case of Hæmatochyluria. Publ. Bureau Government Labs. Manila, No. 31, 1905, pp. 5-15.

279. McINTOSH, —. On budding in Animals. [*Turbellaria*, *Annelida*, *Cephalodiscus*.] *Zoologist* 1905, Ser. 4, ix, pp. 1-21.
280. —. On schizogony of certain post-segments in some Eunicids and Nereids 'Palolos' of the Pacific. *Rep. Brit. Ass.* 1904, pp. 608 & 609.
281. —. Notes from the Gatty Marine Laboratory, St Andrews, on Annelids, Japan, Scotland, Norway. *Ann. Nat. Hist.* (7) xv, pp. 33-57, 1905.
282. MEISSNER, W. Über die Winterfauna im Kaban-See. *Trudui Kazan. Univ.* xxxix, 3.
283. †MERRILL, G. P. Catalogue of the Type and figured specimens of Fossils &c. in the Department of Geology, United States National Museum. Pt. I. Fossil Invertebrates (Alphabetical order). *Bull. U. S. Mus.* No. 53, pt. 1, 1905.
- MERRILL, J. H. [See CLARKE & MERRILL (82).]
- MESNIL, F. [See CAULLERY & MESNIL (67-70).]
- 283A. MICHAELSEN, W. Die Oligochaeten der deutschen Tief-See Expedition. *Deutsche Sudpolar Expedition, Ergebnisse* iii, pp. 133-166.
284. —. Catalogo de los *Oligoquetos* del territorio chileno-magallánico i descripción de especies nuevas. *Revist. chilena* viii, pp. 262-322.
285. —. Die Oligochäten Deutsch-Ostafrikas. *Zeitschr. wiss. Zool.* lxxxii, pp. 288-367.
286. —. Die Oligochäten des Baikal-Sees. *Wissenschaftliche Ergebnisse einer zoologischen Expedition nach dem Baikal-See Professor's ALEXIS KOROTNEFF, 1900-1902. Erste Lieferung.* Kiew und Berlin, 1905.
287. —. Zur Kenntnis der Naididen. [Paraguay Fauna.] *Zoologica* Bd. xviii, pt. 1, Heft xlv, 1905, pp. 350-361.
288. MILNE, WILLIAM. On the function of the water vascular system in Rotifera, with notes on some South African *Floscularia*. *P. Phil. Soc. Glasgow* xix, pp. 118-127.
289. MINGAZZINI, P. Un Gefireo pelagico: *Pelagosphera aloysii* n. gen., n. sp., figg. *Atti Acc. Lincei* xiv, Pt. i, pp. 715-720.
290. MIRANDA, CH. DE. Molestias que affectam os animales domesticos. [*Filaria* and *Tænia*.] *Bol. Mus. Gœldi* iv, 2 & 3, pp. 438-468.
291. MONACO, PRINCE DE. Sur la Campagne de la "Princesse Alice." [Notes on Mid-Atlantic fauna.] *C.R. Ac. Sci.* cxl, pt. 21, pp. 1374-1376, 1905.
292. MONTI, RINA. Physiobiologische Beobachtungen an den Alpenseen zwischen dem Vigezzo, und dem Onsernonetal (1904). [Occurrence of Rotifers.] *Forschber. Plon* xii, 1905, pp. 63-89.
293. MONTICELLI, FR. SAV. Sul ciclo biologico dell' *Ichthyonema globiceps* Rudolphi. *C.R. Congr. Zool.* vi, Berne, pp. 400 & 401.
294. —. Il gruppo delle Temnocefale. *T. c.* pp. 402 & 403.
295. —. Su di un Echinorinco della collezione del Museo Zoologico di Napoli. *Annuar. Mus. Univ. Napoli, Nuov. Ser.* No. 25, 1905.
296. —. Sull' *Echinorhynchus aurantiacus* Risso. *T. c.* (2) i, Num. 30, 3 pp., 1 text-fig.
297. —. Osservazioni intorno ad alcune specie di *Heterocotylea*. *Bol. Soc. Napoli* xviii, 1904, pp. 65-80.

298. [MONTICELLI, FR. SAV.] Di una Temnocefala della *Sesarma gracilipes* raccolta nella Nuova Guinea dal Sig. L. Bird. Ann. Mus. Hungar. iii, 1905, pt. i, pp. 21-24.
299. MOORE, J. P. Some Marine Oligochæta of New England. P. Ac. Philad. lvii, pt. ii, pp. 373-399.
300. —. New species of Polychætes from the North Pacific, chiefly from Alaskan waters. T. c. pp. 525-554.
301. —. Five new species of *Pseudopotamilla* from the Pacific Coast of North America. T. c. pp. 555-569.
304. —. New species of *Ampharetidæ* and *Terebellidæ* from the North Pacific. T. c. pp. 846-860.
305. —. Description of a new species of Earthworm (*Diplocardia longa*) from Georgia. Op. cit. lvi, pp. 803-808.
306. MORGAN, LILIAN V. Incomplete anterior regeneration in the absence of the brain in *Leptoplana littoralis*. Biol. Bull. ix, pp. 187-193, 2 text-figg.
307. MUNSTERHYELM, ELIN. [Some Oligochæta reported for Finland.] Med. Soc. Faun. Fenn. 1903-1904, pp. 32-34.
308. †MURGOLI, G. M. Tertiary formations of Oltenia with regard to Salt, Petroleum and Mineral Springs. J. Geol. xiii, No. 8, pp. 670-712.
309. MURRAY, JAMES. On a new family and twelve new species of Rotifera of the Order Bdelloida, from Highland lakes and mosses, "*Microdinadæ*." Tr. R. Soc. Edinb. xli, pt. II, pp. 367-386, 1905. Figg.
310. —. Note on the distribution of the Pelagic organisms in Scottish Lakes. P. Phys. Soc. Edinb. xvi, No. 3, p. 51, 1905.
311. —. Microscopic life of St Kilda. Ann. Scott. Nat. Hist. liv, p. 95, 1905.
312. NEPPI, VALERIA. Über einige exotische Turbellarien. Zool. Jahrb. Syst. xxi, 3, pp. 303-326.
313. NEVEU-LEMAIRE, M. Les parasites des poissons du genre *Orestias*. [*Ligula* and *Echinorhynchus*.] Bull. Soc. Philom. Ser. 9, vii, 4, pp. 256-259.
314. —. Sur un nouvel Acanthocéphale. C.R. Soc. Biol. 1905, ii, p. 31.
315. NORDGAARD, O. Hydrographical and Biological investigations in Norwegian Fiords. [Published by Bergen Mus. as a separate Vol.] Vermes, pp. 157-164, 235, 241-245.
316. NUFER, W. Die Fische des Vierwaldstättersees und ihre Parasiten. Festschrift der Naturforscher Gesellschaft in Luzern, 1905, pp. 65-223.
317. NUSBAUM, JOZEF. Vergleichende Regenerationsstudien. Polychæta. Zeitschr. wiss. Zool. lxxix, pt. 2, pp. 222-307.  
See Bull. Ac. Cracovie 1904.  
— [See also CZERSKI & NUSBAUM (95).]
318. NUTTALL, G. H. F., BOYCOTT, A. E., BIDDER, G. P., HALDANE, J. S. & SHIPLEY, A. E. [*Ankylostoma*, becoming a permanent inhabitant of Coal mines.] Committee's report. Rep. Brit. Ass. 1904, pp. 292-296.
319. ODHNER, TH. Die Trematoden des arktischen Gebietes. Fauna Arctica iv, pt. 2, 1905, pp. 291-372, plates ii-iv.  
Also separate as an Inaugural dissertation, Upsala, 1905.



320. OLIVER, THOMAS. Ankylostomiasis, or Miners' worm disease, foreign preventive measures. P. R. Soc. Edinb. xxv, 1905, pp. 813-816.
321. ONELLI, C. Los nematohelminthos procimarios en el Jardin Zoológico. Revist. Jard. Buenos Ayres 1905, No. 2, pp. 144-149.  
OSTENFELD, C. H. [See WESENBERG-LUND & OSTENFELD (446).]
323. PARKINSON, J. PORTER. Hydatid cyst simulating subphrenic abscess. Lancet 1905, i, pp. 289 & 290.
324. PATTERSON, A. H. Malformed worm. Zoologist, Ser. 4, ix, p. 398, 1905.
- [139.] PEARL, RAYMOND & FULLER, W. N. [Variation and correlation in the Earthworm. Biometrika iv, pt. 2, p. 211, 1905. See (139).]
325. PELSENER, PAUL. L'origine des animaux d'eau douce. Bull. Ac. Belgique 1905, 12, pp. 699-740.
326. +PELZ, A. Geologie des Königreichs Sachsen. Leipzig, 1904.
327. PENARD, —. Sur un rotifère du genre *Proales*. [Parasitic to Heliozoan.] Arch. Sci. Nat. (from C.R. des Séances) xx, 10, p. 495.
328. PENEL, R. Les Filaires du sang de l'homme. Arch. parasit. ix, p. 185.
329. \*PÉREZ, CH. Revue annuelle des thèses de Zoologie. Rev. Scient. (5), T. iii, pp. 362-367. [*Annelides*, pp. 366 & 367.]
350. PERRONCITO, E. On encystation of *Ankylostoma* in free state. C.R. Ass. Franc. p. 873, 1904.
351. PHILLIPS, LL. POWELL. Eucalyptus oil as a vermifuge in *Ankylostomiasis*. J. trop. Medicine viii, p. 241, 1905.
352. PIERANTONI, U. *Cirrodrilus cirratus* n. gen. et sp. parassita dell' *Astacus japonicus*. Annuar. Mus. Univ. Napoli, Nuov. Ser. No. 31, 1905.
353. —. Sopra alcuni *Oligocheti* raccolti nel fiume Sarno. Op. cit. No. 26, 1904.
354. PIERI, GINO. L' infezione dall' *Anchilostoma* per la via cutanea. Atti Acc. Lincei xiv, 2, pp. 547-554.
355. —. Osservazioni sulla biologia dell' *Anchilostoma*. T. c. pt. 2, pp. 727-730.
356. FIGUET, E. Quelques observations sur l'anatomie de l'appareil circulatoire de certains *Oligochètes* limicoles. *L. variegatus*. Bull. Soc. Neuchatel xxxii, 1904, pp. 159-161.
357. —. Le *Bythonomus lemami* De Grube. Rev. Suisse Zool. xiii, 1905, pp. 617-621.
358. PITALONGA, G. Nota sobre el *Cysticercus fasciolaris* y la *Taenia crassicolis*. Bol. Soc. espan. v, 4, pp. 191 & 192.
359. PLOTNIKOW, W. Über einige rhabdocöle Turbellarien Sibiriens. Zool. Jahrb. Syst. xxi, 4, pp. 479-490.
360. —. Über zwei Formen von *Chaetogaster hinnæi* Baer. Zool. Anz. xxviii, 1904, No. 2, pp. 55 & 56.  
POPOFF, N. [See BUGNION & POPOFF (54).]
361. PORTA, A. Gli Echinorinchi dei Pesci. [Systematic survey, exhaustive.] Arch. zool. ital. ii, 2, 1905, pp. 148-214.

362. [PORTA, A.] Nota sugli Echinorinchi di pesci del Museo Zoologico di Napoli. *Annuaire Mus. Univ. Napoli* (2) i, No. 20, 4 pp., 6 text-figg. (1904).
363. PORTER, C. E. Los mesozoos. Lecciones de Historia Natural, *Dicémidos, Ortonectidos*. *Notes. Revist. chilena* ix, No. 4, 1905, pp. 167-169.
- RAILLET, A. [See HENRY & RAILLET (186-188).]
364. RANSOM, B. H. The Gid Parasite (*Cœnurus cerebralis*); its presence in American Sheep. (Figg.) *Bull. U. S. Dep. Agric. Animal Ind.* No. 66, 1905, pp. 1-23.
- 364A. ——. A new nematode (*Gongylonema ingluvicola*) parasitic in the crop of chickens. *Circ. U. S. Dep. Agric. An. Ind.* lxiv, figg. In 1904 Record, but erroneously ascribed to SALMON.
365. †RASTALL, R. H. The Blea Wyke Beds and the Dogger, in North-East Yorkshire. *Quart. J. Geol. Soc.* lxi, pt. 3, pp. 441-457.
366. RAUTHER, MAX. Beiträge zur Kenntnis der Morphologie und der phylogenetischen Beziehungen der Gordiiden. *Jena. Zeitschr.* xl, 1, 1905, pp. 1-94.
367. RITTER-ZAHONY, R. VON. Landplanarien aus Java und Ceylon. *Mt. Mus. Hamburg* xxii, Beiheft. 2, pp. 161-200.
368. REIBISCH, J. Nordisches Plankton. x, Anneliden. Kiel, 1905.
369. RETZIUS, G. Über Muskelzellen an den Blutgefäßen der Polychäten. *Biol. Untersuch.* (n. f.) xii, pp. 75-79.
370. ——. Zur Kenntnis der Spermien der Evertebraten. *T. c.* No. 9, p. 84.
371. REISOWA, KAROLINE. L'autotomie chez les animaux (Polish). *Kosmos polski* xxx, viii-xii, pp. 579-585.
372. RICHARD, J. Bathypelagic fauna from the scientific expeditions of the "Princess Alice." *Bull. Mus. Monaco*, No. 41, 1905.
373. †ROGERS, A. W. An Introduction to the Geology of Cape Colony. London, 1905, 463 pp.
374. ROUVILLE, ÉTIENNE. Révisions des Nématodes libres marins, de la région de Cette. *C.R. Ass. Franc.* 1904, pp. 788-797.
375. RUTNER, F. Über das Verhalten des Oberflächplanktons zu verschiedenen Tageszeiten im Grossen Plöner See und in zwei nordböhmischen Teichen. [Rotifers.] *Forschber. Plon* xii, 1905, pp. 35-62.
376. SABUSSOW, H. Zur Kenntnis der Turbellarienfauna des Golfes von Villefranche s. m. *Zool. Anz.* xxviii, No. 13, pp. 486-489.
377. ——. Über den Bau des Nervensystems von Tricladiden aus dem Baikalsee. *Zool. Anz.* 1904, Bd. xxviii, pp. 20-32.
378. SAMBON, L. W. Kala-azar [not caused by *Ankylostoma*]. *Climate* v, No. 24, p. 251.
379. SARASIN, P. & F. Reisen in Celebes. [Land leeches and land planarians noted.] Wiesbaden, 1905. Two volumes.
380. SCHAAF, H. Kopfanlage der Cysticerken. *Zool. Jahrb. Anat.* xxii, 3, pp. 435-476.
381. SCHEBEN, L. Beiträge zur Kenntnis des Spermatozoons von *Ascaris megalocephalæ*. *Zeitschr. wiss. Zool.* lxxix, pt. 3, 1905, pp. 397-430.

382. SCHEPOTIEFF, ALEXANDER. Zur Organisation von *Cephalodiscus* [compared with *Rhabdopleura* and *Balanoglossus*]. Bergens Mus. Aarbog 1905, Heft. 2 (No. 8).
- 382A. —. Über die Stellung der Graptolithen im zoologischen System. N. Jahrb. Min. 1905, Bd. 11, H. 3, pp. 79–96.
383. SCHMIDT, F. Zur Anatomie und Topographie des Centralnervensystems bei *Branchiobdella parasita*. Zeitschr. wiss. Zool. lxxxii, pp. 664–692.
384. SCHODDWIN, R. Une Mare en Flandre [*Rotifera*]. Feuille Natural. Ser. iv, 35<sup>me</sup> ann., No. 415, pp. 99–101.  
SCHOENER, H. [See BRUNELLI & SCHOENER (53).]
385. SCHOUTEDEN, H. Les affinités des Ctenophores et Polyclades. Ann. Soc. Malac. Belgique lx, pp. cxvii–cxxxvii.
387. SCHRÖDER, OLAW. Beiträge zur Kenntnis der Bauchsinnesorgane (Bauchaugen) von *Eunice viridis* (Palolo). Zeitschr. wiss. Zool. lxxxix, pt. 1, pp. 133–149.
388. †SCHUBERT, R. J. Zur Stratigraphie des istrisch-norddalmatinischen Mitteleocäns. Jahrb. geol. Reichsanst. lv, pt. 1, pp. 153–188.
389. SCHUBMANN, W. Über die Eibildung und Embryonalentwicklung von *Fasciola hepatica*. Zool. Jahrb. Anat. xxii, 4, pp. 571–606.
390. SCHULTZ, E. A. Études sur la régénération chez les vers. Protok. St. Peterb. Obshch. xxxiv, 15, 1905, pp. 1–136.
391. SCHWARTZ, M. Beiträge zu einer Naturgeschichte der Tomopteriden. Jena. Zeitschr. xl, 1905, pp. 497–536.
392. SCOTT, ANDREW. Note of occurrence of *Sagitta*, *Tomopteris* and *Autolytes* off Port Erin. P. Liverp. biol. Soc. xix, p. 226 & p. 16, 1905.
393. SCOTT, THOMAS. Observations on some parasites of fishes new or rare in Scottish waters [*Trematoda*]. Ann. Rep. Fishery Board Scotland xiii, pt. 3, pp. 108–118.
394. —. An account of some Copepoda that live as parasites on, or messmates with, other Invertebrata. Tr. Edinb. Field Soc. v, pt. 3, pp. 197–207.
395. SEKERA, E. Über Viviparität der Sommertiere bei den Eumesostomen. Zool. Anz. xxviii, 1904, No. 7, pp. 232–242.  
SERGENT, —. [See EDMOND & SERGENT (113).]
396. SHIPLEY, A. E. & HORNELL, JAMES. The Parasites of the Pearl Oyster. Roy. Soc. Rep. on Pearl Oyster Fishery Ceylon ii, p. 77, 1904.
397. — & —. Further report on Parasites found in connection with Pearl Oyster fishery at Ceylon. Op. cit. iii, 1905, p. 49.
398. —. Notes on Parasites from Maldive and Laccadive Archipelago in Stanley Gardiner's expedition, 1899–1900. Fauna Maldives ii, pt. iv, 1905, p. 108.
399. —. Notes on a collection of Parasites belonging to the Museum of University College, Dundee, *Nematoda*, *Cestoda*, with hosts. P. Cambridge Soc. xiii, pt. 2, pp. 95–102, 1905.
400. —. Notes on Ento-parasites from the Zoological Gardens and elsewhere. P. Z. S. 1905, i, pt. 2, p. 248–253.
401. —. *Cladorchis watsoni* (Conyngham), a human Parasite from Africa. Thompson Yates Lab. Rep. vi, pp. 129–135, pl. iv.

402. SICCARDI, P. D. Osservazioni su l' Anchilostomiasi, L' *Ancylostoma americanum* (Stiles.) Atti Ist. Veneto lxiv, 2, pp. 1473-1476.
403. SMITH, FRANK. *Filaria sanguinis* in mosquito, Sierra Leone. J. trop. Medicine viii, 1905, p. 140.
404. —. Notes on species of North American Oligochæta. v. The systematic relations of *Lumbriculus* (*Thinodrilus*) *inconstans*. Bull. Illinois Lab. vii, 1905, Art. 5.
405. SPENGLER, J. W. *Ptychodera erythræa*. Einige weitere Beobachtungen. Annuar. Mus. Univ. Napoli, nuov. ser. No. 22, 1904.
406. —. Eine wieder aufgefundenene Enteropneusten-Art (*Balanoglossus tricollaris* Schmarda). Zool. Anz. xxviii, 1904, No. 2, pp. 52-54.
407. —. Die Monozootie der Cestoden. Zeitschr. wiss. Zool. lxxiii, pp. 252-287.
408. SPIESS, C. Sur la structure du tube digestif d'*Aulostoma gulo* Moq. Tand., figg. C.R. Congr. Zool. vi, Berne, pp. 391-399.
409. —. La question du foie dans la Sangsue médicinale. Recherches des Sels et des pigments biliaires. C.R. Soc. Biol. 1905, pp. 415-417.
410. —. La question du foie chez la Sangsue médicinale. [Experimental research on excretion.] T. c. pp. 577-579.
411. —. Sur la présence de pigments biliaires dans la Sangsue médicinale. C.R. Ac. Sci. cxli, pt. 5, pp. 333 & 334, 1905.
412. —. Sur l'évolution de la foie. [Pigmented cells in cæcum in *Aphroditinae*, *Hirudininae*, *Oligochætae*.] T. c. pp. 506-508, 1905.
413. STAFFORD, J. Trematodes from Canadian Vertebrates. (Addenda.) Zool. Anz. xxviii, No. 21 & 22, pp. 681-694.
414. STÄUBLI, C. Beitrag zur Kenntnis der Verbreitungsart der Trichinenembryonen. Vierteljahrschr. Ges. Zurich. 1, Hf. 1 & 2, pp. 161-176.
415. STEEL, T. Note on occurrence of *Geoplana sugdeni* and *G. sanguinea* in Victoria. J. Linn. Soc. N. S. W. cxviii, pt. 2, p. 350.
416. STEVENS, N. M. & BORING, A. M. Regeneration in *Polychærus caudatus*. Part i. Observations on living material. Part ii. Histology. J. exp. Zool. ii, pp. 335-346, 21 text-figg, 2 pls.
- 416A. STEVENSON, —. A new parasite (*Strongylus quadriradiatus* n. sp.) found in the chick. Circ. U. S. Dep. Agric. An. Ind. xlvi, 6 pp., figg. In 1904 Record but erroneously ascribed to SALMON.
417. STOPPENBRINCK, F. Die Geschlechtsorgane der Süßwasser Tricladen im normalen und im Hungerzustande. Verh. Ver. Rheinland lxi, pt. i, pp. 27-36.
418. —. Einfluss der herabgesetzter Ernährung auf den histologischen Bau der Süßwasser Tricladen. Zeitschr. wiss. Zool. lxxix, pt. 4, pp. 496-547, pl. xxv.
419. STÖSSICH, M. Una nuova specie del genere *Plagiorchis*. [Synopsis of genus.] Annuar. Mus. Univ. Napoli, nuov. ser., No. 16, 1904.
420. —. Sopra alcuni nematodi. T. c. No. 15, 4 pp., 1 pl.
421. —. Alcuni Distomi della collezione elmintologica del museo Zoologico di Napoli. T. c. No. 23, 1904.
- STROBELL, E. C. [See FOOT & STROBELL (130).]

422. STRODTMANN, S. Nordisches Plankton. Dritte Lieferung. x. die Chætognathen. Kiel, 1905, pp. 12-17.
423. \*SYMMERS, W. ST CLAIR. A note on a case of Bilharzial worms in the pulmonary blood in a case of Bilharzial colitis. Lancet 1905, i, p. 22.
424. SZÜTS, A. Über die Ausscheidungsorgane des Erdwurms. Note. Allatt. Kozl. Magyar Tars. iv, 4-5, 1905, p. 244.
425. TATTERSALL, W. M. *Dolichoglossus ruber*, dredged in Co. Galway. Rep. Brit. Ass. 1904, p. 603.
426. TEMPÈRE, J. Parasites internes de l'homme et des animaux domestiques, Nématodes. Microgr. prep. xiii, pt. 5-6, pp. 225-231 and 276 & 277.
427. TENNENT, D. H. Feeding experiments for determining the life-history of an Oyster Parasite. Biol. Bull. viii, pp. 233-235.
428. THÉEL, H. Northern and Arctic invertebrates, *Sipunculids*. Svenska Ak. Handl. xxxix, No. 1.
429. TODD, R. A. Report on the Food of Fishes. North Sea Fisheries Investigation Committee, Rep. 2 (S. Area), pp. 227-289.
430. TOLDT, KARL. Über die Differenzierung in der Cuticula von *Ascaris megaloccephala* Cloqu. Zool. Anz. xxviii, No. 14-15, pp. 539-542, figg.
431. TOSH, JAMES R. Internal parasites of the Tweed Salmon, chiefly marine in character. Ann. Nat. Hist. Ser. 7, xv, p. 115, 1905.
432. †TREACHER, LL. & WHITE, H. J. O. On the age and relations of the Phosphatic Chalk of Taplow. Quart. J. Geol. Soc. lxi, pt. 3, pp. 461-492.
433. TREADWELL, A. L. Heteronereis stage of *Nereis kubiensis* McIntosh. Biol. Bull. ix, 4, pp. 226-231.
434. UDE, H. Terricole Oligochäten von den Inseln der Südsee u. verschiedenen andern Gebieten der Erde. Zeitschr. wiss. Zool. lxxxiii, 1905, pp. 405-501.  
VAN GAVET. [See BRIOT & VAN GAVET (51).]
435. VĚJDOVSKY, F. Zur Hämocöltheorie. Zeitschr. wiss. Zool. lxxxii, pp. 80-170.
436. —. Über Ursprung und Bedeutung des sogenannten Dotterkerns. Vestnik Ceske. Nauk. xii, 1904, Prague, 1905,
437. —. Über einen besonderen Fall von Phagocytose. Op. cit. viii.
438. VIGUIER, M. C. Le recul de la bouche chez les *Chatopodes*. C.R. Ac. Sci. cxli, pt. 2, pp. 132-134, 1905.
439. VOIGT, W. Über die Wanderungen der Strudelwürmer in unseren Gebirgsbächen. [Bonn.] Verh. Ver. Rheinland lxi, pt. 2, pp. 103-178.
440. WAGNER, F. VON. Reparationsprozesse bei *Lumbriculus variegatus*. Zool. Jahrb. Anat. xxii, 1, pp. 39-156.
441. WARD, H. B. Earliest record of *Filaria loa*. Stud. Lab. Nebraska, No. 61.  
Reprint from Zool. Ann. i, 4, pp. 376-384.
442. †WARD, J. Palæontology of the Pottery Coalfield (N. Staffordshire Coalfields). Mem. geol. Surv. U. K. 1905, pp. 285-348.

443. WATSON, ARNOLD T. Note on *Polydora armata*, Ceylon. Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, p. 325.
444. WEGNER, TH. Die Granulatenkreide des Westlichen Münsterlandes. Zeitschr. Deutsch. geol. Ges. lvii, pt. 1, pp. 112-144.
445. WESENBERG-LUND, O. Studier over de Danske Søers Plankton. Dansk, Ferskvands-Biologisk Laboratorium. Op. 5. Yul. 1904. [Vermes, pp. 130-156.]
446. — & OSTENFELD, C. H. Exploration of the Plankton of two Icelandic Lakes; Thingvallavatn and Myvatn. [8 species of Rotifers recorded.] T. c. pp. 1092-1167.
447. WHEELER, W. M. A new *Myzostoma* parasitic in a Starfish. Biol. Bull. viii, 1905, pp. 75-78.
- WHERRY, W. B. [See MCDILL & WHERRY (278).]
- WHITE, A. J. O. [See TREACHER & WHITE (432).]
448. WILLEY, ARTHUR. Report on the *Polychaeta* collected by Professor Herdman at Ceylon, 1902. Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, p. 243.
449. †WILSON, J. H. The Pleistocene formation of Sankaty Head, Nantucket. J. Geol. xiii, No. 8, pp. 711-734.
450. WOLTERECK, R. Wurmkopf, Wurmrumpf und Trochophora. Bemerkungen zur Entwicklung und Ableitung der Anneliden. Zool. Anz. xxviii, No. 8-9, pp. 273-322.
451. —. Zur Kopffrage der Anneliden. Verh. Deutsch. zool. Ges. 1905, pp. 154-186.
452. †YOUNG, G. W. The Chalk-area of North-east Surrey. P. Geol. Ass. xix, pt. 4, pp. 188-219.
453. ZACHARIAS, O. Hydrobiologische und fischereiwirtschaftliche Beobachtungen an einigen Seen der Schweiz und Italiens (*Rotifera*). Forschber. Plon xii, 1905, pp. 169-302.
- ZEDERBAUER, V. [See BREHM & ZEDERBAUER (47).]
454. ZELENY, CHAS. The rearing of Serpulid larvæ with notes on the behaviour of the young animals. Biol. Bull. viii, pp. 308-312, 3 text-figg.
455. ZIEGLER, H. E. Das Ectoderm der Plathelminthen. [Review of previous work.] Verh. Deutsch. zool. Ges. 1905, pp. 35-41.
456. ZSCHOKKE, F. Das Genus *Oochoristica* Lühe. Zeitschr. wiss. Zool. lxxxiii, pp. 53-60.

## II. SUBJECT-INDEX.

### VERMES.

GENERAL, i.e. collective.

### DISTRIBUTION.

General distribution of Plankton forms, numerical; Résumé of Intern. Marine Explor., HOEK (200), KUNDSÉN (231A).  
Norway Fiords, Plankton statistics, NORDGAARD (315).

- North Sea, bottom life, NORDGAARD (315).  
 Drøbakund : Nematodes, Annelids, Nematodes, Polychætes and Gephyrea, KIÆR (229).  
 Upper Elf Loch, additions to Scott Lindsay's list of animals found in the, EVANS (121).  
 English Channel, Plankton of the, GOUGH (151).  
 Irish Coasts, Planktonic Vermes, GOUGH (152).  
 Valencia Harbour, Ireland, Plankton of, DELAP (99).  
 Cape Verde fauna, N. Atlantic and American forms occurring sporadically in, CROSSLAND (93).  
 N. hemisphere, general distribution of Plankton forms in, KUNDSEN (231).  
 N. Carolina Coast, Beaufort Fisheries, complete lists of Entozoa, LINTON (257).  
 Gulf of Triest, survey of the fauna of, notes of locality and habits, GRAEFFE (153).  
 Pacific, collections of Siboga Exp., HARMER (181A).

#### PARASITISM and SYMBIOSIS (*Vermes* collective).

- Intestinal worms found in African pygmies, LOOSS (261).  
 Selachian parasites, DE BEAUCHAMP (17).  
 Helminthes from the Ourals, parasitic in birds, list of hosts, CLERC (84).  
 Polish parasitic Helminthes noted, KOWALEWSKI (234).  
 Parasites of fresh-water fishes, Madison, Wis., GILBERT & MARSHALL (147).  
 Internal parasites of Tweed salmon, chiefly marine in character, TOSH (431).  
 Helminthes parasitic to fish from N. Carolina, LINTON (257).

#### MORPHOLOGY and HISTOLOGY (*Vermes* collective).

- General morphology, GROBBEN (176).

#### GENERAL BIOLOGY, BIONOMICS, &C. (*Vermes* collective).

- Reprint of works of J. Leidy, with bibliography, LEIDY (245).  
 Regeneration studies, SCHULTZ (390).  
 Budding, various types, McINTOSH (279).  
 Habits of several parasitic Nematodes and Cestodes from N. Carolina fishes, LINTON (257).  
 Vermes from fauna survey of Gulf of Triest, with biological notes, GRAEFFE (153).

#### EMBRYOLOGY, DEVELOPMENT, EVOLUTION (*Vermes* collective).

- Pœcilogony ; Divergent adaptation of larval forms in related species, Phylogenetic problems, GIARD (144).  
 The shifting of the mouth in the group *Chaetopoda*, inapplicability of term *Aprosthomera*, VIGUIER (438).  
 Stages in phylogeny of the vertebrate alimentary tract, study of *Aulostoma*, SPIESS (408).  
 Evolution of the liver, function of pigmented cells in cæca of Polychætes and Hirudinea, etc., SPIESS (412).

#### GEOLOGY (*Vermes* collective).

- Fossil organic impressions, ?Vermes, CAPEDEB (60).  
 Vermes and Cœlenterata of the Silurian, Devonian and Carboniferous of Tarbes and Luz, CAREZ (61).

Deposits containing *Vermes*, Saxony, PELZ (326).

Type specimens of fossils in United States National Museum, MERRILL (82).

Type specimens of paleozoic forms in New York State Museum, CLARKE (80).

Paleontological fauna of Canandaigua and Naples region, New York State, CLARKE & LUTHER (81).

## ANNELIDA.

### DISTRIBUTION.

- Atlantic deep sea dredgings, RICHARDS (372).  
 West coast of North America, *Enchytraeidae* of, EISEN (115).  
 Mid-Atlantic plankton, *Tomopteris*, *Alciopa*, MONACO (291).  
 Northern and Arctic region, *Sipunculids*, THÉEL (428).  
 N. Pacific, new species of Polychæta, MOORE (300).  
 Alaska, Sabellidæ of, BUSH (57).  
 Northern region, Planktonic Annelida, *Chaetognatha*, STRODTMANN (422).  
 Northern Seas, Plankton Oligochætæ, REIBISCH (368).  
 Lake Baikal, Oligochætæ of, bathymetrical data, antiquity, MICHAELSEN (286).—Lake Baikal, halolimnic types in the Amur, *Polychæta*, *Planarians*, *Nemertinea*, PEISENER (325).  
 Mid-Atlantic, *Ranella*, MONACO (291).  
 E. Mediterranean, Polychæta, VON MARENZELLER (271).  
 Marseilles, changing fauna of old harbour, BRIOT & GAVET (51).  
 Lugano and some other Swiss localities, list of Oligochætæ collected near, BRETSCHER (50).  
 Sarno river, Italy, Oligochætæ, PIERANTONI (353).  
 Italy, Lower Oligochætæ, ISSEL (207).  
 Genoa and the Riviera, Lumbricidæ, with a few possibly imported forms, DE MARTIIS (273).  
 German E. Africa, Oligochætæ of, MICHAELSEN (285).  
 Red Sea Echiuroidea, regional zones, HÉRUBEL (191).—Red Sea, *Cirratulidæ*, *Spionidæ*, *Aricidæ*, *Flabelligeridæ*, *Capitellidæ*, *Chaetopteridæ*, *Amphitidæ*, *Terebellidæ*, GRAVIER (169).—Red Sea, *Glyceridæ*, GRAVIER (170).  
 Malacca and Singapore and Africa, E. coast, *Sipunculids*, LANCHESTER (240).  
 Java Oligochætæ, *Naididæ*, MICHAELSEN (287).  
 New Caledonia *Sipunculid*, HÉRUBEL (189).  
 New Zealand *Sipunculids*, BENHAM (27).  
 New Zealand, *Oligochætæ*, BENHAM (21, 22, 25, 26, 27).  
 New Zealand lakes, Oligochætæ, BENHAM (25).  
 South Sea Islands, Oligochætæ, UDE (434).  
 Pacific Annelida, Schauinsland's collection, EHLERS (114).  
 Darien *Oligochætæ*, n. spp. noted, DE MARTIIS (275).  
 Chilian and Patagonian *Oligochætæ*, MICHAELSEN (284).  
 Paraguay, Oligochætæ *Naididæ*, MICHAELSEN (287).  
 Antarctic, Oligochætæ, MICHAELSEN (283A).

### PARASITISM and SYMBIOSIS (*Annelida*).

Copepoda symbiotic with Annelids, SCOTT (394).

*Haplosporidia* parasitic in marine Annelida, CAULLERY & MESNIL (68).

*Myxocistis*, parasitic in Oligochætæ, HESSE (194).



- Apolynoid, commensal in *Balanoglossus*, California, bearing a Stomatopod, with notes, parasitic Annelida, GRAVIER (159).  
*Capitella capitata*, parasite of, CECCONI (72).  
 Short note on development in *Tapes* at Port Erin Biol. Lab., with *Monstrilla* in *Salmacina*, J. H. ASHWORTH (10).  
 Cysticerus in an Earthworm, DE MAGALHÃES (269).  
*Enchytraeus humicicultur* in a case of Phagocytosis, VEJDOVSKY (437).

MORPHOLOGY and HISTOLOGY (*Annelida*).

- An external Nephridial organ in sexually mature female of *Chaetopterus variopedatus*, GRAVIER (162).  
 Segmentary organs in *Spionidae*, FAGE (123).  
 Pepto-nephridia of Benham, proposed subdivision, DE MARTIIS (276).  
 Several forms of Palolo-worm compared, MCINTOSH (280).  
 Condition of parapodia epitokous forms, ♂ and ♀ of *Nereis fucata*, FAGE (125).  
 Sense organs (ventral) of Palolo (*E. viridis*) not ventral "eyes," SCHRÖDER (387).  
 Circulatory and nervous systems and segmental organ of Japanese Palolo, AKIRA IZUKA (210).  
 Appearance of contracting muscles in *Sipunculids*, cf. striped muscles, THÉEL (428).  
 Blood vascular system of genus *Lumbricus*, GUNGL (181).  
 Circulatory system of *Lumbriculus variegatus*; note, FIGUET (356).  
 Vascular system of some Enchytraëids, FREUDWEILER (136).  
 Search for muscle cells in blood vessels of *Nereidiformia*, RETZIUS (369).  
 Specialisation of the "dorsal ciliated organ" to oviposition in sexually mature *Hesionidae* and *Lycorididae*, note, FAGE (124).  
 Digestive tract in *Aulostoma*, minute structure, SPIESS (408).  
 Review of anatomy of *Tomopteridae*, detailed, SCHWARTZ (391).  
 Details in histology and morphology of a *Protodrilus*, ARMENANTE (9).  
 Morphology of new species of *Pontodrilus*, BEDDARD (19).  
 Histology of *Ctenodrilus*, GALVAGNI (140).  
 Classification of the types of tegumentary prominences in Sipunculids, HÉRUBEL (192).  
 Central nervous system in *Branchiobdella*, detailed study, SCHMIDT (383).  
 Note on *Polydora armata*, Ceylon, WATSON (443).

PHYSIOLOGY (*Annelida*).

- Function of the tubes of Poli, with histological details, for *Sipunculus nudus*, LADREY (237).  
 Digestive processes in *Aulostoma*; nuclear activity in digesting cells, SPEISS (408).  
 Function of phagocytes in *Oligochaeta*, removing Spermatozoa, BRASIL (45).  
 Regeneration in *Polychætus caudatus*, BORING & STEVENS (416).  
 Behaviour of the epidermis in regeneration, earthworm, KAND (226).  
 Regeneration phenomena, experiments on *Capitella*, CZERSKI & NUSBAUM (95).  
 Regeneration phenomena in Polychætæ, *Amphiglène* and *Nerine*, NUSBAUM (317).  
 Regeneration experiments, Annelids, LIGNAN (249).  
 Reactions to light and mechanical stimuli in earthworm, HARPER (182).  
 Sense organ, "nucal organ," in the *Chaetopteridae*, note, GRAVIER (161).

On the behaviour of the nuclei of so-called yolk cells; *Fridericia* and *Enchytraeus*, VEJDovsky (436).

Annelidan lymphocytes, occurrence, with development in *Allolobophora*, ISEEL (208).

Evolution of the liver, function of pigmented cells in cæcum of *Oligochæta*, *Herudiniæ*, etc.; Biliary pigments in *H. medicinalis*, SPEISS (409-411).

Function of "hepatic" cells in digestive tract of the leech, SPEISS (411).

Function of otocysts in *Branchiomma*, FAUVEL (127).

Differentiating cells in Nephridia of earthworm, SzÜTS (424).

Autotomy, résumé, *Eunice*, REISOWA (371).

### GENERAL BIOLOGY and BIONOMICS (*Annelida*.)

Variability in elytra of Polynoïnæ, parasite on *Balanoglossus*, GRAVIER (166).

Commensalism between *Chatopterus* and Crabs, and *Ch.* and Nereids, ENDERS (117).

Habits of Serpulid larvæ, ZELENY (454).

Tubicolous Annelids of Alaska, BUSH (57).

*Chatogaster*, living with *Limnæus* and other snails, Calcutta, ANNANDALE (6).

Reproduction, passage of spermatozoa into oviduct, BOLSIUS (37).

*Henlea lefroyi* sp. n. feeding on locusts' eggs, India, BEDDARD (18).

Variation and correlation in earthworm, PEARL & FULLER (139).

Halolimnic forms in Baikal and the Amur, PELSENER (325).

Comparison of halolimnic and freshwater forms of Nereids, halolimnic forms in fresh water, a new Pacific form, *Perinereis seurati*, GRAVIER (160).

Sexual dimorphism, *Sipunculids*, parasites, THÉEL (428).

Evolution of sex in fresh-water *Nereids*; consequent morphological adaptations, GRAVIER (172).

Function of the segmental organs in epitokous condition in *Heteronereids*, FAGE (123 & 124).

Schizogony and breeding in some *Eunicids* and Palolo, McINTOSH (280).

Supposed "budding" Polychæte, a new genus, Somaliland, GRAVIER (173).

Virus stored by Leeches, J. F. & E. BOSE (40).

Limnic and Eurylimnic forms amongst E. African *Oligochæta*, MICHAELSEN (285). Auto-emigrants and "shunted" forms, E. African *Oligochæta*, MICHAELSEN (285).

### EMBRYOLOGY and DEVELOPMENT (*Annelida*.)

Morphology of the cephalic region at various stages, WOLTERECK (451).

Histogeny in *Salmacinae* and *Filigraniæ*, asexual, MALAQUIN (270).

Histological work on Hæmocœl theory, VEJDovsky (435).

Development, particularly cephalic and trunk region, WOLTERECK (450).

Spermatogenesis in *Lumbricus terrestris*, DEPDOLLA (100).

Structure and development of Nephridia in *Arenicola*, LILLIE (250).

Problems of first division in Ova of *Mysostomum glabrum*, KOSTANECKI (233).

Maturation in *Allolobophora fetida*, FOOT & STROBELL (130).

Reproductive periodicity of the Palolo; bionomical survey, BRUNELLI & SCHOENER (53).

Spermatogenesis, minute study in *Lumbricus*, BUGNION & POPOFF (54).

*Polygordius* larvæ, anatomy detailed of nervous and muscular system, JANOWSKY (216).

GEOLOGY (*Annelida*).

- Serpulids, mid. Eocene, Istræa and Dalmatia, SCHUBERT (388).  
 Annelida, middle Miocene, Turin, BELLINI (20).  
 Serpulids, Nummulitic rocks, Adour Valley, S. France, DOUVILLÉ (109).  
 Serpulids in Greensand and Marl formations, JUKES-BROWN (225).  
 Serpulids, Chalk, Western Münster, WEGNER (444).  
 Serpulids in the Glarner folds, HEIM (185).  
 Serpulids, Chalk, of N. E. Surrey, YOUNG (452).  
 Tentaculites, Devonian, Central Bohemia, KATZER (227).  
 Serpula beds, N.E. Yorkshire, RASTALL (465).  
 Serpulids, Somaliland, DACQUÉ (96).  
 Serpula, Cretaceous; Slaviansosserbsk, FAVRE (128).  
 Critical catalogue of the Collection De France, Caen, *Gephyrea*, BIGOT (32).  
 Nummulitic deposits, S. France, Hérault, DONCEUX (108).  
 Upper trias of Cerra de la Venta, Agost, Spain, *Serpula* and *Spirorbis*,  
 DE CISNERO (74).

## PLATYHELMINTHES.

## DISTRIBUTION.

- Glacial-fauna: *Tricladida*, STOPPENBRINCK (418).  
 Arctic Trematodes, chiefly Spitzbergen, ODHNER (319).  
 Greenland, new Helminthes, VON LINSTOW (255 & 256).  
 Siberia, *Turbellaria Rhabdocala*, PLOTNIKOW (359).  
 Canadian Vertebrates, additional list of *Trematoda* from, STAFFORD  
 (413).  
 Scottish fisheries, Trematodes new to, with list of all known, SCOTT  
 (393).  
*Planaria alpina* in Belgian streams, FRÉDÉRIQ (134).  
 Oratava and European coasts, Marine *Turbellaria* from, v. GRAFF (155).  
 Warsaw, Distoma in, CINITZVINA (73).  
 Lake Kaban, Winter fauna of, *Annelida*, *Turbellaria*, *Rotifera*, MEISSNER  
 (282).  
 Pyrenees, Planarians, BORELLI (39).  
 Gulf of Villefranche, *Turbellaria*, SABUSSOW (376).  
 Naples, Distoma, notes on hosts, STÖSSICH (421).  
 S. Africa, *Turbellaria*, with anatomy, NEPPI (312).  
 E. Asia, Avian *Cestoda*, FUHRMANN (138).  
 Java, Land planarians, spp. n., VON RITTER-ZAHONY (367).

PARASITISM and SYMBIOSIS (*Platyhelminthes*).

- Bilharzial worms in pulmonary blood, St CLAIR SYMMERS (423).  
 New human parasite, *Heterocotylea*, RAILLET & HENRY (186).  
 Hepatic and bronchial infection in man by Hydatids, Bavaro-Tyrolian  
 forms, DÉVÉ (103, 105), GILBERT & LEREBOLLET (147).  
 Co-existence of macro- and microfilarie in man, GAUTIER (142).  
 New human parasite, *Schistosomum japonicum*, Katsurada, KERR (228).  
 Parasites in man. Bilharziosis in many organs; particularly in Ap-  
 pendix, CRIMP (92).  
 Bilharzian phlebitis, symptoms and causes, LETULLE (247). Pathology  
 of intestinal Bilharziosis, LETULLE (246).  
*Cysticercus cellulose* in man, Ceylon, CHALMERS (76).  
 Parasites of the Soudan, Laboratory notes, BALFOUR (11).  
 "Halzoun" due to *Fasciola hepatica*, KHOURI (230).  
 Notes on a case of Bilharziosis, BLANCHARD (33).

- A new Cestode in man, Japan, IJIMA (205).  
 New human parasites belonging to the *Sclerostomidae*, RAILLET & HENRY (187 & 188).  
 Trichinosis, experimental proof of the embryonic dispersal by the blood, STÄUBLI (414).  
 Bactericide juices of Cestodes, JAMMES & MANDOUL (213).  
 Hosts of *T. echinococcus*, BLANCHARD (34).  
*Cysticercus fasciolaris* in Rat, intermediate to *Tænia crassicolis*, PITTALUGA (358).  
 A new filarian in the dromedary, EDMOND & SERGENT (113).  
*Tænia*, infected meat, CARL (62).  
*Hydatids* in blood causing eosinophile, DÉVÉ (101).  
 Notes on *Bertia*, a Mammalian Cestode, BOURQUIN (42).  
 Parasites and diseased conditions of Fishes, *Trematoda* and *Cestoda*, JOHNSTONE (218).  
 Species of *Cestoda* taken in Scotch Fisheries with their hosts, SHIPLEY (399).  
 Two new parasites of *Orestias*, Lake Titicaca, *Ligula simplicissima* var. *titicacensis*: list of all known, NEVEU-LEMAIRE (313).  
 New Cestode in porpoise, LINTON (258).  
*Cestoda*, *Bothriocephalus* in *Acerina ceruna*, Gulf of Finland, IVERUS (209).  
 New Trematoda from the Black Bass, GILBERT & MARSHALL (148).  
 Two new *Amphistoma* from Sumatran fishes, MACCALLUM (266).  
 New Helminth parasites in *Anas boschas* and *Vespa germanica*, VON LINSTOW (252).  
*Echinostomum spinulosum* in Loon, N. America, GILBERT (145).  
 Distoma parasitic in Snakes, Egypt, Naples, STÖSSICH (421).  
 Trematode in turtle from Maldives, SHIPLEY (398).  
 New distome parasites from Chelonians, HEYMAN (195).  
 New Distoma from *Rana hexadactyla*, KLEIN (231).  
*Zooxanthella* in *Turbellarian*, SABUSSOW (376).  
 Culicid parasites, *Filaria*, *Distoma*, *Mermicida*, DYÉ (112).

#### MORPHOLOGY and HISTOLOGY (*Platyhelminthes*).

- The Nervous System of some Fresh-water Triclaides from Lake Baikal SABUSSOW (377).  
 Cercarian histology, *Rhopalocerca tardigrada*, GRONKOWSKY (177).  
 Spermatozoon of the Turbellaria, RETZIUS (370).  
 Morphology of the *Turbellaria acala*, VON GRAFF (154).  
 Anatomical details of two land-planarians, *Bipalium javanum* and *Placocephalus bergendali*, VON RITTER-ZAHONY (367).  
 Ectoderm of the Platyhelminthia, discussion and review, ZIEGLER (455).  
 Morphological notes of some *Heterocotylea*, MONTICELLI (297).  
 Perforation of segments of *Tænia*, anomalous, CATOIS (64).  
 Notes on *Cœnurus* and *Tænia* in Sheep, RANSOM (364).  
 Minute morphology of the genus *Bertia* spp., BOURQUIN (41 & 42).  
 Epithelial connective tissue in Trematodes and Cestodes, BLOCHMANN (36).

#### PHYSIOLOGY.

- Changes induced in starvation in *Tricladida*, experimental histology, STOPPENBRINCK (418).  
 Regeneration in *Leptoplana*, MORGAN (306).  
 Effects of absence of cephalic ganglia in *Cestoplana*, and regeneration, CHILD (78).

GENERAL BIOLOGY—BIONOMICS (*Platyhelminthes*).

- Copulation in the *Distoma*, v. LINSTOW (253).  
 Fertilisation, Cestoda, v. JANICKI (214).  
 Viviparity, *Rhabdocæla*, SEKERA (395).  
 No alteration of generations in Cestoda, ARIOLA (7).  
 Degeneration of sex-organs in starving *Tricladida*, experimental, STOP-PENBRINCK (418).  
 Bactericide properties of Cestoda and nutrition, JAMMES & MANDOUL (213).  
 Development in *Dicyemida*, LAMEERE (239).  
 Distribution and migration of *Tricladida*, VOIGT (439).  
 Symbiosis of *Zoochlorella*, KEEBLE & GAMBLE (141).  
 Budding amongst Cestoda, IJIMA (205).

EMBRYOLOGY and DEVELOPMENT, &c.

- Monozootic reproduction, Cestoda, SPENGLER (407).  
 Embryonic development of the Cysticercan head, Histology in *Tænia solium*, SCHAAF (380).  
 Embryonic development in *Zoogonus mirus*, morphology and cell division, GOLDSCHMIDT (149).

NEMATHELMINTHES AND NEMERTINEA.

DISTRIBUTION.

- Geographical distribution of *Nemertinea*, COE (87B).  
 Changing fauna in Marseilles old harbour, BRIOT & GAVOT (51).  
 Cette, Nematoda (free marine) of, DE ROUVILLE (374).  
 Italy, *Ankylostoma* (= *Uncinaria*) *americana* imported into, ISOLA (206).  
 Hautes Pyrénées, *Gordius billoti*, CAMERANO (58).  
 Tadjourah, Red Sea, Nemertines from, with morphol. notes, JOUBIN (221).  
 Antarctic, large Nemertine, JOUBIN (224).  
 Antarctic region, free living Nematoda of the, DE MAN (268).  
 Antarctic regions, new *Nemertinea*, BÜRGER (56).  
 Mid-Atlantic, a Nemertine, *Nectonemertes grimaldii*, MONACO (291).  
 North America, *Nemertinea*, COE (87).  
 W. and N.W. coasts of N. America, California to Alaska, *Nemertinea* 24 spp. n., COE (87B).  
 California, *Nemertinea* 17 spp. n., COE (87A).  
 Galapagos islds., *Planktonemertes*, COE (87B).  
 Lower California, *Nemertinea*, JOUBIN (223).  
 Minas Geraes, *Ankylostoma americana*, SICCARDI, ALESSANDRINI & ISOLA (5).  
 Paraguay, new Nematoda and Nematorhyncha, VON DADAY (97).  
 Maldives, Trematode and Nematode, SHIPLEY (398).

PARASITISM and SYMBIOSIS (*Nemathelminthes*).

- Nematodes, parasitic in man and domestic animals, short general account, TEMPÈRE (426).  
 Filariæ in Fijians, varying infection day and night, note, LYNCH (265).  
 Elephantiasis of scalp, with filarial infection, MACDONALD (267).  
 Pseudo-parasitism, *Gordius*, in man, GUÉGUEN (179).

Lion parasite, *Ascaris mystax* and *A. leptoptera*, BENOIT-BAZILLE & DRAMARD (28).

*Ascaris mystax* in young infant, ENTZ (120).

Filaria occurring in man's blood, PENEL (348).

Pathological conditions due to *Trichocephalus* and *Oxyurus*, GUIART (180).

*Trichocephala* in typhoid patients, note, BLANCHARD (35).

Hæmatochyluria; embryos of *F. nocturna*, Manila, MODILL & WHERRY (278).

Hydatid cyst simulating subphrenic abscess, PARKINSON (323).

Encystation of free larva, *Ankylostomum duodenale*, PERRONCITO (350).

*Ankylostomum*, a permanent inhabitant of Coal mines, Committee's Rep., NUTTALL (318).

"Kala-azar" not caused by *Ankylostomum*, SAMBON (378).

*Uncinaria* and other intestinal parasites in W. Indies, BRANCH (44).

Eucalyptus oil as a vermifuge for Nematoda, PHILLIPS (351).

*Uncinaria* and some other intestinal parasites, Pas-de-Calais, BRÉHON (49).

Entrance into N. W. Europe of *Ankylostomum duodenale*, OLIVER (320).

Propagation in host of *Ankylostomum* and *Strongyloides*, LOOS (260).

Methods of infection by *Ankylostomum*, PIERI (354).

*Ankylostomum duodenale*: monograph by LOOSS, BERNARD (260).

Guinea-worm embryos in *Cyclops* conveyed to man, GRAHAM (157).

Guinea-worm and its hosts, GRAHAM (156 & 157).

Acanthocephala parasite to birds, monograph, DE MARVAL (277).

Hosts of *Mermis* and *Paramermis*, KOHN (232).

*Echinorhynchus*, species parasitic in fishes, PORTA (362).

Plant-pests, *Anguillulide* in Silesia, note, GROSSER (178).

Nematode in Sipunculid host, THÉEL (428).

*Tylenchus devastatrix* on various crops, Ireland, CARPENTER (63).

Species of *Nematoda* from Scotch Coasts with their hosts, SHIPLEY (399).

A new *Echinorhynchus* parasite on *Orestias*, list of parasites to this host, NEVEU-LEMAIRE (313).

*Echinorhynchus spirula* in Potto and Lemurs, SHIPLEY (400).

*Echinorhynchus*, list of spp. with recorded hosts, LÜHE (262).

Intermediary host of *Filaria cypseli*, note, DUTTON (111).

A filarian in Mosquito, Sierra Leone, SMITH (403).

Culicid parasites, *Filaria*, *Mermicida* and *Distomum*, DYÉ (112).

### MORPHOLOGY and HISTOLOGY.

Morphology and phylogeny, *Gordiacea*, RAUTHER (366).

Details of *Echinorhynchus rhytidodes*, MONTICELLI (295).

Structure of gonads in *Ascaris*, DOMASCHKO (107).

System of mucous passages to cuticle in *Ascaris*, GOLDSCHMIDT (150).

Cuticle of *Ascaris*, minute, TOLDT, (430).

Females of *Chordodes festæ*, notes, CAMERANO (59).

Detailed morphology of *Paramermis*, KOHN (232).

### PHYSIOLOGY (*Nemathelminthes*).

Experiments on infection by *Uncinaria*, PIERI (354).

Changes in the Spermatozoon of *Ascaris megalocephala*, SCHEBEN (381).

### GENERAL BIOLOGY, BIONOMICS.

Anatomy, classification, distribution etc. of *Nemertinea*, with bibliographic list, COE (87B).

Nemertine, protective resemblance to coral, *Cerebratulus*, JOUBIN (223).

- Alternating sexual phases in *Geonemertes*, COE (88).  
Cycle of hosts in life-history of *Ichthyonema*, MONTICELLI (293).  
Ova of *Ankylostoma* developed in a completely liquid medium, ALESSANDRINI (4).

#### EMBRYOLOGY, DEVELOPMENT, &C.

- Anatomy and development in terrestrial Nemertean, Bermuda, COE (86).  
Oogenesis and embryology in *Distomum hepaticum* Mongr., SCHUBMAN (389).  
Development of fin as a basis of classification, ABRIC (3).

### CHÆTOGNATHA.

- Chaetognatha*, general morphology, GROBBEN (176).  
Reaction to light, rain, &c., in epiplanktonic *Sagitta*, FOWLER (132).

#### DISTRIBUTION.

- Falkland Islands, *Chaetognatha*, FOWLER (132).  
Seasonal appearances on Scottish Coasts, BROWNE (52).  
*Sagitta* in North Sea, occurring in Wadden, but not in Zuider Zee, VAN BREEM (46).  
Vertical distribution of *Chaetognatha*, Biscay, FOWLER (132).  
Deep-sea dredging in Atlantic, *Chaetognatha*, RICHARD (372).

### ROTIFERA.

#### DISTRIBUTION.

- Danish Seas, WESENBERG-LUND (445).  
Noordzee, Holland, VAN BREEM (46).  
Iceland lake, WESENBERG-LUND (446); Icelandic lakes, Thingvallavatn and Myvatn, WESENBERG-LUND & OSTENFELD (322).  
St Kilda, MURRAY (311).  
Norfolk Broads, FREEMAN (135).  
Tyrolese lakes, with biology, HUBER (204A).  
Alpine lakes, MONTI (292), p. 87.  
Swiss and Italian lists of Rotifera, ZACHARIAS (453).  
Swiss lake-plankton, BREHM & ZEDERBAUER (47).  
Paraguay, VON DADAY (97).  
Balkan lakes, GHORGHEVYGH (143).  
Scottish lakes, *Plasoma hudsoni* and *P. truncatum* in; note on uniformity of plankton organisms, MURRAY (309).  
Summary of distribution of *Conochiloides natans* and bibliogr., HLAVA (199).

#### PARASITISM and SYMBIOSIS.

- New Rotifer parasitic in *Stylaria lacustris*, HLAVA (198).  
Two parasitic forms and their adaptations, BEAUCHAMP (14).  
A form of *Proales* parasitic on Heliozoa, PENARD (327).

#### MORPHOLOGY (*Rotifera*).

- Post-cerebral organ in some Rotifers; possibly sensory, DE BEAUCHAMP (13).  
Water-vascular system, with notes on some Floscularia, MILNE (288).  
Detailed morphology of *Conochiloides natans*, HLAVA (199).

GENERAL BIOLOGY, BIONOMICS (*Rotifera*).

- Winter forms found in Lake Kaban, MEISSNER (282).  
 Bionomical investigations, Lake Skutari, Montenegro, BREHM & ZEDER-BAUER (47).  
 Diurnal migrations in lake-plankton, RUTTNER (375).  
 Habits and localities of various species, Scotch Highlands, MURRAY (309).  
 Haplosporidian parasites, CAULLERY & MESNIL (68).  
 New male Rotifer, with notes on habits and degeneration, DE BEAUCHAMP (16).

## HEMICHORDATA.

## BIOLOGY AND GEOGRAPHY.

- Oscillating circulation in *Phoronis psammophila*, ENRIQUES (119).  
 Morphology of *Cephalodiscus*, and the relations of the *Pterobranchia* to *Enteropneusta*, SCHEPOTIEFF (382).  
 Japan, Borneo, Celebes, *Cephalodiscus* n. spp., HARMER (181A).  
 Antarctic, *Cephalodiscus* n.sp.; LANKESTER (243).

## III. SYSTEMATIC.

- Vermes; GROBBEN, under *Zygoneura* and *Enteropneusta*, Claus Lehrbuch d. Zool. i & ii, p. 20, 301-393 and 680-686.  
 Vermes paleozoic type forms of the New York State Museum, list, CLARKE & MERRILL, Rep. N. York Mus. lvi, pt. 2, Bull. lxxv, Paleont. 8, pp. 80-94.

## ANNELIDA.

- Chaetopoda*. On the shifting of the mouth; a protest against the term *Aprosthomera*, VIGUIER, C.R. Ac. Sci. xli, pt. 2, pp. 132-134, 1905.

## GEPHYREA.

- Biology of the Reef-forming Organisms at Funafuti Atoll, FINCKH, The Atoll of Funafuti, Roy. Soc. Rep. 1904, p. 140.  
*Actinotrocha*, regeneration studies, figg., SCHULTZ (390).  
*Aspidosiphon*, gen. defined, morphology of tentacles and body wall, *A. mirabilis*, figg., S. of Arctic, *A. armatum*, W. Norway, THÉEL, Svenska Ak. Handl. xxxix, pp. 10, 11, 16, 92, 1905.  
*A.*, 8 spp. from Red Sea, HÉRUBEL, Bull. Mus. Paris 1904, No. 8, p. 664.  
*Aulostoma gulo*, structure (minute) of the digestive tract, figg., physiological function and nuclear activity of cells in digesting, phylogenetic notes, SPIESS, C.R. Congr. Zool. Berne vi, pp. 391-399.  
*Balanoglossus gigas*, Gulf of California, host to Polynoid, GRAVIER, C.R. Ac. Sci. xl, pt. 13, p. 875, 1905; *B. tricollaris* Schmarda, SPENGLER, Zool. Anz. xxviii, p. 52.  
*Dendrostoma aeneum*, Cape Campbell, descript., probable identity with *Sipunculus lutulentus*; *D. huttoni* n. sp., notes, BENHAM, Tr. N. Zealand Inst. xxxvi, pp. 176-184, xxxvii, p. 306.



- Echiurus pallasi*, Morsdal Fjord, beach, NORDGAARD (315) p. 164.
- Onchnesoma*, gen. defined (= *Petalostoma* Levinsen), *O. steenstrupii*, figg., synonyms, W. Norway, correction of other describers, rectum in whole proboscis length, *O. squamatum*, figg., synonyms, W. Norway, correcting Selenka's view, THÉEL, Svenska Ak. Handl. xxxix, 1905, pp. 10, 13, 93-98.
- Pelagosphara* n. gen. *aloyssi* n. sp., Australian Pacific, descript., MINGAZZINI, Atti Acc. Lincei xiv, p. 715, figg.
- Phascolion*, gen. defined (= *Tylosoma* Danielssen), morphol. retractor muscles, *Ph. hedæum*, *Ph. lucifugax*, *Ph. strombi*, figg., synonyms, Arctic, variable, cf. other forms, *Ph. tuberculatum*, figg., synonyms, W. Sweden, correction of former descript., THÉEL, Svenska Ak. Handl. xxxix, p. 10, 12-18, 89, 90, 1905.
- Phascolosoma*, gen. defined (= *Stephanostoma* Danielssen), synopsis of spp. and morphology, pp. 57-86, Section "abyssorum," p. 74, *Ph. vulgare*, figg., W. Norway, Greenland, *Ph. elongatum*, figg., W. Sweden, *Ph. margaritaceum*, figg., synonyms, two forms, *finmarchia*, *sibirica*, *Ph. nanseni*, figg., synonyms, forms, *occidentalis*, Spitzbergen, *orientalis*, Siberia, *Ph. trybonii*, figg., n. sp.?, *Ph. procerum* (= *pyriforme*), W. Sweden, calcareous deposit on skin, *Ph. eremita*, figg., synonyms, Arctic circle, var. of tentacles, *Ph. abyssorum*, W. Norway, figg., *Ph. lilljeborgii*, Arctic Seas, *Ph. glaciale*, N. Atlantic (= *Onchnesoma* Danielssen), *Ph. sabellarice* n. sp., figg., W. Sweden, *Ph. improvisum*, possibly other sex to *sabellarice*, W. Sweden, *Ph. sarsii* n. sp., fig., Norway, *Ph. anceps* n. sp., Greenland, figg., synonyms, pp. 74-86, THÉEL, t. c. 1905; *Ph.*, Norway, KLÆR, Nyt Mag. Naturv. xlii, 1, p. 65, 1904; *Ph. glaucum* n. sp., fig., Zanzibar, *Ph. wasini* n. sp., Brit. East Africa, LANCHESTER, P. Z. S. 1905, i, pt. 1, p. 32; *Ph. pyriformis* n. sp., Penang, fig., id. l. c. p. 39; *Ph. novæ-zealandiæ* n. sp., figg., BENHAM (23) pp. 300-303; *Ph. vulgare*, Singapore, note correcting previous descriptions, Zanzibar, with Polyzoan *Loxosoma*, *Ph. pellucidum*, Singapore, with *Loxosoma* attached, note on descriptions, LANCHESTER, P. Z. S. 1905, i, pt. 1, p. 28.
- Phyrosoma scolops adenticulatum* n. var., fig., Red Sea, *Ph. meteori* n. sp., Tadjourah, in *Hircinia*, HÉRUBEL, Bull. Mus. Paris 1904, No. 7, pp. 776-778, fig.
- Phyrosoma lovénii* (= *Phascolosoma* of Koren & Danielssen), W. Coast, Norway, figg., possibly same as Mediterranean form, THÉEL, Svenska Ak. Handl. xxxix, 1905, pp. 9, 10, 16-52; *Ph. annulatum*, New Zealand, redescription, footnote on variety, BENHAM, Tr. N. Zealand Inst. xxxvi, pp. 173-176; *Ph. scolops*, note, Malay, p. 28, *Ph. evisceratum* n. sp., Zanzibar, p. 31, *Ph. lurco*, Malay, note, *Ph. socium* n. sp., near *Ph. pseoron*, Penang, fig., *Ph. gaudens* n. sp., Penang, pp. 37 & 38, LANCHESTER, P. Z. S. 1905, i.
- Ptychodera erythræa*, figg., amplifying Spengel's description, Red Sea, GRAVIER, Bull. Soc. Philom. Ser. 9, vii, p. 69; *P. erythræa*, redescription of Spengel's *Balanoglossus*, figg., Red Sea, GRAVIER, Bull. Mus. Paris 1905, pp. 46-51; *P. erythræa*, SPENDEL (405).
- Sipunculoidæ*, a classification of the distribution of different types of tegumentary prominences, HÉRUBEL, Bull. Soc. zool. France xxx, 7, pp. 90-97, 1905.
- Sipunculus*, gen. defined (= *Phallosoma* Levinsen), morphol., *Sipunculus priapuloides*, figg., Norway, W. Coast, N. Sea, ?sense organ, glands, *S. n. rvegicus*, Norway, W. Coast, query as to distinct sp., THÉEL, Svenska Ak. Handl. 1905, xxxix, pp. 9, 11-16, 52-56; *S. gravieri* n. sp., fig., near to *S. mundanus*, Red Sea, *S. bonhourei* n. sp., Tadjourah, rock clefts, near to *S. edulis*, HÉRUBEL, Bull. Mus. Paris 1904, No. 7, pp. 77-80; *S. gravieri* n. sp., Red Sea, fig., anatomy,

- HÉRUBEL, Annexe 1, C.R. Congr. Zool. Berne vi, pp. 690-693; *S. joubini* n. sp., New Caledonia, position between *S. bonhourei* and *S. edulis*, figg., HÉRUBEL, Bull. Mus. Paris 1905, pp. 51-54; *S. maoricus* n. sp., figg., note on affinities, BENHAM (23) pp. 303-305; *S. nudus*, histology and function of the tubes of Poli, figg., LADREYT, Arch. Zool. exp. Ser. 4, iii, pp. 216-222; *S. robustus*, Malay, morphol. note, *S. cumanensis* var. *opacus* and var. *vitreus*, Malay, note on nerve cord, *S. boholensis*, N. Borneo, morphol. note, p. 27, *S. titubitans*, Zanzibar, *S. australis*, Zanzibar, varying from type, p. 30, LANCHESTER, P. Z. S. 1905, i, pt. 1.
- Thalassema baronii*, Zanzibar, colour note, *Th. decameron* n. sp., fig., Zanzibar, p. 34, LANCHESTER, t. c.; *Th. erythrogrammon*, rock clefts, Red Sea, *T. baroni*, Red Sea, biological distribution, HÉRUBEL, Bull. Mus. Paris 1904, p. 564.

## ARCHIANNELIDA.

- Aelosoma ehrenbergi*, Lake Kaban, note, MEISSNER (283) p. 31.
- Pleurophleps macrogaster*, Central America, DE MARTIIS (272) p. 4.
- Polygordius* sp., larval development, a study in homologies, WOLTERECK, Zool. Anz. xxviii, No. 8-9, pp. 375-381; *Polygordius*, trochophore larvæ, discussion of recent knowledge, figg., detailed, a true precursor of Annelids, WOLTERECK, Verh. Deutsch. zool. Ges. 1905, pp. 154-186; *P.*, Trochophore larvæ, points in anatomy, nervous and muscular system, figg., Review and Bibliogr., JANOWSKY, Arb. Inst. Wien xv, 1905, pp. 197-212; *P. lacteus* and *P. neapolitanus*, case of pœcilogony, phylogenetic problems, GIARD, Annexe 1, C.R. Congr. Zool. Berne vi, p. 622.
- Protodrilus flavocapitatus*, experiments in regeneration, figg., LIGAN, Mem. Soc. nouv. Russ. xxvii, pp. 1-41.
- P. hypoleucus*, description of Naples species noted 1903, note on genus, histology and anatomy, ARMENANTE, Arch. zool. ital. ii, 2, 1905, pp. 137-147, figg.

## POLYCHÆTA.

### NEREIDIFORMIA.

- Polychæta* from Sea floor, Norway, NORDGAARD (315) pp. 161 & 162.
- Polychæta*, regeneration in, SCHULTZ (390) p. 39, figg.
- Aglaurides fulgida*, (cf. *Enone diphyllidia*), Ceylon, WILLEY (448) p. 284, figg.
- Alluaudella* n. g. *madagascariensis* n. sp., anatomy; from Port Dauphin, GRAVIER, C.R. Congr. Zool. vi, Berne, pp. 372-376, figg.
- Amphiglene mediterranea*, regeneration experiments, figg., NUSBAUM, Zeitschr. wiss. Zool. lxxix, pt. 2, pp. 222-307.
- Anaitis zeylanica* n. sp., WILLEY (448) p. 262, figg.
- Antinoe macrolepada* n. sp., Gulf of Georgia, MOORE (300) pp. 538-540, figg.
- Aphrodite aculeata*, N. Fjords, NORDGAARD (315) p. 162; *A. hastata* n. sp., American sea mouse distinct sp. from European, MOORE, P. Ac. Philad. lvii, 1, 1905, pp. 294-298; *A. negligens* n. sp., Japan, figg., *A. parva* n. sp., Georgia Gulf, MOORE, t. c. pt. 2, pp. 526-532, figg.
- Aracoda obscura* n. sp., WILLEY (448) p. 285, figg.

- Aricidæ*, discussion of genus, McINTOSH, Ann. Nat. Hist. Ser. 7, xv, pp. 33-36, 1905.
- Aricia chevalieri*, muddy sand, Djibouti, GRAVIER, Bull. Mus. Paris 1905, No. 1, p. 46; *A. cuvieri*, *A. norvegica*, Shetland, *A. kuppferi*, Norway to Greenland, McINTOSH, Ann. Nat. Hist. Ser. 7, xv, pp. 33-57; *A. kuppferi*, *A. norvegica*, E. Mediterr., MARENZELLER (271) p. 314; *A. k.*, Landego, NORDGAARD (315) pp. 162, 235 & 236.
- Autolytus*, noted off Port Erin, SCOTT, P. Liverp. biol. Soc., pp. 18 & 226, 1905; *A. orientalis* n. sp., WILLEY (448) p. 270, figg.; *A. longeferiens*, schizogamy in, and its relation to schizogeny, BRUNELLI & SCHOENER, Annexe 1, C.R. Congr. Zool. vi, Berne, pp. 650-652.
- Carobia castanea*, Ceylon, WILLEY (448) p. 262.
- Ceratonereis falcaria* n. sp., Ceylon, fig., *C. pectinifera*, figg., WILLEY (448) p. 272.
- Ceratocephale osawai*, habits during breeding season, McINTOSH, Rep. Brit. Ass. 1904, p. 609; *C. osawai*, Palolo, Japan, McINTOSH, Ann. Nat. Hist. xv, Ser. 7, p. 35; *C. o.*, figg., circulatory and nervous systems, segmental organ, Japan, IZUKA, Annot. zool. Japon. v, pt. 4, pp. 239-250.
- Chlæia flava (zeylanica)*, figg., WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, p. 244.
- Dasybranchus caducus*, segmental organs in sexual condition, note, FAGE, C.R. Ac. Sci. cxli, pt. 2, p. 131, 1905.
- Diopatraamboinensis*, figg., Ceylon, WILLEY (448) p. 274.
- Eteone depressa*, Arctic, NORDGAARD (315) pp. 162, 235 & 236.
- Eunereis longissima*, condition of segmental organs in epitokous form, FAGE, C.R. Ac. Sci. cxli, pt. 1, p. 61.
- Eunice*, on the priority in identifying the Palolo, FRIEDLÄNDER, Zool. Anz. xxvii, pp. 716-721; *E. afra*, *E. antennata*, *E. coccinea*, *E. indica*, with *Phyllochaetopterus ramosus*, *E. martensi*, figg., *E. murrayi*, on *Spondylus*, *E. sciliensis*, *E. tubifex*, WILLEY (448) pp. 279-282; *E. fucata* (Ehlers), habits during breeding season, McINTOSH, Rep. Brit. Ass. 1904, p. 609; *E. f.*, Porto Rico, *E. viridis*, note on morphology and breeding habits, McINTOSH, Ann. Nat. Hist. Ser. 7, xv, pp. 33 & 34; *E. pennata*, synonyms. characters, E. Mediterr., MARENZELLER (271) p. 310; *E. viridis*, histology of the ventral sense organs, SCHRÖDER, Zeitschr. wiss. Zool. lxxix, pp. 133-149, figg.
- Eumida sanguinea*, Skjerstad, NORDGAARD (315) pp. 162, 235 & 236.
- Eunoe depressa* n. sp., figg., Union Bay, Alaska, MOORE (300) pp. 536-538.
- Euphrosyne borealis*, Malungen, NORDGAARD (315) pp. 163, 235 & 236.
- E. bicirrata* n. sp., near to *E. borealis*, figg., *E. hortensi* n. sp., figg., close to *E. maculata*, Alaska, MOORE (300) pt. 2, pp. 532-536.
- Eurythoe complanata*, Samoa, *E. kamehameha*, on corals, Honolulu, EHLERS, Zool. Jahrb. Syst. xxii, 3, pp. 231 & 282; *E. complanata*, *E. longicirra*, Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, p. 145.
- Gastrolepidia clavigera* (= *G. amblyphyllus*), figg., Ceylon, WILLEY, t. c. p. 253.
- Glyceridæ*, discussion of genus, McINTOSH, Ann. Nat. Hist. Ser. 7, xv, pp. 33-36.
- Glycera africana*, Red Sea, *G. edwardsi* n. sp., Red Sea, GRAVIER, Bull. Mus. Paris 1904, p. 473; *G. capitata*, N. Fjord, NORDGAARD (315) pp. 162, 235 & 236; *G. laccadiva*, figg., Ceylon, WILLEY (448) p. 286; *G. lapidum*, Azores, compared with *G. capitata* (cf. *G. alba* Johnston), *G. tessellata*, Scotland to Cape, *G. ehlersi*, St Magnus Bay, *G. unicornis*, Shetland, S. W. Ireland (cf. *G. decipiens*, Japan), *G. siphonostoma*, Cape Guardia, *G. dibranchiata*, *G. goësi*, Japan, *G. micrognatha* (cf. *Hemipoda patagonica* Kimber), McINTOSH, Ann. Nat. Hist. xv, Ser. 7, pp. 33-57; *G. rouxii*, notes, E. Mediterr., MARENZELLER (271) pp. 311 & 312.

- Glycinde bonhourii* n. sp., near *G. wireni*, Red Sea, *G. maskallensis* n. sp., Red Sea, GRAVIER, Bull. Mus. Paris 1904, p. 475.
- Goniadidae*, discussion of genus, McINTOSH, Ann. Nat. Hist. Ser. 7, xv, pp. 36-39.
- Goniada maculata* in haddock, St Andrews, N. restricted, and S. form, McINTOSH, t. c. p. 37.
- Greffia celox*, synonyms, fig., North Sea, REIBISCH (368) pp. 4-6.
- Halosydna zeylanica* n. sp., figg., Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, p. 250.
- Haplosyllis spongicola* (*S. hamata*=*S. violaceoflava*), figg., Ceylon, with Serpulid, WILLEY (448) p. 269.
- Harmothoe dictyophora* (= *Polynoe dictyophorus*), figg., Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, p. 251, 1905; *H. oculinarum*, Trondhjem, *H. mollis*, rare in Norway, *H. rarispina*, Norway, *H. propinqua*, Henningsværstrømmen, *H. sarsi*, *H. nodosa*, *H. imbricata*, Norway, *H. impar*, *H. clavigera*, N. of Arctic Circle, *H. asperrima*, Malangen, NORDGAARD (315) p. 60.
- Henipodus simplex*, Japan, *H. roseus*, Japan Sea, *H. magellanicus*=*Glycerella magellanica*, Arvidsson, McINTOSH, Ann. Nat. Hist. Ser. 7, xv, p. 57, 1905.
- Hermione malleata*, figg. (*Ridgewayi*), *H. indica*, figg., Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, pp. 145 & 146.
- Hesione ceylonica*, *H. genetta*, Ceylon, WILLEY, t. c. pp. 266 & 267; *H. pantherina*, segmental organs in sexual maturity, FAGE, C.R. Ac. Sci. cxli, pt. 2, p. 131, 1905.
- Hololepida* n. g. *magna* n. sp., figg., Gulf of Georgia, MOORE (300) pp. 540-544.
- Hololepidella* n. g. *commensalis* n. sp., figg., Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, p. 252.
- Hyalinexia caniguina* with *Pectinaria* tubes, Ceylon, WILLEY, t. c. p. 279; *H. tubicola*, Suolvær, NORDGAARD (315) pp. 162, 235 & 236.
- Iphione muricata* (= *Polynoe peronea*), figg., Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Fisheries iv, 1905, p. 248.
- Irma limicola* n. sp., Ceylon, figg., WILLEY, t. c. p. 267.
- Kefersteinia cirrata*, segmental organs in sexual maturity, FAGE, C.R. Ac. Sci. cxli, pt. 2, p. 136.
- Latmonice filicornis*, Norway, KIÆR, Nyt Mag. Naturv. xlii, 1, pp. 65, 70, 79, 1904; *L. filicornis*, Malangen, N. Fjords, NORDGAARD (315) pp. 162, 235 & 236.
- Leanira tetragona*, N. Fjords, NORDGAARD, t. c. pp. 162, 235 & 236; note on genus *L. ghleni*, E. Mediterr., MARENZELLER (271) pp. 300-304.
- Leocrates atlanticus*, E. Mediterr., MARENZELLER, t. c. p. 308.
- Leodice norvegica*, *L. gunneri*, N. Fjords, NORDGAARD (315) pp. 162, 235 & 236.
- Lepidasthenia digueti* n. sp., in *Balanoglossus gigas*, Lower California, with a second parasite *Lysiosquilla*, morphol. figg. (near to *Polynoe gigas*), GRAVIER, Bull. Soc. Philom. Ser. 9, vii, pp. 160-173; *L. digueti* n. sp., in *Balanoglossus gigas*, Gulf of California, in turn host to *Lysiosquilla*, no distinction to be made between *Lepidasthenia* Malmgren and *Lepidametria* Webster, GRAVIER, C.R. Ac. Sci. cxl, pp. 875-878; *L. digueti*, living in commensalism with *Balanoglossus gigas*, GRAVIER, Bull. Mus. Paris 1905, pp. 177-181; *L. Malmgren* and *Lepidametria* Webster, discussion of genera, GRAVIER, t. c. pp. 181-184.
- Lepidonotus carinulatus*, figg., *L. cristatus*, *L. trissochatus*, Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, pp. 248 & 249; *L. squamatus*, *L. cirrosus*, *L. amundseni*, N. Fjords, NORDGAARD (315) p. 168; *L. robustus* n. sp., figg., *L. celoris*, figg., Shelikoff Str., MOORE (300) pt. 2, pp. 544-546.

- Lumbrineris fragilis*, Kirk Fjord, NORDGAARD (315) pp. 162, 235 & 236.
- Lysidice collaris*, Ceylon, WILLEY (448) p. 284.
- Magalia perarmata*, sexually mature form, segmental organs, FAGE, C.R. Ac. Sci. cxli, p. 130.
- Marpysa chevaliensis* n. sp., Ceylon, WILLEY (448) p. 282.
- Naidonereis quadricuspida*, Lochmaddy, nat. hist., McINTOSH, Ann. Nat. Hist. Ser. 7, xv, p. 48, 1905.
- Nematonereis unicornis*, Ceylon, WILLEY (448) p. 284.
- Nephtys*, fed on by fishes, p. 238, TODD, N. Sea Fisheries Investigation Comm. Rep. 2 (S. area), pp. 237 et seq.; *N. malmgreni*, corrections and notes, *N. hystrix*, E. Mediterr., MARENZELLER (271) pp. 304-308; *N. m.*, *N. incisa*, N. Fjords, *N. ciliata*, *N. cæca*, N. Fjords, NORDGAARD (315) pp. 162, 235 & 236; *N. palatii* n. sp., Red Sea, near to *N. nudipes*, GRAVIER, Bull. Mus. Paris 1904, p. 472.
- Nereis cultifera*, note on autotomy after wounding, NUSBAUM, Zeitschr. wiss. Zool. lxxix, p. 223; *N. diversicolor*, histology, muscle-cells of blood vessels, RETZIUS, Biol. Untersuch. New Ser. xii, pp. 75-79; *N. dumerilii*, Scotland, *N. longissima*, Plymouth, *N. irritabilis*, Virginian coast, *N. diversicolor*, swarming and burrowing habits, McINTOSH, Ann. Nat. Hist. Ser. 7, xv, pp. 34 & 35, 1905.
- Nereis dumerilii* (And. & Ed.), habits during breeding season, McINTOSH, Rep. Brit. Ass. 1904, p. 609; *N. fucata* and *N. f. inquilina*, discussion of sedentary and heteronereid forms, figg., ♀, St. Vaast-la-Hougue, FAGE, Bull. Mus. Paris 1904, pp. 485-491.
- N. indica*, *N. unifasciata* n. sp., figg., *N. ehlersiana*, Ceylon, WILLEY (448) pp. 270-272; *N. kerguelensis*, E. Mediterr., MARENZELLER (271) p. 308; *N. kobeensis*, Hawaii, heteronereis stage, histology, figg., TREADWELL, Biol. Bull. ix, 4, pp. 226-231; *N. longissima*, habits during breeding season, McINTOSH, Rep. Brit. Ass. 1904, p. 609; *N. pelagica*, N. Fjords, NORDGAARD (315) pp. 162, 235 & 236; *N. fucata*, condition in epitokous forms of segmental organs, FAGE, C.R. Ac. Sci. cxli, pt. 1, p. 61; *N. ruficeps*, New Zealand, *N. vancouverica*, French Pass, *N. obfuscata* (= *Perinereis*), Philippines, *N. tentaculata* (*Ceratonereis*), Laysan, *N. ballata*, New Zealand, *N. australis*, New Zealand, *N. amblyodonta*, Chatham isld., *N. cricognatha*, New Zealand, EHLERS, Zool. Jahrb. Syst. xxii, 3, pp. 285-287; *N. vireus*, *N. pelagica*, Norway, KLÆR, Nyt. Mag. Naturv. xvii, pp. 73-78.
- † *Nereites ollivanti*, carbonif. la Paladère, *N. vermicularis*, carbonif. de Liar, *N. sedgwicki*, carbonif. la Paladère, CAREZ, Mem. carte geol. France, fasc. ii, p. 798.
- Niewe simpla* n. sp., Behn Canal, Alaska, figg., MOORE (300) pt. 2, pp. 546-548.
- Goniada annulata*, n. sp., Gulf of Georgia, figg., detailed, MOORE, t. c. pt. 2, pp. 548-553.
- Notophyllum laciniatum*, Ceylon, figg., WILLEY (448) p. 263.
- Onuphis basipicta* n. sp., figg., *O. conchylega* (=gen. *Northia* type = *Diopatira eschrichti*), *O. dibranchiata* n. sp., figg., *O. holobranchiata*, fig., on Lamellibranch, WILLEY, t. c. pp. 275-278; *O. conchylega*, *O. quadricuspis*, N. Fjords, NORDGAARD (315) pp. 162, 235 & 236.
- Ophiodromus flexuosus*, segmental organs in sexual maturity, FAGE, C.R. Ac. Sci. cxli, p. 130.
- Oxydromus propinquus*, segmental organs in sexual maturity, FAGE, t. c. p. 130.
- Panthalis*, position of genus, *P. melanonotus*, figg., *P. nigromaculata*, figg., Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, pp. 254 & 255; *P. ærstedii*, E. Mediterranean, MARENZELLER, Denk. Ak. Wien 74, 1904, pp. 299 & 300.
- Paramarpysa orientalis* n. sp., Ceylon, fig., WILLEY (448) p. 283.

- Pelagobia longecirrata*, Sargassa Sea, young form, fig., REIBISCH (368) p. 4.
- Perinereis cultifera*, segmental organs in epitokous condition, FAGE, C.R. Ac. Sci. cxli, pt. 1, p. 61; *P. seurati*, n. sp., Tarauru-roa, Pacific, figg., parapodia vascular, comparison of morphology with halolimnic forms, GRAVIER, Bull. Soc. Philom. Ser. 9, vii, pt. 4, p. 212, 1905; *P. seurati* n. sp., Gambier Islands, sexual forms, respiratory function of parapodia (cf. *Nereis limnicola* and *Lycastis hawaiiensis*), GRAVIER, C.R. Ac. Sci. cxl, pp. 1561 & 1562.
- Phalerothorus pictus*, fig., young form, N. Atlantic, *Ph. borealis*, fig., Labrador current, REIBISCH (368) pp. 1 & 2.
- Phyllodoce dissotyia* n. sp., figg., *P. foliosopapillata*, figg., *P. macrolepidota* (= *tenuissima*), figg., *P. sancti-josephi*, figg., Ceylon, WILLEY (448) pp. 263-266; *P. maculata*, N. Fjords, NORDGAARD (315) pp. 162, 235 & 236.
- Platynereis bengalensis*, figg., Ceylon, WILLEY (448) p. 273.
- P. dumerillii*, nephridial modification in epitokous condition, FAGE, C.R. Ac. Sci. cxli, pt. 1, p. 62, 1905.
- Pontogenia indica*, fig., Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, p. 246.
- Psammolyce zeylanica* n. sp., figg., *P. rigida*, figg., Ceylon, WILLEY, t. c. p. 258.
- Pterocirrus ceylonicus*, WILLEY, t. c. p. 266.
- Scoloplos mülleri*, host to *Haplosporidie*, CAULLERY & MESNIL, C.R. Soc. Biol. lvii, 1905, i, p. 581; *S. m.*, N. Europe and Siberia, N. form to *S. armiger* is *Aricia mülleri* Rathke, Greenland, Finmark, McINTOSH, Ann. Nat. Hist. Ser. 7, xv, pp. 33-57.
- Spinther oniscoides* (= *S. major* Levinsen = *S. arcticus* Hansen), N. Fjords, NORDGAARD (315) pp. 163, 235 & 236.
- Staurocephalus cruceiformis* Balstad, NORDGAARD, t. c. pp. 162, 235 & 236.
- Sthenelais zeylanica* n. sp., fig., with *Hyalinacia camiguina*, Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, p. 258.
- Sthenolepis* n. gen. *japonica* n. sp., fig., Ceylon, WILLEY, t. c. p. 259.
- Syllis closterobrandia*, Chatham Is., *S. notocera* n. sp., Honolulu, figg., descript., EHLERS, Zool. Jahrb. xxii, 3, pp. 283-285.
- Syllis gracilis*, Ceylon, WILLEY (448) p. 269.
- Thalenessa digitata*, figg. (= *im Thurni*), cf. *T. oculata*, *T. stylolepis* n. sp., Ceylon, WILLEY, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, pp. 260-262, figg.
- Tomopteridae*, revision of classification based on anatomical survey, larval forms, SCHWARTZ, Jena. Zeitschr. xl, pt. 3, 1905, pp. 497-536.
- Tomopteris*, occurring off Port Erin, note, SCOTT, P. Liverp. biol. Soc. xix, pp. 18, 226, 1905; *T. helgolandica*, fig., Newfoundland Bank, *T. septentrionalis*, in Gulf Stream, *T. planktonis*, S. Atlantic, Guinea Stream, REIBISCH (368) pp. 8 & 9; *T. onisciformis*, Valencia Harbour, M. & C. DELAP (99) p. 6; *T. onisciformis*, seasonal occurrence, Firth of Clyde, BROWNE, P. R. Soc. Edinb. xxv, 1905, p. 786.
- Typhloscolex mülleri*, fig., at 10·2° temp., REIBISCH (368) p. 67.
- Typosyllis taprobenensis* n. sp., Ceylon, figg., WILLEY (448) p. 268.

## SPIONIFORMIA.

- Ammochares orientalis*, with *Panthalis nigromaculata*, WILLEY, t. c. p. 290.
- Chaetopterus appendiculatus*, fig., Ceylon, WILLEY, t. c. p. 291; *C. pergamentus*, N. Carolina, its commensals, annelids and crabs, ENDERS, Amer. Natural. xxxix, pp. 37-40; *C. variopedatus* ♀ external organ in connection with Nephridia, probably for oviposition, cf. epitokous condition of Nereids, GRAVIER, C.R. Ass. Franc. 1904, pp. 785-788;

- C. variopedatus*, varying from Europ. form, Red Sea, GRAVIER, Bull. Mus. Paris 1905, p. 92.
- Magelona obockensis* n. sp., Red Sea, GRAVIER, Bull. Mus. Paris 1905, No. 1, p. 44; *M. papillicornis*, Firth of Clyde, BROWNE, P. R. Soc. Edinb. xxv, 1905, p. 787.
- Nerine cirratulus*, regeneration phenomena, figg, NUSBAUM, Zeitschr. wiss. Zool. lxxix, pt. 2, pp. 222-307; *N. lefebvrei* n. sp., near to *N. bonnieri*, GRAVIER, Bull. Mus. Paris 1905, p. 43.
- Owenia fusiformis*, larval stage, mitraria, Firth of Clyde, BROWNE, P. R. Soc. Edinb. xxv, 1905, p. 787.
- Phyllochaetopterus herdmani*, figg. (= *Spiochaetopterus herdmani*), *P. ramosus* n. sp., Ceylon, figg., with other tubicolous organisms, and algæ, WILLEY (448) p. 293.
- Polydora armata*, figg., *P. cocca*, Ceylon, WATSON, Roy. Soc. Rep. on Pearl Oyster Fisheries iv, 1905, p. 325.
- Polydora hornelli* n. sp., fig. (cf. *P. ciliata*), WILLEY (448) p. 286.
- Ranzania sagittaria*, nugal organ, GRAVIER, C.R. Ass. Franc. 1904, p. 785.
- Spio fuliginosus*, autotomy after wounding, NUSBAUM, Zeitschr. wiss. Zool. lxxix, pt. 2, pp. 222-307; *S. martensis*, *S. moznikowianus*, segmentary organs in sexual maturity, FAGE, C.R. Soc. Biol. 1905, ii, pp. 452-454.
- Telepsavus bonhourei* n. sp., placed near *T. costarum*, Red Sea, GRAVIER, Bull. Mus. Paris 1905, No. 2, p. 93; *Telepsavus* n. sp., Somaliland, nugal organ, GRAVIER, C.R. Ass. Franc. 1904, p. 784.

## TREBELLIFORMIA.

- Amphicteis alaskensis* n. sp., figg., *A. glabra* n. sp., figg., Alaska, MOORE (300) pt. 3, pp. 846-851.
- Amphitrite cirrata*, N. Fjords, *A. groenlandica*, new for Vest Finmarken, NORDGAARD (315) pp. 163, 235 & 236; *A. palmata* n. sp., figg., like *A. affinis*, rock, Behm Canal, MOORE (300) pp. 858 & 859.
- Anisocirrus* n. gen. *decipiens* n. sp., Tadjoura, Somali Coast, "budding" syllid of Vaillant, GRAVIER, C.R. Ac. Sci. cxli, p. 906.
- Artacama coniferi* n. sp., figg., Kadiak Is., mud, MOORE (300) pt. 3, pp. 853-856; *A. proboscidea*, Norway, NORDGAARD (315) pp. 163, 235 & 236.
- Audouinia saxatilis* n. sp., Red Sea, position near to *A. gracilis* Ehr., GRAVIER, Bull. Mus. Paris 1905, p. 42.
- Cirratulus africanus* n. sp., Djibouti, position close to *Archidice patagonica*, GRAVIER (165) p. 42; *C. cylindricus*, figg., with *Eupomatus heteroceras*, *C. complanatus* n. sp., Ceylon, WILLEY (448) p. 294.
- Ctenodrilus*, histological investigation, systematic notes, GALVAGNI, Arb. Inst. Wien xv, pp. 47-81.
- Dodecaceria*, free swimming sexual form, McINTOSH, Ann. Nat. Hist. xv, Ser. 7, p. 34; *D. joubini* n. sp., placed near to *D. fistulicola*, Red Sea, JOUBIN, Bull. Mus. Paris 1905, p. 319.
- Grymæa*, discussion of gen., *cespitosa* n. sp., Ceylon, WILLEY (448) p. 306.
- Heterocirrus typhlops* n. sp., Ceylon, WILLEY, t. c. p. 295, fig.
- Heterocirrus viridis*, host to *Haplosporidia*, CAULLERY & MESNIL, C.R. Soc. Biol. lvii, 1, 1905, p. 501.
- Leprea inversa* n. sp., Ceylon, figg., WILLEY (448) p. 297.
- Loimia annulifilis*, figg. (= *Terebella annulifilis* Grube), *L. crassifilis*, *L. medusa*, figg., *L. montagui*, figg. (= *T. montagui* Grube: not *T. montagui* Quf.), *L. variegata* (= *T. variegata* Ehrb.), Ceylon, WILLEY, t. c. pp. 301-304; *L. medusa* in polyp colonies, Djibouti, JOUBIN, Bull. Mus. Paris 1905, No. 5, pp. 327.
- Melaina cristata* n. sp., figg., Lynn Canal, Alaska, MOORE (300) pt. 3, pp. 850-853.
- Pectinaria*, preyed on by fishes, possibly commensal with *Montacuta*

- bidentata*, TODD, North Sea Fisheries Investigation Committee. Rep. 2 (S. area), p. 237, et seq.; *Pectinaria*, Norway, KIÆR, Nyt Mag. Naturv. i, pp. 66 & 67, 1904; *P. capensis*, synonyms, Red Sea, JOUBIN, Bull. Mus. Paris, No. 5, p. 326; *P. hyperborea*, *P. koreni*, N. Fjords, NORDGAARD (315) pp. 163, 235 & 236.
- Polymnia labiata* n. sp., figg., *P. socialis* n. sp., figg., on *Phyllochætopterus ramosus* = *P. triplicata* n. sp., figg., WILLEY (448) p. 300.
- Thelepus hamatus* n. sp., figg., Behm Canal, mud, MOORE (300) pt. 3, pp. 856-858.
- T. cincinnatus*, N. Fjords, NORDGAARD (315) pp. 163, 235 & 236.
- Terebella debilis*, Østnes Fjord, NORDGAARD, t. c. pp. 163, 235 & 236; *T.*, Norway, KIÆR (229) p. 71.
- Terebellides strömi*, Norway, KIÆR, Nyt Mag. Naturv. xlii, p. 71, 1904; *T. strömi*, N. Fjords, NORDGAARD (315) pp. 163, 235 & 336.

## CAPITELLIFORMIA.

- Capitella capitata* and its parasite *Anchorina sagittata*, Naples, figg., CECCONI, Arch. Protistenk. vi, pt. 3, pp. 230-245; *C. capitata*, regeneration phenomena, figg., NUSBAUM, Zeitschr. wiss. Zool. lxxix, pt. 2, pp. 222-307; *C. capitata*, regeneration phenomena, experimental, CZERSKI & NUSBAUM, Bull. Ac. Cracovie, No. 7, 1905, pp. 471-477.
- Dasybranchus caducus*, Red Sea, GRAVIER, Bull. Mus. Paris 1905, No. 2, p. 92.
- Notomastus zeylanicus* n. sp., figg., Ceylon, WILLEY (448) p. 287.
- Scyphoproctus* n. gen. *djiboutiensis* n. sp., figg., Red Sea, GRAVIER, Bull. Mus. Paris 1904, pp. 557-561.

## SCOLESCIFORMIA.

- Arenicola cristata*, monograph on nephridial structure and development, figg., LILLIE, Mt. Stat. Neapel xvii, pt. 3, pp. 341-405; *A. grubii* (or *ecaudata*) occurring at Port Erin, ASHWORTH, P. Liverp. biol. Soc. xix, p. 15, 1905; *A. marina*, Lund, NORDGAARD (315) pp. 163, 235 & 236; as bait for cod, Norway, NORDGAARD, t. c. p. 246.
- Armandia lanceolata* n. sp., fig., *A. leptocirrus*, Ceylon, WILLEY (448) pp. 288 & 289; *A. melanura* n. sp., placed near *A. oligops*, Red Sea, GRAVIER, Bull. Mus. Paris 1905, pp. 89-91.
- Asiothea obockensis* n. sp., Red Sea, JOUBIN, Bull. Mus. Paris No. 5. 1905, p. 325.
- Brada villosa*, *B. granulosa*, new for Norway, *B. granulata*, N. Fjords, NORDGAARD (315) pp. 163, 235 & 236.
- Clymene pratermissa*, Kirk Fjord, NORDGAARD, t. c. pp. 163, 235 & 236; *C. watsoni* n. sp., near to *C. amphistoma*, Djibouti; *C. africana* n. sp., *C. praxilla*, Djibouti, Red Sea, JOUBIN, Bull. Mus. Paris 1905, pp. 330-332; *Clymene* sp., Norway, KIÆR, Nyt Mag. Naturv. xlii, 1, pp. 66, 70 & 71, 1904.
- Eumenia crassia*, Skjerstad, NORDGAARD (315) pp. 163, 235 & 236.
- Fimbraria*, genus defined, p. 365, *F. plana* n. sp., intestinal to *A. boschas*, figg., VON LINSTOW, Arch. mikr. Anat. lxvi, pt. 3, pp. 363-365.
- Maldane biceps*, Norway, KIÆR, Nyt Mag. Naturv. xlii, 1, pp. 66-70, 1904; *M. biceps*, N. Fjord, NORDGAARD (315) pp. 163, 235 & 236.
- Nicomache lumbricalis*, N. Fjords, NORDGAARD, t. c. pp. 163, 235 & 236; *N. truncata* n. sp., Ceylon, WILLEY (448) p. 290, figg.
- Polyphthalmus australis*, fig., Ceylon, WILLEY, t. c. p. 289; *P. pictus*, synonyms, Red Sea, GRAVIER, Bull. Mus. Paris 1905, p. 91.
- Sternaspis fossa*, new to Norway, NORDGAARD (315) pp. 164, 235.



- Stylarioides capensis* (= *Trophonia*), Red Sea, synonyms, GRAVIER, Bull. Mus. Paris 1905, No. 2, p. 89; *S. parmatius*, fig. (*S. iris*), Ceylon, WILLEY (448) p. 289.  
*Trophonia plumosa*, N. Fjords, NORDGAARD (315) pp. 162, 235 & 236.

## SABELLIFORMIA.

- Aspeira* n. gen. *modesta* n. sp. between *Parasabella* and *Potamilla*, figg., Kadiak, BUSH (57) p. 202.  
*Branchiomma acrophthalmos*, figg., oriental form of *B. vesiculosum*; characters of gen., *B. quadrioculatum* n. sp., figg., Ceylon, WILLEY (448) pp. 306 & 307.  
*B. vesiculosum*; otocysts, histology and function, figg., FAUVEL, C.R. Congr. Zool. vi, Berne, pp. 360-364.  
†*Bustinella taurinensis*, paleon., Mid Miocene, Turin, BELLINI (20) p. 640.  
*Crucigera zygophora*, notes on genus, figg., Puget Sound, *C. formosa* n. sp., figg., Unalaska Is., *C. irregularis* n. sp., figg., BUSH (57) pp. 233 & 234.  
*Chone infundibuliformis*, N. Fjords, NORDGAARD (315) pp. 163, 235 & 236.  
*C. teres* n. sp., figg., Unalaska Is., BUSH (57) p. 215.  
*Dasychone cingulata*, figg., Ceylon, WILLEY (448) p. 308; *D. daltzelli*, Kvænangen, NORDGAARD (315) pp. 163, 235 & 236.  
*Dasychonopsis* n. gen. *pallidus* n. sp., Honolulu, BUSH (57) p. 198.  
*Ditrupe arietina*, N. Fjords, NORDGAARD (315) p. 163; *D. arietina*, figg., Spermatozoon, RETZIUS (370) p. 85.  
*Euchone papillosa*, Norway, NORDGAARD (315) pp. 163, 235 & 236.  
*Eudistylus* n. gen. *gigantea* n. sp., figg., Prince William Sound, *E. plumosa* n. sp., figg., Sitka, *E. abbreviata* n. sp., figg., Sitka, *E. tenella* n. sp., figg., Vancouver Is., *E. intermedia* n. sp., figg., California, BUSH (57) pp. 209-214.  
*Eupomatus albiceps*, figg. on *Phyllochætopterus ramosus*, *E. exaltatus*, figg., *E. heteroceros*, with Bryozoa and pearl oyster bissus, *E. minax*, Ceylon, WILLEY (448) pp. 312-314; *E. gracilis* n. sp., figg., California (cf. *Hydrodroides protulicola* Benedict.), *E. humilis* n. sp., Guaymas, BUSH (57) pp. 234 & 235.  
*Eurato porifera*, fig. (= *S. porifera* Grube), *E. notata*, figg. (= *S. notata* Grube), associated with *Phyllochætopterus ramosus*, Ceylon, WILLEY (448) pp. 309 & 310.  
*Filigrana implexa*, embryology, histogeny, asexual, MALAQUIN, C.R. Ac. Sci. cxl, pt. 22, pp. 1484-1486; *F. i.*, N. Fjords, NORDGAARD (315) pp. 163, 235 & 236.  
*Jasmincira caducibranchiata* n. sp., figg., Ceylon, WILLEY (448) p. 312.  
*Hyalopomatopsis occidentalis* n. sp., figg., Prince William Sound, BUSH (57) p. 220.  
*Hydrodroides norvegica* on stones and shells, Ljugen, NORDGAARD (315) pp. 163, 235 & 236.  
*Hypsicomus phæotenia* (= *S. phæotenia* Schm., *S. pyrrhogaster* and *S. fuscotæniata* Grube), Ceylon, WILLEY (448) p. 307.  
*Leptochone steenstrupi*, N. Fjords, NORDGAARD (315) pp. 163, 235 & 236.  
*Metachone* n. gen. *mollis* n. sp., figg., California, BUSH (57) p. 216.  
*Myxicola conjuncta* n. sp., figg., Prince William Sound, *M. affinis* n. sp., figg., California, *M. glacialis* n. sp., Unalaska Is., BUSH, t. c. pp. 217-219.  
*Pallasia pennata*, figg. (= *S. pennata*, *Hermellanicornis*), single or colonial, Ceylon, WILLEY (448) p. 296.  
*Paralaonome japonica* (= *Sabellastarte* Savigny & Saint-Joseph), Japan, BUSH (57) pp. 197 & 198.  
*Parasabella* n. gen. *media* n. sp., figg., Kadiak, *P. maculata* n. sp., figg., Kadiak, BUSH, t. c. p. 201.

- Protula atypa* n. sp., figg., California, BUSH, t. c. p. 228.
- Placostegus tridentatus*, N. Fjords, NORDGAARD (315) pp. 163, 235-241;  
 †*P. squameus*, *P. polymorphus*, Mid Miocene, Turin, *P. rovasendai*,  
*P. sternalis*, Mid Miocene, Turin, BELLINI (20) p. 640.
- †*Pomatoceros polytrems*, paleon., Mid Miocene, Turin, *P. triqueter*, *P. dilatatus*, *P. granosus*, Mid Miocene, Turin, BELLINI, t. c. pp. 621 & 640; *P. triqueter*, Norway, KLÆR, Nyt. Mag. Naturv. xlii, 1, p. 78, 1904; *P. l.*, NORDGAARD (315) pp. 163, 235 & 236.
- Pomatostegus actinoceros*, figg. (cf. *P. stellatus* of Antilles) with this an annelid *Haplosyllus spongicola*, Ceylon, WILLEY (448) p. 315.
- Potamilla neglecta* on *Hydroidea*, *P. reniformis*, N. Fjords, NORDGAARD (315) pp. 163, 235 & 236.
- Protulopsis palliata* n. sp., figg., Ceylon, WILLEY (448) p. 316.
- Pseudopotamilla* n. gen., type = *Potamilla reniformis* Malmgren, *P. debilis* n. sp., figg., BUSH (57) p. 204; *P. brevivibranchiata* n. sp., figg., possibly to *Eudistylia*, Prince of Wales Is., *P. ocellata* n. sp., figg., Vancouver Is., *P. intermedia* n. sp., figg., Sitka Sound, *P. splendida* n. sp., figg., Prince of Wales Is., *P. anoculata* n. sp., figg., Behm Canal, Alaska, MOORE (300) pt. 2, pp. 555-569.
- Sabella pavonia*, *S. fabricii*, Kvænangen, NORDGAARD (315) pp. 163, 235 & 236; *S. microphthalama*, Woods Hole, Mass., hermaphrodite organ, histology, figg., sexes distinct at some seasons, GREGORY, Biol. Bull. ix, 1905; pp. 287-91; *S. elegans* n. sp., Alaska, BUSH, Harriman Alaska Expedition xii, p. 194, fig.; *S. humilis* n. sp., figg., Popof Is., *S. leptalea* n. sp., figg., Kadiak, *S. formosa* n. sp., figg., Glacier Bay, *S. (Eudistylia) wancouveri*, BUSH, t. c. pp. 194-197.
- Sabellastarte indica*, fig. (cf. *S. fusca* Grube), *S. indica quinquevalens* var. nov., fig. (possibly the same as *S. spectabilis* Grube, and *Laonome japonica* Marenzeller), Ceylon, WILLEY (448) p. 311.
- Salmacina* inhabited by *Monstrilla*: ASHWORTH, Port Erin Biol. Lab., P. Liverp. biol. Soc. xix, p. 16, 1905.
- Schizobranchia* n. gen. *insignis* n. sp., figg., Vancouver Is., *S. nobilis* n. sp., figg., Prince William Sound, *S. concinna* n. sp., figg., Prince William Sound, *S. dubia* n. sp., Prince William Sound, *S. affinis* n. sp., Popof Is., BUSH (57) p. 209.
- Serpulidae*, Norway, KLÆR, Nyt. Mag. Naturv. xlii, 1, p. 81, 1904.
- †*Serpula alata*, *S. spirulea*, from the Nummulitic deposit of the Adour Basin, Biarritz, DOUVILLÉ, Bull. Soc. geol. France, Ser. 4. v, No. 1, pp. 19-21, &c.; *S. antiquata*, *S. concava*, Upper Greensand, near Market Lavington, *S. umbonata*, Chloritic Marl, Urchfont, JUKES-BROWN, Mem. geol. Surv. U. K. July 1905, pp. 1-61; *S. arcuata* (= *trilineata*), *S. filiformis* (= *socialis*), Säntis Range, HEIM, Zeitschr. Deutsch. geol. Ges. lvii, No. 2, pp. 151, 152 & 225; †*S. cf. conformis*, Somaliland, *S. gordialis*, Atséhabo, Somaliland, DACQUÉ, Beitr. Pal. Oesterr.-Ung. xvii, pts. 3 & 4, pp. 125 & 126; *S. dentaliformis*, Bédat, *S. socialis*, Serris, Jurassic, CAREZ, Mem. carte geol. France, Fasc. ii, p. 832; *S. dianthus* in Pleistocene formations of Sankaty Head, WILSON, J. Geol. xiii, No. 8, p. 725; *S. fluctuata*, *S. plana*, chalk of Taplow, TREACHER & WHITE, Quart. J. Geol. Soc. lxi, pt. 3, p. 468; *S. gordialis*, Recklinghausen, *S. ampullacea*, *S. planorbis*, Bergbossendorf, *S. cincta* from Sickingmühle, *S. carinata* n. sp., p. 132, Emmelkämper Mark, *S. cf. tortrix*, Stimberg, Münster, WEGNER, Zeitschr. Deutsch. geol. Ges. lvii, pt. 1, pp. 123-144.
- Serpula*, abundant in materials from borings at Funafuti Atoll, HINDE, Report on Materials from the Borings at Funafuti Atoll. The Atoll of Funafuti, Roy. Soc. Rep. 1904, p. 329.
- †*Serpula quadricarinata* with var. *turritelliforme* (= *trichiforme*) cf. *S. corbarica* Num., Hérault & Aude, *S. corbarica* with above, Hérault

- & Aude, DONCIEUX, Ann. Univ. Lyon xvii, 1905, pp. 94-96; *S. gordialis*, Cretaceous, district of Slavianosserbsk, Ekatherinoslaw, FAVRE, Trudui Kharkov. Univ. xxxviii, 2, pp. 102 & 162.
- S. granulosa*, figg., *S. watsoni* n. sp., figg., Ceylon, WILLEY (448) pp. 316 & 317; †*S. granulosa*, *S. spirulea*, *S. calcarea*, in chalk at Bagnères, CAREZ, Mem. carte geol. France, Fasc. ii, p. 895.
- †*S. semisurrecta*, Mid Miocene, Turin, p. 621, *S. aufracta*, *S. scolopendroides*, *S. signata*, *S. bicaniculata*, *S. elegantula*, *S. lacera*, *S. effosa*, *S. myristica*, Mid. Miocene, Turin, BELLINI (20) pp. 621 & 640; †*S. spiralis*, in lower Samartian formation, *S. gregalis*, in middle Samartian, MURGOCI, J. Geol. xiii, No. 8, p. 694; †*S. spirulea*, in Upper Trias, Cerra de la Venta, Agost, Alicante, Spain, DE CISNEROS, Bol. Soc. espan. v, No. 10, p. 527; †*S. spirulea*, in Eocene of Cernica, noted, HAWELKA, Verh. geol. Reichsanst. 1905, No. 5, p. 117; *S. splendens* n. sp., figg., Prince William Sound, BUSH (57) pp. 230-232.
- Serpulides*, systematic table of tribe, BUSH (57) pp. 219-227.
- †*Serpulites sica*, from Bokkeveld beds of Cape Colony, *S.* (several species), in Zwartkops Valley, Cape Colony, ROGERS, Introduction to Geology of Cape Colony, 1905.
- Spirobranchus cervicornis* n. sp., figg., discussing gen. *Pomatoceros* with this, *S. semperi* (= *S. quadricornis* Grube), *S. s. acroceros* var. n., fig., *S. tricornigera* (= *Serpula tricornigera* Grube), Ceylon, WILLEY (448) pp. 317 & 318.
- †*Spirorbis* sp., Upper Trias, Cerra de la Venta, Alicante, Spain, DE CISNEROS, Bol. Soc. espan. v, No. 10, p. 527; *S. carbonarius* (= *S. pusillus*), in limestone of N. Staffordshire coal measures, *S. helicteres*, in limestone of N. Staffordshire coal measures, WARD, Mem. geol. Surv. U. K. 1905, p. 294.
- Spirorbis*, abundant in materials from borings at Funafuti Atoll, HINDE, The Atoll of Funafuti, Roy. Soc. Report 1904, p. 329; *S. variabilis* n. sp., figg., close to *S. semidentatus*, in Sitka Harbour on rocks, p. 238, *S. eximus* n. sp., figg., single specimen attached to a *Serpula* tube, p. 239, *S. marioni* Caullery & Mesnil, figg., like *S. quadrangularis*, on *Callopoma* and *Barbatia*, La Paz, Lower California, etc., p. 239, *S. langerhansi* Caullery and Mesnil, close to *S. marioni* and *S. vitreus*, on *Crucibulum imbricatum*, Panama, p. 240, *S. mörchi* Levinsen, figg., on *Crucigera*, *Serpula* and *Pachypoma*, Sitka, Prince William Sound, etc., p. 240, *S. incongruus* n. sp., figg., close to *S. mörchi*, on *Serpula* and *Crucigera*, Prince William Sound and Virgin Bay, p. 241, *S. quadrangularis* Stimpson, figg., on *Crucigera*, Orca, Prince William Sound, p. 241, *S. lineatus* n. sp., figg., close to *S. granulatus*, on bivalve at Sitka, on *Crucigera*, Prince William Sound, p. 242, *S. similis* n. sp., figg., like *S. lineatus*, on *Crucigera* and rock fragments at Virgin Bay, Orca &c., p. 242, *S. S. violaceus* Levinsen, figg., on *Crucigera*, shells, &c., Prince William Sound, on *Pachypoma*, Brit. Columbia, p. 242, *S. spirillum* Linné, figg., on *Sertularia*, *Bugula*, *Laminaria* &c., Greenland, California &c., &c., p. 243, *S. rugatus* n. sp., figg., close to *S. incongruus*, Sitka, p. 243, *S. comptus* n. sp., associated with *S. spirillum* on red alga from California, p. 244, *S. asperatus* n. sp., figg., on rocks, shells, bryozoans, &c., Prince William Sound, California, Orca, &c., p. 245, *S. abnormis* n. sp., figg., close to *S. asperatus*, on rock fragments, Sitka, p. 245, *S. inversus* n. sp., close to *S. lucidus*, on branches of *Menipea cirrata*, Port Phillip, Australia, p. 246, *S. tridentatus* n. sp., associated with *S. inversus*, on bryozoan, Port Phillip, Australia, p. 246, *S. granulatus* Linné, figg., common bryozoans, Newfoundland, Greenland, &c., p. 247, *S. verruca* Fabricius, figg., close to *S. validus*, Greenland, p. 247, *S. vitreus* Fabricius, figg., on stones and shells,

- Newfoundland, Devonshire, &c., p. 247, *S. cancellatus* Fabricius, figg., Birterbuy Bay, Ireland, p. 248, *S. communis* Bosc. similar to *S. spirorbis* Linne, p. 248, *S. corrugatus* Montagu, Birterbuy Bay, Ireland, p. 248, *S. heterostrophus* Montagu, close to *S. carinatus*, p. 248, *S. carinatus* Montagu, similar to *S. quadrangularis* on valve of *Anomia*, Guernsey, and on stone, Birterbuy Bay, Ireland, p. 249, *S. sulcatus* Adams (*S. granulatus* Montagu), figg., on limpet, Birterbuy Bay, and on *Haliotis tuberculata*, Guernsey, p. 249, *S. validus* Verril, figg., structure, p. 249, *S. stimpsoni* Verril, figg., structure, p. 250, *S. pusilloides*, **nom. nov.** for *Mera pusilla*, p. 250, *S. pseudocorrugatus* **nom. nov.** for *S. corrugatus*, p. 250, *S. foraminosus* Bush, structure, p. 250, *S. bellulus* Bush, structure, p. 250, *S. dorsatus* Bush, structure, p. 250, *S. argutus* Bush, structure, p. 250, *S. tubæformis* n. sp., figg., close to *S. sinistrorsus* on Irish moss, Long Island Sound, New England, p. 251, *S. evolutus* n. sp., figg., on *Sipho*, Grand Banks of Newfoundland, p. 251, *S. formosus* n. sp., figg., on gulf-weed, Gulf Stream, Bermuda, &c., p. 251, *S. mutabilis* n. sp., structure, p. 252, BUSH (57) pp. 171-268; *S. semidentatus* n. sp., figg., close to *S. variabilis* on *Serpula splendens*, Prince William Sound, &c., BUSH, t. c. p. 237.
- †*S. spirintortus*, *S. cornuarietis*, *S. concamerata*, *S. ecalaria*, Mid. Miocene, Turin, BELLINI (20) p. 640.
- †*Tentaculitis intermedius*, *T. cuarius*, *T. elegans*, Devonian, Mid. Bohemia, figg. sections, KATZER, Verh. geol. Reichsanst. 1905, No. 2, pp. 43-52.
- †*Vermilia multivaricosa*, Mid. Miocene, Turin, BELLINI (20) p. 640.
- Vermilia pygidialis* n. sp., figg., Ceylon, WILLEY (448) p. 318.

## MYZOSTOMARIA.

- Myzostoma fisheri* n. sp., in *Tosia leptoceramus*, California, fig., close to *M. asterice*, WHEELER, Biol. Bull. viii, 1905, pp. 75-78.
- M. glabrum*, participation of the sperm-nucleus in the first cleavage, KOSTANÉCKI, Bull. Ac. Cracovie, No. 7, 1905, pp. 411-416.

## OLIGOCHÆTA.

### A. TERRICOLÆ.

- Oligochaeta* of the Neo-tropical region, Monograph, DE MARTIIS, Mem. Acc. Torino lvi, 1906, pp. 1-72.
- Allolobophora fetida*, spermatozoon, RETZIUS (369) p. 87; *A. fetida*, host to cysticeri, *T. cuneata*, DE MAGALHÃES, Arch. parasit. ix, pp. 305-348; *A. nematogena*, lymphocytes and their development, figg., ISSET, Arch. zool. ital. ii, 2, 1905, pp. 125-135.
- Amyntus jumpeanus*, Celebes, habits, p. 82, SARASIN, Reisen in Celebes, ii.
- Borgertia* n. gen. *papillifera* n. sp., Usambara, figg., anatomy, MICHAELSEN, Zeitschr. wiss. Zool. lxxxii, pp. 330-335.
- Chilota bicincta*, S. Patagonia, distrib. note, *Ch. patagonicus*, Terra del Fuego, etc., DE MARTIIS (272) pp. 22-24; *Ch. pæssleri* n. sp., figg. Coronel, Chili, *Ch. porteri* n. sp., fig., Chillan., *Ch. putablensis*, *Ch. coquimbensis* n. sp., figg., Coquimbo, *Ch. beckmanni*, *Ch. simulans*, Corral, *Ch. corralensis*, synonyms., *Ch. cingulatus*, synonyms., Valdivia, *Ch. minutus*, Valdivia, *Ch. bicinctus*, synonyms., Patagonia, *Ch. fehländii*, Valdivia, *Ch. chilensis*, Valdivia, *Ch. decipiens*, Valdivia, *Ch. carneus*, Quilpué, *Ch. bertelensi*, Valparaiso, *Ch. valdiviensi*, Corral, *Ch. pata-*

- gonicus*, synonyms, various, MICHAELSEN, Revist. chilena viii, 1904, pp. 266-78.
- Criodrilus alfari*, descript., anatomy, positions of spermathecæ in Lumbricids, figg., DE MARTIIS (272) pp. 62-68.
- Dichogaster bolani*, var. *octonephra*, Point Savannah, *D. sporadonephra* n. sp., descript., Panama, DE MARTIIS, Boll. Mus. Torino xx, No. 495, pp. 2 & 3; *D. andina*, descript., anatomy, E. Equador, *D. bolani*, different forms compared, figg., S. America, *D. sporadonephra*, descript., anatomy, figg., Darien, *D. vereus* n. sp., descript., anatomy, Darien, figg., DE MARTIIS (272) pp. 38-48; *D. silvestris* (= *Benhamia*), Kiwu, lake, note, *D. wangaensis* n. sp., E. African Coast, figg., near to *D. austeni*, MICHAELSEN, Zeitschr. wiss. Zool. lxxxii, pp. 312-314.
- Dinodriloides* n. gen. *beddardi* n. sp., Auckland, BENHAM, P. Z. S. 1904, ii, pt. 2, pp. 226-230, figg.
- Dinodrilus beddardi* n. sp., Auckland, BENHAM (26) p. 282; *D. gracilis* n. sp., figg., diagnosis, Stephens Island, UDE (434) pp. 491-494.
- Diplocardia longa* n. sp., from Georgia, fig., biol. notes, MOORE, P. Ac. Philad. pp. 803-808.
- Diporocheta terreeregineæ*, figg., diagnosis, Queensland, UDE (434) pp. 429-431.
- Eisenia fetida*, *E. rosea*, *E. veneta*, material for study of Oligochæte blood vascular system, anat. and histol., GUNGL, Arb. Inst. Wien xv, 1905, figg., pp. 155-182; *E. fetida*, material for investigation of central nervous system of earthworms, figg., KRAWANY, Arb. Inst. Wien xv, 1905, pp. 281-316; *E. fetida*, Genoa, notes, *E. rosea* on sp. value of form, *bimastoides*, *E. spelæa*, *E. veneta*, Genoa, DE MARTIIS, Res. Ligusticæ xxxvi, pp. 105-109.
- Eiseniella tetraedra*, Begato, Genoa, notes, DE MARTIIS, Res. Ligusticæ xxxvi, p. 105.
- Eudriloides platychatus* n. sp., E. Usambara, *Eu. wölkei* n. sp., figg., W. Usambara, 1100 m. elevation (near *E. cotterilli*), *Eu. lindiensis* n. sp., fig., *Eu. everbecki* n. sp., figg., N. of Lindi., MICHAELSEN, Zeitschr. wiss. Zool. lxxxii, pp. 322-330.
- Haplotaxis ascaridoides* n. sp. (= confusion with *H. gordioides*), descript., L. Baikal dispersed, MICHAELSEN, t. c. pp. 63-68.
- H. intermedia* n. sp., near to *H. gordioides*, PIERANTONI (353) p. 4, and Arch. zool. ital. ii, 2, 1905, pp. 239-243, figg.
- Eutrigaster orædivitis*, descript., anatomy, Costa Rica, figg., DE MARTIIS (272) pp. 36-38.
- Glossodrilus* n. gen. *parvus* n. sp., Cimau, Panama, DE MARTIIS, Boll. Mus. Torino xx, No. 495, pp. 5 & 6.
- Glossoscolex smithi* n. sp., Point Savannah, *G. nemoralis* n. sp., R. Cianati, *G. crassicauda* n. sp. (= ? *Gl. houdaensis* Michlsn.), DE MARTIIS, t. c. pp. 6 & 7.
- Helodrilus* (*Allolobophora*) *caliginosus*, Genoa, etc., forms intermed. to subsp. *trapezoides*; *H. chloroticus*, note on spermatophores, *H. georgii*, Spezia, *H. rubidus*, Genoa, etc., *H. asconensis*, spermathecæ not formerly described, fig., Riviera, *H. dugesii*, note, Riviera, *H. gestroi* n. sp., descript., fig., near to *ictericus*, Genoa, etc., *H. (Dendrobena) rubidus*, Sandwich Islands, *H. (Allolobophora) caliginosus*, Sandwich Islands, *H. (Allolobophora) moebii*, diagnosis, Tanger, UDE (434) pp. 497-499; *H. ictericus*, notes, Genoa, *H. constrictus*, Magliolo in caves, *H. eiseni* (= *Bimastus*), Genoa, *H. (= Bimastus) parvus*, Genoa, DE MARTIIS, Res. Ligustica xxxvi, pp. 109-117; *H. sarnensis* n. sp., note, R. Sarno, Italy, PIERANTONI (352) p. 4, and Arch. zool. ital. ii, 2, 1905, pp. 243-246, figg.
- Hesperoscolex brachycystis* n. sp., Point Savannah, DE MARTIIS, Boll. Mus. Torino xx, No. 49 (5), p. 4.

- Holoscolex* n. gen. *reichi* n. sp., fig., diagnoses, Transvaal, UDE (434) pp. 421-424.
- Lumbricus* sp.? bifid posteriorly, found at Manningtree, COLE, Essex Natural. xii, p. 70, 1905; *L. herculeus*, function of phagocytes, BRASIL, C.R. Ac. Sci. cxl, p. 597; *L. agricola*, minute histology for study of spermatogenesis, figg., BUGNION & POPOFF, C.R. Congr. Zool. vi, Berne, pp. 410-420; *L. agricola* (= *herculeus*), variation and correlation, PEARL & FULLER, Biometrika iv, pt. 2, p. 211, 1905; *L. variegatus*, Upper Elf Loch, EVANS, Ann. Scott. Nat. Hist. lvi, p. 215, 1905; *L. polyphemus*, blood vascular system, anat., histol., *L. rubellus*, *L. terrestris*, anatomy and histology of blood vascular system, figg., GUNGL, Arb. Inst. Wien xv, 1905, pp. 155-182; *L. rubellus*, New Zealand, UDE (434) p. 497; *L. terrestris*, spermatogenesis, with résumé of authors, DEPDOLLA, Zool. Anz. xxviii, No. 16-17, pp. 545-557; *L. terrestris*, spermatogenesis, exhaustive study, BUGNON & POPOFF, Arch. Zool. exp. Ser. 4, iii, pp. 339-389.
- Lumbricus variegatus*, experiments on regeneration of posterior segments, exhaustive, figg., WAGNER, Zool. Jahrb. Anat. xxii, 1, pp. 39-156; *L. variegatus*, notes on structure of circulatory system, Switzerland, FIGUET, Bull. Soc. Neuchatel xxxii, 1904, pp. 159-161.
- Maoridrillus manianus* n. sp., Auckland, BENHAM, P. Z. S. 1904, ii, p. 222 and Tr. N. Zealand Inst. xxxvii, p. 282; *M. michaelsoni* n. sp., figg., diagnosis, New Zealand, *M. purus* n. sp., figg., diagnosis, New Zealand, *M. tetragonurus*, figg., diagnosis, New Zealand, UDE (434) pp. 407-418.
- Mesenchytræus unalaska*, Alaska, EISEN, p. 20, pl. i, fig. 7, and fig. 1; *M. asiaticus*, Behring Straits, p. 21, pl. xi, fig. 4, and figg. 2 & 3; *M. harrimani*, Alaska, p. 24, pl. i, figg. 1-6, pl. ii, figg. 1-7 and figg. 4-6, *M. setchelli*, Alaska, p. 27, pl. i, fig. 11, pl. iv, figg. 1-3 and figg. 7-9, *M. franciscanus*, California, p. 29, pl. iv, figg. 4 & 5 and figg. 10 & 11, *M. obscurus*, p. 32, pl. vi, figg. 1 & 2 and figg. 12 & 13, *M. maculatus*, p. 34, pl. v, figg. 1-5, and fig. 14, *M. orca* n. sp., p. 39, pl. xi, figg. 1 & 2 and fig. 16, *M. vegae*, p. 38, pl. iii, figg. 1 & 2 and fig. 15, *M. kincaidii*, p. 40, pl. i, figg. 16 & 17, pl. vii, fig. 7 and fig. 17, *M. penicillus*, p. 42, pl. ix, figg. 1 & 2 and figg. 18 & 19, *M. grandis*, p. 44, pl. i, figg. 8-10, pl. vii, figg. 1-6 and fig. 20, Alaska, *M. fuscus*, p. 47, pl. viii, figg. 3-5, and fig. 21-23, n. var. *inermis*, EISEN, t. c. p. 49, pl. i, fig. 18 and fig. 24; *M. eastwoodi*, p. 50, pl. i, fig. 12, pl. vi, fig. 3, and fig. 25, California, *M. nanus*, Alaska, p. 51, fig. 26, *M. fontinalis*, p. 52, pl. i, fig. 15, pl. xi, fig. 3 and fig. 27, n. var. *gracilis*, EISEN, t. c. p. 54, fig. 28; *M. pedatus*, p. 55, pl. i, figg. 13 & 14, pl. ix, figg. 3-6 and figg. 29 & 30, California, *M. beringensis*, Alaska, p. 57, pl. x, figg. 1-3, fig. 31, EISEN, Harriman Alaska exp. xii, n. spp.; *M. gaudens* n. var. *pelicensis*, figg., Italy, *M. g.* n. var. *glandulosus*, figg., *M. rhabdogenus* n. sp., figg., leaf heaps, Italy, ISSEI, Zool. Jahrb. xxii, 4, pp. 456-462.
- Microchetus modestus*, Vaal river (Transvaal), UDE (434) pp. 495 & 496.
- Microscoclex phosphoreus*, damp earth, Pianosa, DE MARTIIS, Boll. Mus. Torino xx, No. 490, p. 2; *M. dubius*, Argentina, distrib. note, *M. phosphoreus*, Equador, DE MARTIIS (272) pp. 20-22; *M. minutus* (syn. *Rhododrillus minutus*), diagnosis, New Zealand, UDE (434) pp. 419-421.
- Nematogenia josephina*, descript., anatomy, Japanese and Panama types compared, figg., DE MARTIIS (275) pp. 55-57.
- Notiodrillus divergens* n. sp., Point Savannah, DE MARTIIS, Boll. Mus. Torino xx, No. 495, p. 2, and also Mem. (272) (figg.) pp. 12-20.
- Notoscolex reptans* n. sp., diagnosis, Tauranga, *N. unipapillatus* n. sp., fig., diagnosis, Ororipubusch (Tauranga), UDE (434) pp. 424-429.
- Ocnodrillus* (*I.*) *sabanae*, descript., anatomy, Darien, *O. (I.) simplex*, descript., anatomy, Costa Rica, DE MARTIIS (272) pp. 51-54; *O. s.*

- n. sp.** (= *Ilyogenia*), Panama, DE MARTIIS, Boll. Mus. Torino xx, No. 495, p. 3.
- Octochætus michaelsoni* **n. sp.**, Wellington, BENHAM, P. Z. S. 1904, ii, p. 225, and Tr. N. Zealand Inst. xxxvii, p. 282; *O. multiporus*, fig., diagnosis, New Zealand, *O. thomasi*, figg., diagnosis, Stephens Island, UDE (434) pp. 484-491.
- Octolasmus complanatum*, *O. mima*, vascular system, anat. and histol., figg., GUNGL, Arb. Inst. Wien xv, 1905, pp. 155-182; *O. complanatum*, Elba, *O. hemiandrum*, synonyms, note on distinction, *O. damianii* **n. sp.**, morphology, Elba, DE MARTIIS, Boll. Mus. Torino xx, No. 490, pp. 2-6; *O. complanatum* (= *Allolobophora benhami* Bretscher.), anomalous specimen, fig., Genoa, etc., *O. hemiandrum*, diagnosis, Genoa, fig., *O. damianii* (= *hemiandrum* Cognetti), addenda, Genoa, etc., synopsis to group, DE MARTIIS, Res. Ligustica xxxvi, pp. 117-125.
- Parendrilus njassaensis* **n. sp.**, figg., Nyassa, anat. details, MICHAELSEN, Zeitschr. wiss. Zool. lxxxii, pp. 335-342.
- Periscolax* **n. gen.** *mirus* **n. sp.**, R. Cianati, Panama, DE MARTIIS, Bull. Mus. Torino xx, No. 495, p. 4.
- Pheretima biserialis* (= *Amyntas* Beddard), local races, S. America, *Ph. californica* (= *Amyntas* Beddard), Panama, Costa Rica, notes, DE MARTIIS (275) pp. 30-33; *P. rodericensis*, developmental histology, hæmocœl, figg., VEJDovsky, Zeitschr. wiss. Zool. Vol. 82, pp. 119-125.
- Pheritima*, host to *Nematoda* and *Cysticercus*, DE MAGALHÃES, Arch. parasit. ix, pp. 3, 10, 314; *P. hawayana*, synonyms, Santiago, etc., Chili, MICHAELSEN, Revist. chilena viii, 1904, p. 285; *Ph. pacifica*, New Pommerania, *Ph. spectabilis*, New Guinea, *Ph. esalata*, *Ph. upolensis*, New Hebrides, *Ph. godeffroyi*, Fiji, *Ph. taiensis*, Tahiti, *Ph. peregrina*, *Ph. schmardea*, Hawaii, *Ph. solomonis*, Solomon Island and New Guinea, *Ph. novæbritannicæ*, New Pommerania, *Ph. arthuri*, *Ph. forbesi*, *Ph. neoguineensis*, New Guinea, *Ph. lorica*, New Guinea and Solomon Island, *Ph. papua*, New Guinea, *Ph. recta*, Tonga Island (text-fig.), *Ph. morrissi*, Sandwich Island, *Ph. hahli* **n. sp.**, Ralum, *Ph. perkinsi*, Sandwich Island (text-fig.), *Ph. dahli* **n. sp.**, Ralum (text-fig.), *Ph. montana*, Ralum (text-fig.), *Ph. capensis*, Java (text-fig.), *Ph. sedgwicki* **n. var. ablata**, Ralum, Samoa, etc. (text-fig.), *Ph. houletti*, Fiji Islands (text-fig.), *Ph. hawayana*, Sandwich Islands, Samoa, etc., *Ph. halmaheræ*, Ralum, *Ph. lauta* **n. sp.**, China (text-fig.), *Ph. hesperidum*, Sandwich Islands (text-fig.), *Ph. biserialis*, Sandwich Islands (fig.), *Ph. helvola* **n. sp.**, Ralum (fig.), *Ph. bipapillata* **n. sp.**, Ralum, UDE (434) pp. 429-477.
- Kerria saltensis*, note, Coquimbo etc., MICHAELSEN, Revist. chilena viii, 1904, p. 286.
- Platydrilus zimmermanni* **n. sp.**, fig., Coast, rivers, E. Africa, anatomy, *Ph. armatissimus* **n. sp.**, figg., E. Usambara, *Ph. borgerti* **n. sp.**, figg., E. Usambara, cf. *Eudriloides ewerbecki* **n. sp.**, MICHAELSEN, Zeitschr. wiss. Zool. lxxxii, pp. 318-322.
- Polytoreutus* Michaelson, synopsis of spp., *P. ehersi* **n. sp.**, figg., W. Usambara, etc., anatomy, *P. cœruleus* form *korogweensis* Mich., Lake Tanga, *P. usambariensis* **n. sp.**, figg., anatomy, *P. eichelbaumi* **n. sp.**, figg., Usambara, anatomy, *P. fulleborni* **n. sp.**, Nyassa, figg., MICHAELSEN, Zeitschr. wiss. Zool. lxxxii, pp. 342-363.
- Pontodrilus crosslandi* **n. sp.**, Soudan Coast, near to *P. laccadivensis*, figg., BEDDARD, P. Z. S. 1905, ii, pt. 2, pp. 558-561.
- Pontoscolex corethrurus*, Sandwich Islands, Samoa, etc., UDE (434) p. 495.
- Rhododrilus edulis* **n. sp.**, *Rh. hesti* **n. sp.**, Ruataluma, New Zealand, BENHAM (26) pp. 282-283.

- Sporadochæta* n. gen. *elegans* n. sp., Point Savannah, DE MARTIIS, Boll. Mus. Torino xx, No. 495, p. 5.
- Pontoscolex corethrusus*, Panama, DE MARTIIS (275) p. 5.
- Thamnodrilus duriensanus* n. sp., R. Cianati, DE MARTIIS, t. c. p. 5.
- Tokea* n. gen. P. Z. S. 1904, *T. esculenta*, *T. sapida*, *T. ureveræ*, Ruataluma, *T. huttoni*, Whangerei, *T. suteri*, Auckland, *T. kirki*, Ohæawai, *T. maorica*, Auckland, n. spp., list, N. Island, New Zealand, BENHAM (27) and (22) p. 283.
- Trigasterinæ*, note on Sub-family, *T. lankesteri*, Antilles, DE MARTIIS (272) pp. 35 & 36.
- Yugansia chilensis* Cognetti (= *Eremodrilus chilensis* Cogn.), descript., anatomy, Chili, figg., DE MARTIIS, op. cit. pp. 269; *Y. longiseta*, note on genus, *Y. spatulifera*, synonyms, note, Valdivia, *Y. grisea*, *Y. pallida*, Chili, *Y. coralensis*, note, Arral, *Y. robusta*, Valdivia, *Y. diversicolor*, Valdivia, note, *Y. papillosa*, note, Patagonia, *Y. michaelsoni*, Patagonia, *Y. gracilis*, note, Patagonia, *Y. delfini*, note, Araucania, MICHAELSEN, Revist. chilena viii, 1904, pp. 279-285.

## B. LIMICOLÆ.

- Notes on some Swiss *Oligochæta* chiefly from near Lugano and Muzzano, BRETSCHER, Rev. Suisse Zool. xiii, 1905, pp. 663-677.
- Agriodrilus* n. gen. *vermiformis* n. sp., N. W. of L. Baikal, deep in sand, Biol. note, worm feeder, MICHAELSEN (286) pp. 53-57.
- Atheospermiu* n. gen. *minuta* n. sp., rare in sandy bed of Sarno, Italy, PIERANTONI (353) p. 3, and Arch. zool. ital. ii, 2, 1905, pp. 236-238, figg.
- Aulophorus palmetris* n. sp., note on genus *Dero*, Zanzibar, MICHAELSEN, Zeitschr. wiss. Zool. lxxii, p. 308.
- Aurantina* n. gen. *aurantiaca* n. sp., between *Claparedrilla* and *Stylo-drilus*, R. Sarno, Italy, PIERANTONI, Annuar. Mus. Univ. Napoli Nuov. Ser. No. 27, 1904 and Arch. zool. ital. ii, 2, 1905, pp. 232-235, with figg.
- Branchiobdella parasita*, minute histology of central nervous system, figg., SCHMIDT, Zeitschr. wiss. Zool. lxxii, pp. 664-692.
- Branchiura coccinea* n. var. *inequalis*, S. of L. Baikal, note, MICHAELSEN, Oligochæten des Baikal Sees, p. 10.
- Buchholzia appendiculata*, minute vascular anatomy, figg., FREUDWEILER (136) pp. 383-422; *B. fallax*, chestnut leaf-mould, Italy, ISSEL, Zool. Jahrb. xxii, 4, p. 455.
- Bryodrilus udei* n. sp., Alaska, EISEN, Harriman Alaska Expedition xii, p. 94, pl. xii, figg. 1-4 and fig. 63.
- Chaetogaster*, vascular anatomy, detailed study, figg., FREUDWEILER (136) pp. 383-422; *C. bengalensis* n. sp., in ponds, Calcutta, descript. figg., habits, symbiosis, ANNANDALE, J. Asiat. Soc. Bengal i, 1905, No. 4, pp. 117-120; *C. limnæi*, Lake Kaban, note, MEISSNER (282) p. 31; *C. limnæi*, unusual forms, PLOTNIKOW, Zool. Anz. xxviii, 1904, pp. 55 & 56.
- Cirrodrilus* n. gen. *cirratus* n. sp. on *Astacus japonicus*, probably near to Fam. *Branchiobdellidæ*, Japan, figg., PIERANTONI, Annuar. Mus. Univ. Napoli, Nuov. Ser. No. 31, 1905.
- Clitellio arenarius*, synonyms, New England Coast, MOORE (299) pt. ii, p. 377; *C. korotneffi* n. sp., L. Baikal, fig., near to *C. arenarius*, *C. multispinus* n. sp., S. and N. end of L. Baikal, possibly might be placed among *Limnodrilidæ*, MICHAELSEN, Oligochæten des Baikal Sees, pp. 6-10.



- Dero schmardei* n. sp., Paraguay, *D. tonkinensis*, Java, MICHAELSEN, Zoologica xviii, pt. 44, 1905, pp. 350-354; *D. borellii*, Matto Grosso, Brazil, note, *D. furcata*, Antilles, *D. multibranchiata*, Trinidad, *D. vaga*, Trinidad, DE MARTIIS, (275) p. 6.
- Enchytraeus*, investigation of nucleus, yolk-cells, figg. xii, *E. humicultur* in an anomalous case of Phagocytosis, viii, figg., VEJDovsky, Vestnik Ceske. Nauk 1904; *E. albidus*, synonyms, note, New England, MOORE (299) pt. 2, p. 394; *E. adriaticus*, material for developmental histology, figg., VEJDovsky, Zeitschr. wiss. Zool. lxxxii, pp. 85-101.
- E. sabulosus* n. sp., Dublin Bay, with notes on genus *Enchytraeus*, SOUTHERN, Irish Natural. xiv, No. 8. pp. 178-185, *E. modestus*, p. 63, pl. xix figg. 2 & 3 and fig. 33, *E. mellakattensis*, p. 64, pl. xviii, fig. 5, pl. xix, fig. 1 and figg. 34-36, *E. kincaidi*, p. 66, pl. xviii, figg. 2-4 and figg. 37 & 38, *E. alaska*, p. 68, pl. i, fig. 19, pl. xix, figg. 4-6, pl. xx, figg. 1 & 2 and figg. 39 & 40, Alaska, *E. saxicola*, p. 70, pl. xviii, fig. 6 and fig. 41, *E. citrinus*, p. 72, fig. 42, British Columbia, EISEN, Harriman Alaska Exp. xii : n. spp.
- Eremodrilus chilensis*, n. sp., noted merely, PORTER, Revist. chilena ix, No. 4, p. 212.
- Fridericia*, investigation of nuclei in "yolk-cells," figg., VEJDovsky, Vestnik Ceske. Nauk 1904, xii, *F.*, sp., minute vascular anatomy, figg., FREUDWEILER (136) pp. 383-422; *F. harrimani*, p. 109, pl. xx, figg. 3-5 and figg. 70 & 71, *F. johnsoni*, p. 111, pl. xvi, fig. 6 and fig. 72, California, *F. fuchsi*, Santa Cruz, p. 112, pl. xviii, figg. 1-3 and figg. 73 & 74, *F. sonora*, Mexico, p. 114, pl. xvi, figg. 1-3 and fig. 75, *F. santerosa*, p. 115, pl. xvi, figg. 4 & 5 and fig. 76, *F. santæ-barbaræ*, p. 116, fig. 77, California, *F. popofiana*, Alaska, p. 117, figg. 78 & 79, *F. macgregori*, p. 118, pl. xvii, figg. 4 & 5 and fig. 80, *F. californica*, p. 119, pl. xv, figg. 8 & 9 and fig. 81, California, EISEN, Harriman Alaska Exp. xii : n. spp.; *F. valdensis* n. sp., figg., in leaf-mould (beech) Rocca Budet, *F. paroniana*, figg., in beach leaves, mountains, Modena, *F. maculata* n. sp., figg., high pastures, *F. aurita* n. sp., figg., Humus, Italy, ISSEL, Zool. Jahrb. xxii, 4, pp. 462-470, *F. zykovi*, histology, developmental, figg. *F. hegemon*, figg., developmental histology, figg., VEJDovsky, Zeitschr. wiss. Zool. lxxxii, pp. 79, 98, 108.
- Hentlea*, 2 spp., anatomy and histology, vascular, figg., FREUDWEILER, Jena. Zeitschr. xl, pt. 2, 1905, pp. 353-422; *H. californica*, California, p. 99, pl. xv, fig. 1 and fig. 64, n. var., *monticola*, p. 100, fig. 65, n. var. *helena*, p. 101, figg. 66, *H. guatemalæ*, Guatemala, p. 102, pl. xv, fig. 7 and figg. 67 & 68, *H. ehrhorni*, California, p. 104, pl. xv, figg. 2-6 and fig. 69; EISEN, Harriman Alaska Exp. xii, n. spp.; *H. lefroyi* n. sp. near *H. dicksoni* attacking Acridian eggs, India, BEDDARD, P. Z. S. ii, 1905, pl. 2, pp. 61-64; *H. stollii*, figg., descript. decayed chestnut mould, Italy, ISSEL, Zool. Jahrb. xxii, 4, pp. 452-455.
- Lamprodrilus*, list of spp., *L. satyriscus*, f. *typica*, fig. f. *decatheca*, f. *tetratheca* n. var., sand, deep, L. Baikal, f. *ditheca* comparison.
- L. nigrescens* n. sp., L. Baikal, *L. pallidus* n. sp., mud, L. Baikal, deep, *L. dybowskii* n. sp., very deep, N. L. Baikal, *L. lythius* n. sp., mud, great depth, N. L. Baikal, *L. inflatus* n. sp., mud, deep, L. Baikal, *L. ammophagus*, n. sp., N. L. Baikal, *L. wagneri*, fig. addenda, *L. pygmaeus*, redescript., n. var. *glandulosa*, L. Baikal, MICHAELSEN (286) pp. 28-51.
- Limnodrilus baikalensis*, addenda, note on variation, L. Baikal, MICHAELSEN, t. c. p. 22; *L. hoffmeisteri*, host to a new Microsporidian, HESSE, C.R. Soc. Biol. lvii, 1, 1905, pp. 12, 13; *L. subsalsus* n. sp., figg., brackish water, Mass, MOORE (299) pt. 2, pp. 392-394.
- Lumbricillus santæclarae* n. sp., California, EISEN, Harriman Alaska

- Expedition xii, p. 77, pl. xiii, figg. 3 & 4 and figg. 44-46; *L. merriami* n. sp., Alaska, EISEN, t. c. p. 79, pl. xii, fig. 5 and figg. 47 & 48, n. var. *elongatus*, EISEN, t. c. p. 81, pl. xii, fig. 6 and fig. 49; *L. annulatus* n. sp., Alaska, EISEN, t. c. p. 81, pl. xviii, fig. 1 and figg. 50-52, *L. ritleri* n. sp., Alaska, EISEN, t. c. p. 84, pl. xiii, figg. 5-9 and figg. 53 & 54, *L. franciscanus* n. sp., California, EISEN, t. c. p. 86, pl. xiii, figg. 1 & 2 and figg. 55-57, n. var. *borealis*, Alaska, EISEN, t. c. fig. 58, n. var. *unalaska*, Alaska, EISEN, t. c. p. 89, fig. 59; *L. agilis* n. sp., figg., MASS., MOORE (299) pt. 2, pp. 394-397.
- L. macquariensis* n. sp., fig., Macquarie Is., New Zealand, BENHAM, Tr. N. Zealand Inst. xxxvii, pp. 295 & 296.
- Lycodrilus*, note emending generic characters, list of spp., *L. schizochetus* (= *L. dybowskii* Mich. 1901), throughout lake bottom, Baikal, fig., *L. dybowskii*, synons., in mud, L. Baikal, *L. phreodriloides* n. sp., on stones and sponges, mid-lake Baikal, *L. parvus* n. sp., mud and sand, L. Baikal, fig., *L. grubei* n. sp., deep, on sand, mid-lake Baikal, rather near to *Limnodrilus*, MICHAELSEN (286) pp. 10-22.
- Marionina alaska* n. sp., Alaska, EISEN, Harriman Alaska Expedition xii, p. 91, pl. xiv, figg. 2-6 and fig. 60; *M. americana* n. sp., Alaska, EISEN, t. c. p. 93, pl. xiv, fig. 1 and figg. 61 & 62; *M. antipodum* n. sp., Antipodes Is., BENHAM, Tr. N. Zealand Inst. xxxvii, p. 294; *M. glandulosa*, fig., beech leaf-mould, Italy, *M. cognettii* n. sp., figg., dead leaves, Italy, ISSEL, Zool. Jahrb. xxii, 4, pp. 455 & 456.
- Mesenchytreus flavus*, figg., development, histology, VELDPOVSKY, Zeitschr. wiss. Zool. pp. 85-101.
- Michaelsena paucispina* n. sp., California, EISEN, Harriman Alaska Expedition xii, p. 74, fig. 43.
- Monopylephorus glaber* n. sp., fig., near to *M. rubroniveus*, New England, *M. parvus*, figg., near to *M. glaber*, New England, MOORE (299) pt. 2, pp. 377-384.
- Nais paraguayensis* n. n. Michaelsen 1905, Zanzibar, MICHAELSEN, Zeitschr. wiss. Zool. lxxxii, p. 306; *N. p. n. sp.*, near *E. elinguis*.
- Naidium dadayi* n. sp. (? Nais.), Paraguay, approaching to *Pristina*, cf. *N. obtusa*, MICHAELSEN, Zoologica xviii, pt. 44, 1905, pp. 354-357.
- Notiodrilus campbellianus* n. sp., Campbell Island, BENHAM, Tr. N. Zealand Inst. xxxvii, p. 288.
- Pristina leidyi*, synons., Paraguay, *P. flagellum*, Paraguay, *P. proboscidea f. typica*, Paraguay, Java, n. var., *paraguayensis*, MICHAELSEN, Zoologica xviii, Heft. 44, 1905, pp. 357-361; *P. longiseta*, Zanzibar, notes, *P. æquiseta* (= *proboscidea* Michaels.), note, MICHAELSEN, Zeitschr. wiss. Zool. lxxxii, pp. 309 & 310.
- Propappus* n. gen., *P. glandulosus* n. sp., stones, or swarming in deep water, L. Baikal, mid and S., figg., MICHAELSEN, t. c. pp. 24-28.
- Rhododrilus cockaynei* n. sp., *R. leptomerus* n. sp., Auckland Is., anomalous specimen, BENHAM, Tr. N. Zealand Inst. xxxvii, pp. 288-294.
- R. kernadecensis* n. sp., figg., Kermadec Is., New Zealand, BENHAM, t. c. p. 298.
- Rhynchelmis brachycephala f. typica*, fig., L. Baikal, var. nov. *bythia*, dispersed, deep, MICHAELSEN (286) p. 61; *R. limosella*, Lake Kaban, note, MEISSNER (282) p. 32.
- Stylaria lacustris*, Upper Elf Loch, EVANS, Ann. Scott. Nat. Hist. lvi, 1905, p. 215.
- Styloscolex baicalensis*, L. Baikal, MICHAELSEN (286) pp. 57-60.
- Teleuscolex korotneff*, two forms, f. *gracilis* n., L. Baikal, S. W. and N., mud, sand and algæ, *T. grubei*, fig., deep, L. Baikal, MICHAELSEN, t. c. pp. 51-53.
- Thinodrilus inconstans*, placed in genus *Lumbriculus*, notes on systematic, SMITH, Bull. Illinois Lab. viii, 1905, Art. 5.

*Tubificidæ*, limits of family enlarged to contain New England spp., *Tubifex irroratus*, figg., *descript.* (= *Clitellio* Verrill), *T. venedi*, synons., notes, *T. hamatus* n. sp., figg., pp. 384-392, MOORE, P. Ac. Philad. lvii, pt. 2, pp. 375-377 & 384-392; *T. inflatus* (= *Peloscoclex*), corrigenda, MICHAËLSEN (286) p. 23; *T. rivulorum*, Lake Kaban, note, MEISSNER (282) p. 31; *T. sarnensis* n. sp., Sarno, Italy, *T. tubifex*, Sarno, PIERANTONI, Annuar. Mus. Univ. Napoli, Nuov. Ser. No. 27, 1904, and Arch. zool. ital. ii, 2, 1905, pp. 228-231, figg.

## HIRUDINEA.

*Glossiphonia stagnalis*, Upper Elf Loch, EVANS, Ann. Scott. Nat Hist. lvi, p. 215.  
*Herpobdella octoculata*, Upper Elf Loch, EVANS, t. c. p. 216.  
*Hementaria costata*, passage of spermatozoa into oviduct, histology, BOLSUIS, C.R. Congr. Zool. vi, Berne, pp. 368-372.  
*Hirudo antipodum* n. sp., Open Bay Island, New Zealand, in wet soil, note on cocoon, BENHAM, Tr. N. Zealand Inst. xxxvi, pp. 185-192.  
*Hirudo medicinalis*, biliary pigments in, SPIESS, C.R. Ac. Sci. cxli, pp. 333 & 334; *H. m.*, exhibiting connective tissue amongst epithelial cells, shown for Trematoda and Cestoda, BLOCHMANN, Anat. Anz. xxvi, 9-10, pp. 269-271; *H. medicinale*, analysis of excreted pigment, bile salts not present, SPIESS, C.R. Soc. Biol. 1905, pp. 415-417.  
*Porichthys porosus* n. sp., Chile, PORTER, Revist. chilena ix, No. 4, p. 212.

## PLATYHELMINTHES.

### TURBELLARIA.

*Turbellaria* of Norway, KLÆR, Nyt Mag. Naturv. xlii, 1, p. 65, 1904

### ACÆLA.

*Turbellaria acæla*, morphology and systematic, VON GRAFF, "das Tierreich," Lief. xxiii.  
*Convolutidæ* Fam., VON GRAFF, t. c. pp. 10-31.  
*Convoluta roscoffensis*, *zoochlorella* inhabiting, KEEBLE & GAMBLE, P. R. Soc. London lxxvii, No. 514, p. 66; *C. convoluta*, *C. schultzei*, amongst algæ, *C. hipparchia*, algæ, Gulf of Villefranche, SABUSSOW, Zool. Anz. xxviii, p. 486.

### RHABDOCÆLA.

*Acrorhynchus dolichocephalus*, fig., *A. reprobatus* (nom. nov.) for *Macrorhynchus bivittatus*), *A. sophie* n. sp., figg., v. GRAFF (155) pp. 120-128.  
*Amphichoerus langerhansi*, amongst green algæ, Villefranche, with *Zooxanthella*, SABUSSOW, Zool. Anz. xxviii, No. 13, p. 487.  
*Astrotorhynchidæ* n. fam., *A. bifidus*, figg., v. GRAFF (155) pp. 99-102.  
*Bothromesostoma personatum*, viviparity of summer generation, *B. essenii*, viviparity, v. GRAFF, t. c. pp. 96-99.  
*Byrsophlebidae* n. fam., v. GRAFF, t. c. p. 96.  
*Castrada radiata*, Lake Birtschikul, *C. acuta*, fig., anat. notes, ponds, Tomsk, *C. hoffmanni*, ponds, Tomsk, *C. viridis*, fig., note, ponds, Tomsk, PLOTNIKOW (359) pp. 482 & 413; *C. tripeti*, viviparity of

- summer generation, SEKERA, Zool. Anz. xxviii, 1904, No. 7, pp. 232-242.
- Derostoma galizianum*, viviparity of summer generation, SEKERA, t. c. pp. 232-242.
- Gytraticide* n. fam., v. GRAFF (155) p. 137.
- Gytraticus hermaphroditus*, figg., v. GRAFF, t. c. pp. 137-140.
- Hyporcus* n. nom. for *Orcus*, *H. venenosus*, figg., *H. breitfussi* n. sp., figg., v. GRAFF, t. c. pp. 110-113.
- Jensenia angulata*, figg., Bergen, Alexandrowsk, etc., v. GRAFF, t. c. p. 104.
- Mæhrenthalia* n. gen., *M. agilis*, figg., v. GRAFF, t. c. pp. 97-99.
- Macrostomum appendiculatum*, figg., off Sebastopol, *M. gracile*, fig., *M. timavi* n. sp., figg., v. GRAFF, t. c. pp. 80-83; *M. infundibuliferum* n. sp., figg., Siberia, PLOTNIKOW, Zool. Jahrb. Syst. xxi, 4, p. 480.
- Mesostoma ehrenbergi*, viviparity of summer generation, SEKERA, Zool. Anz. xxviii, 1904, pp. 232-242; *M. lacteum* n. sp., figg., near to *Dendrocaelum lacteum*, anatomy, water-plants, mountains, Gara Mulati, NEPPI, Zool. Jahrb. Syst. xxi, pp. 303-308; *M. productum*, viviparity of summer generation, SEKERA, Zool. Anz. xxviii, 1904, pp. 233-242, *M. lingua*, viviparity of summer form, SEKERA, t. c.; *M. productum*, Tomsk, *M. ehrenbergi*, Lake Birtshikul, *M. sigmoideum* n. sp., figg., *M. rostratum*, Tomsk, Siberia, PLOTNIKOW, (359) p. 481; *M. rangeense*, viviparity of summer form; *M. chromotactrum* (syn. *M. cyathus*), viviparity of summer form, SEKERA, Zool. Anz. xxviii, 1904, pp. 232-242; *M. uljanini* Sabussow = *Bothrosostoma essenii* Braun, note, LUTHER, Medd. Soc. Faun. Fenn. 1903-1904, p. 65.
- Microstoma lineare*, ponds, Lake Birtschikul, Siberia, PLOTNIKOW (359) p. 480; *M. l.*, Kaban, MEISSNER (282) p. 30; *M. mundum* n. sp., figg., v. GRAFF (155) p. 78.
- Olisthanella iphigeniæ* n. sp., figg., v. GRAFF, t. c. pp. 93-96.
- Paramesostoma neapolitanum*, figg., off Heligoland, Irish Sea, etc., v. GRAFF, t. c. pp. 89-92.
- Phonorhynchus* n. gen., v. GRAFF, t. c. p. 136.
- Polycystididae* n. fam., v. GRAFF, t. c. p. 119.
- Polycystis georgii* n. sp., *P. nügeli*, *P. crocea*, *P. mamertina*, *P. intubata* n. sp., *P. minuta*, v. GRAFF, t. c. pp. 129-136, figg.
- Promesostoma marmoratum nudum* n. subsp., figg., Bergen, Sebastopol, etc., *P. murmanicum* n. sp., figg., *P. ovideum purum* n. subsp., figg., v. GRAFF, t. c. pp. 85-89.
- Provortex balticus*, figg., Bergen, etc., v. GRAFF, t. c. p. 103.
- Proxenetina* n. subfam., v. GRAFF, t. c. p. 83.
- Proxenetes flabellifer*, figg., Alexandrowsk, *P. cochlear*, figg., White Sea, etc., v. GRAFF, t. c. pp. 84 & 85.
- Schizorhynchida* n. fam., *S. tataricus*, n. sp., figg., v. GRAFF, t. c. pp. 116-119.
- Solenopharynx oculus*, figg., v. GRAFF, t. c. pp. 106 & 107.
- Stenostoma leucops*, Kaban Lake, MEISSNER, Trudui Kazan Univ. xxxix, pt. 3, p. 30.
- Tetracelis marmorosum*, viviparity of summer form, SEKERA, Zool. Anz. xxviii, 1904, pp. 232-242.
- Trigonostomida* n. fam., v. GRAFF (155) p. 109.
- Trigonotomum setigerum setigerum*, figg., *T. setigerum lunulatum* n. subsp., figg., *T. setigerum album* n. subsp., figg., *T. brunchorsti* n. sp., figg., v. GRAFF, t. c. pp. 113-116.
- Typhloplanida* n. fam., v. GRAFF, t. c. p. 82.
- Typhloplana viridata*, *T. minima*, viviparity of summer generations, SEKERA, Zool. Anz. xxviii, 1904, pp. 232-242.
- Vortex sexdentatus*, note, Tomsk, *V. sibiricus* n. sp., figg., descript., Tomsk, *V. rhombiger* n. sp., figg., *V. sp.*, figg., descript., close to *V. fuscus*

Fuhrmann, *V. striatus* n. sp., figg., Tomsk, *V. pictus*, Tomsk, *V. obscurus* n. sp., fig. (= *Castrella*), Birtschikul, PLOTNIKOW (359) pp. 83-87.

## TRICLADIDA.

- Bipalium weismanni* n. sp., figg., anatomy, Java, *B. depressum*, n. sp., fig., differing in colour from *B. proserpina*, Peradeniya, *B. javanus*, anatomy, fig., VON RITTER-ZAHONY, Mt. Mus. Hamburg xxii, Beiheft 2, pp. 177-186; *B.*, discovery of and notes, various land planaria, P. & T. SARASIN, Reisen in Celebes, pp. 23, 114, 235, & ii, 133, 314.
- Dendrocoelum lacteum*, regeneration, experimental, figg., SCHULTZ, Protok. St. Peterb. Obshch. xxxiv, pp. 5-24; *D. lacteum*, degeneration of gonads in starvation, experimental notes on position amongst Rhenish fauna, STOPPENBRINK, Verh. Ver. Rheinland lxi, pt. 1, pp. 27-36.
- Geoplana sugdeni* and *G. sanguinea*, Victoria, STEEL, J. Linn. Soc. N. S. W. cxviii, pt. 2, p. 350.
- Placocephalus niger* n. sp., figg., Tjompea, anatomy, *P. pictus* n. sp., figg., descript. Tjibodas, *P. kraepelini* n. sp., figg., descript. and anatomy, Tjompea, Java, *P. hergendali*, figg., anatomy, VON RITTER-ZAHONY, Mt. Mus. Hamburg xxii, Beiheft, pp. 165-177 and 186-190.
- Planaria alpina*, in cold stream *P. gonocephala*, Canigou, bionomic studies in the Pyrenees, BORELLI, Boll. Mus. Torino xx, No. 483, pp. 1-4; *P. a.*, migration and distribution, minute bionomical study, VOIGT, Verh. Ver. Rheinland lxi, ii, pp. 103-178; reproduction and starvation, STOPPENBRINK (417) i, pp. 27-36; *P. gonocephala*, bionomical study; Bonn district, VOIGT, Verh. Ver. Rheinland lxi, pt. 2, pp. 103-178; reproduction, l. c. i, pp. 27-36; *P. alpina*, *P. gonocephala*, experimental observations on tissue degeneration (comparable to that accompanying regeneration) of starved worms, STOPPENBRINK, Zeitschr. wiss. Zool. lxxix, pt. 4, pp. 496-547, 1905; *P. alpina*, in Belgian streams, FRÉDÉRIQ, Bull. Ac. Belgique 1905, p. 199; *P. angarensis*, fig., nervous system, SABUSSOW, Zool. Anz. xxviii, 1904, pp. 20-32; *P. neumanni* n. sp., figg., cf. *P. gonocephala*, mountains, Kaffa, S. Africa, *P. schavinslandi* n. sp., figg., anatomy, NEPPI, Zool. Jahrb. Syst. xxi, pp. 308-324.
- Phyllodoce maculata*, experiments in dilute sea-water, PELSENER, Bull. Ac. Belgique 1905, p. 715.
- Polycelis cornuta*, Gavarnie, Canigou, local distribution and bionomics, Pyrenees, BORELLI, Boll. Mus. Torino xx, No. 483, pp. 1-4; *P. c.*, study in bionomics of the Tricladida, VOIGT, Verh. Ver. Rheinland lxi, pt. 2, pp. 103-178; reproduction and starvation, STOPPENBRINK (417) pt. 1, pp. 27-31; *P. nigra*, Upper Elf Loch, EVANS, Ann. Scott. Nat. Hist. lvi, p. 215, 1905.
- Rimacephalus pulvinar*, nervous system, figg., SABUSSOW, Zool. Anz. 1904, xxviii, pp. 20-32.
- Rhynchodemus terrestris*, Edinburgh, EVANS, Ann. Scott. Nat. Hist. liii, 1905, p. 57.
- Sorocelis nigrofasciata*, fig., nervous system, *S. fungiformis*, fig., nervous system, *S. guttata*, fig., nervous system, SABUSSOW, Zool. Anz. 1904, xxviii, pp. 20-32.

## POLYCLADIDA.

*Polycladida*, discussion on value of this group as helping to a true division of the Metazoa, EMERY, Rend. Acc. Bologna viii, 1903-1904, pt. 4, pp. 67-75.

- Aceros maculatus* n. sp., Bay of Carthage, Antarctic Circle, HALLEZ, Bull. Soc. zool. France xxx, 6, p. 125.
- Celoplana*, on affinity of Ctenophora and Polycladida, SCHOUTEDEN, Ann. Soc. malac. Belgique xl, pp. cxvii-cxxvii, LAMEERE, critique (239) p. cxxvii.
- Leptoplana atomata*, regeneration studies, figg., SCHULTZ (390) pp. 25-38.
- L. gardineri* n. sp., Ceylon, LAIDLAW, Roy. Soc. Rep. on Pearl Oyster Fisheries ii, 1904, p. 134.
- Paraplanocera aurora*, Ceylon, LAIDLAW, t. c. p. 128.
- Prosthlostomum singulare* n. sp. (cf. *P. siphunculus*), Ceylon, LAIDLAW, t. c. p. 135.
- Stylochocestus* n. gen. *gracilis* n. sp., fig., Ceylon, LAIDLAW, t. c. p. 131.
- Stylochus ceylanicus* n. sp., Ceylon, LAIDLAW, t. c. p. 130.
- Stylochus albus* n. sp., Bay of Carthage, Antarctic Circle, HALLEZ, Bull. Soc. zool. France xxx, 6, p. 124.
- Stylostomum punctatum* n. sp., Antarctic, close to *S. variabile*, *S. antarcticum* n. sp. ? HALLEZ, Bull. Soc. zool. France xxx, 6, p. 126, 1905.
- Thalamoplana* n. gen. *herdmani* n. sp., figg., Ceylon, LAIDLAW, Roy. Soc. Rep. on Pearl Oyster Fisheries ii, 1904, p. 132; suggested subfamily *Leptoplanidae* for this with *Semonia* and *Discocelis*.
- Woodworthia* n. gen. *insignis* n. sp. fig., Ceylon, LAIDLAW, t. c. p. 129.

## CESTODA.

- Cestoda*, monozootic reproduction; essay in phylogeny, SPENGLER, Zeitschr. wiss. Zool. lxxvii, pp. 252-287.
- Acanthobothrium coronatum*, in Selachians, synonyms. note on genus, *A. filicolle*, in rays, synonyms., figg., var. *filicolle* Zschokke, DE BEAUCHAMP, Arch. parasit. ix, pp. 484-496.
- Anomotaenia glandularis* n. sp., figg., from *Herodias timoriensis*, Sumatra, anatomy, FUHRMANN, Zool. Jahrb. Syst. xxii, pp. 315-318.
- Anoncho tenia* n. sp., Ourals, host a bird, CLERC, Bull. Soc. Oural. xxv, p. 32.
- Anthocephalus reptans*, from *Brama rayi*, SHIPLEY, P. Cambridge Soc. xiii, p. 100.
- Anthrobothrium tortum*, fig., from *Phœa barbata*, SHIPLEY, t. c. p. 101, 1905.
- Aploparaksis rhomboidea*, figg., corrected descript., synonyms., VON LINSTOW, Arch. mikr. Anat. lxvi, p. 359.
- Bertia polyorchis* n. sp., found in *Macacus*, India, VON LINSTOW, Arch. Naturg. lxxi, i, 3, p. 272; *B. rigida* n. sp. from *Phalangista*, descript., New Guinea, JANICKI, Zool. Anz. xxix, p. 127.
- B. studeri*, from Chimpanzee, diagnosis, *B. elongata* n. sp., from *Galeopithecus volans*, Java, Sumatra, *B. plastica* (= *Tania* Sluiter), from *G. volans*, India, &c., BOURQUIN, Zool. Anz. xxviii, pp. 417-419; *B. studeri*, figg., host, *Troglodytes niger*, minute morphology, pp. 419-444, *B. elongata*, figg., intestinal to *Galeopithecus volans*, minute morphology, pp. 444-474, *B. plastica*, figg., from *G. volans*, pp. 474-490, BOURQUIN, Rev. Suisse Zool. xiii, 1905, pp. 419-506.
- Bothriocephalus latus*, human intestinal parasite, BRANCH, J. trop. Medicine viii, p. 262, 1905.
- Bothriocephalus* sp., larvæ in muscles of *Coregonus exiguus*, and connective tissue of *Lota vulgaris*, figg., Lake Lucerne, NUFER (316) pp. 129-134; *B. angustatus* (cf. *Pyramicocephalus* Monticelli), *B. lanceolatus* from *Phœa barbata*, *B. microcephalus* from *Orthogoriscus mola*, *B. rugosus* from *Gadus aeglefinus*, SHIPLEY (399) pp. 100 & 101; *B. cordatus* in Turbot, Gulf of Finland, IVERNS, C.R. Congr. Zool. Berne vi, p. 702;

- B. infundibuliformis* (= *proboscideus*), statistics of prevalence in Salmon, TOSH, Ann. Nat. Hist., Ser. 7, xv, p. 157, 1905.
- Bothriocephalus macrophallus* n. sp. from *Phoca barbata*, &c., VON LINSTOW, Zeitschr. wiss. Zool. lxxxii, pp. 188-190.
- Bythonomus lemari*, synonyms, notes and amplifications of other descriptions, PIQUET, Rev. Suisse Zool. xiii, 1905, pp. 617-621.
- Caryophyllacus umtabilis* (larva), fig., in intestinal mucous *Leuciscus rutilus*, described, L. Lucerne, NUFER, Festschrift der naturforsch. Gesellschaft in Luzern, 1905, pp. 122-126.
- Catenotaenia* n. gen., to include *Taenia pusilla* and *Taenia dendritica*, VON JANICKI, Zool. Anz. xxviii, 1904, pp. 230 & 231.
- Cittotaenia kuvaria*, figg. from *Ptilopusus jambu*, Sumatra, FUHRMANN, Zool. Jahrb. Syst. xxii, pp. 312-314; *C. zschokkei* n. sp., in *Macropus*, New Guinea, habits in copulation, v. JANICKI, Zool. Anz. xxix, pp. 128-130.
- Cœnurus cerebralis* and adult stage, *Taenia cœnurus*, figg., in sheep and dog, U. S. America, life-history, *C. serialis*, figg., RANSOM, Bull. U. S. Dep. Agric. Animal Ind. No. 66, pp. 1-15; *C. cerebralis* in sheep, with notes on percentages of *Taenia*-infected animals in Karlsruhe slaughter-houses, CARL, Mt. Zool. Ver. Baden xvii, pp. 111-120.
- Cysticercus cellulose* in a Tamil woman, muscles and brain, fig., CHALMERS, Spolia Zeylan. ii, 8, pp. 179-181; *C. delphini* (larval forms of sp. *Phyllobothrium*) from *D. delphis*, SHIPLEY (399) p. 101.
- Davainea volzi* n. sp., figg., from fowl, anatomy, *D. corvina* n. sp., in *Corvus*, Ceylon, figg., anatomy, FUHRMANN, Zool. Jahrb. Syst. xxii, 3, pp. 304-312.
- Dibothriocephalus felis* in *Felis tigris*, BENOIT-BAZILLE, Naturaliste, Ser. 2, 428, p. 10; *D. latus* (larva) in perivisceral cavity of *Esox lucius*, and intestine of *Trutta lacustris*, L. Lucerne, NUFER (316) pp. 126-129.
- Dibothrium* (= *Bothriocephalus*) *punctatum*, fig., from Turbot, Irish Sea, JOHNSTONE, P. Liverp. biol. Soc. xix, p. 287, 1905; *D. tortum* n. sp., in *Synodus fetens*, query new genus, Beaufort, N. Carolina, figg., close to *Monobothrium*, LINTON (257) pp. 325, 354.
- Discobothrium fallax*, figg., synonyms, descript. notes, DE BEAUCHAMP, Arch. parasit. ix, pp. 508-520.
- Echinobothrium typus* in rays, DE BEAUCHAMP, t. c. pp. 524-528; *E. variabile*, in Selachians, synonyms, *E. sp.*, figg., DE BEAUCHAMP, t. c. pp. 520-524.
- Echinococcus* in man, young forms, DÉVÉ, C.R. Soc. Biol. lvii, 1, 1905, pp. 126-128 & pp. 246-248; *Echinococcus*, exogenous proliferation in man as well as the horse, DÉVÉ, t. c. pp. 98-100; multilocular in the ox and alveolar in man, l. c. pp. 297 & 298; in lymphatic ganglia of the sheep, l. c. pp. 299 & 300.
- Hymenolepis arcuata* n. sp., morphological notes, figg., in *Fuligula marila*, *A. parvula* n. sp., in duodenum of duck, Galicia, KOWALEWSKI, Bull. Ac. Cracovie 1905, Nos. 6 & 7, pp. 391 & 532-534; *H. trifolium* n. sp., intestinal to *A. boschas*, figg., *H. abortina*, wrongly as *H. voluta* in 1904, VON LINSTOW, Arch. mikr. Anat. lxvi, pp. 361 & 362.
- Ligula intestinalis*, Finland, notes on occurrence of larva, LEVANDER, Medd. Soc. Faun. Fenn. 1903-1904, p. 109; *L. simplicissima titicacensis*, n. var. in *Orestias*, Lake Titicaca, NÈVEU-LEMAIRÉ, Bull. Soc. Philom., Ser. 9, vii, pp. 256-258, 1905.
- Monorygma elegans* (= *perfectum* Zschokke), DE BEAUCHAMP, Arch. parasit. ix, pp. 506-508.
- Onchobothrium pseudo-uncinatum* nom. nov., synonyms, in rays, DE BEAUCHAMP, t. c. pp. 496-498.
- Oochoristica*, the genus defined, spp. restricted, ZSCHOKKE, Zeitschr. wiss. Zool. lxxxiii, pp. 53-60.
- Oobothrium insigne* n. sp. in *Carcharhinus obscurus*, N. Carolina coast, figg., LINTON (257) pp. 325-340.

- Phyllobothrium gracile*, synons., note on genus, fig., DE BEAUCHAMP, Arch. parasit. ix, No. 4, pp. 498-506.
- Plerocercoides prolifer* n. sp., in man, sub-cutaneous, figg., anatomy, habits, budding, IJIMA, J. Coll. Tokyo xx, No. 7, pp. 1-22.
- Proteocephalus*, classification of genus, pp. 146-152, *P. macrocephalus* (Creplin), figg., Lake Lucerne, NUFER (316) pp. 134-146.
- Rhynchobothrium plicatum* n. sp., in *Sphyrna tiburo* from N. Carolina coast, pp. 325-343, 5 figg., *R. speciosum*, adult form in *Carcharhinus obscurus*, N. Carolina coast, LINTON (257) p. 325; *R. robustus* (= *Tetrarhynchus phycis*), figg., *R. tetrabothrius*, synons., *R. erinaceris*, in *Squalus*, synons., DE BEAUCHAMP, Arch. parasit. ix, pp. 324-335.
- Solenophorus megalcephalus* (= *B. pythonis* Blanchard) in *Python sebae*, SHIPLEY (399) p. 101.
- Staurobothrium* n. gen., *atiobatidis* n. sp., Ceylon, SHIPLEY & HORNEILL, Roy. Soc. Rep. on Pearl Fisheries iii, 1905, p. 49, figg. 1 & 2.
- Tænia*, discussion of Cysticerci in *T. solium*, *T. saginata*, *T. serrata*, *T. marginata*, *T. solium*, development of head from cysticercal layers, SCHAFF, Zool. Jahrb. Anat. xxii, pp. 435-476; *T. chamissonii* n. sp., in porpoise (*Lagenorhynchus acutus*), New England, to genus *Phyllobothrium*, figg., LINTON, P. U. S. Mus. xxviii, 1905, pp. 819-822; *T. crassicoellis*, very common in cat, discovery of intermediary form in the rat and mouse, as *Cysticercus fasciolaris*, PITTALUGA, Bol. Soc. espan. v, p. 191; *T. echinococcus*, spread of hydatism in genus *Felis*, BLANCHARD, Arch. parasit. ix, pp. 451-462.
- T. hyperborea* n. sp., figg., remarks on complete genus, *T. monostephanos* n. sp., VON LINSTOW, Arch. Naturg. Jahrgang lxxi, i, 3, p. 270; *T. perfoliata*, in the horse, notes, DE MIRANDA, Bol. Mus. Goeldi iv, 2 & 3, p. 467; *T. racemosa* from *Eunectes murinus*, SHIPLEY (399) p. 101; *T. saginata*, fused Strobilus, fig., FASCIOLO, Boll. Mus. Genova 1905, No. 131; *T. saginata*, anomalous parasite, length 33.5 m., enormous ligulate proglottidæ, figg., FRANCAVIGLIA, Boll. Soc. zool. Ital., Ser. 2, vi, pp. 273-287; *T. saginata* (*fenestrata* de Cazeles), perforation of segments due to rupture of uterus, CATOIS, Bull. Soc. Normand. Ser. 5, viii, p. 249, 1905; *T. sagitta*, infected patients in Soudan, Rep. Wellcome Research Lab. 1904, pp. 51-58; *T. serrata* in *Felis tigris*, BENOIT-BAZILLE, Naturaliste, Ser. 2, xlii, p. 10; *T. s.*, *T. marginata*, *T. expansa*, varying bactericide capability, note, JAMMES & MANDOUL, C.R. Soc. Biol. 1905, pp. 104-106; *T. solium* in patient at Helsingfors, *T. saginata*, in Finland, LUTHER, Medd. Soc. Faun. Fenn. 1903-1904, p. 48; *T. tetraz* n. sp., in bird, Oural, CLERC, Bull. Soc. Oural. xxv, p. 31.
- Tatria* n. gen. *trivemis* n. sp., in *Podiceps auritus* duodenum to sub-fam. Aeoleinæ, near to *T. acanthorhynca*, Galicia, KOWALEWSKI, Bull. Ac. Cracovie 1905, No. 6, p. 392.
- Tetragonocephalum* n. gen. *trygonis*, figg. 3-9, *atiobatidis* n. spp., figg. 9 & 10, SHIPLEY & HORNEILL, Roy. Soc. Rep. on Pearl Fisheries iii, 1905, p. 49.
- Tetrarhynchus grossus* (= *rugosus* Baird, *solidus* Drummond, *claviger* von Siebold), *T. macrobothrius* (? = *megalobothrius* Rud. and *appendiculatus* Rud.), in Salmon, TOSH, Ann. Nat. Hist., Ser. 7, xv, p. 118; *T. tetrabothrius*, fig. in *Acanthus vulgaris* Piel., *T. erinaceus*, fig. in *Trigla hirundo* Piel. (cf. *Rhynchobothrium imparispine* Linton), JOHNSTONE, P. Liverp. biol. Soc. xix, pp. 288-290, 1905; *T. uniofactor* n. sp., figg., *balistidis*, fig., *pinnae*, figg., *minimus*, figg., Ceylon, SHIPLEY & HORNEILL, Roy. Soc. Rep. on Pearl Fisheries ii, 1904, p. 77.
- Zschokkia remota* n. sp., figg., host *Cercopithecus*, W. Africa, VON LINSTOW, Zeitschr. wiss. Zool. lxxxii, p. 187.



## TREMATODA.

- Trematoda* of the Arctic region, critical monograph of the group, with classification and new sub-families, ODHNER, Fauna Arctica iv, Pt. 2, 1905.
- Acanthocotyle verrilli*, fig., from *Raja clavata*, anat. notes, MONTICELLI, Boll. Soc. Napoli xviii, 1904, pp. 71-75.
- Acanthopsolus* n. gen. *oculatus* for *Distomum oculatum*, Levinsen, fig., descript., ODHNER (319) pp. 328-331.
- Anoplodiscus richiardi*, fig., morphol. and systematic notes, MONTICELLI, Boll. Soc. Napoli xviii, 1904, pp. 65-71.
- Aspidogaster ringens* n. sp., fig., in *Trachinotus carolinus*, p. 367, and in *Micropogon undulatus*, p. 397, descript., N. Carolina Coast, LINTON (257) p. 367-397; *A. margaritifera* n. sp., figg., Ceylon, SHIPLEY & HORNELL, Roy. Soc. Rep. on Pearl Fisheries ii, 1904, p. 77.
- Astiotrema monticellii* n. sp., intestinal in *Tropidonotus viperinus*, notes on the family, STÖSSICH, Annuar. Mus. Univ. Napoli, nuov. ser., No. 23, 1904.
- Auridistomum* n. gen. *chelydrae* n. sp., intestine of snapping turtle, Canada, formerly noted, STAFFORD, Zool. Anz. xxviii, No. 21-22, p. 690.
- Azygia loossii* n. sp., figg., mouth and stomach of *Micropterus salmoides*, etc., anatomy, GILBERT & MARSHALL, Zool. Jahrb. Syst. xxii, 4, pp. 483 & 484.
- Bilharzia cosinophilia* in Soudanese patients, Khartoum, Rep. Wellcome Research Lab. 1904, pp. 51-58, 9.
- Brachymetra* n. gen. *parva* n. sp., fig., in cysts, in lumbar muscles of frog, *R. esculenta*, Istria, sub-family surveyed, STÖSSICH, Annuar. Mus. Univ. Napoli, No. 23, 1904.
- Brachycladiinae* n. sub-fam. division of Looss' *Fasciolinae*, to contain *Brachycladium*, *Lecithodesmus*, *Orthosplanchnus*, ODHNER (319) pp. 347 & 348.
- Brachyphallus* n. gen., *crenatus*, Rud., ODHNER, t. c. p. 352.
- Bunoderinae*, sub-fam. defined, to include *Crepidostomum*, *Bunodera*, *Patagium*, HEYMANN, Zool. Jahrb. Anat. xxii, 1 & 2, pp. 89 & 90.
- Cæcicola* n. gen. *parvulus* n. sp., stomach etc. of *Micropterus salmoides*, figg., anatomy, GILBERT & MARSHALL, Zool. Jahrb. Syst. xxii, pp. 478-480.
- Catatropis* n. gen. *verrucosa*, synonyms, figg., definition, ODHNER (319) pp. 367-370.
- Cladorchis pangasii* n. sp., intestinal in *Pangasius*, Palembang, Sumatra, near to *Amphistoma oxycephalum*, *C. helostomatis* n. sp., stomach of *Helostoma temminckii*, Palembang, Sumatra, figg., MACCALLUM, Zool. Jahrb. Syst. xxii, pp. 670-678.
- Craniocephala* n. gen. *biroi* n. sp., New Guinea, figg., in Crustacean *Sesarma*, MONTICELLI, Ann. Mus. Hungar. iii, pp. 21-24.
- Cystagora tetracystis*, in throat muscles of *R. catesbiana* and *R. virescens*, STAFFORD, Zool. Anz. xxviii, p. 683.
- Dactylo-discus* Olsson, notes on the genus, MONTICELLI, Boll. Soc. Napoli xviii, 1904, pp. 78-80.
- Derogenes varicus*, figg., redescribed, synonyms, ODHNER (319) p. 360-365.
- Diplectanum æquans*, fig., on gills of Bass, SCOTT, Rep. Fish. Board Scotland xxiii, pt. 3, p. 117.
- Diplodiscus temperatus* n. sp., earlier reported as *Amphistomum subclavatum*, European, in rectum of frogs, Canada, STAFFORD, Zool. Anz. xxviii, p. 689.
- Diplostomum* sp., in *Abramis brama* in L. Lucerne, descript., NUFER (316) pp. 154-158.
- Distomum apolaimum* n. sp., figg., small intestine *Kachuga tectum*,

- anatomy, HEYMANN, Zool. Jahrb. Syst. xxii, pp. 90-93; *D. clavigerum*, *D. cylindraceum*, copulation, v. LINSTOW, Zool. Anz. xxxviii, 1904, pp. 252-254; *D. gobii*, redescribed as *Helicometra gobii*, survey of genus, STÖSSICH, Annuar. Mus. Univ. Napoli, nuov. ser., No. 23, 1904; *D. pallenisum* n. sp., fig. 11, Ceylon, *D. richardii*, SHIPLEY & HORNELL, Roy. Soc. Rep. on Pearl Fisheries iii, 1905, p. 49.
- D. pectinatum* n. sp., from intestine of *Trachinotus carolinus*, figg., p. 366, in *Bairdiella chrysura*, p. 389, descript., *D. imparispini* n. sp., figg. in *Rachycentrum canadus*, N. Carolina Coast, p. 371-372, *D. corpulentum* n. sp., figg., in *Orthopristis chrysoptera*, p. 376, in *Lagodon rhomboides*, descript., p. 382, N. Carolina Coast, *D. inconstans* n. sp., figg., in *Chaetodipterus faber*, N. Carolina Coast, descript., p. 400, *D. aduncum* n. sp., figg. in *Opsanus tau*, N. Carolina Coast, descript., p. 409, LINTON (257) pp. 325-409; *D. ? valdeinflatum*, figg., muscles of *Pleuronectes limanda*, Luce Bay, morphol., JOHNSTONE, P. Liverp. biol. Soc. xix, p. 278, 1905, *D. varicum* in Salmon, *D. ocreatum*, Salmon and Sea Trout, *D. meschieri*, Salmon, TOSH, Ann. Nat. Hist., Ser. 7, xv, pp. 115 & 116.
- Echinostomum spinulosum*, N. America in *Gavia imber*, and *Larus philadelphia*, noted difference from Europ. sp., fig., GILBERT, Amer. Natural. xxxix, p. 925 & 926.
- Epibdella hippoglossi*, synonyms, genus defined, ODHNER (319) p. 371; *E. squamula*, in bastard halibut, etc., Monterey Bay, to be placed with *Phylline*, MONTICELLI, Boll. Soc. Napoli xviii, 1904, p. 75.
- Fasciola hepatica*, method of infection by, in Halzoun., Beyrouth, experiments, KHOURI, Arch. parasit. ix, 78-94; *F. hepatica*, in Man (Italian), Montreal, STAFFORD, Zool. Anz. xxviii, p. 694; *F. hepatica* (= *Distomum*), monograph on oogenesis and embryology, figg., SCHUBMANN, Zool. Jahrb. Anat. xxii, pp. 571-606.
- Ganeo* n. gen. *glottoides* n. sp., intestine, *R. hexadactyla*, fig., near to *Distomum perlatum*, anatomy, KLEIN (231) pp. 72-78.
- Gasterostomata* sub-order n., containing *Gasterostomum fimbriatum* (*G. minimum*, *G. gracilescens*, *G. vivæ*) and *Prosorhynchus*, ODHNER (319) pp. 295 & 296.
- Gasterostomum baculum* n. sp., figg., in Spanish mackerel, recorded in No. 8, Bull. U. S. Fish Comm. for 1899, p. 447, N. Carolina Coast, *G. gorgon* n. sp., figg., N. Carolina Coast, LINTON (257) p. 362; *G. gracilescens*, brain of Gadoids, figg., Piel and Barrow Channel, cf. *G. neuronaia* Madox, probably cercaria stage, *Lophius*, final host, *G.* sp., figg., Luce Bay, encysted mature in plaice muscles, *G.* sp. = *B. haimeanus* in *Cardium edule*, JOHNSTONE, P. Liverp. biol. Soc. xix, pp. 281-287, 1905.
- Genarches mülleri*, figg., synonyms, King's Bay, Spitzbergen, *Cottus corpius*, ODHNER (319) pp. 365 & 366.
- Glypthelmis* n. gen. *quieta* n. sp., in *R. catesbiana*, etc., intestinal, first descript. as *Opisthoglyphe endoloba* Duj., Canada, STAFFORD, Zool. Anz. xxviii, p. 686.
- Gymnophallus deliciosus*, in sea men, gall bladder (*L. glaucus*), Spitzbergen W., *G. somateriae*, King's Bay, Spitzbergen, intestine of *Somateria*, corrected descript., fig., *G. bursicola*, second host *Saxicava rugosa*, Spitzbergen W., *G. choledochus*, Spitzbergen W., gall-bladder, *Ohlpanser*, ODHNER (319) pp. 310-313.
- Gyrodactylus elegans*, on *Cyprinus* and *Abramis*, L. Lucerne, NUFER (316) p. 152.
- Halipegus longispina* n. sp., fig., mouth, *R. hexadactyla*, anat., KLEIN (231) pp. 65-68; *H. occiduatis* n. sp., in mouth *R. catesbiana* and *R. clamata*, earlier references as *D. ovocaudatum*, descript., STAFFORD, Zool. Anz. xxviii, pp. 687-689.

- Hemiurus levinseni* n. sp., fig., possible former inclusions, ODHNER (319) pp. 350-352.
- Holostomum serpens*, copulation, v. LINSTOW, Zool. Anz. xxviii, 1904, No. 7, pp. 252-254.
- Lechrorchis* n. gen. *primus* n. sp., in lung of garter snake, formerly noted, suggested addition to genus *Renifer elongatus*, Canada, STAFFORD, Zool. Anz. xxviii, p. 691.
- Lecithasterinae* n. sub-fam. for *Lecithaster* and *Lecithophyllum*, ODHNER (319) p. 359.
- Lecithaster gibbosus*, synonyms., ODHNER, t. c. pp. 357-359.
- Lecithodendrium posticum* n. sp., intestine, *Vespertilio subtilis*, Canada, *L. anticum* n. sp., same host, Canada, STAFFORD, Zool. Anz. xxviii, p. 693.
- Lecithodesmus goliath*, figg., synonyms., affinities, in *Balænoptera*, ODHNER (319) pp. 344-346.
- Lecithophyllum* n. gen. *botryophorum*, from *Argentina silus*, ODHNER, t. c. p. 359.
- Lepodora* n. gen. *rachicea* intestinal to *Gumocanthas*, Spitzbergen, W. Coast, synonyms., figg., genus defined, ODHNER (319) pp. 332-337.
- Leucortherus* n. gen. *micropteri* n. sp., figg., mouth etc. Black Bass from Madison and Round Lakes, anatomy, GILBERT & MARSHALL, Zool. Jahrb. Syst. xxii, pp. 481 & 482.
- Loxogenes arcanum*, in liver of *R. catesbiana*, provisionally described as *Distomum medians* Olsson (see Stafford) and *D. arcanum* n. sp., Nickerson, diagnosis, résumé of allied forms, Canada, STAFFORD, Zool. Anz. xxviii, No. 21-22, pp. 683-686.
- Manodistomum* n. gen. *occultum* n. sp., in newt, Canadian, near to *Glyphthelmius quieta*, STAFFORD, t. c. p. 682.
- Microcotyle domavani*, fig., on gills of Ballan Wrasse, *M. labracis*, on gills of Bass, fig., SCOTT, Rep. Fish. Board Scotland xxiii, pt. 3, pp. 116 & 117.
- Monostromum faba*, copulation, v. LINSTOW, Zool. Anz. xxviii, 1904, pp. 252-254.
- Monorchoides* n. gen. *diplorchis* n. sp., fig., in *Lumprenus medius*, near *Musalia* n. gen. *herdmani* n. sp., Ceylon, figg., SHIPLEY & HORNEILL, t. c. p. 77.  
King's Bay, Spitzbergen, genus defined, ODHNER (319) pp. 318-320.
- Muttua* n. gen. *margaritifera* n. sp., figg., Ceylon, SHIPLEY & HORNEILL, Roy. Soc. Rep. on Pearl Fisheries ii, 1904, p. 77.
- Opisthorchis felineus*, abnormalities of the alimentary canal, ENGLER, Zool. Anz. xxviii, 1904, No. 5, pp. 186-188.
- Orthosplanchnus* n. gen. *arcticus* n. sp., figg., gall-bladder of *Pinnipedes* and liver *Phoca barbata*, Greenland, from W. Spitzbergen, *O. fraterculus* n. sp., fig., gall-bladder *Idobænus rosmarus*, W. Spitzbergen, ODHNER (319) pp. 337-344.
- Paragonimus westermanni*, tiger, synonyms., SHIPLEY, P. Z. S. 1905, i, p. 248.
- Patagium* n. gen. *brachydelphium* n. sp., from small intestine of *Dermatemys*, figg., near to *Rhytidodes*, anatomy, HEYMANN, Zool. Jahrb. Syst. xxii, pp. 81-87.
- Phyllocotyle gurnardi* (not *Rh. gurnardi*, SCOTT in xix, Rep. Fish. Board Scotland, pt. 3, p. 147), Grey Gurnard, figg., SCOTT, Rep. Fish. Board Scotland xxiii, pt. iii, p. 115.
- Plagiorchis asperus* n. sp., figg.; synopsis of generic characters, STÖSSICH, Annuar. Mus. Univ. Napoli, nuov. ser. No. 16, 1904, *P. vespertilionis* (= *Distomum lima* Rud.), intestinal anat., note, Canada, STAFFORD, Zool. Anz. xxviii, p. 693.
- Plectanocotyle* Diesig., position of subdivision of genus, MONTICELLI, Boll. Soc. Napoli xviii, 1904, pp. 75-78; *P. lorenzii* (see wrongly as *Phyllo-*

- cotyle gurnandi* xix issue *ibid.* pt. 3, p. 147), synonyms, SCOTT, Rep. Fish. Board Scotland xxiii, pt. 3, p. 116.
- Pleurogenes sphaericus* n. sp., intestine *R. hexadactyla*, anatomy, synopsis of genus (Looss.), KLEIN (231) pp. 68-72.
- Pneumonoeces capyristes* n. sp., lung *R. hexadactyla*, figg., anatomy, synopsis of genus according to Looss, KLEIN, Zool. Jahrb. Anat. xxii, 1 & 2, pp. 60-65.
- Podocotyle atomon*, synonyms, figg., distinction of *Dist. simplex* and *Dist. reflexum*, redescribed, *olssoni* sp. n., ODHNER (320) p. 27.
- Porocephalus herpetodryados* n. sp., SHIPLEY, P. Z. S. 1905, i, p. 250.
- Prosorhynchus* n. gen. *squamatus* (= *Gasterostomum armatum*), morphology, *P. crucibulum* (= *Gasterostomum*), note, *P. aculeatus* (= *Gasterostomum*), note, ODHNER (319) pp. 297-304.
- Prosostomata* n. sub-order for *Seringophorus*, *Lepidophyllum*, *Gymnophallus*, *Spelotrema*, *Monorcheides*, *Podocotyle*, *Acanthopsolus*, *Stephanochasmus*, *Lepodora*, *Orthosplanchnus*, *Lecithodesmus*, ODHNER (319) pp. 305 & 306.
- Rhopalocerea tardigrada*, Cercaria, histology, detailed, pp. 1-17, figg., GRONKOWSKY, Protok. Kazan. Univ. 1904, No. 223.
- Telorchis* sp. inq. synopsis of genus, HEYMANN, Zool. Jahrb. Syst. xxii, pp. 93-95; *T. poirieri*, in intestine *Emys orbicularis*, Sardinia, *T. ercolania*, descript., table of genus, STÖSSICH, Annuar. Mus. Univ. Napoli, nuov. ser., No. 23, 1904.
- Temnocephalidae*, new definition of the group = distinct family of Platyhelmsia, MONTICELLI, C.R. Congr. Zool. vi, Berne, pp. 402 & 403.
- Triodontophorus deminutus* n. sp., human parasite possibly a cause of Chloranæmia, RAILLET & HENRY, Bull. Mus. Paris 1905, pp. 269-272.
- Schistosoma cattoi*, in vascular and intestinal system in man, anatomy and development, figg., CATTO, J. trop. Medicine viii, 1905, pp. 70-73; *S. c.*, compared with *S. hæmatobium*, latter producing bilharziosis in many organs in man, CRIMP (92) pp. 67 & 68; *S. japonicum*, a new human parasite, KATSURADA (omitted last year), Annot. zool. Japon. v, 3, 1904, Trans., KERR, J. trop. Medicine viii, 1905, p. 108; *S. hæmatobium*, notes on a case of Bilharziosis from the Transvaal, BLANCHARD, Arch. parasit. ix, pp. 148 & 149; detailed study of intestinal pathology, figg., LETULLE, C.R. Soc. Biol. lvii, 1905, 1, pp. 329-439; *S. h.*, pathology of infection, LETULLE, t. c. pp. 607-609.
- Spelotrema pygmæum*, synonyms, fig., hosts, notes, ODHNER (319) pp. 315-318.
- Seringophorus* n. gen. *furciger* (= *Distomum furcigerum* Olos.), figg., Sweden, W. Coast, descript. with definition of new genus, ODHNER, t. c. pp. 305-310.
- Synaptobothrium* n. gen. *copulans* n. sp., diagnosis, figg., copulation in, v. LINSTOW, Zool. Anz. xxviii, 1904, pp. 252-254.
- Zeugorchiis* n. gen. *æquatus* n. sp., Oes. garter snake, formerly noted, descript., genus should include *Distomum boscii*, Canada, STAFFORD, Zool. Anz. xxviii, p. 692.
- Zoogonus mirus*, embryonic development, detailed, figg., bibliogr., GOLDSCHMIDT, Zool. Jahrb. Anat. xxii, pp. 606-654.

## NEMATHELMINTHES.

### *NEMATODA* (GORDIACEA see p. 66).

- Nematoda*; systematic of parasites, VON LINSTOW (256) p. 272.
- Nematoda*, Norway, KIÆR, Nyt Mag. Naturv. xlii, 1, p. 65-75, 1904.
- Note on preserving methods, LANGERON, C.R. Soc. Biol. lvii, 1, 1905, p. 749.

- Agago mermis* in *Culex*, résumé, DYČ, Arch. parasit. ix, p. 46.
- Ancyracanthus denudatus*, fig., various hosts, L. Lucerne, *A. filiformis*, fig., several hosts, L. Lucerne, NUFER (316) pp. 171-174.
- Ankylostomum duodenale*, note on encystation of free larvæ, contradictory, PERRONCITO, C.R. Ass. Franc. 1904, p. 873.
- Uncinaria* (= *Ankylostoma*), spp. described with synonyms and lists of hosts, *U. malayana* n. sp., figg., bear, *U. pluridentis* n. sp., Brazil in *Felis mitis*, ALESSANDRINI, Boll. Soc. zool. Ital. Ser. ii, vi, pts. 1-3, pp. 29-48; ova developing in liquid medium, l. c. pp. 163-166, diagnosing presence of, l. c. pp. 67 & 68; *U. (A.)*, human intestinal parasite, BRANCH, J. trop. Medicine viii, 1905, p. 261; *U. (A.) americana*, compared with *A. duodenale*, new characters in male, ISOLA, Boll. Mus. Genova 1904, No. 129, figg., ALESSANDRINI, Boll. Soc. zool. Ital. Ser. 2, vi, pp. 23-29; *U. (A.) a.*, in patients (at Genoa) from Brazil, Minas Geraes, SICCARDI, Atti Ist. Veneto lxiv, ii, p. 1475; *U. catholica* n. sp. in *Canis jubatus*, Buenos Ayres, QNELLI, Revist. Jard. Buenos Ayres 1905, No. 2, pp. 144-149.
- A. duodenale*, entrance into N. Europe and preventive measures, OLIVER, Ankylostomiasis, P. R. Soc. Edinb. xxv, 1905, pp. 813-816; *A. duodenale*, larvæ, source of "ground-itch," DUBREUILLE, Presse médicale, Apr. 15, 1905, not the cause of "Kala-azar," SAMBON, Climate v, 24, p. 251; *A. duodenale*, *A. caninum*, passage of larvæ from skin to intestine, experimental, LOOS, C.R. Congr. Zool. vi, Berne, pp. 225-233; *A. duodenale*, infection experiments and résumé, PIERI, Atti Acc. Lincei xiv, pt. 2, pp. 547-554; in monkeys, l. c. p. 727.
- Anticomma calveti* n. sp., Cette, DE ROUVILLE, C.R. Ass. Franc. 1904, p. 788; *A. similis*, fig., on *Eurypodius latreilli* ♀ only, repeating descript., Orange Bay, DE MAN (268) pp. 13 & 14.
- Aphanolaimus anisitsi* n. sp., figg. near to *A. attentus*, Paraguay, *A. multipapillatus* n. sp., figg., Aregna, Paraguay, VON DADAY, Zoologica Bd. xviii, pt. 44, 1905, pp. 49 & 50.
- Ascaris*, human parasite causing diarrhœa, W. Indies, BRANCH, J. trop. Medicine viii, 1905, p. 261; *A.*, short general account of thirteen species in man and domestic animals, TEMPÈRE, Microgr. prep. xiii, pt. 5, pp. 225-231 and pt. 6, p. 276.
- A. adunca* (= *A. rigida* Rud. *A. biuncinata* Molin.), from *Lophius*; *A. attenuata*, *A. clavata*, from *Gadus morrhua*, and *G. æglefinus*, *A. decipiens*, recorded in *P. barbata*, *Trichechus eosmarus*, *A. mystax*, from dog, *A. osculata*, recorded in numerous hosts, *A. rubicunda*, from *Python*, *A. simplex*, in dolphin, *A. spiculifera*, in cormorant, *A. typica* (= *Conocephalus typicus* Dies.), from *Globocephalus globiceps*, and *Delphinus delphis*, SHIPLEY, P. Cambridge Soc. xiii, 1905, pp. 95-98; *A. acus*, L. Lucerne, hosts to young stages, *A. tenuissima*, figg., stomach of *Lota vulgaris*, L. Lucerne, *A. truncatula*, *Perca*, intestinal, and in muscles, *Lucioperca*, descript., *A. labiata*, fig., in eel intestine of *A. obtusocaudata*, in Trutta, Lucerne, NUFER (316) pp. 158-168; *A. angusticollis*, from "Bateleur" Eagle, *A. capsularia* (= *Filaria piscium* Leuck.), from *Lepidopus caudatus*, *A. lumbricoides*, Chimpanzee, SHIPLEY, P. Z. S. 1905, i, pt. 2, p. 252; *A. capsularia*, *A. acuta*, *A. obtusocaudata*, in salmon, TOSH, Ann. Nat. Hist. Ser. 7, xv, 1905, pp. 115 & 116; *A. lumbricoides*, *A. conocephalus*, pathological conditions due to intestinal parasites, GUIART, Arch. parasit. ix, p. 177; *A. megaloccephala*, structure of the gonad walls, figg., bibliogr., DOMASCHKO, Arb. Inst. Wien xv, 1905, pp. 257-280; *A. megaloccephala*, minute study of cuticle, supporting chitin threads, figg., TOLDT, Zool. Anz. xxviii, Nos. 14 & 15, pp. 539-541; *A. megaloccephala bivalens*, spermatozoon, studies in fertilisation processes, figg., SCHEBEN, Zeitschr. wiss. Zool. lxxix, pp. 397-430, 1905; *A. megaloccephala*, mucous

- passages, figg., GOLDSCHMIDT, t. c.; *A. lumbricus*, mucous passages, figg., GOLDSCHMIDT, Zool. Anz. xxviii, 1904, No. 7, pp. 259-266; *A. meleagrinae* n. sp., Ceylon, figg., SHIPLEY & HORNEILL, Roy. Soc. Rep. on Pearl Fisheries ii, 1904, p. 77; *A. molva* n. sp., in intestine of *Molva byrkelangi*, Norway, *A. digitata* n. sp., intestine of *Labrus bergylla*, Norway, fig., *A. rigida* in *Gadus carbonaris*, first noted, *A. cuiscaudata*, hosts, parasite toxin, VON LINSTOW, Arch. mikr. Anat. lxvi, pp. 355 & 356; *A. mystax* var. *uptoptera*, parasitic in *Felis canis*, figg., two spp., *A. mystax*, *A. leptoptera*, BENOIT BAZILLE & DRAMARD, Microgr. prep. xiii, 1905, pp. 222-224; *A. osculata* in *Phoca barbata*, figg., larval forms, Arctic, *A. plagiostomorum* n. sp., fig., Selachians, Ceylon, *A. quadrata* n. sp. (see fig., to *A. pastinacæ* v. Drasche) in *Tæniura*, *A. balistes* n. sp., larval form, in *Balistes*, Ceylon, and *A. balisticola*, VON LINSTOW, Zeitschr. wiss. Zool. lxxvii, pp. 184 & 185.
- Bathylaimus* n. gen. *maculatus* n. sp., figg., railway ditches, Asuncion, VON DADAY (97) pp. 59-61.
- Bunonema* n. gen. *richtersi* n. sp., from Crozet Islands, fig., JÄGERSKIÖLD, Zool. Anz. xxviii, pp. 557-561.
- Cheiracanthus spinosissimus* n. sp., figg. 12 & 13, SHIPLEY & HORNEILL, Roy. Soc. Rep. on Pearl Fisheries iii, 1905, p. 49; *C. uncinatus*, figg., syn., *Echinocephalus uncinatus*, SHIPLEY & HORNEILL, op. cit. ii, 1904, p. 77.
- Cephalobus aculeatus* n. sp., figg., lagoon Estia Postillon, Paraguay, VON DADAY (97) p. 63.
- Chromadora ? natans*, Cette, DE ROUVILLE, C.R. Ass. Franc. 1904, p. 791.
- Cylindrolaimus politus* n. sp., stream near R. Aregua, Paraguay, near to *C. melancholicus*, VON DADAY (97) pp. 58 & 59.
- Dochmius stenocephalus*, infection experiments, résumé, PIERI, Atti Acc. Lincei xiv, pt. 2, pp. 547-554.
- Dorylaimus filicaudatus* n. sp., figg., Cerro Noago, Oroyo, *D. annulatus* n. sp., figg., stream, Aregua, *D. cyatholaimus* n. sp., figg., Aregua, in puddle, *D. tripapillatus* n. sp., figg., lagoon, Estia Postillon, *D. micrurus* n. sp., figg., lagoons and puddles, Paraguay, *D. pusillus* n. sp., figg., puddle, Aregua, *D. unipapillatus* n. sp., figg., Asuncion, Bañco, *D. stagnalis*, dispersed, Paraguay, VON DADAY (97) pp. 63-71.
- Enoplolaimus australis* n. sp., fig., on *Eurypodius*, Orange Bay, DE MAN (268) pp. 16-18.
- Enoplus michaelsonii*, figg., algæ on Gasteropods, Londonderry Island, minute comparisons in genus, DE MAN, t. c. pp. 18-24.
- Filaria bancrofti* (= *nocturna*), *F. loa*, *F. diurna*, *F. perstans*, *F. demarquayi*, *F. ozzardi*, *F. magalhænsi*, *F. gigas*, *F. powelli*, in human blood, PENEL, Arch. parasit. ix, pp. 187-204; *F. bancrofti* (= *nocturna*), in mosquito-infecting man, résumé, fig., *F. immitis*, in mosquito, list of hosts, *F. perstans*, *F. demarquayi*, DYÉ, Arch. parasit. ix, pp. 1-77; *F. lonoura*, fig., intestine of eel, and gill of *Tinea vulgaris* etc., anat. notes, L. Lucerne, NUFER (316) pp. 169-171; *F. cordicola* n. sp., fig., in *E. asinus*, heart, and *E. caballus*, perivisceral cavity, both E. Africa, VON LINSTOW (256) p. 275; *E. cypseli*, intermediary host a louse, note, DUTTON, J. trop. Medicine viii, 1905, p. 108; *F.* (= *Hermofilaria*) *irritans*, causing disease in Para to horse and mule, DE MIRANDA, Bol. Mus. Gældi iv, 2 & 3, p. 439; *F.* (= *Dracunculus*) *medinensis*, cases (human) infected in Soudan, Rep. Wellcome Research Lab. 1904, pp. 59 & 60; *F. foveata*, from orbit of *Asio brachyotus* (= *Egolius brachyotus*), *F. physalura* (= *Menaptalonema* Bremser), from *Ceryle torquata*, *F. quiscalis* in brain of *Quiscalus versicolor*, SHIPLEY, P. Z. S. 1905, i, p. 252; *F. galeata* n. sp., from bonnet-head shark, figg. (*Sphyrna tiburo*), N. Carolina coast, LINTON, Bull. Bureau Fish. Washington (for 1904), xxiv, 1905, pp. 325, 344; *F. diurna*, occurring in same

- patient with *F. loa*: query as to their relationship, GAUTIER, C.R. Soc. Biol. lviii, 1, 1905, pp. 632-634; *F. evansi* n. sp., in the dromedary, EDMOND & SERGENT (113) pp. 672-673.
- F. loa*, earliest record of, WARD, Zool. Ann. i, 4, pp. 376-384, Studies Lab. Nebraska, No. 61; *F. medinensis*, Guinea worm-pests, *Cyclops* and man, W. Africa, GRAHAM, J. trop. Medicine viii, p. 248, 1905; *F. nocturna*, *F. persistans*, in blood, amongst Fijians, note, LYNCH, J. trop. Medicine viii, 1905, p. 99; *F. nocturna*, notes on morphology of embryo, figg., in a patient with Hæmatochyluria, McDILL & WHERRY, Publ. Bureau Government Labs. Manila, No. 31, pp. 5-15; *F. romeri* n. sp., beneath skin of *Macropus antilopinus*, Australia, note on known Austr. types, fig., VON LINSTOW, Arch. mikr. Anat. lxvi, pp. 356-358; *F. sanguinis*, in mosquito, Sierra Leone, SMITH, J. trop. Medicine viii, p. 140.
- Heterodera radivicola* in plant roots, a pest, Silesia, GROSSER, Jahresber. Schlesisch. Ges. lxxxii, 1904, Ab. ii, p. 5.
- Hoplolaimus* n. gen. *tylenchiformis* n. sp., figg., puddles, Bañeo, Asuncion, VON DADAY (97) p. 62.
- Hydromermis rivicola*, H. n. sp., *Chironomus* host, KOHN, Arb. Inst. Wien xv, 1905, p. 249.
- Ichthyonema globiceps*, Naples, cycle of hosts, *Uranoscopus*, *Sagitta*, MONTICELLI, C.R. Congr. Zool. vi, Berne, pp. 400 & 401; *I. sanguineum*, hosts, L. Lucerne, descript. notes, NUFER (316) p. 175.
- Nematoxys tenerrimus*, in L. Lucerne, described, t. c. pp. 176-178.
- Leptostomatium bacillatum* (= *Phanoglene bacillata*), Cette, Gulf of Lyons, DE ROUVILLE, C.R. Ass. Franc. p. 792, 1904.
- Mermis pachysoma* n. sp., abdomen of *Vespa germanica*, fig., VON LINSTOW, Arch. mikr. Anat. lxvi, p. 358.
- Monhystera demani* n. sp., Cette, *M. gracilis*, Cette (cf. *M. velox*, *Teristus velox* de Man), DE ROUVILLE, C.R. Ass. Franc. 1904, p. 792; *M. paludicola*, inundated land by Yuguari, Paraguay, figg., *M. propinqua* n. sp., figg., flood puddles, Corumba, *M. annulifera* n. sp., figg., ditch, Asuncion, VON DADAY (97) pp. 51-53.
- Mononchus gerlachei* n. sp., on fresh water algæ, Terre de Danco, figg., fully described, DE MAN, Expédition Antarct. Belgica Zool. 1904, pp. 5-8.
- Æsophagostomum brumpti* n. sp., parasitic in man, RAILLET & HENRY, l. c. p. 643-645.
- Oncholaimus (Viscosia) linstowi* n. sp., fig., on *Eurypodius latreilli*, Orange Bay, close to *O. glaber*, DE MAN, t. c. pp. 15 & 16.
- Oxyuris*, in human intestine, W. Indies, BRANCH, J. trop. Medicine viii, p. 262, 1905.
- Parachordodes maculatus*, Himalayan stream, figg., VON LINSTOW (256) p. 273.
- Paramermis contorta* (= *Mermis contorta*), embryogeny, *Chironomus* host, free sexual phase, detailed morphology, relations of group, figg., *P. crassa*, *Chironomus* host, KOHN, Arb. Inst. Wien xv, 1905, pp. 213-256.
- Phanoderma* ? sp., ♀ many new characters, Cette, DE ROUVILLE, C.R. Ass. Franc. 1904, p. 794.
- Physaloptera dilatata*, in Hussar monkey, *P. terdentata*, leopard (possibly for *Felis concolor*), SHIPLEY, P. Cambridge Soc. xiii, p. 98, 1905.
- Plectus antarcticus* n. sp. (= *Plectoides*), fig., on fresh water alga, Terre de Danco, *P. belgica* n. sp., fig., on fresh water alga, Terre de Danco, DE MAN (268) pp. 8-12.
- Prismatolaimus microstomus* n. sp., figg., stream, Aregua, near *P. intermedius*, VON DADAY (97) pp. 56-58.
- Pseudalatus alatus*, from Narwhal, SHIPLEY (399) p. 98.
- Sabatieria* n. gen. *cettensis* n. sp., cf. *Spira*, Gulf of Lyons, DE ROUVILLE, C.R. Ass. Franc. 1904, p. 794.

- Spirophora giardi* n. sp., Cette, near to *Cyatholaimus longicaudatus*, DE ROUVILLE, t. c. p. 795.
- Spiropterina coronata*, from dogfish, SHIPLEY (399) p. 98.
- Spiroptera muricola* n. sp., in *Mus surifer*, connective tissue, subcutaneous, Siam, VON LINSTOW, Zeitschr. wiss. Zool. lxxxii, p. 185.
- Strongyloides intestinalis*, causing dysentery, GUIART, Arch. parasit. ix, p. 183.
- Strongylus hastatus* n. sp., intestine of *Tetrao tetrix*, figg., VON LINSTOW (256) p. 273.
- Synæcnema fragile*, parasitic in *Pheritima*, figg., DE MAGALHÃES, Arch. parasit. ix, p. 314.
- Thoracostoma setosum*, fig., mud and sand, Beagle Straits, descript. *T. antarcticum*, figg., amongst algæ, fixed on Gasteropods, DE MAN (268) pp. 35-43.
- Trichocephalus*, human intestinal parasite, BRANCH, J. trop. Medicine viii, p. 262.
- Trichina spiralis*, embryonic transportation in the blood, experimental, STÄUBLI, Vierteljahrscr. Ges. Zurich I, pt. 1 & 2, pp. 161-176.
- Trilobus diversipapillatus* n. sp., figg., ditches and puddles, Asuncion, etc., *T. gracilis*, Cærapa, Paraguay, VON DADAY (97) pp. 53-56.
- Triodontophorus deminutus* n. sp., parasitic in man, RAILLET & HENRY, C.R. Soc. Biol. lvii, 1905, p. 569.
- Tylenchus devastatrix*, on oats, Co. Down, Ireland, figg., CARPENTER, Econ. P. Dublin Soc. i, pt. 6, pp. 285-288, 1905.

### ACANTHOCEPHALA and GORDIACEA.

- Acanthocephala*, classification based with HAMANN, on hooks, rostrum and longitudinal muscles, Monograph, with list of 15 species discarded, DE MARVAL, Rev. Suisse Zool. xiii, 1905, pp. 195-387.
- Echinorhynchus*, historical survey of genus, with hosts, distribution and corrected descriptions (earlier part in 1904), LÜHE, Zool. Ann. i, pp. 251-353.
- Echinorhynchus acus*, *E. proteus*, *E. angustatus* (syn. *E. affinis* Rudolphi) in salmon, TOSH, Ann. Nat. Hist., Ser. 7, xv, pp. 115 & 116, 1905; *E. acus*, haddock, fig., JOHNSTONE, P. Liverp. biol. Soc. xix, p. 291.
- Echinorhynchus aluconis*, synonyms and hosts, figg., stages of this sp. are, *E. globocaudatus* Zeder., *E. contortus*, *E. æqualis* Zeder., *E. tuba*, Rudolphi, *E. bacillarus* Zeder., DE MARVAL (277) pp. 217-229; *E. arcolatus*, synonyms, hosts, figg., redescribed, DE MARVAL, t. c. pp. 229-234; *E. amatis*, synonyms, figg., host, descript., *E. buteonis*, synonyms, figg., hosts, young stages, *E. tenuicaudatus* Marotel, DE MARVAL, t. c. pp. 234-249; *E. cylindræus*, figg., synonyms, hosts, pp. 249-260, *E. filicollis*, synonyms, figg., hosts, correcting descript., young form as, *E. stellaris* Molin., *E. frasonii*, hosts, synonyms, figg., *E. inflatus*, figg. synonyms, other stages are *E. crassicollis* and *E. lanceolatus*, DE MARVAL, t. c. pp. 260-291; *E. spheroccephalus*, figg., synonyms, hosts, stages described, DE MARVAL, t. c. pp. 291-327; *E. proteus*, many intermediate hosts, new host *Lota vulgaris*, biological notes, L. Lucerne, *E. clavula*, intestinal wall of *Cottus gobio*, L. Lucerne, NUFER (316) pp. 179-182; *E. sagittifer*, adult form first noted, intestine of *Cobia (Rachycentron canadus)*, Beaufort, figg., LINTON (257) pp. 325 & 371.
- Echinorhynchus* spp., *Echinorhynchus chierchiaë*, figg., description, *E. aurantiacus* (= *pelneceidus* Leuck. = *annulatus* Molin.), synonyms, *E. monticellii* n. sp., figg. in a teleost., Naples, PORTA, Annuar. Mus. Univ. Napoli, Nuov. Ser., No. 20, 1904 (see Article quoted 1904); *E. lævis* n. sp., in intestine of *Anas boschas*, fig., VON LINSTOW, Arch.



- mikr. Anat. lxvi, p. 359; *E. rhytidodes*, described formerly as *E. aurantiacus*, subsequently *E. corrugatus*, redescribed, figg., Biol. notes from *Solea impar*, MONTICELLI, Annuar. Mus. Univ. Napoli, Nuov. Ser., No. 25, 1905; *E. proteus* in German carp, Lake Erie, COLE, Rep. Bureau of Fisheries, Washington 1905, p. 576; *E. semermis* n. sp., in *Phoca fetida*, Gulf of Finland, near to *E. strumosus*, fig., FORSELL, Medd. Soc. Faun. Fenn. 1903-1904, pp. 175-179.
- Echinorhynchus* in fishes, detailed study of the systematic of known species, report on distribution, literature, list of hosts, synonyms, *E. claviceps*, fig., descript. hosts (= *Acanthocephalus* Koelreuter), *E. fusiformis*, fig., correcting descript., *E. propinquus*, synonyms, figg., morphol. note, *E. solea* n. sp., fig., Portoferraio, descript., p. 160, *E. cinctulus* n. sp., Volga, in *Silurus* and others, figg., *E. globulosus*, figg., hosts, synonyms, note on affinity, *E. agilis*, fig., synonyms, note on confusion *Hexacanthus*, p. 166, *E. acus*, fig., synonyms, note identifying with *E. wachniae*, *E. angustatus*, synonyms, descript., fig., variable characters, *E. clavula*, compared with *angustatus*, *E. incrassatus*, fig., synonyms, affinities (= *lateralis* Molin.), *E. aurantiacus*, figg., synonyms, note on affinities, *E. miliaris*, fig., synonyms, identical with *E. rubicundus*, *E. roseus*, fig., synonyms, note on hosts, *E. pristis*, figg., synonyms, referred to *subululus* Zed., *E. proteus*, figg., synonyms, attempt to arrange confusing descriptions, Spp. inquirendi, lists, bibliography, PORTA, Arch. zool. ital. ii, 2, 1905, pp. 148-214; *E. spirula* in *Pero-dicticus potto*, *Lemur coronatus* and *L. brunneus*, SHIPLEY, P. Z. S. 1905, i, p. 249; *E. orestiae* n. sp., Titicaca, figg., descript., NEVEU-LEMAIRE, Bull. Soc. Philom., Ser. 9, vii, p. 256, 1905.
- Chordodes festæ* Camer., notes and descript. to females from Merida, Venezuela, CAMERANO, Boll. Mus. Torino xx, No. 504.
- Gigantorhynchus compressus*, figg., synonyms, redescribed with young forms, DE MARVAL (277) pp. 327-353.
- Gigantorhynchus mirabilis* n. sp., vulture, figg., close to *E. micracanthus*, DE MARVAL (277) p. 353-355.
- Gordius alpestris*, in man, GUÉGUEN, C.R. Soc. Biol. 1905, pp. 398-400; *G. aquaticus*, Canada, local names "hair-eel" and "dragonneau," ANON., Natural. Canad. xxxii, 11, p. 118; *G. tolosanus*, morphological study with a view to phylogeny, *G. aquaticus*, morphological study, and attempt at phylogenetic conclusions, figg., MAX RAUTHER, Jena. Zeitschr. xl, pt. 1, pp. 1-94; *G. villoti*, Montlouis, E. Pyrenees, in stream, 17 coiled in a mass, CAMERANO, Boll. Mus. Torino xx, No. 505.
- †*Gordius aquaticus*, fig., fossil relief, CAPEDE, Boll. Soc. geol. Ital. xxiv, F. 1, 1905, pp. 169-189.
- Neorhynchus hemignathus*, synonyms, correcting former descriptions, figg., hosts *Hemignathus*, *Ostinops*, DE MARVAL (277) pp. 356-359.

## NEMERTINEA.

- Nemerteans of the West and Northwest Coasts of North America; COE, Amer. Natural. xxxix, pp. 425-447.
- Nemertinea*. See BRONN (56A).
- Nemertinea* of Norway, marine investigation (see PUNNETT, 1903), NORDGAARD (315) p. 161.
- Amphiporus marmoratus*, Red Sea, varying in colour from Mediterr. form, in muddy sand, *A. roseus*? Red Sea, muddy sand, JOUBIN, Bull. Mus. Paris, 1904, No. 6, p. 329; *A. pusillus* n. sp., Norway, *A. magnus* n. sp., *A. thompsoni* n. sp., Norway (Punnett), NORDGAARD (315) p. 161; *A. racovitzai* n. sp., Londonderry Island, etc., figg., *A. gertlachei* n. sp., figg., Faubert, viii, Antarctic, *A. lecontei* n. sp., fig., Faubert, x,

- BÜRGER (56) pp. 8 & 9; *A. similis*, p. 249, pl. xvi, figg. 93 & 94, *punctatulus*, p. 253, pl. xxi, figg. 129-140, California, *gelatinosus*, Alaska, p. 259, pl. xix, figg. 119 & 120, *californicus*, San Diego, p. 264, pl. xxiii, figg. 172-176, *macracanthus*, Alaska, p. 226, pl. xxiv, fig. 193, *pacificus*, p. 268, pl. xvii, figg. 109 & 110, *occidentalis*, p. 271, pl. xx, fig. 121, *rubellus*, p. 274, pl. i, figg. 11 & 12, *flavescens*, p. 277, pl. ii, fig. 22, *leptacanthus*, p. 279, pl. xxii, fig. 161, *fulvus*, p. 280, pl. ii, fig. 23, California, COE, Bull. Mus. Harvard xlvii, **n. spp.**
- Carinina antarctica* **n. sp.**, Antarctic Sea, 500 m., fig., BÜRGER, Antarctic expedition, Belgica Zool. 1904, p. 4.
- Carinella aurea* **n. sp.**, in rock clefts near shore, Red Sea, JOUBIN, Bull. Mus. Paris 1904, p. 327; *C. frenata*, p. 129, pl. xv, figg. 5 & 6 and pl. xxii, figg. 2 & 3, *alboincincta*, p. 136, pl. xvi, figg. 4 & 5, *cingulata*, p. 138, pl. 14, figg. 2-4, California, COE, Harriman Alaska, exp. xi, **spp. n.**
- Carinomella* **n. gen.**, p. 125, *lactea* **n. sp.**, California, p. 127, pl. v, figg. 45-49 etc., COE, Bull. Mus. Harvard xlvii.
- Cerebratulus kremppfi* **n. sp.**, with coral, Red Sea, query as to protective resemblance to coral, JOUBIN, Bull. Mus. Paris 1905, p. 331; *C. charcoti* **n. sp.**, near *C. marginatus*, fig., Antarctic, JOUBIN, Bull. Mus. Paris 1905, pp. 316-318; *C. magelhænsicus*, Londonderry Island, etc., BÜRGER (56) p. 5; *C. velatus* **n. sp.**, fig., near to *C. marginatus*, Tonkin, JOUBIN, Bull. Soc. zool. France xxx, 144-147, 1905; *C. signatus*, Bering Sea, p. 194, pl. iv, figg. 42 & 43, *lineolatus*, p. 196, pl. iv, figg. 44, *californiensis*, p. 201, California, *latus*, Alaska, p. 203, pl. iv, figg. 41, COE, Bull. Mus. Harvard xlvii, **n. spp.**
- Drepanophorus gravieri* **n. sp.**, Red Sea, with *Porites*, fig., JOUBIN, Bull. Mus. Paris 1904, p. 328; *D. ritteri*, California, p. 283, pl. xvii, figg. 106, COE, Bull. Mus. Harvard xlvii, **n. sp.**
- Emplectonema purpuratum*, Alaska, p. 210, pl. xvii, figg. 107 & 108, COE, Bull. Mus. Harvard xlvii, **n. sp.**
- Euborlasia maxima*, California, COE, p. 175, pl. iv, fig. 40, Bull. Mus. Harvard xlvii, **n. sp.**
- Eunemertes bonhourei* **n. sp.**, fig., Red Sea, JOUBIN, Bull. Mus. Paris 1904, p. 330; *E. nordgaardi* (Punnet) **n. sp.**, Norway, NORDGAARD, t. c. p. 161.
- Eupolia curta*, Red Sea, spec., 25 cm., in *Porites*, JOUBIN, Bull. Mus. Paris 1904, p. 326.
- Geonemertes agricola*, sex-phases, hermaphroditic and biviparous, figg., COE, Zool. Anz. xxviii, pp. 454-458; *G. a.*, systematic, anatomy and development, degenerating sense organ, marine phylogeny, COE, P. Boston Soc. xxxi, No. 10, pp. 531-570.
- Langia vivesi* **n. sp.**, figg., California, JOUBIN, Bull. Mus. Paris 1905, p. 315.
- Lineus geniculatus*, Red Sea, slightly varying from type of BÜRGER, JOUBIN, Bull. Mus. Paris 1904, p. 331; *L. scandinavienensis* **n. sp.**, Norway, *L. cinereus* **n. sp.**, on *Lophohelia* (Punnett), NORDGAARD (315) p. 161; *L. rubescens*, p. 179, pl. xiv, fig. 1 etc., *flavescens*, p. 184, pl. xvii, figg. 3 & 4, *pictifrons* p. 188, pl. xvii, fig. 5 & 6, *albolineatus*, p. 193, pl. xvii, fig. 2, *wilsoni*, p. 195, pl. xvi, figg. 10 & 11, California, COE, Harriman Alaska exp. xi, **n. spp.**
- Lineus wilsoni*, California, *L. digueti* **n. sp.**, fig., placed near *T. geniculatus*, JOUBIN, Bull. Mus. Paris 1905, No. 5, p. 314.
- Micrura nigrirostris*, California, COE, p. 198, pl. xvii, figg. 7 & 8, Harriman Alaska exp. xi; *M. pardalis*, p. 183, pl. iii, fig. 31, *olivaris*, p. 184, *griffini*, p. 188, California, *nebulosa*, Alaska, p. 190, COE, Bull. Mus. Harvard xlvii : **n. spp.**
- Nectonemertes grimaldii*, 3000 m., Atlantic, RICHARD, Bull. Mus. Monaco p. 15, 1905.

- Nemertopsis gracilis*, California, COE, p. 142, pl. xv, fig. 1 and pl. xx, figg. 10 & 11, Harriman Alaska exp. xi, **n. sp.**
- Paranemertes californica*, San Diego, COE, p. 144, pl. xv, fig. 2, pl. xviii, figg. 1-5 and pl. xxi, figg. 1-9, Harriman Alaska exp. xi, **n. sp.**
- Planktonemertes agassizii*, near Galapagos Ids., COE, p. 305, Bull. Mus. Harvard xvii.
- Tetrastemma belgicae* **n. sp.**, on algæ, littoral, Antarctic, BÜRGER (56) p. 10; *T. albidum*, California, p. 294, pl. ix, fig. 62, COE, Bull. Mus. Harvard xlvii; *T. signifer*, p. 156, pl. xiv, figg. 9-11 and pl. xxi, figg. 10-12, *nigrifrons*, p. 159, pl. xv, fig. 7 etc., *bilineatum*, p. 164, pl. xiv, fig. 6 etc., *quadrilineatum*, p. 166, pl. xiv, fig. 5 and pl. xx, figg. 12 & 13, *T. (Oerstedtia) reticulatum*, p. 170, pl. xiv, figg. 7 & 8 and pl. xx, figg. 7-9, California, COE, Harriman Alaska exp. xi: **n. spp.**
- Teniosoma mexicanum*, California, Biol. notes, *T. punnettii*, JOUBIN, Bull. Mus. Paris 1905, p. 313; *T. punnettii*, California, COE, p. 173, pl. xvi, figg. 1-3 and pl. xviii, fig. 6, Harriman Alaska exp. xi, **n. sp.**

## CHÆTOGNATHA.

- Chaetognatha*, see *Enteropneusta*, GROBBEN, Claus Lehr. d. Zool. pt. ii, 1905, pp. 680-686.
- Chaetognatha*, rearrangement of the group based on development of fin, ABRIC, C.R. Ac. Sci. cxli, pp. 222-224, 1905.
- Chaetognatha*, systematic determination, FOWLER, Tr. Linn. Soc. Ser. 2, x, pp. 55-58.
- Krohnia hamata*, figg., mesoplanktonic and variety, *K. subtilis*, FOWLER, t. c. pp. 77 & 78; *K. h.* (= *Spadella* Hertwig = *Sagitta* Möbius), scent-organ, figg., *K. subtilis* (= *Spadella*), fig., rare in N. Atlantic, STRODTMANN (422) pp. 15 & 16.
- Sagitta*, occurring off Port Erin, note, SCOTT, P. Liverp. biol. Soc. xix, pp. 18 & 226, 1905; *S. bipunctata*, Norway Coast, NORDGAARD (315) p. 46; *S. b.*, seasonal occurrence, Firth of Clyde, BROWNE, P. R. Soc. Edinb. xxv, 1905, p. 788; *S. b.*, Valencia Harbour, M. & C. DELAP, (99) p. 6, Irish Shores, GOUGH, Fisheries Ireland Sci. Invest. 1904, vi, pp. 12-53; *S. hexaplura*, figg., through N. region, *S. bipunctata*, figg., *S. serradentata*, all over Atlantic, STRODTMANN (422) pp. 15, 16; *S. serradentata*, figg., epiplanktonic, biological notes, *S. furcata*, figg., corrected descript., epiplanktonic, *S. macrocephala* **n. sp.**, figg., mesoplanktonic, *S. zetesios* **n. sp.**, figg., near to *hamata*, *S. bipunctata*, figg., notes, query pelagic, *S. decipiens* **n. sp.**, *S. planktonis*, † figg., Biscay, FOWLER, Tr. Linn. Soc., Ser. 2, x, pt. 3, pp. 55-75.
- Spadella cephaloptera*, near coasts or on algæ, Scilly and Orkney Isles, STRODTMANN (422) pp. 16 & 17; *S. hamata*, Norway Coast, NORDGAARD, Hydrogr. and Biol. Investigation, Norw. Fiords, p. 46, 1905.

## ROTIFERA.

- Plankton *Rotifera*, systematic synopsis of species, salt water, LAUTERBORN, Nordisches Plankton x, Lief. 3, 1905, pp. 21 & 22.
- Rotifera*, list of species found near Paris, DE BEAUCHAMP, Bull. Soc. zool. France xxx, p. 116.
- R.* recorded for Norfolk Broads with localities, FREEMAN, Tr. Norfolk Soc. viii, pp. 137-147.
- Actinurus neptunius*, Asuncion, puddles, VON DADAY (97) p. 89.
- Albertia bernardi* **n. sp.** in *Stylaria*, descript., fig., HLAVA, Zool. Anz. xxviii, pp. 365-368.
- Anapus testudo*, figg., WESENBERG-LUND (445) p. 140.

- Anuræa aculeata*, Lake Kaban, notes, measurements, *A. cochlearis*, Lake Kaban, notes, MEISSNER (282) pp. 46-52; *A. aculeata*, fig., identical with *valga*, *brevispina*, *serrulata*, Paraguay, *A. cochlearis*, Corumba, *A. curvicornis*, distinguished, Parana, VON DADAY (97) p. 99; *A. cochlearis*, L. Montiggl. *A. aculeata*, bionomical studies, seasonal variation and occurrence, HUBER, Arch. Hydrobiol. i, pp. 154-165 and 193-204; *A. cochlearis*, figg., *A. aculeata*, figg., Ringkøbingfjord, *A. hypelasma*, figg., WESENBERG-LUND (445) pp. 145-149; *A. cochlearis*, Iceland lake plankton, WESENBERG-LUND, P. R. Soc. Edinb. xxv, 1905, p. 1130; *A. c.*, St Kilda, MURRAY, Ann. Scott. Nat. Hist. 1905, p. 95; *A. c.*, seasonal interchangeable forms, *hisпода*, *irregularis*, *macrantha*, BREHM & ZEDERBAUER, Verh. Ges. Wien lv, 3 & 4, p. 232; *A. cruciformis*, fig., North Sea, *A. aculeata*, fig., with *A. cochlearis*, LAUTERBORN (244) pp. 36-38.
- Ascomorpha agilis*, fig., on *Potamogeton natans*, WESENBERG-LUND (445) p. 139.
- Asplanchna priodonta*, Iceland lake plankton, WESENBERG-LUND, P. R. Soc. Edinb. xxv, 1905, p. 1130; *A. brightwellii*, R. Paraguay, flood banks, VON DADAY (97) p. 90; *A. helvetica*, migrations, seasonal measurements, Montiggl. HUBER, Arch. Hydrobiol. i, pt. 2, pp. 170-173 and 193-204; *A. priodonta*, Weissensee, Tyrol, feeding, BREHM & ZEDERBAUER, Verh. Ges. Wien lv, 3 & 4, p. 226; *A. p.*, note, *A. brightwellii*, note, Lake Kaban, winter, MEISSNER (282) pp. 37 & 38; *A. p.*, figg., Greenland, Lake Benaco, etc., WESENBERG-LUND (445) p. 141.
- Asplanchnopus myrmeleo*, R. Yuguari, VON DADAY (97) p. 91.
- Brachionus bakeri*, figg., descript., *B. caudatus*, fig., *B. mirabilis*, fig., *B. mirus* n. sp., fig., *B. angularis*, Ipacarai, *B. urceolaris*, fig., Paraguay, VON DADAY (97) pp. 119-126; *B. pala*, notes, *B. angularis*, notes, winter, Lake Kaban, MEISSNER (282) p. 43-44; *B. mülleri* (= *plicatilis* Möbius), fig., salt or brackish water, Baltic and British coasts, LAUTERBORN (244) pp. 30-35, Anureidæ; *B. pala*, fig., *B. amphiceros*, fig., WESENBERG-LUND (445) pp. 142.
- Callidinidæ*, revision of generic characters. *Callidina angusticollis* n. sp., figg. on mosses, Scotch lakes, *C. annulata*, n. sp., figg., mosses and hepatics, Scotland, *C. crenata* n. sp., figg., mosses and hepatics, Scotch lakes, *C. pulchra* n. sp., figg., ponds, Scotland, *C. muricata* n. sp., figg., ponds, Scotland, *C. crucicornis*, n. sp., figg., mosses, lakes and ponds, *C. armata* n. sp., figg., water weeds, lochs and Caledonian canal, *C. incrassata* n. sp., figg., ponds, Scotland, MURRAY, Tr. R. Soc. Edinb. xli, pp. 374-380, 1905; *C. plicata*, *C. angusticollis*, St Kilda, MURRAY, Ann. Scott. Nat. Hist. 1905, p. 95.
- Cathypna leontina*, fig., var *bisinuata*, Brayu, *C. appendiculata*, fig., Aregua, VON DADAY (97) pp. 108-112.
- Cephalosiphon limnias*, Estia Postillon, VON DADAY, t. c. p. 92.
- Cælopus tenuior*, figg., WESENBERG-LUND (445) p. 137; *C. tenuior*, Asuncion, VON DADAY (97) p. 102.
- Colurus uncinatus*, Estia Postillon, VON DADAY (97) p. 113, *Lepadellidæ*.
- Conochiloides natans*, detailed morphology and habits, with discussion of other species, figg., monogr., HLAVA, Zeitschr. wiss. Zool. lxxx, pp. 283-326.
- Conochilus volvox*, Aregua, VON DADAY, t. c. p. 94; *C. unicornis*, Iceland lake plankton, WESENBERG-LUND, P. R. Soc. Edinb. xxv, 1905, p. 1131; *C. u.*, Lake Kaban, winter, note, MEISSNER (282) p. 34; *C. volvox*, figg., Greenland, *C. natans*, fig., WESENBERG-LUND (445) p. 150.
- Copeus copeus*, *C. pachyurus*, post-cerebral organ, DE BEAUCHAMP, C. R. Ac. Sci. cxli, pt. 22, p. 962, 1905; *C. centrurus*, Aregua, *C. cerberus*, Asuncion, VON DADAY (97) p. 95.

- Diaschiza cæca* (= *Furcularia*), *D. gibba* synons., *D. lacinulata*, *D. valga*, R. Paraguay, VON DADAY (97) pp. 104 & 105; *D. lacinulata*, St Kilda, MURRAY, Ann. Scott. Nat. Hist. 1905, p. 95.
- Diarthra monostyla*, fig., Estia Postillon, VON DADAY (97) p. 127.
- Diglena grandis*, *D. catellina*, Aregua, VON DADAY, t. c. pp. 97 & 98.
- Digomonta* Ord. separated from *Bdelloida*, *Philodina roseola*, Pass Barreto, Paraguay, VON DADAY, t. c. p. 88.
- Dinocharis subquadratus*, *D. pocillum*, note on germs, Paraguay, VON DADAY, t. c. pp. 102-104.
- Distyla ludwigii*, fig., Esta Potillon, VON DADAY, t. c. pp. 108-112.
- Drilophaga delagei* n. sp., parasitic on Oligochæte *Stylaria lacustris*, DE BEAUCHAMP (14) pp. 118-123.
- Echiniscus arctomys*, St Kilda, MURRAY, Ann. Scott. Nat. Hist. 1905, p. 95.
- Eosphora digitata*, the male, figg., discussion of the genus, DE BEAUCHAMP, Arch. zool. exp. Notes, Ser. 4, iii, 9, p. 227.
- Euchanis dilatata*, post-cerebral organ, DE BEAUCHAMP, C.R. Ac. Sci. cxli, pt. 22, p. 962, 1905; *E. triquetra*, R. Paraguay, VON DADAY (97).
- Floscularia libera*, figg., *F. mutabilis*, fig., *F. pelagica*, fig., Finland, WESENBERG-LUND, t. c. pp. 149 & 150; *F. moselii* n. sp., figg. (cf. *F. trilobata* Hudson), *F. annulata* (= *unilobata* Wierzejski), figg., *F. sessilis*, fig., n. sp., *F. minuta* n. sp., fig., *F. regalis* (= *F. probiscidia* Ehrenb.), South Africa, function of water vascular system regarded as renal, MILNE, P. Phil. Soc. Glasgow xix, pp. 118-126.
- Furcularia equalis*, Corumba, *F. forficula*, *F. longiseta*, R. Gu Guaki, *F. micropus*, Corumba, VON DADAY (97) pp. 96 & 97; *F. forficula*, Upper Elf Loch, EVANS, Ann. Scott. Nat. Hist. 1905, p. 215.
- Gastropus stylifer*, fig., Greenland, WESENBERG-LUND (445) p. 138.
- Limnius annulatus*, Estia Postillon, VON DADAY (97) p. 92.
- Mastigocerca bicornis*, *M. carinata*, *M. cornuta*, R. Paraguay, mud, *M. elongata*, Asuncion, *M. scipio*, Paraguay, VON DADAY, t. c. pp. 99-101; *M. capugina*, fig., off Finland, WESENBERG-LUND (445) p. 136; *M. blanchi* n. sp. (= *Durella stylata*), corrected classification, figg., LINDER, Zool. Anz. xxviii, 1904, pp. 193 & 194; *M. setifera*, bionomic note, L. Montiggl. HUBER, Arch. Hydrobiol. i, pp. 169 and 193-204.
- Megalotrocha spinosa*, figg., Cærapa, VON DADAY (97) p. 93.
- Melicerta ringeus*, R. Yuguari, VON DADAY, t. c. p. 91.
- Metopidia acuminata*, *M. lepadella*, Asuncion, *M. solida*, Estia Postillon, VON DADAY, t. c. pp. 14 & 15; *M. acuminata*, St Kilda, MURRAY, Ann. Scott. Nat. Hist. 1905, p. 95.
- Microdinade* n. fam. resembling *Philodina* in body structure and *Adineta* as to mouth parts, figg., *Microdina* n. gen. *paradoxa* n. sp., figg., Lochs Vennachar and Ness, MURRAY, Tr. R. Soc. Edinb. xli, pt. ii, pp. 371 & 372, 1905.
- Monostyla bulla*, *M. pyriformis* n. sp., figg., *M. lunaris*, *M. quadridentata*, Estia Postillon, VON DADAY (97) pp. 12 & 13.
- Notholca longispina*, varying from S. forms, *N. striata*, Iceland, lake plankton, WESENBERG-LUND, P. R. Soc. Edinb. xxv, 1905, p. 1131; *N. striata*, figg., *N. acuminata*, fig., *N. longispina*, figg., Greenland, Lake Benaco, etc., WESENBERG-LUND, t. c. pp. 144 & 145; *N. striata*, figg., variable, N. Sea generally, list of Brit. spp., LAUTERBORN (244) pp. 38-47.
- Noteus quadricornis*, figg., *N. militaris*, figg., Asuncion, VON DADAY (97) p. 119.
- Notommata aurita*, post-cerebral organ, *N. torulosa*, *N. tripus*, DE BEAUCHAMP, C.R. Ac. Sci. cxli, p. 962, 1905.
- Pedaliium mirum*, bionomic notes, Montiggl., HUBER, Arch. Hydrobiol. i, pp. 181-183, 193-204.
- Philodinidæ*, revision of the generic characters. *Philodona laticornis*

- n. sp.**, mosses, loch margin, figg., *P. laticeps n. sp.*, figg., stream, on *Fontinalis*, *P. humerosa* (cf. *P. alpium*), ground moss and *Frullania*, Scotch Lochs, Ness, and Fort Augustus, MURRAY, Tr. R. Soc. Edinb. xli, p. 372; *P. flaviceps*, *P. acuticornis*, *P. macrostyla*, *P. rugosa*, *P. brevipes*, St Kilda, MURRAY, Ann. Scott. Nat. Hist. 1905, p. 95.
- Pleurotrocha gibba*, Aregua, stream, VON DADAY (97) p. 95; *P. parasitica*, morphology and habits, DE BEAUCHAMP (14).
- Plasoma hudsoni*, figg., Finland, Switzerland, &c., WESENBERG-LUND (445) p. 139; *P. hudsoni*, *P. truncatum*, noted for Shetland and N. hist., MURRAY, P. Phys. Soc. Edinb. xvi, p. 51, 1905; *P. lenticulare* (? *P. truncatum*), Iceland, WESENBERG-LUND, P. R. Soc. Edinb. xxv, 1905, p. 1130.
- Polyarthra fusiformis* taken from Rotifera, classed with *Dasydytes styliifer* under Gastrotricha, as *Stylochæta*, HLAVA, Zool. Anz. xxviii, pp. 331-336; *P. platyptera*, Lake Kaban, notes, MEISSNER (282) p. 39; *P. platyptera*, variations, seasonal, Montiggl, HUBER, Arch. Hydrobiol. i, pt. 2, pp. 176-181 & 193-204; *P. platyptera*, fig., in Neuenburgersee, &c., WESENBERG-LUND (445) p. 134; *P. platyptera*, St Kilda, MURRAY, Ann. Scott. Nat. Hist. 1905, p. 55; *P. platyptera*, Iceland, WESENBERG-LUND, P. R. Soc. Edinb. xxv, 1905, p. 1128.
- Pompholyx sulcata*, bionomic notes, infested by fungus, Montiggl, HUBER, Arch. Hydrobiol. i, pp. 163 & 193-204; *P. sulcata*, figg., Neuenburgersee, WESENBERG-LUND, t. c. p. 152.
- Proates felis*, Corumba, VON DADAY (97) p. 96.
- Pterodina mucronata*, fig., Aregua, VON DADAY, t. c. p. 116.
- Rattulus bicornis*, fig., WESENBERG-LUND (445) p. 136; *R. bicornis*, *R. tigris*, Paraguay.
- Rotifer macrurus*, stream, Aregua, Paraguay, *R. tardus*, stream, Aregua, Paraguay, *R. vulgaris*, Asuncion, *R. macroceros*, Yuguari R., VON DADAY (97) pp. 88 & 89.
- Salpina brevispina*, fig., *S. custala*, fig., *S. macracantha*, Estia Postillon, *S. spinigera*, Asuncion, VON DADAY, t. c. pp. 105 & 106.
- Scaridium longicaudum*, *S. endactylotum*, Paraguay, VON DADAY, t. c. pp. 102-104.
- Synchæta*, definition of genus, *S. baltica* (= *S. apus*), fig., also occurs in brackish water, *S. gyrina* (= *S. baltica* Gosse), fig., sea or brackish water, LAUTERBORN (244) pp. 22-24; *S. littoralis*, fig., *S. cecilia* (= *baltica* Gosse), *S. neapolitana*, fig., *S. triophthalma*, fig., *S. monopus*, Gulf of Bothnia, Baltic, figg., LAUTERBORN, t. c. pp. 24-30; *S. neglecta*, Iceland, WESENBERG-LUND, P. R. Soc. Edinb. xxv, 1905, p. 130; *S. tremula*, fig., *S. pectinata*, fig., Greenland, WESENBERG-LUND, t. c. pp. 132 & 133; *S. oblonga*, Icaparai, *S. pectinata*, Lugua, Paraguay, VON DADAY (97) p. 94.
- Triarthra longiseta*, Lake Kaban, notes, MEISSNER (282) p. 40; *T. longiseta*, seasonal variation, bionomical notes, Montiggl, HUBER, Arch. Hydrobiol. i, pp. 174-176 & 193-204; *T. longiseta*, figg., Greenland, WESENBERG-LUND (445) p. 151.

## GASTROTRICHA.

- Chatonotus pusillus n. sp.*, Corumba, figg., flood-pools, *C. dubius n. sp.*, fig., close to *C. bogdanowii*, *C. similis*, descript. fig., Estia Postillon, *C. hystrix*, figg., distinguished from *similis*, *C. ericinaceus n. sp.*, figg., Estia Postillon, close to *C. chuni*, *C. heterochætus n. sp.*, figg., nearest to *C. longispinosus*, VON DADAY (97) pp. 74-82.
- Gossea fasciculata n. sp.*, figg., Estia Postillon, *G. pauciseta n. sp.*, figg., note on *G. antennigera* of Gosse & Voigt, VON DADAY, t. c. pp. 82-86.

- Ichthyidium crassum* n. sp., figg., Asuncion, drying banks of Paraguay R., VON DADAY, t. c. pp. 73 & 74.  
*Lepidoderma elongatum* n. sp., Aregua, close to *L. rhomboides*, VON DADAY, t. c. p. 74.  
*Polyarthra fusiformis* amongst *Stylochæta*, HLOWA, Zool. Anz. xxviii, pp. 331-336.

## MESOZOA.

- Dicyemida* and *Orthonectida*, reports on works of Max Hartmann, LAMEERE & PELSENER, Bull. Ac. Belgique 1905, p. 625.  
*Rhopalura ophiocomæ*, *R. pelseneri*, ciliated larvæ sexually produced, giving rise to an asexual generation, CAULLERY & MESNIL, C.R. Soc. Biol. 1905, ii, pp. 431-433.  
*R. ophiocomæ*, free mature female with larvæ, from *Amphiura squamata*, CAULLERY & LAVALLÉE, t. c. pp. 265 & 266.  
*R. pelseneri*, ciliated larva compared to infusoriform stage of *Dicyemida*, *R. ophiocomæ*, CAULLERY & MESNIL, C.R. Ac. Sci. cxli, p. 775.

## HEMICHORDATA and PHORONIDEA.

- Phoronidea*; general account, HARMER, Camb. Nat. Hist. vii, pp. 21-27.  
*Pterobranchia*; general account, HARMER, t. c. pp. 21-27.  
*Actinotrocha*, seasonal occurrence, Firth of Clyde, BROWNE, P. R. Soc. Edinb. xxv, 1905, p. 789.  
*Balanocephala*, see Enteropneusta, KARL GROBBEN, Claus Lehrb. Zool. ii, pp. 680-683.  
*Balanoglossus*, classed with *Cephalodiscus* and *Rhabdopleura*, SCHEPOTIEFF, Bergens Mus. Aarbog 1905, No. 8; *B. clavigerus chiaje* (?), noted at Grado, Gulf of Triest, GRAEFFE, Arch. Inst. Wien xv, 1905, p. 317; *B. tricollaris schmarda*, in favour of which Spengel withdraws his subsequent *Ptychodera*. SPENGL, Zool. Anz. xxviii, 1904, No. 2, pp. 52-54.  
*Cephalodiscus*, fig., morphology and systematic position, SCHEPOTIEFF, Bergens Mus. Aarbog 1905, No. 8.  
*Cephalodiscus*, structure, development, affinities, pp. 18-124; *C. levinseni*, Japan, *gracilis*, Borneo, *sibogae*, Celebes, p. 7, spp. n., HARMER, Siboga Exp. xxvi bis.  
*Cephalodiscus nigrescens* sp. n., Antartic ocean, LANKESTER, P. R. Soc. London lxxvi, pp. 400-402, pl. viii.  
*Phoronis*, regeneration studies, figg., SCHULTZ (390) tr. iii, iv; *P. psammophila*, oscillating circulation, P. ENRIQUES, Atti Acc. Lincei xiv, pp. 451-454.  
*Rhabdopleura*, list of species; *R.* sp., figg., HARMER, pp. 125-129, Siboga Exp. xxvi bis.  
*Tornarnia*, seasonal appearance, Firth of Clyde, BROWNE, P. R. Soc. Edinb. xxv, 1905, p. 791.





## XVI. CŒLEENTERATA.

By

CORA B. SANDERS.

## CONTENTS.

	Page		Page
I. TITLES . . . . .	1	III. SYSTEMATIC.	
II. SUBJECT INDEX		GENERAL . . . . .	15
<i>Cœlenterata</i> collectively . . . . .	10	HYDROZOA . . . . .	15
<i>Hydrozoa</i> . . . . .	11	GRAPTOLITHIDA . . . . .	22
<i>Graptolithida</i> . . . . .	12	ANTHOZOA . . . . .	23
<i>Scyphozoa</i> . . . . .	12	SCYPHOZOA . . . . .	38
<i>Anthozoa</i> . . . . .	12	CTENOPHORA . . . . .	38
<i>Ctenophora</i> . . . . .	14		

## I. TITLES.

1. ANON. [List of Cœlenterata from Northern Seas.] Conseil perm. expl. mer. Public. de Circonstances, No. 33, 1906, pp. 68-73.
3. ALLABACH, LULU F. Some points regarding the behaviour of *Metridium*. [Reaction experiments.] Biol. Bull. x, 1, 1905, pp. 35-43.
4. ALMERA, J. Mas Graptolites en la mole del Tibidabo, Barcelona. Bull. Inst. Catalan v, 1905, p. 117.
5. AMERA, J. & BERGERON, J. Note sur les nappes de recouvrement des environs de Barcelone (Espagne). Bull. Soc. geol. France, serie 4, T. 4, 1905, pp. 705-721.
6. ANNANDALE, N. The *Hydra* of the Calcutta tanks. J. Asiat. Soc. Bengal i, 1905, No. 3, pp. 72 & 73.
7. BAKALOW, P. Vorläufige Mitteilung über die Fauna der Trias u. des Jura von Kotel (Bulgarien). Centrbl. Mineral. 1905, No. 16, pp. 481-483.
8. BEDOT, M. Matériaux pour servir à l'histoire des Hydroides 2<sup>me</sup> période (1821-1850). [Lists of periodic classifications, spp. enumerated.] Rev. Suisse Zool. xiii, 1905, pp. 1-183.

9. BELLINI, R. Le varie Facies del Miocene medio nelle Colline di Torino. Boll. Soc. geol. Ital. xxiv, 1905, pp. 607-653.
10. BENECKE, E. W. Die Versteinerungen der Eisenerzformation von Deutsch-Lothringen und Luxemburg (*Anthozoa*). Abh. geol. Karte Elsass, Neue Folge, Ht. vi, 1905.
11. BILLARD, A. Notes sur quelques *Hydroïdes* de l'expédition du Travailleur. Bull. Mus. Paris 1906, No. 2, pp. 97-100.
12. —. Hydroïdes aux îles Gambier. Op. cit. No. 5, pp. 331-335.
13. —. Régénération de *Obelia dichotoma*. C.R. Soc. Biol. lvii, 1, 1905, pp. 1048-1049.
14. —. Régénération de *Tubularia indivisa*. T. c. p. 1049.
15. —. Hydroïdes récoltés par M. Ch. Gravier dans le Golfe de Tadjourah. Bull. Mus. Paris 1904, No. 7, pp. 480-485.
16. —. *Haleremita parvula*, nouvelle espèce d'Hydroïde marin. Op. cit. No. 8, p. 561.
17. BLASCHKE, F. Die Gasteropodenfauna der Pachycardientuffe der Seiseralpe in Süd-Tirol (*Anthozoa*). Beitr. Pal. Oesterr.-Ung. xvii, pp. 161-221.
18. BORRADAILE, L. Hydroids from Maldive Islands. Fauna and Geography of the Maldive and Laccadive Archipelagoes ii, Pt. 4, 1905, pp. 836-845.
19. BOURNE, G. C. Report on the Solitary Corals collected by Professor Herdman at Ceylon 1902. R. Soc. Rep. on Pearl-Oyster Fisheries iv, 1905, pp. 187-242.
20. BREEM, J. VAN. Plankton von Noord- en Zuiderzee. Tijdschr. Nederland. Dierk. Ver. Ser. 2, ix, pp. 145-325.
21. BRESSON, —. Feuilles de Luz, Tarbes, Urdos. Bull. Carte geol. France xvi, No. 105, pp. 87-94.
22. BROCH, H. Nordsee-Hydroïden von dem norwegischen Fischereidampfer "Michael Sars" in den Jahren 1903-1904 gesammelt, nebst Bemerkungen über die Systematik der Tecaphoren Hydroïden. Bergens Mus. Aarbog 1905, No. 6, pp. 1-25, 2 plates.
23. —. Note on *Tubularia larynx*. Nyt Mag. Naturv. xlii, p. 59.
24. BROWNE, E. T. A report on the Medusæ found in the Firth of Clyde. P. R. Soc. Edinb. xxv, No. 9, pp. 738-778.
25. —. Notes on the Pelagic Fauna of the Firth of Clyde. T. c. pp. 779-791.
26. —. Report on the Medusæ (*Hydromedusæ*, *Scyphomedusæ*, *Ctenophora*) collected by Professor Herdman at Ceylon 1902. R. Soc. Rep. on Pearl-Oyster Fisheries iv, 1905, pp. 131-166.
27. —. *Scyphomedusæ*. Fauna and Geography of the Maldive and Laccadive Archipelagoes ii, Supplement 1, pp. 958-972, 1905.
28. BUEN, O. DE. Hidrarios de nuestras costas Mediterraneas. [List of Hydromedusæ, including two new spp.] Bol. Soc. espan. v, No. 10, pp. 516 & 517.
29. CARLGREN, O. Noch einmal *Polyparium ambulans* Korot. Biol. Zentrbl. xxiv, No. 8, pp. 253-255.
30. —. Kurze Mittheilung über *Anthozoen* Figg. (Zur Mesenterienmuskulatur der Actiniarien.) Zool. Anz. xxviii, Nos. 14 & 15, pp. 510-519.

31. CAREZ, L. La Géologie des Pyrénées Françaises. Feuilles de Tarbes et de Luz. Mem. Carte geol. France, Fasc. ii, pp. 745-1224.
32. CHILD, C. M. Form-regulation in *Cerianthus*. VIII, IX. Biol. Bull. viii, 1905, Nos. 2 & 5, pp. 93-122 & 271-289.
33. CLARKE, J. M. Geological map of the Tully Quadrangle, New York. [Strata bearing corals.] Bull. N. York Mus. lxxxii, Paleont. 12, 1905, pp. 1-52 & 53-65.
34. — & LUTHER, D. D. Stratigraphical and paleontological map of Canandaigua and Naples Quadrangles. Rep. N. York Mus. lvi, Pt. 2, Bull. 63, Paleont. 7, pp. 1-76.
35. — & MERRILL, J. H. Catalogue of type specimens of paleozoic fossils in New York State Museum. T. c. Bull. 65, Paleont. 8. (*Cnidaria*, pp. 35-62.)
36. CLARKE, E. The Fossils of the Waitemata and Papakura Series. [Some *Flabellidæ*.] Tr. N. Zealand Inst. xxxvii, pp. 414-424.
37. COLGAN, N. Invertebrate Fauna of the Skerries, Co. Dublin. Irish Natural. xiv, p. 209.
39. COUFFON, O. Étude critique sur les Faluns de Chalonnnes. (Cœlenterata.) Bull. Soc. Angers xxxiv, pp. 163-165.
40. CROSSLAND, C. Oecology and deposits of the Cape Verde Marine Fauna. P. Z. S. 1905, i, Pt. 2, pp. 170-186.
41. DADAY, E. VON. Untersuchungen über die Süßwasser Mikrofauna des Paraguays. *Hydroidea*. Zoologica Bd. xviii, Heft. 44, 47, & 327.
42. DALE, T. NELSON. Geology of the Hudson Valley between the Hoosie and the Kinderhook. Bull. U. S. Geol. Surv. No. 242, 1904. (See pp. 32, 43.)
43. DELAP, M. & C. Notes on the Plankton of Valencia Harbour. Ann. Rep. Fish. Ireland 1902-1903, Pt. 2, App. 4 (1905), pp. 3-20.
44. DELAP, M. J. Notes on rearing in an aquarium of *Cyanea lamarcki*. T. c. pp. 20-22.
45. DONCIEUX, L. Fossiles nummulitiques de l'Aude et du Hérault. *Madreporaria*. Ann. Univ. Lyon xvii, 1905, pp. 112 & 113.  
D'OSSAT. [See OSSAT, G. D'. (130-135).]
46. DOUGLASS, EARL. Some notes on the geology of S.W. Montana. Ann. Carnegie Mus. iii (2), pp. 407-428.
47. DOWNING, E. R. Spermatogenesis in Hydra. Zool. Jahrb. Anat. xxi, 3, pp. 379-427.
48. DUERDEN, J. E. The Morphology of the Madreporaria. VI. The fossula of rugose Corals. Biol. Bull. ix, 1, pp. 27-53.
49. —. On the habits and reactions of crabs bearing Actinians in their claws. P. Z. S. 1905, ii, Pt. 2, pp. 494-510.
50. EDGEWORTH, DAVID T. W. & SWEET, G. The Geology of Funafuti. Atoll of Funafuti Roy. Soc. Rep. pp. 61-124, 1904.
51. —, HALLIGAN, G. H. & FINCKH, A. E. Report on Dredging at Funafuti. T. c. pp. 151-159, 1904.
52. EMERY, C. Proposta di una nuova partizione generale dei Metazoi. Rend. Acc. Bologna viii (1903-1904), Pt. 4, pp. 61-75.

53. ENGLAND, H. M. & HICKSON, S. J. The Stylasterina of the Siboga expedition. Monographie VIII of Witkomsten op Zoologisch Gebied Verzameld in Nederlandsch Oost-Indië 1899-1900. Livr. xix.
- ✓ 54. ETHERIDGE, R. A Monograph of the Silurian and Devonian Corals of New South Wales. The Genus *Halysites*. Mem. geol Surv. N. S. Wales 1904, No. 13, pp. 1-39.
55. —. Sections of the Nos. 1 and 2 Pits, Dover, and of the Pluckley Boring. Final Rep. Roy. Commission Coal Supplies ix, 1905, App. v, pp. 46 & 47.
56. FABIANO, R. Studio Geopaleontologico dei colli Berici. [Tertiary and Secondary rocks near Grancona.] Atti Ist. Veneto lxiv, 2, pp. 1795-1839.
57. FAUROT, M. L. Embryogénie des *Hexactinides*, leurs rapports morphologiques avec les Octanthides, le Scyphistome des Meduses et les Tetracorallia. C.R. Ac. Sci. cxli, Pt. 20, pp. 778 & 779, 1905.
58. FEARNSIDES, W. G. On the Geology of Arenig Fawr and Moel Llyphant. Quart. J. Geol. Soc. lxi, Pt. 3, pp. 608-640. (Graptolithida.)
59. FELIX, J. Über einige fossile Korallen aus Columbien. (Figg.) SB. Ak. Munchen 1905, i, pp. 85-93.
60. —. Einige Norddeutsche Gesehiebe ihre Natur, Heimat und Transportart. (Notes.) SB. Ges. Leipzig 1903 & 1904, pp. 5-16.
61. —. Über die Gattung *Hydnophoros* Söhle. T. c. pp. 20-23.
62. —. Zur Kenntnis der Fauna des Mährischen Devon. T. c. pp. 59-76.
63. FENCHEL, A. Über *Tubularia larynx* Ellis. [Monograph, on systematic position, mode of growth, &c.] Rev. Suisse Zool. xiii, 1905, pp. 507-580.
64. FINCKH, A. E. Biology of the reef-forming organisms at Funafuti Atoll. Atoll of Funafuti, R. Soc. Rep., pp. 125-150.  
— & HALLIGAN. [See EDGEWORTH (51).]
65. FLAMAND, G.-B.-M. Sur l'existence de Schistes à Graptolithes à Hachel-Kheniz Sahara Central. [Silurian strata.] C.R. Ac. Sci. cxl, pt. 14, pp. 954-956, 1905.
66. FOX, HOWARD. Devonian Fossils from the parish of St Minver, N. Cornwall. Geol. Mag. Dec. 5, Vol. ii, No. 4, pp. 145-150.
67. FOX-STRANGWAYS, C. The Geology of the country between Derby, Burton-on-Trent, Ashby-de-la-Zouch and Loughborough. Mem. geol. Surv. U. K. July 1905, pp. 1-83.
68. FRECH, F. *Lethæa geognostica*. Das Mesozoicum. Stuttgart, 1905.
69. FRITEL, P. H. Les Méduses fossiles. [List with plates.] Naturaliste Ser. 2, No. 450, p. 269 & 451, p. 283.
70. FUCHS, TH. Ueber *Parapsonema cryptophysa* Clarke, und deren Stellung im System. Centrbl. Mineral. 1905, No. 12, pp. 357-359.
71. GARDINER, J. STANLEY. Madreporaria. (III. *Fungida*. iv. *Turbinoidea*.) Fauna Maldive and Laccadive Archipelagoes ii, Supplement 1, 1905, pp. 933-958.
72. GENTIL, LOUIS. Sur la présence de Schistes à Graptolithes dans la Haut-Atlas Marocain. C.R. Ac. Sci. cxl, pt. 25, pp. 1625 & 1626, 1905.

73. GIARD, A. La pœcilogonie (pp. 619-621). Annexe 1. C.R. Congr. Zool. vi, Berne, pp. 617-646.
74. GOODCHILD, —. Recent views regarding Coral Reefs. Tr. Edinb. Field Soc. v, No. 3, pp. 170-180. (Map.)
75. GOUGH, L. H. Plankton collected at Irish Light Stations, 1904. Fisheries Ireland Sci. Invest. 1904, vi, pp. 12-53.
76. —. Report on the Plankton of the English Channel in 1903. Charts. North Sea Fisheries Investigation Committee. Rep. 2 (S. Area), pp. 325-377.
78. GROBBEN, KARL. Claus' Lehrbuch der Zoologie. 7<sup>te</sup> Auflage. Cœlentera, General System and Morphol. Pt. i, pp. 20 & 248-300.
79. HALL, T. S. Victorian Graptolites, Pt. iii. P. Soc. Victoria xviii (n. s.), Pt. i, 1905, pp. 21-24.
80. HALLEZ, PAUL. *Bougainvillia fruticosa* Allm. est le facies d'eau agitée du *B. ramosa* Van Ben. C.R. Ac. Sci. cxl, pt. 7, p. 457, 1905.
81. —. Rhéotropisme de quelques *Hydroïdes* polysiphonnés. C.R. Ac. Sci. cxli, pt. 19, pp. 727-730, and t. c. pt. 21, pp. 840-842.
82. —. Observations sur le parasitisme des larves de *Phoxichilidium* chez *Bougainvillia*. Arch. zool. Exp. Ser. 4, iii, 2, pp. 134-144.
83. —. Liste faunale. [Boulogne.] Cnidaria. Arch. zool. exp. Notes Ser. 4, iii, 3, p. 47.
- HALLIGAN, G. H. & FINCKH, A. E. [See EDGEWORTH (51).]
84. HANG, E. Sur la structure géologique du Sahara Central. [Silurian deposits.] C.R. Ac. Sci. cxli, pt. 6, p. 374, 1905.
85. HARGITT, CH. W. On the variations of *Rhegmatodes*. Biol. Bull. ix, 6, 1905, pp. 368-377.
86. —. The Medusæ of the Woods Hole Region, Mass. Bull. Bureau Fish. Washington xxiv, pp. 21-79.
87. HARTLAUB, C. Hydroïden. Expédition Antarctique Belge. Résultat du voyage du S. Y. Belgica. Rapports scientifiques. Zoologie. Anvers, 1904.
88. HENDERSON, W. D. & THOMSON, J. A. Report on the Alcyonaria collected by Prof. Herdman at Ceylon in 1902. R. Soc. Rep. on Pearl Oyster Fisheries iii, 1905, pp. 269-328.
89. HICKSON, S. J. The Alcyonaria of the Maldives, Pt. iii. Fauna and Geography of the Maldivian and Laccadive Archipelagoes, Vol. ii, Pt. iv, 1905.
90. —. On a new species of *Corallium* from Timor. P. Ac. Amsterdam viii, pp. 268-271.
91. —. Remarkable Cœlenterata from the West Coast of Ireland. Letter. (*Pleurocorallium*.) Nature lxxiii, No. 1879, p. 5.
92. HINDE, G. J. Report on Materials from the Borings at Funafuti Atoll. Corals. Atoll of Funafuti, R. Soc. Rep. 1904, pp. 186-361.
93. HOEK, P. P. Report on the international marine investigations. Introduction. Résumé of hauls at Plankton Stations. Rep. Intern. Mar. Expl. iii, p. 111, 1905.
94. HUARD, VICTOR A. Traité élémentaire de Zoologie et d'Hygiène. Supplément. Natural. Canad. 1905, pp. 216-218.

95. JENNINGS, H. S. [Note on] the behaviour of Sea-anemones. [Movements affected by previous reactions.] P. Ac. Philad. lvii, pt. 3, p. 754.
- ✓ 96. JOHNSON, C. W. Annotated list of the types of invertebrate cretaceous fossils in the Collection of the Academy of Natural Sciences, Philadelphia. P. Ac. Philad. lvii, 1, pp. 4-28.
- ✓ 97. JONKER, H. G. Beiträge zur Kenntniss der Sedimentärgeschiebe in Niederland. Mt. Mineral. Geol. Inst. zu Groningen, Bd. i, 1905, pp. 45-173.
98. JOUBIN, L. Cours d'Océanographie. Bull. Mus. Monaco xlv, 1905.
- ✓ 99. JUKES-BROWNE, A. J. The Devonian Limestones of Lummaton Hill, near Torquay. Proc. Geol. Ass. Vol. xix (7 & 8), pp. 291-302.
100. JUDD, J. W. General Report on the materials sent from Funafuti, and the methods of dealing with them. Atoll of Funafuti, R. Soc. Rep. pp. 167-185 (1904).
101. JUNGENSEN, H. Some results from the Ingolf Expeditions. Ov. Danske Selsk. 1905, No. 2, pp. 127-135.
102. KATZER, F. Beiträge zur Geologie von Böhmen. x. Beiträge zur Petrologischen Kenntniss des älteren Paläozoikums in Mittel Böhmen. Verh. geol. Reichsanst. 1905, No. 2, pp. 37-61.
103. KLÆR, HANS. Notes on dredgings in the Drøbaksund, Norway. Nyt Mag. Naturv. xlii, 1, pp. 61-89, 1904.
104. KNUDSEN, M. Bulletin trimestriel de résultats, publié par le bureau du Conseil permanent international pour l'exploration de la mer. No. 2, D, 1905-1906, pp. 30-57. See also Nos. 1-3.
105. KOPY, F. Description de la Faune Jurassique du Portugal. Polyptères du Jurassique supérieur. Commis. geol. Portugal 1904-1905, pp. 1-146.
106. KREMPEF, ARMAND. On the modification of the tentacular apparatus in certain species of *Madrepora (durvillei)*. Ann. Nat. Hist. Ser. 7, xv, p. 595, 1905.
107. —. Liste des *Hexanthides* du Golfe de Tadjourah par M. Ch. Gravier. Bull. Mus. Paris 1905, No. 3, pp. 191-196.
108. KÜKENTHAL, W. Versuch einer Revision der Alcyonarien. II. Die Familie der *Nephythyiden*. Zool. Jahrb. Syst. xxi, 5 & 6, pp. 503-724.
109. LAPPARENT, A. DE. Traité de Géologie. [Corals] pp. 367-391. Paris, 1906.
111. LOPPENS, K. Animaux vivants dans l'eau saumâtre. Ann. Soc. malac. Belgique xl, 1905, p. vii. Further note, pp. xxii & xlix.  
LUTHER, D. D. & CLARKE, J. M. [See CLARKE (34).]
112. MAAS, OTTO. Bemerkungen zum System der Medusen. Revision der Cnobotiden Hæckels. SB. Ak. München 1904, pp. 421-445.
113. —. Méduses provenant des Campagnes des Yachts "Hirondelle" et "Princesse-Alice." Résultats des Campagnes Scientifiques accomplies par Albert I, Prince de Monaco. Fasc. xxviii, 71 pp., vi pls.
114. —. Experimentelle Beiträge zur Entwicklungsgeschichte der Medusen. Zeitschr. wiss. Zool. lxxxii, pp. 601-610, 1905.
115. —. Die Craspedoten Medusen der Siboga-expedition. Monographie x. Aus Uitkomsten op Zoologisch Botanisch, Oceanographisch en Geologisch Gebied, Nederlandsch Oost-Indië. Livr. xxvi, 84 pp., xiv pls.

- ✓ 116. MANSUY, M. H. Examen des fossiles rapportés du Yunnan par la mission Lanthenois. C.R. Ac. Sci. cxl, pt. 10, p. 692, 1905.
- 117A. MARTIN, J. R. Y. Nota acerca de diversos yacimientos y variaciones de color de la *Adamsia rondeleti* D. Ch. é indicacion de la nueva variedad *libera*. Bol. Soc. espan. v, 9, p. 459.
- 117B. MAWSON, D. Geology of the New Hebrides. J. Linn. Soc. N. S. W. 118, pt. 3, pp. 400-484.
- 117C. McINTOSH. On budding in animals. Hydromedusæ, résumé. Zoologist 1905, Ser. 4, ix, pp. 1-21.
118. McCURRICH, J. P. A revision of the Duchassaing and Michelotti Actinian Types in the Museum of Natural History, Turin. Boll. Mus. Torino xx, No. 494, pp. 1-23.
119. MEISSNER, W. Über die Winterfauna im Kaban-See. Trudui Kazan Univ. xxxix, p. 3.
120. MENNEKING, F. Ueber die Anordnung der Schuppen und das Kanalsystem bei *Stachyodes ambigua*, *Caligorgia flabellum*, *Calyptraphora agassizii*, *Amphilaphis abietina*, *Thonarella variabilis*. Arch. Naturg. lxxi, i, 3, pp. 245-266.
121. MERRILL, G. P. Catalogue of the Type and figured specimens of Fossils &c. in the Department of Geology, United States National Museum. Pt. I. Fossil Invertebrates [alphabetical arrangement]. Bull. U. S. Mus. No. 53, Pt. i, 1905.
- ✓ MERRILL, J. H. & CLARKE, J. M. [See CLARKE (35).]
122. MISSUNA, A. Die Jura-Korallen von Sudagh. Bull. Soc. Moscou xviii, 1904, pp. 187-228, pls. iii-v.
123. MONACO, —. Sur la Campagne de la "Princesse Alice." [Notes on Mid-Atlantic fauna.] C.R. Ac. Sci. cxl, pt. 21, pp. 1374-1376, 1905.
124. MOTZ-KOSSOWSKA, S. Contribution à la connaissance des Hydraires de la Méditerranée occidentale. *Hydromedusæ gymnoblastæ*. Arch. Zool. exp. Ser. 4, iii, 1, pp. 45-98.
- 124A. MUNTHE, H. Beskrifning till Kartbladet Sköfde. Sveriges geol. Unders. Afh. No. 121, 1905, 158 pp.
125. NEWTON, R. B. The Tertiary Fossils of Somaliland, as represented in the British Museum. Quart. J. Geol. Soc. lxi, pt. i, pp. 155-177.
126. NOPCSA, F. Baron. Kerunia a symbiosis of a Hydractinian and a Cephalopod (*Belosepia*). Fazum, Egypt. Ann. Nat. Hist., Ser. 7, xv, p. 95, 1905.
128. NORDGAARD, O. Hydrographical and Biological investigations in Norwegian Fiords. Bergens Mus. pp. 156-159, & 240-244.
130. OSSAT, G. DE A. D. Coralli del Cretacico inferiore della Catalogna. Palæontogr. ital. xi, 1905, pp. 169-251.
131. —. Il concetto di individuo nei zoantari fossili. Boll. Soc. geol. Ital. xxiv, 1905, Fasc. i, pp. 147-157.
133. —. I coralli del calcare di Venassino (Isola di Capri). Atti Acc. Napoli xii (1905), No. 16, 45 pp.
134. —. Fauna Coralina del Piso aptense de Cataluña. Mem. Ac. Barcel. iii Ep., Vol. v, No. 5, pp. 67-73.
135. —. I coralli del calcare di Venassino (Isola di Capri). Rend. Acc. Napoli, Ser. 3A, xi, p. 139.

136. PARK, JAMES. Marine Tertiaries of Otago and Canterbury, with special reference to the relations existing between Pareoru and Oamaru Series (Madreporaria). Tr. N. Zealand Inst. xxxvii, pp. 489-552.
137. PELSENER, PAUL. L'origine des animaux d'eau douce. [Discussion of supposed halolimnic fauna of Baikal.] Bull. Ac. Belgique 1905, xii, pp. 699-740.
138. PELZ, A. Geologie des Königreichs Sachsen. Leipzig, 1904.
139. PRATT, EDITH M. Report on some Alcyoniidæ collected by Prof. Herdman at Ceylon in 1902 [with anat. notes]. R. Soc. Rep. on the Pearl Oyster Fisheries, pt. iii, 1905, pp. 247-268.
140. PROSSER, C. S. The Delaware Limestone. [Coral noted.] J. Geol. xiii, No. 5, pp. 213-242.
141. REGNY, P. V. DE & GORTANI, M. Fossili carboniferi del M. Pizzul e del Piano di Lanza nelle alpe Carniche. Boll. Soc. geol. Ital. xxiv, F. 2, 1905, pp. 460-605.
143. REISOWA, KAROLINE. L'autotomie chez les animaux. (Polish.) Kosmos polski. xxx, viii-xii, pp. 579-585.
144. REMEŠ, M. Štramberský tithon. Soubor našich dosavadních vědomostí. Vestník Ceske Ak. xiii, 1904, pp. 277-295, & 360-379.
146. RETZIUS, G. Zur Kenntnis der Spermien der Evertebraten. Biol. Untersuch. Neue Serie 9, Bd. xii, p. 79.
147. RICHARD, J. [Bathypelagic fauna from the Scientific expeditions of the "Princess Alice."] Bull. Mus. Monaco No. 41, 1905.
148. ROULE, L. Antipathaires et Cérianthaires recueillis dans l'Atlantique Nord. Résultats des Campagnes Scientifiques accomplies sur son Yacht par Albert I, Prince de Monaco, Fasc. xxx, 1905.
149. SCHOUTEDEN, H. La classification des Scyphocnidaires d'après M. Roule. Résumé. Ann. Soc. malac. Belgique xl, pp. 1-1v.
150. —. Lez affinités des Ctenophores et des Polyclades. Op. cit. lx, pp. cxvii-cxxvii.
151. SCHUBERT, R. J. Zur Stratigraphie des istrich-norddalmatinischen Mitteleocän. Jahrb. geol. Reichsanst. lv, pt. i, pp. 153-188.
152. —. Zone 30, Kol. xiii. Spezialkarte der Österr.-ungar. Monarchie im Mass-stahe. (Erläuterungen zur Geol. Karte.) K. K. Geol. Reichsanstalt, Nov. 1905, 25 pp.
153. SCOTT, ANDREW. Pleurobrachia noted off Port Erin. P. Liverp. biol. Soc. xix, p. 226.
154. SCOTT, THOMAS. An account of some Copepoda that live as parasites on, or messmates with, other Invertebrata. Tr. Edinb. Field Soc. v, pt. 3, pp. 197-207.
155. SHEARSBY, A. J. Occurrence of a bed of fossiliferous tuff and lavas between the Silurian and Middle Devonian at Cavan Yass, similar in age and character to the Snowy River Porphyries of Victoria. P. Linn. Soc. N. S. Wales cxviii, pt. 2, pp. 275-288.
156. SHIMER, H. W. Upper Siluric and Lower Devonian Faunas of Trilobite Mountain, Orange County, New York. Bull. N. York Mus. lxxx, Paleont. 10, App. 3, pp. 173-269.



- ✓ 157. SIBLY, T. F. The Carboniferous Limestone of the Weston-super-Mare district. *Quart. J. Geol. Soc.* lxi, pt. 3, pp. 548-560.
158. SIMPSON, JAMES J. A new Cavernularid from Ceylon. *Ann. Nat. Hist. Ser.* 7, xv, pp. 561.
159. — & THOMSON, J. A. Report on the Antipatharia collected by Prof. Herdman at Ceylon, 1902. *R. Soc. Rep. Pearl Oyster Fisheries* iv, 1905, pp. 93-106.
161. STEPHENS, JANE. Irish Cœlentera. *P. Irish Ac.* xxv, B. 3, 1905.
162. STUDER, TH. La squelette axiale des Gorgonacea. *Note. Arch. Sci. Nat.* xx, pt. 11, pp. 582-584.  
SWEET, G. [See EDGEWORTH & SWEET (50).]
164. TAFF, J. A. Preliminary Report on the Geology of the Arbuckle and Wichita Mountains. *Dep. U. S. Geol. Surv.* 1904, No. 31, pp. 1-93.
- ✓ 166. THEVENIN, A. Note sur des fossiles du Carbonifère inférieur du Djebel Bechar (Sud Oranais). *Bull. Soc. geol. France, Serie 4, T. 4,* 1905, pp. 818-822.
167. THOMAS, IVOR. Neue Beiträge zur Kenntniss der devonischen Fauna Argentiniens. *Zeitschr. Deutsch. geol. Ges.* lviii, Pt. 2, pp. 233-290, fig.
168. THOMSON, J. ARTHUR & HENDERSON, W. D. Preliminary Report on the Deep-Sea *Alcyonaria* collected in the Indian Ocean. *Nat. Hist. Notes from the R.I.M.S.S. "Investigator" iii,* 7. *Ann. Nat. Hist. Ser.* 7, xv, pp. 547-557, 1905.
169. —. "Scotia" Collections: Scottish Antarctic Expedition. Report on the Antipatharians. *P. Phys. Soc. Edinb.* xvi, 3, pp. 76-79.  
— & HENDERSON, W. D. [See HENDERSON (88).]  
— & SIMPSON, J. J. [See SIMPSON (159).]
171. THORNLEY, LAURA. Report on the Hydroids collected by Prof. Herdman at Ceylon in 1902. *R. Soc. Rep. on Pearl Oyster Fisheries* ii, 1904, pp. 107-127.
172. TODD, R. A. Report on the food of fishes. *North Sea Fisheries Investigation Committee Rep.* 2 (S. Area), pp. 227-289.
173. TOLDO, G. Note preliminari sulle condizioni geologiche dei contrafforti appenninici compresi fra il sillario e il lamone. *Boll. Soc. geol. Ital.* xxiv, F. 2, 1905, pp. 343-386.
174. TORNIQUIST, A. Über eine eoceäne Fauna der Westküste von Madagascar. *Abh. Senckenb. Ges.* xxvii (3) pp. 331-333.
175. TORREY, H. B. The behaviour of *Corymorpha*. *Univ. Calif. publ. Zool.* ii, No. 7, pp. 333-340.
176. —. Differentiation in Hydroid colonies and the problem of senescence. *Op. cit.* No. 6, pp. 323-332, fig.
177. TREACHER, L. & WHITE, H. J. O. The higher zones of the Upper Chalk in the Western Part of the London Basin. *Proc. Geol. Ass.* Vol. xix (9), pp. 378-399.
178. — & —. On the age and relations of the Phosphatic Chalk of Taplow. *Quart. J. Geol. Soc.* lxi, pt. 3, pp. 461-492.
179. UHLER, P. R. The Niagara Period and its associates near Cumberland, MD. *Maryland Acc. Sci. Nov.* 1905, pp. 19-26.

- ✓ 180. VAUGHAN, T. W. A critical review of the literature on the simple genera of the Madreporaria Fungida, with a tentative classification. P. U. S. Mus. xxviii, 1905, pp. 371-424.
181. VAUGHAN, A. The Palæontological sequence in the Carboniferous Limestone of the Bristol area. [Corals, zonal indices.] Quart. J. Geol. Soc. lxi, Pt. 2, pp. 181-266.
182. WELSCH, J. À la Marbrière de la Villedé-d'Ardin, aux Galangères et à Coulonges-sur-PAutise. Bull. Soc. geol. France, Serie 4, T. 3, pp. 1000-1006.
- WHITE, H. J. O. & TREACHER, LL. [See TREACHER (177 & 178).]
183. WITTICH, E. Mitteloligocäner Meeressand bei Vilbel in Oberhessen. Centrbl. Mineral. 1905, Nos. 17 & 18, pp. 531-535.
184. WOLTERECK, —. Bemerkungen zur Entwicklung der *Narcomedusen* und *Siphonophoren*. (II. Planktologische Mitteilungen aus der Zool. Stat. in Villefranche.) Verh. Deutsch. zool. Ges. 1905, pp. 106-122.
185. ——. Beiträge zur Ontogenie und Ableitung des Siphonophorenstocks mit Anhang zur Entwicklungsphysiologie der Agalmiden. Zeitschr. wiss. Zool. lxxxii, pp. 611-637, figg.
186. ——. Wurmkopf, Wurmrumpf und Trochophora. Bemerkungen zur Entwicklung und Ableitung der Anneliden. (Nebst neuen Notizen über bipolare Cöleleraten.) Zool. Anz. xxviii, Nos. 8 & 9, 1904, pp. 273-322.
187. YOUNG, G. W. The Chalk area of North-East Surrey. P. Geol. Ass. xix, Pt. 4, pp. 188-219.

## II. SUBJECT INDEX.

### CŒLEENTERATA (collective).

#### Distribution.

- General distribution of Plankton forms, numerical, Report on Intern. Mar. Explor., HOEK (93).
- Tables of the International Marine Exploration Bureau, details of plankton fauna, KNUDSEN (104).
- Norwegian Fiords, plankton of the, tables, NORDGAARD (127).
- Noord- and Zuider-Seas, Holland, Cœleenterata (planktonic) of the, VAN BREEM (20).
- Valencia Harbour, notes on plankton of, DELAP (43).
- Irish Coasts, planktonic Cœleenterata, GOUGH (75).
- English Channel, plankton of the, GOUGH (76).
- Cape Verde Islands, notes on ecology and marine fauna of, comparison with Africa, E. Coast, CROSSLAND (40).

#### Biology and Bionomics (*Cœleenterata* collectively).

- General morphology, GROBBEN (78).
- Small notes on brackish-water fauna and growth, LOPPENS (111).
- As food for fishes, TODD (172).
- Deep-sea life, JOUBIN (98).
- Pæcilogony, embryonic divergence and its significance, GIARD (73).

**Palæontology** (*Cœlenterata* collectively).

- †Type specimens of fossils in the United States National Museum, Alphabetical Catalogue, MERRILL (121).  
 †Niagara, formation near Cumberland, MD, UHLER (179).  
 †Carboniferous formation of S. W. Montana, DOUGLASS (46).  
 †Canandaigua and Naples region, New York State, CLARKE & LUTHER (34).  
 †Ithaca Bed, Central New York (no sp.), p. 65, CLARKE (33).  
 †Middle Miocene, corals, BELLINI (9).  
 †Secondary and tertiary deposits, Grancona, Veneto, FABIANO (56).  
 †Fossil specimen from Barcelona, ALMERA & BERGERON (5).  
 †Upper Devonian formation, Vendée, WELSCH (171).  
 †Carboniferous limestone of S. Derbyshire, FOX-STRANGWAYS (67).  
 †Red limestone of Nesseldorf, in N. Carpathians, REMEŠ (144).  
 †Saxony, deposits, PELZ (138).  
 †Olmütz, Devonian measures, FELIX (62).

**HYDROMEDUSÆ (or HYDROZOA).****Distribution.**

- Deep-sea Medusæ, RICHARD (147).  
 Hydromedusæ of the "Travailleur" expedition, BILLARD (11).  
 Antarctic Region, HARTLAUB (87).  
 Mid Atlantic, Bathypelagic Medusa, *Atolla* and *Pantachogon*, MONACO (123).  
 Skerries, zoophytes dredged off the, COLGAN (38).  
 North Sea, BROCH (22).  
 Scotch Coasts, seasonal occurrence, BROWNE (24).  
 Boulogne, dredging near, *Luidaria*, HALLEZ (83).  
 France, *Haleremita parvula*, new Hydroid, BILLARD (16).  
 Balearic Islands, Hydromedusæ gymnoblastæ of the, MOTZ-KOSSOWSKA (124).  
 Belgium, *Fillellum serpens* on *Sertularia abietina*, with notes on brackish water, LOPPENS (111).  
 Lake Kaban, *Hydra oligactis*, MEISSNER (119).  
 Calcutta tanks, *Hydra* of the, ANNANDALE (6).  
 Ceylon Seas, Hydroida, similarity to Australian, THORNLEY (171).  
 Ceylon, shallow-water medusæ from W. and S., comparison with medusoid fauna of Laccadives, note, BROWNE (26).  
 Dutch East-Indies, Medusæ, MAAS (115).  
 Gambier Islands, *Campanularia*, *Aglaophenia*, BILLARD (12).  
 Maldives, new Hydroids, BORRADAILE (18).  
 Dutch East India, *Stylasterina*, ENGLAND & HICKSON (53).  
 Paraguay, *Hydra fusca* and *viridis*, VON DADAY (41).

**Parasitism.**

- Physalia pelagica* commensal with *Nomeus gronovii*, HARGITT (86).  
 Pycnogonides parasitic upon *Bougainvillia*, HALLEZ (82).

**Biology and Bionomics.**

- Movement in *Corymorpha*, TORREY (175).  
 Problem of senescence, study of *Clytia bakeri*, TORREY (176).  
 North Sea Hydroida, discussions on the Tecophora, BROCH (22).  
 Budding, various types, résumé of French experiments, McINTOSH (117c).

---

† Refers to fossil forms.

Sperms of the Hydrozoa, RETZIUS (146).

Regeneration in *Obelia dichotoma*, varying with still or running water forms, BILLARD (13).

*Bougainvillia fruticosa*, troubled water, *B. ramosa*, still water form of same species, HALLEZ (80).

Regeneration experiments in *Tubularia indivisa*, BILLARD (14).

Migrations, and habits, Medusæ, in Firth of Clyde, BROWNE (25, 26).

Hydroids from the Maldives, sea snake and on corals, BORRADAILE (18).

Variation, notes on sample of 200 Medusæ *Rhegmatodes*, HARGITT (85).

"Rheotropism" in Hydrida, *Eudendrium* and *Halecium* in running water, also in *Macrosiphonia*, HALLEZ (81).

*Tubularia larynx*, growth-curves illustrating relative size of hydranth and colony, FENCHEL (63).

Autotomy, *Hydra*, résumé, REISOWA (143).

### Reproduction and Development.

Experimental embryology, *Aeginata*, *Clytia* etc., MAAS (114).

Spermatogenesis of *Hydra*, DOWNING (47).

Relationship of *Narcomedusæ* and *Siphonophora*, a study in development, WOLTERECK (184).

Ontogeny of *Halistemma*, study in Phylogeny, WOLTERECK (186).

Ontogeny of *Agalma*, WOLTERECK (185).

### †Palæontology.

List and notes of fossil *Medusæ*, FRITEL (69).

Eocene Fauna of the West Coast of Madagascar, Anthozoa and Hydrozoa with 2 n. spp., TORNQUIST (174).

In fossiliferous deposits at Stramberg, N. E. Carpathians, Anthozoa and Hydromedusæ, List, REMEŠ (144).

## †GRAPTOLITHIDA.

Arenig Fawr and Moel Llyfnant, FEARNSIDE (58).

Prague, Graptolite deposits near, KATZER (102).

Barcelona, ALMERA (4).

High Atlas, strata containing *Graptolithida* (*Diplograptus* and *Monograptus*), GENTIL (72).

Central Sahara, Silurian measures, *Diplograptides* and *Monoprionides*, FLAMAND (65).

Silurian, Central Sahara, *Olimacograptus*, HANG (84).

Mount Wellington, Victoria, new Graptolithida, HALL (79).

## SCYPHOZOA.

### Distribution.

Maldives and Laccadives, Scyphomedusæ, BROWNE (27).

### Biology.

*Zooxanthella* in *Cassiopea andromeda*, BROWNE (27).

Gregarious habits of *Medusæ*, general note, HARGITT (86).

Fish-eating *Medusæ*, general note, HARGITT (86).

Probable cases of symbiosis "mutualism" amongst *Medusæ*, *Dactylometra* with *Rhombus*, HARGITT (86).

*Cyanea lamarecki*, reared in aquarium, note on growth etc., DELAP (44).

## ANTHOZOA.

### Distribution.

Columbia (La Papa), Corals, FELIX (59).

Antarctic *Antipatharia*, THOMSON (169).

- Ireland, precious Corals off the West Coast of, HICKSON (91).  
 Scottish Coasts, seasonal occurrence, BROWNE (25).  
 Antarctic, Scotia expedition, *Bathypathes*, THOMSON (168).  
 N. Atlantic (*Antipatharia* and *Ceriantharia*), ROULE (148).  
 Red Sea, *Hexactinix*, Tadjourah, KREMPF (107).  
 Ceylon, Solitary Corals, BOURNE (19); Alcyoniidæ, PRATT (139);  
 Alcyonaria, HENDERSON & THOMSON (168); Gulf of Manaar, Anti-  
 patharia, SIMPSON & THOMSON (159).  
 Timor, Coral, HICKSON (90).  
 Teneriffe, *Stephanotrochus*, RICHARDS (147).  
 Maldives and Laccadives, Madreporaria (*Fungida* and *Turbinolidæ*),  
 GARDINER (71).  
 New Hebrides, Corals and Hydrocorallinæ, MAWSON (117B).

### Parasitism and Symbiosis.

- Symbiosis of a *Hydractinian* and a *Cephalopod* in Kerunia, NOPCSA (126).  
 Copepoda living with Cœlenterates, SCOTT (154).

### Morphology and Histology.

- W. Indian types of *Actinaria* from Duchassaing and Michelotti Collection, revised, MCCURRICH (118).  
 Morphological note on the musculature of *Actinarian* mesenteries, CALGREN (30).  
 Revision of the group of the *Alcyonaria*, KÜKENTHAL (108).  
 The fossula of rugose corals, detailed, DUERDEN (48).  
 Arrangement of scales and canals in the *Primnoidæ* from Albatross and Belgica expeditions, MENNEKING (120).  
 Antipatharia and Ceriantharia, morphology, ROULE (148).  
 Minute morphology of some solitary corals *Heterocyathus*, *Heteropsammia* and *Dendrophyllia*, BOURNE (19).  
 Anatomical notes on Alcyoniidæ from Ceylon, PRATT (139).  
 On species in Antipatharia, varying forms not specific, due to age, or position, SIMPSON & THOMSON (159).  
 Homologies of Hexactinidæ, Octanthidæ, and Tetracorallina from embryogeny, FAUROT (57).

### Physiology.

- Regeneration experiments on *Cerianthus*, influence of polarity, relative rates of growth, form, CHILD (32).  
 Reactions of Sea-Anemones, JENNINGS (95).  
 Individualism in Zoantharians, discussion, d'OSSAT (131).

### Biology and Bionomics.

- On the work of Corals, DE LAPPARENT (109).  
 Actinians borne by Crabs, habits of both partners, DUERDEN (49).  
 Modification of tentacular apparatus in Madrepora compared with Oculinidæ, KREMPF (107).  
 Annelid mistaken for Actinian, MCCURRICH (118).  
 Formation of Coral-reefs, GOODCHILD (74).  
 Experiments on reactions, with Anemone *Metridium*, ALLABACH (3).  
 Significance of fossulæ in *Madreporaria*, DUERDEN (48).  
 Colour variation with different habitat in *Adamsia rondeletii*, note on Symbiontism, MARTIN (117A).  
 "Convergence" amongst the Alcyonaria, cases of, HENDERSON & THOMSON (88).

Notes on epizoic forms on Antipatharia, Ceylon, SIMPSON & THOMSON (159).

Alcyonarian (*Clavularia margaritifera*) on Pearl-Oyster, HENDERSON & THOMSON (88).

### †Palæontology.

*Anthozoa* from the iron-ores of German Lorraine and Luxemburg, BENECKE (10).

Lower Silurian, Netherlands, sedimentary deposits, Alcyonaria, JONKER (97).

Yunnan, Anthozoa, Lower Devonian from, MANSUY (116).

Otago and Canterbury, New Zealand, Tertiaries, Madreporaria, PARK, (136).

Distribution of Corals throughout the Mesozoic, FRECH (68).

The Silurian and Devonian Corals of N. S. Wales, ETHERIDGE (54).

Chalk of N.E. Surrey, Corals, YOUNG (187).

Devonian Limestones of Lummaton Hill, Corals, JUKES-BROWNE (99).

Higher zones of the Upper Chalk of the London Basin, TREACHER & WHITE (177).

Bristol area, Corals, as zonal indices, VAUGHAN (180).

Somaliland, Corals, NEWTON (125).

Limestone of Weston-super-Mare, Corals, SIBLY (157).

Lower Cretaceous measures of Catalonia, Corals, d'OSSAT (130).

Silurian and Lower Devonian, Orange Co., New York, Actinozoa, SHIMER (156).

Philadelphia Academy of Natural Sciences, fossil *Anthozoa*, JOHNSON (96).

Waitemata and Papakura Series, New Zealand, fossil *Flabellidae*, CLARKE (36).

Upper Jurassic of Portugal, Zoantharians, 88 nn. spp., KOPY (105).

Middle Oligocene at Vilbel Upper Hesse, Anthozoon, WITTICH (183).

Mid-Eocene in Istræa and Dalmatia, Corals, SCHUBERT (151).

Venassino (Isola di Capri), fossiliferous corals of the chalk, with 8 n. spp. and 1 n. var., d'OSSAT (132).

Sudagh, Crimea, Corals, 13 n. spp., MISSUNA (122).

Devonian, St Minver, N. Cornwall, Corals, FOX (66).

Chalk, Capri, Corals, d'OSSAT (133).

Trias of Kotel (Bulgaria), Corals, BAKALOW (7).

S. France, Hérault, Nummulitic deposits, DONGIEUX (45).

Lower Carboniferous of Dj. Bechar (Sud-Oranais), Corals, THEVENIN (166).

## CTENOPHORA.

### Distribution.

Norway, Fauna of the Drøbaksund, Medusa, Ctenophora, Hydrida, KLÆR (103).

Scottish Coasts, Seasonal occurrence, BROWNE (24).

### Biology.

Development of Ctenophore larvæ, as bearing on the Annelidan phylogeny, WOLTERECK (186).

Ctenophora and Medusæ as food of fishes, HARGITT (86).

## III. SYSTEMATIC.

## GENERAL.

- Cœlenterata*, proposed new division into three coequal groups—i *Adeloneuri*, ii *Perneuri*, iii *Epineuri*, EMERY, Rend. Acc. Bologna viii (1903-1904), pt. 4, pp. 61-75.
- Cœlenterata*, general morphology, GROBBEN, Claus Lehrb. Zool. i, pp. 20 and 248-300.
- Hydrida*, a history of systematic of, 1821-1850, BEDOT, Rev. Suisse Zool. xiii, 1905, pp. 1-183.
- Scyphula* and *Tetracorallia*, compared with *Hexactinidæ*, FAUROT, C.R. Ac. Sci. cxli, pp. 778 & 779, 1905.

## HYDROZOA.

- Anthomedusæ* and *Leptomedusæ*, systematic revision, MAAS, SB. Ak. Munchen 1904, iii, pp. 437-442.
- Trachomedusæ*: *Petasiidæ*, note on Family, MAAS (115) pp. 44-48.
- Hydromedusæ*, systematic synopsis, HARGITT, Bull. Bureau Fish. Washington xxiv, pp. 28-61.
- Milleporina* containing *Millepora*; Order next to *Eleutheroblastea*, HICKSON & ENGLAND, Siboga Expeditie Livr. xix, monographie 8, p. 1.
- Narcomedusæ*, relation to Siphonophora, chiefly a study of young stages of *Veleva*, figg., WOLTERECK, Verh. Deutsch. zool. Ges. 1905, pp. 106-122.
- Egina citrea*, figg., synonyms, Makassar Strts, &c., MAAS, SB. Ak. Munchen iii, pp. 69-71.
- Eginata flavescens*, experimental embryology, MAAS, Zeitschr. wiss. Zool. lxxxii, p. 602.
- Eginura grimaldii*, Deep-Sea, figg., note on Family, pp. 35-41; *E. weberi*, figg., E. Indian Archipel., MAAS, (115) pp. 77-79: n. spp.
- Equorea conica* n. sp., figg., Gulf Manaar, *E. parva* n. sp., figg., parasitic cercaria, Ceylon, BROWNE (26) pp. 145 & 146; *A. globosa*, figg., Salomakië, measurements, ? young specimen, figg., MAAS, SB. Ak. Munchen iii, pp. 42-44.
- Agalma sarsii*, embryonic development, figg., WOLTERECK, Zeitschr. wiss. Zool. lxxxii, pp. 611-622.
- Agastrea caliculata*, Valencia Harbour, DELAP (43) p. 11.
- Aglantha conica*, fig., Nantucket and Mass. Coast, HARGITT (86) p. 56; *A. rosea*, Valencia Harbour, DELAP (43) p. 14; *A. rosea*, distinct from *A. digitalis*, Norway, NORDGAARD (128) p. 48.
- Aglaopheima balei*, Gambier Islands, BILLARD, Bull. Mus. Paris 1905, p. 335.
- Aglaophenia maldivensis*, fig., Hulule, *A. schneideri*, fig., *A. gracillima*, fig., Miladumadulu Atoll, Maldives, BORRADAILE (18) pp. 842-844: n. spp.
- A. integra*, *A. pourtalesi*, Norway, BONNEVIE in NORDGAARD (128) p. 157.
- Aglaura prismatica* (= *hemistoma* var. *prism*), synonyms, note on genus, Sulu Archipelago, &c., MAAS, SB. Ak. Munchen iii, pp. 58 & 59.
- Amphinema dinema*, Valencia Harbour, M. & C. DELAP (43) p. 8.
- Antennularia antennina*, Norway, BONNEVIE in NORDGAARD (128), p. 157.
- A. antennina*, rheotropism, HALLEZ, C.R. Ac. Sci. cxli, p. 841, 1905.
- A. ramosa*, Skerries, Co. Dublin, COLGAN, Irish Natural. xiv, 10, p. 209, 1905.
- Atolla bairdi*, figg., notes, MAAS (115) pp. 48-53.
- Bougainvillea*, 3 spp. from Woods Hole, Mass., HARGITT (86) pp. 39 & 40; *B. fruticosa* (= *B. ramosa*), latter obtained from culture of former in

- dripping water, Pas-de-Calais, HALLEZ, C.R. Ass. Franc. cxl, pt. 7, p. 457, 1905; *B. fulva*, Sulu-Archipelago, figg., MAAS (115) pp. 10 & 11; *B. muscus* on Cirrhipeda, probably a form of *B. ramosa* Van B., Red Sea, BILLARD, Bull. Mus. Paris 1904, p. 481; *B.*, parasitised by *Phoxichilidium*, HALLEZ, Arch. Zool. exp., Ser. 4, iii, pp. 134-144.
- Bythotiaridæ* n. fam., 1905, defined, p. 16, MAAS (115).
- Campanularia angulata*, Gambier Islands, BILLARD, Bull. Mus. Paris 1905, p. 332; *C. belgicae* n. sp., figg., on *Eudendrum*, fragmentary, Antarctic, HARTLAUB, Exp. Antarct. Belgica Zool. 1904, p. 10; *C. pelagica* n. sp., fig., Noordzee and Waddenzee, VAN BREEM, Tijdschr. Nederland. Dierk. Ver., Ser. 2, ix, 1 & 2, pp. 206-209; *C. gravieri* n. sp., on Cirrhipeda, Red Sea, BILLARD, Bull. Mus. Paris 1904, p. 482; *C. juncea*, figg., growth-habits, Gulf Manaar, *C. corrugata* n. sp., fig., Ceylon, THORNLEY (171) p. 114; *C. serrulatella* n. nom. subsp. (= *Obelia serrulata* Thornley), *C. junceoides* n. sp., BORRADAILE (18) p. 841; *C. volubilis*, *C. calyculata*, *C. johnstoni*, *C. verticillata*, N. Sea, BROCH (22) pp. 11 & 12; *C. verticillata*, Skerries, Co. Dublin, COLGAN, Irish Natural. xiv, 10, p. 209, 1905; *C. verticulata*, Norway, *C. geniculata*, N. Cape, *C. dichotoma*, N. Cape, *C. hyalina*, Trondhjem, *C. johnstoni*, Hammerfest, *C. hincksi*, N. Cape, *C. calyculata*, N. Cape, *C. volubilis*, *C. syringa*, Norway, BONNEVIE in NORDGAARD (128) p. 157.
- Campanularia verticillata*, KLÆR (103) p. 81.
- Catablena vesicarium*, figg., Bear Island, MAAS (115) p. 12.
- Charybdea verrucosa*, fig., Mass. Coast (= *C. aurifera* and *punctata* of Mayer), HARGITT (86) p. 65.
- Cladolarpus sigma*, synonyms, varying, BILLARD, Bull. Mus. Paris 1905, p. 99.
- Clava squamata*, spermatozoon, fig., RETZIUS (146) p. 80.
- Clavatinia* n. gen. *gallensis* n. sp., fig., on Gastropod shells, Ceylon, THORNLEY (171) p. 111.
- Clavatella prolifera*, Valencia Harbour, M. & C. DELAP (43) p. 8.
- Clytia bakeri*, Colonial differentiation, problem of senescence, fig., TORREY, Univ. Calif. publ. Zool. ii, No. 6, pp. 323-332; *C. geniculata* n. sp., figg., Gulf Manaar, THORNLEY (171) p. 112; *C. flavida*, experimental embryology, MAAS, Zeitschr. wiss. Zool. lxxxii, p. 603.
- Conopora major* n. sp., figg., near to *C. tenuis*, Celebes, &c., ENGLAND & HICKSON (53) pp. 25 & 26.
- Cordylophora annulata* n. sp., on *Murex*, Mediterranean Coast of Spain, DE BUEN, Bol. Soc. espan. v, No. 10, p. 517.
- Corydendrium chevalense* n. sp., fig., Gulf Manaar, THORNLEY, R. Soc. Rep. on Pearl Oyster Fisheries, pt. ii, 1904, p. 109.
- Corymorpha*? (near *C. nutans*), Norway, fig., BROCH, Bergens Mus. Aarbog 1905, pt. 2, p. 5; *C. nutans*, Valencia Harbour, M. & C. DELAP (43) p. 8; *C. nutans* (= *Steenstrupia rubra* Forbes), Firth of Clyde, BROWNE, P. R. Soc. Edinb. xxv, No. 9, pp. 48-67; *C. sarsi*, BONNEVIE in NORDGAARD, Bergens Mus. Marine Investigation, p. 156, 1905.
- Cryptohelia*, list of spp.: *C. ramosa*, figg., Celebes, *C. pachypoma*, figg., Djilolo, near to *ramosa*, *C. platypoma*, figg., New Guinea, shallow, *C. balia*, figg., Ceram, *C. stenopoma*, figg., Ceram &c., ENGLAND & HICKSON (53) pp. 20-25: n. spp.
- Cunina parasitica*, developmental stages, study in phylogeny of *Syphonophora*, figg., on *Cormarina hastata*, WOLTERECK, Verh. Deutsch. zool. Ges. 1905, pp. 113-122.
- Cunanthidæ*, discussion of family, *Cunina lativentris*, Monaco, *C. rhododactyles*, MAAS (113) pp. 31-34.
- Cunocantha octonaria*, notes on family and genus, figg., synonyms, Ternate &c., MAAS, t. c. pp. 64-69.
- Cupulita sarsi*, synonyms. on gen. *Cupulita* and *Agalmopsis*, cf. *C. cara*,



- Norway, NORDGAARD (128) pp. 47 & 48; *C. sarsii*, Firth of Clyde, seasonal occurrence, BROWNE, P. R. Soc. Edinb. xxv, 1905, p. 783.
- Cuspidella humilis*, on other Hydrida for N. Sea, Bodö, BROCH (22) p. 15.
- Cytaëndra areolata*, Valencia Harbour, M. & C. DELAP (43) p. 8; *C. areolata*, Firth of Clyde, BROWNE (24) p. 748.
- Cytais herdmanni* n. sp., figg., Ceylon, near to *C. nigratina* and *C. macrogaster* Haeckel, BROWNE (26) p. 135; *C. nigratina*, figg., near Cape Verdes, MAAS, Résultats des Campagnes Sci. du Prince de Monaco, fasc. xxviii, 1904, pp. 7 & 8; *C. vulgaris*, frequent Dutch E. Indies, MAAS, t. c. p. 9.
- Democyphus palkensis* n. sp., figg., Palk Bay, near to *D. longithecæ*, THORNLEY (171) p. 119.
- Dicoryne flexuosa*, *D. conferta* with *Triticella pedicellata*, Norway and N. Sea, BROCH (22) p. 7; *D. conferta*, Norway, BONNEVIE in NORDGAARD (128) p. 156.
- Diphasia*, gen. defined, *D. (Eudiphasia) fallax*, *D. (Abietinaria) abietina*, figg., pp. 19 & 22, *D. rosacea*, *D. pinaster*, N. Cape, BROCH (22); *D. alata*, varying from type on *P. flabella*, BILLARD, Bull. Mus. Paris 1905, No. 2, p. 98; *D. rosacea*, Skerries, co. Dublin, COLGAN, Irish Natural. xiv, 10, p. 209, 1905.
- Dipleurosoma typicum*, Valencia Harbour, M. & C. DELAP (43) p. 11.
- D. typicum*, Firth of Clyde, BROWNE (24) p. 761.
- Dipurena ophiogaster*, fig., Ceylon, BROWNE, R. Soc. Rep. Pearl Oyster Fisheries 1905, pt. iv, pp. 133 & 134; *D. ophiogaster*, *D. halterata*, Valencia Harbour, M. & C. DELAP (43) p. 9; *D. strangulata* and *D. conica*, figg., with intermediate forms, HARGITT (86) pp. 30 & 31.
- Dynamena*, gen. defined, p. 17, *D. pumila*, *D. distans*, BROCH (22); *D. pumila*, *D. tamarisca*, Norway, BONNEVIE in NORDGAARD (128) p. 157.
- Ectopleura dumortieri*, Valencia Harbour, M. & C. DELAP (43) p. 9; *E. dumortieri*, Firth of Clyde, note and dimensions, BROWNE (24) p. 748.
- Errina ramosa*, figg., Dutch E. Indies, near to *E. glabra*, *E. horrida* n. spp., figg., Djilolo Passage, list of spp. in genus, ENGLAND & HICKSON (53) pp. 16-20.
- Euchilota pilosella*, Valencia Harbour, M. & C. DELAP (43) p. 11.
- Eudendrium maldivense* n. sp., fig., Maldives, BORRADAILE (18) p. 838; *E. ramium* on *Sabellaria*, N. Sea, *E. hyalinum*, new for N. Sea, BROCH (22) p. 8; *E. rameum*, *E. insigne*, *E. tenellum*, BONNEVIE in NORDGAARD (128) pp. 156 & 157; *E. rameum*, running water form to *E. ramosum*, HALLEZ, C.R. Ac. Sci. cxli, pt. 19, p. 727, 1905; *E. rameum*, KLÆR, Nyt Mag. Naturv. xlii, 1, 1904; *E. ramosum*, fig., Antarctic, HARTLAUB, Exp. Antart. Belgica Zool. 1904, p. 9.
- Euphysa aurata*, Valencia Harbour, M. & C. DELAP (43) p. 9; *E. aurata*, dimensions, Firth of Clyde, BROWNE (24) p. 749.
- Euphysora bigelowi* n. sp., figg., Dutch E. Indies, MAAS, Resultats Expl. Zool. "Siboga" xxvi, Monogr. 10, pp. 6-8.
- Eutima curva* n. sp., figg., near *E. mira*, from W. Ceylon, BROWNE (26) pp. 137 & 138; *E. insignis*, Valencia Harbour, M. & C. DELAP, Investigations of, p. 9; *E. levuka* n. var. *occellata*, figg., note on genus, Ternate &c., MAAS (115) p. 35.
- Filellum serpens* and some brackish water fauna, Belgium, LOPPENS, Ann. Soc. malac. Belgique xl, 1905, p. vii.
- Gemmaria implexa* (= *Zanelea*), notes, localities, Firth of Clyde, BROWNE, (24) p. 750; *G. implexa*, Valencia Harbour, M. & C. DELAP (43) p. 10.
- Gonionemus hornelli* n. sp., figg., Gulf Manaar, BROWNE (26) pp. 149-151
- Gossea circinata*, Valencia Harbour, M. & C. DELAP (43) p. 14.

- Grammaria abietina*, Norway and N. Sea, BROCH (22) p. 15.
- Halecium*, sp. spermatozoon, figg., RETZIUS (146) p. 80; *H. beaultii*, grown in running water from a colony of *H. halecinum*, HALLEZ, C.R. Ac. Sci. cxli, pp. 728 & 729, 1905; *H. halecinum*, Skerries, co. Dublin, COLGAN, Irish Natural. xiv, p. 209, 1905; *H. halecinum*, on *Panopæa norvegica*, *H. beaultii*, *H. labrosum*, *H. sessile*, N. Sea, BROCH (22) pp. 8 & 9; *H. halecinum*, *H. labrosum*, *H. tortile*, *H. scutum*, *H. sessile*, N. Cape, *H. scheidori*, Norway, BONNEVIE in NORDGAARD (128) p. 157; *H. tenellum*, fig., Antarctic, HARTLAUB, Exp. Antarct. Belgica Zool. 1904, p. 13; *H. halecinum*, KLÆR (103) p. 73.
- Halicystus octoradiatus*, Faroes, MAAS (113) pp. 43 & 44.
- Haleremita parvula* n. sp., St Vaast-la-Hougue, BILLARD, Bull. Mus. Paris 1904, p. 561.
- Halicreas papillosum*, E. Indies, S. Sea, figg., MAAS (115) pp. 56 & 57.
- Halopsis ocellata*, regeneration and double manubria, N. E. Coast America, HARGITT (86) p. 51.
- Halistemma rubrum*, ontogeny, figg., WOLTERECK, Zeitschr. wiss. Zool. lxxxii, pp. 611-626.
- Heterotiarra* n. gen. *anonyma* n. sp., figg., D. E. Indies, MAAS (115) pp. 18 & 19.
- Hippocrene pyramidata* (= *Margelis* Browne), note, dimensions, Firth of Clyde, BROWNE (24) p. 751; *H. (Bourgainvillea) superciliaris*, figg., Spitzbergen, MAAS (113) p. 9.
- Hybocodon prolifer*, Valencia Harbour, M. & C. DELAP, l. c. p. 9; *H. prolifer* (= *Amphicodon amphipleuris* Hæckel), Hydroid unknown, Firth of Clyde, BROWNE (24) p. 752; *H. prolifer*, fig., notes morphol., N. E. Coast America, HARGITT (86) pp. 33 & 34.
- Hydra*, discussion of systematic, *H. viridis*, spermatogenesis, detailed figg., *H. fusca*, spermatogenesis, figg., *H. diaacea*, spermatogenesis, figg., DOWNING, Zool. Jahrb. Anat. xxi, 3, pp. 379-427; *H. oligastis*, Lake Kaba, note, MEISSNER, Trudui Kazan Univ. xxxix, pt. 3, p. 329; *H. vulgaris* (?) from Calcutta, descript. with notes on habits, ANNANDALE, J. Asiat. Soc. Bengal i, 1905, No. 3, pp. 72 & 73.
- Hydractiniidae*, discussion of the family, *Hydractinia aculeata*, fig. (= *Hydra* and *Podocoryne* A.) on *Murex*, *H. fucicola*, synonyms, fig., note on spines, *H. pruvoti* n. sp., figg., bibliography, MOTZ-KOSSWSKA, (124) pp. 81-96; *H. echinata*, *H. carnea*, both on *Pagurids*, N. Sea, BROCH (22) p. 7; *H. angusta* n. sp., figg., Antarctic, HARTLAUB, Exp. Antarct. Belgica Zool. 1904, p. 7; *H. echinata*, Norway, BONNEVIE in NORDGAARD (128) p. 156; *H. pruvoti* n. sp., on shell of *Cassidaria*, inhabited by *Pagurus*, Balearic Isles, DE BUEN, Bol. Soc. espan. v, No. 10, p. 517.
- Hydrallmannia*, gen. defined, p. 18, *H. falcata*, Norway, BROCH (22) p. 21; *H. falcata*, rheotropism, HALLEZ, C.R. Ac. Sci. cxli, p. 841, 1905; *H. falcata*, Norway, BONNEVIE in NORDGAARD (128) p. 157; *H. falcata*, Skerries, Co. Dublin, COLGAN, Irish Natural. xiv, 10, p. 209, 1905.
- Irene ceylonensis* n. sp., figg., Ceylon, *I. palkensis* n. sp., figg., N. Ceylon, BROWNE (26) pp. 140 & 141; *I. pellucida* (= *Geryonia* Uill.), Clyde, BROWNE (24) pp. 761 & 762.
- Irenopsis hexanemalis*, figg., genus defined, Sulu Is., MAAS (115) pp. 36 & 37; *I. hexanemalis* (= *Phialidium tenue* Browne, 1904), figg., Palk Bay, Ceylon, notes on genus, BROWNE (26) pp. 142-144.
- Lafœü antarctica* n. sp., fig., on Bryozoon, Antarctic, near to *L. serpens*, *L. plicata* n. sp., Antarctic, HARTLAUB, Exp. Antarct. Belgica Zool. 1904, pp. 11 & 12; *L. calcarata*, synonyms. (*Hebella* rejected), on *Thuyaria*, Red Sea, BILLARD, Bull. Mus. Paris 1904, p. 482; *L. serpens*, *L. pygmea*, on other *Hydrida*, *L. dumosa* (cf. *L. fruticosa*

- Sars and *L. gracillima* Alder.), *L. gracillima*, N. Sea, BROCH (22) pp. 13 & 14; *L. serpens*, Norway, *L. abietina*, N. Cape, *L. gracillima*, Ingø Sea, *L. dumosa*, Hammerfest, *L. fructuosa*, Norway, *L. symmetrica*, BONNEVIE in NORDGAARD (128) p. 157.
- Laodice calcarata*, Valencia Harbour, M. & C. DELAP (43) p. 12; *L. cruciata*, Monaco, notes on *Thaumatiida*, MAAS (113) pp. 17-19; *L. indica* n. sp., figg., W. Ceylon (nearest to *L. calcarata*), BROWNE, t. c. p. 136; *L. figiana* var. *indica*, figg., Manipa Straits, MAAS (115) p. 25.
- Laomedea geniculata*, *L. longissima*, *L. hyalina*, *L. gracilis*, N. Sea, BROCH (22) pp. 12 & 13.
- Lar sabellarum*, Valencia Harbour, M. & C. DELAP (43) p. 9; *L. sabellarum* (= *Willsia stellata* Forbes), descript. specimen with two stomachs, Firth of Clyde, BROWNE (24) p. 753.
- Lictorella* (?) *operculata* n. sp., figg., Antarctic (fragment), HARTLAUB, Exp. Antarct. Belgica Zool. 1904, p. 12.
- Liriope tetraphylla* (= †*Geryonia* Cham., †*Liriantha* Hæckel), Ceylon, BROWNE (26) p. 152; *L. tetraphylla*, note on genus, Manipa Strait &c., figg., *L. rosacea*, figg., *L. compacta*, figg., MAAS (115) pp. 60-63.
- Lizzia grata*, Woods Hole, Mass., fig, HARGITT (86) p. 39; *L. blondina*, Valencia Harbour, M. & C. DELAP (43) p. 9.
- Lucernaria quadricornis*, Algæ, Norway, NORDGAARD (128) p. 158.
- Margelia britanica*, synonym, notes, BROWNE (24) p. 752.
- Margellium octopunctatum* (= *Lizzia* Forbes), Firth of Clyde, BROWNE, l. c. p. 755; *M. octopunctatum*, Valencia Harbour, M. & C. DELAP (43) p. 10.
- Melicertidium malayicum* n. sp., figg., Ternate, MAAS (115) p. 28.
- Melicertidium octocostatum*, Valencia Harbour, M. & C. DELAP (43) p. 12; *M. octocostatum* (= *Stomobrachium* Forbes), young and adult, descript., note on genus, Clyde, BROWNE (26) pp. 163-167.
- Mesonema pensile* (= *M. cœlum* pens. Modeer), figg., Gulf Manaar, descript., BROWNE (26) pp. 147-149; *M. macrodactylum*, figg., Ternate, &c., *M. pensile*, figg., Amboina, MAAS (115) pp. 40-42.
- Mitrocomella polydiademata* (= *Tiaropsis* Romanes, 1878), descript., dimens., BROWNE (24) pp. 767-769.
- Mitrocomium assimile* n. sp., fig., resembling *M. cirratum*, Ceylon, BROWNE (26) pp. 137 & 138.
- Muggioea atlantica*, Valencia Harbour, M. & C. DELAP (43) p. 4.
- Obelia dichotoma*, different rates of regeneration in still and running water, BILLARD, C.R. Soc. Biol. lvii, 1, p. 1048; *O. dichotoma*, colonies, medusa reared, Clyde, *O. lucifera*, Clyde, *O. nigra*, Firth of Clyde, BROWNE (24) pp. 769-771; *O. flabellata*, rheotropism in, HALLEZ, C.R. Ac. Sci. cxli, p. 841; *O. geniculata* on *Eurypodius latreilli*, Beagle Canal, HARTLAUB, Exp. Antarct. Belgica Zool. 1904, p. 6; *O. nigra*, Valencia Harbour, M. & C. DELAP (43) p. 112.
- Oceania; on retention of genus, *O. languida* (= *Phialidium*), N. E. Coast America, HARGITT (86) pp. 49 & 50.
- Octocanna polynema*, figg., notes on genus, New Guinea, MAAS (115) pp. 38 & 39; *O. p.* figg., Ceylon, comparison with rest of genus, BROWNE (26) p. 144.
- Octorchis gegenbauri*, Valencia Harbour, M. & C. DELAP (43) p. 12; *O. gegenbauri*, notes, Clyde, BROWNE (24) p. 771; *O. orientalis* n. sp., fig., intermed. stages noted, Ceylon, BROWNE (26) pp. 140-147.
- Oliudias phosphorica* n. var. *malayensis*, figg., measurements, MAAS (115) pp. 44-48.
- Pandæa conica*, figg., Monaco, MAAS (113) p. 16.
- Pantachogon rubrum*, genus defined, fig., very deep, E. Indies, S. Sea, MAAS (115) p. 54.

- †*Parapsonema cryptophysa*, Portage Beds, New York, as belonging to Porpittelidæ, FUCHS, Centrbl. Mineral. 1905, No. 12, pp. 357-359.
- Pennaria tiarella*, Woods Hole, Mass., notes, fig., HARGITT (86) p. 33.
- Perigonimus repens*, Christiania, fig., *P. sarsii* on *Corystes crassivelanus*, and *Portunus depurator*, N. Sea, BROCH (22) pp. 6 & 7; *Perigonimus*, 2 spp., figg., Antarctic, HARTLAUB, Exp. Antarct. Belgica Zool. 1904, p. 8; *P. repens*, BONNEVIE in NORDGAARD (128) p. 156; *P. schneideri* n. sp., on *Membranipora* and on *Pinna nobilis*, Mallorca, Spain, DE BUEN, Bol. Soc. espan. v, p. 517.
- Periphylla dodecabostrycha*, figg., Mediterranean, *P. hyacinthina*, figg., Mediterranean, MAAS (113) pp. 44-48.
- Phialidium*, genus defined, *Phialicum virens*, figg., n. subgen., Salomakië Is., MAAS (115) pp. 32 & 33; *P. cymbaloideum*, *P. temporarium*, *P. buskianum*, Valencia Harbour, M. & C. DELAP (43) pp. 12 & 13.
- Physophora borealis*, fig., Norway, notes, NORDGAARD (128) p. 48.
- Ptychogastria polaris*, Norway, NORDGAARD, t. c. p. 48.
- Plumatella repens* in brackish water, Belgium, LOPPENS, note, Ann. Soc. malac. Belgique xl, p. xlix.
- Plumularia catharina* n. var. *articulata*, on Ascidians, Red Sea, *P. alternata*, differing from American form, Red Sea, BILLARD, Bull. Mus. Paris 1904, pp. 484 & 485; *P. pinnata*, N. Sea, *P. frutescens*, *P. catharina*, Norway, BROCH (22) p. 24; *P. similis*, rheotropism, HALLEZ, C.R. Ac. Sci. cxli, pt. 21, p. 841 1905; *P. pinnata*, KLÆR (103) p. 81.
- Podocoryne carnea*, distinct from *Dysmorphosa fulgurans*, figg., notes, Woods Hole, Mass., HARGITT (86) p. 38; *P. carnea*, Firth of Clyde, BROWNE (24) p. 755; *P. denhami* n. sp., fig., on *Murex*, resembling *P. areolata*, N. Ceylon, THORNLEY (171) p. 110.
- Polycanna forskalea*, Valencia Harbour, M. & C. DELAP (43) p. 13; *P. rissoana*, figg. (= *Æquora*), synonyms, discussion of genus, Monaco, *Æquora forskalea*, figg., Gascony Gulf, MAAS (113) pp. 20-23.
- †*Porosphæra globularis*, *P. patelliformis*, paleon., Chalk of Taplow, TREACHER & WHITE, Quart. J. Geol. Soc. lxi, pt. 3, p. 468.
- Proboscidadactyla flavicirrata* var. *stolonifera*, figg., Manipa Is., note on genus, MAAS (115) pp. 19-22; *P. minima* n. sp., fig., Gulf Manaar, BROWNE (26) p. 135.
- Prubotella* n. gen. *grisea* n. sp., Balearic Isles, MOTZ-KOSSOWSKA (124) pp. 76-80.
- Rathkea octonemalis* n. sp., figg., close to *R. fasciculata*, MAAS (113) pp. 11-13.
- †*Retiolites geinitzii*, Ug.-Villemongue, Silurien, CAREZ, Mem. Carte geol. France, Fasc. ii, p. 798.
- Rhegmatoles tenuis*, American Coast, notes on variation in radial canals, gonads, tentacles, HARGITT, Biol. Bull. ix, 6, 1905, pp. 368-377.
- Rhopalonema velatum*, Funchal, *R. funerarium* (= *Trachynema*), MAAS (113) pp. 27-30.
- R. velatum*, fig., genus discussed, Celebes Sea, &c., *R. cæruleum*, figg., measurements, MAAS (115) pp. 51 & 52.
- Saphenia mirabilis*, Valencia Harbour, M. & C. DELAP (43) p. 13; *S. mirabilis*, Clyde, BROWNE (24) p. 773.
- Sarsia eximia*, from Colony of *Syncoryne eximia*, dimensions, Firth of Clyde, *S. gemmifera*, hydroid unknown, Firth of Clyde, BROWNE (24) pp. 756-758.
- Sarsia gemmifera*, *S. eximia*, *S. prolifera*, *S. tubulosa*, Valencia Harbour, M. & C. DELAP (43) p. 10.
- Schizotricha bifurca* n. sp., fig., Antarctic, HARTLAUB, Exp. Antarct. Belgica Zool. 1904, pp. 16 & 17.
- Sertularia*, gen. defined, pp. 17-19, discussion of Order, *S. cupressina*,

- Atlantic, *S. argentea*, N. Cape, fig., *S. tenera*, N. Sea, pp. 19 & 20, BROCH (22).
- Sertularia ligulata* n. sp., figg., Gulf Manaar, *S. fissa* n. sp., figg., Ceylon, *S. rugosissima* n. sp., fig., on algæ, Gulf Manaar, THORNLEY (171) pp. 116-118; *S. cupressina*, Skerries, Co. Dublin, COLGAN, Irish Natural. xiv, 10, p. 209, 1905; *S. pumila*, spermatozoon, fig., RETZIUS, Biol. Untersuch., New Ser. xii, No. 9, p. 80; *S. pumila*, KIÆR, Nyt Mag. Naturv. xlii, p. 83, 1904.
- Sertularella fallax* n. sp. (fragment), Antarctic, *S. stolonifera* n. sp., figg., Antarctic, HARTLAUB, Exp. Antarct. Belgica Zool. 1904, pp. 15 & 16; *S. polyzonias*, N. Cape, *S. tricuspadata*, BONNEVIE in NORDGAARD (128) p. 157; *S.*, gen. defined, *meridionalis*, *S. polyzonias*, *S. gayi*, *S. rugosa*, N. Sea, *S. tamarisca* (Schydbowsky *Dynamena*), fig., BROCH (22) t. c. pp. 19, 22, 23; *S. polyzonias*, Skerries, Co. Dublin, COLGAN, Irish Natural. xiv, 10, p. 209, 1905; *S. polyzonias*, rheotropism, HALLEZ, C.R. Ac. Sci. cxli, pt. 21, p. 841, 1905; *S. polyzonias*, with *Molgula crystallina* attached, BJERKAN, Bergens Mus. Aarbog 1905, No. 2, p. 4.
- Sibogita* n. gen. *geometrica* n. sp., figg., genus defined, MAAS (115) pp. 17 & 18.
- Solmaris corona*, Valencia Harbour, M. & C. DELAP (43) p. 14.
- Solmundella*, development, a study in relation to Scyphophora, figg., WOLTERECK, Verh. Deutsch. zool. Ges. 1905, pp. 115-122; *S. bitentaculata*, synonyms, figg., corridenda (Haeckel's double perradial canals, and peronia), Ceylon, BROWNE (26) pp. 153-155; *S. bitentaculata*, figg., synonyms, Sulu Archip., &c., note on genus, MAAS (115) pp. 72-75.
- Staurotheca antarctica* n. sp., figg. (fragment), near *Dichotoma*, HARTLAUB, Exp. Antarct. Belgica Zool., p. 16, 1904.
- Steganopora* n. gen. *spinosa* n. sp., figg., Djilolo, cf. *Stinipora echinata*, ENGLAND & HICKSON (53) p. 26.
- †*Stromatopora concentrica*, Lummaton Hill, JUKES-BROWNE, P. Geol. Ass. xix, p. 299; †*S. concentrica* (?), Paleozoic strata, Orngea, Co., New York, SHIMER, Bull. N. York Mus., No. 80 (Paleont. 10), Append. 3, p. 235.
- †*Stylaster* sp., fig. in eocene formation of Madagascar, TORNIQUIST, Abh. Senckenb. Ges. xxvii (3), pp. 331-333.
- Stylasterina*, corrected definition, *Stylasteridæ*, genera in family, ENGLAND & HICKSON (53) p. 2.
- Stylaster*, genus defined, list of spp., *S. eximius*, fac. *altus*, figg., New Guinea, fac. *dentatus*, figg., Salomakië Is., fac. *irregularis*, Sumbawa, fac. *minor*, figg., New Guinea, &c., *S. bilobatus*, figg., New Guinea, *S. multiplex*, figg., Sulu Is., *S. minimus*, figg., Djilolo Passage, near *S. tibiatus*, fig., Sulu Is., *S. umbonalis*, figg., Celebes, ENGLAND & HICKSON, t. c. pp. 2-16 : n. spp.
- Syncorne producta*, fig., producing proliferous medusæ, HARGITT (86) p. 30.
- Syntheicum tubiger* n. sp., Maldive Archipel., fig., *S. maldivense* n. sp., fig., vegetative variation, BORRADAILE (18) p. 841.
- Thinaria abietina*, Hammerfest, *T. argentea*, N. Cape, *T. ficula*, Norway, *T. articulata*, thuja, Norway, BONNEVIE in NORDGAARD (128) p. 157; *T. palans* n. sp., figg., Palk Bay, THORNLEY (171) p. 119.
- Tiaridæ*, note on sub-family, Sulu-Archip., *Tiara papua*, fig., pp. 13-15, MAAS (115) p. 15.
- Tiaropsis multicirrata*, Clyde, BROWNE (24) p. 773.
- Tiara pileata*, Valencia Harbour, M. & C. DELAP (43) p. 10.
- Tiara* sp., fig., Bear Is., descript., *T. pileata*, fig., Corsica, MAAS (113) pp. 13-15.
- T. pileata*, liberated from *Perigonimus repens*, Clyde, W. Arran, Oceania *turrita*, *octona*, *episcopalis*, as stages in development, BROWNE (24) pp. 760 & 761.

- Tiaropsis rosea*, figg., Salomakië, notes on genus, MAAS (115) pp. 29 & 30.  
*Thamnitis?* n. sp., descript., dimens., Firth of Clyde, BROWNE (24) pp. 758-760.  
*Thujaia tubuliformis* (= *Dyanema Marktanner*, T.), figg. and discussion of former descripts., Red Sea, BILLARD, Bull. Mus. Paris 1904, p. 483; T., gen. defined, fig., *T. thuja*, pp. 18-21, *T. articulata*, N. Cape, BROCH (22) p. 20.  
*Tubulariide*, discussing position of various genera, 3 species in Balearic region, MOTZ-KOSSOWSKA, Arch. Zool. exp., Ser. 4, iii, pp. 47-51; *T. indivisa*, *T. larynx*, *T. humilis*, proposed as var. to *T. larynx*, BROCH (22) p. 6, and Nyt Mag. Naturv. xlii, 1, p. 59, 1904; *T. indivisa*, regeneration, BILLARD, C.R. Soc. Biol. lvii, 1, p. 1049.  
*Tubularia*, fed on by fishes, TODD, North Sea Fisheries Investigation Comm. Rep. 2, pp. 227-289; *T. indivisa*, Norway, *T. larynx*, *T. variabilis*, BONNEVIE in NORDGAARD (128) p. 156; *T. larynx* (= *T. coronata* A bildgaard), monograph with distribution, series of measurements, bibliogr., figg., FENCHEL, Rev. Suisse Zool. xiii, 1905, pp. 507-580; *T. larynx*, spermatozoon, fig., RETZIUS (146) p. 80.  
*Veella spirans*, Valencia Harbour, in shoals, M. & C. DELAP, t. c. p. 4.  
*Zygophylax biarmata* n. sp., on *Polyplumaria flabellata*, placed near *Z. operculata*, BILLARD, Bull. Mus. Paris 1905, pp. 97 & 98.

## GRAPTOLITHIDA.

- † *Graptolithida* of Tibidabo, Barcelona, Silurian, ALMERA (4).  
 † *Climacograptus bicornis*, *C. parvus*, shale of Hudson Valley, Lake Aries, Ordovician, NELSON DALE, Bull. U. S. Geol. Surv. No. 242, p. 33; *C.*, deposits in Central Sahara, mention, HANG, C.R. Ac. Sci. cxli, p. 374, 1905; *C. confertus*, Silur., Central Sahara, FLAMAND (65) p. 956; *C. atlas*, GENTIL (72) p. 1660.  
 † *C. wellingtonensis* n. sp., figg., near to *C. rectangularis*, *C. tricornis*, fig., Victoria, HALL (79) p. 22.  
 † *Cryptograptus tricornis*, Filliferig, N. Wales, FEARNSIDE, Quart. J. Geol. Soc. lxi, pt. 3, p. 623.  
 † *Didymograptus marchisoni*, *deftexus*, *extensus*, Leyfnant Flags, *D. hirundo*, *patulus*, *nitidus*, *gibberulus*, Erwent Beds, *D. nanus*, *bifidus*, *artus*, *acutidens*, &c., Filliferig, N. Wales, FEARNSIDE, t. c. pp. 618-665  
 † *D. sagittarius*, Shale of Hudson Valley, Lake Aries, Ordovician, NELSON DALE, Bull. U. S. Geol. Surv. No. 242, p. 33.  
 † *Dicellograptus sextans*, Shale of Hudson Valley, Lake Aries, Ordovician, NELSON DALE, Bull. U. S. Geol. Surv. No. 242, p. 33; *D. moffatensis*, Daerfawr, N. Wales, FEARNSIDE, Quart. J. Geol. Soc. lxi, pt. 3, p. 625; *D. elegans*, fig., Victoria, HALL (79) p. 23.  
 † *Dicranograptus ramosus*, Shale of Hudson Valley, Lake Aries, Ordovician, NELSON DALE, Bull. U. S. Geol. Surv. No. 242, p. 33.  
 † *Dicranograptus hiäns* n. sp., fig., Victoria, *D. nicholsoni*, fig., Victoria, HALL (79) p. 24.  
 † *Diplograptus thielei* n. sp., figg., near to *D. carnei* Hall, Victoria, HALL, P. Soc. Victoria xviii (n. s.), pt. 1, 1905, p. 21; *D. pristis*, MUNTHE, Sveriges geol. Unders. Afh. No. 121, 1905, pp. 46 & 47.  
 † *D. pulmeus*, *D. foliaceus*, from Silurian Hacichrosheg, Central Sahara, establishing Strata for this region, FLAMAND, C.R. Ac. Sci. xl, pt. 14, p. 956; *D. p.*, High Atlas, Morocco, GENTIL, C.R. Ac. Sci. cxl, p. 1658, 1905; *D. dentatus*, Filliferig, *D. angustifolibus*, Daerfawr, N. Wales, FEARNSIDE, Quart. J. Geol. Soc. lxi, pt. 3, p. 625; *D. cf. angustifolibus*, Shale and Schist of Hudson Valley, Lake Aries, Ordovician, NELSON DALE, Bull. U. S. Geol. Surv. No. 242, p. 33.

- †*Lasiograptus micronatus*, Shale of Hudson Valley, Lake Aries, Ordovician, NELSON DALE, Bull. U. S. Geol. Surv. No. 242, p. 33.
- †*Loganograptus logani*, Leyfnaunt flags, N. Wales, FEARNSIDE, Quart. J. Geol. Soc. lxi, pt. 3, p. 619.
- †*Monograptus runcinatus*, *M. vomerinus*, Atlas, Morocco, GENTIL, C.R. Ac. Sci. cxl, pt. 25, p. 1659, 1905; *M. proteus*, Barcelona ALMERA & BERGERON, Bull. Soc. geol. France, Série 4, T. 4, 1905, p. 713.
- †*M. priodon*, Silur., Central Sahara, FLAMAND, C.R. Ac. Sci. cxl, p. 956, 1905.
- †*M. priodon*, Nz. Silurien Supr., CAREZ, Mem. Carte. geol. France fasc. ii, p. 798; *M. (Graptolithus) becki*, MUNTHE, Sveriges geol. Unders. Afh. No. 121, 1905, pp. 46 & 47; *M. colonus*, in cliffs of the Moldau, internal crusting, fig., KATZER, Verh. geol. Reichsanst. 1905, No. 2, p. 62.
- †*Phyllograptus angustifolius*, MUNTHE, Sveriges geol. Unders. Afh. No. 121, 1905, pp. 34 & 35.
- †*Rastrites peregrinus*, Atlas, GENTIL, C.R. Ac. Sci. cxl, p. 1659, 1905.
- †*Tetragraptus reclinatus, serra*, Erwent Beds, N. Wales, FEARNSIDE, Quart. J. Geol. Soc. lxi, pt. 3, p. 619.

## ANTHOZOA.

- Acanella rigida*, THOMSON & HENDERSON (168) p. 551.
- Acamptogorgia atra* n. sp., Ceylon Seas, *A. spinosa* n. var. *ceylonensis*, fig., HENDERSON & THOMSON (88) pp. 296 & 297; *Acanthogorgia flabellum* n. sp., Addu Atoll, figg., variability of spines confusing with *Echinogorgia*, etc., HICKSON (89) p. 813; *A. media* n. sp., figg., Trincomalee, cf. *A. ridleyi*, *A. muricata* n. var. *indica*, fig., Trincomalee, *A. ceylonensis* n. sp., figg., Trincomalee, HENDERSON & THOMSON (88) pp. 289-291; *A. horrida* n. sp., figg., Suvadiva, near to *A. spinosa*, HICKSON (89) p. 814.
- †*Acanthocenia cerioid* n. sp., chalk, Venassino, d'OSSAT, Atti Acc. Napoli xii, 1905, No. 16, pp. 45.
- Acis indica* n. sp., figg., Galle, *A. alba* n. sp., figg., Trincomalee, *A. ceylonensis* n. sp., fig., n. var. *imbricata*, HENDERSON & THOMSON (88) pp. 297-300.
- Actinostella conchilya*, synonyms. fig. redescribed, *A. radiata*, synonyms. fig., cf. *A. formosa*, *A. floscularia*, McCURRICK, Boll. Mus. Torino xx, No. 494, pp. 6-8.
- Actinostola callosa*, Norway, NORDGAARD (128) p. 159.
- Adamsia*, study in embryogeny, showing homologies between it and *Octanthida*, *Scyphula*, and *Tetracorallia*, FAUROT, C.R. Ac. Sci. cxlii, p. 778, 1905; *A. rondeletii* n. var. *libera*, note on colour variation in varying condition (symbiotic?), fig., MARTIN, Bol. Soc. espan. v, p. 457.
- Agaricia ponderosa* n. sp., figg., Maldives, n. var. *minikoiensis*, fig., Minikoi, under dead Porites, GARDINER (71) pp. 336-338.
- Alcyonium digitatum*, fig., spermatozoon, RETZIUS (146) p. 81; *A. digitatum*, GRIEG in NORDGAARD (128) p. 160; *A. digitatum*, Skerries, co. Dublin, COLGAN, Irish Natural. xiv, p. 209; *A. d.*, KIÆR, Nyt Mag. Naturv. xlii, pp. 77-80, 1904; *A. ceylonicum* n. sp., figg., Ceylon, approaching *A. pachyclados*, PRATT (139) pp. 257 & 258.
- †*Alveolites septosa*, Carboniferous Limestone of S. Derbyshire, FOX-STRANGWAYS, Mem. geol. Surv. U. K., July 1905, p. 14; *A. septosa* (including *A. depressa*), Bristol area, VAUGHAN, Quart. J. Geol. Soc. lxi, pt. 2, p. 267; *A. subaequalis*, in the chalk at Brousset, BRESSON, Bull. Carte geol. France xvi, No. 105, p. 93; *A. suborbicularis A. goldfussi*,

- in Upper Devonian, Vendée, WELSCH, Bull. Soc. geol. France, Série 4, T. 3, 1905, p. 1006.
- †*Alveopora gracilis* n. sp., figg., in Eocene formation of Madagascar, TORNQVIST, Abh. Senckenb. Ges. xxvii (3), pp. 331-333.
- †*Amphiastrea waltheri* n. sp., figg., close to *A. cylindrica*, in the chalk, Venassino, *A. gracilis* n. var. *cœspitosa*, figg., chalk, Soyhières, Venassino, d'OSSAT, Atti Acc. Napoli xii, 1905, No. 16, pp. 45.
- †*Amphielia oculata*, Upper Miocene, TOLDO, Boll. Soc. geol. Ital. xxiv, F. 2, 1905, p. 370.
- Amphilaphis abietina*, figg., scale development, resemblance of canals to *Primatulide*, MENNEKING, Arch. Naturg. lxxi, 1, p. 255.
- Antilloceris* n. gen. (= *Turbinoceris*), type, *T. eocœnica* Duncan, definition, VAUGHAN (181) p. 390.
- Antipatharia*, spines not valid as a specific character, SIMPSON & THOMSON, R. Soc. Rep. Pearl Oyster Fisheries, 1905, pt. iv, p. 94; *A.*, systematic, phylogeny, bibliogr., ROULE, Résultats Scient. du Prince de Monaco, Fasc. xxx, 1905, pp. 30-55.
- Antipathella gracilis*, W. coast of Ireland, HICKSON, Nature lxxiii, p. 5.
- A. gracilis*, figg. synons., notes, N. Atlantic, ROULE (148) pp. 69 & 70; *A. rugosa* n. sp., figg., Gulf Manaar, with many epizoic forms, *A. elegans* n. sp., fig., Gulf Manaar, *A. irregularis* n. sp., fig., Trincomalee, *A. ceylonensis* n. sp., fig., Trincomalee, SIMPSON & THOMSON (159) pp. 102-106.
- Antipathes gallensis* n. sp., fig., Ceylon, *A. gracilis* n. sp., figg., Ceylon, *A. abies*, fig., note on variation of spines, Ceylon, Trincomalee, SIMPSON & THOMSON, t. c. pp. 95-98; *A. œnea*, synons. *A. viminalis*, figg., notes, N. Atlantic, ROULE (148) pp. 66-68.
- †*Aphastrea adscita*, Middle Miocene, BELLINI (9) p. 621.
- †*Aplosmilia semisulcata* (Lobophyllia), figg., diagn., Merlos, etc., *A. rugosa*, figg., diagn., A das Sorellas, *A. sp.*, fig., diagn., Pragança, Upper Jurassic, F. KOPY (105) pp. 16-19; *A. sokolovii* n. sp., figg., *A. crassa*, figg., at Altschakaya, MISSUNA, Bull. Soc. Moscou xviii, 1904, pp. 187-228; *A. vidali* n. sp., figg., Castellvi de la Marca, d'OSSAT (130) pp. 214-216; *A. v. n. sp.*, Aptian deposits, Prov. Barcelona, d'OSSAT, Mem. Ac. Barcel. iii, vol. v, No. 5, p. 7.
- Arachnitis alba*, Norway, NORDGAARD (128) p. 46.
- Arachnaxis bournei*, Valencia Harbour, M. & C. DELAP (43) p. 5; *A. b.*, seasonal distribution, Clyde, BROWNE, P. R. Soc. Edinb. xxv, p. 783.
- †*Astræpora minima*, Mt. Berici, Veneto, FABIANO, Atti Ist. Veneto lxiv, 2, p. 1826.
- †*Astrædia simplices*, fig., *A. gemmantes*, fig., *A. cœspitosa*, fig., discussion on individualism in Zoantharians, d'OSSAT, Boll. Soc. geol. Ital. xxiv, F. 1, p. 151.
- †*Astræomorpha confusa* n. sp., BAKALOW, Centrbl. Mineral. 1905, No. 16, pp. 481-483.
- †*Astrocœnia bulgarica* n. sp., *A. fuscina* n. sp., BAKALOW (7) pp. 481-483; †*A. martis* (*Cœnastrea*), figg., diagn., Moulin de Tojeira, *A. thurmanni* (*thamnostrea*), figg., diagn., A das Sorellas, Montbéliard, etc., *A. delemontana*, figg., diagn., Moulin de Gais, *A. carrapateirenensis*, figg., diagn., Carrapateira, *A. cesaredensis*, figg., diagn., Cesáréda, Upper Jurassic, KOPY (105) pp. 50-54.
- Atractylide*, discussion of merits of genera, MOTZ-KOSSOWSKA (124) pp. 68-76.
- †*Aulopora serpens*, in the chalk at Brousset, BRESSON, Bull. Carte geol. France xvi, No. 105, p. 93.
- †*Aulastræa bassanii* n. sp., figg., close to *A. conferta*, in the chalk, Venassino, d'OSSAT, Atti Acc. Napoli xii, 1905, No. 16, pp. 45.
- Authoptilum murrayi*, THOMSON & HENDERSON (168) p. 556.



- Axosmilta bofilli* n. sp., *A. almerai* n. sp., Aptian deposits, Prov. Barcelona, D'OSSAT, Mem. Ac. Barcel. iii, vol. v, No. 5, p. 8; †*A.*, cf. *cylindrata*, figg., at Sudagh, MISSUMA, Bull. Soc. Moscou xviii, 1904, pp. 187-228.
- †*Balanophyllia hectori*, Tertiaries of New Zealand, noted, PARK, Tr. N. Zealand Inst. xxxvii, p. 534; *B.*, cf. *inæquidens*, WITTICH, Centrbl. Mineral. 1905. No. 17/18, pp. 531-535; *B. parallela*, Gulf Manaar, figg., *B. cumingi*, figg., Galle, *B. socialis*, figg., Gulf Manaar, *B. taprobane* n. sp., Ceylon, figg., query relation to *Dendrophyllia*, BOURNE (19) pp. 208-212.
- †*B. pralonga*, Middle Miocene, BELLINI (9) p. 621.
- Bathypathes patula* var. *plenispina*, Antarctic, "Cod Bank," dimensions, notes, *B. alternata*, Antarctic, *B. bifida* n. sp., Antarctic, descript., THOMSON, P. Phys. Soc. Edinb. xvi, 3, pp. 76-79; *B. patula* var. *plenispina*, from "Cod Bank," *B. alternata*, *B. bifida* n. sp., lat. 71° 22' S. long. 16° 34' W., THOMSON, t. c. No. 3, pp. 76-78, 1905.
- †*Baryphyllia capitata* (paleon.), figg., diagnosis, Moulin de Lagoã, Upper Jurassic, KOPY (105) pp. 89 & 90.
- †*Baryhelia dendroidea*, figg., diagnosis, Cesaréda, *B. choffati*, figg., diagnosis, Merlos, *B. delgadoi*, fig., diagnosis, Casaes-Gallegos, Upper Jurassic, KOPY (105) pp. 7-9; †*B. rutimeyeri* (*Heterocenia*), figg., diagnosis, Casaes-Gallegos, Upper Jurassic, KOPY, t. c. p. 9.
- †*Barysimlia vicentina*, sandstone of Middle Eocene, SCHUBERT (152) p. 14.
- Beryce hicksoni* n. sp., figg., Ceylon, HENDERSON & THOMSON (88) p. 295.
- Belonella indica* n. sp., fig., cf. *B. granulatum* Gray, Ceylon, HENDERSON & THOMSON, t. c. p. 274.
- †*Blastosimlia tenuis*, figg., diagnosis, Moulin de Gaio, Upper Jurassic, KOPY (105) p. 66.
- †*Blothrophyllum promissum*, paleoz. rocks, Orange Co., SHIMER (156) p. 235.
- Bolocera jueclæ*, Norway, NORDGAARD (128) p. 159.
- †*Brachyphyllia*, synopsis spp., *B. haneri* (= *Neurocora*), descript., Castellvi de la Marca, D'OSSAT (130) pp. 199-202.
- †*Brooksella*, some fossil forms, FRITEL (69).
- Budoneopsis*, carried by Melia, Hawai, DUERDEN, P. Z. S. ii, 1905, pp. 494-510.
- Bunodes stellula*, *B. varidi*, KREMPF, Bull. Mus. Paris 1905, p. 192.
- †*Calamophyllia flabellum*, figg., diagnosis, Cesaréda, *C. ducreti*, figg., diagnosis, Amaral, *C. alrotensis*, figg., diagnosis, Alrote, Upper Jurassic, KOPY (105) pp. 82-86.
- †*Calamosimlia typica*, figg., diagnosis, Moulin de Tojiera, *C. gracilis*, figg., diagnosis, Vallée d'Abbadia, etc., Upper Jurassic, KOPY, t. c. pp. 80-82.
- †*Calceola sandalina*, chalk, Brousset, BRÉSSON, Bull. Carte geol. France xvi, No. 105, p. 93.
- Caligorgia flabellum*, figg., scale development, MENNEKING, Arch. Naturg. lxxi, 1, p. 253.
- Calliactis polypus*, Indian Ocean, KREMPF, Bull. Mus. Paris 1905, p. 192.
- Callistephanus koreni*, Andaman Sea, THOMSON & HENDERSON (168) p. 553.
- †*Calomophyllia stokesii*, in the corallian of Simpson pit, Dover, ETHERIDGE (55) p. 47.
- Calypterinus allmani*, Laccadive Sea, THOMSON & HENDERSON (168) p. 552.
- Calytrophora agassizii*, figg., scale development, MENNEKING, Arch. Naturg. lxxi, 1, p. 254.
- †*Campophyllum cylindricum*, Carboniferous limestone of S. Derbyshire, FOX-STRANGWAYS, Mem. geol. Surv. U. K. July, 1905, cxli, p. 14.
- C. flexuosum*, in Upper Devonian, Vendée, WELSCH, Bull. Soc. geol. France, Ser. 4, T. 3, 1905, p. 1006.

- † *Caninia cylindrica* (including *Zaphrentis cyl.*), *descript.*, Bristol area, see figg., mutational form, VAUGHAN, *Quart. J. Geol. Soc.* lxi, No. 2, p. 272.
- Capuella manaarensis* n. sp., figg., HENDERSON & THOMSON (88) p. 278.
- Ceratoisus palmæ*, Andaman Sea, THOMSON & HENDERSON (168) p. 551.
- † *Ceratotrochus duodecim-costatus*, Upper Miocene, TOLDO, *Boll. Soc. geol. Ital.* xxiv, F. 2, 1905, p. 370.
- Cerianthus lloydi*, figg., notes, *C. danielsseni* n. sp., N. Atlantic, figg., notes on growth, ROULE (148) pp. 81–89.
- † *Chaetetes capri* 1, figg., *C. capri* 2, figg., in the chalk, Urganiano, Venassino, d'OSSAT, *Atti Acc. Napoli* xii (1905), No. 16, 45 pp.; *C. capri* 1, fig., Venassino, *C. capri* 2, figg., close to *coquandi*, d'OSSAT, t. c. pp. 12 & 13.
- Chironophthya variabilis*, colour varies in one specimen, Gulf Manaar, HENDERSON & THOMSON (88) p. 285.
- Chondractinia digitata*, *C. nodosa* (cf. *Actinauge nodosa* var. *tuberculosa* Verr.), Norway, NORDGAARD (128) p. 159.
- C. digitata*, N. Norway, *C. nodosa*, Norway, NORDGAARD, t. c. p. 160.
- † *Chorisastrea caquerellensis*, figg., diagnosis, Cesaréda, etc., Upper Jurassic, KOBY (105) p. 102.
- † *Circophyllia gibba*, sandstone of Middle Eocene, SCHUBERT (152) p. 14.
- Cirripathes* (?) n. sp., fig., query as to *Stichopathes*, Trincomalee, SIMPSON & THOMSON (159) p. 95.
- Cirripathes spiralis*, W. Coast of Ireland, HICKSON, *Nature* lxxiii, p. 5.
- Oladiscus gracilis*, Trondhjem, NORDGAARD (128) p. 158.
- † *Clado-ora gabriellina* n. sp., Aptian deposits in Prov. Barcelona, d'OSSAT, *Mem. Ac. Barcel.* iii, vol. v, No. 5, p. 7.
- Clavide*, notes on family, *C. nana* n. sp., fig., MOTZ-KOSSOWSKA (124) pp. 61–63.
- Clavula magaritifera* n. sp., fig., Gulf Manaar, HENDERSON & THOMSON, *R. Soc. Rep. on Pearl Oyster Fisheries* iii, 1905, p. 273.
- Clavularia crassa* and *petricola*, a case of pœcilogony, phylogenetic problems, GIARD, *C.R. Congr. Zool.* vi, Annexe 1, p. 619.
- C. decipiens* n. sp., Andamans, THOMSON & HENDERSON (168) p. 548.
- † *Clissophyllum coniseptum*, Carboniferous limestone of S. Derbyshire, FOX-STRANGWAYS, *Mem. geol. Surv. U. K.* July, 1905, p. 14.
- † *Caloria oceanica* (= *Meandrina*), figg., Castellvi de la Marca, d'OSSAT (130) p. 205.
- † *Colophyllia flexuosa*, sandstone of Middle Eocene, SCHUBERT (152) p. 14.
- † *Columnastrea caillandi*, sandstone of Middle Eocene, SCHUBERT, t. c. p. 14.
- † *Comoseris meandrinoides*, figg., diagnosis, Cesaréda, *C. irradians*, figg., diagnosis, Carrapateira, *C. cesarodensis*, figg., diagnosis, Cesaréda, Upper Jurassic, KOBY (105) pp. 134–136.
- † *Confusastrea*, fig., discussion on individualism in Zoantharians, d'OSSAT, *Boll. Soc. geol. Ital.* xxiv, F. 1, 1905, p. 151.
- C. depressa*, figg., diagnosis, Cesaréda, Upper Jurassic, KOBY (105) pp. 79 & 80.
- † *Connectastrea gregoryi*, figg., diagnosis, Onteiro-Pragão, *C. ogilviei*, figg., diagnosis, Sirol, *C. piriformis*, figg., diagnosis, Sapataria, Upper Jurassic, KOBY, t. c. pp. 66–70.
- † *Convecastrea almeria* n. sp., Aptian deposits Prov. Barcelona, d'OSSAT, *Mem. Ac. Barcel.* iii, vol. v, No. 5, p. 7; *C. sexradiata* (Astrea), figg., diagnosis, Cesaréda, *C. digitiformis*, figg., diagnosis, Carrapateira, *C. etalloni*, figg., diagnosis, Cesaréda, *C. fromenteli*, figg., diagnosis, Barrio, *C. edwardsi*, figg., diagnosis, Merlos, Upper Jurassic, KOBY (105) pp. 41–44.
- Corallium reginae* n. sp., distrib. of family, Timor, HICKSON, *P. Ac. Amsterdam* viii, pp. 268–271.

- Cordylophora pusilla* n. sp., fig., *C. annulata* n. sp., Balearics, MÖTZ-KOSSOWSKA (124) p. 63-68.
- †*Corynactis globulifera*, Red Sea, KREMPF, Bull. Mus. Paris 1905, No. 3, p. 195.
- Coscinarœa donnani* n. sp., fig., Mbandu Is., GARDINER (71) p. 950.
- †*Cryptococœna delgadoi*, fig., diagn., Moulin de Tojeira, *C. ramea*, figg., diagn., Vallée d'Abbadia, Upper Jurassic, KÖBY (105) pp. 39 & 40; *C. choffati*, figg., diagn.; Outeiro-Pragão, *C. lusitanica*, figg., diagn., Cesaréda, *C. pustulosa*, figg., diagn., Casal-Noro Is., *C. decipiens* (*Stylina*), figg., diagn., Carrapateira, *C. crateriformis* (paleon.), figg., diagn., Moulin de Tojeira, Upper Jurassic, KÖBY, t. c. pp. 35-39; *C. picteti*, in the chalk, Urganiano-Venassino, D'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp.; *C. picteti*, notes, synopsis of Jurassic forms, Castellvi de la Marca, D'OSSAT (130) pp. 210-213.
- †*Cyathocœnia koteli* n. sp., BAKALOW, Centrbl. Mineral. 1905, No. 16, pp. 481-483.
- †*Cyathophora bourgueti*, fig., diagn., Cesaréda, *C. alrotensis*, figg., diagn., Arseña, *C. excelsa*, figg., diagn., A das Sorellas, *C. cesaredensis*, figg., diagn., Cesaréda, Upper Jurassic, KÖBY (105) pp. 44-48; *C. delorenzo* n. sp., figg., chalk, Venassino, D'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp.; *C. delorenzoi* n. sp., figg., close to *rathieri*, Venassino (Capri), D'OSSAT, t. c. pp. 39 & 40.
- †*Cyathophyllum archiaci*, Carboniferous limestone of S. Derbyshire, Fox-STRANGWAYS, Mem. geol. Surv. U. K. July 1905, p. 14.
- †*C. flexuosum*, environs of Eaux-Bonnes, Carbonif., *C. turbinatum*, environs of Eaux-Bonnes, Devonian, CAREZ, Mem. Carte geol. France, Fasc. ii, p. 800.
- †*C. konincki*, in Carboniferous formation of Carnian Alps, DE REGNY & GORTANI, Boll. geol. Ital. xxiv, 1905, p. 530.
- †*C. ceraticus*, *heterophyllum*, *lindstroemi*, *vermiculare*, *caspitosum*, *hexagonum*, Devonian, near Ohmütz, fig., FELIX, SB. Ges. Leipzig 1903-4, pp. 64-70.
- †*C. hydraulicum*, Tully region, New York State, CLARK, Bull. N. York Mus. 82, Paleont. 12, 1905, p. 38.
- †*C. φ* (= *Stutchburyi* Ed. and Haime), figg., notes, *C. regium* (including *C. regium*, *C. stutchburyi*, Ed. and Haime), note on evolution and mutation, *C. murchisoni*, two forms, VAUGHAN, Quart. J. Geol. Soc. lxi, pt. 2, pp. 274-276; limestone of Weston-super-Mare, SIBLY, Quart. J. Geol. Soc. lxi, pt. 3, pp. 556-558.
- †*C.*, cf. *konincki*, in Carboniferous formation of Carnian Alps, DE REGNY & GORTANI, Boll. Soc. geol. Ital. xxiv, F. 2, 1905, p. 530.
- †*C. ? helianthoides*, Devonian, cf. *roemeri*, MANSUY, C.R. Ass. Franc. cxl, pt. 10, p. 692.
- †*C. vesiculosum*, in the chalk at Brousset, BRESSON, Bull. Carte geol. France xvi, No. 105, p. 93.
- †*C. cœspitosum*, in chalk at Brousset, BRESSON, t. c.
- †*Cyathoseris dinarica*, sandstone of Middle Eocene, SCHUBERT (152) p. 13.
- Cyathotrochus* n. gen. *herdmani* n. sp., figg., Ceylon, near *Trochocyathus*, BOURNE, t. c. p. 192.
- †*Cyclolites rhomboideus*, *C. perezii*, sandstone of Middle Eocene, SCHUBERT (152) p. 13.
- Cycloceris sinensis*, figg., compared to *C. hexagonalis*, Umlaku, *C. cyclolites*, figg., measurements, GARDINER (71) p. 944.
- †*Cystiphyllum ?americanum*, Devonian, Yunnan, MANSUY, C.R. Ass. Franc. cxl, pt. 10, p. 692.
- Dasygorgia ramosa* n. sp., *D. aurea* n. sp., THOMSON & HENDERSON (168) p. 550.

- †*Deltocyathus taurinensis*, Middle Miocene, *D. cylindricus*, Middle Miocene, BELINI (9) p. 621.
- †*Demophyllum subturbatum*, Middle Miocene, BELINI, t. c. p. 621.
- †*Dendracis meridionalis* n. sp., figg., in Eocene formation of Madagascar, TORNQUIST, Abh. Senckenb. Ges. xxvii (3), pp. 331-333.
- †*Dendrogyra kobyi* n. sp., figg., close to *D. angustata*, chalk, Venassino, d'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp.; *D. kobyi* n. sp., figg., Venassino (Capri), d'OSSAT, t. c. pp. 32 & 33; *D. kobyi*, fig., discussion on individualism in Zoantharians, *D. salisburgensis*, fig., *D. sinuosa*, fig., *D. dumortieri*, d'OSSAT, Boll. Soc. geol. Ital. xxiv, F. 1, 1905, p. 151; *D. rastellina (meandrina)*, figg., diagn., Cesaréda Is., †*D. angustata*, figg., diagn., Moulin de Tojiera, Upper Jurassic, Koby (105) pp. 23-25.
- †*Dendrohetia ursicina*, figg. diagnosis, A das Sorellas, *D. ornata*, figg., diagnosis, Amaral, Upper Jurassic, Koby, t. c. p. 5.
- Dendronephthya*, *argentea*, *clavata*, *hicksoni*, *novaezeelandia*, *aculeata*, *köllikeri*, *japonica*, *radiata*, *cærulea*, *marenzelleri*, *disciformis*, *haberei*, *villosa*, *nigrescens*, *mexicana*, *dofteni*, *curvata*, *repens*, *hyalina*, *cirsium*, *charuca*, *erinacea*, *speciosa*, *gracillima*, *pütteri*, *umbellifera*, *australis*, *longicaulis*, *lutea*, ?locality, n. spp., with figures, KÜKENTHAL, Zool. Jahrb. Syst. xxi, pp. 528-694.
- †*Dendrophyllia digitalis*, *D. globulina*, Middle Miocene, BELINI (9) p. 621; *D. minuscula* n. sp., figg., Galle, Ceylon, *D. gracilis*, minute anatomy and histology, pp. 231-238, figg., BOURNE (19) pp. 213 and 231-238.
- †*Dermoseris delgadoi*, figg., diagn., Amaral Is., *D. choffati*, figg., diagn., Moulin de Gaio, *D. depressa*, fig., diagn., Moulin du Gaio, *D. corymbosa*, figg., diagn., Curvaceira, *D. capitata*, fig., diagn., Cesaréda, Upper Jurassic, Koby (105) pp. 127-130.
- †*Dermosmilia arborescens*, figg., diagn., Carrapateira, *D. simplex*, figg., diagn., Carrapateira, *D. pusilla*, figg., diagn., Alrota, Upper Jurassic, Koby, t. c. pp. 86-89.
- †*Dimorphareu globularis*, figg., diagn., Amaral, Upper Jurassic, Koby, t. c. p. 136; *D. lineata*, figg., Altschakaya, MISSUNA, Bull. Soc. Moscou xviii, p. 214.
- †*Dimorphastræa* cf. *dubia*, figg., Sudagh, *D.* cf. *vasiformis*, figg., close to *D. variabilis*, MISSUNA, t. c. p. 214.
- †*D. crassisepta* n. var., *subcrassisepta*, figg., Sarroca, *D. tenuistriata*, La Roqueta d'OSSAT (130) pp. 185-187; *D. crassisepta*, v. n. *subcrassiseptata*, Castelly de la Marca, Barcelona, Aptian dep., d'OSSAT, Mem. Ac. Barcel. iii, Vol. v, No. 5, p. 7, *D. lorioli*, fig., chalk, Villers, Venassino, d'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp.; *D. lorioli*, fig., Venassino (Capri), d'OSSAT, t. c. pp. 14-16; *D. regularis*, figg., diagn., Cachoeira, *D. meandrinoides*, figg., diagn., Barrio, *D. platyphylla*, figg., diagn., Moulin de Tojeira, *D. variabilis*, figg., diagn., Carrapateira, Upper Jurassic, Koby (105) pp. 107-112.
- Diphyes arctica*, Norway, NORDGAARD (128) p. 47
- †*Diplocenia lobata (Actinocenia)*, figg., diagn., Montejunto, *D. lorioli*, figg., diagn., Cesaréda, *D. furcata*, figg., diagn., Alrota, *D. minima (Actinocenia)*, figg., diagn., Cesaréda, Upper Jurassic, Koby (105) pp. 31-34.
- †*Discotrochus michelotti*, Middle Miocene, BELINI (9) p. 650.
- Echinomuricea cylonensis* n. sp., fig., Ceylon, *E. pseudoecassapo*, spicule forms, *E. multispinosa* n. sp., fig., variety in spindles, HENDERSON & THOMSON (88) 292-294.
- Echinophyllia lucera*, fig., Goidu, GARDINER (71) p. 949.
- †*Edriocrinus pocilliformis*, rocks, Orange Co., New Jersey, SHIMER (156) p. 238.
- Edwardsia andresi*, NORDGAARD (128) p. 158.

- Elasmogorgia flexilis* n. sp., figg., Suvadiva etc., Sand, (?*Filigella*), HICKSON (89) p. 814.
- †*Enallohelina* aff. *compressa*, Sudagh, *E. striata*?, Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, pp. 187-228; †*E. rathieri*, fig., close to *E. gemmans*, chalk, Neocomiano, Venassino, d'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp.; *E. tubulosa*, figg., diagnosis, Amaral, Nattheim Is., Upper Jurassic, Koby (105) p. 2.
- †*Enterolasma* (*Streptelasma*) *strictum*, rock, Orange Co., SHIMER (156) p. 235.
- †*Engyra cotteai*, figg., Venassino, *E. digitata*, figg., Venassino, *E. pusilla*, var. *pauciseptata*, figg., Venassino (Capri), pp. 35-37; †*E. interrupta*, figg., Venassino (Capri), pp. 34 & 35; †*E. interrupta*, fig., chalk, Neocomiano, *E. cotteai*, chalk, Venassino, *E. digitata*, figg., chalk, Venassino, *E. pusilla*, var. *pauciseptata*, chalk, Morteau etc., Venassino, d'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp.; *E. pusilla* n. var. *pauciseptata*, Aptian deposits, Prov. Barcelona, d'OSSAT, Mem. Ac. Barcel. iii, Vol. v, No. 5, p. 8; *E. pusilla* n. var. *pauciseptata*, fig., synopsis of genus, *E. cotteai*, fig., Villanova, id. (130) pp. 216-218.
- Epicystris crucifera*, McCURRICH, Boll. Mus. Torino xx, No. 494, p. 12.
- †*Epismilia calciformis* n. sp., pl. i, fig. 1, *E. sudaghi* n. sp., fig. 2, Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, p. 189, †*E. frechi* n. sp., *E. ogilviei* n. sp., Aptian deposits, Prov. Barcelona, d'OSSAT, Mem. Ac. Barcel. iii, vol. v, No. 5, p. 8.
- †*E. robusta*, figg., *E. irregularis*, figg., *E. frechi* n. sp., figg., *E. ogilviei* n. sp., figg., Castellvi de la Marca, d'OSSAT (130) pp. 227-230.
- †*Epistreptophyllum montis*, figg., diagnosis, Casaréda, *E. excelsa* (*Leptophyllia*), figg., diagnosis, Caquerelle, *E. plicata* (paleon.), figg., diagnosis, Barrio, Upper Jurassic, Koby (105) pp. 99-102; *E. tenue*, figg., at Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, p. 207.
- Epizoanthus erdmanni*, *E. arborescens* (= *Isozoanthus*), NORDGAARD (128) p. 159.
- †*Eridophyllum verneuianum*, zone in Columbus limestone, Delaware, PROSSER, J. Geol. xiii, p. 435.
- Eudendridea*, discussion of family, *E. ramosus*, synonyms, affinity with Channel form, *E. simplex*, hermaphrodite gonophores, *E. fragili* n. sp., fig., *E. calceolatum* n. sp., fig., Balearic Islands, MOTZ-KOSSOWSKA, Arch. Zool. exp. Ser. 4, iii, 1, pp. 51-61.
- Eunephthya maldivensis* n. sp., fig., Kolumandulu, near to *Paraspongodes crassa*, HICKSON (89) p. 824; *E. pratti* n. sp., figg., *E. purpurea* n. sp., figg., Gulf Manaar, HENDERSON & THOMSON (88) p. 277.
- Eupsammida*, on the systematic position and subdivision of this family, figg., BOURNE (19) pp. 203-8.
- †*Eupsammia trochiformis*, Middle Miocene, BELLINI (9) p. 621.
- †*Favia delgadoi*, figg., diagnosis, Moulin de Tojeira, *F. dendroidea*, figg., diagnosis, Refugios, Upper Jurassic, Koby (105) pp. 96 & 97; *F. michelini*, Panasqueira, *F. gemmata*, A das Sorellas, *F. tenuistriata*, Cezimbra, *F. lobata*, Moulin de Lagoã, *F. choffati*, Torres Vedras, *F. cesaredensis*, Casaréda, *F. plicata*, Arséna, Upper Jurassic, figures and diagnoses, Koby, t. c. pp. 90-96.
- †*Favosites*, *F. divergens*, Carboniferous of S. W. Montana, DOUGLASS, Ann. Carnegie Mus. iii (2) pp. 407-428; *F. argentina* n. sp., figg., Celro del Fuerte, near *F. forbesi* var. *eifelenensis*, THOMAS, Zeitschr. Deutsch. geol. Ges. lvii, 2, pp. 268-288; *F. cervicornis*, in Upper Devonian, Vendée, WELSCH, Bull. Soc. geol. France, Ser. 4, T. 3, 1905, p. 1006; *F. goldfussi*, *crustata*, *reticulata*, *fibrosa*, Devonian near Olmutz, notes, FÉLIX, SB. Ges. Leipzig 1903-4, pp. 66, 71; chalk, Brousset, BRESSON, Bull. Carte geol. France xvi, No. 105, p. 93; *F. helderbergia*, rocks, Orange Co., New Jersey, note, *F. sphericus*, SHIMER (156) p. 236; *F. niagarensis*, Niagara formation near

- Cumberland, UHLER, Maryland Acc. Sci. Nov. 1905, pp. 19-26;  
 †*F. parasitica*, Carboniferous limestone, S. Derbyshire, FOX-STRANGWAYS, Mem. geol. Surv. U. K. July 1905, p. 14.
- †*Flabellidæ* Fam. nov., genera to be included, *Flabellum crassum*, figg., redescript., Gulf Manaar, synonyms., *F. rubrum*, figg., Ceylon, not accepting Gardiner's synonyms., BOURNE (19) pp. 194-201.
- †*Flabellum avicula*, Upper, *F. siciliense*, Upper Miocene, *F. cuneatum*, Upper Miocene, TOLDO, Boll. Soc. geol. Ital. xxiv, F. 2, 1905, p. 370; *F. avicula*, Pleistocene, *F. siciliensis* (var.) Pleistocene, TOLDO, Boll. Soc. geol. Ital. xxiv, F. 2, 1905, p. 383; *F. multiflore* n. sp., figg., measurements, Addu Atoll, GARDINER (71) p. 955.
- Tropidogathus cooperi* n. sp., fig., Suvadiva, GARDINER, t. c. p. 955; †*F. radians*, Tertiaries of New Zealand, noted, PARK, Tr. N. Zealand Inst. xxxvii, p. 506; *F. luticosum*, Slippery Creek, *F. papakurense* n. sp., figg., Slippery Creek, CLARKE, Tr. N. Zealand Inst. xxxvii, pp. 414 & 415; †*F. vaticani*, Middle Miocene, BELLINI (9) p. 648.
- Fungia dentigera*, Maldives etc., notes on anatomy and vegetative variation, *F. fungites*, note on continuous vegetative variation (varieties to be abandoned), Suvadiva, GARDINER (71) pp. 939-41.
- Fusticularia* n. gen. *herdmani* n. sp., figg., Ceylon, SIMPSON, Ann. Nat. Hist. Ser. 7, xv, p. 563, 1905.
- †*Genitzella crassa*, in Carboniferous formation, Carnian Alps, DE REGNY & GORTANI, Boll. Soc. geol. Ital. xxiv, 1905, p. 531.
- Gorgonacea*, notes on morphological importance of the axial skeleton, STUDER, Arch. Sci. Nat. xx, pt. ii, p. 582-584.
- G.*, families of group (melitodids), HICKSON (89) pp. 808-812.
- †*Goniocora gracilis*, figg., diagnosis, Cotovia, *G. magna*, figg., diagnosis, A. das Sorellas, Upper Jurassic, KOPY (105) pp. 49 & 50; *G. taurica* n. sp., at Altschakaya, Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, p. 205.
- †*Haplarea fragilis*, figg., diagnosis, Cesaréda, Upper Jurassic, KOPY (105) p. 127.
- Halcumpa* on *Phialidium*, Valencia Harbour, M. & C. DELAP (43) p. 5.
- Halicornaria insignis*, fig., growth form new, Gulf Manaar, THORNLEY (171) pp. 121 & 122.
- Haliscoptum periyense* n. sp., Gulf Manaar, HENDERSON & THOMSON (88) p. 322.
- †*Heliastrea fruilana*, sandstone, Middle Eocene, SCHUBERT (152) p. 14.
- †*Heliocenia variabilis*, figg., diagnosis, Zambujeiro, *H. humberti*, figg., diagnosis, Valtin, Jura français Is., *H. micropora*, figg., diagnosis, Pragança, Upper Jurassic, KOPY (105) p. 10-12; *H. variabilis*, at Sudagh, MISSUNA, Bull. Soc. Moscou 1904 (2, 3), pp. 187-228.
- †*Heliolites porosa*, in the chalk at Brousset, BRESSON, Bull. Carte geol. France xvi, No. 105, p. 93.
- †*Heliopora bellardii haime*, sandstone of Middle Eocene, SCHUBERT, (152) p. 13.
- Herophila gracilis* n. sp., HENDERSON & THOMSON (88) p. 550.
- Herpolitha simplex* n. sp., Nilandu, CLARK, t. c. p. 943. [Full ref. cannot be supplied. ED.]
- †*Heterocenia verrucosa*, figg., in the chalk, Goran, Venassino, d'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp.
- Heterocyathus æquicostatus*, synonyms., specimens intermediate with this and *Stephanocoris rousseaui*, to be incorporated, Ceylon, BOURNE (19) pp. 193 & 194; *H. æquicostatus*, figg., minute anatomy and histology, BOURNE, t. c. pp. 213-226.
- Heterogorgia verrilli* n. sp., fig., HENDERSON & THOMSON (88) p. 294.
- Heteropsammia michelini*, figg., minute anatomy and histology, BOURNE (19) pp. 226-231.

- Hexactinæ*, reclassification of Roule, résumé, SCHOUTEDEN, Ann. Soc. malac. Belgique xl, 1905, pp. 1-lv.
- †*Holocœnia cesaredensis*, figg., diagnosis, Cesaréda, Upper Jurassic, Koby (105) p. 31.
- †*Hydnophora crassa*, fig., chalk, Venassino, d'OSSAT, Atti Acc. Napoli xii (1905) No. 16, 45 pp.; *H. picteti*, fig., close to *styriaca*, *H. oppenheimi* n. sp., figg. Venassino (Capri), d'OSSAT, t. c. pp. 26 & 27.
- †*Isastrœa explanata* (Astrea), figg., diagn., Cesaréda, Upper Jurassic, Koby (105) p. 80; *I. minima* n. sp., at Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, p. 205, pl. ii, fig. 9; *I. turbinata*, Columbia, note, FELIX, SB. Ak. Munchen 1905, i, p. 88; *I. profunda*, *I. grandiflora* n. sp., BAKALOW, Centrbl. Mineral. 1905, No. 16, pp. 481-483.
- Isidella hippuris*, Norway, GRIEG in NORDGAARD (128) p. 158.
- Juncella elongata*, Bay of Bengal, THOMSON & HENDERSON (168) p. 554; *J. gemmacea*, figg., Ceylon, *J. fragilis* n. var. *rubra*, Gulf Manaar, *J. trilineata* n. sp., Siam, HENDERSON & THOMSON (88) pp. 313-315.
- Juneoptilum* n. gen. *alcocki* n. sp., viviparity, THOMSON & HENDERSON (168) p. 555.
- Kophobelemon burgeri*, THOMSON & HENDERSON, t. c. p. 556; *K. stelliferum*, GRIEG, see NORDGAARD (128) p. 158.
- †*Latimeandra bonanomii* Barrio, *L. frondescens*, A das Sorellas, *L. helvelloides*, Cesaréda, *L. cylindrica*, Refugios, Upper Jurassic, figg., diagn., Koby (105) pp. 130-133; *L.*, cf. *Normanni*, close to *L. gracilis*, *L. compacta* n. sp., at Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, p. 204; *L. rastelliniformis* (*microphyllia*), figg., Oiteiro Prágio, *L. contorta* (*mi.*), Moulin de Tojeira, *L. curtata* (*mi.*), Moulin de Tojeira, *L. minima*, Moulin de Tojeira, Upper Jurassic, figg., diagn., Koby (105) pp. 103-16.
- †*Latimeandrarœa submorchella* n. sp., figg. descript., note on genus, *L. felixi* n. sp., figg., Castellvi della Marca, pp. 187-192, d'OSSAT (130); *L. submorchella* n. sp., Aptian deposits, Prov. Barcelona, *L. felixi* n. sp., Barcelona, d'OSSAT, Mem. Ac. Barcel. iii, vol. 5, No. 5, p. 7.
- †*Latusastrœa alveolaris*, Altshakaya, Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, p. 206.
- Lebrunia neglecta*, synonyms, query as to generic name, possibly is *Rhodactis musciformis*, MCCURRICH, Boll. Mus. Torino xx, No. 494, p. 8.
- Leiopathes grimaldi*, figg., cf. *glaberrima*, N. Atlantic, ROULE (148) pp. 72-74.
- †*Leptastrœa anomala*, Middle Miocene, BELLINI (9) p. 621.
- Leptogorgia australiensis* var. *flavotincta*, fig. Ceylon, var. *perflana*, fig., colour varieties, HENDERSON & THOMSON (88) p. 389.
- †*Leptophylliæ* n. fam. for *Gyroseris*, *Leptophyllia*, *Haplarœa*, *Protethmos*, *Metethmos*, *Frechia*, *Placoseris*, etc., VAUGHAN (180) p. 391.
- †*Leptophyllia fromenteli*, Valfin, etc., *L. spinosa*, Moulin de Gajo, *L. cesaredensis*, Cesaréda, Upper Jurassic, figg., diagn., Koby (105) pp. 98 & 99; *L. fungina*, figg., at Altschakaya, *L.* cf. *plana*, fig., at Altschakaya, *L. pulchra* n. sp., at Altschakaya, *L.* cf. *pulchra* n. sp., *L. fromenteli*, *L. longistyla* n. sp., MISSUNA, Bull. Soc. Moscou xviii, 1904, pp. 207-210.
- Leptoseris fragilis*, fig., Suvadiva, etc., *L. papyracea*, fig., Suvadiva, *L. incrustans* n. sp., fig., young stages, Suvadiva, etc., GARDINER (71) p. 948.
- †*Lingulosmilia emarginata*, figg., diagn., Carrapateira, Upper Jurassic, Koby (105) p. 57.
- †*Lithophytum erinaceum* n. sp., fig., KÜKENTHAL, Zool. Jahrb. xxi, 5 & 6, pp. 719 & 720.
- †*Lithostrotion*, modifications; figg., *L. martini* (including *L. phillipsi*,

- Diphyphyllum lateseptatem*), *L. irregulare* (including *Petalaxis portlocki*), mutations, Bristol area, VAUGHAN, Quart. J. Geol. Soc. lxi, No. 2, pp. 278-280, & T. F. SIBLY, pp. 556-558.
- Lobophytum hedleyi*, Galle, Ceylon, notes, *E. pauciflorum*, Gulf Manaar, PRATT (139) pp. 252 & 253.
- Lobopsammia robusta* n. sp., Galle, BOURNE (19) p. 212.
- †*Lonsdaleia floriformis*, Carboniferous limestone of S. Derbyshire, FOX-STRANGWAYS, Mem. geol. Surv. U. K., July 1905, p. 14.
- Lophogorgia lutkeni*, fig., describing peculiarities, Gulf Manaar, *L. rubrotincta* n. sp., fig., *L. irregularis* n. sp., Gulf Manaar, HENDERSON & THOMSON (88) pp. 307 & 308.
- Lophohelia* reefs, Norway, NORDGAARD (128) p. 240; *L. prolifera*, Northerly reefs, occurrence above sea level, NORDGAARD, t. c. pp. 158 & 239.
- Lucernaria quadricornis*, NORDGAARD, t. c. p. 158.
- Lytocarpus* (?) *hornelli* n. sp., figg., Ceylon, *L. fasciculatus* n. sp., figg., Galle, *L. plumosus* n. sp., figg., Gulf Manaar, THORNLEY (171) pp. 123 & 124.
- Madrepora durvillei*, tentacular modifications, KREMPF, Ann. Nat. Hist. Ser. 7, xv, p. 597, 1905.
- Madreporaria fungida*, critical review and attempted classification, Bibliogr., VAUGHAN, P. U. S. Mus. xxviii, 1905, pp. 371-424.
- †*Mastopora concava*, JONKER (97) p. 139.
- Metitodes variabilis* n. sp., figg., measurements of specimens, HICKSON (89) pp. 808-812.
- Metridium dianthus*, Norway, NORDGAARD (128) p. 159.
- Micrabacida* n. fam. genera *Micrabacia*, *Diafungia*, *Microsmilia*, *Podoseris*, *Antilloseris*, VAUGHAN, P. U. S. Mus. xxviii, 1905, p. 386.
- Microptilum willemsi*, Andaman Sea, THOMSON & HENDERSON (168) p. 555.
- †*Microsolena culcitæformis*? Pertschemkaya, MISSUNA, Bull. Soc. Moscou 1904 (2, 3), pp. 187-228; *M. agariciformis*, Vallée d'Abbadia, *M. fromenteli*, Barrio, *M. henniei*, Carrapateira, *M. tuberosa*, Barrio, etc., *M. pisiformis*, Cesaréda, Upper Jurassic, figg. diagn., KOPY (105) pp. 137-140.
- †*Millepora cylindrica*, figg., Eocene, Madagascar, TORNQUIST, Abh. Senckenb. Ges. xxvii (3) pp. 331-333.
- †*Monticulipora uexilis*, Carboniferous formation, Carnian Alps, DE REGNY & GORTANI, Boll. Soc. geol. Ital. xxiv, 1905, p. 530; *M. petropolitana*, JONKER (97) p. 124; *M. tumida*, Carboniferous limestone of S. Derbyshire, FOX-STRANGWAYS, Mem. geol. Surv. U. K., July 1905, p. 14.
- †*Montlivaultia acutomarginata*, *M. obconica*, *M. inflata*, Sudagh, *M. cf. elongata*, Altschakaya, *M. decipiens*, Altschakaya, *M. crassipeta*, Altschakaya, *M. piriformis* n. sp., p. 200, *M. deformata* n. sp., p. 201, *M. serrata*, Altschakaya, Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, pp. 187-228; *M. (Margarophyllia) capitata*, *M. af. Michaelis*, note on form, Seiseralp, S. Tyrol, BLASCHKE, Beitr. Pal. Oesterr.-Ung. xvii, p. 165; *M. obconica*, figg., diagn., Silveiras, *M. thurmanni*, Cesaréda, *M. alcobacensis*, Barrio, *M. renevieri*, Cesaréda, Upper Jurassic, figg., diagn., KOPY (105) pp. 71-73; †*M.*, cf. *sessilis* (= *Anthophyllum* Münster), in iron formations, Lorraine, BENECKE, Abh. geol. Karte Elsass, New Ser., pt. 6, pp. 72 & 73.
- Muricella bengalensis* n. sp., Bay of Bengal, THOMSON & HENDERSON (168) p. 553; *M. perramosa*, Suvadiva Atoll, etc., HICKSON (89) p. 815; *M. ceylonensis* n. sp., cf. *M. ramosa*, Ceylon, *M. complemata*, very variable, W. Ceylon, HENDERSON & THOMSON (88) pp. 300-304.
- Nephtya chabrolii* n. var. *ceylonensis*, Gulf Manaar, *N. ceylonensis* n. sp., fig., HENDERSON & THOMSON, t. c. p. 275; *N. digitata*, figg., *N. eos*, fig., KÜKENTHAL, Zool. Jahrb. Syst. xxi, pp. 707-719.



- †*Notocyathus pedicellatus*, Tertiaries, New Zealand, PARK, Tr. N. Zealand Inst. xxxvii, pp. 506, etc.
- †*Orbicella thesiana* n. sp., figg., Columbia (= *Heliastrea*), FELIX, SB. Ak. Munchen 1905, i, pp. 86 & 87.
- †*Pachygyra voltzi*, figg., diagn., Moulin de Tojeira, Upper Jurassic, KOPY (105) p. 21.
- Palythoa tuberculosa*, Red Sea, KREMPF, Bull. Mus. Paris 1905, p. 195.
- Paragathus parvulus*, diagram, Maldives, *P. lifuensis*, Maldives, GARDINER (71) p. 956.
- Paraedwardsia* n. gen., CARLGREN, *arenaria* n. sp., Norway, NORDGAARD (128) p. 158.
- Paramuricea placomus*, Norway, NORDGAARD, t. c. p. 158.
- †*Parasmilia cornuta*, Sandstone, Middle Eocene, SCHUBERT (152) p. 14.
- Paraspongodes striata* n. sp., figg., Gulf Mannar, HENDERSON & THOMSON (88), p. 277; *P. fruticosa*, Norway, *P. rosca* Grieg, see NORDGAARD (128) p. 158.
- Paratylopathes atlantica*, figg., *P. grayi* (= *Tylopathes*), figg., notes, N. Atlantic, ROULE (148) pp. 71 & 72.
- †*Patalophyllia cyclotoides*, Mt. Berici, Veneta, FABIANO, Atti Ist. Veneto lxiv, 2, p. 1826; †*P. c.*, sandstone, Middle Eocene, SCHUBERT (152) p. 14.
- Pavonia repens*, figg., growth form, Maldives, Minikoi, etc., GARDINER (71) p. 946.
- †*Pavonaria portisi*, Middle Miocene, BELLINI (9) p. 648.
- Pennatula aculeata*, Atlantic, JUNGENSEN, Ov. Danske Selsk. 1905, No. 2, pp. 127-135; *P. a.*, GRIEG, see NORDGAARD (128) p. 158; *P. murrayi*, THOMSON & HENDERSON (168) p. 557; *P. murrayi*, Suvadiya, HICKSON, Alcyonaria of the Maldive and Laccadive Archipelago, Fauna and Geogr. of, 1905, vol. ii, pt. iv, p. 823.
- †*Peplosmilia thilda*, *coquandi*, *catalannica*, *iberica*, *casanasi*, *fromenteli*, figg., Castellvi de la Marca, n. spp., d'OSSAT (130) pp. 238-243; *P. thilda*, *coquandi*, *catalannica*, *iberica*, *casanasi*, *fromenteli*, Aptian deposits, Prov. Barcelona, n. spp., d'OSSAT, Mem. Ac. Barcel. iiii, vol. v, No. 5, p. 8.
- Perigonimus schneideri* n. sp., with a membranipore, fig., *P. cidaritis*, fig., *P. neapolitanus*, fig., note on variability, Balearic Isles, MOTZ-KOSSOWSKA (124) pp. 68-76.
- Phellia* sp., carried by *Polydectus cupilifera*, habits, DUERDEN, P. Z. S. 1905, ii, pt. 7, pp. 494-510.
- Phyllactidae*, family discussed, proposed to exclude *Diplactis*, *Phyllodiscus*, *Lophactis*, MCCURRICH, Boll. Mus. Torino xx, No. 494, pp. 2 & 3.
- †*Phyllangia microsyderea*, Middle Miocene, BELLINI (9) p. 621.
- †*Phyllocenia corollaris*, figg., notes, Castellvi de la Marca, *Ph. exsculptata*, figg., synonyms, notes, Villanova, d'OSSAT (130) pp. 206-209.
- †*Phyllosmilia calyculata*, sandstone, Middle Eocene, SCHUBERT (152) p. 14.
- †*Phymastrea capellini*, Middle Miocene, BELLINI (9) p. 621.
- Physoseris* n. gen. (= *Trochosmilia* Duncan), type *T. insignis* Duncan, VAUGHAN (180) p. 396.
- †*Pironastrea discoides*, sandstone, Middle Eocene, SCHUBERT (152) p. 14.
- †*Placocenia ogilvia*, figg., diagnosis, Barrio, Upper Jurassic, KOPY (105) p. 35.
- †*Placogyra felixi*, figg., diagnosis, Pragança, Upper Jurassic, KOPY, t. c. p. 22.
- †*Plesiosmilia gracilis*, fig., Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, pp. 187-228.
- Pleurocorallium johnsoni*, West Coast of Ireland, HICKSON, Nature lxxiii, p. 5.

- †*Pleurodictyum* sp., figg.; near *problematicum*, Cerro de Fuerte, *P. amazonicum*, Maercuri, Argentina, THOMAS, Zeitschr. Deutsch. geol. Ges. lvii, pp. 267, 287.
- †*Pleurosmilia carrapateirensis*, Carrapateira, *P. truncata*, Cesaréda, *P. milaschewitschi*, Carrapateira, *P. cellulosa*, Cap d'Espichel, *P. crassa*, Onteiro-Pragão, Upper Jurassic, figg., diagnosis, Koby (105) pp. 63-66; *P. neocomiensis*, figg., *P. distenafoi* n. sp., figg., chalk, Venassino, d'OSSAT, Atti Acc. Napoli xii (1905), No. 16, pp. 40-42; *P. crassa*, Curvaceira, *P. discoidea*, Alrota, *P. tenuistriata*, Cap d'Espichel, *P. felizi*, Barrio, *P. corallina*, A das Sorellas, etc., *P. duncani*, Carrapateira, *P. cuneata*, Onteiro-Pragão, Upper Jurassic, figg., diagnosis, Koby (105) pp. 37-62.
- †*P. kobyi*, *volzi*, *P. vaughani*, Aptian deposits, Prov. Barcelona n. spp., d'OSSAT, Mem. Ac. Barcel. iii, vol. v, No. 5, p. 8; *P. kobyi* n. sp., fig., *P. volzi* n. sp., fig., *P. vaughani* n. sp., fig., *P. stutzi*, Castellvi de la Marca, d'OSSAT (130) pp. 232-236.
- †*Pleurotomasia*, cf. *nauvoensis*, Carboniferous formation of S. W. Montana, EARL DOUGLASS, Ann. Carnegie Mus. iii (2), pp. 407-428; *P. elliptica*, JONKER (97) p. 124.
- P. subdepressa*, Upper Niagara formation, Cumberland, UHLER, Maryland Acc. Sci. Nov. 1905, pp. 19-26.
- Plexaura prælonga* var. *typica* n. var. *elongata*, *P. antipathes* n. var. *flexuosa*, HENDERSON & THOMSON (88) pp. 304-306.
- †*Phytogyra magnifica*, figg., diagnosis, Montejuato, Upper Jurassic, Koby (105) pp. 19 & 20.
- Podabacia*, note on primitive type, GARDINER (71) p. 941.
- Polyparium ambulans*, identified as a fragment of *Actinia*, CARLGRÉN, Biol. Zentrbl. xxiv, No. 8, pp. 253-255.
- †*Polyphyloseris bellis*, figg., diagnosis, Casal-Novato, etc., Upper Jurassic, Koby (105) p. 122.
- †*Polytremacis abdita*, Middle Miocene, BELLINI (9) p. 621.
- Primnoa ellisii*, Andaman Islands, THOMSON & HENDERSON (168) p. 551.
- Primnois alba* n. sp., THOMSON & HENDERSON, t. c. p. 551.
- Protanthea simplex* on *Lophohelia prolifera*, NORDGAARD (128) p. 158.
- Protocaulon indicum* n. sp., THOMSON & HENDERSON (168) p. 554.
- †*Protoceras choffati*, figg., diagnosis, Albandra, Upper Jurassic, Koby (105) p. 112.
- Protoptilum medium* n. sp., THOMSON & HENDERSON (168) p. 555.
- Psammocora*, note on genus, *P. contigua*, Maldives, Minikoi, *P. divaricata* n. sp., figg., near to *digitata*, Suvadiva, *P. exesa*, variations of group, Hulule, etc., GARDINER (71) pp. 951-953.
- Psamoseris* gen., in which *Stephanoceras* is included as intermediate forms connect the two types, only sp. *P. rousseaui*, fig., Haddumati Atoll, GARDINER, Fauna and Geography of the Maldives and Laccadive Archipelagoes, vol. ii, Sup. i, p. 933.
- †*Rhabdophyllia cervina* (*Hecosmilia*), figg., diagnosis, Moulin du Gais, *R. variabilis*, figg., diagnosis, Onteiro-Pragão, Upper Jurassic, Koby (105) pp. 78 & 79.
- †*Rhippidogyra*, fig., discussion on individuality in Zoantharians, d'OSSAT, Bol. Soc. geol. Ital. xxiv, F. 1, 1905, p. 151; *R. elegans*, figg., *R.*, cf. *crassa*, *R. magna* n. sp., figg., Sudagh, German Colony, MISSUNA, Bull. Soc. Moscou xviii, 1904, pp. 187-228; *R. flabellum* (*Lobophyllia*), Cesaréda, *R. elegans*, Cesaréda, *R. excelsa*, Moulin de Tojeira, *R. crassa*, Moulin de Tojeira, Upper Jurassic, figg., diagnosis, Koby (105) pp. 14-17.
- Rhodocyathus* n. gen. *ceylonensis* n. sp., figg., Trincomalee, descript., affinity to *Ceratotrochus*, BOURNE (19) pp. 191 & 192.
- †*Rhyzotrochus deperditus*, Middle Miocene, BELLINI (9) p. 621.

- Sagartia*, habits of, symbiosis with *Pagurus*, DUERDEN, P. Z. S. ii, 1905, pp. 494-510; *S. viduata*, spermatozoon, figg., RETZIUS (146) p. 81.
- Sarcophytum bicolor* n. sp., figg., Gulf Manaar, *S. oligotrema* n. sp., figg., Gulf Manaar, *S. contortum* n. sp., figg., Galle, Ceylon, PRATT, R. Soc. Rep. on Pearl Oyster Fisheries, pt. iii, 1905, pp. 249-251; *S. parvum* n. sp., *S. fungiforme* n. sp., THOMSON & HENDERSON (168) p. 549.
- Sclerophytum herdmanni* n. sp., figg., Ceylon, *S. marenzelleri*, Gulf Manaar, monomorphic, *S. densum*, young specimen, Gulf Manaar, *S. durum*, variable, Gulf Manaar, PRATT (139) pp. 251-257.
- Scirpearrella aurantiaca* n. sp., figg., Gulf Manaar, *S. divisa* n. sp., fig., HENDERSON & THOMSON (88) pp. 311 & 312.
- S. moniliforme*, Andamans, *S. alba* n. sp., Bay of Bengal, iid. t. c. p. 553.
- Siderastrca clava*, veget. var., Suvadiva, etc., *S. maldivensis* n. sp., figg., Minikoi, Hulule, GARDINER (71) pp. 934-936.
- +*S. funesta*, sandstone, Middle Eocene, SCHUBERT (152) p. 14.
- Solenocaulon tortuosum*, descript., Gulf Manaar, HENDERSON & THOMSON (88) p. 286.
- Spongodes pulchra* n. sp., figg., Gulf Manaar, *S. bicolor* n. var. *ceylonensis*, n. var. *dubia*, fig., *S. aurantiaca* n. sp., figg., Ceylon, *S. armata* n. var. *ceylonensis*, fig., HENDERSON & THOMSON, t. c. pp. 280-282.
- S. rosea*, Bay of Bengal, *S. rakaya*, iid. t. c. p. 550.
- Stachyodes ambigua*, figg., modification of scales by *Eunice*, MENNEKING, Arch. Naturg. lxxi, i, pp. 245-266.
- Stachyptilum fuocum* n. sp., THOMSON & HENDERSON (168) p. 557.
- Stenogorgia ceylonensis* n. sp., figg., Trincomalee, HENDERSON & THOMSON (88) p. 310.
- +*Stenogyra sinuosa*, fig., discussion on individuality in Zoantharians, d'OSSAT, Boll. Soc. geol. Ital. xxiv, F. 1, 1905, p. 151.
- +*Stephanococina greppini*, Cesaréda, *S. ramulifera* (*Stephanastrea*), Cesaréda, *S. favulus* (*Agarica*), Cabreira, Upper Jurassic, figg., diagn., Koby (105) pp. 54-56.
- Stereonephthya papyracea* n. sp., fig., *St. micolor*, fig., *St. crystallina* n. sp., fig., KÜKENTHAL, Zool. Jahrb. Syst. xxi, pp. 694-707.
- Stichodactylinae*, six species from the Red Sea, KREMPF, Bull. Mus. Paris 1905, pp. 193 & 194.
- Stichopathes ceylonensis* n. sp., fig., Gulf Manaar, *S. contorta* n. sp., fig., W. Ceylon, *S. papillosa* n. sp., figg., W. Ceylon, *S. gracilis* n. var., *spiralis*, off Galle, Ceylon, SIMPSON & THOMSON (159) pp. 99-102.
- S. echinulata*, Djibouti, KREMPF, Bull. Mus. Paris 1905, p. 196; *S. flagellum*, figg., N. Atlantic, notes, *S. dissimilis*, figg., N. Atlantic, two forms, notes, *S. richardi*, figg., notes, *S. abyssicola*, figg., cf. *Cirrhipates filiformis*, Gray, N. Atlantic, ROULE (148) pp. 57-66.
- Stoictactis anemone*, synonyms to identify spp., McCURRICH, Boll. Mus. Torino xx, No. 494, pp. 9-11.
- +*Streptelasma europæum*, fig., JONKER (97) p. 162.
- Strophogorgia verrilli*, Andaman Sea, THOMSON & HENDERSON (168) p. 550.
- +*Strophonema filitexta*, upper Limpson formation, TAFF, Dep. N. S. geol. Surv. 1904, p. 25; *S. imbrex*, JONKER (97) p. 124; +*S. rhomboidalis*, fig., *S. schmidti*, fig., p. 162, JONKER, t. c.
- +*Stylina compressa* n. sp., fig., MISSUNA, Bull. Soc. Moscou xviii, 1904, p. 195; *S. cupuliformis*, Oiteiro-Pragão, *S. renevieri*, Montejuento, *S. delgadoi*, Oiteiro-Pragão, *S. tenax*, Cesaréda, *S. carrapateirensis*, Carrapateira, *S. pediculata*, Carrapateira, *S. tubulifera*, Cabanas-de-Torres, Upper Jurassic, figg., diagn., Koby (105) pp. 25-30; *S. pavonai* n. sp., *S. steinmanni* n. sp., *S. sp.*, close to *S. steinmanni*, chalk, Venassino, d'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp.

- Stylobelemnoïdes* n. gen. *herdmani* n. sp., figg., near to *Stylobelemnon*, Trincomalee, HENDERSON & THOMSON (88) p. 325.
- †*Stylophora conferta*, Mt Berici, Veneto, FABIANO, Atti Ist. Veneto lxiv, 2, p. 1826.
- †*S. distans*, sandstone, Middle Eocene, SCHUBERT (152) p. 14.
- †*Stylopora annulata*, fig., Eocene formation, Madagascar, TORNQUIST, Abh. Senckenb. Ges. xxvii (3), pp. 331-333.
- †*Stylosmilium michelini*, fig., diagnosis, Cesaréda, Upper Jurassic, KOPY (105) pp. 12-14.
- Suberogorgia verriculata*, varying, Ceylon, HENDERSON & THOMSON (88) pp. 287-289.
- Sympodium indicum* n. sp., *S. incrustans* n. sp., Andamans, THOMSON & HENDERSON, Ann. Nat. Hist. Ser. 7, xv, p. 547.
- †*Synkelia felixi*, figg., diagnosis, Torre do Ontão, Upper Jurassic, KOPY (105) p. 2.
- †*Syringophyllum organum*, JONKER (97) p. 162.
- †*Syringopora distans*, "spp." possibly merely "circuli," *S. cf. geniculata*, *S. cf. ramulosa*, *S. θ.*, cf. *laxa*, figg., *S. reticulata*, Bristol area, VAUGHAN Quart. J. Geol. Soc. li, No. 2, pp. 267 & 268; *S. reticulata*, Carboniferous formation of Carnian Alps, DE REGNY & GORTANI, Boll. Soc. geol. Ital. xxiv, 1905, p. 531.
- Tealia crassicornis*, *T. davisii*, morphology of mesentery, figg., CARLGRÉN, Zool. Anz. xxviii, pp. 510-515; *T. (Madoniactis) lofotensis*, Norway, NORDGAARD (128) p. 159.
- Telesto rubra*, Andamans, *T. arthuri*, THOMSON & HENDERSON (168) p. 554.
- †*Tiaradendron quenstedti*, figg., diagnosis, Cotovia, Upper Jurassic, KOPY (105) p. 4.
- †*Thamnastrea (Centrastrea) bourgeati*, figg., diagn., Torres Vedras, *T. (Centrastrea) minima*, figg., diagn., Cesaréda, Upper Jurassic, KOPY, t. c. pp. 120 & 121.
- †*T. concinna*, in Corallian of Simpson pit, Dover, ETHERIDGE (55) p. 47; *T. (Centrastrea) heeri*, Cesaréda, *T. (Centrastrea) loryi*, A das Sorellas, *T. (Centrastrea) incoleti*, Cesaréda, *T. (Centrastrea) coquandi*, Valpin Is., Upper Jurassic, figg., diagn., KOPY (105) pp. 117-119; *T. concinna*, mouth of Oder, cf. *T. gracilis* Goldf., notes on form, FELIX, SB. Ges. Leipzig 1903-4, pp. 6-16; *T.*, cf. *Favrei*, chalk, Venassino, D'OSSAT, Atti Acc. Napoli xii (1905), No. 16, 45 pp; *T.*, cf. *Favrei*, figg., Venassino (Capri), D'OSSAT, t. c. p. 14; *T. grassa*, *T. profunda*, n. spp., BAKALOW, Centrbl. Mineral. 1905, No. 16, pp. 481-483.
- T. multicornata*, Cesaréda, *T. arachnoides (Madrepora)*, Cesaréda, *T. gregoryi*, Casaeos-Gallegos, *T. oculata*, Alrota, *T. pseudoculata*, Amaral, Upper Jurassic, figg., diagn., KOPY (105) pp. 114-116; *T.*, cf. *Walcotti* Dunc., fig., *T. patina*, *T.*, cf. *digitata*, Altschakaya, Sudagh, MISSUNA, Bull. Soc. Moscou xviii, 1904, p. 211; *T. stricta (=Synastrea)*, notes, Castellvi della Marca, D'OSSAT (130) p. 182.
- †*Thamnoseri etalloni*, figg., diagn., Onteiro-Pragão, *T. ogilviae*, Cesaréda, *T. fromenteli*, Refugios, Upper Jurassic, figg., diagn., KOPY (105) pp. 123 & 124.
- †*Thecocyathus pusillus*, figg., diagnosis, Cotovia, Upper Jurassic, KOPY, t. c. p. 1.
- †*Thecoseri piriformis*, figg., diagnosis, Carrapateira, Upper Jurassic, KOPY, t. c. p. 126.
- †*Thecosmilium*, fig., discussion on individualism in Zoantharians, D'OSSAT, Boll. Soc. geol. Ital. xxiv, F. 1, 1905, p. 151; *T. annularis* in corallian of Simpson pit, Dover, ETHERIDGE (55) p. 47; †*T. catalannica* n. sp., figg., Castellvi de la Marca, p. 198 D'OSSAT (130); †*T. catalannica* n. sp., Aptian deposits in Prov. Barcelona, D'OSSAT, Mem. Ac. Barcel. iii, vol. v, No. 5, p. 7; †*T. n. sp.*, ind. aff. *granulata*, Seiseralpe, S. Tyrol,

- BLASCHKE, Beitr. Pal. Oesterr.-Ung. xvii, p. 165; *T. suevica* (*Lithodendron*), Cabanas des Torres, *T. trichotoma*, Cesaréda, *T. sinuosa*, Barrio, *T. panasqueirensis*, figg., diagnosis, Panasqueira, *T. langi*, Hofbergle Is., Upper Jurassic, figg., diagnosis, Koby (105) pp. 73-78; †*T. vasiformis* n. sp., Sudagh, MISSUNA, Bull. Soc. Moscou xviii, p. 203.
- Thonarella variabilis*, figg., scales and canal arrangement, MENNEKING, Arch. Naturg. lxxi, i, p. 260.
- Triactis producta*, note on urticating papillæ, Djibouti, KREMPF, Bull. Mus. Paris 1905, p. 193.
- †*Trocharea etalloni*, figg., diagnosis, Cesaréda, *T. tenuilamellosa*, figg., diagnosis, Cesaréda Is., Upper Jurassic, Koby (105) p. 125.
- †*Trochocyathus affinis*, Pleistocene, p. 383, †*T. cornucopia*, Upper Miocene, *T. undulatus*, Upper Miocene, TOLDO, Boll. Soc. geol. Ital. xxiv, 1905, p. 370.
- †*T. laterocristatus*, Middle Miocene, BELLINI (9) p. 648; †*T. mantelli*, Tertiaries of New Zealand, noted, PARK, Tr. N. Zealand Inst. xxxvii, p. 506, etc.; *T. perarmatus* (= *Turbinolia*, Ronault) Nummulitic Series, Hérault, DONCIEUX, Ann. Univ. Lyon xvii, 1905, p. 113; *T. versicosatus*, *T. subcristatus*, Middle Miocene, BELLINI, t. c. p. 621; †*Trochophlegma gregoryi*, figg., diagnosis, Vallée d'Abbadia Is., Upper Jurassic, Koby (105) p. 125.
- †*Trochosmilia*, synopsis of group, figg., *T. nevianii* n. sp., figg., notes, *T. sandalina* n. sp., figg., Castellvi de la Marca, d'OSSAT (130) pp. 218-227; *T. portisi* n. sp., *T. nevianii* n. sp., *T. sandalina* n. sp., Aptian deposits, Prov. Barcelona, d'OSSAT, Mem. Ac. Barcel. iii, vol. v, No. 5, p. 8.
- Turbinolida*, against the inclusion of *Flabellum* in this family, BOURNE, R. Soc. Rep. on Pearl Oyster Fisheries, Pt. iv, 1905, pp. 189.
- †*Turbinoseris dubravicensis*, sandstone, Middle Eocene, SCHUBERT (152) p. 13.
- Tylopathes* (?) *punctata* n. sp., N. Atlantic, ROULE (148) p. 81.
- Ulocyathus arcticus*, Norway, NORDGAARD (128) p. 158.
- Verrucella rubra* n. sp., figg., Gulf Manaar, *V. flexuosa* n. var. *aurantiaca*, figg., W. Ceylon, n. var. *gallensis*, figg., Gulf Manaar, HENDERSON & THOMSON (88) pp. 316-318.
- Virgularia multiflora*, measurements, Trincomalee, *V. sp.* fig., measurements, Trincomalee, *V. tuberculata* n. sp., figg., Trincomalee, HENDERSON & THOMSON, t. c. pp. 319-322.
- †*Zaphrentis* cf. *dalei*, Carboniferous, S. W. Montana, DOUGLASS, Ann. Carnegie Mus. iii (2), pp. 407-428; *Z. (Canina)* cf. *Kokscharowi*, Carboniferous, Carnian Alps, DE REGNY & GORTANI, Boll. Soc. geol. Ital. xxiv, F. 2, 1905, p. 530.
- †*Z. roemeri*, rocks, Orange Co., New Jersey, SHIMER (156) p. 235; *Z. enniskilleni*, *Z. phillipsi*, Carboniferous limestone, S. Derbyshire, FOX-STRANGWAYS, Mem. geol. Surv. U. K. July 1905, p. 14; *Z. kokscharowi*, Carboniferous, Carnian Alps, DE REGNY & GORTANI, Boll. Soc. geol. Ital. xxiv, 1905, p. 530; *Z. (omitting cylindrica)*, *phillipsi*, figg., discussion of characters, *Z. cornucopia*, descript. Bristol Area, VAUGHAN, Quart. J. Geol. Soc. lxi, No. 2, p. 270-272; limestone of Weston-super-Mare, SIBLY, Quart. J. Geol. Soc. lxi, Pt. 3, pp. 556-558.
- Zoanthes bertholleti* n. varr. *viridis* and *cœruleus*, Red Sea S., KREMPF, Bull. Mus. Paris 1905, p. 195; *Z. flos-marinus*, described, *Z. sociatus*, synonyms. *Z. solanderi*, fig., *Z. audugei*, fig., *Z. dubius*, fig., descript. *Z. nymphæus*, McCURRICH, Boll. Mus. Torino xx, No. 494, pp. 13-21.

## SCYPHOZOA.

- Scyphomedusæ*, systematic synopsis, HARGITT, Bull. Bureau Fish. Washington xxiv, pp. 61-70.
- Agalma sarsis*, development, in relation to *Siphonophora*, phylogeny, figg., WOLTERECK, Verh. Deutsch. zool. Ges. 1905, pp. 119-22.
- Agliscera elata*, 3400 m. Atlantic, RICHARD, Bull. Mus. Monaco xli, p. 6, 1905.
- Atolla bairdi*, 3-4000 metres, Atlantic, figg., No. 45, p. 46, RICHARD, t. c. p. 6, 1905.
- Aurelia aurita*, Valencia Harbour, M. & C. DELAP (43) p. 14; *A. aurita* var. *colpota*, Maldives, *A. solida* n. sp., figg., Maldives, close to *A. aurita*, BROWNE, Fauna and Geogr. Maldive and Laccadive Archip. ii, Suppl. pp. 959-962; *A. aurita*, KLÆR, Nyt Mag. Naturv. xlii, 1, p. 65, 1904.
- Cassiopea andromeda* n. var. *maldivensis*, descript., notes on habit, infested by *Zooxanthella*, Maldives, note on genus, BROWNE, Fauna and Geogr. Maldive and Laccadive Archip. ii, Suppl. i, pp. 962-966.
- Chrysaora isosceles*, Valencia Harbour, M. & C. DELAP (43) p. 15.
- Cotylorhiza tuberculata*, figg., MAAS (113) pp. 58 & 59, pl. vi, fig. 47, pl. ii, figg. 16-19.
- Crambessa* sp., descript. Ceylon, BROWNE (26) p. 159.
- Cyanea arctica*, Spitzbergen, MAAS (113) p. 56.
- C. lamarcki*, figg., rearing in an aquarium, rate of growth, *Ephyrae*, Valencia Harbour, DELAP, Ann. Rep. Fish. Ireland 1902-3, Pt. ii, app. 1 (1905), pp. 20-22.
- Halistemma rubrum*, development, study in relation of *Narcomedusæ* to *Siphonophora*, figg., WOLTERECK, Verh. Deutsch. zool. Ges. 1905, pp. 121 & 122.
- Hydroides dianthus*, larvæ, rearing and habits, figg., notes on *H. pectinata* and *H. uncinata*, ZELENY, Biol. Bull. viii, 1905, pp. 308-312.
- Laortira*, lists and remarks on fossil forms, FRITEL, Naturaliste, Ser. 2, No. 450, p. 269 and 451, p. 283.
- Limnocyda tanganyicæ*, not halolimnic, PELSENER, Bull. Ac. Belgique xii, p. 706, 1905.
- Metrichium marginatum*, reaction to stimulus, experimental, ALLABACH, Biol. Bull. x, 1905, pp. 35-43.
- Nansithoë punctata*, redempt., Ceylon, BROWNE (26) pp. 157 & 158.
- Netrostoma cerulescens*, Maldives, described, Haddumati, BROWNE, Fauna and Geogr. Maldive and Laccadive Archip. ii, Suppl. i, pp. 966-970.
- Pelagia perla*, synonyms, widely distributed, MAAS (113) p. 57; *P. perla*, Valencia Harbour, M. & C. DELAP (43) p. 15.

## CTENOPHORA.

- Ctenophora*, systematic synopsis, HARGITT, Bull. Bureau Fish. Washington xxiv, pp. 30-35.
- Cnidaria*, paleozoic type specimens in New York State Museum, list, CLARKE & MERRILL, Rep. N. York Mus. lvi, pt. 2, Bull. lxx (Paleont. 8), pp. 35-62.
- Beroë stewarti*, Ceylon, BROWNE (26) p. 162; *B. ovata*, Valencia Harbour, M. & C. DELAP (43) p. 5; *B. cucumis*, seasonal occurrence, Firth of

- Clyde, BROWNE, P. R. Soc. Edinb. xxv, 1905, pp. 784 & 785 ; *B. norvegica*, Valencia Harbour, M. & C. DELAP (43) p. 5.
- Bolina infundibulum* (= *B. norvegica* Chun), Norway, NORDGAARD (128) p. 46 ; *B. i.* (= *Muemia norvegica* Sars, *Beroë bilobata* Dalzell).
- Hydroctena*, affinities of *Ctenophora* and *Polycladida*, SCHOUTEDEN, Ann. Soc. malac. Belgique xl, p. cxvii, LAMÈRE, t. c. p. cxxvii.
- H.*, larval stages and phylogeny of the *Annelida*, WOLTERECK, Zool. Anz. xxviii, pp. 285-333.
- Pleurobrachia*, off Port Erin, SCOTT, P. Liverp. biol. Soc. xix, p. 226 ; *P. globosa* n. var. *ceylonensis*, BROWNE (26) p. 161 ; *P. pileus*, Valencia Harbour, M. & C. DELAP (43) p. 5 ; *P. p.*, Scotch shores, seasonal occurrence, BROWNE, P. R. Soc. Edinb. xxv, 1905, p. 784.





## XVII. SPONGIÆ.

BY

PROFESSOR E. A. MINCHIN.

## CONTENTS

	Page
INTRODUCTION . . . . .	2
I. TITLES . . . . .	3
II. BIOLOGY . . . . .	6
A. Evolution and Phylogeny . . . . .	6
B. Morphology . . . . .	6
(i) General Accounts (vacant).	
(ii) External Characters . . . . .	6
(iii) Anatomy of Soft Parts. Canal-System . . . . .	7
(iv) Skeletal System . . . . .	7
(a) General Accounts . . . . .	7
(b) Material of the Skeleton . . . . .	7
(c) Skeletal Elements, Morphology, Develop- ment, and Nomenclature of . . . . .	7
(d) Skeletal Anatomy . . . . .	8
(v) Histology . . . . .	8
C. Physiology . . . . .	8
D. Bionomics (vacant).	
E. Reproduction and Development . . . . .	8
F. Miscellaneous . . . . .	8
III. DISTRIBUTION.	
A. Geographical	
a. Marine	
(i) General . . . . .	9
(ii) Atlantic Ocean and Adjacent Seas . . . . .	9
(iii) Indian Ocean and Adjacent Seas . . . . .	9
(iv) Pacific Ocean and Adjacent Seas . . . . .	10
(v) Arctic Seas (vacant).	
(vi) Antarctic Seas (vacant).	
β. Freshwater . . . . .	10

	Page
B. Geological	
(i) General (vacant).	
(ii) Cainozoic . . . . .	10
(iii) Mesozoic . . . . .	10
(iv) Palæozoic . . . . .	10
IV. SYSTEMATIC.	
A. Porifera, general . . . . .	11
B. Calcarea . . . . .	11
(i) Homocœla . . . . .	11
(ii) Heterocœla . . . . .	11
C. Hexactinellida	
(i) Lyssacina . . . . .	11
(ii) Dictyonina . . . . .	12
D. Demospongiæ . . . . .	12
(i) Tetractinellida . . . . .	12
(1) Choristida . . . . .	12
(2) Lithistida . . . . .	13
(ii) Monaxonida . . . . .	13
(a) Hadromerina . . . . .	14
(b) Halichondrina . . . . .	15
(iii) Keratosa . . . . .	24
(iv) Myxospongida . . . . .	26
E. Incertæ Sedis . . . . .	26

---

## INTRODUCTION.

I. The Zoological Record of Sponges for 1905 includes only 48 publications, exclusive of abstracts and reviews. This number is much below the average; but it should be noted that some of the memoirs recorded in the Record for 1904 (for instance, Nos. 36, 53A, 54) should have been included in the present Record.

II. Under the heading Biology, the most important contributions are those dealing with the skeleton. WOODLAND (47) describes the formation of spicules in Calcarea, and BÜTSCHLI (4), MAAS (19), and WEINSCHENK (42) discuss the nature of the skeletal material of calcareous sponges, while VOSMAER & WIJSMAN (41) deal in a similar manner with siliceous spicules. MINCHIN (22) discusses the phylogeny of Hexactinellid sponges, and DENDY (8) develops some interesting views upon the phylogeny and inter-relationships of the Demospongiæ. As regards anatomy and histology, a number of facts relating to various species are brought forward by URBAN (39) for calcareous sponges and by BAER (1), DENDY (4), KIRKPATRICK (15), PICK (28), and THIELE (36) for siliceous sponges. There are no works dealing specially with Embryology in this year's Record, and nothing to record under Physiology.

III. Under Geographical Distribution the most important memoirs are those of DENDY (4) on sponges from the Gulf of Manaar, THIELE (36) on sponges from the Coasts of Patagonia and Chili, LUNDBECK (17) on N. Atlantic sponges, and BAER (1) on sponges from E. and S. Africa. There are no contributions of any note to the geological record of sponges.

IV. The systematic portion of the Record includes much of interest, except for Hexactinellida, which are practically a blank. In *Calcarea URBAN* (39) describes new forms from California, and MINCHIN (23) attempts to unravel an extraordinary tangle of mistaken identification and nomenclature in the case of a well-known European (and probably British) species of *Ascon*. In *Demospongiæ* we have many important additions to the systematic catalogue from DENDY (4), LUNDBECK (17), THIELE (36), SVARCHEVSKIÏ (35), TOPSENT (37), PICK (28), and BAER (1). Scarcely less important than the additions is the elimination by SCHULZE (31) of Haeckel's so-called "Deep Sea Keratosa," long suspected, and now definitely proved, to be not sponges but Protozoa.

Owing to the many rearrangements which the systematic arrangement of the *Demospongiæ* has undergone, the Recorder has not attempted to classify sponges further than suborders in the present Record, but places all categories of lower taxonomic value in alphabetical order.

---

## I. TITLES.\*

1. BAER, L. Silicospongien von Sansibar, Kapstadt und Papeete. Arch. Naturg. lxxii, 1906 (1905), pp. 1-32, pls. i-v.  
Abstract in MAAS (20) p. 7.
2. BARTELETTI, V. Sulla posizione dei Poriferi nel regno animale. Boll. Naturalista xxv, pp. 84-91, 105 & 106.
3. BLASCHKE, F. Die Gastropodenfauna der Pachycardientuffe der Seiseralpe in Südtirol. Beitr. Pal. Oesterr.-Ung. xvii, pp. 161-271, pls. xix & xx.
4. BÜTSCHLI, O. Über die Einwirkung concentrirter Kalilauge auf kohlensauren Kalk und das dabei sich bildende Doppelsalz. Zool. Anz. xxix, pp. 428-430.  
Abstract in MAAS (4) p. 4.
5. CHAPMAN, F. New or little known Victorian fossils in the National Museum, Melbourne. Part v. On the genus *Receptaculites*. With a note on *R. australis* from Queensland. P. Soc. Victoria xviii, pp. 5-15, pls. ii-iv.
6. CLARKE, J. M. Catalogue of type specimens of palaeozoic fossils in New York State Museum. Bull. N. York Mus. lxxv [Spongiæ], pp. 12-34 & 769-772; also op. cit. lxxx, p. 43.
7. COLGAN, N. Notes on the invertebrate fauna of Skerries, Co. Dublin. Irish Natural. 1905, pp. 205-213.

---

\* An asterisk prefixed to a quotation indicates that the Recorder has not seen the Paper or Work referred to.

8. DENDY, A. Report on the Sponges collected by Professor Herdman, at Ceylon, in 1902. Rep. Pearl Oyster Fisheries Gulf of Manaar (Royal Society, 1905), iii, pp. 59-246, pls. i-xvi, 5 text-figg.  
Abstract by LENDENFELD in Zool. Zentrbl. xii, p. 367.
9. DRAGNEWITSCH, PAWLA. Spongien von Singapore. Inaug. Diss. Phil. Fac. Bern, 36 pp.
10. FAVRE, J. Sur les fossiles crétacés au district de Slavianosserbsk du gouvernement d'Ekatherinoslaw. Trudui Kharkov. Univ. xxxviii, pp. 89-171, pls. i-iv. (Sponges, pp. 94-98.)  
In Russian.
11. HALLEZ, P. Notes fauniques. Arch. zool. exp. Notes xxxiii, pp. xlvii-lit.
12. \*HOLLIICK, ARTHUR. Two Staten Island Sponges. New Brighton, N.Y., Proc. Nat. Sci. Ass. viii, 190 (21).
13. HUBER, G. Monographische Studien im Gebiete der Montigglerseen (Sudtirol) mit besonderer Berücksichtigung ihrer Biologie. Arch. Hydrobiol. i, pp. 1-81.  
IJIMA, I. (24) Zool. Rec. 1904. Abstract in J. R. Micr. Soc. 1905, p. 190.
14. JOUBIN, L. Cours d'océanographie. Leçons. Bull. Mus. Monaco, No. 45, Les Éponges, pp. 146-158, figg. 140-151.
15. KIRKPATRICK, R. On the Oscules of *Cinachyra*. Ann. Nat. Hist. (7) xvi, pp. 662-667, pl. xiv.
16. LAMBE, L. M. A new Recent Marine Sponge (*Esperella bellabellensis*) from the Pacific Coast of Canada. Ottawa Natural. xix, pp. 14 & 15, pl. i.  
Abstract by LENDENFELD in Zool. Zentrbl. xii, p. 369.  
LENDENFELD, R. v., see DENDY (8), LAMBE (16), MINCHIN (22), PICK (28), THIELE (36), TOPSENT (37), VOSMAER & WIJSMAN (41), WEINSCHENK (42).
17. LUNDBECK, W. Porifera (Part ii), *Desmacidonidæ* (pars). Danish Ingolf Expedition vi, 2, 219 pp., 20 pls. with descriptions, and 7 text-figg.
18. MAAS, O. Entwicklungsmechanische Studien an Schwämmen. C.R. Congr. Internat. vi, pp. 238 & 239.  
Abstract of 31 and 32, Zool. Rec. 1904.
19. —. Zur Frage der Einwirkung von Kalilauge auf Kalkspath. Zool. Anz. xxix, pp. 558 & 559.
20. —. Porifera. Zool. Jahresber. 1904 (1905), pp. 1-9 (sep. pag.).
21. MEISSNER, W. Ueber die Winterfauna im Kaban-See. Trudui Kazan. Univ. xxxix, No. 3, 118 pp.
22. MINCHIN, E. A. A speculation on the Phylogeny of the Hexactinellid Sponges. Zool. Anz. xxviii, pp. 439-448, 2 text-figg.  
Abstract in J. R. Micr. Soc. 1905, pp. 189 & 190, and by LENDENFELD in Zool. Zentrbl. xii, p. 71.
23. —. On the Sponge *Leucosolenia contorta* Bowerbank, *Ascandra contorta* Haeckel, and *Ascetta spinosa* Lendenfeld. P. Z. S. 1905, ii, pp. 3-20, pl. i, and text-figg. 2-6.
24. NEVIANI, A. Scoperta di piccole silicee appartenenti a spugne tetractinellidi, nel Saariano inferiore, presso Reggio, Calabria. Boll. Soc. zool. Ital. (2) vi, p. 99.

25. NORDGAARD, O. Hydrographical and biological investigations in Norwegian Fiords. Bergen Museum publication. 1905, folio. *Porifera*, p. 156.
26. PAPP, K. Die geologischen Verhältnisse der Umgebung von Zám. Jahresber. Ungarn geol. Anstalt, 1902, pp. 67-92.
27. PELSENER, P. L'origine des animaux de l'eau douce. Bull. Ac. Belgique 1905, pp. 699-741, 1 map.
28. PICK, F. Die Gattung *Raspailia*. Arch. Naturg. 1905, i, pp. 1-48, pls. i-iv.  
Abstract in J. R. Micr. Soc. 1905, p. 190, and by LENDENFELD in Zool. Zentrbl. xii, p. 72.
29. REMEŠ, M. Štrambersky tithon. Vestnik Ceske Ak. xiii [Spongiaë], pp. 289, 360, 361.
30. SCHARDT, H. & DUBOIS, A. Description géologique de la région des gorges de l'Areuse (Jura neuchâtelois). Bull. Soc. Neuchâtelois xxx, pp. 195-352.
31. SCHULZE, F. E. Die Xenophyophoren, eine besondere Gruppe der Rhizopoden. Wiss. Ergebn. deutsch. Tiefsee-Exped. "Valdivia" xi, 55 pp., pls. i-viii.
32. ——. Demonstration eigentümlicher Umbildungen und Corrosionen an den Kieselnadeln der Spongien. Verh. Deutsch. zool. Ges. xv, p. 233 (Title only).
33. SEELY, H. M. Some sponges of the Chazy formation. Rep. Vermont State Geol. iii, 1902, pp. 151-161, pls. lvi-lix.
34. STEPHENS, JANE. Irish freshwater sponges. Irish Natural. 1905, p. 247.
35. SVARCHEVSKIÏ (SWARTSCHEWSKY), B. Materialui faunui ghubok Chernagho morya (Monaxonida). (Beitrag zur Kenntniss der Schwamm-Fauna des Schwarzen Meeres.) Zapiski Kiev. Obshch. xx, pp. 1-48, German Resumé, pp. 49-59, pls. i-vii.  
Abstract in MAAS (20).
36. THIELE, J. Die Kiesel- und Hornschwämme der Sammlung Plate. Zool. Jahrb. Suppl. vi (Fauna Chilensis iii), pp. 407-496, pls. 27-33.  
Abstract in J. R. Micr. Soc. 1905, p. 600; and by LENDENFELD in Zool. Zentrbl. xii, p. 272.
37. TOPSENT, E. Étude sur les Dendroceratida. Arch. zool. exp. Notes (4) iii, pp. clxxi-cxcii, 3 text-figg.  
Abstracts in J. R. Micr. Soc. 1905, p. 706; and by LENDENFELD in Zool. Zentrbl. xii, pp. 803 & 804.
38. ——. *Cliotheosa seurati*, clionide nouveau des Iles Gambier. Bull. Mus. Paris 1905, No. 2, pp. 94-96. [III, A, α, iv. IV, D, ii, a.]
39. URBAN, F. Kalifornische Kalkschwämme. Arch. Naturg. lxxii, 1, 1906 (1905), pp. 33-76, pls. vi-ix.
40. VOSMAER, G. C. J. & WIJSMAN, H. P. Obër den Bouw van sommige Kiezelspicula bij Sponzen. I. De styli van *Tethya lynceurium*. Koninklijke Akademie van Wetenschappen te Amsterdam. Verslag van de gewone Vergaderingen der Wis- en Natuurkundige Afdeeling xiii, pp. 733-748, 1 fig.  
Abstract in MAAS (20) p. 5.
41. — & —. On the structure of some siliceous spicules of sponges. I. The styli of *Tethya lynceurium*. Verh. Ak. Amsterdam, June 21, 1905, pp. 15-28, 1 text-fig. (Translation of preceding.)  
Abstract by LENDENFELD in Zool. Zentrbl. xii, pp. 426-428.

42. WEINSCHENK, E. Ueber die Skeletteile der Kalkschwämme. *Centrbl. Mineral.* 1905, pp. 581-588.  
Abstract by LENDENFELD in *Zool. Zentrbl.* xii, p. 804.
43. WELTNER, W. *Spongiæ für 1903.* *Arch. Naturg.* lxxv, ii, 3, pp. 495-525.
44. WHITELEGGE, T. Western Australian prawns and sponges. *Rec. Austral. Mus.* vi, pp. 119 & 120.
45. WHITFIELD, R. P. Descriptions of new fossil Sponges from the Hamilton group of Indiana. *Bull. Amer. Mus.* xxi, pp. 297-300, pls. ix-xi.
46. WILSON, H. V. The sponges of the "Albatross" 1891 expedition. *J. E. Mitchell Soc.* xxi, pp. 35-44.
47. WOODLAND, W. Studies in Spicule-Formation. I. The development and structure of the Spicules in Sycons: with remarks on the conformation, modes of disposition and evolution in Calcareous Sponges generally. *Quart. J. Micr. Sci. (n.s.)* xlix, pp. 231-282, pls. 13-15, with 11 text-figg.
48. ZAHÁLKA, Č. Pasma x křídvéhó útvaru v. Pojizeri (Zone x der Kreideformation im Isergebiet). *SB. Bohmisch. Ges.* 1905, No. xvii, 185 pp., 4 pls.

## II. BIOLOGY.

### A. EVOLUTION AND PHYLOGENY.

Position of sponges in the animal kingdom; BARTELLETTI (2).

Variation in sponges, in shape, anatomy, skeletal framework and skeletal elements, pp. 38, 39 and 42; correlated and uncorrelated variation, p. 40; qualitative variation, p. 41; variation towards other species, p. 41: WILSON (46).

Evolution of spicules in Calcarea; WOODLAND (47) pp. 277 & 278.

Phylogeny of Hexactinellida; MINCHIN (22).

The Myxospongiæ regarded as primitive and standing at the bottom of the non-calcareous sponges, *Chondrosia* on the other hand regarded as a reduced siliceous sponge in which the absence of skeleton is secondary, p. 60: the *Plakinidæ* are the most primitive group of the Tetraxonida, p. 65: the Monaxonellida are descended from tetraxonid ancestors, the Astromonaxonellida from Astrophora and the Sigmatomonaxonellida from Sigmatophora, pp. 105 & 106, and pp. 133-135: the *Tethyidæ* may have originated through the *Epipolasidæ* from stellettid ancestors, p. 111: the Keratosa comprise two sections: the Euceratosa are a natural group descended from the Myxospongiidæ, their evolution starts with the *Aplysillidæ* and ends with the Spongiidæ, p. 203: the Pseudoceratosa are descended from Monaxonellid ancestors, p. 64 and p. 201: DENDY (8).

### B. MORPHOLOGY.

#### (i) *General Accounts.*

Vacant.

#### (ii) *External Characters.*

Variation in forms of sponges; WILSON (46) p. 39.

External form of Ascons; URBAN (39) pp. 38-41.

Form, size, and colour of species of *Raspailia*; PICK (28) pp. 37 & 38.

(iii) *Anatomy of the Soft Tissues. Canal-System.*

Variation in anatomy of sponges ; WILSON (46) p. 38.

Anatomy of *Leucosolenia cleonor*, pp. 46-55 : of *Sycandra coacta*, pp. 58 & 59 : of *Leucandra heathi*, pp. 66 & 67 ; URBAN (39).

Canal-system of Hexactinellida ; MINCHIN (22) pp. 441 & 442.

Structure of the poral and cloacal vestibules of *Cinachyra barbata* Sollas, with comparisons with other species ; KIRKPATRICK (15).

Canal-system of *Hexadella indica*, pp. 61 & 62, pl. i, figg. 1-3 : of *Myriastrea clavosa*, pp. 73 & 74 : of *Pilochrota hornelli*, p. 76 : of *Ecionema carteri*, p. 80 : of *Tetilla poculifera*, p. 91, *T. anomala*, p. 92, and *T. limicola*, p. 94 : of *Paratetilla cineriformis*, p. 98 : of *Coppatias reptans*, p. 108 : of *Xenospongia patelliformis*, p. 118 : of *Spirastrella tentorioides*, p. 126 : of *Collocalypta digitata*, p. 200 : of *Hippospongia anomala*, p. 215, and *H. dura*, p. 216 : of *Hircinia fusca*, p. 220, *H. tuberosa*, p. 221, *H. schulzei*, p. 222, and *H. anomala*, p. 223 : of *Leucandra donnani*, p. 229 ; DENDY (8).

Anatomy of *Cliona chilensis*, pp. 410 & 411 : of *Suberites sulcatus*, p. 417, and *S. ruber*, p. 419 : of *Axinella crinita*, p. 425 : of *Pseudaxinella egregia*, p. 426 : of *Higginsia papillosa*, p. 428 : of *Desmacidon platei*, p. 437 : of *Batzella corticata*, p. 439 : of *Eurypon miniaceum*, p. 446 : of *Microciona discreta*, p. 448 : of *Hymedemia iritans*, p. 455 : of *Oligoceras sororia*, p. 480, and *O. paupera*, p. 481 : of *Aplysilla sulphurea*, p. 488, and *A. lendenfeldi*, p. 489 : of *Halisarca dujardini* var. *magellanica*, p. 490 ; THIELE (36).

Canal-system of *Raspailia* ; PICK (28) pp. 38 & 39.

Anatomy of *Tethya armata*, p. 4 : of *Tethyopsilla globosa*, p. 5 : of *Ancorina bacillifera*, p. 7 : of *Sidonops globosa*, p. 9 : of *Reniera implexa*, p. 13 : of *Tedania digitata*, p. 17 : of *Lissodendoryx monticularis*, p. 23 : of *Coppatias sansibarensis*, p. 24 : of *Donatia viridis* and *D. parvistella*, pp. 26 & 27 ; BAER (1).

Canal-system of *Darwinella warreni*, p. clxxxi : of *Pleraplysilla minchini*, p. clxxxv ; TOPSENT (37).

(iv) *Skeletal System.*

(a) **General Accounts.**—Skeleton of the genus *Raspailia* ; PICK (28) pp. 41-44.

(b) **Material of the Skeleton.**—Nature of the material of calcareous spicules ; BÜTSCHLI (4) ; MAAS (19) ; WEINSCHENK (42).

Substance of siliceous spicules termed spicopal : structure of the spicules of *Tethya lyncurium* ; VOSMÄER & WIJSMAN (41).

(c) **Morphology, Development and Nomenclature of Skeletal Elements.**—Morphology and variation of sponge spicules ; WILSON (46) pp. 38 & 39 and 42.

Morphology of monaxon spicules of Calcarea ; MINCHIN (23) p. 10.

The development of the spicules of Sycons ; WOODLAND (47).

Spicules of Hexactinellida ; MINCHIN (22) pp. 443-447.

Morphology of the chelæ and ancoræ and of their varieties, pp. 2-7 : abnormal spicules of *Mycale lingua*, pp. 31 & 32, text-fig. 1 : special embryonic spicules (microscleres) in *Cladorhiza iniquidentata*, p. 93, *C. corticocancellata*, p. 96 and *Chondrocladia gigantea*, p. 106 : morphology of the bipocilla of *Iophon* and *Pocillon*, p. 174 : of the birotulæ, p. 197 : the term sphaerancoræ proposed for the melon-shaped ancoræ of *Melon-anchora*, p. 211, footnote, their development, p. 214 ; LUNDBECK (17).

(d) **Skeletal Anatomy.**—Variation in skeletal framework of sponges; WILSON (46) p. 39.

Arrangement of spicules in *Leucosolenia*; URBAN (39) pp. 43 & 44.

(v) *Histology.*

Histology of *Leucosolenia eleanor*; URBAN (39) pp. 46–55.

Structure of the scleroblasts of *Sycons*; WOODLAND (47) pp. 250 & 251.

Histology of *Raspailia*; PICK (28) p. 40.

Spherical cells similar to “cellules sphéruleuses” in *Hexadella indica*, p. 62, pl. i, fig. 1–3: histology of cortex of *Pilochrota hornelli*, p. 76: pigment-cells, etc. in *Écionema luviniensis*, p. 82: fibre-cells and spherical cells, perhaps symbiotic algæ, in *Coppatias reptans*, p. 108 and *Asteropus haeckeli*, p. 109: cortex and scleroblasts in *Xenospongia patelliformis*, p. 118: pigment-cells in *Reniera pigmentifera*, p. 143: cells, probably pigment-cells in *Acanthella flabelliformis*, p. 193: bands of fibrous cells in *Euspongia officinalis*, var. *ceylonensis*, p. 212, in *Hircinia schulzei*, p. 222 and *H. anomala*, p. 223; DENDY (8).

C. PHYSIOLOGY.

Vacant.

D. BIONOMICS.

Symbiotic algæ? in *Coppatias reptans*, p. 108 and *Asteropus haeckeli*, p. 109; DENDY (8).

E. REPRODUCTION AND DEVELOPMENT.

Ova of *Raspailia*; PICK (28) pp. 44 & 45.

Ova with pseudopodia in *Tetilla limicola*; DENDY (8) p. 94.

Ova and embryos in *Desmacidon platei*, p. 437: in *Aplysilla lendenfeldi*, p. 489; THIELE (36).

Embryos in *Megalopastas elegans*; DENDY (8) p. 205.

Embryos in *Esperlopsis villosa*, pp. 12 & 13: in *Asbestopluma pennatula*, p. 50, *A. furcata*, p. 57, *A. cupressiformis*, p. 61, *A. lycopodium*, p. 65, and *A. infundibulum*, p. 71 (comparison of spiculation of embryos of *Asbestopluma* spp. p. 74): in *Cladorhiza abyssicola*, p. 82, *C. gelida*, p. 86, and text-fig. 2, *C. tenuisigma*, p. 90, *C. iniquidentata*, p. 92, text-fig. 4, *C. corticocancellata*, p. 96, text-fig. 5, and *C. oxæata*, p. 100, text-fig. 6: in *Chondrocladia gigantea*, p. 106: in *Homæodictya flabelliformis*, p. 120: in *Myzilla incrustans*, p. 137, *M. fimbriata*, p. 143, *M. brunnea*, p. 146, *M. pedunculata*, p. 149, and *M. diversiancorata*, p. 151: in *Lissodendoryx stipitata*, p. 172: in *Iophon piceus*, p. 179: in *Forcepiu fabricans*, p. 203, and *F. thielei*, p. 208; LUNDBECK (17).

F. MISCELLANEA.

**Bibliography.**—Titles of 19 memoirs on sponges with abstracts; MAAS (20).—Titles of 52 memoirs on sponges, with abstracts; WELTNER (43).—Special Bibliography of the Ceylon Sponge-Fauna; DENDY (8) p. 59. Bibliography of the genus *Raspailia*; PICK (28) pp. 2–6.

**Technique.**—Methods for studying calcareous sponges; URBAN (39) pp. 33–36.—Methods used for the investigation of *Raspailia*; PICK (28) pp. 36 & 37.



**Economics.**—Economic notes on Western Australian sponges ; WHITELEGGE (44).

### III. DISTRIBUTION.

#### A. GEOGRAPHICAL.

##### α. MARINE.

- (i) **General.**—Oceanographical relations of sponges ; JOUBIN (14).  
Geographical distribution of *Raspailia* ; PICK (28) pp. 45 & 46.
- (ii) **Atlantic Ocean and Adjacent Seas.**—North Atlantic Monaxonida collected by the Ingolf Expedition, *Esperiopsis*, *Mycale*, *Asbestopluma*, *Cladorhiza*, *Chondrocladia*, *Artemisina*, *Homæodictya*, *Dendoricella* n. g., *Myxilla*, *Lissodendoryx*, *Iophon*, *Iotrochota*, *Forcepia*, *Melonanchora*, in all 69 spp., of which 33 nn. ; LUNDBECK (17).  
Skerries, Co. Dublin, list of 10 sponges found ; COLGAN (7).  
Straits of Dover, 4 spp. added to the faunistic list ; HALLEZ (11).  
Norwegian fiords, list of 9 spp. of sponges dredged ; NORDGAARD (25) p. 156.  
Lesina Adriatic, *Darwinella dalmatica*, n. sp. : Coast of France, Cour-seulles (Calvados), *Pteraplysilla minchini*, n. sp. : Azores, *Darwinella duplex* n. sp. ; TOPSENT (37).  
Adriatic, 7 spp. of *Raspailia*, 3 nn. ; PICK (28).  
Black Sea, *Halichondria*, *Pellina*, *Petrosia*, *Reniera*, *Pachychalina*, *Esperella*, *Myxilla*, *Stylopus*, *Raspailia*, *Suberites*, *Protosuberites* n. g., *Cliona*, *Kowalewskyella* n. g., in all 32 spp., of which 8 nn. ; SVARCHEVSKI (35).
- (iii) **Indian Ocean and Adjacent Seas.**—Zanzibar, Cape Town, and Papeete, *Tethya*, *Tethyopsilla*, *Ancorina*, *Sidonops*, *Halichondria*, *Reniera*, *Pachychalina*, *Siphonochalina*, *Tedania*, *Mycale*, *Dendoryx*, *Lissodendoryx*, *Coppatias*, *Donatia*, in all 20 spp., of which 15 nn., with 3 n. varr. ; BAER (1).  
Gulf of Manaar and Ceylon seas, *Hexadella*, *Dercitopsis* n. g., *Plakinastrella*, *Stæba*, *Myriastræa*, *Pilochrota*, *Stelletta*, *Ecionema*, *Geodia*, *Tetilla*, *Craniella*, *Paratetilla* n. g., *Discodermia*, *Aciculites*, *Taprobane* n. g., *Petromica*, *Coppatias*, *Asteropus*, *Cryptotethya* n. g., *Tethya*, *Xenospongia*, *Hymedesmia*, *Spirastrella*, *Placospongia*, *Negombo* n. g., *Cliona*, *Suberites*, *Chondrilla*, *Chondrosia*, *Gellius*, *Gelliodes*, *Toxochalina*, *Strongylophora* n. g., *Reniera*, *Petrosia*, *Halichondria*, *Trachyopsis* n. g., *Pachychalina*, *Chalina*, *Ceraochalina*, *Siphonochalina*, *Desmacella*, *Acanthoxifer* n. g., *Esperella*, *Paresperella* n. g., *Iotrochota*, *Phlæodictyon*, *Histoderma*, *Myxilla*, *Clathria*, *Raspailia*, *Agelas*, *Echinodictyum*, *Aulospongos*, *Acanthus*, *Cyamon*, *Plocamia*, *Bubaris*, *Rhabdermia*, *Spongosorites*, *Hymeniacidon*, *Thrinacophora*, *Axinella*, *Phakellia*, *Acanthella*, *Auleta*, *Leucophlæus*, *Ciocalypa*, *Collocalypa* n. g., *Darwinella*, *Megalopastas* n. g., *Spongelia*, *Psammopemma*, *Cacospongia*, *Euspongia*, *Hippospongia*, *Phyllospongia*, *Hircinia*, *Aptysina*, *Leucosolenia* (*Clathrina*), *Leucandra*, *Heteropogma*, in all 145 spp., of which 77 nn., with 23 n. varr. : complete list of Ceylon sponge-fauna, pp. 230–234 ; DENDY (8).  
Maldives, *Darwinella gardineri* n. sp. : Natal Coast, *D. warreni* n. sp. ; TOPSENT (37).  
Singapore, *Cinachyra*, *Aurora*, *Ancorina*, *Spirastrella*, *Esperella*, *Rhaphidophlus*, *Aulena*, *Gellius*, *Gelliodes*, *Spongelia*, *Petrosia*, *Reniera*, *Cacoachalina*, *Cladoachalina*, *Pachychalina*, *Euchalina*, *Euspongia*, *Hippospongia*, in all 24 spp. ; DRAGNEWITSOH (9).

Western Australia, economic notes on 5 spp. of sponges; WHITELEGGE (44).

(iv) **Pacific Ocean and Adjacent Seas.**—Coast of British Columbia, *Esperella bellabellensis* n. sp.; LAMBE (16).

Sponges of coasts of S. America, Mexico, and Galapagos Is. [see IV, A]; WILSON (46).

Monterey Bay, California, *Leucosolenia*, *Sycandra*, *Rhabdodermella*, *Leucandra*, in all 5 spp., of which 4 nn.; URBAN (39).

Mangareva, Gambier Islands, *Oliothoosa seurati* n. g., n. sp.; TOPSENT (38).

Coasts of Chili and Patagonia and Straits of Magellan, *Geodia*, *Donatia*, *Cliona*, *Clionopsis* n. g., *Polymastia*, *Prosuberites*, *Suberites*, *Hymeniacion*, *Vosmaeria*, *Axinella*, *Pseudaxinella*, *Plicatella*, *Higginsia*, *Tedania*, *Biemna*, *Desmacidon*, *Batzella*, *Esperiopsis*, *Mycale*, *Myxilla*, *Iophon*, *Eurypon*, *Microcionia*, *Clathria*, *Ophlitaspongia*, *Hymedesmia*, *Stylotellopsis* n. g., *Halichondria*, *Reniera*, *Pellinella* n. g., *Pachychalina*, *Chalina*, *Acervochalina*, *Oligoceras*, *Cacospongia*, *Spongia*, *Hircinia*, *Spongelia*, *Aplysilla*, *Halissarca*, in all 80 spp., of which 67 nn.; THIELE (36).

### β. FRESHWATER SPONGES.

Freshwater sponges as bearing on the question of the origin of freshwater fauna; PELSENEER (27) pp. 704, 705, 708.

Ireland, localities for *Euspongilla lacustris* and *Heteromeyenia ryderi*; STEPHENS (34).

Lakes of S. Tyrol, spicules of *Euspongilla lacustris*; HUBER (13) p. 74.

Winter-fauna of Lake Kaban, *Euspongilla lacustris* and *Ephydatia mülleri*; MEISSNER (21) p. 108.

### B. GEOLOGICAL.

#### (i) GENERAL.

Vacant.

#### (ii) CAINOZOIC.

Pleistocene:—Lower Saarian (Saharian?) near Reggio, Calabria, tetractinellid sponge-spicules; NEVIANI (24).

#### (iii) MESOZOIC.

Cretaceous:—Cretaceous of the Iser region, sponges, pp. 18, 21, 22, 55, 56, 159, 168, 183, 184; ZAHÁLKA (48).—Lower Cretaceous of the Jura of Neuchâtel, fossil sponges; SCHARDT & DUBOIS (30) pp. 268, 276, 285.—Government of Ekaterinoslaw, 7 spp. of fossil sponges; FAVRE (10).

Jurassic:—Upper Jurassic of Hungary, 2 fossil sponges; PAPP (26) p. 81.—Upper Jurassic of the Jura of Neuchâtel, 6 spp. of sponges; SCHARDT & DUBOIS (30) p. 236.—Tithonian of Stramberg, Moravia, list of sponges; REMEŠ (29).

Trias:—Upper Keuper (Pachycardientuffe) of South Tyrol, three sponges; BLASCHKE (3) pp. 164, 165.

#### (iv) PALÆOZOIC.

General:—Type-specimens of palæozoic N. American sponges in the New York State Museum; CLARKE (6).

Devonian:—Hamilton group, Indiana, nn. spp. of *Hindia*, *Somphospongia*, and *Vermispongia* n. g.; WHITFIELD (45).

Silurian:—of Victoria and Queensland, spp. of *Receptaculites*; CHAPMAN (5).

Ordovician:—Chazy-formation, *Eospongia varians* and *Strephochetus* spp.; SEELY (33).

#### IV. SYSTEMATIC.

##### A. PORIFERA, GENERAL.

The Non-Calcareea considered as a class and divided into Myxospongida, Triaxonida, Tetraxonida, and Euceratosa, "four natural groups... which may be conveniently regarded as of ordinal rank"; DENDY (8) p. 60.

List of sponges from coasts of S. America, Mexico, and Galapagos Is., nearly all cited as "nov. spp.," but without descriptions: WILSON (46).

Catalogue of type-specimens of palæozoic sponges in the New York State Museum: CLARKE (6).

##### B. CALCAREA.

###### (i) HOMOCÆLA.

*Clathrina* (*Ascandra*, *Leucosolenia*) *contorta* Bwk., description and synonymy: includes *Ascetta spinosa* Lend.: MINCHIN (23).

*Leucosolenia* Bow., defined; DENDY (8) p. 226.—*L. (Clathrina) coriacea* Mont., var. *ceylonensis*, n. var.: DENDY (8) p. 226, 227, pl. xiii, fig. 8.—*L. eleanor*, n. sp. Monterey Bay, California: URBAN (39) pp. 36–55, pl. vi, figg. 1–62, pl. vii, figg. 63–68.—*L. (Clathrina) tenuipilosa*, n. sp., Ceylon seas: DENDY (8) pp. 227, 228, pl. xiii, fig. 9.

###### (ii) HETEROCÆLA.

*Amphoriscidæ*, defined: DENDY (8) p. 229.

†*Eudea* sp.: BLASCHKE (3) p. 165.

*Grantia compressa*, spicule-formation: WOODLAND (47).

*Grantiida*, defined: DENDY (8) pp. 228.

*Heteropegma* Polej., defined, p. 230; *H. nodus-gordii* Polej., p. 230: DENDY (8).

*Leucandra* H., defined; DENDY (8) p. 228.—*L. apicalis*, n. sp., Monterey Bay, California: URBAN (39) pp. 67–70, pl. vii, figg. 89–107.—*L. donnani*, n. sp., Gulf of Manaar: DENDY (8) pp. 228, 229, pl. xiii, fig. 10.—*L. heathi*, n. sp., Monterey Bay, California: URBAN (39) pp. 59–67, pls. viii, ix.

*Sycon* seu *Sycandra*, *S. coacta*, n. sp., Monterey Bay, California: URBAN (39) pp. 55–59, pl. vii, figg. 69–88.—*S. ciliatum* and *S. coronatum*, spicule-formation: WOODLAND (47).

##### C. HEXACTINELLIDA.

###### (i) LYSSACINA.

†*Receptaculites australis*, pl. i, figg. 2–7, pl. ii, pl. iii, figg. 2–7, pp. 7–9; Queensland specimens, pp. 9–12: CHAPMAN (5), P. Soc. Victoria xviii.—

†*R. fergusoni*, n. sp., Silurian, Gippsland: CHAPMAN (5) p. 6, pl. i, figg. 1, 3, and pl. iii, fig. 1, P. Soc. Victoria xviii.

(ii) *DICTYONINA.*

- †*Craticularia vulgata* Poč. : ZAHÁLKA (48) pp. 183, 184.  
 †*Cribrospongia reticulata* : FAVRE (10) p. 96.  
 †*Pleurostoma bohemicum* : ZAHÁLKA (48) pp. 22, 159, 168.  
 †*Plocoscyphia* sp. : FAVRE (10) p. 98 ; ZAHÁLKA (48) pp. 22, 55, 159.  
 †*Pyrospongia vrbæi* Zah. : ZAHÁLKA (48) pp. 183, 184.  
 †*Scyphia beaumonti* : FAVRE (10) p. 97.  
 †*Ventriculites angustatus* : ZAHÁLKA (48) pp. 22, 159, 168.—†*V. cervicornis*, p. 95 ; †*V. interruptus*, p. 95 ; †*V. pedester*, p. 94 ; †*V. radiatus*, p. 94 : FAVRE (10).—*V.* sp. : ZAHÁLKA (48) pp. 18, 22, 159.

## D. DEMOSPONGIÆ.

Tetraxonida, defined to include all Demospongiæ except Myxospongiæ and Keratosa : DENDY (8) pp. 63, 64.

(i) *TETRACTINELLIDA.*

Tetractinellida, defined and divided into two Suborders—(1) Homosclerophora = Microsclerophora Sollas, "in which microscleres and megascleres are not yet sharply differentiated from one another and no triaenes are developed" (p. 64), (2) Astrophora (p. 67), (3) Sigmastrophora (p. 89) ; the group Carnosa to be abandoned, the Microsclerophora to be placed among Tetractinellida as a Suborder Homosclerophora, the Microtrianosa to be placed amongst the other triane-bearing Tetractinellida, and the Oligosilicina to be placed near the *Tethyida*, pp. 64, 65 : DENDY (8).

## (1) Sub-order CHORISTIDA.

- Ancorina* O., defined : BAER (1) p. 6 ; DRAGNEWITSCH (9) p. 12.—*A. bacillifera* (Carter), described : BAER (1) pp. 6-9, pl. i, fig. 3, pl. iii, figg. 11-19—*A. simplex* Lend., described : DRAGNEWITSCH (9) pp. 12, 13.  
*Aurora* Soll., defined, p. 10 ; *A. globostellata* Carter, described, p. 11 : DRAGNEWITSCH (9).  
*Calcabrina* Sollas, a synonym of *Stæba* Sollas, q. v. ; DENDY (8) p. 70.  
*Cinachyra* Sollas, defined : DRAGNEWITSCH (9) p. 9.—*C. barbata* Soll., structure of the oscules and comparisons with other species : KIRKPATRICK (15).—*C. voeltzkowi* Lend., described : DRAGNEWITSCH (9) pp. 9, 10.  
*Corticium plicatum* O. S., referred to *Stæba* Sollas, q. v. ; DENDY (8) p. 70.  
*Craniella* O. S., defined, p. 95 ; *C. elegans*, n. sp., Gulf of Manaar, 11½-36 fathoms, pp. 95, 96, pl. iv, fig. i : DENDY (8). (See also *Tethya* infra.)  
*Dercitopsis*, n. g. of *Plakinida*, for *D. ceylonica*, n. sp. from off Galle, 100 fathoms : DENDY (8) pp. 65-67, pl. ii, fig. i.  
*Ecionema* Bow., defined, p. 79 ; *E. carteri*, n. sp. from Gulf of Manaar and Ceylon Seas, shallow water to eight fathoms, pp. 79-81, pl. i, fig. 5, pl. iii, fig. 1 ; *E. laviniensis*, n. sp. from off Mount Lavinia, 30 fathoms, pp. 81, 82, pl. iii, fig. 2 : DENDY (8).  
*Geodia* Lam., defined, p. 83 ; *G. areolata* Carter, described, pp. 87, 88 : DENDY (8).—*G. magellani* Soll., described : THIELE (36) p. 408.—*G. perarmata* Bow., described, pp. 83-85 ; *G. peruncinata*, n. sp. from 12 miles off Galle, 100 fathoms, pp. 85-87, pl. iii, figg. 3, 3A, 3B ; *G. ramodigitata* Carter, described, pp. 88, 89 : DENDY (8).  
*Geodiidae*, defined : DENDY (8) p. 83 ; BAER (1) p. 9.  
*Myriastrea* Sollas, defined, p. 71 ; *M. clavosa* (Ridley), described, p. 72 ; *M. tethyopsis* (Carter), described, pp. 72-74 : DENDY (8).

- Pachastrellidæ*, definition : DENDY (8) p. 67.
- Paratetilla*, n. g. for *Tethya merguensis* Carter, and *P. cineriformis*, n. sp., Gulf of Manaar and Ceylon Seas : DENDY (8) pp. 97, 98, pl. iii, fig. 7.
- Pilochrota* Sollas, defined, p. 74 ; *P. haeckeli* Sollas, described, pp. 74, 75, pl. ii, fig. 4 ; *P. hornelli*, n. sp. from Galle, shallow water, pp. 75-77, pl. ii, fig. 5 : DENDY (8).
- Plakinastrella* Schulze, defined, to be removed from *Plakinidæ* to *Pachastrellidæ*, p. 67 ; *P. intermedia*, n. sp. from off Galle, 100 fathoms, pp. 67-69, pl. i, fig. 4, pl. ii, fig. 2 ; *P. schulzei*, n. sp. from off Galle, 100 fathoms, pp. 69, 70, pl. ii, fig. 3 : DENDY (8).
- Plakinidæ*, definition and affinities, the genus *Plakinastrella* to be removed from it : DENDY (8) p. 65.
- Samus simplex* Carter, referred to *Stæba* Sollas, q. v. : DENDY (8) p. 70.
- Sidonops* Sollas, defined, p. 9 ; *S. globosa*, n. sp., Cape Town, pp. 9, 10, pl. i, fig. 4, pl. iv, figg. 1-6 : BAER (1).
- Stelletta* O. S., defined, p. 77 ; *S. herdmanni*, n. sp., Gulf of Manaar and off Galle, up to 100 fathoms, pp. 77, 78, pl. ii, fig. 6 ; *S. vestigium*, n. sp. from off Talaivillu Paar, 10-14 fathoms, pp. 78, 79, pl. ii, fig. 7 : DENDY (8).
- Stellettidæ*, defined : BAER (1) p. 6 ; DENDY (8) p. 71.
- Stæba* Sollas, defined, to be retained distinct from *Dercitus* for *Samus simplex* Carter, *Corticium plicatum* O. S., and *S. extensa* n. sp., and to include *Calcabrina* Sollas, p. 70 ; *S. extensa*, n. sp. from off Mutwal Island, 10-35 fathoms, pp. 70, 71, pl. v, fig. 1 : DENDY (8).
- Tethya* Lam., genus defined, p. 4 ; *T. armata*, n. sp., Zanzibar, pp. 4, 5, pl. i, fig. 1, pl. iii, figg. 1-5 : BAER (1).
- Tethyopsilla* Lend., defined, p. 5 ; *T. globosa*, n. sp., Zanzibar, pp. 5, 6, pl. i, fig. 2, pl. iii, figg. 6-10 : BAER (1).
- Tethyopsillidæ*, defined : BAER (1) p. 5.
- Tetilla* O. S., defined, p. 89 ; *T. anomala*, n. sp., Coast of Ceylon, 10-36 fathoms, pp. 91-93, pl. iii, fig. 5 ; *T. hirsuta* Dendy, described, pp. 89, 90 ; *T. limicola*, n. sp., Tamblegam Lake, Trincomalee, pp. 93-95, pl. i, fig. 7, pl. iii, fig. 6 ; *T. poculifera*, n. sp. from Gulf of Manaar and W. Coast of Ceylon, deep water, pp. 90, 91, pl. i, fig. 6, pl. iii, fig. 4 : DENDY (8).
- Tetillidæ*, defined : DENDY (8) p. 89.

## (2) LITHISTIDA.

Lithistida, definition and characters : DENDY (8) p. 99.

- Aciculites* O. S., defined, should be referred to the *Azoricidæ*, p. 101 ; *A. orientalis*, n. sp., Ceylon seas, pp. 101, 102, pl. iv, fig. 3 : DENDY (8).
- Discodermia* Bocage, defined, p. 99 ; *D. emarginata*, n. sp. from 12 miles off Galle, 100 fathoms, pp. 99-101, pl. iv, fig. 4 : DENDY (8).
- † *Eospongia varians*, described : SEELY (33) pp. 153, 154.
- † *Hindia indianensis*, n. sp., Hamilton group, Indiana ; WHITFIELD (45), p. 299, pl. x, figg. 1-6, Bull. Amer. Mus. xxi.
- Petromica* Topsent, defined, p. 104 ; *P. massalis*, n. sp., Gulf of Manaar and W. coast of Ceylon, pp. 104, 105, pl. iv, fig. 5 : DENDY (8).
- Taprobane*, n. g., might be referred to either *Azoricidæ* or *Scleritodermidæ*, and necessitates a revision of Sollas's classification of Lithistida, p. 102 : for *T. herdmanni*, n. sp., Gulf of Manaar, 9 fathoms, pp. 103, 104, pl. i, fig. 8, pl. iv, fig. 2 : DENDY (8).

## (ii) MONAXONIDA.

Monaxonellida, defined and subdivided into Astromonaxonellida and Sigmatomonaxonellida : DENDY (8) pp. 105, 106.

## (a) Order HADROMERINA.

- Astromaxonellida, defined, "practically equivalent to the Hadromerina," with addition of *Chondrosidæ*: DENDY (8) pp. 106, 107.
- Asteropus* Sollas, defined, p. 109; *A. haeckeli*, n. sp., Gulf of Manaar, deep water, pp. 109, 110, pl. v, fig. 3: DENDY (8).
- Axosuberites* Tops., to be merged in *Suberites*: DENDY (8) p. 131.
- Chondrilla* S., defined, p. 132; *C. australiensis* Carter, described, with var. *lobata*, n. var., pp. 132, 133: DENDY (8).
- Chondrosia* Nardo, defined, p. 133; *C. reniformis* Nardo, described, p. 133: DENDY (8).
- Cliona* Gray, defined: DENDY (8) p. 128.—*C. chilensis*, n. sp., Calbuco, Chili: THIELE (36) pp. 409–412, figg. 28, 29, 36 a-c.—*C. margaritifera*, n. sp., Gulf of Manaar: DENDY (8) pp. 128–130, pl. v, fig. 9 and text-fig. 2, p. 144.—*C. vastifica* Hanc., described: SVARCHEVSKIĪ (35), pp. 38, 39, pl. iv, fig. 12, pl. vi, fig. 6.
- Clionidæ*, defined: DENDY (8) p. 128.
- Clionopsis*, n. g. for *C. platei*, n. sp., Calbuco, Chili: THIELE (36) pp. 412–414, fig. 37, a-d.
- Cliotheosa*, n. g., *Clionidæ*, defined (p. 95) for *C. seurati*, n. sp., Mangareva, Gambier Islands: TOPSENT (38).
- Coppatias* Soll., defined, p. 23; remarks on position, p. 25: BAER (1): *C.* defined, includes *Stellettinopsis* Carter: DENDY (8) p. 107.—*C. reptans*, n. sp., Cod Bay, Trincomalee, 5 fathoms: DENDY (8) pp. 108, 109, pl. v, fig. 2.—*C. sansibarensis*, n. sp., Zanzibar: BAER (1) pp. 23, 24, pl. i, fig. 13, pl. v, figg. 26–30.
- Coppatiidæ* Topsent, to be merged in *Epipolasidæ* Sollas, after removal of *Spongosorites* Topsent to *Axinellidæ*: DENDY (8) p. 107.
- Cryptotethya*, n. g., *Epipolasidæ*, for *C. agglutinans*, n. sp., Gulf of Manaar: DENDY (8) pp. 110–112, pl. v, figg. 4, 5.
- Donatia* Nardo for *Tethya* Autt., defined: BAER (1) p. 26.—*D. papillosa*, n. sp., Calbuco, Chili: THIELE (36) pp. 408, 409, figg. 24, 35 a-c.—*D. parvistella*, n. sp., Zanzibar: BAER (1) pp. 27, 28, pl. ii, g. 9, pl. v, figg. 35–38.—*D. viridis*, n. sp., Papeete: BAER (1) pp. 26, 27, pl. ii, fig. 8, pl. v, figg. 31–34.
- Donatiidæ*, n. nom. for *Tethyidæ*, defined: BAER (1) p. 26.
- Epipolasidæ* Sollas, defined and reinstated to include Topsent's families *Coppatiidæ*, with the exception of *Spongosorites*, and *Streptasteridæ*: DENDY (8) p. 107.
- Hymedesmia* Bow., defined and characterized: DENDY (8) pp. 119, 120.—*H. areolata*, n. sp., Calbuco, 40 m.: THIELE (36) pp. 452, 453, figg. 23, 68 a-d.—*H. curvistellifera*, n. sp., Ceylon seas: DENDY (8) pp. 121, 122, pl. v, fig. 6.—*H. irritans*, n. sp., Juan Fernandez, pp. 455, 456, fig. 71 a-e; *H. laevis*, n. sp., Calbuco, pp. 453, 454, fig. 69 a-f: THIELE (36).—*H. stellivarians* Carter, described: DENDY (8) pp. 120, 121.—*H. tenuissima*, n. sp., Calbuco: THIELE (36) pp. 454, 455, fig. 70 a-f.
- Kowalewskyella*, n. g. for *K. gracilis*, n. sp., Black Sea: SVARCHEVSKIĪ (35) pp. 40, 41, & 53, pl. ii, fig. 7, pl. vii, fig. 2.
- Laxosuberites* Tops., to be merged in *Suberites*: DENDY (8) p. 131.
- Leptosastra constellata* Topsent, position discussed: DENDY (8) p. 134.
- Negombo*, n. g., *Spirastrellidæ*, for *N. tenuistellata*, n. sp., from off Negombo, 12–20 fathoms: DENDY (8) pp. 127, 128, pl. v, fig. 8.
- Placospongia* Gray, defined and referred to *Spirastrellidæ*, p. 126; *P. carinata* (Bow.), pp. 126, 127: DENDY (8).
- Polymastia isidis*, n. sp., Admiralty Sound, 19 m.: THIELE (36) pp. 414, 415, figg. 25, 38 a-e.

- Prosuberites epiphytoides*, n. sp., Juan Fernandez : THIELE (36) p. 420.
- Protosuberites*, n. g. for *P. prototipus*, n. sp., Black Sea : SVARCHEVSKIĪ (35) pp. 36, 37, & 52, pl. vi, fig. 5.
- Spirastrella* O. S., defined : DENDY (8) p. 122 ; DRAGNEWITSCH (9) p. 13.—*S. lacunosa* Kieschnick, described : DRAGNEWITSCH (9) pp. 13, 14.—*S. tentorioides*, n. sp., Ceylon seas, pp. 125, 126, pl. v, fig. 7 ; *S. vagabunda* Ridley, described, with four varieties, var. *trincomaliensis* R., var. *tubulodigitata*, n. var., var. *fungoides*, n. var., and var. *gallensis*, n. var., pp. 122–125 : DENDY (8).
- Spirastrellidæ*, defined : DENDY (8) p. 119.
- Stellettinopsis* Carter, a synonym of *Coppatias* Sollas : DENDY (8) p. 107.
- Streptasteridæ* Topsent, to be merged in *Epipolasiidæ* Sollas : DENDY (8) p. 107.
- Suberites* Nardo, defined, to include *Axosuberites* Tops. and *Iaxosuberites* Tops. : DENDY (8) pp. 130, 131 : characters of the genus : THIELE (36) pp. 415, 416.—*S. cruciatus*, n. sp. from outside Periya Paar, 24 fathoms : DENDY (8) p. 131, pl. v, fig. 10.—*S. (Pseudosuberites) digitatus*, n. sp., Admiralty Sound : THIELE (36) pp. 417, 418, figg. 26, 40 a, b.—*S. domuncula* O.S., described : SVARCHEVSKIĪ (36) pp. 35, 36, pl. ii, fig. 5, pl. iv, fig. 11, pl. vi, fig. 4.—*S. puncturatus*, n. sp., Coquimbo, pp. 419, 420, fig. 42 a–e ; *S. ruber*, n. sp., Admiralty Sound, pp. 418, 419, figg. 31, 41 a–d ; *S. (Pseudosuberites) sulcatus*, n. sp., Cape Espiritu-Santo, East Tierra del Fuego, p. 417, figg. 27, 39 a–e : THIELE (36).
- Suberitidæ*, defined, referred to *Astromonaxonellida* : DENDY (8) p. 130.
- Tethya* Lam., defined : DENDY (8) p. 112.—*T. lyncurium* L., described with three varieties from Ceylon : DENDY (8) pp. 112–114 ; structure of the spicules : VOSMAER & WIJSMAN (41). (See also *Donatia*, supra.)
- Tethyidæ*, defined : DENDY (8) p. 112. [See also II, A.]
- † *Viva* sp. : ZAHÁLKA (48) pp. 22, 159.
- Vosmaeria reticulosa*, n. sp., Iquique : THIELE (36) pp. 423, 424, fig. 45 a–c.
- Xenospongia* Gray, defined and referred to *Tethyidæ*, p. 115 ; *X. patelliformis* Gray, described, pp. 116–119, pl. vi : DENDY (8).
- Fvesia alecto* Topsent, position discussed : DENDY (8) p. 134.

## (b) Order HALICHONDRINA.

- Sigmatomonaxonellida, defined as a suborder, and divided into three families, *Haploscleridæ*, *Desmacidonidæ*, and *Axinellidæ*, the affinities of the group discussed : DENDY (8) pp. 133–135. [See also II, A.]
- Acanthella* O. S., defined, p. 193 ; *A. carteri* Dendy, described, p. 193, pl. viii, fig. 6 ; *A. flabelliformis* Keller, described, pp. 193, 194 : DENDY (8).
- Acanthoxifer*, n. g., allied to *Heteroxya* Topsent, for *A. ceylonensis*, n. sp., Gulf of Manaar, deep water : DENDY (8) pp. 156–158, pl. ix, fig. 5.
- Acarinus* Gray, defined, p. 177 ; *A. ternatus* Ridley, described, p. 177, pl. viii, fig. 4 : DENDY (8).
- Acervochalina variabilis*, n. sp., Juan Fernandez and Punta Arenas : THIELE (36) pp. 477–479, figg. 17, 33, 96.
- Agelas* Duch. et. Mich., defined, p. 174 ; *A. ceylonica*, n. sp., Ceylon seas, pp. 174, 175, pl. xii, fig. 9 ; *A. mauritiana* (Carter), described, p. 174 : DENDY (8).
- Amphistrella*, see under *Phlæodictyinae*.
- Artemisina* Vosmaer, diagnosis, p. 110, and characters of species, pp. 116, 117 ; *A. apollinis* (R. & D.), diagnosis and description, pp. 114–116, pl. xiii, fig. 4 a–g ; *A. arcigera* (O. S.), diagnosis and description,

- includes *A. suberitoides* Vosmaer & Fristedt, pp. 110-114, pl. i, figg. 9-11, pl. xiii, fig. 3 *a-f*; *A. suberitoides* Vosmaer & Fristedt, synonym of *A. arcigera* (O. S.), p. 113: LUNDBECK (17).
- Asbestopluma* Norman, diagnosis and position, pp. 43, 44, criticism and systematic survey of species referred to it, pp. 73-78; *A. bihamatifera* Carter, diagnosis and description, pp. 51-54, pl. ii, figg. 7, 8, pl. xi, figg. 1 *a-g*, 2; *A. comata*, n. sp., from eastern slope of the Reykjanes-ridge, 799 fathoms, pp. 72, 73, pl. ii, figg. 22, 23, pl. xii, figg. 1, *a-f*; *A. cupressiformis* Cart., diagnosis and description, includes *Esperella fristedtii* Lambe, partim, pp. 58-62, pl. ii, figg. 11-14, pl. xi, figg. 4, *a-f*, 5; *A. furcata*, n. sp., Ingolf, 537 fathoms and 450 fathoms, and East Iceland, pp. 54-57, pl. ii, figg. 9, 10, pl. xi, fig. 3, *a-h*; *A. hydra*, n. sp., off Iceland, 1010 and 1309 fathoms, pp. 66-68, pl. ii, figg. 18, 19, pl. xi, fig. 8, *a-f*; *A. infundibulum* Levins., diagnosis and description, includes *Esperia cupressiformis* Cart. partim, and *E. bihamatifera* Hansen partim, pp. 68-72, pl. ii, figg. 20-21, pl. xi, fig. 9, *a-m*; *A. lycopodium* Levins., diagnosis and description, includes *Esperia bihamatifera* Hansen partim, and *Esperella fristedtii* Lambe partim, pp. 62-66, pl. ii, figg. 15-17, pl. xi, figg. 6, *a-d*, 7; *A. pennatula* (O. S.), diagnosis and description, includes *Cladorhiza bihamatifera* Vosmaer, *Esperia bihamatifera* Hansen, *Cladorhiza nordenskiöldii* Fristedt, and *Esperella plumosa* Arnesen, pp. 44-51, pl. ii, figg. 1-6, pl. x, figg. 4, *a-o*, 5-7: LUNDBECK (17).
- Aulena* Lend., defined, p. 17; *A. laxa*, var. *digitata* Lend., described, p. 17: DRAGNEWITSCH (9).
- Auletta* O. S., defined, p. 194; *A. elongata*, n. sp., Gulf of Manaar and W. coast of Ceylon, pp. 195, 196, pl. xiii, fig. 7; *A. lyrata* (Esper) described, includes *A. aurantiaca* Dendy, with varr. *glomerata* n. var., *crassispiculata* n. var., and *brevispiculata* n. var., pp. 194, 195: DENDY (8).
- Aulospongius* Norman, defined and discussed, p. 176; *A. tubulatus* (Bow.), p. 176, text-fig. 5: DENDY (8).
- Axinella* O. S., defined; DENDY (8) p. 188.—*A. crinita*, n. sp., Calbuco; THIELE (36) pp. 424-426, fig. 46, *a*, *b*.—*A. halichondroides*, n. sp., Gulf of Manaar, p. 190, pl. xii, fig. 7; *A. labyrinthica* Dendy, p. 188; *A. manus*, n. sp., Gulf of Manaar, pp. 188, 189, pl. xii, fig. 8; *A. tenuidigitata*, n. sp., W. coast of Ceylon, deep water, pp. 189, 190, pl. xiii, fig. 4: DENDY (8).
- Axinellidæ*, defined and discussed; DENDY (8) pp. 181, 182.
- Batzella* Topsent, discussed, p. 438; *B. corticata*, n. sp., Juan Fernandez, 30 m., pp. 438, 439, fig. 58, *a*, *b*; *B. mollis*, n. sp., Juan Fernandez, pp. 439, 440, fig. 59, *a*, *b*: THIELE (36).
- Biemna chilensis*, n. sp., Calbuco: THIELE (36) pp. 434, 435, fig. 54, *a-d*. *Bubarinae* to be abolished as a group: DENDY (8) p. 158.
- Bubaris* Gray, defined and discussed, p. 179; *B. eruca* (Carter) p. 180; DENDY (8).
- Cacochalina* O. S., defined, p. 23; *C. typica* Lend., described, pp. 23, 24: DRAGNEWITSCH (9).
- Ceraochalina* Lendenfeld, defined, p. 152; *C. ceylonica*, n. sp., Gulf of Manaar, pp. 154, 155, pl. vii, fig. 3, pl. x, fig. 6; *C. multiformis* Lend., var. *manaarensis* Dendy, described, p. 154, pl. vii, fig. 2; *C. retiarmata*, n. sp., from off Chilaw, 10 fathoms, pp. 152, 153, pl. x, fig. 4; *C. reticulata*, n. sp., Gulf of Manaar, pp. 153, 154, pl. x, fig. 8: DENDY (8).
- Chalina* Grant, defined, p. 150; *C. clathrata*, n. sp., Gulf of Manaar, p. 151, pl. x, fig. 3; *C. cymæformis* (Esper), described, pp. 151, 152: DENDY (8).—*C. fusifera*, n. sp., Punta Arenas: THIELE (36) pp. 476, 477, figg. 15, 32, 95.—*C. obtusispiculifera*, n. sp., W. coast of Ceylon



- and Gulf of Manaar, deep water, p. 150, pl. x, fig. 9; *C. subarmigera* (Ridley), described, p. 150, pl. x, fig. 5: DENDY (8).
- Chalinidæ*, characters of the family and criticism of the genera: THIELE (36) pp. 472, 473.
- Chalininæ* defined, their affinities discussed: DENDY (8) pp. 147, 148.
- Chondrocladia* Wyv. Thomson, diagnosis, p. 102, and list of species, pp. 109, 110; *C. gigantea* (Hansen), diagnosis and description, includes *Cladorhiza grandis* Verrill, *C. nobilis* Frist., *Desmacidon clavatum* Hansen, *D. nucleus* Hansen and *D. arcticum* Hansen, pp. 102-109, pl. iv, fig. 1, pl. xiii, fig. 2, *a-l*: LUNDBECK (17).
- Ciocalypta* Bow., defined, p. 197; *C. tyleri* Bow., described, with var. *aberrans* n. var., pp. 197-199: DENDY (8).
- Cladochalina* O. S., defined, p. 24; *C. aurantiaca* Lend., described, pp. 24, 25; *C. euplax* Lend., described, p. 24: DRAGNEWITSCH (9).
- Cladorhiza* M. Sars, diagnosis and characters, pp. 78, 79, list of species, pp. 101, 102; *C. abyssicola* M. Sars, diagnosis and description, pp. 79-83, pl. xii, fig. 2, *a-f*; *C. abyssicola* Fristedt, a synonym of *C. oxæata*, q.v., p. 101; *C. abyssicola* Hansen (partim), a synonym of *C. corticocancellata* Cart. and *C. oxæata*, q.v., p. 97; *C. bihamatifera* Vosmaer, a synonym of *Asbestoptuma pennatula* (O. S.), q.v., p. 50; *C. corticocancellata* Cart., diagnosis and description, includes *C. abyssicola* Hansen partim, pp. 93-97, pl. iii, figg. 7-9, pl. xii, fig. 6, *a-f*, text-fig. 5; *C. gelida*, n. sp., from the Norwegian Sea and Farøe Channel, 620, 1267, and 1309 fathoms, pp. 83-87, pl. iii, fig. 1, pl. xii, fig. 3, *a-h*, and text-fig. 2; *C. grandis* Verrill, and *C. nobilis* Fristedt, synonyms of *Chondrocladia gigantea* (Hansen) p. 107; *C. iniquidentata*, n. sp., from 63° 13' Lat. N., 6° 32' Long. W., 975 fathoms, pp. 91-93, pl. iii, fig. 6, pl. xii, fig. 5, *a-e*, text-fig. 4; *C. nordenskiöldii* Fristedt, a synonym of *Asbestoptuma pennatula* (O. S.), q.v. p. 50; *C. oxæata*, n. sp., includes *C. abyssicola* Hansen (partim) and Fristedt, Denmark Strait and North of Farøe Islands, 330-338 fathoms, pp. 97-101, pl. i, fig. 1, pl. iii, fig. 10, pl. xiii, fig. 1, *a-f*; *C. tenuisigma*, n. sp. from east of Iceland, 762 fathoms, and South Jan Mayen, 1003 fathoms, pp. 87-91, pl. iii, figg. 2-5, pl. xii, fig. 4, *a-e*, and text-fig. 3: LUNDBECK (17).
- Clathria* O. S., defined, to include *Rhaphidophlus* Ehlers: DENDY (8) p. 170.—*C. corallorhizoides* Frist., a synonym of *Lissodendoryx complicata* (Hans.), q.v.: LUNDBECK (17) p. 166.—*C. frondifera* (Bow.), described, includes *C. corallitincta* Dendy, pp. 170, 171; *C. indica* Dendy, p. 171: DENDY (8).—*C. papillosa*, n. sp., Calbuco: THIELE (36) pp. 449, 450, fig. 66, *a-e*.—*C. spiculosa* (Dendy), with var. *ramosa* n. var., and var. *tessellata* n. var.: DENDY (8) pp. 171, 172, pl. viii, fig. 2.
- Collocalypta*, n. g. *Axinellidæ*, for *C. digitata*, n. sp., Gulf of Manaar: DENDY (8) pp. 199, 200, pl. vii, fig. 6, pl. xiii, figg. 1, 2,
- Cotylina*, n. subg. of *Asbestoptuma*; LUNDBECK (17) p. 68.
- Cyamon* Gray, defined and discussed, pp. 177, 178; *C. quinqueradiatum* (Carter), described, p. 178: DENDY (8).
- Dendoricella*, n. g. for *Damiria* Topsent nec Keller, diagnosis, characters and list of species, pp. 126, 127; *D. obesichela*, n. sp. from the eastern slope of the Reykjanaes-ridge, 799 fathoms, pp. 130, 131, pl. xiv, fig. 2, *a-d*; *D. rhopalum*, n. sp. from Denmark Strait, south of Greenland, and Davis Strait, 1135-1695 fathoms, pp. 127-130, pl. iv, figg. 4, 5, pl. xiv, fig. 1, *a-e*: LUNDBECK (17).
- Dendoricinæ*, to be abolished as a group: DENDY (8) p. 158.
- Dendoryx* Gray, defined, p. 21; *D. inæqualis*, n. sp., Papeete, p. 21, pl. i, fig. 12, pl. v, figg. 15-19: BAER (1).—*D. incrustans* var. *viscosa* Tops., a synonym of *Myxilla rosacea* (Liebk.), q.v.: LUNDBECK (17) p. 140.—

- D. simplex*, n. sp., Cape Town; BAER (1) pp. 21, 22, pl. ii, fig. 7, pl. v, fig. 20-25.
- Desmacella* O. S., defined, p. 155; *D. tubulata*, n. sp., Gulf of Manaar, pp. 155, 156, pl. ix, fig. 4: DENDY (8).
- Desmacellinae*, defined: DENDY (8) p. 155.
- Desmacidon arctica* Hansen, *D. clavatum* Hansen and *D. nucleus* Hans., synonyms of *Chondrocladia gigantea*, q.v.: LUNDBECK (17) pp. 106, 107.—*D. ceratosa* (R. & D.), described: THIELE (36) pp. 435, 436, fig. 56, a, b.—*D. clavellata* Arnesen, a synonym of *Homœodictya flabelliformis* (Hans.), q.v.: LUNDBECK (17) p. 120.—*D. delicata*, n. sp., Admiralty Sound, 19 m., p. 435, figg. 1, 55, a, b; *D. platei*, n. sp., Juan Fernandez, pp. 436-438, fig. 57, a-c: THIELE (36).
- Desmacidonidae*, defined, with subfamilies *Esperellinae*, *Phleodictyinae*, and *Ectyoninae*: DENDY (8) p. 158.—*D.*, divided into *Mycalinae* and *Ectyoninae*; the *Mycalinae* divided into two groups, *Mycalæe* (= *Esperellinae*) and *Myxillæe* (= *Dendorycinae*): LUNDBECK (17).
- Echinodictyum* Ridley, defined, p. 175; *E. clathratum*, n. sp., Ceylon Seas, pp. 175, 176, pl. xi, fig. 4: DENDY (8).
- Ectyoninae*, defined: DENDY (8) p. 168.
- Ephydatia mülleri*, see III, A, β.
- Esperella* Vosmaer (seu *Esperia* O. S.), defined: DENDY (8) p. 159; DRAGNEWITSCH (9) p. 14: *E.*, to be replaced by *Mycalæ* Gray: LUNDBECK (17) p. 7; *E.*, defined: SVARCHEVSKIĪ (35) p. 24.—*E. bellabellensis*, n. sp., coast of British Columbia, 300 fathoms: LAMBE (16).—*E. bihamatifera* Hansen, a synonym of *Asbestopluma pennatula* (O. S.), *A. lycopodium* Levins., and *A. infundibulum* Levins., qq.v.: LUNDBECK (17) pp. 50 and 65.—*E. crassissima*, n. sp., Ceylon Seas: DENDY (8) pp. 160, 161, pl. xi, fig. 6.—*E. foraminosa* O. S.: SVARCHEVSKIĪ (35) p. 28.—*E. fristedtii* Lambe, two of the three specimens are *Asbestopluma cypressiformis* Carter, q.v., the third is *A. lycopodium* Levins., q.v.: LUNDBECK (17) p. 62.—*E. intermedia* Vanhöffen (non Schmidt) to be *Mycalæ thaumatocheila*, q.v.: LUNDBECK (17) p. 40.—*E. iophon*, n. sp., Black Sea: SVARCHEVSKIĪ (35) pp. 27, 28 and 51, pl. ii, fig. 6, pl. iv, fig. 7, pl. v, fig. 5.—*E. lanugo* O. S., a synonym of *Mycalæ ovulum* (O. S.), q.v.: LUNDBECK (17) p. 37.—*E. lorenzii* O. S., described, pp. 25-27, pl. iv, fig. 8, pl. v, fig. 3; *E. modesta* O. S., p. 28: SVARCHEVSKIĪ (35).—*E. murrayi* R. & D., described: DRAGNEWITSCH (9) pp. 14, 15.—*E. muscoidea* Tschern., described: SVARCHEVSKIĪ (35) pp. 24, 25, pl. v, fig. 4.—*E. nigricans* Frist., a synonym of *Iophon piceus* (Vosin.), q.v.: LUNDBECK (17) p. 179.—*E. parishii* Ridley, described: DENDY (8) p. 159.—*E. pattersoni* Frist. nec Bow., a synonym of *Iophon dubius* (Hans.), p. 183; *E. picea* Levinsen non Vosmaer, a synonym of *Iophon frigidus*, n. sp., p. 183: LUNDBECK (17).—*E. plumosa* Carter, described: DENDY (8) pp. 159, 160.—*E. plumosa* Arnesen, a synonym of *Asbestopluma pennatula* (O. S.), q.v.: LUNDBECK (17) p. 50.—*E. serratohamata* Carter, to be type of *Paresperella*, q.v.: DENDY (8) p. 162.—*E. stolonifera* Merejk., a synonym of *Mycalæ ovulum* (O. S.), q.v.: LUNDBECK (17) p. 37.—*E. tenuispiculata*, n. sp., Ceylon Seas; DENDY (8) pp. 161, 162.—*E. vosmaeri* Levinsen, a synonym of *Mycalæ lingua* (Bow.), q.v.: LUNDBECK (17) p. 34.
- Esperellinae*, defined: DENDY (8) p. 159.
- Esperopsis* Carter, diagnosis, characteristics, and list of species: LUNDBECK (17) pp. 7-9; *E.*, discussed: THIELE (36) p. 440.—*E. edwardii* (Bow.), described: THIELE (36) pp. 441, 442.—*E. flagellum*, n. sp., Ingolf, 316 fathoms, pp. 20-22, pl. ix, fig. 1, a-h; *E. forcipula*, n. sp., Davis Strait, 80-100 fathoms, pp. 17-20, pl. i, fig. 5, pl. viii, fig. 5, a-i; *E. modesta* Lambe, a synonym of *Mycalæ ovulum* (O. S.), q.v., p. 38;

- E. normani* (Bow.), diagnosed and described, pp. 13-15, pl. viii, fig. 2, *a-d*; *E. pedicellata*, n. sp., Davis Strait, 393 fathoms, pp. 16, 17, pl. i, fig. 2, pl. viii, fig. 4, *a-c*: LUNDBECK (17).—*E. rugosa*, n. sp., Calbuco: THIELE (36) pp. 440, 441, fig. 60, *a, b*.—*E. typichela*, n. sp., East Greenland, 50-90 fathoms, pp. 22, 23, pl. i, fig. 3, pl. ix, fig. 2, *a-c*, & 4; *E. villosa* Carter, diagnosed and described, pp. 9-13, pl. i, fig. 4, pl. viii, fig. 1, *a-i*; *E.*, sp. described, p. 15, pl. viii, fig. 3, *a-c*: LUNDBECK (17).
- Euchalina* Lend., defined, p. 27; *E. typica* Lend., described: DRAGNEWITSCH (9) p. 27.
- Eurypon miniaceum*, n. sp., Calbuco, 30 m.: THIELE (36) pp. 446, 447, fig. 64, *a-f*.
- Euspongilla lacustris*, see III, A, 6.
- Forcepia* Carter, diagnosis, p. 198, characters of species, pp. 210, 211; *F. fabricans* (O. S.), diagnosis and description, includes *Forcipina bulbosa* Vosm., pp. 201-204, pl. xix, fig. 3, *a-g*; *F. forcipis* (Bow.), diagnosis and description, pp. 198-201, pl. xix, fig. 2, *a-h*; *F. groenlandica* Frist., diagnosis and description, pp. 209, 210, pl. xx, fig. 3, *a-e*; *F. thaelei*, n. sp., from south of Iceland, 350 and 480 fathoms, pp. 206-209, pl. vii, fig. 1, 2, pl. xix, fig. 5, *a-f*; *F. topsentii*, n. sp., from between Jan Mayen and Iceland, 1010 and 1309 fathoms, pp. 204-206, pl. vii, fig. 3, pl. xix, fig. 4, *a-g*: LUNDBECK (17).
- Forcipina bulbosa* Vosmaer, a synonym of *Forcepia fabricans* (O. S.), q.v.: LUNDBECK (17) p. 204.
- Gelliina*, subfamily of *Haploscleridae*, defined: DENDY (8) p. 136.
- Gelliodes* Ridley, defined: DENDY (8) p. 137; DRAGNEWITSCH (9) p. 19.—*G. carnosus* Dendy, described, p. 137, pl. vii, fig. 5; *G. incrustans*, n. sp., Gulf of Manaar, pp. 137, 138, pl. ix, fig. 6; *G. petrosioides*, n. sp. and var. *fibrosa*, n. var., West Coast of Ceylon, deep water, pp. 138, 139, pl. ix, fig. 3: DENDY (8).—*G. spinosella* Thiele, described: DRAGNEWITSCH (9) p. 19.
- Gellius* Gray, defined: DENDY (8) p. 136; DRAGNEWITSCH (9) p. 17.—*G. angulatus* (Bow.), var. *canaliculata*, n. var., West Coast of Ceylon, pp. 136, 137, pl. ix, fig. 7; *G. fibulatus* (O. S.), described, p. 36: DENDY (8); DRAGNEWITSCH (9) pp. 18, 19.
- Halichondria* Fleming, defined: BAER (1) p. 11.—*H.*, defined, its affinities discussed: DENDY (8) p. 146.—*H.*, defined: SVARCHEVSKIĪ (35) pp. 5, 6.—*H. digitata*, n. sp., Zanzibar: BAER (1) p. 12, pl. i, fig. 7, pl. iv, figg. 12-24.—*H. grossa* (O. S.), described, pp. 6, 7, pl. i, fig. 1, pl. iii, fig. 1; *H. luxurians* (O. S.), described, p. 7, pl. i, fig. 2, pl. iii, fig. 2: SVARCHEVSKIĪ (35).—*H. panicea* Johnst., var. *megalorhaphis* Carter and var. *hemispherica*, n. var., described: DENDY (8) pp. 146, 147.—*H. papillata*, n. sp., Papeete: BAER (1) pp. 11, 12, pl. i, fig. 5, pl. iv, figg. 7-9.—*H. prostrata*, n. sp., Tumbes, Quiriquina: THIELE (36) p. 458, figg. 2, 73.—*H. reticulata*, n. sp., Zanzibar: BAER (1) p. 12, pl. i, fig. 6, pl. iv, figg. 10, 11.—*H.*, sp. described: SVARCHEVSKIĪ (35) pp. 7, 8, pl. iii, fig. 3.
- Haploscleridae*, defined and characterized: DENDY (8) pp. 135, 136.
- Heteromeyenia ryderi*, see III, A, 6.
- Heteroxyinae*, n. subfam., defined, for the genera *Heteroxya* and *Acanthoxifer*: DENDY (8) p. 156.
- Higginsia papillosa*, n. sp., Calbuco, 30 m.; THIELE (36) pp. 428-430, fig. 49, *a-d*.
- Histoderma* Carter, defined, p. 166; *H. vesiculatum*, n. sp., Gulf of Manaar, deep water, pp. 166-168, pl. xi, figg. 8, 9: DENDY (8).
- Homæodictya* Ehlers, diagnosis, characters, and list of species, pp. 117, 118; *H. flabelliformis* (Hans.), diagnosis and description, includes *Desmacidon clavellata* Arnesen, pp. 118-121, pl. iv, fig. 2, 3, pl. xiii,

- fig. 5, *a-e*; *H. palmata* (Johnst.), synonymy, diagnosis, and description, includes *Pachychalina compressa* O. S., pp. 121-125, pl. xiii, fig. 6, *a-c*; LUNDBECK (17).
- Hymeniacidon* Bow., defined, includes *Stylotella* Lend.: DENDY (8) pp. 185, 186.—*H. Bow.*, discussed, referred to Clavulida: THIELE (36) p. 421.—*H. fernandesi*, n. sp., Juan Fernandez: THIELE (36) pp. 422, 423.—*H. petrosioides*, n. sp., Ceylon Seas: DENDY (8) p. 186, pl. xii, fig. 4.—*H. rubiginosa*, n. sp., Iquique: THIELE (36) pp. 421, 422, fig. 44.
- Iophon* Gray, diagnosis and characters of species: LUNDBECK (17) pp. 173-175.—*I.*, discussed: THIELE (36) p. 444.—*I. chelifera* R. & D., described: THIELE (36) pp. 445, 446, fig. 63, *a-d*.—*I. dubius* (Hans.), diagnosis and description, includes *Esperia pattersoni* Frist. nec Bow.; pp. 180-183, pl. vi, figg. 2-5, pl. xvii, fig. 4, *a-e*; *I. frigidus*, n. sp. from East Greenland, 140 fathoms, and Kara Sea, 73 fathoms, includes *Esperella picea* Levinsen, pp. 183-185, pl. xvii, fig. 5, *a-f*: LUNDBECK (17).—*I. pattersoni* (Bow.), described; THIELE (36) p. 445.—*I. piceus* (Vosm.), diagnosis and description, includes *Esperia nigricans* Frist. nec Bow.: LUNDBECK (17) pp. 175-180, pl. vi, figg. 1, 2, pl. xvii, fig. 3, *a, b*.
- Iotrochota* Ridley, defined: DENDY (8) p. 164.—*I.*, diagnosis, p. 185, and characters of species, pp. 196-198: LUNDBECK (17).—*I. abyssi* (Cart.), diagnosis and description, pp. 188, 189, pl. xviii, fig. 3, *a-d*; *I. affinis*, n. sp. from East Coast of Greenland, pp. 194, 195, pl. xviii, fig. 8, *a-e*: LUNDBECK (17).—*I. baculifera* Ridley, described: DENDY (8) p. 165.—*I. dubia*, n. sp. from Denmark Strait, 767 fathoms, pp. 189, 190, pl. xviii, fig. 4, *a-f*; *I. intermedia*, n. sp. from between Iceland and the Faroes, 115 fathoms, pp. 190, 191, pl. xviii, fig. 5, *a-d*; *I. ovata*, n. sp. from Denmark Strait and east of the Faroes, pp. 186-188, pl. vi, fig. 6, pl. xviii, fig. 2, *a-f*; *I. polydentata*, n. sp. from the Faroes and north of Iceland, pp. 192-194, pl. vi, fig. 7, pl. xviii, fig. 7, *a-e*: LUNDBECK (17).—*I. purpurea* (Bow.), described: DENDY (8) p. 164.—*I. rotulancora*, n. sp. from east coast of Greenland, 94 fathoms, pp. 191, 192, pl. xviii, fig. 6, *a-g*; *I. spinosa*, n. sp. from 69° 31' N. Lat., 7° 06' W. Long. 1309 fathoms, pp. 195, 196, pl. vi, fig. 8, pl. xix, fig. 1, *a-e*: *I. varidens*, n. sp. from Denmark Strait and south of the Faroes, pp. 185, 186, pl. xviii, fig. 1, *a-e*; LUNDBECK (17).
- Isodictya clarkei* Bow. and *I. lobata* Bow., synonyms of *Mycale ovulum* (O. S.), q.v.: LUNDBECK (17) p. 38.
- Leucophlæus* Carter, defined and discussed: DENDY (8) pp. 196, 197.—*L. fœtidus* (Dendy), described: DENDY (8) p. 197.
- Lissodendoryx* Tops., defined: BAER (1) p. 22.—*L.*, diagnosis and characters of species: LUNDBECK (17) pp. 153, 154.—*L. complicata* (Hans.), diagnosis and description, includes *Myxilla grisea* Hans. and *Clathria corallorhizoides* Frist., pp. 166-169, pl. v, fig. 11, pl. xvi, 4, *a-g*; *L. diversichela*, n. sp. from Denmark Strait and West Coast of Norway, 170-788 fathoms, pp. 160-162, pl. v, fig. 9, pl. xvi, fig. 2, *a-h*; *L. fragilis* (Frist.), diagnosis and description, pp. 158-160, pl. v, figg. 7, 8, pl. xvii, fig. 1, *a-g*; *L. indistincta* (Frist.), diagnosis and description, pp. 162-165, pl. v, fig. 10, pl. xvi, fig. 3, *a-h*; *L. lobosa*, n. sp. from Denmark Strait and Davis Strait, 393 and 788 fathoms, pp. 154-156, pl. v, fig. 5, pl. xv, fig. 4, *a-c*: LUNDBECK (17).—*L. monticularis*, n. sp., Zanzibar: BAER (1) pp. 22, 23, pl. ii, fig. 6, pl. v, figg. 9-14.—*L. sophia* (Frist.), diagnosis and description, pp. 156-158, pl. v, fig. 6, pl. xv, fig. 5; *L. stipitata*, n. sp., off Iceland, 275-975 fathoms, pp. 170-173, pl. v, fig. 13, pl. xvii, fig. 2, *a-e*; *L. vicina*, n. sp. from Denmark Strait, 1566 fathoms, pp. 169, 170, pl. v, fig. 12, pl. xvii, fig. 1, *a-f*: LUNDBECK (17).
- Lycopodina*, n. subg. of *Asbestopluma*: LUNDBECK (17) p. 58.
- Melonanchora* Carter, diagnosis, p. 211; *M. elliptica* Carter, diagnosis and

- description, pp. 211-216, pl. vii, figg. 4-6, pl. xx, fig. 1, *a-o*; *M. emphysema* (O. S.), diagnosis and description, pp. 216-219, pl. xx, fig. 2, *a-d*: LUNDBECK (17).
- Microciona discreta*, n. sp., Calbuco: THIELE (36) pp. 447-449, fig. 65, *a-e*.
- Mycale* Gray, defined: BAER (1) p. 20.—*M.*, for *Esperella* Vosm., diagnosis and characters: LUNDBECK (17) pp. 23, 24.—*M. imperfecta*, n. sp., Zanzibar: BAER (1) p. 20, pl. ii, fig. 5, pl. v, figg. 3-8.—*M. intermedia* (O. S.), remarks on, p. 43; *M. lingua* (Bow.), diagnosis and description, includes *Esperella vosmaeri* Levinsen, pp. 29-34, pl. ix, fig. 6, *a-f*, and text-fig. 1: LUNDBECK (17).—*M. magellanica* (Ridley), described: THIELE (36) pp. 442, 443.—*M. sp.*, described: THIELE (36) p. 443, fig. 61, *a-d*.—*M. tibubans* (O. S.), diagnosis and description, pp. 41-43, pl. x, fig. 3, *a-h*; *M. thaumatochela*, n. sp. for *Esperella intermedia* Vanhöffen (non Schmidt), Holstensborg, 30 fathoms, East Greenland 9-11 fathoms, and West Greenland, pp. 39-41, pl. x, fig. 2, *a-g*; *M. ovulum* (O. S.), diagnosis and description, includes *Esperia lanugo* O. S. and *Esperia stolonifera* Merejkowsky, probably also *Isodictya lobata* Bow., *I. clarkei* Bow., and *Esperiopsis modesta* Lambe, pp. 34-39, pl. i, figg. 6-8, pl. x, fig. 1, *a-e*; *M. placoides* (Cart.), diagnosis and description, pp. 24-29, pl. ix, fig. 5, *a-l*: LUNDBECK (17).
- Mycaleæ* for *Esperellinæ*: LUNDBECK (17) p. 7.
- Myxilla* O. S., defined and characterised: DENDY (8) p. 168: LUNDBECK (17) pp. 131, 132: SVARCHEVSKIĪ (35) p. 29.—*M. arenaria* n. sp., Gulf of Manaar and pearl banks off Aripu: DENDY (8) p. 169.—*M. brunnea* Hans., diagnosis and description: LUNDBECK (17) pp. 144-147, pl. iv, fig. 11, pl. xiv, fig. 6, *a-h*.—*M. chilensis* n. sp., Calbuco: THIELE (36) pp. 443, 444, figg. 22, 62, *a-c*.—*M. diversiancorata*, n. sp., from Denmark Strait, 170-310 fathoms, pp. 150, 151, pl. v, fig. 3, pl. xv, fig. 2, *a-i*; *M. fimbriata* (Bow.), diagnosis and description, pp. 141-144, pl. iv, figg. 9, 10, pl. xiv, fig. 5, *a-i*; *M. grisea* Hans., a synonym of *Lissodendoryx complicata* (Hans.), q. v., p. 166; *M. incrustans* (Johnst.), diagnosis, synonymy, and description, pp. 132-138, pl. iv, figg. 6, 7, pl. xiv, fig. 3, *a-h*; *M. pedunculata*, n. sp., from south of Jan Mayen, 262 fathoms, and between Iceland and the Faroes, 371 fathoms, pp. 148-150, pl. v, fig. 2, pl. xv, fig. 1, *a-d*; *M. perspinosa*, n. sp., from Faskrudsfjord, Iceland, 20-50 fathoms, and Jan Mayen, 50-60 fathoms, pp. 147, 148, pl. v, fig. 1, pl. xiv, fig. 7, *a-e*; *M. pluridentata*, n. sp., from off Iceland, 20-44 fathoms, pp. 151-153, pl. v, fig. 4, pl. xv, fig. 3, *a-e*; *M. rosacea* (Liebk.), diagnosis, synonymy and description, includes *Dendoryx incrustans*, var. *viscosa* Topsent, pp. 138-140, pl. iv, fig. 8, pl. xiv, fig. 4, *a-h*: LUNDBECK (17).—*M. tenuissima*, n. sp., deep water off Gallo: DENDY (8) pp. 169, 170, pl. xi, fig. 5.—*M. variusclera*, n. sp., Black Sea, pp. 30, 31 & 51, 52, pl. iv, fig. 10, pl. vi, fig. 2; *M. veneta* O. S., described, pp. 29, 30, pl. iv, fig. 9, pl. vi, fig. 1: SVARCHEVSKIĪ (35).
- Myxillæ* for *Dendoryciniæ*, diagnosis and characters: LUNDBECK (17) pp. 125, 126.
- Oceanapia*, see *Phlaodictyina*.
- Ophlitaspongia membranacea* n. sp., Juan Fernandez: THIELE (36) pp. 450, 451, figg. 67, *a-e*, 105.
- Pachychalina* O. S., defined: BAER (1) p. 15: DENDY (8) p. 148: DRAGNEWITSCH (9) p. 25; SVARCHEVSKIĪ (35) p. 23.—*P. brevispiculifera*, n. sp., Gulf of Manaar: DENDY (8), p. 149, pl. x, fig. 7.—*P. compressa* O. S. a synonym of *Homæodictya palmata* (Johnst.), q. v.; LUNDBECK (17) p. 125.—*P. delicatula* Dendy: DENDY (8) p. 149.—*P. fibrosa* R. and D., described: DRAGNEWITSCH (9) p. 26.—*P. irregularis* (Tschern.), described: SVARCHEVSKIĪ (35) p. 23, pl. v, fig. 2; *P. magellanica*, n. sp., Straits of Magellan: THIELE (36) pp. 474, 475, figg. 13, 13a,

- 92.—*P. nigra*, n. sp., Zanzibar: BAER (1) p. 15, pl. ii, fig. 1, pl. iv, figg. 23, 24.—*P. reticulosa*, n. sp., Admiralty Sound and Punta Arenas: THIELE (36) p. 475, figg. 12, 93.—*P. spinilamella* Dendy, described: DENDY (8) p. 149, pl. vii, fig. 4.—*P. spinulosa* Lend., described: DRAGNEWITSCH (9) pp. 25, 26.—*P. subcylindrica*, n. sp., from N. of Negombo, 9 fathoms: DENDY (8) p. 148, pl. x, figg. 1, 2.—*P. tenera*, n. sp., Punta Arenas, p. 476, figg. 14, 94; *P. validissima*, n. sp., Calbuco, pp. 473, 474, figg. 16, 91: THIELE (36).
- Paramyxa*, n. g. for *Halichondria infrequens* Carter: DENDY (8) p. 233, footnote.
- Paresperella*, n. g., type *Esperia serratohamata* Carter, p. 162; *P. bidentata*, n. sp., Gulf of Manaar, pp. 163, 164; *P. serratohamata* (Carter), described, pp. 162, 163, pl. xi, fig. 2: DENDY (8).
- Pellina* O. S., defined, pp. 8, 9; *P. semitubulosa* (O. S.), described, pp. 9, 10, pl. ii, fig. 4, pl. iii, fig. 4: SVARCHEVSKIĪ (35).
- Pellinella* n. g. for *P. conica*, n. sp., Admiralty Sound: THIELE (36) pp. 471, 472, figg. 90, 103.
- Petrosia* Vosmaer, defined: DENDY (8) p. 144: DRAGNEWITSCH (9) p. 21: SVARCHEVSKIĪ (35) pp. 10, 11.—*P. clavata* (B. Criv.), described, pp. 11, 12, pl. i, fig. 3, pl. iii, fig. 5; *P. coriacea*, n. sp., Black Sea, pp. 12, 13, pl. i, fig. 4, pl. iii, fig. 6: SVARCHEVSKIĪ (35).—*P. densissima*, n. sp., W. Coast of Ceylon, deep water, pp. 145, 146, pl. ix, fig. 9; *P. similis* R. & D., described, with var. *delicatula* n. var. and *halichondroides*, n. var., p. 145: DENDY (8).—*P. similis*, var. *compacta* R. & D., described: DRAGNEWITSCH (9) pp. 21, 22.—*P. testudinaria* (Lam.); DENDY (8) p. 144, text-fig. 1.
- Phukellia* Bow., defined, p. 190; *P. ceylonensis*, n. sp., Gulf of Manaar, p. 192, pl. viii, fig. 3, pl. xiii, fig. 5; *P. crassitylifera*, n. sp., Ceylon seas, pp. 192, 193, pl. xiii, fig. 6; *P. donnani* Bow., described, pp. 190, 191, text-figg. 4; *P. symmetrica*, n. sp., Muttuvaratu Paar, 8 fathoms, p. 191, pl. xiii, fig. 3: DENDY (8).
- Phleodictyine* defined to include *Phleodictyon*, *Oceanapia*, *Histoderma*, *Sideroderma*, and *Amphiastrella*: DENDY (8) p. 165.
- Phleodictyon* Carter, defined, p. 165; *P. fistulosum* (Bow.), described, pp. 165, 166: DENDY (8).
- Plicatella expansa*, n. sp., Iquique, 30 m.: THIELE (36) pp. 427, 428, figg. 21, 48, a-c.
- Plocamia* O. S., defined, p. 179; *P. manaarensis* (Carter), p. 179, pl. viii, fig. 1: DENDY (8).
- Pseudaxinella egregia* (Rüdl.), described: THIELE (36) pp. 426, 427, fig. 47, a-c.
- Raspailia* Nardo, defined, and placed under *Ectyonine*: DENDY (8) p. 172: history, extent and diagnosis of the genus, which is referred to the *Ectyonine*, with key to the 21 species recognised, pp. 15, 21: diagnosis, synonymy and occurrence of the species, pp. 21-36: PICK (28): defined: SVARCHEVSKIĪ (35) pp. 32, 33.—*R. alcea*, n. sp., Trieste, p. 11, pl. i, fig. 5, pl. ii, fig. 1, pl. iii, figg. 11, 12, pl. iv, figg. 14-16; *R. freyeri* O. S., described, pp. 14, 15, pl. i, fig. 6, pl. ii, fig. 4, pl. iii, figg. 6-8, pl. iv, figg. 7-9: PICK (28).—*R. fruticosa* Dendy, var. *tenuiramosa*, n. var.: DENDY (8) p. 172, pl. viii, fig. 5.—*R. hispida* (Mont.), described: PICK (28) pp. 12, 13.—*R. hornelli*, n. sp., Gulf of Manaar: DENDY (8) pp. 172-174, pl. xi, fig. 7.—*R. incrustans*, n. sp., Black Sea: SVARCHEVSKIĪ (35) pp. 33, 34, & 52, pl. v, fig. 6, pl. vii, fig. 1.—*R. ramosa* (Mont.), described, pp. 13, 14; *R. simplicior*, n. sp., Lesina, Adriatic, p. 10, pl. i, fig. 3, pl. iii, figg. 4, 5, pl. iv, figg. 4-6: PICK (8).—*R. thurstoni*: DENDY (8) p. 172.—*R. uncinata*, n. sp., Gulf of Muggia, Trieste, pp. 6, 7, pl. i, fig. 4, pl. iii, figg. 9, 10, pl. iv, figg. 10-13; *R. viminalis* O. S. described, pp. 7-9,

- pl. i, figg. 1, 2, pl. ii, figg. 2, 3, pl. iii, figg. 1-3, pl. iv, figg. 1-3; *R. viminalis*, var. *gracillima* Tops., described, p. 9: PICK (28).
- Reniera* Nardo, defined: DENDY (8) p. 142: BAER (1) p. 12: DRAGNEWITSCH (9) p. 22: SVARCHEVSKIĪ (35) pp. 13, 14.—*R. algicola*, n. sp., Talcahuano, pp. 466, 467, fig. 83; *R. anceps*, n. sp., Juan Fernandez, p. 466, fig. 82: THIELE (36).—*R. aqueductus* O. S., described, p. 14, pl. i, fig. 5, pl. iii, fig. 7; *R. ascidia* O. S., described, p. 15, pl. i, fig. 6, pl. iv, fig. 1: SVARCHEVSKIĪ (35).—*R. auletta*, n. sp., Calbuco: THIELE (36) pp. 460, 461, figg. 6, 76.—*R. australis* Lend., described: DRAGNEWITSCH (9) pp. 22, 23.—*R. baviana* Lend., described: BAER (1) pp. 13, 14, pl. i, fig. 9, pl. iv, figg. 18, 19.—*R. chilensis*, n. sp., Calbuco: THIELE (36) p. 467, figg. 5, 84.—*R. curiosa*, n. sp., Black Sea, pp. 19, 20, pl. iv, fig. 2, pl. v, fig. 1; *R. densa* (Bow.), described, p. 16, pl. ii, fig. 1, pl. iii, fig. 8: SVARCHEVSKIĪ (35).—*R. foraminosa*, n. sp., Tumbes, p. 465, figg. 10, 81, 104: *R. ignobilis*, n. sp., Punta Arenas, p. 470, figg. 8, 34, 88: THIELE (36).—*R. implexa* O. S., described: BAER (1) p. 13, pl. i, fig. 8, pl. iv, figg. 15-17; described: DENDY (8) p. 142: DRAGNEWITSCH (9) p. 22.—*R. inepta*, n. sp., Punta Arenas: THIELE (36) pp. 468, 469, fig. 86.—*R. inflata* O. S., described, pp. 16, 17, pl. i, fig. 7, pl. iii, 9; *R. informis* O. S., described, pp. 17, 18, pl. iv, fig. 4: SVARCHEVSKIĪ (35).—*R. macropora*, n. sp., Juan Fernandez: THIELE (36) p. 463, figg. 9, 79.—*R. mollis*, n. sp., Zanzibar: BAER (1) pp. 14, 15, pl. i, fig. 10, pl. iv, figg. 20-22.—*R. nodosa*, n. sp., Calbuco: THIELE (36) pp. 461, 462, figg. 7, 77.—*R. pallida* (Bow.) (?), described, p. 18, pl. ii, fig. 2, pl. v, fig. 3; *R. palmata* O. S., described, pp. 18, 19, pl. i, fig. 8, pl. iv, fig. 6: SVARCHEVSKIĪ (35).—*R. pigmentifera*, n. sp., Jokkenpiddi Paar, 10 fathoms: DENDY (8) p. 143, pl. ix, fig. 10.—*R. rugosa*, n. sp., Punta Arenas, p. 469, figg. 87, 100; *R. siphonella*, n. sp., Calbuco, 30 m., p. 460, figg. 75, 97-99; *R. sordida*, n. sp., Calbuco, p. 468, fig. 85; *R. spinosella*, n. sp., Punta Arenas, pp. 459, 460, figg. 11, 30, 74; *R. topsenti*, n. nom. for *R. cinerea*, var. *porosa* Tops., Punta Arenas, pp. 462, 463, figg. 4, 78, 104: THIELE (36).—*R. tubulifera*, n. sp., Black Sea: SVARCHEVSKIĪ (35) pp. 20, 21, pl. ii, fig. 3, pl. iv, fig. 5.—*R. verrucosa*, n. sp., Punta Arenas; THIELE (36) pp. 463, 464, figg. 3, 80, 102.—*R. zoologica*, n. sp., Gulf of Manaar: DENDY (8) p. 143, pl. ix, fig. 8.—*R.*, sp. described: DENDY (8) p. 144.—*R.*, 3 spp. described: SVARCHEVSKIĪ (35) pp. 21, 22.—*R.*, sp. described: THIELE (36) pp. 470, 471, fig. 89.
- Renierinae*, subfamily of *Haploscleridae*, defined and characterized: DENDY (8) p. 142.
- Rhabderemia*, Topsent, defined and discussed: DENDY (8) p. 180; *R. indica*, n. sp., Ceylon seas: DENDY (8) pp. 180, 181, pl. xii, fig. 10.
- Rhaphidophlus* Ehlers, defined, p. 15; *R. filifer* R. & D., described, pp. 16, 17: DRAGNEWITSCH (9).—See also *Clathria*.
- Sideroderma*, see *Phleodictyinae*.
- Siphonochalina* O. S., defined: BAER (1) p. 15: DENDY (8) p. 155.—*S. communis* (Carter), var. *tenuispiculata*, n. var., DENDY (8) p. 155, pl. vii, fig. 1.—*S. intermedia* R. & D., described: BAER (1) pp. 16, 17, pl. ii, fig. 2, pl. iv, fig. 25.
- Spongosorites* Topsent, defined, placed under *Axinellidae*, p. 182: *S. (?) lamellata*, n. sp., W. coast of Ceylon, pp. 184, 185, pl. xii, fig. 2.—*S. (?) lapidiformis*, n. sp., W. coast of Ceylon, p. 185, pl. xii, fig. 3.—*S. topsenti*, n. sp., Gulf of Manaar and W. coast of Ceylon, pp. 182-184, pl. xii, fig. 1: DENDY (8).
- Strongylophora*, n. g., *Gelliinae*, for *S. durissima*, n. sp., Ceylon seas: DENDY (8) pp. 141, 142, pl. ix, fig. 1.
- Stylopus* Frist., defined, p. 31; *S. coriaceus* Frist., described, pp. 31, 32, pl. vi, fig. 3: SVARCHEVSKIĪ (35).

*Stylotella* Lend., see under *Hymeniacion*.

*Stylotellopsis* n. g., for *S. amabilis*, n. sp., Punta Arenas, 19 m.: THIELE (36) pp. 456, 457, fig. 72, a-d.

*Tedania* Gray, defined: BAER (1) p. 17; *T.* discussed: THIELE (36) p. 430.—*T. digitata* O. S., var. *sansibarensis*, n. var., pp. 17, 18, pl. i, figg. 11, pl. iv, figg. 26-31, pl. v, fig. 1, 2; var. *fragilis*, n. var., pp. 18, 19, pl. ii, fig. 3; var. *conica*, n. var., p. 19, pl. ii, fig. 4: BAER (1).—*T. excavata*, n. sp., Calbuco, pp. 431, 432, fig. 51, a-c; *T. fuegiensis*, n. sp., Cape Espiritu Santo, pp. 433, 434, fig. 53, a-d; *T. mucosa*, n. sp., Calbuco, pp. 430, 431, fig. 50, a-c; *T. pectinicola*, n. sp., Calbuco, p. 432, fig. 52, a-d: THIELE (36).

*Thrinacophora* R. & D., defined, p. 186; *T. agariciformis*, n. sp., Ceylon seas, pp. 186, 187, pl. xii, fig. 6; *T. durissima*, n. sp., Ceylon seas, pp. 187, 188, pl. xii, fig. 5: DENDY (8).

*Toxochalina* Ridley, defined and characterized, p. 139; *T. robusta* R., and var. *ridleyi*, n. var., described, pp. 139-141, pl. ix, fig. 2: DENDY (8).

*Trachyopsis*, n. g., *Renierince*, for *T. halichondroides*, n. sp., W. coast of Ceylon, deep water: DENDY (8) p. 147, pl. x, fig. 10.

### (iii) KERATOSA.

Classification of the Keratosa discussed: TOPSENT (37) pp. clxxi-clxxiii.

Keratosa distinguished into "true Ceratosa" or Euceratosa and Pseudoceratosa, p. 201: Euceratosa defined, their affinities discussed, pp. 200-203: DENDY (8).

*Aplysilla tendensfeldi*, n. nom., for *Simplicella glacialis* Lend., non Merzjowsky, pp. 489, 490, fig. 113; *A. sulfurea* F. E. S., described, pp. 488, 489, figg. 112, 114: THIELE (36).

*Aplysillidae*, defined: DENDY (8) p. 203; to be merged in *Darwinellidae*: TOPSENT (37) p. clxxiii.

*Aplysina* Nardo, defined, p. 223; *A. herdmanni*, n. sp., Ceylon seas, pp. 225, 226, pl. xvi, fig. 4; *A. purpurea* Carter, described, pp. 224, 225: DENDY (8).

*Cacospongia* O. S., defined, p. 210; *C. scalaris* O. S., described, pp. 210, 211: DENDY (8).—*C. similis* n. sp., Juan Fernandez: THIELE (36) pp. 481, 482, fig. 108.

*Cerelasma* Haeckel, referred to the *Psamminidae* (Protozoa): SCHULZE (31) p. 5.

*Darwinella* Muller, defined and discussed: DENDY (8) p. 203; defined, p. cxc; table of species, p. clxxxiii: TOPSENT (37).—*D. australiensis* Carter, described, p. clxxvi; *D. corneostellata* (Carter), described, pp. clxxv, clxxvi; *D. dalmatica*, n. sp., Adriatic, pp. clxxviii, clxxix; *D. duplex*, n. sp., Azores, 200 metres, p. clxxix; *D. gardineri*, n. sp., Maldives, 40 metres, pp. clxxix, clxxx; *D. intermedia* Topsent, described, pp. clxxvii, clxxviii, text-fig. 1; *D. mulleri* (Schultze), for *D. aurea* Müller, described, p. clxxv: TOPSENT (37).—*D. simplex* Topsent, described: DENDY (8) p. 204, pl. xv, figg. 1, 2; described: TOPSENT (37) pp. clxxvi, clxxvii.—*D. warreni*, n. sp., Natal: TOPSENT (37) pp. clxxx-clxxxiv.

*Darwinellidae*, defined, for *Hexadella* Tops., *Aplysilla* F. E. S., *Darwinella* Müll., *Dendrilla* Lend. and *Megalopastus* Dendy: TOPSENT (37) pp. clxxxiii and clxxxix.

*Dendrilla* Lend., defined, referred to family *Darwinellidae*: TOPSENT (37) pp. clxxiv and cxc.

*Dendroceratida*, for *Hexaceratina* Lend., defined, to include three families, *Darwinellidae*, *Pteraplysillidae*, n. fam., and *Ianthellidae*: the *Hali-sarcidae* to be removed from the order: TOPSENT (37) pp. clxxxiii and clxxxix.



- Euspongia* Bronn, defined: DENDY (8) p. 211: DRAGNEWITSCH (9) p. 27.—*E. officinalis* Auct., var. *ceylonensis*, n. var.: DENDY (8) pp. 211–213, pl. xiv, fig. 3, pl. xvi, fig. 5.—*E. officinalis*, var. *adriatica* F. E. S., and var. *rotunda* Hyatt, described: DRAGNEWITSCH (9), pp. 28–30.—*E. tenuiramosa*, n. sp., Trincomalee: DENDY (8) pp. 213, 214.—*E. zimocca* O. S., described: DRAGNEWITSCH (9) p. 28.—(Vide etiam *Spongia*.)
- Haddonella* I. Soll., defined, referred to family *Ianthellidæ*: TOPSENT (37) pp. clxxxix, cxc.
- Hexaceratina* Lend., discussion of their affinities: THIELE (36) p. 488.
- Hippospongia* F. E. S., defined: DENDY (8) p. 214: DRAGNEWITSCH (9) p. 30.—*H. anomala* Polej., described, pp. 215, 216; *H. clathrata* (Carter), described, p. 215, pl. xiv, fig. 2; *H. dura* Lend., described, p. 216; *H. intestinalis* (Lam.), described, p. 214: DENDY (8).—*H. equina* and var. *mæandriiformis* in Western Australia, economic notes on: WHITELEGGE (44) p. 119.—*H. mollissima* Lend., described: DRAGNEWITSCH (9) p. 30.
- Hircinia* Nardo, defined, p. 219; *H. anomala*, n. sp., Gulf of Manaar, pp. 222, 223, pl. xiv, fig. 5, pl. xvi, fig. 1: DENDY (8).—*H. clavata*, n. sp., Juan Fernandez: THIELE (36) pp. 484, 485, fig. 110.—*H. fusca* Carter, non *H. fusca* Ridley and Lendenfeld, described, pp. 219–221, pl. xiv, fig. 1; *H. schulzei* n. sp., W. coast of Ceylon, pp. 221, 222, pl. xvi, fig. 3; *H. tuberosa*, n. sp., W. coast of Ceylon, p. 221, pl. xvi, fig. 2: DENDY (8).—*H. variabilis hirsuta* O. S., described: THIELE (36) p. 484, fig. 109.
- Ianthella* Gray, defined, referred to family *Ianthellidæ*: TOPSENT (37) pp. clxxxix, cxc.
- Ianthellidæ*, defined, for *Ianthella* Gray, and *Haddonella* I. Soll.: TOPSENT (37) pp. clxxiii and cxc.
- Igernella*, n. g., *Pleraplysillidæ*, defined, p. cxc, for *Darwinella joyeuxi* Topsent, described: TOPSENT (37) pp. clxxxvii–clxxxix, text-fig. 3.
- Korotnewia* Poléj., to be removed from the *Darwinellidæ* and from the *Dendroceratida*, perhaps allied to *Psammaplysilla* Keller: TOPSENT (37) p. clxxiv.
- Megalopastas* n. g., *Aplysillidæ*, for *Dendrilla elegans* Lend. and *Spongiocella nigra* Dendy; diagnosed and discussed, pp. 204, 205; *M. nigra*, described, pp. 205, 206, pl. xiv, fig. 7, pl. xv, figs. 5–8; *M. pulvillus* n. sp., Gulf of Manaar, pp. 206, 207, pl. xv, fig. 3: DENDY (8).—*M. Dendy*, defined, referred to family *Darwinellidæ*: TOPSENT (37) pp. clxxiv and cxc.
- Oligoceras arenosa*, n. sp., Juan Fernandez, pp. 479, 480; *O. paupera*, n. sp., Juan Fernandez, p. 481; *O. sororia*, n. sp., Juan Fernandez, 3 m., pp. 480, 481: THIELE (36).
- Phyllospongia* Ehlers, defined, p. 217; *P. holdsworthi* (Bow.), described, pp. 218, 219, text-fig. 5; *P. papyracea* (Esper) var., described, pp. 217, 218, pl. xiv, fig. 6: DENDY (8).
- Pleraplysilla*, n. g., *Pleraplysillidæ*, defined, p. cxc, for *P. minchini*, n. sp., Courseulles (Calvados), 30 metres: TOPSENT (37) pp. clxxxiv–clxxxvii, text-fig. 2.
- Pleraplysillidæ*, n. fam., for *Igernella*, n. g. and *Pleraplysilla*, n. g., defined: TOPSENT (37) pp. clxxiii and cxc.
- Psamminidæ*, Haeckel, referred to the Protozoa; SCHULZE (31) pp. 4, 5.
- Psammapemma*, Marshall, defined; *P. crassum* (Carter), var. *clathrata*, n. var.: DENDY (8) p. 210.
- Psammaphyllum* Haeckel, to be merged in the genus *Stannophyllum* and referred to the family *Stannomidæ* (Protozoa): SCHULZE (31) p. 5.
- Spongelia* Nardo, defined: DENDY (8) p. 208: DRAGNEWITSCH (9) p. 19.—*S. chilensis*, n. sp., Calbuco, 19.—28 m.: THIELE (36) pp. 485, 486, fig. 20.—*S. elastica*, varr. *lobosa* F. E. S., and *crassa*, n. var.: DENDY

(8) pp. 208, 209, pl. xiv, fig. 4—*S. elastica*, var. *massa* F. E. S., described: DRAGNEWITSCH (9) pp. 20, 21.—*S. fragilis* Mont., var. *ramosa* F. E. S., described: DENDY (8) p. 208.—*S. fragilis*, var. *tubulosa* F. E. S., described: DRAGNEWITSCH (9) p. 20.—*S. incrustata*, n. sp., Gulf of Manaar and W. coast of Ceylon: DENDY (8) pp. 209, 210.—*S. repens*, n. sp., Juan Fernandez: THIELE (36) pp. 486–488, fig. 111.

*Spongeliidæ*, defined: DENDY (8) p. 207.

*Spongia* for *Euspongia*, p. 482; *S. cerebralis*, n. sp., Juan Fernandez, pp. 482, 483, figg. 19, 107; *S. magellanica*, n. sp., Punta Arenas and Calbuco, pp. 483, 484, figg. 18, 106: THIELE (36).

*Spongidae*, defined: DENDY (8) p. 210.

*Stannomidæ* Haeckel, referred to the Protozoa: SCHULZE (31) pp. 4, 5.

#### (iv) MYXOSPONGIDA.

Definition of the Myxospongida, to include *Halisarca*, *Bajulus*, *Hexadella*, and *Oscarella*, their affinities discussed: DENDY (8) p. 60.

*Halisara dujardini*, var. *magellanica* Tops., described: THIELE (36) p. 490.

#### E. INCERTÆ SEDIS.

†*Achilleum rugosum*, var. *elliptica*: ZAHÁLKA (48) pp. 21, 168.

†*Amorphospongia rugosa* Röm.: ZAHÁLKA (48) pp. 159, 183.

*Hexadella* Topsent, defined, referred to *Myxospongida*: DENDY (8) p. 61: regarded as derived from *Aplysilla* by loss of skeleton, and referred to *Darwinellidæ*: TOPSENT (37) pp. clxxiv and exc.—*H. indica* n. sp., Gulf of Manaar, 5 fathoms: DENDY (8) pp. 61–63, pl. i, figg. 1–3.

†*Leiofungia*, cf. *reticularis* (Münst.): BLASCHKE (3) p. 165.

†*Somphospongia favositiformis*, n. sp., Hamilton Group, Indiana, WHITFIELD (45) p. 300, pl. ix, figg. 1–9, Bull. Amer. Mus. xxi.

†*Sparsispongia* (?) sp.: BLASCHKE (3) p. 164.

†*Spongites saxonicus*: ZAHÁLKA (48) p. 56.

†*Strephochetus*, and *S. ocellatus*, described, p. 156, pls. lvi, lvii, lix; *S. brainerdi*, pl. lvi, fig. 2, pl. lvii, fig. 8, p. 156, *atratus*, pl. lvi, fig. 1, pl. lvii, fig. 9, p. 157, Beekmantown calciferous, Vermont, *richmondensis*, Kentucky and Indiana (MILLER) p. 157, *prunus*, Vermont, pl. lvi, fig. 5, pl. lvii, fig. 6, p. 160: SEELY, Rep. Vermont State Geol. iii, n. spp.

†*Vermispongia*, n. g., *V. hamiltonensis*, n. sp., figg. 1–5; *dactyliformis*, n. sp., fig. 6, pl. xi, Hamilton Group, Indiana, WHITFIELD (45) p. 298, Bull. Amer. Mus. xxi.

# XVIII. PROTOZOA.

BY

H. M. WOODCOCK, D.Sc. (Lond.).

## CONTENTS.

	Page
INTRODUCTION . . . . .	3
I. TITLES. . . . .	7
II. BIOLOGY	
A. Morphology . . . . .	34
1. General anatomy . . . . .	34
2. Minute structure of cell-organs, special points . . . . .	36
B. Physiology . . . . .	37
1. Nutrition, excretion, etc. . . . .	38
2. Locomotion . . . . .	38
3. Response to stimuli . . . . .	39
C. Bionomics . . . . .	39
1. Plankton . . . . .	39
2. Parasitism: effects on host; relation to disease . . . . .	40
D. Reproduction . . . . .	43
1. Asexual . . . . .	43
2. Sexual . . . . .	44
3. Nuclear division; directive-centres, etc. . . . .	44
E. Development; life-cycle. . . . .	45
F. Group relationships; classificatory changes . . . . .	46
G. Miscellanea . . . . .	47
1. Cultivation and infection . . . . .	47
2. Technique . . . . .	47
3. Bibliography, etc. . . . .	48
III. DISTRIBUTION.	
A. Geographical . . . . .	48
B. Geological . . . . .	49
C. Parasitic (including commensalism) . . . . .	50
1905. [VOL. XLII.]	G 1

	Page
IV. SYSTEMATIC.	
A. Protozoa in general (vacant)	
B. Gymnomyxa . . . . .	53
1. Mycetozoa . . . . .	53
(a) Protomyxidea . . . . .	53
(b) Mycetozoida . . . . .	53
2. Rhizopoda . . . . .	53
(a) Lobosa . . . . .	54
(b) Foraminifera . . . . .	55
3. Heliozoa . . . . .	62
(a) Aphrothoraca . . . . .	62
(b) Chlamydophora (vacant)	
(c) Chalarothoraca . . . . .	62
(d) Desmothoraca (vacant)	
4. Radiolaria . . . . .	62
(a) Peripylaria . . . . .	63
(b) Acantharia . . . . .	65
(c) Monopylaria . . . . .	65
(d) Tripylaria . . . . .	67
c. Sporozoa . . . . .	68
1. Ectospora (Telosporidia) . . . . .	68
(a) Gregarinidea . . . . .	68
(b) Coccidiidea . . . . .	69
(c) Hæmosporidia . . . . .	69
2. Endospora (Neosporidia) . . . . .	70
(a) Myxosporidia . . . . .	70
(b) Actinomyxidia . . . . .	71
(c) Sarcosporidia . . . . .	71
(d) Haplosporidia . . . . .	71
Sporozoa incertæ sedis . . . . .	71
D. Mastigophora . . . . .	72
1. Flagellata (Euflagellata) . . . . .	72
(a) Lissoflagellata . . . . .	72
(b) Choanoflagellata . . . . .	74
2. Silicoflagellata (vacant)	
3. Dinoflagellata . . . . .	74
(a) Adinida (vacant)	
(b) Dinifera . . . . .	74
4. Rhynchoflagellata . . . . .	74
E. Ciliophora . . . . .	75
1. Ciliata . . . . .	75
(a) Holotricha . . . . .	75
(b) Heterotricha . . . . .	75
(c) Hypotricha . . . . .	76
(d) Peritricha . . . . .	76
2. Suctoria (vacant)	

## INTRODUCTION.

THE *Protozoa* Record for 1905 is indeed a "record," containing no fewer than 522 Titles; this is an increase of quite 40 per cent. upon last year, and surpasses the previous best year (1902) by about 60 titles. And while of course, as is usual, a certain number belong actually to preceding years (chiefly to 1904), the Recorder does not find that the proportion of such in the present Record is so great as he anticipated would be the case a year ago.

Analysis of the Titles shews that this considerable increase is—as hitherto—largely due to the never-ceasing growth of the literature dealing with parasitic Protozoa and their relation to disease. In connection with this subject, the Recorder would like to remark that he is sure no other Recorder can have so much trouble and difficulty in deciding what papers to include and what to leave out, as falls to his lot. If he compares his list with the Titles given, say, in the Zool. Jahresbericht, he finds his own is much longer; if, on the other hand, he compares it with the literature-lists (relating solely to Protozoa and "Pseudo-Protozoa") published in the Arch. Protistenkunde, he notes dozens of medico-biological papers which he has not included. To take one instance only: that of the "*Spirochaeta*" of syphilis. Upon the answer to the question whether this organism is or is not a Protozoan, ought to depend the inclusion or non-inclusion of—well, of how many papers, the Recorder does not care to estimate! For this year, at all events, it has been considered best to leave them practically out of account, pending further discoveries; though the Recorder is by no means oblivious of KRZYSZTALOWICZ & SIEDLECKI'S remarkable account (223), in which alleged trypaniform (Flagellate) phases of this parasite are described. Apart from this work, only SCHAUDINN & HOFFMANN'S note regarding the discovery (406), and one or two notes (VUILLEMIN [498], SCHAUDINN [403 & 404]) bearing principally upon the nomenclature, are included.

So far as Morphology and Life-History are concerned, 1905 has proved a less exciting year than the previous one, though nevertheless fairly productive. Among the Gymnomyxa (or Sarcodina), an outstanding feature is the discovery by SCHULZE (431), as the result of his investigations upon certain families of Haeckel's deep-sea Ceratosa, that they are not Sponges but plasmodium-forming Protozoa, which he erects into a special group, the *Xenophyophora*, allied to the Rhizopods and characterized by their utilisation of extrinsic foreign bodies (e.g. sponge spicules) to form a skeleton. A good deal of work has been done upon various species of *Amöba*, chiefly by NERESHEIMER (312), PENARD (335), SCHUBOTZ (427) and VAHLKAMPF (492). LISTER (267) continues his valuable research upon dimorphism in the Foraminifera, treating in this paper of the relation in size of the megalosphere to that of the microspheric and megalospheric tests in *Nummulites*; and DOUVILLÉ (110) offers an interesting note on the structure of *Orbitolina*. In the morphology of the arenaceous Foraminifera KEMNA has a wide field over which to range,—of which he avails himself (207); it may also be remarked that variety of topic is no obstacle to this versatile writer. An admirable example of the combination of a morphological with a biological study is furnished by HÄCKER'S work (169 & 170) on the comparative structure of the Tripylarian skeleton in relation to function and environmental conditions. Another important Radiolarian memoir is that of BRANDT (39) who has continued his study of the *Collidae*, supplying this time additional information regarding the structure and life-history of the *Thalassicollæ*.

There are several interesting Sporozoan papers to record; though the Coccidia have been almost neglected. Led by his observation (43) of slight anisogamy in the conjugating elements of certain Monocystid Gregarines to reinvestigate the common *Monocystis* itself, BRASIL (44) finds that the sexual process in this genus is not, as hitherto thought, completely isogamous, but that distinctions between the male and female gametes really exist. On the other hand, SCHNITZLER (416) confirms the results obtained by previous workers, with regard to the complete isogamy in *Clepsydrina* (*Gregarina*) *ovata*, a Septate form. LÉGER (248) has discovered a remarkable Gregarine, having its cytoplasm metamericly segmented, which he terms *Teniocystis*. The investigation of this undoubtedly unicellular animal leads Léger to put forward the interesting suggestion that harmonic metamerism may be, in certain cases, the cause rather than the expression of repeated (asexual) multiplication (cf. *Anoplophrya*). The occurrence of Hæmogregarines in Mammals, described by BALFOUR (7), CHRISTOPHERS (86), and LAVERAN (227), helps to break down still further the division formerly erected between the Hæmosporidia of warm- and of cold-blooded Vertebrates. Rogers' sensational observation of Flagellate phases in connection with the extra-corporeal development of *Piroplasma donovani* has been amply corroborated and extended by CHRISTOPHERS (85), LEISHMAN & STATHAM (253) and others; though, so far, no true trypaniform phases have been recognized. KOCH (214) gives an account of what he thinks are developmental stages of *Piroplasma canis* in the tick, but some of the weird appearances figured are not very convincing. Coming to the other sub-class of Sporozoa, the Neosporidia (or, as they are better termed, the Endospora), PEREZ'S notes (341-344) on certain new *Glugeidæ* are of considerable importance as regards the classification of the *Microsporidia*; and CAULLERY & MESNIL (72) publish a detailed account of their researches on the Actinomyxidian, *Spheractinomyxon*. HESSE (177, 179) has observed a new species of the uncommon form *Myxocystis*, which he finds to be a true Myxosporidian. Lastly, the number of Sporozoa incertæ sedis is increased by KRASSILSTSCHIK'S account (220 & 221) of *Microrklossia*, which seems to combine to a certain extent Ectosporan and Endosporan characters.

Of numerous papers dealing with the Trypanosomes, PROWAZEK'S study (362) on the life-history of *Trypanosoma lewisi* is the most important from a protozoological standpoint; the author demonstrates that the life-cycle of this well-known Mammalian form agrees with that of the Trypanosomes of other Vertebrates so far as investigated up to the present, in possessing a true Invertebrate host (a louse, *Hæmatopinus*, in this case), in which the sexual conjugation is undergone. FOA (141) has continued his—the Recorder apologizes if he should write her—researches on unusual Flagellates and describes two entirely new types, one, *Calonympha*, being of extremely complicated structure. Miss ROBERTSON'S very useful account (379) of the remarkable parasite, *Pseudospora volvocis*, illustrates well to what an extent form-polymorphism may be shewn during different periods in the life-history of a given Protozoan. A comprehensive description of the morphology and variation of the lorica in the Peridinida is given by ENTZ (122).

FAURÉ-FREMIET has again taken a prominent share in the work on the Ciliates. In his principal memoir (137) he combines much that he has previously written upon the cytology of the *Vorticellidæ*; and other information on the same subject is contained in (128, 131 & 132). In (138), it may be noted, this writer gives a full account of the minute cytoplasmic structure of the Rhizopod *Cochliopodium*. Further papers on the various organellæ of Infusoria are those of GONDER (160), RUSSO & DI MAURO (389 & 390), SCHUBERG (419), and THON (491).

Some interesting contributions on topics of a more general character

may be noticed. MESNIL (294) summarizes our present knowledge relating to the nuclear organellæ known as chromidia, distinguishing between the different kinds; and STEDLECKI (444) discusses at length the significance of the characteristic Sporozoan karyosome. SCHAUDINN (402) and STEMPPELL (472) compare the different modifications of the sexual process met with among the Protozoa, the former considering also the relation between the trophic (vegetative) and generative (sexual) nuclear constituents in the different cases. In connection with the physiology of conjugation, CALKINS (61), who is continuing his valuable research on recuperation upon new lines, expresses the quite unexpected idea that not both the ex-conjugants (in e.g., *Paramœcium*) are recuperated.

Another Transatlantic worker to whom Protozoan Physiology is greatly indebted is JENNINGS; in (197) he publishes one of the most thoughtful and philosophical contributions to the study of the behaviour of the lower organisms that has appeared for some time. The logical conclusion to which he finds himself bound to come as the result of his manifold experiments, is that "neither the usual movements, nor the reactions to different stimuli, of *Amœba* (as a type of living protoplasm) have as yet been resolved into known physical factors." It is very instructive to compare with this monograph RHUMBLER's efforts (376) to develop satisfactorily his mechanical theory of movement in *Amœba*, by surface-tension, an explanation which Jennings emphatically says will not suffice; and, in the end, Rhumbler himself briefly makes the significant admission, that a "Miniaturpsyche"—a form of energy of unknown character—may perhaps reside in the *Amœba*, though he deprecates the idea of its being necessarily metaphysical. Nevertheless, it would seem from this that Rhumbler, also, is really, at the end of his labours, no wiser as to the ultimate source of vital phenomena than he was at the beginning. In this section the Recorder has only to add that there is no end to investigations endeavouring to ascertain the effects of all the "taxies" and "tropisms" upon Protozoa; indeed, what the Zeitschrift allg. Physiol., for example, would do, were there no hapless *Paramœcia* and other Infusoria upon which to experiment, it is somewhat difficult to say.

The ranks of Protozoa which cause disease among higher animals are augmented this year by a new member of the Haplosporidia, *Rhinosporidium kinealyi*, described by MINCHIN & FANTHAM (298), this parasite producing tumours of the septum nasi of man. Much attention has been paid to the alleged Protozoan of variola and vaccinia, "Guarnieri's bodies" or *Cytoryctes*. BOSC (32) continues to publish lengthy descriptions, accompanied by unconvincing figures, of his "bryocytic" maladies ("maladies à Protozoaires"), treating this time of small-pox and "*Plasmodium* [sic] *variola*." SIEGEL (445) gives a long account of the parasite (as *Cytorhyctes*), elaborately illustrated with photomicrographs, which differs considerably from Calkin's account (Zool. Rec. 1904[58]). Further, he considers (446) that scarlet-fever is caused by an allied species, and (447) syphilis by yet another (*C. luis*), this last conclusion being very different from that arrived at by Schaudinn & Hoffmann and their supporters (see above). On the other hand, PROWAZEK (364 & 365), RICCIOLI (377) and others strongly assail the parasitic nature of Guarnieri's bodies. Finally, PROWAZEK (363), after a study of *Plasmodiophora*, finds that no comparison can be made between this parasite and the cell-inclusions ("Plimmer's bodies") in cancerous growths.

For various works on Geographical Distribution, the papers by BIGELOW, CASH & HOPKINSON, CONN, v. DADAY, EARLAND, HENDERSON, JENSEN, JØRGENSEN, LEMMERMANN, MASSART, MURRAY, NORDGAARD, PENARD, SIDEBOTTOM & WEST should be consulted; on Geological Distribution, those by CHAPMAN, CHAPMAN & HOWCHIN, CHECCIA-RISPOLI, COCCO, DOUVILLÉ, FORNASINI, GOUGH, HUCKE, PREVER, POPOFSKY, READE &

HOLLAND, SCHLUMBERGER, SCHUBERT, SILVESTRI, SQUINABOL, WOJCIK, WRIGHT and others.

The Systematic description of *Gymnomyxa* is a subject upon which, as may be supposed, PENARD has plenty to say; in (334, 337 & 338) he adds to our knowledge of lacustrine Rhizopods, and in (336) decides that there is a true genus *Amaba*, well-characterized, if difficult to diagnose. CASH & HOPKINSON (63) publish the first volume of a complete enumeration, with descriptions and good illustrations, of British fresh-water Rhizopods and Heliozoa. Among Foraminiferan memoirs calling for remark, two (359 & 360) represent PREVER's further contributions to our knowledge of the *Nummulitidae*. With SILVESTRI, this author also considers (361) the constitution and relationships of the *Orbitolinae*. The last papers of SCHLUMBERGER—whose additions to the Foraminifera are tabulated by SILVESTRI (455) in his obituary notice—relate to the *Miliolidae* (411), and to certain new genera, *Choffatella* (409) and, with DOUVILLÉ, *Lituonella* (413). SILVESTRI (449) offers some critical observations on the genus *Baculogypsina* and the *Orbitoidea*, on the debated form *Chapmanii gassinensis* (= *Dictyoconus aegyptiensis*) (451, 453, and, with PREVER, 361), and in (452) engages in a somewhat heated discussion with SCHUBERT (421), regarding the exact systematic value of two forms of *Cyclammina*. LEARDI in AIRAGHI (246) describes fully the genus *Rupertia* and its species, and CHECCHIA-RISPOLI (84) does the same for *Alveolina*. FORNASINI (145) reports on Adriatic *Textularidae* and in (142, 143, 146 & 147) continues his useful occupation of "editing" d'Orbigny's species of Foraminifera and bringing his unpublished figures into the light of day. Among other papers notable from a Systematic standpoint are those of CHAPMAN & HOWCHIN (79), JENSEN (199), and SIDEBOTTOM (442 & 443).

As usual, the Radiolarian fauna grows apace. HÄCKER, in his valuable memoirs above referred to (169 & 170), diagnoses several new species of Tripylaria; but it is to the untiring SQUINABOL (463), ably supported by JØRGENSEN (203 & 204), that the task of supplying names for new Radiolaria has chiefly fallen. The first of Jørgensen's papers, it may be mentioned, is an earlier one, which appears to have been overlooked. As the result of his researches on the colonial forms (*Sphaerozoa*), BRANDT (40) is now in a position to characterize and classify the constituent genera.

Fewer Systematic contributions to the remaining classes of Protozoa require mention. CRAWLEY (94) discusses the inter-relationships of the Sporozoa, and LAVERAN (240) reclassifies the "Hæmocytozoa," by the simple, though not necessarily the best, method of reducing the number and grade of forms regarded as distinct. The arrangement and classification of the Haplosporidia have been taken in hand with considerable success by CAULLERY & MESNIL (71), who have also observed certain new forms (67 & 68). Needless to say, many new Trypanosomes have been made known by different workers; when, however, as in the case of NOVY & MACNEAL's different "types" (323), the diagnoses are largely based on "cultural" characters, they cannot be regarded with much confidence. The scanty number of Rhynchoflagellate genera has received two conspicuous additions in *Craspedotella*, described by KOFOID (215) and *Radiozoum*, by MINGAZZINI (299); and, among the Ciliates, KOFOID's account (216) of new Tintinnids should be noted.

---



## I.—TITLES.\*

1. [ANON.] Section "Protozoa" in Intern. Cat. Scient. Lit. (ii), 1905, pp. 67-105.
2. [—]. (EDITORIAL.) Dr Schaudinn's work on blood-parasites. Brit. Med. J. 1905, i, pp. 442-444, 5 text-figg. [Cf. McWEEENEY (290).]
3. ABRIC, P. Automatismes et liberté chez les êtres unicellulaires. C.R. Soc. Biol. lix, pp. 181-183. [See II. B. 2.]
4. ALZONA, C. Brevi notizie sulle raccolte zoologiche nelle caverne. Boll. Naturalista xxv, pp. 1-3.  
Occurrence of Protozoa in subterranean waters.
5. ARCICHOVSKIJ, V. Ueber das Zoopurpurin ein neues Pigment der Protozoa (*Blepharisma lateritium* [Ehrb.]). Arch. Protistenk. vi, pp. 227-229, 1 text-fig.
6. BALDREY, F. S. W. Dourine. J. comp. Pathol. xviii, pp. 1-22, 9 text-figg.
7. BALFOUR, A. A Hæmogregarine of Mammals—*H. jaculi*, *H. balfouri*, Laveran. J. trop. Medicine viii, pp. 241-244, 8 figg.
8. —. Trypanosomiasis in the Anglo-Egyptian Sudan. Edinb. Med. Journal 1905, pp. 202-212, pl. 5.
9. BANCROFT, F. W. On the validity of Pflüger's law for the galvanotropic reactions of *Paramæcium*. Univ. Calif. publ. Physiol. ii, pp. 193-215, 9 text-figg.
10. —. Ueber die Gültigkeit des Pflügerischen Gesetzes für die galvanotropischen Reaktionen von *Paramæcium*. Arch. ges. Physiol. cvii, pp. 535-556, 9 figg. [Translation of (9).]
11. BARRATT, J. O. W. Die Addition von Säuren und Alkalien durch lebendes Protoplasma. Zeitschr. allg. Physiol. v, pp. 10-33, 3 text-figg., 6 tables.
12. —. Die Kohlensäureproduktion von *Paramæcium aurelia*. T. c. pp. 66-72.
13. —. Der Einfluss der Concentration auf die Chemotaxis. T. c. pp. 73-94, 1 text-fig., 5 tables.
14. BASSANI, F. La Ittiofauna delle argille marnose plioceniche di Taranto e di Nardò (Terra d'Otranto). Atti Acc. Napoli xii, No. 3, 59 pp., 3 pls.
15. BASTIAN, H. C. On the occurrence of certain ciliated Infusoria within the eggs of a Rotifer, considered from the point of view of heterogenesis. P. R. Soc. London, pp. 385-392, pl. 7.
16. —. The heterogenetic origin of Fungus-germs and Monads. Ann. Nat. Hist. xv, pp. 210-217, pls. 14 & 15.
17. \*BATTAGLIA, M. Alcune ricerche sopra due Tripanosomi (*Trypanosoma vesperilionis*—*Trypanosoma lewisi*). Ann. med. Nav. Roma 10, ii, pp. 517-523, 4 text-figg.
18. BAUDOIN, M. Les parasites de la sardine. Rev. Scient. (5) iii, pp. 715-722, text-figg. 32-35.  
Includes short notice of *Coccidium sardine*.

---

\* An asterisk prefixed to a quotation indicates that the Recorder has not seen the Journal or Work referred to.

19. BENHAM, W. B. Note on the occurrence of the Foraminiferan genus *Ramulina* in the New Zealand waters. Tr. N. Zealand Inst. xxxvii, p. 300.
20. BENTLEY, C. A. Preliminary note upon a Leucocytozoan of the dog. Brit. Med. J. 1905, i, p. 988, 2 text-figg.
21. ——. A new Leucocytozoan of the dog. T. c. p. 1078. [See II. G. 3.]
22. BETTENCOURT, — & FRANÇA, C. Sur un Trypanosome du blaireau (*Meles taxus* Schreib.). C.R. Soc. Biol. lix, pp. 305 & 306.
23. — & —. Sur un Trypanosome de la chauve-souris. T. c. pp. 306 & 307.
24. BIGELOW, H. B. The shoal-water deposits of the Bermuda Banks. P. Amer. Ac. xl, pp. 559-592.
25. BILLET, A. Sur une forme particulière de l'Hématozoaire du paludisme décrite par MM. Ed. et Et. Sergent. C.R. Soc. Biol. lviii, pp. 720-722. [See II. E.]
26. BLANCHARD, R. La médecine coloniale. Arch. parasit. ix, pp. 95-121. On the rôle of Protozoa in colonial diseases.
27. ——. Zoologie et médecine. T. c. pp. 129-144. On the rôle of Hæmatozoa in medical parasitology.
28. ——. Substances toxiques produites par les parasites animaux. Op. cit. x, pp. 84-104. [See II. B. 1.]
29. BLANCHARD, L. F. Deux Grégarines nouvelles parasites de Ténébrionides des maures. C.R. Ass. Franc. xxxiii (session 1904), pp. 923-928.
30. \*BLUM, L. Untersuchungen über das Vorkommen parasitärer Organismen in Geschwülsten. Arch. path. Anat. clxxix, pp. 475-485.
31. BOSCH, F. J. La maladie du jeune chien est une maladie bryocytique (à Protozoaires). C.R. Soc. Biol. lviii, pp. 534-536.
32. ——. Les maladies bryocytiques (maladies à Protozoaires). 3<sup>me</sup> Mémoire. La variole et son parasite (*Plasmodium variolæ*). Centrbl. Bakter. (1) xxxix, Orig., pp. 36-45, 129-141, 247-263, 389-398, 594-602, 2 pls., 12 figg.
33. BOUGON, —. Étude historique des Infusiores. Microgr. prep. xiii, pp. 25-33.
34. ——. Les Infusiores parasites. T. c. pp. 118-126, 163-173, 211-214, pls. 10 & 14. General account.
35. ——. La peau des *Coleps*. T. c. pp. 271-275.
36. BOUSSAC, J. Sur le parallélisme des couches éocènes supérieures de Biarritz et du Vicentin. C.R. Ac. Sci, cxli, pp. 740-742.
37. BOWHILL, T. Equine piroplasmosis or "biliary fever." J. Hygiene v, pp. 7-17, pls. 1-3.
38. BOYCE, R. The year's progress in tropical Medicine. Brit. Med. J. 1905, ii, pp. 1258 & 1259. [Refers to the discovery of Leucocytozoa and Hæmogregarines in Mammals.]
39. BRANDT, K. Beiträge zur Kenntniss der Colliden. (II<sup>te</sup> Abhandlung.) III. Ueber den Bau, die multiple Kerntheilung und den Generationswechsel von Thalassicollen. Arch. Protistenk. vi, pp. 245-271, pls. 11-14, 12 text-figg.

40. [BRANDT, K.] Zur Systematik der Koloniebildenden Radiolarien. Zool. Jahrb. Suppl. viii, pp. 311-352, pls. 9 & 10.
41. BRASIL, L. La résorption phagocytaire des éléments reproducteurs dans les vésicules séminales du *Lumbricus herculeus* Sav. C.R. Ac. Sci. cxl, pp. 597-599. [See II. c. 2.]
42. —. La genèse des gamètes et l'anisogamie chez les *Monocystis* du *Lombric*. T. c. pp. 735 & 736. [For fuller account see (44).]
43. —. Recherches sur la reproduction des Grégarines monocystidées. Arch. Zool. exp. (4) iii, pp. 17-38, pl. 2, 2 text-figg.
44. —. Nouvelles recherches sur la reproduction des Gregarines monocystidées. Op. cit. (4) iv, pp. 69-99, pls. 9 & 10.
45. BRAUN, M. The animal parasites of man. A handbook for students and medical men. (3rd edit. enlarged. Translated by P. Falcke. Revised to date by L. Sambon & F. Theobald). London (Bale, Sons, and Danielson), pp. xix+453, 290 figg. in text. [Protozoa, pp. 25-127, text-figg. 1-65.]
46. BREMEN, P. J. VAN. Plankton van Noord- en Zuiderzee. Tijdschr. Nederland. Dierk. Ver. (2) ix, pp. 145-324, pls. 6 & 7, 21 text-figg.
47. BREHM, V. Zur Kenntniss der Microfauna des Franzensbader Torfmoordistriktes. Arch. Hydrobiol. i, pp. 211-228, 5 text-figg.
48. — & ZEDERBAUER, E. Das September-Plankton des Scutarisees. Verh. Ges. Wien lv, pp. 47-52, 3 text-figg.
49. — & —. Beiträge zur Planktonuntersuchung Alpiner Seen. T. c. pp. 222-240, 7 text-figg.  
BREINL, A. [See THOMAS, H. W. & BREINL, A. (489).]
50. BRIVES, A. Sur les terrains eocènes dans le Maroc occidental. C.R. Ac. Sci. cxl, pp. 395-397.  
Occurrence of *Nummulites* mentioned.
51. \*BRODEN, A. Les Trypanosomes des grenouilles. Arch. Schiffs- u. Tropenhyg. ix, pp. 18-22, 1 pl.
52. BRUCE, D. The advance in our knowledge of the causation and methods of prevention of stock diseases in South Africa, during the last ten years. Science xxii, pp. 289-299, 327-333.  
Trypanosomes and *Piroplasmata* and the diseases they cause in South Africa.
53. —. [Same Title.] Nature lxxii, pp. 496-503. [Opening address in Physiological Section, British Association.]
54. BRUMPT, E. Maladie du sommeil; distribution géographique, étiologie, prophylaxie. Arch. parasit. ix, pp. 205-224, pl. 3.
55. —. Trypanosomes et trypanosomiases. Rev. Scient. (5) iv, pp. 321-332, text-figg. 34-41.
56. —. Au sujet du traitement de la maladie du sommeil. Réponse à M. le professeur Laveran. C.R. Soc. Biol. lix, pp. 316-318. (Remark by Laveran *re* this communication, p. 318.)
57. — & WURTZ. Note sur le traitement de la maladie du sommeil expérimentale par l'acide arsénieux et le trypanroth. T. c. pp. 61-63. (Remark by Laveran, p. 76).
58. BRUNELLI, G. Sulla distruzione degli oociti nelle regine dei Termitidi infette da Protozoi. Rend. Acc. Lincei xiv (2), pp. 718-721, 1 text-fig.

- BUFFARD, M. [See SCHNEIDER, G. E. & BUFFARD, M. (414).]
59. BUTLIN, H. T. Carcinoma is a parasitic disease. *Brit. Med. J.* 1905, ii, pp. 1565-1571, 21 text-figg.
60. CALKINS, G. N. *Cytoryctes variolæ* Guarnieri; the organism of small-pox. *Rep. Brit. Ass.* 1904 (1905), pp. 597 & 598.  
Includes brief abstract of *Zool. Rec.* 1904 (58).
61. —. Rejuvenescence in Protozoa. *Science* xxi, p. 742.
62. CAREZ, L. La géologie des Pyrénées françaises. Fasc. ii. *Mem. Carte geol. France* 1904, pp. 745-1227, 13 pls., numerous tables.  
Contains lists of Foraminifera from different systems and localities.
63. CASH, J. & HOPKINSON, J. The British freshwater Rhizopoda and Heliozoa. Vol. I. *Rhizopoda*, Pt. 1. London (for the Ray Society), 1905, (x + 150) pp., 16 pls., 32 text-figg.
64. CASTELLANI, A. Observations on some Protozoa found in human faeces. *Centrbl. Bakter.* (1), 38 Orig., pp. 66-69, 5 text-figg.
65. —. Diarrhoea from Flagellates. *Brit. Med. J.* 1905, ii, pp. 1285-1287, 2 text-figg.
66. — & WILLEY, A. Observations on Hæmatozoa in Ceylon. *Quart. J. Micr. Sci.* xlix, pp. 383-402, pl. 24.
67. CAULLERY, M. & MESNIL, F. Sur quelques nouvelles Haplosporidies d'Annélides. *C.R. Soc. Biol.* lviii, pp. 580-583, 6 text-figg.
68. — & —. Sur des Haplosporidies parasites de poissons marins. *T. c.* pp. 640-642.
69. — & —. Phénomènes de sexualité dans le développement des Actinomyxidies. *T. c.* pp. 889-891. [See (72).]
70. — & —. Phénomènes de sexualité dans le développement des Actinomyxidies. *C.R. Ac. Sci.* cxl, pp. 1482-1484. [Identical with (69).]
71. — & —. Recherches sur les Haplosporidies. *Arch. zool. Exp.* (4) iv, pp. 101-181, pls. 11-13, 13 text-figg.
72. — & —. Recherches sur les Actinomyxides. I. *Sphæractinomyxon stolci* Caullery & Mesnil. *Arch. Protistenk.* vi, pp. 272-308, pl. 15, 4 text-figg.
73. — & —. Deux parasites cœlomiques d'Annélides. 1. *Pelmato-sphæra polycirri*. 2. *Sphæractinomyxon stolci*. *Congr. Zool.* vi, 1904 (publ. 1905), p. 383. [Brief notice of *Zool. Rec.* 1904 (64).]
74. CAZALBOU, —. Sur l'existence du *Trypanosoma dimorphon* en Guinée française. *C.R. Soc. Biol.* lviii, pp. 395 & 396. [See II. c. 2.]
75. —. Le Macina foyer permanent de trypanosomiase. *T. c.* pp. 564 & 565. (Remark by Laveran on the subject of this communication, t. c. p. 565.) [See II. c. 2.]
76. CECCONI, J. Sur l'*Anohorina sagittata* Leuck, parasite de la *Capitella capitata* O. Fabr. *Arch. Protistenk.* vi, pp. 230-244, pls. 9 & 10, 1 text-fig.
77. CÉPÈDE, C. Myxosporidies des poissons des Alpes Françaises. *C.R. Ass. Franç.* xxxiii (session 1904), pp. 905-913.
78. CHAPMAN, F. Notes on the older Tertiary Foraminiferal rocks on the West Coast of Santo, New Hebrides. *P. Linn. Soc. N. S. Wales* xxx, pp. 261-274, pls. 5-8.

79. [CHAPMAN, F.] & HOWCHIN, W. A monograph of the Foraminifera of the Permo-Carboniferous limestones of New South Wales. Mem. geol. Surv. N. S. Wales xiv, pp. (xvi + 22), 4 pls.
80. CHATTERJEE, G. C. The cultivation of *Trypanosomata* out of the Leishman-Donovan body upon the method of Captain L. Rogers, I.M.S. Lancet 1905, i, p. 16, pls. 1 & 2 (coloured).
81. CHECCHIA-RISPOLI, G. Un nuovo rinvenimento di *Lepidocyclina* nell'Eocene della Sicilia. (Nota preventiva.) Natural. Sicil. xvii, pp. 253 & 254.
82. —. Sull'Eocene di Chiaromonte-Gulfi in provincia di Siracusa. Rend. Acc. Lincei xiv (ii), pp. 528 & 529.  
Occurrence of various *Nummulitidae* noted.
83. —. Osservazioni sulle Orbitoidi. (Nota prev.) Riv. ital. Pal. xi, pp. 79-81.
84. —. Sopra alcune Alveoline eoceniche della Sicilia. Palæontogr. xi, pp. 147-167, pls. 12 & 13.  
CHOFFAT, P. [See SCHLUMBERGER, C. & CHOFFAT (412).]
85. CHRISTOPHERS, S. R. On a parasite found in persons suffering from enlargement of the spleen in India (third report). Sci. Mem. India xv, 1905, 14 pp., 1 pl.
86. —. *Hæmogregarina gerbilli*. Op. cit. xviii, 15 pp., 1 pl.
87. DE CISNEROS, D. J. El nummulitico de Agost. Bol. Soc. espan. v, pp. 523-530.  
Occurrence of Foraminifera mentioned.
88. CLAUS, C. & GROBBEN, K. Lehrbuch der Zoologie. 1ste Hälfte. Marburg (N. G. Elwert) 1904, 480 pp., 507 text-figg. [Protozoa, pp. 219-248, figg. 213-261.]  
CLEGG, M. T. [See MUSGRAVE, W. E. & CLEGG, M. T. (308 & 309).]
89. COCCO, L. I Radiolari fossili del Tripoli di Condro (Sicilia). Rend. Acc. Acireale (3) iii, No. 2, 14 pp.
90. COEHN, A. & BARRATT, W. Ueber Galvanotaxis vom Standpunkte der physikalischen Chemie. Zeitschr. allg. Physiol. v, pp. 1-9.  
COMTE, C. (See NICOLLE, C. & COMTE, C. (315 & 316).]
91. CONN, H. W. A preliminary Report on the Protozoa of the Fresh Waters of Connecticut. Bull. Connecticut State geol. and Nat. Hist. Survey, No. 2, 1905, 69 pp., 34 pls.
92. CRAWLEY, H. The movements of Gregarines. P. Ac. Philad. lvii, pp. 89-99.
93. —. *Celosporidium blattellæ*, a new Sporozoan parasite of *Blattella germanica*. T. c. pp. 158-161, 6 text-figg.
94. —. Interrelationships of the Sporozoa. Amer. Natural. No. 465, 1905, pp. 607-624.
95. CROPPER, J. Note on a form of malarial parasite found in and around Jerusalem. J. trop. Medicine viii, pp. 132 & 133, 315-317, 18 text-figg.
96. CUSHMAN, J. A. Developmental stages in the *Lagenidae*. Amer. Natural. No. 464, 1905, pp. 537-553, 1 pl., 25 text-figg.
97. — & HENDERSON, W. P. Fresh-water Rhizopods from the White Mountain region of New Hampshire. Amer. Natural. No. 459, 1905, pp. 147-155.

98. DADAY, E. v. *Nyctotherus piscicola* n. sp., ein neuer Fischendoparasit aus Südamerika. *Zool. Anz.* xxix, pp. 233-238, 4 text-figg.
99. —. Untersuchungen über die Süßwasser-Mikrofauna Paraguays. *Zoologica* xlv, 374 pp., 23 pls.
100. DALLA TORRE, K. W. v. Bericht über die Literatur der biologischen Erforschung des Süßwassers in den Jahren 1901 und 1902. *Forschber. Plon* xii, pp. 354-418. [See II. G. 3.]
101. DAVEY, E. C. The Neocomian Sponges, Bryozoa, Foraminifera and other fossils of the sponge-gravel beds at Little Coxwell, near Faringdon. London (Dulau & Co.) 1905, 43 pp., 5 pls. [See also under WRIGHT, J. (510).]
102. DEGEN, A. Untersuchungen über die kontraktile Vakuole und die Wabenstruktur des Protoplasmas. *Bot. Zeitung* lxiii, 1<sup>ste</sup> Abth., pp. 163-226, pl. 7, 15 text-figg.
103. DELAMBRE, D. Note sur les Calcaires et les Grès à *Nummulites* trouvés à Saint-Acheul. *Bull. Soc. Nord France* xvii (No. 362), pp. 178-182.
104. DONCIEUX, L. Catalogue descriptif des fossiles Nummulitiques de l'Aude et de l'Herault. 1<sup>re</sup> Partie. Montagne Noire et Minervois. *Ann. Univ. Lyon* xvii (1905), pp. 1-128, 4 pls.
105. DONOVAN, C. Human piroplasmosis (concluding part). *Lancet* 1905, i, pp. 155 & 156.
106. DORTER, C. Sur quelques points relatifs à l'action pathogène de l'amibe dysentérique. *Ann. Inst. Pasteur* xix, pp. 417-425, pl. 13.
107. DOUVILLÉ, H. Les découvertes paléontologiques de M. de Morgan en Perse. *C.R. Ac. Sci.* cxl, pp. 891-893.  
Mention of Foraminifera.
108. —. Paléontologie. Mollusques fossiles. *Miss. scient. Perse* 3, iv (1904), pp. 191-380, pls. 25-50.
109. —. Les explorations de M. de Morgan en Perse. *Bull. Soc. geol. France* (4) iv, pp. 539-553.
110. —. Sur la structure des Orbitolines. *T. c.* pp. 653-661, pl. 17.
111. —. Sur le terrain nummulitique du Sud-Ouest. *T. c.* pp. 727-729.  
Arrangement in zones characterized by the presence of different species of *Nummulites*.
112. —. Le terrain nummulitique du bassin de l'Adour. *Op. cit.* (4) v, pp. 9-55, 4 text-figg., 1 chart.
113. —. Les Foraminifères dans le Tertiaire de Bornéo. *T. c.* pp. 435-464, pl. 14, 2 text-figg.  
— [See also SCHLUMBERGER, C. & DOUVILLÉ, H. (413).]  
DOUVILLÉ, R. [See LEMOINE, P. & DOUVILLÉ, R. (258).]
114. DUCLOUX, E. Sur une coccidiose intestinale du bœuf en Tunisie. *C.R. Soc. Biol.* lix, pp. 352-354. [See II. C. 2.]
115. —. Sur une piroplasme bacilliforme du bœuf en Tunisie. *T. c.* pp. 461-463. [See II. C. 2.]
116. \*DUNBAR, F. J. Methods used in cultivating pure strains of *Paramœcium*. *Rep. Michigan Ac.* vi (1904), pp. 186 & 187.

117. DUTTON, J. E., TODD, J. L., & CHRISTY, C. Human trypanosomiasis on the Congo (1st Progress Report). Mem. Livpl. Sch. Trop. Med. xiii, pp. 1-10, 2 charts. (Included in Thompson-Yates Lab. Rep. vi, i.) Reprint of Zool. Rec. 1904 (89).
118. —. Human trypanosomiasis and its relation to Congo sleeping-sickness. T. c. pp. 13-45, 2 pls.
119. EARLAND, A. The Foraminifera of the shore-sand at Bognor, Sussex. J. Quekett Club (2) ix, No. 57, pp. 187-232, pls. 11-14, 1 text-fig.
120. ENRIQUES, P. Della degenerazione senile nei Protozoi. Rend. Acc. Lincei xiv (2), pp. 351-357.
121. —. Ancora della degenerazione senile negli Infusori. T. c. pp. 390-395, 3 text-figg.
122. ENTZ, G. Beiträge zur Kenntniss der Peridineen. Math. naturw. Ber. Ungarn xx, pp. 96-144, 6 pls. (47 figg.), and 66 text-figg.
123. —. Az édesvizi Tintinnidak. Allatt. Kozl. Magyar Tars. iv, 1905, pp. 198-218, pls. 5-8.
124. \* —. Beiträge zur Kenntniss des Planktons des Balatonsees. Res. Wiss. Erforsch. Balatonsees Budapest ii (1), Anhang 1904, 36 pp., 17 figg.
125. FABIANI, R. Studio geo-paleontologico dei Colli Berici. (Nota preventiva.) Atti Ist. Veneto lxiv (2), pp. 1797-1839, 1 table.
126. FANTHAM, H. B. *Lankesterella tritonis* n. sp., a Hæmogregarine from the blood of the newt, *Triton cristatus* (*Molge cristata*). Zool. Anz. xxix, pp. 257-263, 17 text-figg.
127. —. Exhibition of microscopic slides and description of a new Sporozoan, *Lankesterella tritonis*. P. Zool. Soc. London 1905, ii, pp. 58 & 59.  
— [See also MINCHIN, E. A. & FANTHAM (298).]
128. FAURÉ-FREMIET, E. Sur l'organisation de la *Campanella umbellaria*. C.R. Soc. Biol. lviii, pp. 215-217.
129. —. Sur l'organisation du *Cochliopodium pellucidum* (Hertwig et Lessel). T. c. pp. 497-499.
130. —. Sur une sécrétion interne chez le *Cochliopodium pellucidum*. T. c. pp. 905-907.
131. —. Les membranes périvacuolaires chez les Infusoires ciliés. T. c. pp. 601 & 602.
132. —. Sur la structure du macronucleus chez les *Vorticellidæ*. T. c. pp. 602 & 603.
133. —. Sur une variation expérimentale de la *Vorticella microstoma*. Op. cit. lix, pp. 424-426. [See II. B. 1.]
134. —. La structure intime du protoplasma chez les Protozoaires. T. c. pp. 612-614.
135. —. Sur la structure du protoplasma chez les Protozoaires. T. c. pp. 697-699.
136. —. La théorie sphérolaire et la structure du noyau. T. c. pp. 699-701.

137. [FAURÉ-FREMIET, E.] La structure de l'appareil fixateur chez les *Vorticellidæ*. Arch. Protistenk. vi, pp. 207-226, 13 text-figg.  
[Combination and elaboration of the author's previous papers on this subject, see Zool. Rec. 1904.]
138. —. Contribution à l'étude des protoplasmas. Le *Cochliopodium pellucidum* var. *putrinum*. Arch. anat. micr. viii, pp. 1-68, pls. 1 & 2, 21 text-figg.
139. —. Note sur quelques formes nouvelles de *Vorticellidæ*. Zool. Anz. xxix, pp. 430-432.  
FIEBIGER, J. [See MOROFF, T. & FIEBIGER (302).]
140. FLINT, J. M. A contribution to the oceanography of the Pacific. Bull. U. S. Mus. lv, 1905, 62 pp., 14 pls.
141. FOA, A. Due nuovi Flagellati parassiti. Rend. Acc. Lincei xiv (ii), pp. 542-546, 3 text-figg.
142. FORNASINI, C. Sopra alcune specie di *Globigerina* istituite da d'Orbigny nel 1826. Rend. Acc. Bologna (n. s.) vii (1903), pp. 139-142, pl. 1.
143. —. Le otto pretese specie di *Amphistegina* istituite da d'Orbigny nel 1826. T. c. pp. 142-145, pl. 2.
144. —. Contributo a la conoscenza de le Testilarine Adriatiche. T. c. p. 43. [Brief notice of (145).]
145. —. [Same title.] Mem. Acc. Bologna (5) x (1904), pp. 133-150, pl. O.
146. —. Sinossi metodica dei Foraminiferi sin qui rinvenuti nella sabbia del lido de Rimini. T. c. pp. 3-70, 63 text-figg.
147. —. Illustrazione di specie Orbignyane di Foraminiferi istituite nel 1826. Op. cit. (6) i, pp. 3-17, 4 pls.
148. FÖRSTER, B. Weisser Jura unter dem Tertiär des Sundgaus im Ober-Elsass. Mt. Geol. Landesanst. Elsass-Lothringen v, pp. 381-416, 1 chart.  
Foraminifera occurring in the different zones.
149. FUCHS, T. Über Pteropoden- und Globigerinenschlamm in Lagunen von Koralleninseln. Verh. geol. Reichsanst. 1905, pp. 169-172.
150. —. Die neueren Untersuchungen über die Natur der Coccolithen. T. c. pp. 172-174.  
Summary of present knowledge, including Lohmann's work (Zool. Rec. 1902, No. 231).
151. FUHRMANN, O. Les maladies de nos poissons. Arch. Sci. Nat. xix, p. 205.  
Notes the part played by Protozoa in this connection.
152. —. Le plankton du lac de Neuchatel. Bull. Soc. Neuchatel xxviii (1900), pp. 86-99.
153. \* —. Ueber eine Krankheit der weiblichen Geschlechtsorgane des Hechtes. Allg. Fischereizeitung xxix (1904), pp. 469-471.  
On a Myxosporidian, *Henneguya psorospermica*, in the ovaries and eggs.
154. FUSCO RAO, A. La collezione di fossili dell dott. Battaglia Rizzo. Boll. Naturalista xxv, pp. 33-38. [See II. G. 3.]
155. GALLI-VALERIO, B. Einige Parasiten von *Arvicola nivalis*. Zool. Anz. xxviii, pp. 519-522.



156. [GALLI-VALERIO, B.] Notes de parasitologie et de technique parasitologique. Centrbl. Bakter. (1) xxxix, Orig., pp. 230-247, 3 text-figg. Mentions occurrence of Dionisi's "*Achromaticus*" *vesperuginis* (closely resembling human malarial parasites) in *Vesperugo noctula* (Italy), and of *Trypanosoma lewisi* in Swiss rats.
157. GIEMSA, G. Coloration des Protozoaires. Ann. Inst. Pasteur xix, pp. 346-350.
158. GINESTE, C. De l'organisation de la substance vivante. Act. Soc. Bordeaux (6) ix, pp. 143-229, 53 text-figg.  
Comprehensive general account.  
— [See also KUNSTLER, J. & GINESTE (225).]
159. GODET, P. Les Protozoaires neuchatelois. Bull. Soc. Neuchatel xxviii (1900), pp. 61-79.
160. GONDER, R. Beiträge zur Kenntniss der Kernverhältnisse bei den in Cephalopoden schmarotzenden Infusorien. Arch. Protistenk. v, pp. 240-262, pls. 9-11.
161. GOUGH, G. C. Foraminifera in Irish Greensand. Irish Natural. xiv, p. 109.
162. GRAHAM-SMITH, G. S. Canine piroplasmosis. III. Morbid anatomy. J. Hygiene v, pp. 250-267, pls. 10 & 11.
163. —. A new form of parasite found in the red blood corpuscles of moles. T. c. pp. 453-459, pls. 13 & 14.  
— [See also NUTTALL, G. H. & GRAHAM-SMITH (325).]  
GRAN, H. H. [See HJORT, J. & GRAN (182).]
164. GRAY, A. C. & TULLOCH, F. M. The multiplication of *Trypanosoma gambiense* in the alimentary canal of *Glossina palpalis*. Rep. S. S. Comm. (Roy. Soc.) vi, pp. 282-287, 4 text-figg.
165. GREIG, E. W. & GRAY, A. C. Continuation Report on sleeping-sickness in Uganda. T. c. pp. 1-173, 4 pls., 2 maps.  
— [See also NABARRO, D. & GREIG (310).]  
GROBEN, K. [See CLAUS, C. & GROBEN (83).]
166. GROS, H. Sur l'unité des Hématozoaires du paludisme. C.R. Soc. Biol. lix, pp. 80 & 81.
167. DE GROSSOUVRE, A. Sur la distribution verticale des Orbitoïdes. Bull. Soc. geol. France (4) iv, pp. 513 & 514.
168. GUIART, J. Action pathogène des parasites de l'intestin. Arch. parasit. ix, pp. 175-186.
169. HÄCKER, V. Ueber die biologische Bedeutung der feineren Strukturen des Radiolarienskelettes. Nebst einem Anhang: Die Phaeosphären der "Valdivia-" und "Gauss-" Ausbeute. Jena. Zeitschr. xxxix, pp. 581-648, 28 text-figg.
170. —. Finales und Causales über das Tripyleenskelet. Dritte Mittheilung über die Tripyleen der "Valdivia"-Ausbeute. Zeitschr. wiss. Zool. lxxiii, pp. 336-375, pls. 15 & 16, 13 text-figg.
171. HALBERSTAEDTER, L. Untersuchungen bei experimentellen Trypanosomenerkrankungen. Centrbl. Bakter. (1) xxxviii, Orig., pp. 525-532, 1 pl.

172. HAMBURGER, C. Zur Kenntniss der *Dunaliella salina* und einer Amöbe aus Salinenwasser von Cagliari. Arch. Protistenk. vi, pp. 111-130, pl. 6, 7 text-figg.
173. HARFORD, C. F. Sleeping-sickness and its cause. *Climate* v (1904-1905), pp. 52-58, 1 text-fig.
174. HASTINGS, T. W. A method of preparing a permanent Nocht's stain (Nocht-Jenner stain). *J. exp. Med. Baltimore* vii, pp. 265-279, pls. 21 & 22.
175. HAYDEN, H. H. Preliminary note on the Geology of the Provinces of Tsang and Ü in Thibet. *Rep. geol. Surv. India* xxxii, pp. 160-174.  
Occurrence of Foraminifera mentioned.
176. HENDERSON, W. D. Notes on the Infusoria of Freiburg-im-Breisgau. *Zool. Anz.* xxix, pp. 1-24, 6 text-figg.  
HENDERSON, W. P. [See CUSHMAN, J. A. & HENDERSON, W. P. (97).]
177. HESSE, E. Sur un nouveau *Myxocystis* des Oligochètes et sur la place du genre *Myxocystis* Mrazek dans la systématique. *C.R. Ass. Franc.* xxxiii (session 1904), pp. 914-916.
178. —. Microsporidies nouvelles des Insectes. *T. c.* pp. 917-919.
179. —. Sur *Myxocystis mrazeki* Hesse, Microsporidie parasite de *Limnodrilus hoffmeisteri* Clap. *C.R. Soc. Biol.* lviii, pp. 12-14, 9 text-figg.  
— [See also LÉGER, L. & HESSE (251).]
180. HICKSON, S. J. Micro-organisms associated with disease. *Tr. Manchester Micr. Soc.* 1904 (publ. 1905), pp. 26-34.  
Includes popular account of Sporozoa and Trypanosomes.
181. HILL, E. & HAYDON, L. G. The epidemic of malarial fever in Natal, 1905. *J. Hygiene* v, pp. 467-484, pl. 15. [See II. E.]
- 181A. HINDE, G. J. Report on the materials from the borings at the Funafuti Atoll. In, 'The Atoll of Funafuti,' London (publ. by the Royal Society), 1904, pp. 186-361, several tables.  
List of Foraminifera occurring in the different borings, p. 316; tables of their vertical distribution in feet, pp. 336-345.
182. HJORT, J. & GRAN, H. H. Currents and pelagic life in the Northern Ocean. *Bergens Museum Marine Investigations 1895-1897* (publ. 1899), pp. 24+20, 7 pls., numerous tables.  
HOFFMANN, E. [See SCHAUDINN, F. & HOFFMANN (406).]  
HOLLAND, P. [See READE, T. M. & HOLLAND (372).]
183. HOLMES, J. D. A reply to Capt. Martin on trypanosomiasis. *J. Comp. Path.* xviii, pp. 223 & 224. [See II. G. 3.]  
HOPKINSON, J. [See CASH, J. & HOPKINSON, J. (63).]
184. HUARD, V. A. *Traité élémentaire de Zoologie et d'Hygiène*. (Supplément du Naturaliste Canadien.) Quebec, 1905, (viii+260) pp., 202 text-figg. [Protozoa, pp. 220-222, figg. 200-202.]
185. HUBER, G. Monographische Studien im Gebiete der Montigglerseen (Süd Tirol) mit besonderer Berücksichtigung ihrer Biologie. *Arch. Hydrobiol.* i, pp. 1-81, & 123-210, 8 figg. and 3 tables.

186. HUCKE, K. Foraminiferen und Ostrakoden in glacialen Ablagerungen. Helios xxii, pp. 82-85.
187. —. Gault in Bartin bei Degow (Hinterpommern). Zeitschr. Deutsch. geol. Ges. lvi, pp. 165-173 (briefl. Mitth.), pl. 23.
188. HUNTEMÜLLER, O. Vernichtung der Bakterien im Wasser durch Protozoen. Arch. Hyg. liv, pp. 89-100, 1 pl.  
Ingestion and destruction of Bacteria (*B. typhosus*) by *Bodo*.
189. JAMES, S. P. A new Leucocytozoon of dogs. Brit. Med. J. 1905, i, p. 1361. [See II. G. 3.]
190. —. On a parasite found in the white corpuscles of the blood of dogs. Sci. Mem. India xiv, 12 pp., 1 pl.
191. —. Oriental or Delhi Sore. Op. cit. xiii, 16 pp., 1 pl.
192. —. On Kala-Azar, malaria and malarial cachexia. Op. cit. xix, 47 pp., 16 charts.
193. JANCsó, N. Der Einfluss der Temperatur auf die geschlechtliche Generationsentwicklung der Malariaparasiten und auf die experimentelle Malariaerkrankung. Centrbl. Bakter. (1) xxxviii, Orig., pp. 650-662, 4 curves.
194. JARVIS, M. M. On the fossil genus *Porocystis* Cragin. Biol. Bull. ix, pp. 388-390, 6 text-figg. [See IV. B. 2 b.]
195. JENNINGS, H. S. The movements and reactions of *Amæba*. Biol. Centrbl. xxv, pp. 92-95, 2 text-figg.  
A full, well-illustrated account in (197.)
196. —. The method of regulation in behaviour and in other fields. J. exp. Zool. ii, pp. 473-494.
197. —. Contribution to the study of the behaviour of the lower organisms. Publ. Carnegie Inst. xvi (1904), 258 pp., 76 text-figg.
198. \*—. The basis for taxis and certain other terms in the behaviour of Infusoria. J. comp. neurol., Granville, xv, pp. 138-143.
199. JENSEN, H. J. Contributions to a knowledge of Australian Foraminifera. Part I. P. Linn. Soc. N. S. Wales xxix, 1905, pp. 810-831, pl. 23.
200. JOHNSTONE, J. Trawling observations and results. P. Liverp. biol. Soc. xix, pp. 216-241.
201. —. Internal parasites and diseased conditions of fishes. T. c. pp. 278-300, pls. 3-6, 11 text-figg.
202. JORDAN, A. Die organischen Reste in den Bohrproben von der Tiefbohrung auf dem Schlachthofe. Abh. Ver. Bremen xvii (1903), pp. 523-541.
203. JØRGENSEN, E. Protophyten und Protozoën im Plankton aus der Norwegischen Westküste. Bergens Mus. Aarbog 1899, No. 6, 112 + lxxxiii pp., 5 pls.
204. —. The Protist plankton. Bergens Mus. Marine Investigations Pt. II (Norwegian Fiords), 1905, pp. 49-151, pls. 6-18, 10 text-figg.
205. JOSEPH, H. *Chloromyxum protei* n. sp. Zool. Anz. xxix, pp. 450 & 451.
206. KEMNA, A. La biologie des eaux potables. Mem. Soc. malac. Belgique xxxix, 1904 (publ. 1905), pp. 9-132.  
Part played by Protozoa in this connection, pp. 94-97, et seq.

207. [KEMNA, A.] Morphologie des Foraminifères arénacés. T. c. (Bull.) pp. xi-xliii.
208. —. La taille des animaux. T. c. pp. li-lxxxii.  
The question of size in relation to the evolution of animals, with frequent illustrations drawn from different Protozoa.
209. KEPNER, W. A. *Paulinella chromatophora*. Biol. Bull. ix, pp. 128 & 129, 1 text-fig.
210. KILIAN, W. Présence de nombreuses *Orthophragmina* de grande taille dans les calcaires éocènes de Montricher-en-Maurienne. Bull. Soc. geol. France (4) v, p. 309.
211. KISSKAIT, K. Blutparasiten bei Fledermäusen. Centrbl. Bakter. (1) xl, Orig., pp. 213-217.
212. v. KNAUT, K. Theorie der Protoplasma- und Muskelbewegung. Arch. Entwicklmech. xix, pp. 446-473.
213. KOCH, R. Ueber die Unterscheidung der Trypanosomenarten. SB. Ak. Berlin 1905, pp. 958-962.
214. —. Vorläufige Mittheilungen über die Ergebnisse einer Forschungsreise nach Ostafrika. Deutsch. med. Wochenschr. 1905, pp. 1865-1869, 24 text-figg.
215. KOFOID, C. A. *Craspedotella*, a new genus of the Cystoflagellata, an example of convergence. Bull. Mus. Harvard xlvi, No. 9, pp. 163-166, 1 pl.
216. —. Some new *Tintinnida* from the plankton of the San Diego region. Univ. Calif. publ. Zool. i, No. 9, pp. 287-306, pls. 26-28.
217. \*KONRAD, H. Ueber die Wirkung einiger noch nicht untersuchter fluoreszierender Stoffe auf Paramäcien. München (C. Wolf u. Sohn), 1903, 18 pp.
218. DE KORTÉ, W. E. On the presence of a *Sarcosporidium* in the thigh muscles of *Macacus rhesus*. J. Hygiene v, pp. 451 & 452, pl. 12.
219. KRASSILSHTSIK (*vel* KRASSILSHTSHIK), J. Sur une affection parasitaire des Lépidoptères produite par un Sporozoaire nouveau (*Microklossia prima*). (Comm. pré.) C.R. Soc. Biol. lviii, pp. 656 & 657.
220. —. Sur l'évolution de la *Microklossia prima* (première phase). (Comm. pré.) T. c. pp. 736 & 737.
221. —. Ditto (deuxième phase). (Comm. pré.) T. c. pp. 737-739.
222. KRAUSE, F. Das Phytoplankton des Drewenzsees in Ost-Preussen. Arch. Hydrobiol. i, pp. 109-119, 4 text-figg.
223. KRZYSZTALOWICZ, F. & SIEDLECKI, M. Contribution à l'étude de la structure et du cycle évolutif de *Spirochete pallida* Schaud. (Note préliminaire.) Bull. Ac. Cracovie 1905, pp. 713-728, pl. 18, 1 text-fig.
224. \*KULCZYCKI, W. Sur les Protozoaires parasites et pathogènes. [In Polish.] Przegl. Weter. Lwow xix, 1904, pp. 235-244, 327-340, 515-531.
225. KUNSTLER, J. & GINESTE, C. Les sphérules trophoplasmiques des Infusoires ciliés. C.R. Ac. Sci. cxli, pp. 907 & 908.
226. LANDACRE, F. L. The rate of growth in *Epistylis flavicans*. Ohio Natural. v, pp. 327-329, 4 text-figg.

227. LAVERAN, A. Sur une Hémogregarine des gerboises. C.R. Ac. Sci. cxli, pp. 295-298, 9 text-figg.
228. —. Sur le traitement des trypanosomiasés par l'acide arsénieux et le trypanroth. T. c. pp. 91-94. [See also under BRUMPT (56), and BRUMPT & WURTZ (57).]
229. —. De l'identité du Surra et de la Mbori. T. c. pp. 1204-1207.
230. —. Trypanosomiasés et tsétsé dans la Guinée française. Op. cit. cxl, pp. 75-78.
231. —. Traitement mixte des trypanosomiasés par l'acide arsénieux et le trypanroth. T. c. pp. 287-291.
232. —. Traitement mixte par l'acide arsénieux et le trypanroth des infections dues au *Trypanosoma gambiense*. T. c. pp. 1081-1084.
233. —. Pseudo-hématozoaires endoglobulaires. T. c. pp. 1211-1216, 4 text-figg. [On the liability of mistaking vacuoles and nuclear alterations in hæmatids for Hæmosporidia.]
234. —. Observation de Surra chez une roussette, *Pteropus medius*. C.R. Soc. Biol. lviii, pp. 8 & 9. [See II. c. 2.]
235. —. Note pour servir à l'histoire des trypanosomiasés du Soudan Anglo-Égyptien. T. c. pp. 292-294.
236. —. Contribution à l'étude des grandes Hémogregarines des grenouilles. Op. cit. lix, pp. 172-175, 9 text-figg.
237. —. Sur une Hémogregarine de *Varanus niloticus*. T. c. pp. 175 & 176, 6 text-figg.
238. —. Sur une Hémamibe nouvelle de *Testudo pardalis*. T. c. pp. 176-178, 5 text-figg.
239. —. Sensibilité des gerboises aux trypanosomiasés. T. c. pp. 250 & 251. [See II. c. 2.]
240. —. Hæmocytozoa. Essai de classification. Bull. Inst. Pasteur iii, pp. 809-817.
241. \* —. Paludisme et trypanosomiase. Paris (J. B. Baillière et fils), 1905, 124 pp. [Gives an account of the respective parasites.]
242. — & LUCET, —. Deux Hématozoaires de la perdrix et du dindon. C.R. Ac. Sci. cxli, pp. 673-676, 5 text-figg.
243. — & MESNIL, F. Sur le Surra et sur la différenciation des trypanosomiasés. C.R. Ac. Sci. cxl, pp. 831-836.
244. — & NÈGRE, —. Sur un Protozoaire parasite de *Hyalomma aegyptium*. C.R. Soc. Biol. lviii, pp. 964-966, 6 text-figg. [See also NICOLLE, C. & COMTE, C. (315).]
245. — & VALLÉE, —. Sur un cas de transmission par les Ixodes de la spirillose et de la piroplasmose bovines. C.R. Ac. Sci. cxl, pp. 1515-1517.
246. LEARDI-AIRAGHI, Z. Foraminiferi eocenici di S. Genesio (Collina di Torino). Il genere *Rupertia*. Atti Mus. Milano xlv, pp. 97-105, pl. 2.
247. LEBAILLY, C. Sur des Hématozoaires nouveaux parasites de la barbue (*Bothus rhombus* L.). C.R. Soc. Biol. lix, p. 304.
248. LÉGER, L. Un nouveau type cellulaire de Grégarine à cytoplasme métamérisé. C.R. Ac. Sci. cxl, pp. 524-526, 1 fig. in text.

249. [LÉGER, L.] Sur la présence d'un *Trypanoplasma* intestinal chez les poissons. C.R. Soc. Biol. lviii, pp. 511-513.
250. —. On the affinities of *Herpetomonas subulata*, and the phylogeny of the Trypanosomes. Ann. Nat. Hist. xvi, pp. 676-678.  
Translation of (187) Zool. Rec. 1904.
251. — & HESSE, E. Sur un nouveau Protiste parasite des Otorhynques. C.R. Soc. Biol. lviii, pp. 92-94.
252. LEHMANN, K. B. III. Demonstrationen einiger Präparate von Protozoenkrankheiten. SB. Ges. Würzburg 1905, pp. 69-71.  
The "*Spirochaete*" of syphilis, and "Guarnieri's bodies" of small-pox, regarded as Protozoa.
253. LEISHMAN, W. B. & STATHAM, J. C. The development of the Leishman body in cultivation. J. Army Med. Corps iv, pp. 321-334, 1 pl., 2 text-figg.
254. LEMMERMANN, E. Brandenburgische Algen. III. Neue Formen. Forschber. Plon xii, pp. 145-153, pl. 4.
255. —. Beiträge zur Kenntniss der Planktonalgen. xx. Phytoplankton aus Schlesien; and xxi. Das Phytoplankton sächsischer Teiche. T. c. pp. 154-168.
256. —. Flagellatae, Chlorophyceae, Coccospheerales und Silicoflagellatae. Nord. Plankton (2) xxi, 1903, 40 pp., 135 text-figg.  
General enumeration of the forms belonging to the above groups, occurring in plankton north of 50° N., with distribution and diagnoses.
257. —. Ueber die von Herrn Dr. Walter Volz auf seiner Weltreise gesammelten Süßwasser-algen. Abh. Ver. Bremen xviii, pp. 143-174, pl. 11.
258. LEMOINE, P. & DOUVILLÉ, R. Remarques à propos d'une note de M. Prever sur les Orbitoides. Bull. Soc. geol. France (4) v, pp. 58 & 59.  
Criticism of Prever's memoir (Zool. Rec. 1904, p. 274) on the *Orbitoidae*; especially with regard to the creation of the genus *Silvestrina*.
259. LESAGE, A. Culture de l'amibe de la dysenterie des pays chauds. Ann. Inst. Pasteur xix, pp. 9-16, pls. 1 & 2.
260. LEVADITI, C. Sur un nouveau Flagellé parasite du *Bombyx mori* (*Herpetomonas bombycis*). C.R. Ac. Sci. cxli, pp. 631-634, 11 text-figg.
261. — & SEVIN, —. L'influence des sérums normaux des Mammifères et des oiseaux sur le *Trypanosoma paddæ*. C.R. Soc. Biol. lviii, pp. 694 & 695. [See II. c. 2.]
262. — & —. Mecanisme de l'immunité naturelle des Mammifères et des oiseaux vis-à-vis du *Trypanosoma paddæ*. T. c. pp. 695-697. [See II. c. 2.]
263. \*LEWIS, J. & WILLIAMS, H. W. The results of attempts to cultivate Trypanosomes from frogs. Amer. Med. ix, p. 491.
264. \*LINGARD, A. A short account of the various *Trypanosomata* found to date in India in the blood of some of the lower animals. Ind. Med. Gaz. 1904, pp. 445-447.
265. LINTON, E. Parasites of fishes of Beaufort, North Carolina. Bull. Bureau Fish. Washington xxiv, 1904 (publ. 1905), pp. 321-428, 34 pls.
266. —. The death (?) of an *Amæba*. Science xxii, pp. 88-90, 8 text-figg.

- LINTON, S. F. [See THOMAS, H. W. & LINTON (490).]
267. LISTER, J. J. On the dimorphism of the English species of *Nummulites* and the size of the megalosphere in relation to that of the microspheric and megalospheric tests in this genus. P. R. Soc. London, 76 B, pp. 298-319, pls. 3-5, 2 text-figg.
268. ——. On the dimorphism of the English species of *Nummulites*. P. Cambridge Soc. xiii, pp. 1 & 2. [For fuller account see (267).]
269. ——. On the relation in size between the megalosphere and the microspheric and megalospheric tests in the *Nummulites*. T. c. pp. 92 & 93.
270. LORD, J. E. The micro-flora and fauna of our wells and surface troughs. Tr. Manchester Micr. Soc. 1904 (publ. 1905), pp. 55-57.
271. LÖWIT, M. Der Nachweis sichelförmiger Gebilde im myelämischen Blute bei Giemsa-Färbung. Centrbl. Bakter. (1) xxxix, Orig., pp. 274-276, 1 pl.
- LUCET, —. [See LAVERAN, A. & LUCET, — (242).]
272. LYON, E. P. On the theory of geotropism in *Paramacium*. Amer. J. Physiol. xiv, pp. 421-432, 2 text-figg.
273. MACDOUGALL, R. S. The Protozoa and their relation to disease. Trans. Highland and Agric. Soc. Scotland (5) xvii, pp. 240-270, text-figg. 45-55.
274. MACKIE, P. Leishman-Donovan disease. Lancet 1905, ii, p. 185.
275. MACNALT, A. S. Trypanosomiasis and sleeping-sickness. Tr. Oxford Club 1905, No. 25, pp. 449-463.  
General account of Trypanosomes and trypanosomoses.
- MACNEAL, W. J. [See NOVY, F. G. & MACNEAL (323).]
276. MAGNIZKY, R. S. Zur mikroskopischen Technik der Infusorien. Zool. Anz. xxix, pp. 292-295.
277. MANEK, F. Neue Fundorte von Eocänfossilien bei Rozzo (Istrien). Verh. geol. Reichsanst. 1905, pp. 351 & 352.  
Occurrence of *Nummulitidae*.
278. MANSON, P. Notes on two cases of febrile tropical splenomegaly (Kala-Azar) and a suggestion. Brit. Med. J. 1905, ii, pp. 1261-1263.
279. MANSUY, H. Examen des fossiles rapportés du Yunnan par la mission Lautenois. C.R. Ac. Sci. cxl, pp. 692-694.  
Occurrence of *Fusulina* mentioned.
280. MARINO, F. Au sujet de la coloration des Protozoaires. Ann. Inst. Pasteur xix, pp. 351 & 352.
281. MARTIN, E. E. Trypanosomiasis in cattle of India. J. comp. Path. xviii, pp. 144 & 145. [See II. G. 3.]
282. MARTINI, E. Beobachtungen an *Arcella vulgaris*. Zeitschr. wiss. Zool. lxxix, pp. 574-619, pls. 28-30.
283. ——. Protozoen im Blute der Tropenkolonisten und ihrer Haustiere. Verh. Ges. deutsch. Naturf. lxxv, ii (2), 1904, pp. 501-503.
284. MASSART, J. Liste des Flagellates observés aux environs de Coxyde et de Nieuport. Ann. Soc. Belge Micr. 1900-1901, Pt. I, pp. 75-83.
- DI MAURO, S. [See RUSSO, A. & DI MAURO (389-391).]

285. MAYER, P. Protozoa. Bericht für 1904. Zool. Jahresber. 1904 (publ. 1905), 38 pp. [See II. G. 3.]
286. MAZZARELLI, G. Sulla pseudodifferite degli agoni. (Comm. prel.) Atti Mus. Milano xlv, pp. 71 & 72.
287. —. Intorno al Mixosporidio della pseudo-differite degli agoni e al suo ciclo di sviluppo. Monit. Zool. ital. xvi, pp. 227-229. [Prel. comm. to (288).]
288. \* —. Ricerche sulla epizoozia degli agoni manifestatasi nel Lago di Lugano negli anni 1904 e 1905. Acquicolt. Lomb. Milano vii, pp. 143-189, pls. 1 & 2.
289. McWEENEY, E. J. On the relation of the parasitic Protozoa to each other and to human disease. Lancet 1905, i, pp. 783-787.  
General account of recent research.
290. —. Dr Schaudinn's work on blood-parasites. [Letter.] Brit. Med. J. 1905, i, pp. 570 & 571.  
Critical comment on (2).
291. MERESCHKOWSKY, C. Ueber Natur und Ursprung der Chromatophoren im Pflanzenreiche. Biol. Centrbl. xxv, pp. 593-604.  
References to the *Zoochlorellæ* of *Amæba viridis*, and other cases (*Cyanophyceæ*) of symbiosis among Protozoa.
292. MESNIL, F. Aperçu sur l'hérédité dans les maladies à Protozoaires. C.R. Ass. Franc. xxxiii (session 1904), pp. 1516-1521. [See II. G. 1.]
293. —. [Same Title.] Bull. Inst. Pasteur iii, pp. 401-408. [Somewhat fuller account.]
294. —. Chromidies et questions connexes. T. c. pp. 314-322, 7 text-figg.
295. —. Le Protozoaire du bouton d'Orient. C.R. Congr. Intern. Zool. vi, 1904 (publ. 1905), p. 384.  
Brief notice of Mesnil, Nicolle & Remlinger, Zool. Rec. 1904 (235).  
— [See also CAULLERY, M. & MESNIL (67-73), and LAVERAN, A. & MESNIL (243).]
296. METALNIKOFF, S. Ueber die intracelluläre Verdauung. Bull. Ac. St. Petersb. (5) xix, 1903, pp. 187-193.
297. METTAM, A. E. A note on bovine piroplasmiasis. J. Hygiene v, pp. 271-273.
298. MINCHIN, E. A. & FANTHAM, H. B. *Rhinosporidium kinealyi* n. g., n. sp., a new Sporozoön from the mucous membrane of the septum nasi of Man. Quart. J. Micr. Sci. xlix, pp. 521-532, pls. 30 & 31.
299. \*MINGAZZINI, P. Contributo alla conoscenza dei Cistoflagellati. Ric. Labor. anat. Roma 10, ii, pp. 97-108, 1 pl.
300. MONTEL, R. Trypanosome d'un poisson de Cochinchine. C.R. Soc. Biol. lviii, pp. 1016 & 1017, 1 fig.
301. MONTI, R. Physiobiologische Beobachtungen an den Alpenseen zwischen dem Vigezzo- und Onsernonethal (1904). Forschber. Plon xii, pp. 63-89, 7 text-figg.
302. MOROFF, T. & FIEBIGER, J. Ueber *Eimeria subepithelialis* n. sp., Arch. Protistenk. vi, pp. 166-174, pl. 8.
303. MOTT, F. W. Observations on the brains of men and animals infected with various forms of Trypanosomes (prel. note). P. R. Soc. London 76 B, pp. 235-242.



304. MUGLSTON, T. C. & FREER, G. D. An undescribed form of ulceration of the large intestine, probably of amœbic origin, causing in some cases abscess of the liver. *J. trop. Medicine* viii, pp. 113-115, 2 text-figg.
- MURATET, L. [See SABRAZÉS, J. & MURATET (395).]
305. MURRAY, G. On a new Rhabdosphere. *P. R. Soc. London* 76 B, pp. 243 & 244, 1 text-fig.
306. MURRAY, J. The Rhizopods and Heliozoa of Loch Ness. *P. R. Soc. Edinb.* xxv, pp. 609-615.
307. —. Microscopic life of St Kilda. *Ann. Scott. Nat. Hist.* 1905, (No. 54), pp. 94-96.
308. MURGRAVE, W. E. & CLEGG, M. J. Amœbas: their cultivation and etiological significance. *J. inf. diseases* ii, pp. 334-350, pl. 12.
309. \* — & —. [Same title.] *Publ. Bureau Govt. Lab. (Dept. Int.) Manila*, No. 18, 1904, pp. 5-89, 1 pl.
310. NABARRO, D. & GREIG, E. D. Further observations on the trypanosomiasis (human and animal) in Uganda. *Rep. S. S. Comm. (Roy. Soc.)* v, pp. 8-48, 3 pls.
- NÈGRE, —. [See LAVERAN, A. & NÈGRE, — (244).]
311. NÈGRIS, P. Émersion crétacée en Grèce. *C.R. Ac. Sci.* cxli, pp. 918-920.
312. NERESHEIMER, E. Ueber vegetative Kernveränderungen bei *Amœba dofeini* nov. sp. *Arch. Protistenk.* vi, pp. 147-165, pl. 7, 13 text-figg.
313. NEVIANI, A. *Capsulina loculicida* Seg. (pedicellaria fossile, preteso foraminifero). *Boll. Soc. geol. Ital.* xxiv, pp. 165-168, 9 text-figg.
314. NEWTON, R. B. The Tertiary fossils of Somaliland, as represented in the British Museum (Natural History). *Quart. J. Geol. Soc.* lxi, pp. 155-180, pls. 17-21.
315. NICOLLE, C. & COMTE, C. Sur le rôle possible de *Hyalomma aegyptium* dans l'infection Hémogregarinienne de *Testudo mauritanica*. *C.R. Soc. Biol.* lviii, pp. 1045 & 1046. [See II. G. 1.]
316. — & —. Faible receptivité d'une chauve-souris pour un Trypanosome pathogène. *T. c.* pp. 245 & 246. [See II. C. 2.]
317. NIRENSTEIN, E. Beiträge zur Ernährungsphysiologie der Protisten. *Zeitschr. allg. Physiol.* v, pp. 434-510, pl. 15.
318. NISSLE, A. Beobachtungen am Blut mit Trypanosomen geimpfter Thiere. *Arch. Hygiene* liii, pp. 181-204, pl. 3.
319. NOBRE, A. Estabelecimentos da Academia. II. Gabinetes de historia natural. *Annuaire. Ac. Porto* 1903-1904, pp. 84-146.  
List of Foraminifera in the Museum, pp. 143-145.
320. NOGUIER, —. Trypanosomes et trypanosomiasés. *Rev. Quest. Sci.* (3) viii (July), pp. 99-114, 7 text-figg.  
Short general account, largely taken from Laveran & Mesnil, *Zool. Rec.* 1904 (176).
321. NORDGAARD, O. Bottom-Life. B. Bottom samples. (a) Foraminifera. *Bergens Mus. Marine Investigations, Pt. II. (Norwegian Fiords)*, 1905, pp. 192-194.
322. NORMAN, A. M. Notes on the Natural History of East Finmark. *Ann. Nat. Hist.* xv, pp. 348-357.

323. NOVY, F. G. & MACNEAL, W. J. On the Trypanosomes of birds. *J. inf. diseases* ii, pp. 256-308, 11 pls.
324. NUTTALL, G. H. Scientific research in medicine. *J. trop. Medicine* viii, pp. 297-301.  
Relation of Protozoa to disease.
325. — & GRAHAM-SMITH, G. S. Canine piroplasmosis. II. *J. Hygiene* v, pp. 237-249, pl. 9.
326. ODELL, W. S. Notes on Fresh-water Rhizopods. *Ottawa Natural* xix, pp. 16-20.  
Popular account.
327. OPHÜLS, W. Further observations on a pathogenic mould formerly described as a Protozoon (*Coccidioides immitis*, *Coccidioides pyogenes*). *J. exp. Med. Baltimore* vi, pp. 443-485, pls. 34-38.
328. OSTENFELD, C. H. & WESENBERG-LUND, C. A regular fortnightly exploration of the plankton of two Icelandic Lakes, Thingvallavatn and Myvatn. *P. R. Soc. Edinb.* xxv, pp. 1092-1167, 3 pls., many text-figg.
329. PALMER, T. C. Delaware Valley forms of *Trachelomonas*. *P. Ac. Philad.* lvii, pp. 665-675, pl. 41.
330. PANISSET, L. Le Surra du chat. *C.R. Soc. Biol.* lviii, pp. 15 & 16.  
[See II. c. 2.]
331. PAQUIER, V. Sur le calcaire à *Orbitoides* de Meaudre (Isère). *Bull. Soc. geol. France* (4) iv, pp. 416-419.
332. PEASE, H. T. Surra Trypanosome in cattle. *J. comp. Path.* xviii, pp. 222-223.  
[See II. c. 3.]
333. PEEBLES, F. The formation and behaviour of the microzooids of *Hematococcus pluvialis*. *Science* xxi, p. 380.
334. PENARD, E. Sur les Sarcodinéés du Loch Ness. *P. R. Soc. Edinb.* xxv, pp. 593-608, 4 text-figg.
335. —. Observations sur les Amibes à pellicule. *Arch. Protistenk.* vi, pp. 175-206, 20 text-figg.
336. —. Les Amibes et le genre *Amœba*. *Rev. Suisse Zool.* xiii, pp. 402-409.
337. —. Notes sur quelques Sarcodinéés. 1<sup>re</sup> partie. *T. c.* pp. 585-616, pls. 13 & 14.
338. —. Les Sarcodinéés des grands lacs. Genève (H. Kündig), 1905, 135 pp., 57 text-figg.
339. —. Sur un nouveau Flagellate. *Arch. Sci. Nat.* xx, p. 459.
340. PEREZ, C. Nouvelles observations sur le *Blastulidium pædophthorum*. *C.R. Soc. Biol.* lviii, pp. 1027-1029, 2 text-figg.
341. —. Sur une nouvelle Glugéidée parasite du *Carcinus mænas*. *T. c.* pp. 146-148.
342. —. Influence des Microsporidies sur l'organisme des Crabes. *T. c.* pp. 148-150.
343. —. Sur une *Glugea* nouvelle parasite de *Balanus amaryllis*. *T. c.* pp. 150 & 151.
344. —. Microsporidies parasites des Crabes d'Arcachon (note préliminaire). *Bull. Sta. Biol. d'Arcachon* viii (extract) 22 pp., 14 text-figg.

345. PERRIN, W. S. A preliminary communication on the life-history of *Trypanosoma balbianii*. P. R. Soc. London 76 B, pp. 368-375, 4 text-figg.
346. PETERS, A. W. The sequence of organisms in a Protozoan culture and its irreversibility. Science xxi, pp. 851 & 852.
347. ——. An analysis of physiological conditions in a Protozoan culture. T. c. p. 852.
348. PETRIE, G. F. Observations relating to the structure and geographical distribution of certain Trypanosomes. J. Hygiene v, pp. 191-200, pl. 8.
349. PFEIFFER, E. Ueber trypanosomenähnliche Flagellaten in Darm von *Melophagus ovinus*. Zeitschr. Hygiene I, pp. 324-330, pl. 3.
350. PINOY, —. Rôle des Bactéries dans le développement du *Plasmodiophora brassicae*, Myxomycète parasite produisant la hernie du chou. C.R. Soc. Biol. lviii, pp. 1010-1012. [See II. B. 1.]
351. PITTALUGA, G. Sobre las afinidades zoológicas y evolución de los *Trypanosoma*. Bol. Soc. espan. v, pp. 192-196.  
Brief resumé of part of (352).
352. ——. Sobre los caracteres morfológicos y la clasificación de los "Trypanosomas." Rev. Acad. Ciencias, Madrid, ii, pp. 331-379.  
General account of the Trypanosomes and the question of their relation to the Hæmatozoa.
353. ——. Estudios acerca de los Dípteros y de los parásitos que transmiten al hombre y á los animales domésticos. Op. cit. iii, pp. 292-362, 402-504, 505-586, 76 figg., many on 9 pls., rest in text.  
Includes general account of malarial parasites and Trypanosomes, with figures.
354. PLIMMER, H. G. Note on the effects produced on rats by the Trypanosomata of Gambia fever and sleeping sickness. P. R. Soc. London lxxiv, pp. 388-390.
355. POPOFSKY, A. Weiteres über die Acanthometriden der Plankton-Expedition. (Vorläufige Mittheilung.) Arch. Protistenk. v, pp. 339-357, pls. 14 & 15.
356. ——. Die nordischen Acantharien. Theil I, Acanthometriden. Nord. Plankton (3) xvi, 69 pp. 21 text-figg.  
General enumeration of *Acanthometridæ* occurring in plankton north of 50° N., with distribution and diagnoses.
357. POUND, C. J. On *Trypanosoma* and their presence in the blood of Brisbane rats. P. Soc. Queensland xix, pp. 33-38.
358. PRANDTL, H. Reduktion und Karyogamie bei Infusorien. Biol. Centrbl. xxv, pp. 144-151, 3 text-figg.
359. PREVER, P. L. Le Nummuliti e le Orthophragmine di due località dell' Appennino pavese. Rend. Ist. Lombardo (2) xxxviii, pp. 478-482.
360. ——. Sulla fauna nummulitica della scaglia nell' Appennino centrale. Atti Acc. Torino xl, pp. 566-578, 1 pl.
361. — & SILVESTRI, A. Contributo allo studio delle *Orbitolinæ*. Boll. Soc. geol. Ital. xxiii, pp. 467-486, 5 text-figg.
362. PROWAZEK, S. Studien über Säugethiertyrypanosomen. Arb. Biol. Abt. Laud.-Forstwirtschaft. xxii, pp. 1-45, pls. 1-6, 4 text-figg.

363. [PŘOWAZEK, S.] Ueber den Erreger der Kohlhernie, *Plasmodiophora brassicae* Woronin, und die Einschlüsse in den Carcinomzellen. T. c. pp. 396-410, pl. 7.
364. —. Untersuchungen über die Vaccine. I. T. c. pp. 535-556, pl. 9.
365. —. Untersuchungen über das Wesen des Vaccineerregers. Deutsch. Med. Wochenschr. 1905 No. 19 (Sonderabdruck), 7 pp.
366. —. The development of *Herpetomonas*, a Flagellate related to the *Trypanosoma*. J. trop. Medicine viii, pp. 5-7, 24-28, 7 text-figg. [Translation of (277) Zool. Rec. 1904.]
367. PÜTTER, A. Die Athmung der Protozoen. Zeitschr. allg. Physiol. v, pp. 566-612, 5 text-figg.
368. RAYMOND, G. Sur un animalcule voisin des *Cyathomonas*. Microgr. prep. xiii, p. 90, 1 text-fig.
369. —. Sur un animalcule à placer entre *Cryptomonas* et *Chilomonas*. T. c. pp. 136 & 137, 1 fig.
370. —. Sur un animalcule à classer entre les genres *Lembus* et *Anophrys*. T. c. p. 222, 1 text-fig.
371. READE, T. M. Notes on some specimens of Lancashire Boulder Clay. P. Liverp. geol. Soc. (10) i, pp. 38-42.
372. — & HOLLAND, P. Sands and sediments. Pt. II. Geologic sediments of marine, estuarine, or fresh-water origin. T. c. pp. 48-78, table 2.
373. REMEŠ, M. Štramberky tithon. VII. Seznam zkamenelin v bilem vapenci na Stramberku nalezenych. Vestnik Ceske Ak. xiii (1904), pp. 288-295. VIII. Seznam zkamenelin z cerveneho vapence koprivnickeho. T. c. pp. 360-379.  
Lists of Foraminifera.
374. REUKAUF, E. Ueber Difflogiengehäuse. Naturw. Wochenschr. (2) iv, pp. 518-522, 115 text-figg.
375. RHUMBLER, L. Mittheilungen über Foraminiferen. Verh. Deutsch. zool. Ges. xv, pp. 97-106, 9 text-figg.
376. —. Zur Theorie der Oberflächenkräfte der Amöben. Zeitschr. wiss. Zool. lxxxiii, pp. 1-52, 23 text-figg.
377. RICCIOLI, G. Intorno ai reperti del dott. John Siegel sul ciclo dei corpi di Guarnieri. Rend. Acc. Lincei xiv (2), pp. 733-740, 1 text-fig.
378. RIDDLE, L. C. Brush Lake Protozoa. Ohio Natural. vi, pp. 394 & 395.
379. ROBERTSON, M. *Pseudospora volvocis* Cienkowski. Quart. J. Micr. Sci. xlix, pp. 213-230, pl. 12.
380. ROBERTSON, T. B. An outline of a theory of the genesis of protoplasmic motion and excitation. Trans. R. Soc. S. Austral. xxix, pp. 1-56, 7 text-figg. [See II. B. 3.]
381. ROBERTSON, W. F. & WADE, H. Researches into the etiology of carcinoma; on the presence of *Plasmodiophora* in carcinomatous tumours and the successful cultivation of the parasites. Lancet 1905, i, pp. 215-221, 11 text-figg.
382. ROBINSON, T. Notes on the Radiolaria. Tr. Manchester Micr. Soc. 1904 (publ. 1905), pp. 44-54, 1 pl.  
Short general account of the characters of the group.

383. ROGER, J. Un cas de contagion par cohabitation du Surra Nord-Africain du chien. C.R. Soc. Biol. lix, pp. 333 & 334. [See II. G. 1.]
384. — & GREFFULHE. Sur une trypanosomiase observée en Algérie. Op. cit. lviii, pp. 396 & 397, 826 & 827. [See II. C. 2.]
385. ROGERS, L. The conditions affecting the development of flagellated organisms from Leishman-Donovan bodies, and their bearing on the probable mode of infection. Lancet 1905, i, pp. 1484-1487.
386. ROSS, P. R. A note on the natural occurrence of piroplasmiasis in the monkey (*Cercopithecus*). J. Hygiene v, pp. 18-23, 3 charts.
387. ROSS, R. Researches on malaria. J. Army Med. Corps, pp. 450-474, 541-579, 705-740, 9 pls., 7 text-figg. [Describes, at length, the progress and results of his original work on the malarial parasites of birds (*Proteosoma*).]
388. RÖSSLE, R. Spezifische Sera gegen Infusorien. Arch. Hyg. liv, pp. 1-31.
389. RUSSO, A. & DI MAURO, S. Frammentazione del macronucleo nel *Cryptochilum echini* (Maupas), e sua significazione per la senescenza degli Infusorii. (Nota prel.) Boll. Acc. Gioen. lxxxiv, pp. 3-9, 7 text-figg.
390. —. Differenziazioni citoplasmiche nel *Cryptochilum echini* (Maupas). Ciglia, granuli basilari, mioidi e cromidi. (Nota prel.) T. c. pp. 9-13, 2 text-figg.
391. —. La coniugazione ed il ringiovanimento nel *Cryptochilum echini* Maupas (*Uronema echini* Cuénot). (Nota prel.) Op. cit. lxxxv, pp. 10-15, 6 text-figg.
392. RUTTNER, F. Über das Verhalten des Oberflächenplanktons zu verschiedenen Tageszeiten im Grossen Plöner See und in zwei Nordböhmischen Teichen. Forschber. Plon xii, pp. 35-62, 1 pl., 2 charts, 1 text-fig.
393. RUŽIČKA, U. Ueber tinctorielle Differenzen zwischen lebendem und abgestorbenem Protoplasma. Arch. ges. Physiol. cvii, pp. 497-534. [See II. G. 2.]
394. RZEHAŁ, A. Geologische Beobachtungen bei Tanger. Verh. geol. Reichsanst. 1905, pp. 269-272.  
List of Foraminifera occurring.
395. SABRAZÉS, J. & MURATET, L. Fréquence des Trypanosomes chez *Mus rattus*. Rarété chez *Mus decumanus* et chez *Mus musculus*. Résistance du *decumanus* et du rat blanc à l'infestation naturelle. C.R. Soc. Biol. lix, pp. 441-443.
396. SACCO, F. Les formations ophitiformes du Crétacé. Bull. Soc. Belge Geol. xix, pp. 247-265, pl. 8.
397. —. Il piacenziano sotto Torino. Boll. Soc. geol. Ital. xxiii, pp. 497-503.  
Presence of Foraminifera mentioned.
398. SAMBON, L. Kala-azar. Climate v (1904-1905), pp. 245-259, 7 text-figg.
399. SANDER, L. Praktische Schlussfolgerungen aus den neuesten *Trypanosoma*-Forschungen. Verh. Ges. deutsch. Naturf. lxxv, ii (2), (1904), pp. 503-506.

400. SAUERBECK, E. Histologie der experimentellen Trypanosomen-Infektion (mit *Trypanosoma brucei*). Zeitschr. Hyg. lii, pp. 31-86, pls. 1 & 2.
401. SCHAFFER, F. X. Die geologischen Ergebnisse einer Reise in Thrakien im Herbst 1902. SB. Ak. Wien (1) cxiii (1904), pp. 104-118, 1 chart. Occurrence of *Nummulites* mentioned.
402. SCHAUDINN, H. Neuere Forschungen über die Befruchtung bei Protozoen. Verh. Deutsch. zool. Ges. xv, pp. 16-35, 1 scheme.
403. —. Zur Kenntniss der *Spirochæte pallida*. Deutsch. med. Wochenschr. 1905, pp. 1665-1667.
404. —. [No Title. In correspondence.] T. c. p. 1728.  
Name *Treponema* proposed for *Spironema* (*Spirochæta*) *pallidum*.
405. —. Protozoen-Literatur. 1904, II Theil, Arch. Protistenk. v, pp. 267-280; 1904, III Theil, t. c. pp. 370-386; 1904, IV Theil, u, 1905, I Theil, op. cit. vi, pp. 131-146; 1905, II Theil, t. c. pp. 334-350. [See II. G. 3.]
406. — & HOFFMANN, E. Vorläufiger Bericht über das Vorkommen von Spirochæten in syphilitischen Krankheitsproducten und bei Papillomen. Arb. Biol. Abt. Laud.-Forstwirtsch. xxii, pp. 527-534, 2 figg.
407. SCHELLWIEN, E. Verschmelzung bei Foraminiferen. SB. Ges. Königsb. xlvi, p. 116.
408. \*SCHERFFEL, W. Notizen zur Kenntniss der *Chryomonadineæ*. Ber. deutsch. bot. Gesellsch. xxii (1904), pp. 439-444.
409. SCHLUMBERGER, C. Note sur le genre *Choffatella* n. g. Bull. Soc. geol. France (4) iv, pp. 763 & 764, pl. 18.
410. —. [Same Title.] Commun. geol. Portugal vi, pp. 155-157, 1 pl. [Identical with (409).]
411. —. Deuxième note sur les Miliolidées trématophorées. Bull. Soc. geol. France (4) v, pp. 115-134, pls. 2 & 3, 29 text-figg.  
— [Obituary notice of, see SILVESTRI (455).]
412. — & CHOFFAT, P. Note sur le genre *Spirocyclina* Munier-Chalmas et quelques autres genres du même auteur. Commun. geol. Portugal vi, pp. 144-154, pls. 1 & 2, 3 text-figg.  
Identical with (306) Zool. Rec. 1904.
413. — & DOUVILLÉ, H. Sur deux Foraminifères éocènes, *Dictyoconus egyptiensis* Chapm. et *Lituonella roberti* nov. gen. et sp. Bull. Soc. geol. France (4) v, pp. 291-304, pl. 9, 7 text-figg.
414. SCHNEIDER, G. E. & BUFFARD, M. Unicité de la Dourine. Ann. Inst. Pasteur xix, pp. 715-717.
415. SCHNEIDER, K. C. Plasmastruktur und -Bewegung bei Protozoen und Pflanzenzellen. Arb. Inst. Wien xvi, pp. 99-118, 4 pls. (7-10).
416. SCHNITZLER, H. Ueber die Fortpflanzung von *Clepsidrina ovata*. Arch. Protistenk. vi, pp. 309-333, pls. 16 & 17, 3 text-figg.
417. SCHOUTEDEN, H. Notes sur quelques Amibes et Choanoflagellates. Arch. Protistenk. v, pp. 322-338, 12 text-figg.
418. —. Längstheilung bei *Opalina ranarum*. Zool. Anz. xxviii, pp. 468 & 469.  
SCHRÖDER, O. [See SCHUBERG, A. & SCHRÖDER (420).]

419. SCHUBERG, A. Ueber Cilien und Trichocysten einiger Infusorien. Arch. Protistenk. vi, pp. 61-110, pls. 4 & 5.
420. — & SCHRÖDER, O. Myxosporidien aus dem Nervensystem und der Haut der Bachforelle (*Myxobolus neurobius* n. sp., u. *Henneguya nüsslii* n. sp.). T. c. pp. 47-60, pl. 3.
421. SCHUBERT, R. J. Ueber *Cyclammina uhligi* Schub. und *C. draga* Lieb. et Schub. Verh. geol. Reichsanst. 1904, pp. 353-356, 1 text-fig. Compare SILVESTRI (452).
422. —. Ueber den "Schlier" von Dolnja-Tuzla in Bosnien. T. c. pp. 111-114.  
Foraminifera listed.
423. —. Mitteleocäne Foraminiferen aus Dalmation. II. Globigerinen- und *Clavulina szaboi*-Mergel von Zara. T. c. pp. 115-117.
424. —. [Same Title.] III. Von der Insel Lavsa (bei Inconronata). T. c. pp. 326-329.
425. —. Mitteleocäner Globigerinenmergel von Albona (Istrien). T. c. pp. 336-339.
426. —. Zur Stratigraphie des Istrisch-nord-dalmatinischen Mitteleocäns. Jahrb. geol. Reichsanst. lv, pp. 153-188, 1 chart.  
Foraminifera in relation to the various zones.
427. SCHUBOTZ, H. Beiträge zur Kenntniss der *Amæba blattæ* (Bütschli) und *Amæba proteus* (Pall.). Arch. Protistenk. vi, pp. 1-46, pls. 1 & 2.
428. SCHULTZ, E. Ueber Verjüngung. Biol. Centrbl. xxv, pp. 465-473.
429. SCHULZE, F. E. Über den Bau und die Entwicklung gewisser Tiefsee-Organismen. SB. Ak. Berlin 1904, p. 1387.
430. —. *Cytorhycles luis* Siegel. Berl. klin. Wochenschr. 1905, No. 21 (Sonderabdruck), 3 pp. [In support of SIEGEL (445).]
431. —. Die Xenophyophoren, eine besondere Gruppe der Rhizopoden. Wiss. Ergebn. Deutsch. Tief-See. Exped. 11, i, 52 pp., 8 pls.
432. — & THIERFELDER, H. Ueber Baryumsulfat in Meeresthieren (*Xenophyophora* F. E. Sch.). SB. Ges. naturf. Berlin 1905, pp. 2 & 3.
433. SCOTT, A. Port Erin tow-nettings. (In Ann. Rep. Mar. Biol. Sta.) P. Liverp. biol. Soc. xix, pp. 17-21.
434. —. On the tow-nettings collected in the Irish Sea. T. c. pp. 196-215.
435. SERGENT, E. & E. Sur des Trypanosomes des chauves-souris. C.R. Soc. Biol. lviii, pp. 53-56, 2 text-figg.
436. —. Observations sur les Hématozoaires des oiseaux d'Algérie. Nouvelle Hémamibe de l'hirondelle. T. c. pp. 56 & 57, 1 text-fig.  
[See III. c. ; IV. c. 1 (c).]
437. —. Hémamibes des oiseaux et moustiques. "Généralions alternantes" de Schaudinn. T. c. pp. 57-59.  
Confirms Schaudinn's important research [see Zool. Rec. 1904, (301)].
438. —. Hématozoaires de *Rana esculenta* en Algérie. T. c. pp. 670-672, 5 text-figg.
439. —. El-debab, trypanosomiase des dromadaires de l'Afrique du Nord. Ann. Inst. Pasteur xix, pp. 17-48.

440. [SERGENT, E. & E.] Evolution des Hématozoaires de l'*Athene noctua*, d'après F. Schaudinn. Recherches expérimentales. C.R. Congr. Zool. vi, 1904 (publ. 1905), pp. 384-388.  
Detailed account of experiments confirmatory of Schaudinn's work, briefly communicated by Mesnil, Zool. Rec. 1904 (234).
441. SEVIN, —. Sur l'action trypanolytique du sérum de rat. C.R. Soc. Biol. lix, pp. 122 & 123.  
— [See also LEVADITI, C. & SEVIN (261 & 262).]
442. SIDEBOTTOM, H. Report on the Recent Foraminifera from the Coast of the Island of Delos (Grecian Archipelago). Pt. II. Mem. Manchester Soc. xlix, No. 5, 22 pp., 3 pls., 1 text-fig.
443. —. On *Nevillina*, a new genus of Foraminifera. T. c. No. 11, 4 pp., 1 pl.
444. SIEDLECKI, M. Ueber die Bedeutung des Karyosoms. Bull. Ac. Cracovie 1905, pp. 559-581, pl. 16.  
— [See also KRZYSZTAŁOWICZ, F. & SIEDLECKI (223).]
445. SIEGEL, J. Untersuchungen über die Ätiologie der Pocken und der Maul- und Klauenseuche. Abh. Ak. Berlin 1905 (Section 2), No. 1, 34 pp., 2 pls.
446. —. Untersuchungen über die Ätiologie des Scharlachs. T. c. No. 2, 14 pp., 1 pl.
447. —. Untersuchungen über die Ätiologie der Syphilis. T. c. No. 3, 15 pp., 2 pls.
448. —. Kurze Mittheilung über *Cytorrhycetes variolæ (vaccinæ)*. SB. Ges. naturf. Berlin 1905, pp. 195-197, 1 text-fig.
449. SILVESTRI, A. Osservazione critiche sul genere *Baculogypsina* Sacco. Atti Acc. Pont. Lincei lviii, pp. 65-82, 8 text-figg.
450. —. *Lepidocyclina* ed altri fossili del territorio d'Anghiari. T. c. pp. 122-128, 1 text-fig.
451. —. Sul *Dictyoconus ægyptiensis* (Chapman). T. c. pp. 129-131.
452. —. A proposito della *Cyclammina uhligi* e *C. pusilla* var. *draga*. Riv. ital. Pal. xi, pp. 71-73, 3 text-figg. [Compare SCHUBERT (421).]
453. —. Le *Chapmania gassinensis* Silv. T. c. pp. 113-120, pl. 2, 2 text-figg.
454. —. Notizie sommarie su tre faunule del Lazio. T. c. pp. 140-145.  
List of Foraminifera occurring.
455. —. Necrologie. C. Schlumberger. T. c. pp. 151-154.  
— [See also PREVER, P. L. & SILVESTRI (361).] [See II. g. 3.]
456. \*SJÖBRING, N. The micro-organism of vaccine (*Strombodes jenneri* ad int.) with a note on the relation of variolæ and vaccine to one another. Hygeia, Stockholm, 2, i, 1902, pp. 357-359.
457. \* —. Ueber Krebsparasiten. Verh. Deutsch. zool. Ges. xxx, ii, 1901, pp. 751-769, 1 pl. [*Strombodes* n. gen., proposed.]
458. SKORIKOW, A. S. Beobachtungen über das Plankton der Newa. Biol. Centrbl. xxv, pp. 5-19.
459. —. Recherches sur le plankton de la Neva. Trudui Kharkov. Univ. xxxix, pp. 87-106. [In Russian.]



460. SMEDLEY, R. D. The cultivation of *Trypanosomata*. J. Hygiene v, pp. 24-47, pls. 4 & 5.
461. SMITH, B. G. Collection and preparation of material for classes in elementary zoology. Amer. Natural. No. 467, pp. 779-789.
462. SMITH, G. Note on a Gregarine (*Aggregata inachi* n. sp.), which may cause the parasitic castration of its host (*Inachus dorsettensis*). Mt. Stat. Neapel xvii, pp. 406-410, pl. 26.
463. SQUINABOL, S. Radiolarie cretacee degli Euganei. Atti Acc. Padova xx (1904), pp. 171-244, 10 pls.
464. STACHE, G. Aeltere und neue Beobachtungen über die Gattung *Bradya* Stache, in Bezug auf ihr Verhältniss zu den Gattungen *Porosphaera* Steinmann, und *Keramosphaera* Brady, und auf ihre Verbreitung in den Karstgebieten des österreichischen Küstenlandes und Dalmatiens. Verh. geol. Reichsanst. 1905, pp. 100-113.
465. STATHAM, J. C. Preliminary note on the cultivation of the Leishman body. J. Army Med. Corps iv, pp. 13-15.
466. ——. A case of Kala-Azar. Op. cit. v, pp. 248-262, 366-384, 3 pls., 2 text-figg.  
— ——. [See also LEISHMAN, W. B. & STATHAM (253).]
467. STATKEWITSCH, P. Galvanotropismus und Galvanotaxis der Ciliata. 2<sup>te</sup> u. 3<sup>te</sup> Mittheilungen. Zeitschr. allg. Physiol. v, pp. 511-534, 10 text-figg.
468. STEBBINS, J. On the occurrence of a large-sized parasite of the *Karyolysus* order, in the blood of *Rana clamata*. Centrbl. Bakter. (1) xxxviii, Orig., pp. 315-318, 2 pls.
469. \* ——. Upon the occurrence of Hæmosporidia (*Hæmogregarina catesbiana* n. sp.) in the blood of *Rana catesbiana*, with an account of their probable life-history. Tr. Amer. micr. Soc. xxv (1904), pp. 65-62, 2 pls.
470. STEFANOWSKA, M. Déshydratation du protoplasme vivant par l'éther, le chloroforme, et l'alcool. Contribution à l'étude du mécanisme de l'anesthésie. Ann. Soc. Belge Micr. 1900-1901, Pt. i, pp. 63-73, 1 pl.
471. STEINMANN, G. Einführung in die Paläontologie. Leipzig (W. Engelmann) 1903, (ix+466) pp., 818 text-figg. [Protozoa, pp. 60-79, text-figg. 64-92.]
472. TEMPELL, W. Vegetatives Leben und Geschlechtsakt (Kurze Uebersicht). Mt. Ver. Vorpomm. xxxvi, pp. 111-120.
473. STEPHENS, J. W. W. A new Hæmogregarine in an African toad. Thompson Yates Lab. Rep. vi, i, pp. 115-117.
474. STEUER, A. Untersuchung des Tones über den bitumenreichen Sanden aus den Bohrlöckern von Heppenheim a. d. B. Notizbl. Ver. geol. Landesanst. Darmstadt iv, 25 (1904), pp. 22-27, pl. 8.
475. ŠTOLC, A. Ueber die Theilung des Protoplasmas im mehrkernigen Zustande. Nach den Untersuchungen an mehrkernigen Formen der *Amæba proteus*. Arch. Entwicklmech. xix, pp. 631-647.
476. SYKES, M. L. The *Proteus* and its relations. P. Manchester Club 1, ii, 1900-1901 (publ. 1905), pp. 307-313.  
Popular account of *Amæbæ* and Foraminifera.
477. TEMPÈRE, J. Les Myxomycètes (suite). Microgr. prep. xiii, pp. 266-270, pl. 25.  
Continuation of general account of Mycetozoa.

478. TEODORESCO, E. C. Organisation et développement du *Dunaliella*, nouveau genre de Volvocacée-Polyblepharidée. Beih. Bot. Centrbl. xviii (1), pp. 215-232, pls. 8 & 9, and 5 text-figg.
479. THEILER, A. The *Piroplasma bigeminum* of the immune ox. J. Army Med. Corps iii (1904), pp. 469-488, 1 pl.
480. —. East Coast fever. T. c. pp. 599-620.
481. THESING, C. *Spirochaete pallida* und die Syphilis. SB. Ges. naturf. Berlin 1905, pp. 205-217, 1 pl.
482. —. Protozoen als Krankheitserreger und Thierimpfungen. Naturw. Wochenschr. xx, 1905, pp. 545-555.  
THIERFELDER, H. [See SCHULZE, F. E. & THIERFELDER (432).]
483. THIROUX, —. L'infection du *Padda oryzivora* par le *Trypanosoma paddæ* n'a pas de rapports avec l'infection de cet oiseau par l'*Halteridium danilewskyi*. C.R. Ac. Sci. cxl, pp. 109 & 110.
484. —. Sur un nouveau Trypanosome de la souris domestique (*Mus musculus*). C.R. Soc. Biol. lviii, pp. 885-887, 2 text-figg.
485. —. Recherches morphologiques et expérimentales sur *Trypanosoma paddæ* Laveran & Mesnil. Ann. Inst. Pasteur xix, pp. 65-83, pl. 4.
486. —. Recherches morphologiques et expérimentales sur *Trypanosoma duttoni* Thiroux. T. c. pp. 564-572, pl. 16.
487. THOMAS, H. W. The experimental treatment of trypanosomiasis in animals. P. R. Soc. London, 76 B, pp. 589-591.
488. —. Some experiments in the treatment of trypanosomiasis. Brit. Med. J. 1905, i, pp. 1140-1143.
489. — & BREINL, A. Trypanosomes, trypanosomiasis and sleeping-sickness. Mem. Liverp. Sch. Trop. Med. xvi, pp. 1-96, several pls. and charts. [Included in Thompson-Yates Lab. Rep. vi, ii.]
490. — & LINTON, S. F. A comparison of the animal reactions of the Trypanosomes of Uganda and Congo Free State sleeping-sickness with those of *Trypanosoma gambiense* Dutton. Op. cit. xiii, pp. 75-86. [Included in Thompson-Yates Lab. Rep. vi, i.]  
Reprint of (343) Zool. Rec. 1904.
491. THON, K. Ueber den feineren Bau von *Didinium nasutum* O. F. M. Arch. Protistenk. v, pp. 281-321, pls. 12 & 13, 3 text-figg.  
TREACHER, L. [See WHITE, H. J. O. & TREACHER (504).]  
TULLOCH, F. M. [See GRAY, A. C. & TULLOCH, F. M. (164).]
492. VAHLKAMPF, E. Beiträge zur Biologie und Entwicklungsgeschichte von *Amœba limax* einschliesslich der Züchtung auf künstlichen Nährböden. Arch. Protistenk. v, pp. 167-220, pl. 6.  
VALLÉE, —. [See LAVERAN, A. & VALLÉE, — (245).]
493. VASSAL, J. J. Sur un nouveau Trypanosome aviaire. C.R. Soc. Biol. lviii, pp. 1014-1016, 1 text-fig.
494. —. Sur un Hématozoaire endoglobulaire pigmenté d'un écureuil de l'Annam. T. c. pp. 350 & 351.
495. —. Sur un Hématozoaire endoglobulaire nouveau d'un Mammifère. Ann. Inst. Pasteur xix, pp. 224-232, pl. 10.
496. VELEY, L. J. A further contribution to the study of *Pelomyxa palustris* (Greeff). J. Linn. Soc. xxix, pp. 374-395, pls. 36-38, 1 text-fig.

497. VOIGT, M. Die vertikale Vertheilung des Planktons im Grossen Plöner See und ihre Beziehungen zum Gasgehalt dieses Gewässers. Forschber. Plon xii, pp. 115-144, 1 fig. and 1 table.
498. VUILLEMIN, P. Sur la dénomination de l'agent présumé de la syphilis. C.R. Ac. Sci. cxl, pp. 1567 & 1568.  
WADE, H. [See ROBERTSON, W. F. & WADE (381).]
499. WALTON, L. B. *Actinolphus minutus*, a new Heliozoan, with a review of the species enumerated in the genus. Ohio Natural. v, pp. 261-263, 1 text-fig.
500. \*WASIELEWSKI, T. v. Studien und Mikrophotogramme zur Kenntniss der pathogenen Protozoen. Heft. i. Leipzig (A. Barth.), 8vo, (viii + 118) pp., 7 pls., 24 text-figg. 1904. Price 6 mks.
501. WELLMAN, F. C. Preliminary note on a Trypanosome found in the blood of an African dove (*Treron calva*). J. trop. Medicine viii, p. 285, 1 text-fig.
502. WESEBERG-LUND, C. A comparative study of the Lakes of Scotland and Denmark. P. R. Soc. Edinb. xxv, pp. 401-448, 2 pls.  
— [See also OSTENFELD, C. H. & WESEBERG-LUND (328).]
503. WEST, G. S. Notes on some Scottish freshwater Rhizopods and Heliozoa. Ann. Scott. Nat. Hist. 1905 (No. 54), pp. 89-94, 1 text-fig.
504. WHITE, H. J. O. & TREACHER, L. On the age and relations of the phosphatic chalk of Taplow. Quart. J. Geol. Soc. lxi, pp. 461-494. [Remark on the occurrence of *Nodosaria zippei*.]  
WILLIAMS, H. W. [See LEWIS, J. & WILLIAMS (263).]
505. WOJCIK, M. K. Das Unteroligocän von Riszkania bei Uzsok. (Infraoligocène de Riszkania près de Uzsok.) Bull. Ac. Cracovie 1905, pp. 244-263.
506. WOLFENDEN, R. N. Biscayan Plankton collected during a cruise of H.M. "Research," 1900. Part vi. The colloid Radiolaria. Tr. Linn. Soc. London x, pp. 131-135.
507. WOODRUFF, L. L. An experimental study on the life-history of Hypotrichous Infusoria. J. exp. Zool. ii, pp. 585-632, 3 pls. and 12 text-figg.
508. —. Physiological and morphological changes during 860 generations of *Oxytricha fallax*. Science xxi, p. 270.
509. WOOSTER, L. C. Do Rhizopods die a natural death? Science xx (1904), p. 650.  
The case of oceanic Foraminifera (*Globigerinae*).
510. WRIGHT, J. Lower Greensand Foraminifera from Little Coxwell, near Faringdon. Geol. Mag. (5) ii, pp. 238 & 239.  
WURTZ, —. [See BRUMPT, E. & WURTZ, — (57).]
511. ZACHARIAS, O. Hydrobiologische und fischereiwirtschaftliche Beobachtungen an einigen Seen der Schweiz und Italiens. Forschber. Plon xii, pp. 169-302, 18 text-figg.
512. —. Beobachtungen über das Leuchtvermögen von *Ceratium tripos*. T. c. pp. 316-330. [See II. B. 3.]
513. —. Beobachtungen über das Leuchtvermögen von *Ceratium tripos* (Müll.). Biol. Centrbl. xxv, pp. 20-30.

514. [ZACHARIAS, O.] Ueber eine Wasserblüte von *Volvox minor* und *Volvox globator*. T. c. pp. 95 & 96. [See II. c. 1.]
515. ——. Die moderne Hydrobiologie und ihr Verhältniss zu Fischzucht und Fischerei. T. c. pp. 322-329, 352-365.  
Importance of Protozoan plankton and Myxosporidia in relation to fisheries.
516. ——. Original-Mikrophotogramme. Arch. Hydrobiol. i, pp. 234-246, 23 text-figg. [Excellent microphotographs (only) of *Ceratium hirundinella* (fig. 16), *Stauraphrya elegans* (fig. 15), and *Volvox minor* (fig. 17).]
517. ——. Einige neue Planktonorganismen aus südschweizerischen und oberitalienischen Seebecken. Zool. Anz. xxviii, pp. 730-733.  
ZEDERBAUER, E. [See BREHM, V. & ZEDERBAUER, E. (48 & 49).]
518. ZIEMANN, H. Beitrag zur Trypanosomenfrage. Centrbl. Bakter. (1) xxxviii, Orig., pp. 307-314, 429-447, 662.
519. ZÜLZER, M. Ueber die Einwirkung der Radiumstrahlen auf Protozoen. Arch. Protistenk. v, pp. 358-369, 2 text-figg.
520. ZYKOFF, W. Bemerkung über das Plankton des Wolgadeltas. Zool. Anz. xxix, pp. 278-283.
521. ——. Über das Winterplankton der Wolga bei Romanow-Borisoglebsk. T. c. pp. 344-346.
522. ——. Ueber das Plankton des Saisan-Sees. T. c. pp. 477-482, 2 text-figg.

## II. BIOLOGY.

### A. MORPHOLOGY.

#### 1. General Anatomy.

##### (a) Gymnomyxa:—

Account of a new Protistan parasite, *Mycetosporidium* n. g., forming plasmodia and probably of Mycetozoan nature, LÉGER & HESSE (251).

Morphology of *Plasmodiophora brassicae* described, PROWAZEK (363).

Full account of the complicated morphology of a remarkable new group of Rhizopods, the *Xenophyophora*, SCHULZE (431). [See II. F.]

General description of: *Amœba blatta* and *A. proteus*, SCHUBÖTZ (427); *A. limax*, VAHLKAMPF (492).

Note on an *Entamœba* [?] remarkable for the possession of an undulating-membrane, CASTELLANI (64).

On the dimorphism of *Nummulites* spp., and the relation of the size of the megalosphere to that of the microspheric and megalospheric tests, LISTER (267).

Comprehensive account of the morphology of the arenaceous Foraminifera, KEMNA (207); observations and remarks on the genus *Baculogypsina*, SILVESTRI (449); full description of *Chapmania gassinensis*, id. (453).

Notes on the structure of *Thalassicolla* spp., BRANDT (39).

##### (b) Sporozoa:—

Description of a remarkable new Gregarine, *Tœniocystis* n. g., with cytoplasm metamericly divided, LÉGER (248).—Notes on new Gregarines, *Stylorhynchus gladiator* n. sp., and *Gregarina cavalierina* n. sp., BLANCHARD, (29).

Short account of a new Coccidian, *Coccidium subepithelialis*, MOROFF & FIEBIGER (302).

New Piscine Hæmatozoa, LEBAILLY (247).

Account of new Hæmogregarines:—*H. balfouri*, from a Mammal (*Jaculus*), LAVERAN (227), also BALFOUR (7); *H. gerbilli*, from an Indian rat (*Gerbillus*), CHRISTOPHERS (86); *H. neireti* and *H. theileri*, from frogs, and *H. varani*, from a lizard, LAVERAN (236 & 237); *Lankesterella tritonis*, FANTHAM (126).

Account of: a new "*Hæmamæba*" (probably a *Plasmodium*) from a squirrel, VASSAL (494 & 495); a new Reptilian "*Hæmamæba*," "*H. testudinis*," LAVERAN (238); a new "*Hæmamæba*," "*H. smithi*," from a turkey, LAVERAN & LUCET (242).

Notes on morphology of *Piroplasma*, BOWHILL (37).—Morphology of *Piroplasma canis*, NUTTALL & GRAHAM-SMITH (325).—On a new endoglobular Hæmatozoan from moles, differing in certain respects from an ordinary *Piroplasma*, GRAHAM-SMITH (163).

Morphology of a new "*Leucocytozoon*" of dogs, BENTLEY (20) and JAMES (190).

Notes on new Glugeids, PEREZ (341 & 343).—Account of a new *Myxocystis*, *M. mrazeki*, which is a true *Myxosporidian*, HESSE (177 & 179).

Notes on new Haplosporidia, including *Urosporidium* n. g., CAULLERY & MÉSNIL (67); and *Ichthyosporidium* n. g., id. (68).—Full account of the Haplosporidia and allied forms, id. (71).

Account of a new Haplosporidian, *Rhinosporidium kinealyi* n. g., n. sp., parasitic in Man, MINGHIN & FANTHAM (298).—A new Haplosporidian parasite, *Cælosporidium blattellæ* n. sp., CRAWLEY (93).

Description of a new Sporozoan (*Microklossia*) presenting unusual features, KRASSILTSCHIK (219–221).

### (c) Mastigophora:—

A new Phytoflagellate lacking a cellulose wall, *Dunaliella* n. g., described, TEODORESCO (478).—General account of *D. salina*, HAMBURGER (172).

Brief account of two new parasitic Flagellates, *Calonympha grassii* and *Devescovina striata*, FOA (141).—Description of the remarkable parasitic Flagellate, *Pseudospora volvocis*, ROBERTSON (379).

Description of a new *Herpetomonas*, *H. bombycis*, from the silk-worm, LEVADITI (260).

Note on a new piscine *Trypanoplasma*, *T. intestinalis*, from the digestive tube of *Box*, LÉGER (249).

Account of a new *Trypanosoma*, *T. duttoni*, from a mouse, THIROUX (484 & 486).—General description of *Trypanosoma paddæ*, THIROUX (485).—Morphological characters of a *Trypanosoma* from the Egyptian Soudan, regarded as new (*T. nanum*), LAVERAN (235).

Notes on new Trypanosomes: *T. pestanaï*, from a badger, BETTENCOURT & FRANÇA (22), and *T. dionisii*, from bats, id. (23); *T. polypectri*, with a very attenuated anterior end, from a pheasant, VASSAL (493); *T. clarice*, from a Siluroid fish, MONTEL (300); of bats, *Trypanosoma nicolleurum*, and (provisionally) *T. vespertilionis*, SERGENT (435).

Morphology of:—various animal Trypanosomes met with in Uganda, NABARRO & GREIG (310) and GREIG & GRAY (165); Trypanosomes of birds, NOVY & MACNEAL (323); *T. gambiense* as seen in the Tsetse-fly (*Gl. palpalis*), GRAY & TULLOCH (164).

Account of *Trypanoplasma* and *Trypanosoma* n. spp., BRUMPT (55).

General morphology of: "*Trypanosoma*" [*Spirochæta*] *balbianii*, PERRIN (345); *Treponema* ("*Spirochæta*") *pallidum*, SCHAUDINN (403), and KRYSZTALOWICZ & SIEDLECKI (223).

Note on a new Rhabdosphere, MURRAY (305).

Description of a new Rhynchoflagellate, *Craspedotella pileolus* n. g., n. sp., KOFOID (215).

(d) Ciliophora:—

General account of *Nyctotherus piscicola* n. sp., a piscine endoparasite, v. DADAY (98).

2. Minute structure of cell-organs.

(a) Membrane, test, shell:—

Nature and properties of the delicate envelope or membrane surrounding *Amæba terricola*, PENARD (335).—Description of the integument of *Cochliopodium pellucidum*, FAURÉ-FREMIET (138).—Modifications in form and constitution of the shell ("house") of *Diffugia*, REUKAUF (374).

On the occurrence of twinning (twinned-shells) in fossil Foraminifera (*Fusulina*), SCHELLWIEN (407).

Account of the form and structure of the shell in the *Orbitolinæ*, DOUVILLÉ (110).—Simplification and loss of ornamentation in the shells of various *Lagenidæ*, as characters indicating senescence, CUSHMAN (96).

Form-variation in the shells of different Peridinida described and compared, ENTZ (122).

Observations on the comparative form and morphology of the Radiolarian (Tripylarian) skeleton, in relation to function and environment; developmental considerations, HÄCKER (169 & 170).

Note on the cuticle of *Coleps*, BOUGON (35).

(b) Nucleus and cytoplasm:—

Structure of living protoplasm, as exemplified by various Protozoa, GINESTE (158).—On the minute structure of protoplasm, as seen among Protozoa; hyaloplasm, the primary plasm, consists of "tagmas" or granular substance, and an intertagmal lipid substance, the "Arbeit-substanz"; there is a specific living substance, and the tagmas play a directive rôle in relation to the metabolism, SCHNEIDER (415).

On the occurrence of well-marked alveolar structure of the protoplasm in *Glaucoma*; this is regarded as an unusual (pathological) appearance, and not as representing the fundamental character of the protoplasm, DEGEN (102).—Degeneration-appearances in *Arcella*, MARTINI (282).

Fusion observed of the protoplasm of portions of different *Pelomyxa*-individuals and inference with regard to the plasmodial character of the animal, VELEY (496).

Distinctive characters of the cytoplasm in a clothed *Amæba* (*A. terricola*) from that of naked forms, PENARD (335).—Minute structure of the cytoplasm in *Amæba proteus*; the albumen spheres and crystalline inclusions, and their reactions, SCHUBOTZ (427).

The cytoplasm in *Teniocystis* is metamerically divided up into segments, of which there may be as many as 29, LÉGER (248).

Remarkable and complicated cytological structure of a new Flagellate, *Calonympha grassii*, possessing numerous nuclei and (associated) flagella, FOA (141).—Cytology of *Trypanosoma brucei* and *T. lewisi* minutely described, PROWAZEK (362).

Intimate structure of the protoplasm of Infusoria; hyaloplasm and paraplast, spheroplasts and trophoplasts, FAURÉ-FREMIET (134 & 135).

Cytological details in *Campanella umbellaria*, FAURÉ-FREMIET (128).—Cytoplasmic differentiation in *Cryptochilum*, RUSSO & DI MAURO (390).

Minute structure of nucleus and cytoplasm: in *Cochliopodium pellucidum*, FAURÉ-FREMIET (129 & 138); in *Didinium*, THON (491).

Spherular theory of nuclear structure; monospherular (ex: *Cochliopodium pellucidum*) and polyspherular (ex: *Ceratium hirundinella*) Protozoan nuclei, FAURÉ-FREMIET (136).

Consideration of the various kinds of the nuclear organellæ known as chromidia; distinction between "trophochromidia" and "idiochromidia"; nuclear dimorphism; the diffuse nucleus, MESNIL (294).

On the changes in the structure and behaviour of the karyosome in *Caryotropha* during growth; its significance as a vegetative organella, which amasses a reserve supply of chromatin, to be given back later to the nucleus; comparison with other Protozoa, SIEDLECKI (444).

Trophic nuclear changes in *Amœba dofleini* n. sp.; formation of nucleoli, chromidial bodies and curious crystals, NERESHEIMER (312).—Nuclear structure (of the "distributed" Bacterial type) in the [so-called] Trypanosome of oysters ("*T.*" *balbianii*), PERRIN (345).—Minute structure of the meganucleus of *Vorticella microstoma*, FAURÉ-FREMIET (132).

Description of the nuclear apparatus and its resolution, prior to multiplication, into chromidial substance (network) in certain parasitic Infusoria (*Opalinopsis* and *Chromidina* n. g.), GONDER (160).

Occurrence of a rudimentary cytostome in *Chromidina*, GONDER (160).—Description of the complicated cytopharyngeal apparatus for seizing and injecting food (Infusorians) in *Didinium*, THON (491).

Two contractile vacuoles in *Codosiga*, not one contractile one and one food vacuole, SCHOUTEDEN (417).—Presence of a delicate membrane, secreted (?) by the cytoplasm, around the food-vacuoles in Infusoria, FAURÉ-FREMIET (131).

Trophoplasmic spherules in the endoplasm of *Opalina*, probably to be considered as a secretory apparatus, KUNSTLER & GINESTE (225).

The refringent-bodies of *Pelomyxa*; their relation, on the one hand, to the whole animal (probably an albuminous waste-product) and on the other, to the symbiotic Bacterial rods (as a necessary point of attachment and nutritive source), VELEY (496).

Nature and structure of the trichocysts of Infusoria, SCHUBERG (419).

Presence of eye-spots (stigmata) in *Ceratium*, ZACHARIAS (517).

#### (c) Organellæ of attachment and movement:—

Organ of attachment ("vesicle of adhesion") of *Anchorina sagittata* described, CECCONI (76).—On the intimate structure of the fixative apparatus of *Vorticellidae*, FAURÉ-FREMIET (137).

Two kinds of pseudopodium: long, narrow ones at the hinder end, and short, lobose ones around the body generally, in *Amœba salina*, n. sp., HAMBURGER (172).—Remarks on the pseudopodia of *Pelomyxa*, VELEY (496).—Varieties of pseudopodia in *Cochliopodium pellucidum*, FAURÉ-FREMIET (129 & 138).

Detailed description of the cilia of various Infusoria (*Stentor*, *Paramecium*, *Frontonia*); their morphological comparison with flagella, SCHUBERG (419).—Basal corpuscles, cilia, myonemes etc., in *Cryptochilum*, RUSSO & DI MAURO (390).

## B. PHYSIOLOGY.

Regulation in behaviour in response to changes in conditions, in Protozoa, JENNINGS (196).

Rapid rate of growth in *Epistylis flavicans* (after attachment of the young individual) measured, LANDACRE (226).

Reflections on "recuperation" in Protozoa; the part played by protective cysts (hypnocysts) in connection with dedifferentiation and a return to embryonal conditions, SCHULTZ (428).

Cyclical changes in the life-history of different Infusoria (*Gastrostyla*, *Oxytricha* and *Pleurotricha*), periods of renewed vital activity alternating with periods of depression, as measured by the division-rate; effects on

the same of environmental changes (culture-media, temperature etc.), WOODRUFF (507).

Evidence against the general view that both ex-conjugants (in *Paramœcium*) are physiologically recuperated, CALKINS (61).

Observations on the (alleged) senile degeneration of various Infusoria (*Glaucoma*, *Stylonichia* and *Vorticella* spp.), ENRIQUES (120 & 121).—Significance of the meganuclear fragmentation in *Cryptochilum* with regard to senile degeneration, RUSSO & DI MAURO (389).

Observation of the death and rapid dissolution of an *Amœba* while apparently under normal conditions, LINTON (266).

### 1. Nutrition, excretion, osmosis, etc.

On the physiology of nutrition in Protozoa (*Paramœcium*, *Stentor* and *Colpidium*); the formation of the food-vacuoles and the stages in digestion, NIRENSTEIN (317).—Nutrition, digestion and defaecation in *Amœba do-fleini* n. sp., NERESHEIMER (312).—Intracellular digestion in *Paramœcium*, described, METALNIKOFF (296).

Researches on the mode of formation and operation, and the functional significance of the contractile vacuole, worked out on *Glaucoma colpidium*, DEGEN (102).

Production of carbon dioxide by *Paramœcium*, BARRATT (12).

Experiments and observations on respiration in Ciliates (*Paramœcium*, *Colpidium*, *Opalina* etc.); PÜTTER (367) finds that they can exist without free oxygen (under anærobic conditions) for some time, particularly if well supplied with nutriment.

Association of ærobic Bacteria apparently necessary for the successful development of the spores of *Plasmodiophora* (of "cabbage-hernia"), PINOY (350).

Occurrence of fuchsinophilous grains, probably representing an internal secretion, in *Cochliopodium*, FAURÉ-FREMIET (130).—Presence of granules of barium sulphate in the new Rhizopods, *Xenophyophora*, SCHULZE & THIERFELDER (432).—On a new pigment (zoopurpurin) of an Infusorian (*Blepharisma*), ARCISOVSKIJ (5).

On the powerful toxine (sarcocystin) produced by Sarcosporidia; probably, also, a hæmolytic toxine is produced by malarial parasites, BLANCHARD (28).

Experimental transformation of *Vorticella microstoma* into *V. hians* and vice-versâ, by a variation of the medium of cultivation; a case of purely physiological adaptation, FAURÉ-FREMIET (133).

### 2. Locomotion.

Four varieties of movement in unicellular beings (exs. Infusoria, *Amœba*); automatic, reflex, incoherent and voluntary, ABRIC (3).—Theoretical considerations regarding the physiology of protoplasmic and "muscular" movements in Protozoa (chiefly Rhizopods), v. KNAUT (212).—Theories of plasmic movement, as shown by Protozoa; rejection of the surface-tension and coagulation theories, SCHNEIDER (415).

Character of the movements in *Amœba* described, JENNINGS (195).—Development of his theory of movement in *Amœba* by superficial tension, a theory which is largely or entirely mechanical, and which is quite different from Jennings' conclusions on this subject, RHUMBLER (376).—Remarks on the movements of *Amœba*, SCHOUTEDEN (417).—The manner of locomotion in *Amœba terricola*, PENARD (335).

Further considerations on the movements of Gregarines, CRAWLEY (92).

Physiological action of locomotor organellæ (cilia and flagella), SCHUBERG (419).



### 3. Response to stimuli; effects of reagents.

The effects of concentration (and its reverse) of the medium, with regard to acidity or alkalinity, upon chemotaxis in *Paramecium*, BARRATT (13).

Chemotaxis and galvanotaxis of various Protozoa (*Spirostomum*, *Opalina*, *Balantidium*) under different conditions, and the bearing of the results obtained upon a theory of the genesis of protoplasmic movement, ROBERTSON (380).

Continuation of his studies on galvanotropism and galvanotaxis in different Ciliates, STATKEWITSCH (467).—Galvanotaxis of *Paramecia* in various media; a theory of the action of the electricity on the protoplasm in explanation of their behaviour, COEHN & BARRATT (90).—Galvanotropic reactions of *Paramecium*; validity of Pflüger's law for the stimulation of the cilia, BANCROFT (9 & 10).

A modification of the "stato-cyst" theory best explains geotropism in *Paramecium*, LYON (272).

Conditions favouring the emission of light-rays (so-called "phosphorescence") by *Ceratium tripos*; influence of various chemicals on this manifestation, ZACHARIAS (512 & 513).—Behaviour towards light (positive heliotropy) of *Volvox*, ZACHARIAS (514).

Varying effects of radium on different Protozoa (Rhizopods, *Paramecium* and *Spirostomum*), ZÜTZER (519).

The living protoplasm of *Paramecium* can enter into combination (to a certain extent) with acids and alkalies, BARRATT (11).

Effect of: different chemicals on *Amæba*, MUSGRAVE & CLEGG (308); anæsthetics (ether, chloroform and alcohol) on *Vorticella*, STEFANOWSKA (470); stimulating an Infusorian (*Gastrostyla*) with different salts, upon the rate of division, WOODRUFF (507).

Specific sera against *Paramecia* and other Infusoria developed in the blood; attempts at immunization, RÖSSLER (388).

Discussion on the efficacy and expediency of the arsenious acid and "trypanoth" treatment of different Trypanosomes (including *T. gambiense*), LAVERAN (228, 231 & 232), BRUMPT (56), and BRUMPT & WURTZ (57).—Favourable treatment of various Trypanosomes with an arsenic and aniline compound (atoxyl), THOMAS (487).

## C. BIONOMICS.

### 1. Plankton.

Plankton, Bay of Biscay, colloid Radiolaria, WOLFENDEN (506).

*Ceratia*, also *Acanthometra*, in tow-nettings, Port Erin Bay, SCOTT (433); Protozoa in tow-nettings, Irish Sea, id. (434); *Ceratia* in tow-nettings, Luce Bay, JOHNSTONE (200).—Rhizopods in plankton, lochs of N.W. Scotland, WEST (503).—Dinoflagellates in plankton, Danish and Scottish lakes, WESENBERG-LUND (502).

Protozoan plankton from: Icelandic lakes, OSTENFELD & WESENBERG-LUND (328); North Sea and Zuider Zee, VAN BREMEN (46); Norwegian fiords (mostly Dinoflagellates and Radiolaria), JØRGENSEN (203 & 204); Norwegian coast, Northern Ocean (mostly Dinoflagellates), HJORT & GRAN (182).

Protozoan plankton: noted in the Neva, SKORIKOW (458 & 459); from different regions of the Volga, ZYKOFF (520 & 521); from Lake Saisan, id. (522).

Peridinida from plankton, Quarnero (Hungary), ENTZ (122).—*Dunaliella salina*, from saline springs, Cagliari, HAMBURGER (172).

Lake Scutari, Albania, *Ceratium* and *Dinobryon*, in plankton, BREHM & ZEDERBAUER (48).

Plankton, various lakelets, Tyrolean Alps, *Ceratium* and *Dinobryon*, id. (49).—Neighbourhood of Lake Montiggole (South Tyrol), Protozoan plankton from, with forms new to the district, HUBER (185).

Plankton, Lakes Lugano and Como, *Codonellæ* and *Ceratia* n. spp., ZACHARIAS (511).—Protozoan plankton from well-known Swiss and Italian lakes (mostly Flagellates, with new *Ceratia*), ZACHARIAS (517).—Lake Neuchâtel, Protozoan plankton, FUHRMANN (152).

Variation in constitution of surface plankton at different times, in the Great Lake of Plön, and two lakes in Northern Bohemia (Protozoa referred to: *Ceratium*, *Dinobryon* and *Epistylis*), RUTTNER (392).—Bathymetrical distribution and yearly wandering of Protozoa (*Ceratium*, *Dinobryon*, Rhizopods) in the Great Lake of Plön, VOIGT (497).

Protozoan plankton: from peaty bogs, Franzensbad, BREHM (47); (Dinoflagellates, *Dinobryon*, *Trachelomonas*) from various lakelets in Saxony and Silesia, LEMMERMANN (255); (Dinoflagellates, *Dinobryon*) Lake Drewenz, East Prussia, KRAUSE (222).

*Acanthometridæ* in plankton from the Florida Stream, POPOFSKY (355).

New *Tintinnidæ* in plankton from San Diego region, KOFOID (216).

In plankton, mid-Pacific, *Craspedotella*, a new Rhynchoflagellate, KOFOID (215).

Colouration of water green by an immense number of colonies of *Volvox minor* and *V. globator*, ZACHARIAS (514).

## 2. Parasitism, effects on host: relation to disease.

[For infection, transmission, see II. G. 1; and for hosts, III. C.]

Protozoa (Sporozoa and Trypanosomes) and disease, MACDOUGALL (273).

Destruction of the ovary in certain Termites (*Termes* and *Calotermes*), with resulting castration, owing to the invasion of Protozoan parasites (unspecified), BRUNELLI (58).

General effects and nuclear alterations resulting from the attack of *Nucleophaga amœbæa* on *Amœba terricola*, PENARD (335).

The relations between *Pseudopora volvocis* and infected *Volvox* colonies, ROBERTSON (379).

### Amœbosis:—

Etiological significance of *Amœbæ*, MUSGRAVE & CLEGG (308).—Observations relative to the pathogenic action, place and mode of penetration, etc. of the *Amœba* of dysentery, DOPTER (106).—*Amœba coli* present in ulceration of large intestine, and liver abscess, and perhaps the cause, MUGLITON & FREER (304).—Remark on the pathogenic effects of the *Entamœba* "dysentericæ" [*histolytica*] in dysentery; also of Infusoria (*Balantidium*), GUIART (168).

### Gregarinosis:—

The surrounding and confining of Gregarines and their cysts (*Monocystis*) is probably only a subsidiary function of the amœbocytes and phagocytes, and carried on only to a restricted extent, BRASIL (41).

Castration of a spider-crab (*Inachus*) brought about by a "coelomic" Gregarine, *Aggregata inachi* n. sp., SMITH (462).

Relation of *Anchorina sagittata* to the intestinal cells of *Capitella*, CECCONI (76).

### Coccidiosis:—

Serious epidemic of intestinal coccidiosis among cattle in Tunis, caused by an unspecified *Coccidium*, DUCLOUX (114).

Epidemic of coccidiosis in carp, due to *C. sub-epithelialis* n. sp., MOROFF & FIEBIGER (302).

## Haemosporidiosis:—

Invasion of white blood-corpuscles (leucocytes) of a dog by a new Haemosporidian (a "*Leucocytozoon*"), around which the leucocyte forms a delicate enclosing cytocyst, JAMES (190).

Karyolytic action of *Hæmogregarina magna*, and degenerative forms of same, SERGENT (438).

Effects of a new "*Hæmamæba*" on its host (squirrel); relation to the blood-corpuscles, VASSAL (495).

## Piroplasmosis:—

In the case of the curious new Hæmatozoan [perhaps an unusual type of *Piroplasma*] from the blood-corpuscles of moles, the parasites may be very numerous in the corpuscles, GRAHAM-SMITH (163).

Ring- and bacillary forms of *Piroplasma bigeminum* in the blood of the immune ox, THEILER (479).

Human piroplasmosis; relation of the parasites to the red blood-corpuscles, DONOVAN (105).—On naturally occurring piroplasmosis in monkeys (*Cercopithecus*), ROSS (386).—On the frequent presence of *Piroplasmata* in the blood of cattle in Ireland, and the occurrence of bovine piroplasmosis, METTAM (297).—Bacilliform piroplasmosis of cattle in Tunis, DUGLOUX (115).—Equine piroplasmosis, or "biliary fever," BOWHILL (37).—Canine piroplasmosis; abundance, and relation to the blood-corpuscles of the parasites in different parts of the body, GRAHAM-SMITH (162).

Oriental or Delhi sore; great resemblance of the parasites to those found in Kala-Azar, but the differences between the two diseases are so marked that, notwithstanding the almost universal occurrence of the parasites (Leishman-Donovan bodies) in the latter type, it is by no means certain whether they are really, in this case, the cause of the disease, JAMES (191 & 192).

MANSON (298) puts forward the interesting hypothesis that the organisms of Kala-Azar and Oriental sore may be identical, but that in the latter case the virulence of the parasite has been in some way got rid of; in other words, that these two diseases bear to one another the same relation that small-pox (variola) and vaccinia do.

General account of Kala-Azar and its parasite, *Piroplasma donovani*, SAMBON (398).—Distribution of the parasites of Kala-Azar in the tissues (figures given), STATHAM (466).

## Myxosporidiosis:—

SCHUBERG & SCHRÖDER (420) did not find any markedly pathological effects resulting from the invasion by *Myxobolus neurobius* of the nervous system of the trout.

Great mortality of fish (*Alosa finta*), due to "pseudodiphtheria," caused by *Branchiophaga* n. g., a new Myxosporidian which attacks the branchial tissue, MAZZARELLI (286 & 287).

Effects of Microsporidia (*Nosema* and *Thelohania*) on crabs; atrophy of affected musculature, and, in severe cases, interference with breeding powers, PEREZ (342 & 344).—Marked effects of *Nosema vayssierei* n. sp., on tissues of *Boëtis rhodani* (larvæ), HESSE (178).

## Sarcosporidiosis:—

Occurrence of *Sarcocystis tenella* in sheep (with fatal effects?); presence of parasites in fibres of the heart muscle, and of the "spores" in the blood, METHAM (297).

## Other Sporozoa and Disease:—

Tumorous growths formed in the *septum nasi* of man by *Rhinosporidium* n. g., MINCHIN & FANTHAM (298).

Emaciation of flounders caused by severe attacks of *Lymphocystis johnstonii*, JOHNSTONE (201).

Trypanosomosis:—

Trypanosomes and trypanosomoses; general account, BRUMPT (55).—Trypanosomoses and Tsetse-flies in French Guinea, LAVERAN (230).—Tsetse-flies and the Trypanosomes of sleeping-sickness, BRUMPT (54).

Sleeping-sickness and animal trypanosomoses in Uganda, NABARRO & GREIG (310) and GREIG & GRAY (165).—Sleeping-sickness and the trypanosomoses produced in various animals by *T. gambiense*, *T. dimorphon*, *T. evansi*, and *T. equinum*, comparative account of; pathological effects and treatment, THOMAS & BREINL (489).

*Trypanosoma gambiense* the probable cause of Congo sleeping-sickness, DUTTON, TODD & CHRISTY (118).—From experiments on rats with the Trypanosomes from cases of Gambia-fever and sleeping-sickness, PLIMMER (354) concludes that these two trypanosomoses, and the organisms causing them are to be considered as distinct.

Relations of the Trypanosomes to the brain and nervous system, in different trypanosomoses (sleeping-sickness, Surra, "Jinga" disease), MOTT (303).—Pathological-anatomical changes undergone by the parasites in the various organs and tissues, in experimental trypanosomosis (*T. brucei*), SAUERBECK (400).

Course of Mal de Caderas, Dourine, and Nagana as observed in white mice and rabbits artificially infected with the respective Trypanosomes of these diseases, HALBERSTAEDTER (171).

On the "unicité" of Dourine (caused by *T. equiperdum* = *T. rougeti*) in Europe and Algeria, SCHNEIDER & BUFFARD (414).—On Dourine, BALDREY (6).

Trypanosomosis: (a) of cattle in Egyptian Soudan, caused by a new form, *T. nanum*, apparently restricted to *Bovidae*; and (b) of a mule from Itang on Abyssinian frontier (possibly *T. dimorphon*?), LAVERAN (235).—Trypanosomosis of cattle (*T. nanum*) in Anglo-Egyptian Soudan, BALFOUR (8).—Account of a distinct trypanosomosis in Cameroun, caused by *T. vivax* n. sp.; infection limited, apparently, to cattle, sheep and goats among domestic animals, ZIEMANN (518).

Occurrence of a trypanosomosis of horses, caused by *T. dimorphon*, in French Guinea (Upper Niger), CAZALBOU (74).—Existence of a trypanosomosis of horses, zebras, mules, etc., at Macina (French Soudan), known as "Soumaya," probably the same as Mbori, id. (75).

Trypanosomosis of horses at Mécheria (Oran), Algeria, resembling Surra, and caused by a parasite very like *T. evansi*, ROGER & GREFFULHE (384).—A trypanosomosis of camels in North Africa, known as el Debab, closely allied if not identical with Surra and Mbori; distinction of trypanosomoses conveyed by Tabanids from those conveyed by Tsetses, SERGENT (439).

Three varieties of Surra, perhaps caused by different races of the same species of parasite (*T. evansi*); Surra of India, S. of Mauritius, and Mbori, LAVERAN & MESNIL (243).—Identity of the Trypanosomes of Surra and Mbori (*T. evansi*) confirmed, LAVERAN (229).

Susceptibility of jerboa (*Jaculus*) to the Trypanosome of Surra and to *T. gambiense*, LAVERAN (239).—Marked susceptibility of the cat to Surra; fatal termination, PANISSET (330).—Susceptibility of bats (*Pteropus medius*) to the Surra Trypanosome, *T. evansi*, LAVERAN (234).—Marked resistance offered by a bat (*Vespertilio kuhli*) to Sergent's Trypanosome of dromedaries (Zool. Rec. 1904, Nos. 311 & 312), NICOLLE & COMTE (316).

Frequency of *T. lewisi* in black rats (*Mus rattus*); rarity in sewer rats (*M. decumanus*); resistance of sewer and white rats to natural infection; SABRAZÉS & MURATET (395).

Inoculation of various birds with *T. padoæ*, THIROUX (485).

Different behaviour (as regards immobilization and agglomeration) of various Mammalian and Avian sera on *Trypanosoma paddæ*, LEVADITI & SEVIN (261).

Cytolytic action of serum of white rat on *T. paddæ*, SEVIN (441).—Natural immunity of certain animals (guinea-pig, mouse) to *T. paddæ* is not due to the active, cytolytic properties of their sera, but to rapid phagocytic digestion: of others (white rats) due in part to both causes, LEVADITI & SEVIN (262).

Protozoa in reference to other diseases:—

Intestinal Flagellates (*Lambliæ*, *Trichomonas*) and diarrhœa, CASTELLANI (65).

Occurrence of "*Spirochæta*" *pallida* n. sp. (later *Treponema* n. g. *pallidum*) in true syphilitic lesions and products, probably the cause of this disease, SCHAUDINN & HOFFMANN (406).—THESING (481) apparently doubts not only whether "*Spirochæta*" *pallida* is a Protozoan, but also whether it is etiologically connected with syphilis.

SIEGEL (445) considers that "Guarnieri's bodies," as they occur in small-pox and vaccinia (*Cytoryctes variolæ* and *C. vaccinæ*) are the cause of those diseases; he gives a quite different account of them, however, from that of Calkins (Zool. Rec. 1904, No. 58). Further, he has found similar parasites in foot and mouth disease (*C. aphtharum* n. sp.), scarlet-fever, *C. scarlatinæ* n. sp. (446), and also in syphilis, *C. luis* n. sp. (447), this last result being very different from those obtained by other workers.—"Bryocytic" maladies; small-pox and "*Plasmodium*" *variolæ*, BOSC (32).

PROWAZEK, on the other hand (364 & 365), concludes that Guarnieri's bodies (*Cytoryctes*), as seen in vaccinia, are certainly not parasites.—RICCIOLI (377) also comes to the conclusion that the bodies taken by Siegel to represent Protozoa, and the cause of vaccinia (Guarnieri's corpuscles), are really artificial products; R. regards other bodies, found in the kidneys of infected rabbits, as Protozoa.

Bodies found in, and cultivated from carcinomatous tumours, which are thought to be *Plasmodiophoræ*, and dignified with a new specific name, *P. carcinomatis*, ROBERTSON & WADE (381).—No comparison can be rightly made between the cell-inclusions of cancerous growths ("Plimmer's bodies," etc.) and the Myxameban parasites, *Plasmodiophora brassicæ*, PROWAZEK (363).—The cells of carcinoma are to be regarded as parasites "of the lowest animal nature," BUTLIN (59).

Occurrence of sickle-shaped formations, thought to be parasitic ("*Hæmameba*" *leucæmiæ magna*), in myelæmia and leucæmia, LÖWIT (271).

The organisms known as *Coccidioides immitis* and *C. pyogenes*, causing a disease of man in America, and thought by Rixford and Gilchrist to be a kind of Sporozoon, are really pathogenic moulds (Fungi), OPHÜLS (327).

## D. REPRODUCTION.

### 1. Asexual: fission, schizogony, etc.

Varieties of division of protoplasm in a multinucleate condition (i.e. with regard to the concurrent division of cytoplasm and nuclei), exemplified by *Amæba proteus*, STOLC (475).

Vegetative multiplication, by plasmatomy, of *Mycetosporidium* n. g., LÉGER & HESSE (251).

Schizogony in *Coccidium subepithelialis*; 8–11 merozoites, MOROFF & FIEBIGER (302).

Schizogony described in a new Mammalian Hæmogregarine (*H. balfouri*), BALFOUR (7).—Endogenous multiplication of *H. balfouri* (really schizogony?)

free, but enclosed in a cyst, LAVERAN (227).—Schizogony in *Lankesterella tritonis* n. sp., described, FANTHAM (126).

Multiplication of *Piroplasma canis*, NUTTALL & GRAHAM-SMITH (325).—Peculiar unequal fission (successive) of *Piroplasma donovani* in cultures, thin, spirillar forms being cut off from the parent parasite, LEISHMAN & STATHAM (253).

Schizogony of various types in *Thelohania mænadis*, described, PEREZ (344).

Asexual multiplication of *Blastulidium* by plasmatomy, a budding-like process, recalling that of yeasts, PEREZ (340).

Schizogonous multiplication of the different types of element in *Microklossia*, KRASSILTSCHIK (220 & 221).

Mode of multiplication of *Trypanosoma gambiense* in the Tsetse-fly (*G. palpalis*), GRAY & TULLOCH (164).—Multiple division of Avian Trypanosomes, by rosette-formation, NOVY & MACNEAL (323).

Multiplication of *Dunaliella salina* n. sp., HAMBURGER (172).

The occurrence of longitudinal division in *Opalina ranarum* confirmed, SCHOUTEDEN (418).

## 2. Sexual: gametes and conjugation.

On the various modes of sexual conjugation in Protozoa; the relation between conjugation and trophic (vegetative) life, STREPELL (472).

Sexual conjugation (karyogamy) in *Plasmodiophora*, autogamous in character, PROWAZEK (363).

The gametes in *Clepsydrina ovata* are perfectly similar and equal; hence conjugation is isogamous, SCHNITZLER (416).—Formation of sporoblasts (gametes) in the Monocystid Gregarines *Gonospora* and *Urospora*; distinctions between the male and female elements, and hence anisogamous conjugation, BRASIL (43): also in the case of *Monocystis* itself, id. (42 & 44).

Gametocyte- and gamete-formation in *Coccidium subepithelialis*, MOROFF & FIEBIGER (302).

Sexual forms (micro- and mega-gametocytes and micro-gametes) of a new "*Hæmamaëba*," described, VASSAL (495).

Sexual conjugation (feebly isogamous) in *Sphæractinomyxon*, described, CAULLERY & MÉSNIÉ (72).

Gametogony and conjugation in *Microklossia*, KRASSILTSCHIK (220).

Conjugation of gametes (practically equal) in *Dunaliella* n. g., TEODORESCO (478).—Formation and behaviour of microzooids (probably isogametes) in *Hæmatococcus pluvialis*, PEBBLES (333).—Gametogenesis and conjugation (of flagellate gametes) in *Pseudospora volvocis*, described, ROBERTSON (379).

Sexual forms and conjugation (in the Invertebrate host) of *Trypanosoma lewisi*, described, PROWAZEK (362).—Sexual forms of *Trypanosoma brucei* and *T. gambiense*, in the Tsetse-flies (*Glossina*), characterized, KOCH (213).

Occurrence of micro- and mega-gametes, their formation and conjugation, described in *Treponema (Spirochaeta) pallidum* (= *Trypanosoma luis*), KRZYSZTAŁOWICZ & SIEDLECKI (223).

Conjugation in *Cryptochilum echini*, described, RUSSO & DI MAURO (391).

## 3. Nuclear behaviour and changes during division: directive centres, etc.

On the behaviour of the nuclear constituents in the conjugation of Protozoa; elaboration of a scheme founded on "*Trypanosoma*" noctuæ; a universal "nuclear duality" to be recognized among Protozoa, of somatic (trophic) and sexual (generative) constituents, SCHAUDINN (402).

Nuclear division (mitotic) of the vegetative and of the generative nuclei of *Plasmodiophora*, PROWAZEK (363).

Nuclear division in *Amœba limax*, described and compared with other forms of mitosis, VAHLKAMPF (492).—Behaviour of the nuclear material, chromidial network, etc., during the process of encystment in *Arcella*; the formation of secondary nuclei, MARTINI (282).

Nuclear multiplication in the formation of the isospores and anisospores of *Thalassicolla*, BRANDT (39).

Nuclear changes and multiplication (mitotic) in sporoblast-formation in *Clepsydrina*; nuclear purification (maturation) of the sporoblasts themselves, prior to conjugation, SCHNITZLER (416).—Nuclear changes and divisions in the formation of sexual elements in *Gonospora* and *Urospora*, BRASIL (43); ditto in *Monocystis*, id. (44).

Nuclear changes and processes during multiplication and different phases in the life-cycle of *Trypanosoma lewisi* and *T. brucei*, described, PROWAZEK (362).

Fragmentation of the meganucleus in *Cryptochilum*, described, RUSSO & DI MAURO (389).—Behaviour of the meganuclei while uniting, during conjugation in *Glossatella*, FAURÉ-FREMIET (132).—Nuclear division in *Didinium*, affords perhaps "the earliest indication of a mitosis," THON (491).—Nuclear reduction and karyogamy in the conjugation of various Infusoria (*Didinium*, *Dileptus*), PRANDTL (358).

## E. DEVELOPMENT; LIFE-CYCLE.

Sporangium and spore-formation in *Mycetosporidium* n. g., LÉGER & HESSE (251).

Possible occurrence of flagellate zoospores (comparable with isogametes of Foraminifera) in *Stannoma*, SCHULZE (431).

Cyst-formation and nuclear multiplication in *Amœba blattæ*, SCHUBOTZ (427).—Formation of resting-cysts (hypnocysts) in *A. limax*, VAHLKAMPF (492).—Encystment-process in *Arcella* described fully, MARTINI (282).

Mode of development of the chambered shell in different *Lagenidæ* comparatively studied, CUSHMAN (96).

Development of the isospores and anisospores in *Thalassicolla*, BRANDT (39).

Growth and development of the trophozoites of *Anchorina* from early stages; apparent absence of further developmental phases (multiplication) in digestive tube of *Capitella*, CECCONI (76).—"Cœlomic" cysts and sporozoites [really merozoites produced by schizogony] of *Aggregata inachi* n. sp., described, SMITH (462).—Cyst-, spore- and sporoduct-formation in *Clepsydrina*; occurrence of micro- and mega-spores, SCHNITZLER (416).

Sporulation in *Coccidium subepithelialis*, MOROFF & FIEBIGER (302).

Good photomicrographs of the sporozoites of malarial parasites, HILL & HAYDON (181), pl. 15.—Effects of different temperatures on the sporogony (sporoblast- and sporozoite-formation) of malarial parasites (*Laverania malaris* and *Plasmodium vivax*), JANCsó (193).

On a gregariniform (crescentic) phase in the malarial parasite, recalling a *Hæmogregarine*, BILLET (25).

Alleged stages of development of a new Mammalian *Hæmogregarine* (*H. gerbilli*) in a louse (*Hæmatopinus* sp.); occurrence of cysts with zygotes [spores?], containing sporozoites, which are liberated and become active on transferring to blood, CHRISTOPHERS (86).

Cysts and sporozoites of a Protozoan, probably phases of a *Hæmogregarine* parasitic in *Testudo*, described in ticks (*Hyalomma*) taken from that tortoise, LAVERAN & NÈGRE (244).

Curious morphological forms of *Piroplasma bigeminum*, in the tick, according to KOCH (214); also forms of *Trypanosoma* (presumably

*brucei*) in Tsetse-flies (*Gl. fusca*).—Development of Flagellate forms of Leishman-Donovan parasites (*Piroplasma donovani*) in cultures (citrate blood); formation of a vacuole, from which the flagellum appears to originate, CHRISTOPHERS (85) and LEISHMAN & STATHAM (253).

Cysts and spores of *Myxobolus neurobius* and *Henneguya nüsslini* n. spp., described, SCHUBERG & SCHRÖDER (420).—Characteristic Microsporidian spores of *Myxocystis mrazeki* n. sp., HESSE (179).—*Nosema pulvis*, spores of, and condition of diffuse infiltration in, PEREZ (344).—Sporogony in *Thelohania menadis*, PEREZ (344).

Development and sporulation of *Sphaeractinomyxon* described; construction of the life-cycle, CAULLERY & MESNIL (72).

Sporulation and development of various Haplosporidia and allied forms described, CAULLERY & MESNIL (71).—Sporulation and spores of *Celosporeidium blattellæ* described, CRAWLEY (93).—Pansporoblast- and spore-formation in the cysts of *Rhinosporidium* described, MINCHIN & FANTHAM (299).

Curious mode of sporogony in *Microklossia*; two successive sporulation-periods, the first apparently endosporous in character, and serving for autoinfection, the second only giving rise to definite spores and sporozoites, KRASSILTSCHIK (221).

Zoospores of *Dunaliella* n. g., and their division, described, TEODORESCO (478).—Phases in the life-history of *Pseudospora volvocis*; amœboid, flagellate, and radial forms, described, ROBERTSON (379).

Development and life-history of *Trypanosoma lewisi* fully described; important phases undergone in an Invertebrate host (*Hæmatopinus spinulosus*), PROWAZEK (362).—Evolutive phases of *Trypanoplasma* and *Trypanosoma* spp. in leeches (*Hemiclepsis*) described, BRUMPT (55).—According to THIROUX (483), there is no ontogenetic connection between *Trypanosoma paddæ* and *Halteridium danilewskyi*, both parasites of Padda.

Description of trypaniform phases in the life-cycle of *Treponema (Spirochaeta) pallidum* (= *Trypanosoma luis*), KRZYSZTAŁOWICZ & SIEDLECKI (223).

Various developmental phases in "*Trypanosoma*" *balbiani* described, PERRIN (345). [The Rec. does not place much reliance on many of these phases, which are more likely abnormal or artificial.]

## F. GROUP RELATIONSHIPS; CLASSIFICATORY CHANGES.

Classification of Rhizopods: in this designation CASH & HOPKINSON (63) do not include Foraminifera, but make two orders [?] Amœbina and Conchulina; the former includes *Lobosa*, *Vampyrellida*, and *Reticulosa* (with *Bionyxia* and *Chlamydomyxia*), the latter the Testaceous forms.

SCHULZE (431) finds that certain families of Haeckel's "deep-sea Ceratosa," namely, the *Psammionidae* and the *Stannomidae*, together with one or two other genera, *Cerelasma* and *Psamphyllum* of the *Spongeliidae*, are not Metazoa, but plasmodium-forming Protozoa, which he includes with the Rhizopods and allies to the Foraminifera.

On the earliest indications of the phylogenetic development of shell-dimorphism, in the Foraminifera; "the microspheric form to be regarded as some steps higher on the phylogenetic ladder than the megalospheric," RHUMBLER (375).—General remarks on the classification of Foraminifera by shell-form and structure, SCHLUMBERGER & DOUVILLÉ (413).

Classification and inter-relationships of the *Heterosteginidae*, including *Spiroclypeus* n. g., DOUVILLÉ (113).—On the constitution of the Foraminiferan sub-family, *Orbitoidinae*, SILVESTRI (449).

Materials for a classification of the colony-forming Radiolaria (*Sphaerozoa*): 2 families (*Sphaerozoidea* and *Collosphaerida*) recognized, their cha-



racteristics and constituent forms, BRANDT (40).—Phylogeny and classification of the Monopylaria, JØRGENSEN (204).

Classification, origin, and inter-relationships of the different orders of Sporozoa considered at length, CRAWLEY (94).—Classification of the Hæmocytozoa (Hæmosporidia); LAVERAN (240) places all the known forms in 3 genera, *Hæmamæba*, *Hæmogregarina*, and *Piroplasma*.

On the affinities of *Piroplasma donovani* (cultural forms) with Herpetomonads, CHRISTOPHERS (85) and LEISHMAN & STATHAM (253).

Classification of the *Microsporidia*, PEREZ (344).—Systematic position of *Myxocystis* defined, HESSE (177 & 179).

Relationships and systematic position of the Actinomyxidia discussed, CAULLERY & MESNIL (72).

Constitution of the order Haplosporidia; mutual relationships of the different parasites usually considered as "Sporozoa incertæ sedis," CAULLERY & MESNIL (71). The authors recognize 3 definite families: (a) *Haplosporidiidæ*, including *Haplosporidium* and *Urosporidium*, (b) *Bertramiidæ* for *Bertramia* and (provisionally) *Ichthyosporidium*, and (c) *Cælosporidiidæ* for *Cælosporidium*, *Polycaryum*, and (perhaps) *Blastulidium*. *Scheviakovella* and various Serosporidia are probably closely related to this order, *Joyeuxella*, *Metschnikovella*, and other forms less so.

## G. MISCELLANEA.

### 1. Cultivation and infection.

Methods of obtaining and cultivating pond-life Protozoa (*Amæba*, *Paramecium*, *Euglena* and others) for laboratory purposes, SMITH (461).

Artificial cultivation of: *Amæba*, MUSGRAVE & CLEGG (308); *Amæba limax* in various media, VAHLKAMPF (492); the *Amæba* of tropical dysentery (*Entamæba histolytica*), LESAGE (259).

Successful artificial cultivation, and behaviour and morphological characters of the parasites thus obtained, in the case of: *Trypanosoma levisi* and *T. brucei*, SMEDLEY (460); *T. duttoni*, THIROUX (486); *T. paddeæ*, THIROUX (485); Trypanosomes of birds, NOVY & McNEAL (323).

Cultivation of Flagellate ("Trypanosome") forms from the Leishman-Donovan body (*Piroplasma donovani*), CHATTERJEE (80).—Cultures of Flagellate forms from Leishman-Donovan bodies develop most rapidly in an acid medium; hence the probability of some blood-sucking Insect conveying the infection, ROGERS (385).—MACKIE (274) thinks the Leishman-Donovan parasites are transmitted rather by the agency of water.

Transmission of *Piroplasma canis* by different species of tick in different parts (e.g. *Ixodes reduvius*, Italy (?), *Dermacentor reticulatus*, France, *Hæmaphysalis leachi*, South Africa, NUTTALL & GRAHAM-SMITH (325).—Transmission of bovine piroplasmiasis (*P. bigeminum*) by the progeny of ticks (*Rhipicephalus decoloratus*), LAVERAN & VALLÉE (245).—Infection of East African Coast fever (*Piroplasma parvum*) transmitted by *Rhipicephalus appendiculatus*, THEILER (480).

El-Debab, a trypanosomiasis of North Africa, probably conveyed by *Tabanus (Atylotus) nemoralis* or *T. tomentosus*, SERGENT (439).—Infection of a dog by contagion with the Trypanosome of North-African Surra (not Dourine), ROGER (383).

Probability of transmission of *Hæmogregarina mauritanica* from one *Testudo* to another, by means of ticks (*Hyalomma*), but only by the hereditary infection of the tick-progeny, NICOLLE & COMTE (315).

Review of cases of true hereditary infection by Protozoa, MESNIL (293).

### 2. Technique.

Discussion on various methods of staining Protozoa, GIEMSA (157) and MARINO (280).

Differences in staining-tints taken on by living and dead protoplasm, using a mixture of neutral-red and methylene-blue, exemplified by Rhizopods and Flagellates, Ruzicka (393).

A permanent variety of Nocht's stain (Nocht-Jenner stain) useful for chromatin staining, in malarial parasites, etc., HASTINGS (174).

Useful methods for staining and preparing Infusoria, MAGNIZKY (276).

### 3. Bibliography, etc.

Protozoan bibliography for 1904, with short abstracts of the principal papers, MAYER (285).

Lists of Protozoan literature for 1904 (2nd to 4th pts.) and 1905 (1st and 2nd pts.), SCHAUDINN (405).—Protozoan bibliography (mostly for 1902), ANON. (1).

Bibliography of literature relating to fresh-water biological investigations for the years 1901 and 1902 (Protozoa, chiefly pp. 385 & 386, 414-418), v. DALLA TORRE (100).

List of genera and species of Foraminifera founded by the late C. Schlumberger, SILVESTRI (455).

Foraminifera in Dr Battaglia Rizzo's collection of fossils, FUSCO RAO (154).

BENTLEY (21) and JAMES (189) discuss whether the latter has sufficiently recognized the former's claim to be the discoverer of a new "Leucocytozoon" of dogs.—Discussion as to who can claim priority for first describing the Surra Trypanosome (*T. evansi*) in cattle in India, HOLMES (183), MARTIN (281), and PEASE (332).

## III. DISTRIBUTION.

### A. GEOGRAPHICAL.

South Atlantic, *Rhabdosphaera blackmaniana* n. sp., MURRAY (305).

Pacific Ocean (various stations), *Globigerina*-ooze, FLINT (140).

#### Europe :—

British fresh-water Rhizopods, CASH & HOPKINSON (63).

Bognor, Sussex, Foraminifera from shore-sand, many rare or new to Britain, EARLAND (119).—Rossendale, wells and troughs, Rhizopods and Infusoria from, LORD (270).

Loch Ness, Scotland, Rhizopods from, listed, PENARD (334), and MURRAY (306).—Orkneys and Shetlands, freshwater Rhizopods and Heliozoa from, WEST (503).

Norwegian Fiords, Foraminifera, NORDGAARD (321).

East Finmark, Foraminifera, NORMAN (322).

Coxyde and Nieuport, Belgium, Mastigophora from, listed, including several forms regarded as new, but named only, MASSART (284).

Freiburg-i-Breisgau, Infusoria, listed, with notes, HENDERSON (176).

Swiss Lakes, Rhizopods and Heliozoa from, PENARD (338).—Lake of Geneva, a new Flagellate (probably a *Dinema*), PENARD (339).—Lake of Neuchatel, full list of Protozoa occurring in, GODET (159).

Alpine lakes between valleys of Vigizzo and Onsernone, Protozoa, MONTI (301).—Lakes of Montiggle (South Tyrol), littoral and profundal Protozoan fauna, HUBER (185).

Coast of the Island of Delos (Grecian Archipelago), Foraminifera, SIDEBOTTOM (442).

#### Asia :—

Siam, Java, Sandwich Islands, etc., Mastigophora observed, LEMMERMANN (257).

**Australasia:—**

Australia, different localities, from sands, Foraminifera, JENSEN (199).  
New Zealand waters, *Ramulina globulifera*, BENHAM (19).

**America:—**

Freshwaters of Connecticut, Protozoa, listed and described, CONN (91).  
Brush Lake, Ohio, Protozoa, listed, RIDDLE (378).  
New Hampshire, White Mountain region, Rhizopods, CUSHMAN & HENDERSON (97).  
Delaware Valley, *Trachelomonas* spp., PALMER (329).  
Virginia, U.S.A., occurrence of *Paulinella chromatophora*, KEPNER (209).  
Bermuda Banks, shoal-water deposits, Foraminifera, BIGELOW (24).  
Paraguay, Protozoan fauna of, v. DADAY (99).

**B. GEOLOGICAL.**

Eocene, Miocene, and Recent spp. of *Globigerina*, originally described by d'Orbigny, notes on and figures of, FORNASINI (142).  
Cretaceous, Miocene, and Recent forms of *Amphistegina*, as described by d'Orbigny, notes on, FORNASINI (143).

**Quaternary:—**Boulder Clay, Lancashire, Foraminifera, READE (371).  
Pleistocene Clays, Taranto (Terra d'Otranto), Foraminifera, BASSANI (14).  
Glacial deposits near Frankfurt a. O., Cretaceous and Tertiary, Foraminifera in, HUCKE (186).

Pliocene or Recent, Rimini (Adriatic), Foraminifera, listed and notes, FORNASINI (146); Ravenna, *Textularidæ* from, id. (145).

**Tertiary:—**Tertiaries, Borneo and Indo-Malay, Foraminifera, DOUVILLÉ (113).

Tertiary (Eocene, Oligocene, and Miocene), Colli Berici, Italy, *Nummulitidæ*, FABIANI (125).

Miocene, Tripoli di Condro (Sicily), Radiolaria, COCCO (89).

Miocene, deep-boring, Bremen, Foraminifera, JORDAN (202).

Miocene, Santo (New Hebrides), Foraminifera (with new *Cycloclypeus* and *Lepidocyclina*), CHAPMAN (78).

Oligocene ("Rupelton" above bituminous sandstone), Heppenheim, Foraminifera, STEUER (474).

Lower Oligocene, Riszkania (Mid-Carpathians), Foraminifera, WOJCIK (505).

Upper Eocene, Vicentin (Pederiva), *Nummulites* and *Orthophragmina* in quantities, corresponding to those at Biarritz, BOUSSAC (36).

Upper Eocene, Termini-Imerese, *Lepidocyclina* n. spp., CHECCHIA-RISPOLI (83).

Middle Eocene, Dalmatia (various localities), Foraminifera, SCHUBERT (423 & 424); Southern Istria (Albona), Foraminifera, id. (425).

Middle Eocene, Istrio-Dalmatia, Foraminifera, SCHUBERT (426).

Eocene, France (various localities), *Dictyoconus egyptiensis* and *Lituanella roberti* n. g., n. sp., SCHLUMBERGER & DOUVILLÉ (413).

Eocene (Nummulitic zones), basin of the Adour (Biarritz and Bayonne), *Nummulitidæ*, DOUVILLÉ (112).

Eocene (Nummulitic limestone), Aude and Hérault, Foraminifera, DONGIEUX (104).

Eocene (Nummulitic limestone), Saint Acheul, *Nummulites planulata* and *N. levigata*, DELAMBRE (103).

Eocene (Nummulitic limestone), Oltrepo, Appennines, Foraminifera, PREVER (359).

Eocene ("scaglia" and calcareous), Central Appennines, *Nummulitidae*, PREYER (360).

Eocene, S. Genesio (near Turin), *Rupertia* n. spp., LEARDI in AIRAGHI (246).

Eocene, Talamonchi (Anghiari), *Lepidocyclinae* and other Foraminifera, SILVESTRI (450).

Eocene, Syracuse, *Nummulitidae*, CHECCHIA-RISPOLI (82).

Eocene, Sicily (Sciacca), *Lepidocyclina selinuntina*, CHECCHIA-RISPOLI (81).

Eocene, Sicily, *Alveolina* spp., CHECCHIA-RISPOLI (84).

Eocene limestones, Somaliland, Foraminifera (chiefly *Operculina*), NEWTON (314).

**Secondary**:—Eocene to Cretaceous, France, new *Miliolidae*, SCHLUMBERGER (411).

Cretaceous (Gault), Isle of Wight, Foraminifera, READE & HOLLAND (372).

Cretaceous (Gault), Bartin (Pomerania), Foraminifera, HUCKE (187).

Cretaceous (Gault), Portugal, also Voreppe (Isère), *Choffatella decipiens* n. g., n. sp., SCHLUMBERGER (409).

Irish Greensand, Foraminifera, GOUGH (161).

Lower Greensand, Little Coxwell, near Faringdon, Foraminifera, DAVEY (101), also WRIGHT (510).

Cretaceous, Meandre (Isère), *Orbitoides* spp., PAQUIER (331).

Cretaceous, Monte Euganei, Radiolaria, SQUINABOL (463).

Cretaceous (serpentine argilloschists), Appennines, Foraminifera and Radiolaria, SACCO (390).

Cretaceous, deep-boring, Bremen, Foraminifera, JORDAN (202).

Cretaceous, Greece (Peloponesia), *Nummulitidae*, NÉGRIS (311).

Cretaceous, Persia, Foraminifera (*Loftusia persica*, *L. morgani* n. sp., and *Omphalocyclus macropora*), DOUVILLÉ (108 & 109).

**Primary**:—Permo-Carboniferous limestones, New South Wales, Foraminifera, CHAPMAN & HOWCHIN (79).

### C. PARASITIC (including commensalism).

**Protozoa**:—In *Amæba terricola*, nucleus, *Nucleophaga amæbae* (a Fungus), PENARD (335).

Symbiotic with *Pelomyxa*, the well-known Bacterial rods, described as *Cladothrix pelomyxæ* n. sp., VELEY (496).

Ectoparasitic on *Amæba*, various species ("Ouramæba"), Fungal filaments (*Entomophthoraceæ* or *Saprolegniaceæ*), PENARD (334).

In *Pseudodifflugia horrida*, an Infusorian parasite of unspecified genus, PENARD (337).

**Chaetopoda**:—In *Limnodrilus hoffmeisteri*, intestine and body-cavity, *Myxocystis mrazeki* n. sp., HESSE (177 & 179).

In *Mesenchytræus flavus* (freshwater), intestinal epithelium, *Haplosporidium vejdovskii* n. sp., CAULLERY & MESNIL (67).

In *Potamilla torelli*, body-cavity, *H. potamillæ* n. sp., CAULLERY & MESNIL (67).

In *Salmacina dysteri*, body-cavity, *H. marchouxi* n. sp., CAULLERY & MESNIL (67).

In *Syllis gracilis*, body-cavity, *Urosporidium fuliginosum* n. g., n. sp., CAULLERY & MESNIL (67).

**Crustacea**:—In *Balanus amaryllis*, body-cavity, *Glugea stempelli* n. sp., PEREZ (343).

In *Carcinus maenas*, musculature (except of heart), *Nosema pulvis* n. sp., PEREZ (341).

In spider-crabs (*Inachus dorsettensis* and *I. scorpio*), wall of the intestine, projecting into the body-cavity, *Aggregata inachi* n. sp., SMITH (462).

**Insecta**:—In the following South Russian Lepidoptera: *Aporia crataegi*, *Botys sticticalis*, *Emmelia trabealis*, *Heliothis dipsaceus*, *Hyponomeuta evonymella*, *H. malinella*, and *Mamestra oleracea*, in the blood-channels, fat-bodies and other organs and tissues, *Microklossia prima* n. g., n. sp., KRASSILTSCHIK (219).

In *Blattella germanica*, Malpighian tubules, *Celosporidium blattella* n. sp., CRAWLEY (93).

In *Batis rhodani* (larvæ), fat-bodies chiefly, *Nosema vayssierei* n. sp., HESSE (178).

In *Bombyx mori*, body spaces and blood-channels, *Herpetomonas bombycis* n. sp., LEVADITI (260).

In *Ceratopogon solstitialis* (larvæ), intestine, *Tæniocystis mira* n. g., n. sp., LÉGER (248).

In *Dendarus tristis*, intestine, *Gregarina cavalierina* n. sp., BLANCHARD (29).

In a louse (*Hæmatopinus spinulosus*), many or most of the organs (via the circulation), *Trypanosoma lewisi*, PROWAZEK (362).—In *H.* sp., intestinal diverticula and body-cavity, cysts of *Hæmogregarina gerbilli* n. sp., CHRISTOPHERS (86).

In *Helenophorus collaris*, intestine, *Stylorhynchus gladiator* n. sp., BLANCHARD (29).

In *Melophagus ovinus* (sheep-louse), gut, Trypanosomic-like parasites, PFEIFFER (349).

In *Omophlus brevicollis*, Malpighian tubes, *Thelohania cepedei* n. sp., HESSE (178).

In *Otiorrhynchus fuscipes*, abdominal cavity, *Nosema longifilum* n. sp., id. (178).—In *O. f.*, intestinal epithelium, *Mycetosporidium talpa* n. g., n. sp., LÉGER & HESSE (251).

In Termites (unspecified), from Chili, intestine, *Calonympha grassii* n. g., n. sp., and *Devescovina striata* n. g., n. sp., FOA (141).

**Arachnida**:—In *Hyalomma egyptium*, intestine, cysts and sporozoites of a Protozoan (probably phases in a Hæmogregarine of *Testudo*), LAVERAN & NÈGRE (244).

**Pisces**:—In bream (*Abramus*), blood, *Trypanoplasma guernei*, n. sp., BRUMPT (55).

In *Alosa finta*, branchial filaments and tissue, a new Myxosporidian, unsp., MAZZARELLI (286); named, *Branchiophaga*, n. g., id. (287).

In *Bothus rhombus*, blood, *Hæmogregarina bothi* n. sp. and *Trypanosoma b.* n. sp., LEBAILLY (247).

In *Box boops*, œsophagus and stomach, *Trypanoplasma intestinalis* n. sp., LÉGER (249).

In brook-trout, nervous system, *Myxobolus neurobius* n. sp.; in subcutaneous tissue, *Henneguya nüsslii* n. sp., SCHUBERG & SCHRÖDER (420).

In carp, subepithelial layer of the intestine, *Coccidium subepithelialis* n. sp., MOROFF & FRIBIGER (302).

In *Clarias (Silurus) clarias*, Cochin China, blood, *Trypanosoma clariae* n. sp., MONTEL (300).

In *Cobitis barbatula*, kidneys and bladder, *Henneguya légeri* and *Myxidium barbatulae* n. spp., CÉPÈDE (77).

In *Colossoma brachypoma*, intestine, *Nyctotherus piscicola* n. sp., v. DADAY (98).

In *Crenilabrus melops*, forming a dermal tumour, *Ichthyosporidium phymogenes* n. g., n. sp., CAULLERY & MESNIL (68).

In *Liparis vulgaris* and *Motella mustela*, glandular canals of stomach and pyloric caeca, *Ichthyosporidium gasterophilum* n. sp., CAULLERY & MESNIL (68).

In pompano (*Trachinotus carolinus*), red drum (*Sciaenops ocellatus*), and sheephead (*Archosargus probatocephalus*), stomach and intestine, also pectoral fins, *Myxobolus (Henneguya)* sp., LINTON (265).

In a Siluroid fish (*Saccobranchus fossilis*), blood, *Trypanosoma sacco-branchi* n. sp., CASTELLANI & WILLEY (66).

**Amphibia:**—In frogs (incert.) from Madagascar, blood, *Hæmogregarina neireti* n. sp., LAVERAN (236).

In *Proteus anguineus*, renal tubules, *Chloromyxum protei* n. sp., JOSEPH (205).

In *Rana angolensis* (Transvaal), blood, *Hæmogregarina theileri* n. sp., LAVERAN (236).—In *R. catesbiana*, blood, *H. catesbiana* n. sp., STEBBINS (469).—In *R. c.* and *R. clamata*, blood, *Karyolysus clamatae* n. sp., STEBBINS (468).—In *R. esculenta*, blood, *Trypanosoma rotatorium* var. *nana* n. var., SERGENT (438).

In newt (*Triton cristatus*), red blood-corpuscles, *Lankesterella tritonis* n. sp., FANTHAM (126).

**Reptilia:**—In *Testudo pardalis*, blood, "*Hæmamæba*" *testudinis* n. sp., LAVERAN (238).

In *Varanus niloticus*, blood, *Hæmogregarina varani* n. sp., LAVERAN (237).

**Aves:**—Occurrence of "*Hæmamæba*" and Trypanosomes in various North African birds, SERGENT (436).

In various birds (*Agelaius phœniceus*, *Colaptes auratus*, *Cyanocitta cristata*, *Icterus galbula*, *Melospiza fasciata*, *Merula migratoria*, *Passer domesticus*, *Sialia sialis*, and *Zenaidura macroura*), blood, *Trypanosoma avium*, NOVY & MCNEAL (323).

In *Buteo lineatus*, blood, *Trypanosoma mesnili* n. sp., NOVY & MCNEAL (323).

In *Spinus tristis*, blood, *T. laverani* n. sp., id. (323).

In *Meleagris gallopavo domestica* (turkey), probably in leucocytes (not hæmatids) "*Hæmamæba*" *smithi* n. sp., LAVERAN & LUCET (242).

In *Perdix cinerea*, blood, "*H.*" *relicta*, LAVERAN & LUCET (242).

In *Polyplectrum germani* (Annam), blood, *Trypanosoma polyplectri* n. sp., VASSAL (493).

In a swallow, blood, "*Hæmamæba*" *danilewskyi* var. *hirundinis* n. var., SERGENT (436).

In an African dove (*Treron calva*), blood, a Trypanosome, WELLMAN (501).

**Mammalia:**—In cattle (apparently restricted to *Bovidae*), blood, *Trypanosoma nanum* n. sp., LAVERAN (235).

In dogs (India), white blood-corpuscles, a new Hæmosporidian ("*Leucocytozoon*" *canis*), JAMES (190) and BENTLEY (20).

In *Arvicola nivalis*, intestine, *Coccidium arvicola* n. sp., GALLI-VALERIO (155).

In *Jaculus orientalis* (gerboa), blood, *Hæmogregarina balfouri* n. sp., LAVERAN (227); also in *J. gordonii* (*J. j.*), BALFOUR (7).

In *Mus decumanus* (Norway), leucocytes, a Hæmatozoan apparently identical with *Hæmogregarina balfouri*, BALFOUR (7).—In *M. musculus* (Senegal), blood, *Trypanosoma duttoni* n. sp., THIROUX (484).

In *Myoxos glis* (dormouse), blood, *Trypanosoma blanchardi* n. sp., BRUMPT (55).

In an Indian rat (*Gerbillus indicus*), blood (red-corpuscles), *Hæmogregarina gerbilli* n. sp., CHRISTOPHERS (86).

In *Sciurus griseimanus* (Annam squirrel), blood-corpuscles, a new "*Hæmamaeba*," VASSAL (494 & 495).

In *Talpa europæa*, blood, *Trypanosoma* sp., probably new, PETRIE (348).—In moles, blood, a new Haematozoan, perhaps a *Piroplasma*, GRAHAM-SMITH (163).

In badger (*Meles taxus*), blood, *T. pestanaï* n. sp., BETTENCOURT & FRANÇA (22).

In bats (*Vesperugo pipistrellus*, *V. nattereri*, and *V. serotinus*), blood, *T. dionisii* n. sp., id. (23).

In *Myotis murinus*, blood, *Trypanosoma nicolleurum* n. sp., SERGENT (435).

In *Pipistrellus pipistrellus*, blood, *Trypanosoma* sp., PETRIE (348).

In bats (*Vesperugo pipistrellus*), blood, malarial parasites (ring-forms) and Trypanosomes, described but not specified, KISSKALT (211).

In *Vespertilio kuhli*, blood, *Trypanosoma nicolleurum* and *T. vespertilionis* (prov. n. sp.), SERGENT (435).

In *Macacus rhesus*, thigh muscles, a *Sarcosporidium*, DE KORTÉ (218).

In Man, septum nasi, a new Haplosporidian, *Rhinosporidium kinealyi*, MINCHIN & FANTHAM (298).

In human fæces, *Entamaeba undulans* n. sp., and *Nyctotherus africanus* n. sp., CASTELLANI (64).

#### IV. SYSTEMATIC.

[Note. Only new forms, forms whose occurrence is of special interest, and forms described and figured are mentioned specifically.]

##### A. PROTOZOA IN GENERAL.

[For lists of Protozoa from various localities, see under Plankton (II. C. 1) and Distribution (III. A).]

##### B. GYMNOXYXA.

###### 1. MYCETOZOA.

###### (a) Protomyxidea:—

*Arachnula vesiculata* n. sp., occurrence and description, PENARD (337) p. 612, pl. 14, figg. 31 & 32.

*Gymnophrys cometa*, remarks on, PENARD (337) p. 615, pl. 14, figg. 33–35.

###### (b) Mycetozoida:—

*Plasmodiophora brassicæ*, description of, chiefly with regard to nuclear division and conjugation, PROWAZEK (363) pp. 396–410, pl. 7.

Allied to Mycetozoa, *Mycetosporidium* n. g. *talpa* n. sp., vegetative plasmodia, and sporulation of, described, LÉGER & HESSE (251) pp. 92–94.

###### 2. RHIZOPODA.

Rhizopods, general account of morphology, physiology, distribution and classification of; systematic enumeration of British forms, with full synonymy, CASH & HOPKINSON (63).

Rhizopods: from the Swiss Lakes, occurrence and description, with text-figg. for all species, PENARD (338); White Mountain region, New Hampshire, notes on, CUSHMAN & HENDERSON (97) pp. 147–155;

and Heliozoa from deep-lakes, interesting remarks on, MURRAY (306) & PENARD (334).

*Xenophyophora* **nom. nov.** for a remarkable new group, placed by SCHULZE (431) among the Rhizopods and allied with the Foraminifera. It includes (so far) the families *Psammimidæ* and *Stannomidæ* of Hckl., in a modified sense. Classification, pp. 46-50. (All from "Valdivia" Material, Deep-Sea Expedition.)

*Psammimidæ*, with no "linellæ."

*Cerelasma*, p. 21, *C. gyrosphæra*, p. 21, pl. 2, figg. 5-11, pl. 3, figg. 1 & 2,

*C. lamellosa*, p. 24, pl. 3, fig. 3, described, SCHULZE (431).

*Holopsamma*, p. 25, *H. cretaceum*, p. 26, pl. 3, figg. 4-6, *H. argillaceum*, p. 27, described, SCHULZE (431).

*Psammetta* **n. g.** p. 6, *P. erythrocytomorpha* **n. sp.**, p. 6, pl. 1, pl. 2, figg. 1-4, described, SCHULZE (431).

*Psammina globigerina*, p. 18, *P. plakina*, p. 20, *P. nummulina*, p. 20, described, SCHULZE (431).

*Psammopemma calcareum*, p. 28, *P. radiolarium*, p. 27, notes on occurrence, SCHULZE (431).

*Stannomidæ*, with "linellæ."

*Stannarium alatum*, p. 45, *S. concretum*, p. 46, notes on occurrence, SCHULZE (431).

*Stannoma coralloides*, p. 35, pl. 4, fig. 4, *S. dendroides*, p. 32, pl. 4, figg. 1-3, 5-10, described, SCHULZE (431).

*Stannophyllum*, p. 36, *S. zonarium*, p. 37, pl. 5, pl. 6, figg. 1 & 2, *S. radiolarium*, p. 41, pl. 7, fig. 1, *S. reticulatum*, p. 44, pl. 6, figg. 3-5, *S. globigerinum*, p. 43, pl. 7, figg. 2 & 3, described, SCHULZE (431).

(a) **Lobosa:**—

*Amæba*, existence of a true genus (comprising numerous species), well-characterized if somewhat difficult to diagnose, and quite distinct from the host of amæboid organisms collectively included in the term "Amæbæ," PENARD (336) pp. 401-409; *A. angulata* Mer., p. 322, text-figg. 1-5, *A. humilis* **n. sp.**, p. 331, text-figg. 9-11, *A. penardi* **n. sp.**, p. 329, text-figg. 6-8, described, SCHOUTEDEN (417); *A. blattæ*, pp. 6-23, pl. 1, figg. 1-10, pl. 2, *A. proteus*, pp. 23-39, pl. 1, figg. 11-13, general description of, SCHUBOTZ (427); *A. doleini* **n. sp.**, mode of nutrition, etc., and trophic nuclear changes in, described, NERESHEIMER (312) pp. 147-165, pl. 7, 13 text-figg.; *A. limax*, structure, nuclear division, and biology, described, also artificial cultivation of, VAHLKAMPF (492) pp. 167-220, pl. 6; *A. salina* **n. sp.**, with peculiar pseudopods, occurrence and diagnosis, HAMBURGER (172) pp. 126-128, pl. 6, figg. 18-22; *A. terricola*, structure and properties of membrane, cytoplasm, and manner of locomotion in, pp. 176-195, figg. 1-8, *A. t.*, effects on, produced by the attack of *Nucleophaga amæbæa*, p. 195, figg. 9-12, *A. t.*, p. 199, fig. 13, *A. papyracea* **n. sp.**, p. 201, fig. 14, *A. similis*, p. 201, fig. 15, *A. sphæronucleolus*, p. 202, fig. 16, *A. fibrillosa*, p. 202, fig. 17, *A. alba*, p. 203, fig. 18, *A. striata*, p. 204, fig. 19, and *A. vesiculata*, p. 204, fig. 20, occurrence and diagnostic characters, PENARD (335).

*Arcella rota* **n. sp.**, p. 9, pl. 1, figg. 1-5, *A. marginata* **n. sp.**, p. 11, pl. 1, figg. 6-8, Paraguay, described, v. DADAY (99); *A. vulgaris*, process of encystment, degeneration appearances, and formation of secondary nuclei in, described, MARTINI (282) pp. 574-619, pls. 28-30; *A. v. var. compressa* **n. var.**, occurrence and diagnosis, CASH & HOPKINSON (63) p. 138, text-fig. 28,

*Centropyxis aculeata* **var. spinosa** **n. var.**, occurrence and description, CASH & HOPKINSON (63) p. 135, pl. 16, fig. 15, text-fig. 26.

*Cochliopodium crassiusculum* **n. sp.**, p. 592, pl. 13, fig. 7, *C. longispinum*,



- p. 595, pl. 13, fig. 11, described, PENARD (337); *C. pellucidum*, minute structure of, and varieties of pseudopodia in, FAURÉ-FREMIET (129) pp. 497-499; *C. p.*, 2 varieties distinguished, var. *putrinum*  $\alpha$  **nov.** and var. *putrinum*  $\beta$  **nov.**, also occurrence of fuchsinophilous grains described, representing an internal secretion, id. (130) pp. 905-907; *C. p.*, full detailed account of, id. (138) pp. 1-68, pls. 1 & 2, 21 text-figg.
- Diffugia ampullata* **n. sp.**, occurrence and note on, ZACHARIAS (511) p. 228; *D. lobostoma*, p. 14, var. *impressa* **n. var.**, p. 15, pl. 1, figg. 11-14, *D. urceolata* var. *quadrialata* **n. var.**, p. 17, pl. 1, fig. 15, var. *ventricosa* **n. var.**, p. 17, pl. 1, fig. 16, Paraguay, diagnosed, v. DADAY (99); *D. piriformis*, remarks on, PENARD (337) p. 596, pl. 13, figg. 12-14; *D. prestans* **n. sp.**, p. 25, 1 fig., *D. elongata* **n. sp.**, p. 33, 1 fig., Swiss lakes, diagnosed, PENARD (338); *D.* (**n. sp.** 1) from Loch Ness, note on, PENARD (334) p. 599, text-fig. 1.
- Dinamæba mirabilis*, notes on, PENARD (337) p. 590, pl. 13, figg. 8-10.
- Entamæba* (*histolytica*, judging from cultural characters) of dysentery, successfully cultivated, LESAGE (259) pp. 9-16, pls. 1 & 2; *E.* [?] *undulans* **n. sp.**, remarkable for the possession of an undulating membrane, occurrence and note on, CASTELLANI (64) pp. 67-69, text-figg. 3-5. [It is by no means unlikely that an abnormal form of *Trichomonas* is in question.]
- Nebela bicornis* **n. sp.**, plankton, Scottish lochs, diagnosed, WEST (503) p. 91, 1 text-fig.; *N. bigibbosa*, remarks on, PENARD (337), p. 600, pl. 13, figg. 16-19.
- "*Ouramæba*," really an ordinary *Amæba* (spp. var.) on which certain Fungal filaments (*Entomophthoraceæ* or *Saprolegniaceæ*) are ectoparasitic, PENARD (337) pp. 585-588, pl. 13, figg. 1-6.
- Paulinella chromatophora*, description of, chiefly with regard to the structure of the shell, and the chromatophores, PENARD (337) pp. 603-610, pl. 14, figg. 20-28; *P. c.*, occurrence Virginia, U.S.A., and notes on, KEPNER (209) pp. 128 & 129, 1 fig.
- Pelomyxa palustris*, study of the symbiotic Bacteria (*Cladotrix pelomyxæ* **n. sp.**) and the refringent bodies and their importance, in, VELEY (496) pp. 374-395, pls. 36-38; *P. penardi* **n. sp.**, occurrence and diagnosis, RHUMBLER (376) p. 50, text-figg. 2, 6, 10, 11.
- Placocysta jurassica* **n. sp.**, diagnosis and occurrence, PENARD (337) p. 611, pl. 14, figg. 29 & 30.
- Quadrula irregularis*, remarks on, PENARD (337) p. 559, pl. 13, fig. 15.

## (b) Foraminifera:—

- Arenaceous Foraminifera, comprehensive account of morphology of, and general conclusions arrived at, KEMNA (207) pp. xi-xlviii.
- Foraminifera from:—Bermuda Banks (shoal-water deposits), BIGELOW (24); shore-sand, Bognor, Sussex, EARLAND (119); Norwegian fiords, listed, NORDGAARD (321) p. 192; East Finmark, NORMAN (322); Island of Delos (Grecian Archipelago), SIDEBOTTOM (442).
- †Foraminifera, mostly lists, from:—Pleistocene clays, Taranto (Terra d'Otranto), BASSANI (14) p. 57; Upper Eocene, Vicentin, *Nummulites* and *Orthophragmina* in abundance, corresponding with those at Biarritz, BOUSSAC (36); Miocene, Santo (New Hebrides), CHAPMAN (78); Eocene (Nummulitic limestone), Depts. Aude and Hérault, notes on, DONCIEUX (104); Tertiaries, Borneo, noted and tabulated, DOUVILLÉ (113); Pliocene (or Recent), Rimini (Adriatic), notes on, and figures from d'Orbigny ("Planches inédites"), FORNASINI (146); Irish Greensand, GOUGH (161); Glacial deposits (Cretaceous and Tertiary forms), Frankfurt a O., HUCKE (186); Cretaceous (Gault), Bartin (Pomerania), id. (187); Miocene and Cretaceous, deep-boring

- at Bremen, JORDAN (202); Eocene limestones, Somaliland (chiefly *Operculina*), NEWTON (314); Boulder Clay, Lancashire, READE (371); Cretaceous (Gault), Isle of Wight, READE & HOLLAND (372), p. 57; Middle Eocene, Istrio-Dalmatia, from different zones, SCHUBERT (426); Middle Eocene, Dalmatia (various localities), with remarks, id. (423 & 424); Albona (Southern Istria), id. (425); Eocene, Talamonchi (Anghiari), *Lepidocyclina* and others, SILVESTRI (450); Oligocene ("Rupelton") Heppenheim, STEUER (474); Lower Oligocene, Riszkania (Mid-Carpathians), Galicia, WOJCIK (505); Lower Greensand, Little Coxwell, Faringdon, DAVEY (101) pp. 37 & 38, pl. 5 (of unspecified types); also WRIGHT (510), pp. 238 & 239.
- † *Adelosina bicornis*, p. 26, figg. 18-20, occurrence and notes (figg. from d'Orbigny), FORNASINI (146).
- † *Alveolina*, notes on the genus, pp. 149-154, *A. ellipsoidalis*, p. 155, pl. 12, fig. 1, *A. e.* var. *lepidula*, p. 156, pl. 12, fig. 2, *A. cremae* n. sp., p. 156, pl. 12, figg. 3-5, *A. ciofaloi*, p. 157, pl. 12, figg. 16-18, *A. oblonga*, p. 158, pl. 12, figg. 6 & 7, *A. canavarii*, p. 159, pl. 12, figg. 19-25, pl. 13, figg. 1-4, *A. elongata*, p. 160, pl. 12, fig. 15, *A. schwageri* n. sp., p. 162, pl. 12, figg. 11-14, *A. di-stefanoi* n. sp., p. 163, pl. 12, figg. 8-10, *A. violae* n. sp., p. 165, pl. 13, figg. 5-10, *A.* (sub-gen. *Flosculina*) *decipiens*, p. 163, pl. 13, figg. 11-15, *A.* (*F.*) *pasticillata*, p. 164, pl. 13, figg. 16-18, Eocene, Sicily, described, CHECCHIA-RISPOLI (84); *A. bulloides*, p. 15, pl. 4, fig. 11, *A. ovoidea*, p. 15, pl. 4, fig. 12, *A. oblonga*, p. 15, pl. 4, fig. 13, *A. elongata*, p. 15, pl. 4, fig. 14 (d'Orbigny's forms and figures), interpreted and notes on, FORNASINI (147).
- † *Ammodiscus anceps*, p. 11, pl. 3, fig. 1, *A. millettianus*, p. 10, pl. 2, fig. 3, *A.* (?) sp., p. 11, pl. 1, fig. 12, occurrence and remarks, CHAPMAN & HOWCHIN (79); *A. bartinensis* n. sp., Gault, Bartin, diagnosed, HUCKE (187), p. 168, pl. 23, fig. 7.
- Amphistegina lessonii*, pl. 2, fig. 1, † *A. bilobata*, pl. 2, fig. 2, *A. trilobata*, pl. 2, fig. 3, *A. gibba*, pl. 2, fig. 4, *A. madagascariensis*, pl. 2, fig. 5, *A.* sp., pl. 2, fig. 6 (all probably varieties of the first-named) and *A. fleuriacusi*, pl. 2, fig. 7, notes on these forms, originally described by d'Orbigny, now figured from "Planches inédites," FORNASINI (143), pp. 142-145.
- † *Anomalina ornata*, p. 63, fig. 62, *A. orbicularis*, p. 64, fig. 63, occurrence and notes (figg. from d'Orbigny), FORNASINI (146); *A. supracarbonica* n. sp., occurrence (N. S. Wales) and diagnosis, CHAPMAN & HOWCHIN (79), p. 18, pl. 1, fig. 8.
- † *Assilina praespira* n. sp., Eocene, Bayonne, diagnosed, DOUVILLÉ (112), p. 31, text-figg. 3 & 4; *A. granulosa* var. *minor* n. var., p. 117, *A. praespira*, p. 119, pl. 4, fig. 14, occurrence and diagnoses, DONCIEUX (104).
- Baculogypsina sphaerulata*, p. 67, figg. 1 & 7, *B. baculata*, p. 69, fig. 2, † *B. meneghini* n. sp., p. 71, var. *tetraedra*, p. 72, figg. 3-6, observations and remarks on, SILVESTRI (449).
- † *Bigennerina nodosaria*, Ravenna (Adriatic), notes on, FORNASINI (145) p. 142, pl. O, figg. 12 & 13; *B.* (?) *laevigata*, p. 12, fig. 8, *B. truncata*, p. 12, fig. 9, occurrence and notes (figures after d'Orbigny), id. (146).
- † *Biloculina longirostra*, p. 20, fig. 11, occurrence and note (figure from d'Orbigny), FORNASINI (146).
- Bolivina robusta* var. *compacta* n. var., p. 15, pl. 3, fig. 7, *B. tortuosa*, p. 14, pl. 3, fig. 6, *B. costata*, p. 16, pl. 3, fig. 8, notes on, SIDEBOTTOM (442).
- † *Bradya tergestina* regarded as a Foraminiferan, allied to *Keramosphæra*; distribution of the form, STACHE (464) pp. 100-113.
- † *Brugulereia virgilioi* n. sp., fig. 1, *B. subvirgilioi* Prev., fig. 2, *B. fischeuri* n. sp., fig. 35, *B. subfischeuri* Prev., fig. 3, *B. heilprini*, fig. 4, *B. sub-*

- heilprini*, fig. 5, *B. subtaramellii*, fig. 6, *B. laevigata*, fig. 7, occurrence noted, PREVER (360) pp. 572-576.
- Bulimina elegantissima*, p. 11, pl. 2, fig. 6, *B. e.* var., p. 11, pl. 2, figg. 7-12, pl. 3, figg. 1 & 2, remarks on plastogamy in, and *B. convoluta* var. *nitida*, p. 12, pl. 3, fig. 3, noted, SIDEBOTTOM (442).
- †*B. affinis*, Carboniferous, N. S. Wales, noted, CHAPMAN & HOWCHIN (79) p. 14, pl. 2, fig. 7.
- †*Capsulina loculicida*, Seguenza, is really not a Foraminiferan at all, but the pedicellaria of an Echinoid (*Strongylocentrotus*), NEVIANI (313).
- Carterina spiculotesta*, note on, SIDEBOTTOM (442) p. 6, pl. 1, fig. 10.
- Cassidulina bradyi*, p. 17, pl. 3, fig. 10, *C. b.* var. *elongata* n. var., p. 17, pl. 3, fig. 11, notes on, SIDEBOTTOM (442).
- †*Chapmania (Conulites) aegyptiensis*, further discussion of, PREVER & SILVESTRI (361) pp. 477-486, 5 text-figg.; *C. gassinensis* n. sp., for *C. (Dictyoconus) aegyptiensis*, diagnosis and remarks, SILVESTRI (451) pp. 129-131; *C. g.* Silv., Eocene, Torino, full account of, SILVESTRI (453) pp. 113-120, pl. 2, 2 text-figg.
- †*Choffatella* n. g., *decipiens* n. sp., occurrence (Cretaceous) and description, SCHLUMBERGER (409) pp. 763 & 764, pl. 18.
- †*Clavulina communis*, p. 146; pl. O, fig. 20, *C. gaudryinoides*, p. 147, pl. O, fig. 21, Ravenna (Adriatic), described, FORNASINI (145).
- Cornuspira foliacea*, doubtful occurrence of, Bognor, compared with true specimen, EARLAND (119) p. 199, pl. 13.
- Cristellaria* spp., development of shell in, CUSHMAN (96) pp. 541-545, text-figg. 9-12, pl. 1, figg. 6-9.
- †*C. depressa*, p. 43, fig. 39, *C. translucida*, p. 43, fig. 40, *C. marginata*, p. 43, fig. 41, *C. laevigata*, p. 44, fig. 42, *C. discoides*, p. 44, fig. 43, *C. cultrata*, p. 45, fig. 44, *C. calcar*, p. 46, figg. 45 & 46, *C. margaritacea*, p. 47, fig. 47, *C. papillosa*, p. 47, fig. 48, *C. echinata*, p. 48, fig. 49, occurrence and notes (figures from d'Orbigny, "Planches inédites"), FORNASINI (146); *C. impressa*, pl. 23, fig. 17, *C. instabilis*, pl. 23, fig. 18, *C. planiuscula*, pl. 23, fig. 19, *C. parallela*, pl. 23, fig. 20, *C. protosphera*, pl. 23, fig. 21, *C. pommeranica* n. sp., diagnosed, p. 170, pl. 23, fig. 22, Gault, Bartin, HUCKE (187); *C. rostrata*, p. 8, pl. 2, fig. 6, *C. lamellosa*, p. 9, pl. 2, fig. 7, *C. gibba*, p. 9, pl. 2, fig. 8, *C. cadomensis*, p. 9, pl. 2, fig. 9, *C. laevigata*, p. 9, pl. 2, fig. 10, *C. lituus*, p. 9, pl. 2, fig. 11, *C. rawackensis*, p. 10, pl. 2, fig. 12, *C. fleurbausa*, p. 10, pl. 2, fig. 13, d'Orbigny's forms and figures interpreted and notes on, FORNASINI (147).
- Crithionina* sp., note on, SIDEBOTTOM (442) p. 1, pl. 1, fig. 2.
- †*Cyclammina cancellata*, p. 7, fig. 1, occurrence and note on, FORNASINI (146); *C. whligi* Schub., and *C. pusilla* var. *draga* (vel. *C. draga* Lieb. & Schub.), critical discussion as to the true nature and systematic value of these forms, SCHUBERT (421) pp. 353-356, 1 fig., and SILVESTRI (452) pp. 71-73, 3 figg.
- †*Cycloclypeus pustulosus* n. sp., Miocene, New Hebrides, diagnosed, CHAPMAN (78) p. 271, pl. 5, fig. 1, pl. 6, fig. 2, pl. 7, fig. 2.
- †*Dentritina rangi*, p. 6, pl. 1, fig. 13 (from d'Orbigny's figure), note on, FORNASINI (147).
- †*Dictyoconus aegyptiensis*, Eocene, France, description and relationships, SCHLUMBERGER & DOUVILLÉ (413) pp. 298-303, pl. 9.
- Discorbina obtusa*, p. 220, pl. 12, fig. 8, pl. 14, fig. 4, *D. parisiensis*, plastogamy in, p. 221, pl. 12, figs. 4-7, pl. 14, fig. 5, 1 text-fig., *D. vesicularis*, p. 224, pl. 12, figg. 9 & 10, pl. 14, fig. 6, occurrence and notes, EARLAND (119).
- †*D. pileus*, p. 57, fig. 54, occurrence and note (figure from d'Orbigny), FORNASINI (146).
- †*Endothyra bowmani*, occurrence and note, CHAPMAN & HOWCHIN (79) p. 12, pl. 1, fig. 13.

- Fabularia discolithes*, A and B forms, Eocene, described, SCHLUMBERGER (411) p. 129, pl. 3, figg. 37 & 38, text-figg. 22-25.
- +*Fronidicularia ampulla* n. sp., Gault, Bartin, diagnosed, HUCKE (187) p. 168, pl. 23, fig. 10; *F. woodwardi*, occurrence and note, CHAPMAN & HOWCHIN (79) p. 16, pl. 3, fig. 2.
- +*Fusulina* (Carboniferous), occurrence of twinned-shells in, SCHELLWIEN (407) p. 116.
- +*Gaudryina pupoides*, Ravenna, Adriatic, described, FORNASINI (145) p. 145, pl. O, figg. 16-19.
- +*Geinitzina triangularis* n. sp., p. 16, pl. 2, figg. 9 & 10, *G. postcarbonica*, p. 17, pl. 4, fig. 3, occurrence and diagnosis, CHAPMAN & HOWCHIN (79).
- Globigerina globularis* (cf. *bulloides*) pl. 1, fig. 1, *G. trigonula* (cf. *inflata*) pl. 1, fig. 2, +*G. depressa* (cf. *Rotalina* sp.) pl. 1, fig. 3, *G. fragilis* (cf. *cretacea*), pl. 1, fig. 4, *G. parisiensis* (cf. *Pulvinulina* sp.) pl. 1, fig. 5, notes on these spp. originally described by d'Orbigny and now figured from "Planches inédites," FORNASINI (142) pp. 140 & 141; *Globigerina*-ooze, Pacific Ocean, composition and notes on, FLINT (140) p. 11, pls. 1 & 2.
- Gromia saxicola* n. sp., description and occurrence, PENARD (338) pp. 77-81, 1 fig.
- Haplophragmium globigeriniforme*, note on, SIDEBOTTOM (442) p. 4, pl. 1, fig. 6.
- +*H. agglutinans*, p. 7, pl. 1, fig. 5, *H. emaciatum*, p. 7, pl. 1, fig. 10, *H. pokolbiense* n. sp., p. 7, pl. 1, fig. 6, *H. cf. tenuimargo*, p. 8, pl. 1, fig. 11, occurrence and notes on, CHAPMAN & HOWCHIN (79).
- +*Heterillina guespellensis* n. sp., A and B forms, p. 132, pl. 2, fig. 41, text-figg. 26-28, *H. carinata* n. sp., A form, p. 133, pl. 3, fig. 42, text-fig. 29, Eocene, France, diagnosed, SCHLUMBERGER (411).
- Hormosina* (or *Rheophax*?) *piluluta* n. sp., fig. 5, *H. (R.?) pyrifer* n. sp., fig. 4, *H. (R.?) saccammine* n. sp., fig. 6, *H. lapidigera* n. sp., fig. 8, notes on, RHUMBLER (375) pp. 103 & 104.
- +*Hyperammia vagans*, occurrence and note, CHAPMAN & HOWCHIN (79) p. 6, pl. 2, fig. 1.
- +*Idalina berthelini* n. sp., A and B forms, Eocene, France, described, SCHLUMBERGER (411) p. 120, pl. 2, fig. 33, text-figg. 7-9.
- Lagena* spp., development of shell in, described, CUSHMAN (96) p. 539, text-figg. 1, 3-5; *L. finmarchica* n. sp., diagnosed, NORMAN (322) p. 349; *L. levis*, Australian sands, note on, JENSEN (199) p. 816, pl. 23, fig. 2.
- +*L. acuta*, occurrence and note, CHAPMAN & HOWCHIN (79) p. 14, pl. 3, fig. 10; *L. pura* n. sp., Gault, Bartin, diagnosed, HUCKE (187) p. 168, pl. 23, fig. 9.
- Lagenida* various, loss of ornamentation of shell in, as indicating senescence, CUSHMAN (96) pp. 548-552, text-figg. 16-24.
- +*Laharpeia benoisti*, fig. 9, *L. subbenoisti*, fig. 10, occurrence, Eocene, Appennines, PREVER (360) pp. 572-576.
- +*Lepidocyclus confusus*, *L. lottii* n. spp., p. 125, occurrence and diagnoses, SILVESTRI (450); *L. di-stefanoi* and *L. ciofaloi* n. spp., occurrence, Upper Eocene, Termini-Imerese, and notes, CHECCHIA-RISPOLI (83) pp. 80 & 81; *L. martini* var. *rotula* n. var., Miocene, New Hebrides, diagnosed, CHAPMAN (78) p. 272, pl. 7, figg. 3 & 4; *L. selinuntina* n. sp., Eocene, Sicily (Sciaccia), diagnosed, CHECCHIA-RISPOLI (81) p. 254.
- +*Lituola cristellarioides* n. sp., p. 9, pl. 1, figg. 3 & 4, *L. cf. rhatika*, p. 9, pl. 1, fig. 7, pl. 3, fig. 7, occurrence and diagnoses, CHAPMAN & HOWCHIN (79).
- +*Lituonella* n. g., p. 297, *L. roberti* n. sp., pp. 294-297, 7 text-figg., Eocene, France, described, SCHLUMBERGER & DOUVILLÉ (413).

- †*Loftusia morgani* n. sp., p. 367, pl. 50, figg. 31-35, *L. persica*, p. 251, pl. 33, fig. 12, pl. 34, figg. 1 & 2, described, DOUVILLÉ (108); *L. m.*, p. 550, *L. p.*, p. 542, notes on, id. (109).
- †*Lunucammia* cf. *permiana*, occurrence and remark, CHAPMAN & HOWCHIN (79) p. 17, pl. 3, figg. 6 & 12.
- Marginulina* spp., development of shell in, CUSHMAN (96) p. 545, text-figg. 13 & 14, and pl. 1, figg. 2-5.
- †*M. bicostata*, pl. 23, fig. 11, *M. striatocostata*, pl. 23, fig. 12, *M. rostrata* n. sp., diagnosed, p. 169, pl. 23, fig. 13, HUCKE (187); *M. cf. breoni*, occurrence and remark, CHAPMAN & HOWCHIN (79) p. 17, pl. 3, fig. 11; *M. costata*, p. 39, figg. 30 & 31, occurrence and notes (figg. from d'Orbigny), FORNASINI (146).
- Massilina secans*, p. 198, pl. 11, fig. 4, var. *tenuistriata* n. var., p. 198, pl. 11, fig. 5, occurrence and notes, EARLAND (119).
- †*Monogenerina pyramidis* n. sp., occurrence and diagnosis, CHAPMAN & HOWCHIN (79) p. 13, pl. 3, fig. 5.
- Mimosina hystrix* var., note on, SIDEBOTTOM (442) p. 16, pl. 3, fig. 9.
- Nevillina* n. g. for *N. coronata* (*Biloculina coronata* Millett), diagnosis and occurrence, SIDEBOTTOM (443) pp. 1-4, 1 pl.
- Nodosaria* spp., development of shell in, described, CUSHMAN (96) pp. 539 & 540, text-figg. 6-8, and pl. 1, figg. 10-13; *N. scalaris*, Australian sands, noted, JENSEN (199) p. 816, pl. 23, fig. 1.
- †*N. glandulinoides*, p. 29, fig. 21, *N. incerta*, p. 30, fig. 22, *N. elongata*, p. 30, fig. 23, *N. radícula*, p. 31, fig. 24, *N. communis (ferussaci)*, p. 32, fig. 25, *N. hispida*, p. 34, fig. 26, *N. scalaris*, p. 34, figg. 27 & 28, *N. undulata*, p. 35, fig. 29, occurrence and notes (figg. from d'Orbigny), FORNASINI (146); *N. permiana*, p. 15, pl. 2, figg. 6 & 8, *N. (Dentalina) cf. farcimen*, p. 15, pl. 2, fig. 11, *N. (D.)? bradyi*, p. 15, pl. 2, fig. 12, *N. (D.) labiata*, p. 16, pl. 3, fig. 4, occurrence and remarks, CHAPMAN & HOWCHIN (79).
- †*Nonionina lamarchi*, p. 11, pl. 3, fig. 1, *N. elliptica*, p. 11, pl. 3, fig. 2, *N. ngosa*, p. 12, pl. 3, fig. 3, *N. elongata*, p. 12, pl. 3, fig. 4, *N. grateloupi*, p. 12, pl. 3, fig. 5, *N. complanata*, p. 12, pl. 3, fig. 6, (d'Orbigny's forms and figures interpreted and notes on, FORNASINI (147)).
- Nubecularia lucifuga*, occurrence and note, EARLAND (119) p. 191, pl. 11, figg. 1-3, pl. 14, fig. 2.
- †*N. stephensi*, occurrence and note, CHAPMAN & HOWCHIN (79) p. 5, pl. 1, figg. 1 & 2, pl. 3, figg. 13 & 14, pl. 4, figg. 1 & 4.
- †*Nummulites laevigatus*, pl. 3, *N. orbignyi* var. *elegans*, pl. 5, and *N. variolaris*, pl. 4, important remarks on the dimorphism of, and the relation in size between the different types of form in, LISTER (267) pp. 298-319.
- †*Nummulitidae*:—(*N.*, *Orthophragmina*, *Assilina*), Eocene, basin of the Adour (Biarritz, Bayonne), listed and charted, DOUVILLÉ (112); Tertiaries, Colli Berici (Italy), listed, with occurrence, FABIANI (125) pp. 1824-1826; Cretaceous, Greece (Peloponnesia), NÉGRIS (311) p. 919; Eocene, Appennines (Oltrepo), listed and notes, PREVER (359); Eocene ("scaglia" and calcareous), Appennines, id. (360).
- †*Omphalocyclus macropora*, Cretaceous, Persia, remarks on, DOUVILLÉ (108) p. 365, pl. 50, figg. 29 & 30; also id. (109) p. 550.
- †*Operculina ammonica*, occurrence and remarks on, DONCIEUX (104) p. 121, pl. 4, fig. 13; *O. complanata*, fig. 31, *O. ammonica*, fig. 32, *O. pyramidum*, fig. 33, occurrence noted, PREVER (360) pp. 574-576; *O. complanata* var. *carpentieri* n. var., Eocene, Anghiari, diagnosed, SILVESTRI (450) p. 125, fig. 1.
- Orbitoides* spp., Cretaceous, Meandre (Isère), notes on, PAQUIER (331) pp. 416-419; *O.* spp., vertical distribution of, GROSSOUVRE (167) pp. 513 & 514.

- Orbitoidinae*, remarks on the constitution of this sub-family, SILVESTRI (449) pp. 76-79.
- †*Orbitolina*, constitution and considerations of the genus and comparison with allied forms, pp. 468-477; *O. hoffati* n. sp., *O. douvillei* n. sp., *O. intermedia* n. sp., *O. paronai* n. sp., and *O. polymorpha* n. sp., named, p. 469, PREVER & SILVESTRI (361); *O. conoidea*, pl. 17, figg. 2 & 3, *O. discoidea*, pl. 17, fig. 1, *O. subconcava*, pl. 17, figg. 4-6, structure and form of shell in, described, DOUVILLÉ (110) pp. 653-661.
- †*Orthophragmina archiaci*, fig. 17, *O. pratti*, fig. 18, *O. discus*, fig. 19, *O. marthæ*, fig. 20, *O. dispansa*, fig. 21, *O. sella*, fig. 22, *O. radians*, fig. 23, *O. aspera*, fig. 24, *O. nummulitica*, fig. 26, *O. patellaris*, fig. 27, *O. varians*, fig. 25, *O. stellata*, fig. 28, *O. aprutina*, fig. 29, *O. illyrica*, fig. 30, *O. chudeaui*, fig. 36, occurrence noted, PREVER (360) pp. 574-576.
- †*Paronæa heeri*, fig. 11, *P. airaghii*, fig. 12, *P. subairaghii*, fig. 13, *P. eocenica* n. sp., fig. 14, *P. subeocenica* Prev. fig. 15, *P. sub-beaumonti*, fig. 16, Eocene, Appennines, occurrence noted, PREVER (360) pp. 572-576.
- †*Pelosina hemisphærica* n. sp., occurrence and diagnosis, CHAPMAN & HOWCHIN (79) p. 6, pl. 2, fig. 2.
- †*Peneroplis ellipticus*, p. 7, pl. 1, fig. 14, *P. lævigatus*, p. 7, pl. 1, fig. 15, *P. gervillei*, p. 7, pl. 1, fig. 16, *P. orbicularis*, p. 7, pl. 1, fig. 17, d'Orbigny's forms and figures, interpreted and notes on, FORNASINI (147).
- †*Pentellina* n. g. (with Munier-Chalmas), p. 116, *P. heberti* n. sp., A & B forms, p. 116, pl. 2, fig. 30, text-figg. 1 & 2, *P. chalmasi* n. sp., A & B forms, p. 119, pl. 2, fig. 31, text-figg. 3-5, *P. douvillei* n. sp., A form, p. 119, pl. 2, fig. 32, text-fig. 6, *P. strigillata* (d'Orb.), A & B forms, p. 124, pl. 2, fig. 35, pl. 3, fig. 39, text figg. 15-17, *P. pseudo-saxorum* n. sp., A & B forms, p. 126, pl. 2, fig. 36, pl. 3, fig. 40, text-figg. 19 & 20, Eocene and Cretaceous, France, diagnosed, SCHLUMBERGER (411).
- †*Periloculina raincourti* n. sp., A & B forms, Eocene, France, described, SCHLUMBERGER (411) p. 122, pl. 2, fig. 34, text-figg. 10-14.
- Placopsilina cenomana*, note on, SIDEBOTTOM (442) p. 4, pl. 1, fig. 7.
- †*P. tenuitesta* n. sp., p. 8, pl. 3, fig. 9, occurrence and diagnosis, CHAPMAN & HOWCHIN (79).
- †*Planularia elongata*, p. 10, pl. 2, fig. 15, *P. striata*, p. 10, pl. 2, figg. 18-20, *P. depressa*, p. 11, pl. 2, fig. 16, d'Orbigny's forms and figures interpreted and notes on, FORNASINI (147).
- †*Pleurostomella* (?) *antiqua* n. sp., p. 14, pl. 2, fig. 5, occurrence and note, CHAPMAN & HOWCHIN (79).
- Polymorphina* spp., development of shell in, CUSHMAN (96), p. 546, text-fig. 15, and pl. 1, figg. 14-17; *P. alveoliniformis* n. sp., diagnosed, p. 821, pl. 23, figg. 8-12, *P. sororia*, note on, p. 817, pl. 23, fig. 3, from Australian sands, JENSEN (199).
- †*P. lucida*, p. 51, fig. 50, *P. translucida*, p. 52, fig. 51, *P. sulcata*, p. 52, fig. 52, occurrence and notes (figg. from d'Orbigny), FORNASINI (146).
- Polystomella hedleyi* n. sp., diagnosed, p. 828, pl. 23, fig. 14, *P. macella* (perhaps n. sp.), p. 817, pl. 23, fig. 4, from Australian sands, note on, JENSEN (199).
- †*P. angularis*, p. 12, pl. 3, fig. 7, *P. gaimardi*, p. 13, pl. 3, fig. 8, *P. lessoni*, p. 13, pl. 3, fig. 9, *P. oceanensis*, p. 13, pl. 3, fig. 10, *P. umbilicata*, p. 13, pl. 3, fig. 11, *P. burdigalensis*, p. 13, pl. 3, fig. 12, d'Orbigny's forms and figures, interpreted and notes on, FORNASINI (147); *P. cryptostoma*, Oligocene, Heppenheim, notes on, STEUER (474), p. 26, pl. 8, figg. 7-9.
- †*Porocystis pruniiformis*, Cragin, thought to be, not a Polyzoan, but a gigantic monothalamous Foraminiferan, JARVIS (194) pp. 388-390, 6 text-figg.

- Psammosphæra fusca*, occurrence and note, SIDEBOTTOM (442), p. 1, pl. 1, fig. 1.
- †*Pulvinulina klemmi* n. sp., Oligocene, Heppenheim, diagnosed, STEUER (474) p. 25, pl. 8, figg. 1-3; *P. menardi*, p. 58, fig. 55, occurrence and note (fig. from d'Orbigny), FORNASINI (146).
- †*Quinqueloculina vulgaris*, p. 23, fig. 13, *Q. oculus*, p. 23, fig. 14, *Q. ariminensis*, p. 24, fig. 15, *Q. bicarinata*, p. 24, fig. 16, *Q. affinis*, p. 25, fig. 17, occurrence and notes (figg. from d'Orbigny), FORNASINI (146).
- Ramulina globulifera*, occurrence in New Zealand waters noted, BENHAM (19) p. 300.
- Reophax (Rheophax) arctica*, from Isle of Delos, note on, SIDEBOTTOM (442), p. 3, pl. 1, figg. 3 & 4; *R. euneta* n. sp., Australian sands, diagnosed, JENSEN (199) p. 821, pl. 23, figg. 5-7.
- †*Rotalia beccari*, p. 59, figg. 56 & 57, *R. inflata*, p. 60, fig. 58, *R. soldanii*, p. 60, fig. 59, occurrence and notes (figg. from d'Orbigny), FORNASINI (146); *R. fallax* n. sp., Oligocene, Heppenheim, diagnosed, STEUER (474) p. 24, pl. 8, figg. 4-6.
- †*Rupertia elongata* n. sp., p. 99, pl. 2, figg. 7 & 12, *R. incrassata*, p. 101, pl. 2, figg. 1-3, 10, 11, *R. uhligi* n. sp., p. 103, pl. 2, figg. 4-6, 8, 9, Eocene, S. Genesio (Turin), described, LEARDI in AIRAGHI (246).
- †*Spirillina tenuissima*, pl. 23, fig. 24, *S. trochiformis*, note on, p. 171, pl. 23, fig. 25, Gault, BARTIN, HUCKE (187).
- †*Spiroclypeus* n. g., diagnosis and classificatory comparisons, p. 458, *S. orbitoideus* n. sp., p. 460, pl. 14, figg. 1-6, *S. (Heterostegina) pleurocentralis*, p. 462, pl. 14, figg. 7-9, Eocene, Borneo, described, DOUVILLÉ (113).
- †*Spirolina depressa*, p. 7, pl. 1, figg. 18 & 19, pl. 2, fig. 1, *S. striata*, p. 8, pl. 2, fig. 2, *S. levigata*, p. 8, pl. 2, fig. 3, *S. pedum*, p. 8, pl. 2, figg. 4 & 5, d'Orbigny's forms and figures interpreted and notes on, FORNASINI (147).
- †*Spiroloculina depressa*, p. 3, pl. 1, fig. 1, *S. perforata*, p. 3, pl. 1, fig. 2, *S. grateloupi*, p. 4, pl. 1, fig. 3, *S. tricarinata*, p. 4, pl. 1, fig. 4, *S. bicarinata*, p. 4, pl. 1, fig. 5, *S. lyra*, p. 5, pl. 1, fig. 6, *S. orbicularis*, p. 5, pl. 1, fig. 7, *S. angulosa*, p. 5, pl. 1, fig. 8, *S. striata*, p. 5, pl. 1, fig. 9, *S. elongata*, p. 5, pl. 1, fig. 10, *S. limbata*, p. 6, pl. 1, fig. 11, *S. pulchella*, p. 6, pl. 1, fig. 12, d'Orbigny's forms and figures interpreted and notes on, FORNASINI (147).
- Spiroplecta fusca* n. sp., diagnosis and occurrence, EARLAND (119) p. 204, pl. 12, figg. 1-3; *S. sagittula*, Isle of Delos, note on, SIDEBOTTOM (442) p. 9, pl. 2, fig. 4, text-fig. 1.
- †*S. carinata*, p. 143, pl. o, fig. 14, *S. pupa*, p. 144, pl. o, fig. 15, Ravenna (Adriatic), described, FORNASINI (145); *S. c.*, p. 13, fig. 10, occurrence and note (figure from d'Orbigny), id. (146).
- †*Stacheia simulans* n. sp., occurrence and diagnosis, p. 11, pl. 2, fig. 4, CHAPMAN & HOWCHIN (79).
- †*Textularia [Textularia] gibbosa*, p. 134, pl. o, figg. 1 & 2, *T. mayeriana*, p. 135, pl. o, fig. 3, *T. sagittula*, p. 136, pl. o, figg. 4-7, *T. candeiana*, p. 137, pl. o, fig. 8, *T. gramen*, p. 138, pl. o, fig. 9, *T. abbreviata*, p. 139, pl. o, fig. 10, *T. concava*, p. 140, pl. o, fig. 11, occurrence, Ravenna (Adriatic) and description, FORNASINI (145); *T. tuberosa*, p. 8, fig. 2, *T. levigata*, p. 9, fig. 3, *T. (?) obtusa*, p. 9, fig. 4, *T. digitata*, p. 9, fig. 5, *T. (?) pygmæa*, p. 11, fig. 6, *T. angularis*, p. 11, fig. 7, occurrence and notes (figg. from d'Orbigny), FORNASINI (146).
- Textularia concava*, p. 7, pl. 1, fig. 11, *T. candeiana* (approx.), p. 7, pl. 2, fig. 1, *T. rhomboidalis*, p. 8, pl. 2, figs. 2 & 3, notes on, SIDEBOTTOM (442).
- Thurammia papillata*, occurrence and note, EARLAND (119) p. 201, pl. 11, figg. 6 & 7, pl. 14, figg. 1, 3.

- †*T. papillata*, occurrence and note on, CHAPMAN & HOWCHIN (79), p. 9, pl. 2, fig. 13.
- †*Triloculina rotunda*, p. 22, fig. 12, occurrence and note (fig. from d'Orbigny), FORNASINI (146).
- Trochammina inflata*, p. 6, pl. 1, fig. 9, *T. ochracea*, p. 5, pl. 1, fig. 8, notes on, SIDEBOTTOM (442).
- †*Truncatulina ariminensis*, p. 61, fig. 60, *T. contacta*, p. 63, fig. 61, occurrence and notes (figg. from d'Orbigny), FORNASINI (146); *T. haidingeri*, occurrence and note, CHAPMAN & HOWCHIN (79) p. 18, pl. 3, fig. 3.
- †*Uvigerina nodosa*, p. 52, fig. 53, occurrence and notes (figg. from d'Orbigny), FORNASINI (146).
- †*Vaginulina arguta*, pl. 23, fig. 14, *V. strombecki*, pl. 23, fig. 15, *V. incompta* var. *striata*, pl. 23, fig. 16, Gault, BARTIN, HUCKE (187) p. 169; *V. legumen*, p. 40, figg. 32 & 33, *V. caudata*, p. 41, fig. 34, *V. marginata*, p. 41, fig. 35, *V. striata*, p. 41, fig. 36, *V. undata*, p. 42, figg. 37 & 38, occurrence and notes (figg. from d'Orbigny), FORNASINI (146); *V.*, cf. *legumen*, occurrence and note, CHAPMAN & HOWCHIN (79) p. 18, pl. 3, fig. 8.
- †*Valvulina bulloides*, occurrence and note, p. 13, pl. 1, fig. 9, CHAPMAN & HOWCHIN (79); *V. pupa*, p. 14, pl. 4, figg. 1 & 2, *V. columna-tortilis*, p. 14, pl. 4, fig. 3, *V. rawackensis*, p. 14, pl. 4, fig. 4, *V. ignota*, p. 14, pl. 4, fig. 5, *V. globularis*, p. 14, pl. 4, figg. 6 & 7, *V. gervillei*, p. 14, pl. 4, fig. 8, *V. deformis*, p. 15, pl. 4, figg. 9 & 10 (d'Orbigny's forms and figures), interpreted and notes on, FORNASINI (147).
- Vanhoeffenella* n. g., *gaussi* n. sp. (allied to *Astrorhizidae*), described, RHUMBLER (375) p. 105, text-fig. 9.
- Verneuilina spinulosa*, note on, SIDEBOTTOM (442) p. 10, pl. 2, fig. 5.
- Virgulina schreibersiana*, p. 13, pl. 3, fig. 4, *V. squamosa*, p. 13, pl. 3, fig. 5, figured, SIDEBOTTOM (442).

### 3. HELIOZOA.

Heliozoa from Swiss Lakes, description and occurrence, with figg. for all species, PENARD (338).

#### (a) *Aphrothoraca* :—

*Actinolophus*, characters of, and notes on the genus and species, p. 262, *A. minutus* n. sp., occurrence, Ohio, and diagnosis, p. 263, 1 fig., WALTON (499).

#### (b) *Chlamydophora* :—Vacant.

#### (c) *Chalarothoraca* :—

*Raphidiophrys conglobata*, Loch Ness, Scotland, remarks on, PENARD (334) p. 606, text-fig. 4.

#### (d) *Desmothoraca* :—Vacant.

### 4. RADIOLARIA.

Radiolaria, from plankton, Norwegian Fiords, notes on, JØRGENSEN (203 & 204).

†Radiolaria : Miocene, Tripoli di Condro (Sicily), listed, with notes, COCCO (89); Cretaceous (serpentine argilloschists), Appennines, list of genera occurring, SACCO (396) p. 252; Cretaceous, Monte Euganei, listed and described, SQUINABOL (463).

Note on a Radiolarian of quite uncertain position, *Zoobion polyacanthum* n. sp., POPOFSKY (355) p. 350, pl. 14, fig. 5.



## (a) Periphyllaria:—

- Sphærozoea* (colony-forming Radiolaria), materials for their classification; characters of the two families, *Sphærozoida* and *Collosphærida* and their constituent forms, BRANDT (40) pp. 311-352, pls. 9 & 10.
- Colloid Radiolaria (mostly *Chænicosphæra* and *Thalassicolla*), plankton, Bay of Biscay, WOLFENDEN (506).
- Acanthosphæra teneriformis* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 54.
- †*Acrosp hæra mirabilis* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 187, pl. 2, fig. 5.
- Arachnosphæra dichotoma* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 60, pl. 3, fig. 18.
- †*Carposphæra minima* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 186, pl. 2, fig. 4.
- †*Cenellipsis communis* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 197, pl. 4, fig. 4.
- †*Cenosphæra teoli* n. sp., p. 185, pl. 2, fig. 1, *C. triquetra* n. sp., p. 185, pl. 2, fig. 2, *C. polyedrica* n. sp., p. 186, pl. 2, fig. 3, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- Chænicosphæra murrayana*, plankton, Bay of Biscay, note on, WOLFENDEN (506) p. 132.
- Chromyechinus borealis* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (204) p. 117, pl. 8, fig. 35, pl. 9, figg. 36 & 37.
- Collosphæra armata* n. sp., occurrence and diagnosis, BRANDT (40) p. 331, pl. 10, figg. 17 & 18.
- Collozoum moebii* n. sp., diagnosis and occurrence, BRANDT (40) p. 316, pl. 9, fig. 1.
- †*Dactyliosphæra* n. g. for *D. silvia* n. sp., p. 196, pl. 4, fig. 3, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Dactyliosphærida* n. fam., diagnosed, SQUINABOL (463) p. 195.
- †*Dorypyle* n. g., p. 196, *D. cretacea* n. sp., p. 196, pl. 3, fig. 5, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Dorysphæra multiporata* n. sp., p. 187, pl. 2, fig. 6, *D. obtusispina* n. sp., p. 187, pl. 2, fig. 7, *D. meschinellii*, p. 188, pl. 2, fig. 8, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- Drymyomma* n. g., *elegans* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 58; *D. e.*, further notes on, id. (204) p. 117, pl. 8, fig. 34.
- Echinomma leptoderma* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 57; *E. l.*, further notes on, id. (204) p. 116, pl. 8, fig. 33.
- †*Ellipsoxiphus euganeus* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 197, pl. 4, fig. 5.
- †*Euchitonia euganea* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 204, pl. 6, fig. 1.
- †*Hagiastrum venetum* n. sp. (?), Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 205, pl. 6, fig. 3.
- †*Heliodiscus acutispina* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 202, pl. 5, fig. 3.
- Heliosphæra tenera* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 55.
- Hexacantium enthacanthum* n. sp., p. 52, pl. 2, fig. 14, pl. 4, fig. 20; *H. pachydermum* n. sp., p. 53, *H. macracanthum* n. sp., p. 53, Norwegian Fiords, diagnosed, JØRGENSEN (203); *H. enthacanthum*, p. 115, pl. 8, fig. 30, *H. pachydermum*, p. 115, pl. 8, fig. 31, *H. sp.*, p. 115, pl. 8, fig. 32, further notes on, id. (204).
- Hexatonche diplacantha* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 51.
- †*H. ongariana* n. sp., p. 194, pl. 3, fig. 4, *H. euganea* n. sp., p. 194, pl. 4, fig. 1, Cretaceous, Italy, diagnosed, SQUINABOL (463)).

- Larospira (Lithelius) minor*, note on, JØRGENSEN (204) p. 121.  
*Leptosphaera arachnoides* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 56.  
*Lithelius minor* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 65, pl. 5, fig. 24.  
†*Lithomespilus coronatus* n. sp., p. 198, pl. 4, fig. 7, *L. ovoideus* n. sp., p. 198, pl. 4, fig. 8, Cretaceous, Italy, diagnosed, SQUINABOL (463).  
*Odontosphaera compacta* n. sp., occurrence and diagnosis, BRANDT (40) p. 342, pl. 10, fig. 19.  
†*Pentasphaera* n. g., p. 193, for *P. longispina* n. sp., p. 193, pl. 5, fig. 1, Cretaceous, Italy, diagnosed, SQUINABOL (463).  
†*Pentasphaerida* n. fam., diagnosed, SQUINABOL (463) p. 192.  
†*Phacostylus rarus* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 202, pl. 4, fig. 10.  
*Phorticium pylonium*, Norwegian Fiords, notes on, JØRGENSEN (204) p. 120, fig. 42, pls. 10 & 11, figg. 43-45, pl. 11.  
†*Porodiscus crebriporus* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 202, pl. 5, fig. 4.  
*Rhaphidozoum acuferum*, account of, BRANDT (40) pp. 319-322, pl. 9, figg. 3-7.  
*Rhizoptegma boreale*, Norwegian Fiords, diagnosed, JØRGENSEN (204) p. 118, fig. 38, pls. 9 & 10.  
†*Rhopalastrum speciosum* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 203, pl. 5, fig. 5.  
*Siphonosphaera tenera*, p. 338, pl. 9, fig. 13, *S. martensis* n. sp., p. 339, pl. 9, figg. 9-12, diagnosed, BRANDT (40).  
*Solenosphaera chierchiei* n. sp., occurrence and diagnosis, BRANDT (40) p. 346, pl. 10, fig. 27.  
*Sorolarcus circumtextus* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 65.  
†*Spongodiscus maximus* n. sp., p. 205, pl. 6, fig. 4, *S. ? dubius* n. sp., p. 205, pl. 6, fig. 5, Cretaceous, Italy, diagnosed, SQUINABOL (463).  
†*Spyngolonche diversispina* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 206, pl. 6, fig. 6.  
†*Spyngoprimum diversispina* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 199, pl. 4, fig. 2.  
†*Spyngotripus compressus* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 206, pl. 6, fig. 7.  
†*Stauralastrum patavinum* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 204, pl. 6, fig. 2.  
†*Staurosphaera magnifica* n. sp., p. 191, pl. 3, fig. 1, *S. veneta* n. sp., p. 191, pl. 3, fig. 2, *S. hindei* n. sp., p. 191, pl. 3, fig. 3, Cretaceous, Italy, diagnosed, SQUINABOL (463).  
*Streblacantha (Sorolarcus) circumtexta*, notes on, JØRGENSEN (204), p. 121, fig. 46, pls. 11 & 12.  
†*Stylartus longispina* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 199, pl. 4, fig. 6.  
*Stylodictya aspera* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 62; *S. tenuispina* n. sp., p. 118, pl. 10, fig. 39, *S. validispina* n. sp., p. 119, pl. 10, fig. 40, *S. aculeata* n. sp., p. 119, pl. 10, fig. 41, id. (204).  
†*Stylotrachus euganeus* n. sp., p. 207, pl. 6, fig. 9, *S. longispina* n. sp., p. 207, pl. 6, fig. 8, Cretaceous, Italy, diagnosed, SQUINABOL (463).  
*Tetrapyle polyacantha* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 63.  
*Tetrapylonium clevei* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 64.  
*Thalassicolla*, formation of isospores and anisospores in, pp. 251-256;

- T. gelatinosa* n. sp., p. 247, pl. 14, figg. 1-5, 7 & 8, *T. nucleata*, p. 247, pl. 11, figg. 1-10, pl. 12, figg. 1-7, 10-15, pl. 13, *T. spumida*, p. 248, pl. 14, figg. 14 & 15, diagnosed, BRANTT (39).  
 †*Theodiscus sculptus* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 200, pl. 4, fig. 9.  
 †*Trisphæra superba* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 190, pl. 2, fig. 13.  
 †*Trochodiscus triangularis* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 200, pl. 5, fig. 2.  
 †*Xiphosphæra antiqua* n. sp., p. 189, pl. 2, fig. 11, *X. rara* n. sp., p. 189, pl. 2, fig. 10, *X. spinosissima* n. sp., p. 188, pl. 2, fig. 9, Cretaceous, Italy, diagnosed, SQUINABOL (463).  
 †*Xiphostylus perneri* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 190, pl. 2, fig. 12.

(b) **Acantharia:**—

- Acanthochiasma solidissima* n. sp., occurrence and diagnosis, POPOFSKY (355) p. 351, pl. 14, fig. 6.  
*Acanthometridæ*, direct fission in various members of, pp. 339-345; systematic notes on, pp. 345-349, POPOFSKY (355).  
*Acanthonia abscisa*, notes on, POPOFSKY (355) pl. 14, figg. 1, 2 & 4; *A. spinifera* n. sp., p. 351, pl. 14, fig. 3, *A. stellata* n. sp., p. 354, pl. 15, fig. 10, occurrence and diagnoses, id. (355); *A. (?) heterobelos* n. sp., p. 67, *A. pusilla* n. sp., p. 68, Norwegian Fiords, diagnosed, JØRGENSEN (203).  
*Acanthonidium henseni* n. sp., p. 353, pl. 15, fig. 8, *A. longispinum* n. sp., p. 352, pl. 15, fig. 7, occurrence and diagnoses, POPOFSKY (355).  
*Acanthostaurus pallidus* var. *subulata* n. var., p. 69, *A. nordgaardii* n. sp., p. 69, pl. 3, fig. 19, Norwegian Fiords, diagnosed, JØRGENSEN (203).  
*Amphilonche variabilis* n. sp., occurrence and diagnosis, POPOFSKY (355) p. 353, pl. 15, fig. 9.  
*Radiosphæra* n. g. *anacanthica* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (204) p. 122, pl. 17, figg. 105 & 106.

(c) **Monopylaria:**—

- Monopylaria, phylogeny and classification of, JØRGENSEN (204) pp. 123-129, 8 text-figg.  
*Acanthocorys umbellifera*, Norwegian Fiords, notes on, JØRGENSEN (204) p. 137, pl. 18, fig. 107.  
 †*A. cretacea* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 214, pl. 7, fig. 9.  
*Amphimelissa* n. g., p. 126, (for *Botryopyle*) *setosa*, p. 137, pl. 18, fig. 109, diagnosed, JØRGENSEN (204).  
*Androcyclas* n. g. (for *Pterocorys*) *gamphonycha* (including *P. theoconus* and *P. amblycephalis*), diagnosed, JØRGENSEN (204) p. 139, pl. 17, figg. 92-97.  
 †*Archicorys fossilis* n. sp., p. 209, pl. 7, fig. 1, *A. minima* n. sp., p. 209, pl. 7, fig. 2, Cretaceous, Italy, diagnosed, SQUINABOL (463).  
*Campylacantha* n. g. *cladophora* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (204) p. 129, pl. 12, fig. 47.  
*Ceratospyrus hyperborea* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (204) p. 130, pl. 13, fig. 49.  
*Cladoscenum tricolpium* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 78; further notes on, p. 134, pl. 15, figg. 71-73, *C. limbatum* n. sp., diagnosed, p. 134, pl. 15, fig. 74, id. (204).  
*Clathrocyclas (Theocalyptra) craspedota*, notes on, JØRGENSEN (204) p. 139, pl. 17, figg. 98-100.

- †*Corocalyptra euganea* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 219, pl. 8, fig. 2.
- †*Diacanthocapsa rara* n. sp., p. 218, pl. 7, fig. 17, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Dicolocapsa euganea* n. sp., p. 218, pl. 7, fig. 18, *D. fossilis* n. sp., p. 218, pl. 7; fig. 19, *D. ampulla* n. sp., p. 219, pl. 8, fig. 1, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- Dictyoceras acanthicum* n. sp., p. 84, *D. xiphophorum* n. sp., p. 84, Norwegian Fiords, diagnosed, JØRGENSEN (203); *D. a.*, notes on, p. 140, fig. 101, pls. 17 & 18, id. (204).
- Dictyocircus* n. g., p. 129, *clathratus* n. sp., p. 130, pl. 13, fig. 48, occurrence and diagnosis, JØRGENSEN (204).
- †*Dictyomitra aspera* n. sp., p. 230, pl. 9, fig. 11, *D. hornatissima* n. sp., p. 230, pl. 9, fig. 12, *D. macrocephala* n. sp., p. 230, pl. 9, fig. 10, *D. crebrisulcata* n. sp., p. 231, pl. 10, fig. 1, *D. undata* n. sp., p. 231, pl. 10, fig. 2, *D. paupera* n. sp., p. 232, pl. 10, fig. 3, *D. formosa* n. sp., p. 232, pl. 10, fig. 4, *D. elegans* n. sp., p. 232, pl. 10, fig. 5, *D. insignis* n. sp., p. 233, pl. 10, fig. 6, *D. subtilis* n. sp., p. 233, pl. 10, fig. 7, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Distylocapsa* n. g., p. 224, *D. nova* n. sp., p. 225, pl. 9, fig. 1, *D. tuberculata* n. sp., p. 225, pl. 9, fig. 2, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- Dictyophimus clevei* n. sp., p. 80, pl. 5, fig. 26, Norwegian Fiords, diagnosed, JØRGENSEN (203); *D. c.*, further notes on, p. 138, *D. histicosus* n. sp., diagnosed, p. 138, pl. 16, fig. 89, id. (204).
- †*Eucyrtidium turritum* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 234, pl. 10, fig. 9.
- Euscenium corynephorum* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 77; notes on, id. (204) p. 133, pl. 15, fig. 70.
- †*Eusyringium venetum* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 235, pl. 10, fig. 10.
- Gonosphaera* n. g. *primordiialis* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (204) p. 133, pl. 14, figg. 64-68.
- †*Halicapsa tenuis* n. sp., p. 209, pl. 5, fig. 7, *H. obtusispina* n. sp., p. 210, pl. 5, fig. 6, *H. parvula* n. sp., p. 210, pl. 7, fig. 3, *H. crebripora* n. sp., p. 210, pl. 7, fig. 4, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- Helotholus* n. g. *histicosa* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (204) p. 137, pl. 16, figg. 86-88.
- Litharachnium tentorium*, Norwegian Fiords, notes on, JØRGENSEN (204) p. 138, pl. 16, figg. 90 & 91.
- †*Lithocampe euganea* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463), p. 235, pl. 10, fig. 11.
- Lithomelissa setosa*, p. 81, pl. 4, fig. 21, var. *belonophora* n. var., p. 82, pl. 4, fig. 22, *L. hystrix* n. sp., p. 83, Norwegian Fiords, diagnosed, JØRGENSEN (203); *L. setosa*, p. 135, pl. 16, figg. 81-83, pl. 18, fig. 108, *L. hystrix*, p. 136, pl. 16, fig. 85, *L. laticeps* n. sp., p. 136, pl. 16, fig. 84, occurrence and diagnoses, id. (204).
- †*Lithostrobos communis* n. sp., p. 228, pl. 9, fig. 7, *L. incrassatus* n. sp., p. 228, pl. 9, fig. 6, *L. pagoda* n. sp., p. 229, pl. 9, fig. 8, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Lychnocantium euganeum* n. sp., p. 212, pl. 7, fig. 6, *L. parvulum* n. sp., p. 212, pl. 7, fig. 7, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- Peridium hystrix* n. sp., p. 76, *P. longispinum* n. sp., p. 77, Norwegian Fiords, diagnosed, JØRGENSEN (203); *P. l.*, notes on, id. (204) p. 135, pl. 15, figg. 75-79, pl. 16, fig. 80.
- Phormacantha* n. g. (for *Peridium*) *hystrix*, diagnosed, JØRGENSEN (204) p. 132, pl. 14, figg. 59-63.

- †*Phormocampe elegans* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 227, pl. 9, fig. 5.
- Plectacantha* n. g. *oikiskos* nom. nov., p. 131, pl. 13, figg. 50-57, *P. trichoides* n. sp., p. 132, pl. 13, fig. 58, occurrence and diagnoses, JØRGENSEN (204).
- Protoscenium* n. g. (for *Plectanium*) *simplex*, diagnosed, JØRGENSEN (204), p. 133, pl. 15, fig. 69.
- Pterocorys theoconus* n. sp., p. 86, *P. gamphonyxos* n. sp., p. 86, *P. amblycephalis* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203).
- †*Sciadiocapsa* n. g., p. 211, *S. euganea* n. sp., p. 211, pl. 7, fig. 5, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Sethamphora pulchra* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 213, pl. 5, fig. 8.
- †*Sethocapsa fossilis* n. sp., p. 216, pl. 7, fig. 13, *S. mucronata* n. sp., p. 217, pl. 7, fig. 14, *S. hispida* n. sp., p. 217, pl. 7, fig. 15, *S. megacephala* n. sp., p. 217, pl. 7, fig. 16, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Sethocyrtis perspicua* n. sp., p. 215, pl. 7, fig. 10, *S.* (?) *hirsuta* n. sp., p. 215, pl. 7, fig. 11, *S. communis* n. sp., p. 216, pl. 7, fig. 12, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Sethopyramis acuticephala* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 214, pl. 7, fig. 8.
- Stichocorys seriata*, Norwegian Fiords, notes on, JØRGENSEN (204) p. 140, pl. 18, figg. 102-104.
- †*S. pulchra* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 229, pl. 9, fig. 9.
- †*Stichomitra magna* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 234, pl. 10, fig. 8.
- Theocalyptra craspedota* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 85.
- †*Theocapsa costata* n. sp., p. 223, pl. 8, fig. 10, *T. regularis* n. sp., p. 223, pl. 8, fig. 11, *T. naticoides* n. sp., p. 224, pl. 8, fig. 12, *T. minima* n. sp., p. 224, pl. 8, fig. 13, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Theoconus coronatus* n. sp., p. 220, pl. 8, fig. 3, *T. macroporus* n. sp., p. 220, pl. 8, fig. 4, *T. simplex* n. sp., p. 221, pl. 8, fig. 5, Cretaceous, Italy, diagnosed, SQUINABOL (463).
- †*Theocorys spinosa* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 222, pl. 8, fig. 9.
- †*Theocyrtis parvula* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 221, pl. 8, fig. 6.
- †*Theosyringium pulchrum* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 222, pl. 8, fig. 7.
- †*Tricolocampe obtusicephala* n. sp., Cretaceous, Italy, diagnosed, SQUINABOL (463) p. 222, pl. 8, fig. 8.
- †*Tricolocapsa ovata* n. sp., p. 225, pl. 8, fig. 14, *T. minima* n. sp., p. 226, pl. 8, fig. 15, *T. oblonga* n. sp., p. 226, pl. 9, fig. 3, *T. veneta* n. sp., p. 226, pl. 9, fig. 4, Cretaceous, Italy, diagnosed, SQUINABOL (463).

## (d) Tripylaria (Phæodaria):—

- Tripylaria (*Phæosphæria*) collected by the "Valdivia" and "Gauss," listed with notes, HÄCKER (169) pp. 637-648.
- Aulodendron heteracanthum* n. sp., diagnosed, HÄCKER (170) p. 348, text-fig. 8.
- Aulographis tristyla* n. sp., p. 359, text-fig. 13 f, HÄCKER (170).
- Aulographonium antarcticum* n. sp., p. 348, text-fig. 9, remarks on, HÄCKER (170).
- Aulosцена atlantica* n. sp., p. 641, fig. 14, *A. robustissima*, p. 641, fig. 13,

- A. verticillus*, p. 642, fig. 4, *A. pelagica* n. sp., p. 643, fig. 6, occurrence and remarks, HÄCKER (169).
- Aulosphæra coronata* n. sp., p. 637, fig. 23, *A. filigera* n. sp., p. 637, fig. 24, *A. bisternaria*, p. 638, fig. 11, *A. robusta* n. sp., p. 639, fig. 12, *A. trispathis* n. sp., p. 639, fig. 25, occurrence and diagnoses, HÄCKER (169).
- Cannosphæra lepta* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 89; note on, id. (204) p. 141, pl. 18, fig. 110.
- Challengeron heteracanthum* n. sp., p. 91, pl. 3, figg. 16 & 17, diagnosed, JØRGENSEN (203); *C. channeri*, p. 141, pl. 18, fig. 111, *C. armatum*, p. 111, pl. 18, fig. 112, Norwegian Fiords, notes on, id. (204).
- Gazelletta pentapodium* n. sp., Norwegian Fiords, diagnosed, JØRGENSEN (203) p. 94.
- Medusetta arcifera* n. sp., p. 93, pl. 4, fig. 23, Norwegian Fiords, diagnosed, JØRGENSEN (203).
- Sagenoarium antarcticum* n. sp., p. 646, fig. 27d, *S. furcatum* n. sp., p. 647, fig. 27a, *S. dicranon* n. sp., p. 647, fig. 27c, *S. verticillatum* n. sp., p. 647, fig. 27b, occurrence and diagnoses, HÄCKER (169).
- Sagenoscena lampadophora* n. sp., p. 344, text-fig. 6, *S. irmingeriæna*, p. 351, pl. 15, fig. 1, text-fig. 11, *S. floribunda* n. sp., p. 359, text-fig. 13d, HÄCKER (170); *S. tetracantha* n. sp., p. 648, fig. 28, *S. irminigeriana*, p. 648, fig. 9, occurrence and remarks, HÄCKER (169).
- Sagoscena castra*, p. 644, fig. 26d, *S. digitata* n. sp., p. 644, fig. 26f, *S. floribunda* n. sp., p. 645, fig. 26c, *S. tentorium*, p. 644, fig. 26e, *S. pratorium*, p. 645, fig. 26b, *S. elegans*, p. 646, figg. 10, 26a, occurrence and diagnoses, HÄCKER (169).
- Tuscarusa calathoides* n. sp., p. 356, *T. cepa* n. sp., p. 357, diagnosed, HÄCKER (170).

### C. SPOROZOA.

Sporozoa, classification, origin, and inter-relationships of the different orders of, considered at length, CRAWLEY (94) pp. 607-624.

#### 1. ECTOSPORA (TELOSPORIDIA).

##### (a) Gregarinidea:—

- Aggregata inachi* n. sp., relations to host (causing castration) and "cœlomic" cysts of, described, SMITH (462) pp. 406-410, pl. 26.
- Anchorina sagittata*, growth and development of trophozoites of; relation of parasites to the host's intestine, CECCONI (76), pp. 230-244, pls. 9 & 10, 1 text-fig.
- Clepsydrina (Gregarina) ovata*, isogamous conjugation and changes leading up to, also spore-formation in, described, SCHNITZLER (416) pp. 309-333, pls. 16 & 17, 3 text-figg.
- Gonospora varia*, anisogamous gametes and conjugation in, described, BRASIL (43) pp. 17-38, pl. 2, figg. 5, 15-17, 2 text-figg.
- Gregarina cavalierina* n. sp., occurrence and short description, BLANCHARD (29) pp. 926-928.
- Monocystis* spp. var., slight differences in gametes and therefore anisogamous conjugation in, BRASIL (42) pp. 735 & 736, and, full account, (44) pp. 69-99, pls. 9 & 10.
- Stylorhynchus gladiator* n. sp., occurrence and short description, BLANCHARD (29) pp. 924 & 925.
- Tenocystis* n. g. *mira* n. sp., occurrence and description, LÉGER (248) pp. 524-526, 1 fig.

*Urospora lagidis*, anisogamous gametes and conjugation in, described, BRASIL (43) pp. 17-38, pl. 2, figg. 1-4, 6-14.

(b) **Coccidiidea**:—

*Caryotropha mesnili*, changes and behaviour of the karyosome and nucleus in, during growth, and their significance, SIEDLECKI (444) pp. 559-581, pl. 16.

*Coccidium arvicola* n. sp., occurrence and diagnosis, GALLI-VALERIO (155) p. 520; *C. subepithelialis* n. sp., occurrence and short account of, MOROFF & FIEBIGER (302) pp. 166-174, pl. 8; *C. sp. incert.*, in intestine of cattle in Tunis, note on characters of, DUCLOUX (114) pp. 352-354.

The parasites known as *Coccidioides (immitis and pyogenes)* Rixf. & Gilch. are not Sporozoa, but pathogenic Fungi (moulds), OPHÜLS (327) pp. 443-485, pls. 34-38.

(c) **Hæmosporidia**:—

Hæmosporidia: classification of all known forms in 3 genera, "*Hæmamaeba*," *Piroplasma*, and *Hæmogregarina*; lists of all known species, with remarks, LAVERAN (240) pp. 809-817.

Cysts and sporozoites of a Hæmosporidian, (probably phases in the life-cycle of a Hæmogregarine of *Testudo*) described in a tick (*Hyalomma*), LAVERAN & NÈGRE (244) pp. 964-966, 6 figg.

A new Hæmatozoan, probably allied to *Piroplasma*, described from moles by GRAHAM-SMITH (163) pp. 453-459, pls. 13 & 14.

"*Hæmamaeba danilewskyi* var. *hirundinis* n. var., occurrence and diagnostic character, SERGENT (436) p. 57, 1 fig.; "*H.*" *smithi* n. sp., occurrence and description, leucocytic habitat noted, LAVERAN & LUCET (242) pp. 674-676, 5 figg.; "*H.*" *testudinis* n. sp., occurrence and diagnosis, LAVERAN (238) pp. 176-178, 5 figg.; "*H.*" n. sp., [probably a *Plasmodium*], from an Annam squirrel, described, VASSAL (494) pp. 350 & 351, and (495) pp. 224-231, pl. 10; "*H.*" *vassali* n. sp., proposed for Vassal's parasite, just mentioned, LAVERAN (240) p. 810.

*Hæmocystidium simondi*, remarks on, CASTELLANI & WILLEY (66) pp. 387 & 388, pl. 24, fig. 6.

*Hæmogregarina balfouri* n. sp., interesting occurrence in a Mammal and short description, LAVERAN (227) pp. 295-298, 9 text-figg.; *H. balfouri* [= *H. jaculi*, the author stupidly naming it in addition, though knowing Laveran had named it], occurrence in a gerboa and also (or a closely allied form) in the leucocytes of the rat, described, BALFOUR (7) pp. 241-244, 8 figg.; *H. berestneffi* n. sp., name proposed for Berestneff's parasite of Indian frogs (Zool. Rec. 1903, No. 14), CASTELLANI and WILLEY (66) p. 397; *H. bothi* n. sp., occurrence and diagnosis, LEBAILLY (247) p. 304; *H. catesbianæ* n. sp., occurrence and description, STEBBINS (469) pp. 55-62, 2 pls.; *H. gerbilli* n. sp., occurrence in a Mammal, morphology, and alleged phases of development in a louse, described, CHRISTOPHERS (86) 15 pp., 1 pl.; *H. magna*, note on karyolytic action of, and degenerative forms of, SERGENT (438) p. 671, 5 figg.; *H. mirabilis*, pp. 391-394, pl. 24, fig. 8, *H. nicoræ*, pp. 389-391, pl. 24, fig. 7, remarks on, CASTELLANI & WILLEY (66); *H. neireti* n. sp., p. 174, figg. 7-9, *H. theileri* n. sp., p. 172, occurrence and diagnostic features, LAVERAN (236); *H. varani* n. sp., occurrence and diagnosis, LAVERAN (237) pp. 175 & 176, 6 figg.; *H. sp.* (perhaps new, perhaps *H. tunisiensis*) from African toads, note on morphology of, STEPHENS (473) pp. 115-117.

- Karyolysus clamatae* n. sp., from *Rana clamata*, extra- and intra-corporal phases of, described, STEBBINS (468) pp. 315-318, 2 pls.
- Lankesterella tritonis* n. sp., account of trophic and schizogonic phases, FANTHAM (126) pp. 257-263, 17 figg.
- "*Leucocytozoon*" *canis* n. sp. (probably not an ordinary Hæmogregarine) from the white blood-corporules of dogs, notes on, BENTLEY (20) p. 988, 2 figg., and JAMES (190) pp. 1-12, 1 pl.
- Malarial parasite, occurrence of a gregariniform (crescentic) phase in, recalling a Hæmogregarine, BILLET (25) pp. 720-722.
- Piroplasma bigeminum*, curious developmental stages in ticks (*Rhipicephalus*, *Hyalomma*) alleged, KOCH (214) pp. 1866 & 1867, text-figg. 4-13; *P. canis*, morphology and multiplicative stages of, described, NUTTALL & GRAHAM-SMITH (325) pp. 237-249, pl. 9; *P. (Leishmania) donovani*, development of Flagellate phases in, in cultures, CHATTERJEE (80) p. 16, pls. 1 & 2, CHRISTOPHERS (85) 14 pp., 1 pl., and LEISHMAN & STATHAM (253) pp. 321-334, 1 pl., 2 text-figg.; *P. d.*, notes on morphology of, DONOVAN (105) pp. 155 & 156; *P. equi*, pls. 1 & 2, *P. bovis*, pl. 3, figg. 13 & 14, *P. canis*, pl. 3, figg. 11 & 12, different morphological phases of, described, BOWHILL (37) pp. 10 & 11; *P. parvum* n. sp., much smaller than other known species, causing East African Coast fever, notes on, THEILER (479) p. 470, pl. 1, fig. 1, and id. (480) pp. 599-601; *P. tropicum* (the parasites of Delhi boil), notes on, and good figures of, JAMES (191) pp. 6-8, fig. 2, pl. 1.

## 2. ENDOSPORA (NEOSPORIDIA).

### (a) Myxosporidia:—

- Myxosporidia from fish in the rivers and lakes of the French Alps, notes on, CÉPÈDE (77) pp. 905-913.
- Branchiophaga* n. g. *aloesida* n. sp., a new Myxosporidian parasite from the branchial tissue of *Alosa frinta*, account of, MAZZARELLI (287) pp. 227-229; brief notice of same, id. (286) pp. 71 & 72.
- Chloromyxum protei* n. sp., occurrence and diagnosis, JOSEPH (205) pp. 450 & 451.
- Glugea* and *Nosema*; these generic names both retained and used for different types, in one of which the sporont (pansporoblast) is poly-porous (type: *Glugea anomala*), and in the other it is monosporous (type: *Nosema bombycis*), PEREZ (341); *G. stempelli* n. sp., from *Balanus amaryllis*, briefly described, id. (343) pp. 150 & 151.
- Henneguya légeri* n. sp., occurrence and diagnosis, CÉPÈDE (77) p. 911; *H. nüsslini* n. sp., occurrence, cysts and spores described, SCHUBERG & SCHRÖDER (420) pp. 56-59, pl. 3, figg. 10-15.
- Myxidium barbatulæ* n. sp., occurrence and diagnosis, CÉPÈDE (77) p. 912.
- Myxobolus neurobius* n. sp., from nervous system of trout, cysts and spores described, SCHUBERG & SCHRÖDER (420) pp. 49-56, pl. 3, figg. 1-9; *M.* [apparently really *Henneguya*] sp., occurrence and notes, LINTON (265) pp. 366, 382, 390, pl. 8, figg. 55 & 56.
- Myxocystis mrazeki* n. sp., occurrence, general description, and structure of spores, HESSE (177) pp. 914-916, also id. (179) pp. 12-14, 9 text-figg.
- Nosema* [see also under *Glugea*]; *N. pulvis* n. sp., from *Carcinus moenas*, developmental features noted, PEREZ (341) pp. 146-148; *N. p.*, effect of, on host, id. (342), pp. 148-150; *N. p.*, a condition of diffuse infiltration, and spores in, described, id. (344) pp. 11-14, text-figg. 12 & 13; *N. longifilum* n. sp., p. 918, *N. vayssierei* n. sp., p. 917, occurrence and diagnoses, HESSE (178).
- Thelohanania cepedei* n. sp., occurrence and diagnosis, HESSE (178) p. 919; *T. manadis*, schizogony and sporogony in, fully described, PEREZ (344) pp. 2-11, text-figg. 1-11.



## (b) Actinomyxidia:—

*Sphaeractinomyxon stolci*, detailed account of development, spore-formation, and relationships of, CAULLERY & MESNIL (72) pp. 272–308, pl. 15, 4 text-figg.

## (c) Sarcosporidia:—

A *Sarcosporidium* [*Sarcocystis*], from a monkey, note on, DE KORTÉ (218) pp. 451 & 452, pl. 12.

*Sarcocystis tenella*, note on occurrence and spores of, METTAM (297) p. 273.

## (d) Haplosporidia:—

Haplosporidia: general account of forms to be included in the order, or which are closely allied to it; relationships discussed, CAULLERY & MESNIL (71). [See II. F.]

*Bertramia asperospora*, p. 132, pl. 12, figg. 100–105, *B. capitellæ*, p. 131, pl. 12, figg. 87–99, remarks on, CAULLERY & MESNIL (71).

*Celosporidium blattellæ* n. sp., occurrence and description, CRAWLEY (93) pp. 158–161, 6 text-figg.; *C. chydoricola*, p. 142, pl. 12, figg. 76–86, remarks on, CAULLERY & MESNIL (71).

*Haplosporidium marchouxi* n. sp., p. 581, text-fig. 4, *H. potamillæ* n. sp., p. 582, fig. 5, *H. vejdoskii* n. sp., p. 581, fig. 3, occurrence and diagnoses, CAULLERY & MESNIL (67); *H. heterocirri*, p. 108, pl. 11, figg. 1–15, *H. marchouxi*, p. 114, pl. 11, figg. 30–43, *H. potamillæ*, p. 117, pl. 11, figg. 44 & 45, *H. scolopti*, p. 111, pl. 11, fig. 16–29, *H. vejdoskii*, p. 118, pl. 12, fig. 46–56, fuller account of, id. (71).

*Ichthyosporidium* n. g. for *I. gasterophilum* n. sp., p. 640, and *I. phymogenes* n. sp., p. 641, occurrence and remarks, CAULLERY & MESNIL (68); fuller accounts of, id. (71), *I. g.*, p. 137, pl. 13, figg. 106–116, and *I. p.*, p. 139, pl. 13, figg. 117–124.

*Rhinosporidium* n. g. *kinealyi* n. sp.; parasitic in man, general account of, MINCHIN & FANTHAM (298) pp. 521–532, pls. 30 & 31.

*Urosporidium* n. g. *fuliginosum* n. sp. occurrence and diagnosis, CAULLERY & MESNIL (67) p. 582, text-fig 6; fuller account of, id. (71) p. 122, pl. 12, figg. 57–75.

## Allied to Haplosporidia:—

*Blastulidium pædophthorum*, multiplication in, by a budding-like process, PEREZ (340) pp. 1027–1029, 2 figg. [The figures rather point to the vegetative nature of this organism.]

*Scheviakovella* n. g. for "*Glugea*" *scheiili* L. Pfeiffer, Schewiakoff's "endoparasitic tubes" of *Cyclops*; remarks on and affinities of, discussed, CAULLERY & MESNIL (71) p. 156.

## SPOROZOA INCERTÆ SEDIS.

Note on occurrence of *Lymphocystis johnstonii*, and good photograph of severely-infected flounder, JOHNSTONE (201) p. 292, pl. 6, text-fig. 9.

A new Sporozoa, *Microklossia* n. g. *prima* n. sp., from various Russian Lepidoptera; developmental phases described, including unusual method of sporulation, KRASSILTSCHIK (219) pp. 656 & 657, (220) pp. 736 & 737, and (221) pp. 737–739.

Doubtful Sporozoa.—*Cytoryctes* [spelt by the author, variously, *Cytorhycetes* and *Cytorrhycetes*] *vaccinæ*, otherwise known as "Guarnieri's bodies," the alleged parasites of small-pox and vaccinia, lengthy account of, SIEGEL (445) 34 pp., 3 pls.; *C. scarlatinæ* n. sp., a similar form supposed to cause scarlet-fever, id. (446) 14 pp., 1 pl.; and *C. luis* n. sp., supposed to be the causal agent of syphilis, id. (447) 15 pp., 2 pls.

## D. MASTIGOPHORA.

## 1. FLAGELLATA (EUFLAGELLATA).

## (a) Lissoflagellata:—

- Calonympha* n. g. *grassii* n. sp., remarkable form, parasitic in termites, with complex cytological details, FOA (141) pp. 542-545, 2 text-figg.
- Devescovina* n. g. *striata* n. sp., from termites, morphology briefly described, FOA (141) pp. 545 & 546, text-fig. 3.
- Dinema* (probably) n. sp., occurrence and note on cytological peculiarities, PENARD (339) p. 459.
- Dinobryon utriculus*, occurrence of peculiar form of, LEMMERMANN (254) p. 149, pl. 4, figg. 5-7.
- Dunaliella* n. g. *salina* n. sp., occurrence and description, TEODORESCO (478) pp. 215-232, pls. 8 & 9, 5 text-figg.; *D. s.*, saline springs, Cagliari, general account of, HAMBURGER (172) pp. 111-125, pl. 6, figg. 1-17, 7 text-figg.
- Herpetomonas bombycis* n. sp., occurrence and morphological characters, LEVADITI (260) pp. 631-634, 11 figg.
- Lamblia* [= *Megastoma*] *intestinalis*, occurrence and note, CASTELLANI (65) p. 1286, fig. 2.
- Lepocinclis marssonii* n. sp., p. 151, pl. 4, fig. 9, *L. ovum* var. *punctato-striata* n. var., p. 150, pl. 4, fig. 9, occurrence and diagnoses, LEMMERMANN (254).
- Pseudospora volvocis*, general account of biology and life-history, ROBERTSON (379) pp. 213-230, pl. 12.
- "*Spirochæta*" *pallida* n. sp., occurrence in syphilitic lesions and description, SCHAUDINN & HOFFMANN (406) pp. 527-530, 2 text-figg.; "*S.*" p. (= *Trypanosoma luis*) trypaniform phases in the life-cycle of, also sexual forms, described, KRZYSZTAŁOWICZ & SIEDLECKI (223) pp. 713-728, pl. 13.
- Spironema* n. g. (for "*Spirochæta*") *pallidum*, as distinct from true *Spirochæta*, proposed by VUILLEMIN (498) pp. 1567 & 1568. [Relinquished, see under *Treponema*.]
- Trachelomonas*, classification of the different species, founded on the characters of the lorica, p. 668, *T. verrucosa*, p. 669, pl. 41, fig. 2, *T. rugulosa*, p. 669, pl. 41, figg. 7 & 8, *T. stokesiana* n. sp., p. 670, pl. 41, figg. 4 & 5, *T. armata*, p. 672, pl. 41, figg. 9-11, *T. crebea*, p. 672, pl. 41, fig. 1, *T. obtusa* n. sp., p. 673, pl. 41, fig. 3, *T. horrida* n. sp., p. 674, pl. 41, fig. 6, and various other spp., described, PALMER (329); *T. affinis* var. *levis* n. var., occurrence and diagnosis, LEMMERMANN (255) p. 157, pl. 4, fig. 8; *T. bulla* var. *regularis* n. var., p. 165, pl. 11, fig. 6, *T. oblonga* var. *truncata*, p. 165, pl. 11, figg. 7 & 8, *T. volzi* n. sp., p. 166, pl. 11, fig. 9, occurrence and remarks on, LEMMERMANN (257); *T. ensifera* n. sp., p. 31, pl. 1, figg. 24-27, *T. annulata* n. sp., p. 30, pl. 1, fig. 23, *T. hispida* var. *verrucosa* n. var., p. 30, pl. 1, fig. 28, var. *ovalis* n. var., p. 30, pl. 1, fig. 29, from Paraguay, described, v. DADAY (99).
- Treponema* n. g. for *Spironema* (*Spirochæta*) *pallidum*, preoccupied, proposed by SCHAUDINN (404) p. 1728.
- Trichomonas hominis*, occurrence and note, CASTELLANI (65) p. 1286, fig. 1.
- Trypanoplasma guernei* n. sp., occurrence and notes on, BRUMPT (55) pp. 323, 331, text-figg. 34 (ii) 38 (i); *T. intestinalis* n. sp., from the digestive tube of *Box boops*, short account of, LÉGER (249) pp. 511-513; *T.* and *Trypanosoma* spp., evolutive phases in leeches (*Hemiclepsis* or *Piscicola*), described, BRUMPT (55) pp. 331 & 332, text-figg. 39-41.

*Trypanosoma avium*, *T. laverani* n. sp., *T. mesnili* n. sp. and *T. sp.* (perhaps new), from various birds, morphology of and cultural characters described, NOVY & McNEAL (323) pp. 256-308, 11 pls.; *T. blanchardi* n. sp., p. 324, figg. 34 (i) & 35, occurrence and notes, BRUMPT (55); *T. bothei* n. sp., occurrence and diagnosis, LEBAILLY (247) p. 304; *T. clarixæ* n. sp., occurrence and diagnostic characters, MONTEL (300) pp. 1016 & 1017, 1 fig.; *T. dionisii* n. sp., occurrence and diagnostic characters, BÉTTENCOURT & FRANÇA (22) pp. 305 & 306; *T. pestanaï* n. sp., occurrence and chief features, id. (23) pp. 306 & 307; *T. duttoni* n. sp., from a mouse, diagnosed, THIROUX (484) pp. 885-887, 2 figg.; *T. d.*, account of morphology and cultural characters, etc., THIROUX (486) pp. 564-572, pl. 16; *T. gambiense*, morphology of, and multiplication in the tsetse-fly, GRAY & TULLOCH (164) pp. 282-287, 4 text-figg.; *T. hannaë* n. sp., proposed for Hanna's Trypanosome of Indian birds [see Zool. Rec. 1903 (144)], PITTALUGA (352) p. 356; *T. lewisi*, cytological details and life-history (much of it undergone in an Invertebrate host), fully described, PROWAZEK (362) pp. 3-28, pls. 1 & 2, pl. 3, figg. 37-55; *T. brucei*, cytological details described, and comparison of certain phases in the life-history with those of *T. lewisi*, id. pp. 28-40, pl. 3, figg. 56-60, pls. 4-6; *T. lewisi*, pp. 28-37, pl. 4, figg. 1-4, pl. 5, figg. 1 & 2, *T. brucei*, pp. 37-44, pl. 4, figg. 5 & 6, pl. 5, figg. 3 & 4, morphology and behaviour of in cultural conditions described and compared, SMEDLEY (460); *T. luis* n. sp. [see under "*Spirochaeta pallida*"]; *T. nanum* n. sp., apparently restricted to *Bovidae*, Egyptian Soudan, morphological characters of (distinct from *T. theileri*), LAVERAN (235) pp. 292 & 293; *T. nanum* Lav., note on, BALFOUR (8) p. 210, pl. 5, fig. 3; *T. nicolleorum* n. sp., pp. 54 & 55, *T. vesperilionis* n. sp. (prov.), pp. 54 & 55, occurrence and diagnoses, SERGENT (435); *T. paddeæ*, general description of, behaviour in cultures, distinctions from other Avian Trypanosomes, THIROUX (485) pp. 65-83, pl. 4; *T. polyplectri* n. sp., occurrence and diagnostic features, VASSAL (493) pp. 1014-1016, 1 fig.; *T. rotatorium* var. *nana* n. var., on account of small size, SERGENT (438) p. 670; *T. saccobranchi* n. sp., occurrence and note on, CASTELLANI & WILEY (66) p. 399, pl. 24, fig. 9; *T. vivax* n. sp., causing a distinct variety of trypanosomosis in cattle, sheep and goats in Cameroun, differential characters and behaviour of, ZIEMANN (518) pp. 307-314, 429-447, 662; *T.* (presumably *brucei*), developmental phases in Tsetse-flies (*G. fusca*) described, KOCH (214) pp. 1867-1869, text-figg. 15-24; *T.* spp. various (one nov.), notes on occurrence, and morphology, PETRIE (348) pp. 191-200, pl. 8; *T.* sp. (possibly *T. dimorphon*?) from a mule at Itang (Abyssinian-Soudanese frontier), morphological points noted, LAVERAN (235) p. 293; *T.* sp. (probably a variety of *T. evansi*) in horses at Mécheria (Algeria), note on morphology of, ROGER & GREFFULHE (384) pp. 396 & 397; *T.* spp. (somewhat uncertain), from various animals in Uganda, morphology of noted and figured, NABARRO & GREIG (310) and GREIG & GRAY (165).

"*Trypanosoma*" *balbianii* of oysters [much more probably a *Spirochaeta*, i.e. a Bacterial type], morphology, and alleged developmental phases [?] of, described, PERRIN (345) pp. 368-375, 4 text-figg.

Trypanosomes, on the distinguishing between different species of; morphological characters and variations throughout the entire life-cycle to be taken into account, KOCH (213) pp. 958-962.—Trypanosome-like parasites described from the gut of *Melophagus ovinus* (sheep-louse), PFEIFFER (349) pp. 324-330, pl. 3.—A Trypanosome [not unlike Hanna's form] from an African dove, remarks on, WELLMAN (501) p. 285, 1 fig.

## Appendix to the Flagellates.

Fam. *Coccolithophoridae*:—

*Rhabdosphaera blackmaniana* n. sp., occurrence and description, MURRAY (305) pp. 243 & 244, 1 fig.

(b) *Choanoflagellata*:—

*Codosiga botrytis*, reality of the two contractile vacuoles in, SCHOUTEDEN (417) p. 336.

*Desmarella moniliformis* Sav. Kent, described, SCHOUTEDEN (417) p. 333, fig. 12.

*Salpingoeca marssonii* n. sp., occurrence and diagnosis, LEMMERMANN (254) p. 149, pl. 4, fig. 4.

## 2. SILICOFLAGELLATA.

Vacant.

## 3. DINOFLAGELLATA.

(a) *Adinida*:—Vacant.(b) *Dinifera*:—

*Peridinida*, form-variation in the shells of different, described and compared, ENTZ (122) pp. 98–108, 6 pls. (47 figg.).

*Ceratium brevicorne* n. sp., p. 213, 1 fig., *C. leptoceras* n. sp., p. 222, 1 fig., *C. pumilum* n. sp., p. 222, 2 figg., occurrence and diagnoses, ZACHARIAS (511); also id. (517) pp. 731 & 732; *C. tripos*, notes on minute structure of, and observations regarding the emission of light-rays by, id. (512) pp. 316–330; *C. hirundinella*, Franzensbad district, note on, BREHM (47) p. 222, text-figg. 4 & 5; *C. h.*, Lake Scutari (Albania), note on, BREHM & ZEDERBAUER (48) p. 52, text-fig. 3; *C.*, various spp., shell-form described and compared, ENTZ (122) pp. 127–140, text-figg. 32–58.

*Ceratocorys horrida* described, and shell compared with that of other forms, ENTZ (122) pp. 115–127, text-figg. 5–31.

*Dinophysis acuta*, p. 28, pl. 1, fig. 2, *D. norvegica*, p. 29, pl. 1, figg. 3–6, *D. acuminata*, p. 30, pl. 1, figg. 7–9, plankton, Norwegian Fiords, notes on, JØRGENSEN (203).

*Glenodinium polylophum* n. sp., Paraguay, described, v. DADAY (99) p. 23, pl. 1, figg. 18–22.

*Peridinium aciculiferum*, plankton, Icelandic lakes, remarks on, OSTENFELD & WESENBERG-LUND (328) p. 1126, pl. 1, figg. 11–20, pl. 2, fig. 18; *P. decipiens* n. sp., occurrence and diagnosis, JØRGENSEN (203) p. 40; *P. pedunculatum*, Norwegian Fiords, notes on, JØRGENSEN (204) p. 110, pl. 8, fig. 29; *P. volzi* n. sp., occurrence and diagnosis, LEMMERMANN (257) p. 166, pl. 11, figg. 15–18.

*Phalacroma jourdani*, account of, and shell compared with that of other forms, ENTZ (122) pp. 113–115, text-figg. 1–4.

## 4. RHYNCHOFLAGELLATA.

*Craspedotella* n. g. *pileolus* n. sp., allied to *Leptodiscus*, described, KOFOID (215) pp. 163–166, 1 pl.

*Radiozoum* n. g. *lobatum* n. sp., described, MINGAZZINI (299) pp. 97–108, 1 pl.

## E. CILIOPHORA.

## 1. CILIATA.

Infusoria, various, description of the cilia and trichocysts in, SCHUBERG (419) pp. 61-110, pls. 4 & 5.

A curious Infusorian, parasitic in *Pseudodiffugia*, noted, PENARD (334) p. 605, fig. 3.

(a) **Holotricha:**—

*Chromidina* n. g. for *C. (Opalinopsis) coronata* and *elegans*, based chiefly on the character of the nuclear apparatus; occurrence of a rudimentary cytostome in, GONDER (160) pp. 254-260, pl. 9, figg. 12-17, pl. 11.

*Cryptochilum echini* (= *Uronema echini*), cytoplasmic differentiation, meganuclear fragmentation and its significance as regards senescence, and conjugation in, described, RUSSO & DI MAURO (389) pp. 3-9, 7 text-figg., (390) pp. 9-13, 2 figg., and (391) pp. 10-15, 6 figg.

*Didinium nasutum*, cytological details in, described, with especial reference to the complicated cytopharyngeal apparatus; nuclear division, THON (491) pp. 281-321, pls. 12 & 13, 3 text-figg.

*Opalina dimidiata*, constitution and function of trophoplasmic spherules in, KUNSTLER & GINESTE (225) pp. 907 & 908; *O. ranarum*, occurrence of longitudinal division in, confirmed, SCHOUTEDEN (418) pp. 468 & 469.

*Opalinopsis sepiolæ*, nuclear apparatus and chromidial network in, described, GONDER (160) pp. 250-254, pl. 9, figg. 1-11, pl. 10, figg. 22-26; *O. coronata* and *O. elegans*, see under *Chromidina*.

*Uronema*, see under *Cryptochilum*.

(b) **Heterotricha:**—

*Blepharisma musculus*, occurrence and note on, HENDERSON (176) p. 12, fig. 1.

*Codonella lacustris*, fully described, pp. 205-215, pls. 6-8, ENTZ (123); *C. lacustris* var. *insubrica* n. var., p. 214, 2 text-figg.; *C. l.* var. *lariana* n. var., p. 224, 1 fig., occurrence and diagnoses, ZACHARIAS (511); also id. (517) p. 731; *C. (Ptychocylis) urnula* var. *subarctica* n. var., occurrence and diagnosis, JØRGENSEN (204) p. 144, pl. 18, fig. 118.

*Cyttarocylis denticulata* var. *subdentata* n. var., occurrence and diagnosis, JØRGENSEN (204) p. 145, pl. 18, figg. 119 & 120, pl. 14, fig. 121; *C. fasciata* n. sp., p. 297, pl. 26, figg. 6 & 7, *C. pulchra* n. sp., p. 292, pl. 28, figg. 19-23, *C. quadridens* n. sp., p. 290, pl. 27, figg. 8-11, pl. 28, fig. 18, *C. torta* n. sp., p. 295, pl. 27, figg. 12-15, pl. 28, figg. 16 & 17, occurrence and diagnoses, KOFOID (216).

*Leprotintinnus pellucidus*, Norway, notes on, JØRGENSEN (204) p. 142, pl. 18, fig. 114.

*Nyctotherus africanus* n. sp., occurrence and note on, CASTELLANI (64) pp. 66 & 67, 2 text-figg.; *N. piscicola* n. sp., occurrence and general account of, v. DADAY (98) pp. 233-238, 4 figg.

*Tintinnidium fluviatile*, p. 201, pl. 5, figg. 1 & 2, *T. semiciliatum*, p. 201, pl. 5, fig. 3, described, ENTZ (123); *T. f.*, occurrence and note, HENDERSON (176) p. 17, fig. 3.

*Tintinnopsis cylindrica*, described, ENTZ (123) p. 204, pl. 5, figg. 4-6; *T. nitida* var. *ovalis* n. var., occurrence and diagnosis, JØRGENSEN (204) p. 143, pl. 18, fig. 115.

*Tintinnus dadayi* n. sp., p. 289, pl. 26, figg. 3-5, *T. reflexa* n. sp., p. 288, pl. 26, fig. 2, *T. serratus* n. sp., p. 287, pl. 26, fig. 1, occurrence and diagnoses, KOFOID (216).

(c) **Hypotricha:**—

*Oxytricha fallax*, photographs illustrating morphological changes in individuals of different generations, during cyclical changes, WOODRUFF (507) 3 pls.

(d) **Peritricha:**—

*Campanella (Epistylis) umbellaria*, cytological details in briefly described, FAURÉ-FREMIET (128) pp. 215-217.

*Cochlearia* n. g. proposed for *Opercularia henneguyi*, *fabrei*, *gracilis* and *microdiscum*, p. 432, FAURÉ-FREMIET (139).

*Epistylis anastatica* var. *spissa* n. var., *E. diaptomi* n. sp., *E. umbellina* n. sp., *E. gasterostei*, *E. daphniae*, all briefly diagnosed, p. 431, FAURÉ-FREMIET (139); *E. flavicans*, rate of growth in (after attachment of young individual), measured, LANDACRE (226) pp. 327-329, 4 text-figg.

*Glossatella tintinnabulum*, behaviour of meganuclei during conjugation, FAURÉ-FREMIET (132) p. 603.

*Lagenophrys vaginicola*, occurrence and note, HENDERSON (176) p. 24, fig. 6.

*Opercularia hydrachinidarum* n. sp., *O. rouxi* n. sp., *O. dytiscidarum* n. sp., *O. gammari* n. sp., *O. naucoris*, *O. nautonectæ* n. sp., *O. corisæ* n. sp., *O. confervarum* n. sp., all briefly diagnosed, p. 432, FAURÉ-FREMIET (139).

*Pyxidium cothurnoides*, occurrence and note, HENDERSON (176) p. 23, fig. 4.

*Vorticella microstoma*, structural details of meganucleus in, FAURÉ-FREMIET (132) pp. 602 & 603; *V. m.*, transformation into *V. hians* and vice-versâ by altering medium of culture, FAURÉ-FREMIET (133) pp. 424-426.

*Vorticellide*, various, intimate structure of the fixative apparatus in, fully described; phylogenetic considerations, FAURÉ-FREMIET (137) pp. 207-226, 13 text-figg.

*Zoothamnium parasita* var. *major* n. var., briefly diagnosed, FAURÉ-FREMIET (139) p. 431.

## 2. SUCTORIA (TENTACULIFERA).

Vacant.

ADDENDUM : Protozoa 1904.

## (Ciliata: Holotricha.)

*Frontonia cypræa* n. sp., occurrence and diagnosis, ZACHARIAS (368) p. 195, 1 text-fig.

INDEX TO NAMES  
OF  
NEW GENERA AND SUBGENERA  
MENTIONED IN VOLUME XLII,

INCLUDING NEW NAMES FOR GENERA PREVIOUSLY ESTABLISHED.\*

- Abacobia, *Dietz*, Ins. 280  
 Abagazara, *Distant*, Ins. 311  
 Ablabesmyia, *Johannsen*, Ins. 287  
 Abletobium, *Casey*, Ins. 136  
 Acamptopœum, *Cockerell*, Ins. 189  
 Acanthocampa, *Dyar*, Ins. 264  
 Acanthocelides, *Schilsky*, Ins. 183  
 Acanthoprymnus, *Cameron*, Ins. 207  
 Acanthopsetta, *Schmidt*, Pisces 37  
 Acanthopsolus, *Oahner*, Verm. 59  
 Acanthoxifer, *Dendy*, Spong. 15  
 Achetopus, *Tullgren*, Arachn. 17  
 Acmenychus, *Weise*, Ins. 185  
 Aconchus, *Horváth*, Ins. 306  
 Acossus, *Dyar*, Ins. 240  
 Acragopsis, *Dyar*, Ins. 240  
 Acrepyris, *Kieffer*, Ins. 221  
 Acritillas, *Oberholser*, Aves 66  
 Acrochordopus, *Berlepsch and Hellmayr*, Aves 62  
 Acroleistus, *Reitter*, Ins. 132  
 Acropsopilio, *Silvestri*, Arachn. 25  
 Acrotelsa, *Escherich*, Ins. 333  
 Actenobius, *Fall*, Ins. 163  
 Adaphænura, *Hampson*, Ins. 255  
 Adenia, *Distant*, Ins. 311  
 Aderobium, *Casey*, Ins. 137  
 Adkinia, *Tutt*, Ins. 278  
 Æatus, *Champion*, Ins. 171  
 Æmus, *Champion*, Ins. 171  
 Ænesias, *Champion*, Ins. 171  
 Ænicopechys, *Breddin*, Ins. 309  
 Æpalius, *Champion*, Ins. 171  
 Agamopsyche, *Perkins*, Ins. 240  
 Agarenes, *Cameron*, Ins. 207  
 Agenysa, *Spæth*, Ins. 185  
 Aglaoctenus, *Tullgren*, Arachn. 23  
 Aglossestra, *Hampson*, Ins. 255  
 Agriodrilus, *Michaelsen*, Verm. 50  
 Ahomana, *Distant*, Ins. 311  
 Akamba, *Distant*, Ins. 311  
 Albatrossia, *Ludwig*, Echin. 77  
 Albertosaurus, *Osborn*, Rept. 35  
 Albisaurus, *Fritsch*, Rept. 37  
 Alcimathous, *Reitter*, Ins. 158  
 Alexandraster, *Ludwig*, Echin. 77  
 Algete, *Boltvar*, Ins. 340  
 Allobethylus, *Kieffer*, Ins. 221  
 Allomeryx, *Sinclair*, Mamm. 43  
 Allonychus, *Zaitzev*, Ins. 135  
 Allopatides, *Koehler and Vaney*  
     Echin. 56  
 Allophatnus, *Cameron*, Ins. 207  
 Allothereua, *Verhoeff*, Myr. 7  
 Allotyphloiulus, *Verhoeff*, Myr. 12  
 Alluaudella, *Gravier*, Verm. 36  
 Allocercus, *Zang*, Ins. 148  
 Alopecosaurus, *Lindholm*, Rept. 30  
 Alphasida, *Escalera*, Ins. 165  
 Altellopsis, *Simon*, Arachn. 18  
 Aluina, *Cameron*, Ins. 207  
 Amasis, *Nordenskiöld*, Arachn. 27  
 Amaurodera, *Fauvel*, Ins. 137  
 Amauromorpha, *Ashmead*, Ins. 207

\* The total number of names in this Index is 1805, distributed as follows:—*Mammalia*, 37; *Aves*, 47; *Reptilia* and *Batrachia*, 80; *Pisces*, 48; *Tunicata*, 3; *Mollusca*, 162; *Brachiopoda*, 16; *Bryozoa*, 2; *Crustacea*, 130; *Arachnida*, 75; *Myriopoda*, 19; *Insecta*, 1054; *Echinoderma*, 38; *Vermes*, 65; *Calenterata*, 13; *Spongiae*, 24; *Protozoa*, 42. The total last year was 2095.

- Amblystogenium, *Enderlein*, Ins. 132  
 Amesopus, *Stebbing*, Crust. 54  
 Ammidanemia, *Reitter*, Ins. 165  
 Ammomanoides, *Bianchi*, Aves 81  
 Ammomanopsis, *Bianchi*, Aves 81  
 Ammospiza, *Oberholser*, Aves 83  
 Amphiascus, *Sars*, Crust. 63  
 Amphideima, *Koehler and Vaney*, Echin. 56  
 Amphimallina, *Reitter*, Ins. 151  
 Amphimellissa, *Sjorgensen*, Prot. 65  
 Amphithegia, *Bredden*, Ins. 302  
 Amphoritis, *Meyrick*, Ins. 280  
 Anabathmis, *Reichenow*, Aves 78  
 Anaclileia, *Meunier*, Ins. 129  
 Anacraga, *Dyar*, Ins. 241  
 Anapholidemys, *Hay*, Rept. 34  
 Anapogonia, *Simon*, Arachn. 20  
 Anarchylus, *Dyar*, Ins. 241  
 Anatopynia, *Johannsen*, Ins. 287  
 Anatrytone, *Dyar*, Ins. 237  
 Anchocerus, *Fauvel*, Ins. 137  
 Ancinella, *Hansen*, Crust. 52  
 Andamanica, *Wagner*, Moll. 78  
 Andrallus, *Bergroth*, Ins. 302  
 Andrenopsis, *Cockerell*, Ins. 190  
 Androcyclas, *Jorgensen*, Prot. 65  
 Anectadius, *Kieffer*, Ins. 221  
 Anelpistina, *Silvestri*, Ins. 333  
 Anemplocia, *Warren*, Ins. 264  
 Anepa, *Swinhoe*, Ins. 256  
 Anepigraphocis, *Lea*, Ins. 171  
 Anglia, *Smith*, Arachn. 20  
 Angulata, *Wagner*, Moll. 78  
 Anisitsiella, *Daday*, Arachn. 27  
 Anisocheleomyia, *Theobald*, Ins. 289  
 Anisocirrus, *Gravier*, Verm. 41  
 Anisodon, *Rosén*, Rept. 32  
 Annandalea, *Bolívar*, Ins. 340  
 Annidion, *Kirkaldy*, Ins. 318  
 Anobiopsis, *Fall*, Ins. 163  
 Anomacme, *Strebel*, Moll. 72  
 Anophthalmaxius, *De Man*, Crust. 41  
 Antartoperla, *Enderlein*, Ins. 330  
 Anteliocichla, *Oberholser*, Aves 71  
 Antepirrhoë, *Warren*, Ins. 264  
 Anthropornis, *Wiman*, Aves 44  
 Anticrates, *Meyrick*, Ins. 280  
 Antilloceris, *Vaughan*, Cœl. 24  
 Antiochtha, *Meyrick*, Ins. 280  
 Antonaria, *Jacoby and Clavareau*, Ins. 183  
 Aola, *Distant*, Ins. 311  
 Aonidomytilus, *Leonardi*, Ins. 321  
 Apægocera, *Hampson*, Ins. 241  
 Apatema, *Reichenow*, Aves 76  
 Aperusia, *Warren*, Ins. 265  
 Aphanoconia, *Wagner*, Moll. 78  
 Aphanomerus, *Perkins*, Ins. 222  
 Aphidoletes, *Kieffer*, Ins. 285  
 Aphonodelus, *Kolbe*, Ins. 154  
 Aphonoproctus, *Kolbe*, Ins. 154  
 Apiotherium, *Beguín-Billecocq*, Ins. 172  
 Apocerca, *Dyar*, Ins. 241  
 Apodoglanis, *Fowler*, Pisces 45  
 Apogeophilus, *Silvestri*, Myr. 9  
 Apomys, *Mearns*, Mamm. 38  
 Aponœa, *Walsingham*, Ins. 280  
 Apotomia, *Diets*, Ins. 280  
 Apreta, *Diets*, Ins. 280  
 Apterallium, *Casey*, Ins. 137  
 Apterencyrtus, *Ashmead*, Ins. 219  
 Aptycholathyrus, *Cossmann and Pissarro*, Moll. 72  
 Arbuscula, *Bolívar*, Ins. 340  
 Archæoletina, *Meunier*, Ins. 129  
 Archæocygnus, *De Vis*, Aves 49  
 Archæorycteropus, *Ameghino*, Mamm. 46  
 Archæosuchus, *Broom*, Rept. 36  
 Archimaga, *Meyrick*, Ins. 280  
 Archipenæopsis, *Bouvier*, Crust. 45  
 Archophanes, *Kolbe*, Ins. 154  
 Arctonchis, *Dall*, Moll. 65  
 Arcynopteryx, *Klapálek*, Ins. 330  
 Arfaka, *Distant*, Ins. 311  
 Argaleocichla, *Oberholser*, Aves 67  
 Argathona, *Stebbing*, Crust. 52  
 Argopsylla, *Enderlein*, Ins. 300  
 Arhabdosia, *Dyar*, Ins. 241  
 Arhina, *Budde-Lund*, Crust. 55  
 Ariasa, *Distant*, Ins. 311  
 Aristaphis, *Kirkaldy*, Ins. 320  
 Arizelocichla, *Oberholser*, Aves 66  
 Arizelomyia, *Oberholser*, Aves 64  
 Arroxx, *Zang*, Ins. 148  
 Artenacia, *Chrétien*, Ins. 280  
 Arthrocorynus, *Champion*, Ins. 172  
 Arthropteron, *Rochebrune*, Moll. 84  
 Ascaptesyte, *Dyar*, Ins. 241  
 Ascerodes, *Meyrick*, Ins. 278  
 Asidelia, *Fairmaire*, Ins. 165  
 Asparagobius, *Mayr*, Ins. 219  
 Aspeira, *Bush*, Verm. 43  
 Aspenites, *Hyatt and Smith*, Moll. 56  
 Astolphos, *Distant*, Ins. 306  
 Astrechinus, *Jaekel*, Echin. 62  
 Astrochalcis, *Koehler*, Echin. 83  
 Asturaëtus, *De Vis*, Aves 51  
 Astynoscelis, *Pic*, Ins. 180  
 Atacoseius, *Berlese*, Arachn. 28  
 Atelcophadnus, *Cameron*, Ins. 207  
 Atheospermia, *Pierantoni*, Verm. 50



- Atimastillas, *Oberholser*, Aves 67  
 Atoperla, *Banks*, Ins. 330  
 Atoponeura, *Szepliget*, Ins. 207  
 Atrichosema, *Kieffer*, Ins. 285  
 Atticola, *Bolívar*, Ins. 336  
 Atypopeneus, *Alcock*, Crust. 45  
 Auchenisa, *Hampson*, Ins. 256  
 Aulonolcus, *Reitter*, Ins. 165  
 Aurantina, *Pierantoni*, Verm. 50  
 Auridistomum, *Stafford*, Verm. 59  
 Auritulus, *Zang*, Ins. 148  
 Austroperla, *Needham*, Ins. 330  
 Authyala, *Warren*, Ins. 265  
 Autostreptus, *Silvestri*, Myr. 13  
 Avenzoaria, *Oudemans*, Arachn. 28  
 Ayesha, *Distant*, Ins. 312  
 Azatrephes, *Hampson*, Ins. 242
- Bacteriaspis, *Weise*, Ins. 183  
 Balinta, *Distant*, Ins. 312  
 Barberia, *Dyar*, Ins. 274  
 Barticaria, *Jacoby and Clavareau*,  
 Ins. 183  
 Bartonius, *Ortmann*, Crust. 40  
 Basa, *Distant*, Ins. 312  
 Basilia, *Ribeiro*, Ins. 300  
 Bathybelia, *Kobelt*, Moll. 71  
 Bathycalanus, *Sars*, Crust. 63  
 Bathyclionella, *Kobelt*, Moll. 71  
 Bathycopea, *Tattersall*, Crust. 52  
 Bathycrisis, *Cameron*, Ins. 207  
 Bathylaimus, *von Daday*, Verm. 64  
 Bathyonyx, *Vejdovsky*, Crust. 57  
 Bathypontia, *Sars*, Crust. 63  
 Bathyzona, *Koehler and Vaney*,  
 Echin. 57  
 Batotheca, *Enderlein*, Ins. 214  
 Bavea, *Distant*, Ins. 312  
 Beatricella, *Scott*, Crust. 63  
 Belosepiella, *Alessandri*, Moll. 56  
 Belothphyces, *Koehler and Vaney*,  
 Echin. 57  
 Bontyra, *Cameron*, Ins. 208  
 Bettonia, *Waterhouse*, Ins. 154  
 Biocrypta, *Casey*, Ins. 137  
 Biopsyche, *Dyar*, Ins. 242  
 Bironella, *Theobald*, Ins. 289  
 Bleptocis, *Lea*, Ins. 172  
 Bogdoites, *Kittl*, Moll. 56  
 Bopyriscus, *Richardson*, Crust. 54  
 Borgertia, *Michaelsen*, Verm. 46  
 Borshomia, *Austaut*, Ins. 239  
 Bothriopria, *Kieffer*, Ins. 222  
 Brachycalanus, *Farran*, Crust. 63  
 Brachychira, *Aurivillius*, Ins. 242  
 Brachymetra, *Stossich*, Verm. 59  
 Brachyphallus, *Odhner*, Verm. 59
- Bradyetes, *Farran*, Crust. 63  
 Brainichthys, *Waite*, Pisces 39  
 Branchiophaga, *Mazzarelli*, Prot. 70  
 Braunsiella, *Escherich*, Ins. 333  
 Braunsina, *Escherich*, Ins. 333  
 Brolemanneuma, *Verhoeff*, Myr. 11  
 Brownius, *Ashmead*, Ins. 215  
 Bruchidius, *Schilsky*, Ins. 183  
 Bruesia, *Perkins*, Ins. 169  
 Brunniella, *Bolívar*, Ins. 340  
 Bruzeliella, *Norman*, Crust. 57  
 Buckleria, *Tutt*, Ins. 278  
 Bullimus, *Mearns*, Mamm. 38  
 Bunonema, *Jägerskiöld*, Verm. 64  
 Burbunga, *Distant*, Ins. 312  
 Buthiscus, *Birula*, Arachn. 16  
 Buyssoniella, *Bolívar*, Ins. 340
- Caba, *Ihering*, Ins. 196  
 Cæcincola, *Gilbert and Marshall*,  
 Verm. 59  
 Cænoaulax, *Cameron*, Ins. 208  
 Cænojoppa, *Cameron*, Ins. 208  
 Cænostoma, *Cameron*, Ins. 208  
 Californites, *Hyatt and Smith*, Moll.  
 56  
 Calliconites, *Gemmellaro*, Moll. 57  
 Callistohermes, *Kirkaldy*, Ins. 319  
 Calocerambyx, *Heller*, Ins. 180  
 Calodromius, *Reitter*, Ins. 133  
 Calomyscus, *Thomas*, Mamm. 39  
 Calonympha, *Foa*, Prot. 72  
 Calostinea, *Dietz*, Ins. 280  
 Calyptocichla, *Oberholser*, Aves 66  
 Cambarellus, *Ortmann*, Crust. 40  
 Campages, *Hedley*, Brach. 7  
 Campylacantha, *Jørgensen*, Prot. 65  
 Capnioneura, *Ris*, Ins. 330  
 Capperia, *Tutt*, Ins. 278  
 Cardepia, *Hampson*, Ins. 256  
 Carina, *Kieffer*, Ins. 222  
 Carinomella, *Coe*, Verm. 68  
 Cassidinidea, *Hansen*, Crust. 52  
 Cassidinopsis, *Hansen*, Crust. 52  
 Cassidisca, *Richardson*, Crust. 52  
 Catatropis, *Odhner*, Verm. 59  
 Catenotania, *Janicki*, Verm. 57  
 Catephiodes, *Hampson*, Ins. 257  
 Causea, *Wiman*, Brach. 7  
 Cecidobia, *Banks*, Arachn. 28  
 Cecidopsylla, *Kieffer*, Ins. 320  
 Cendebeus, *Cameron*, Ins. 215  
 Centrochalcis, *Cameron*, Ins. 219  
 Centromacronema, *Ulmer*, Ins. 324  
 Centromantis, *Werner*, Ins. 337  
 Cephalallus, *Sharp*, Ins. 180

- Cephalocrius, *Sharp*, Ins. 180  
 Cephalopyge, *Hanel*, Moll. 67  
 Ceratepyris, *Kieffer*, Ins. 222  
 Ceratocuma, *Calman*, Crust. 49  
 Ceratojoppa, *Cameron*, Ins. 208  
 Ceratopemphigus, *Schouteden*, Ins. 320  
 Ceratospilus, *Szépligeti*, Ins. 208  
 Cerda, *Cameron*, Ins. 208  
 Chaco, *Tullgren*, Arachn. 17  
 Chalcochlamys, *Ohaus*, Ins. 152  
 Chalcogonatopus, *Perkins*, Ins. 222  
 Champaka, *Distant*, Ins. 312  
 Charcotia, *Chevreaux*, Crust. 57  
 Charitillas, *Oberholser*, Aves 66  
 Charitospiza, *Oberholser*, Aves 83  
 Chauliacia, *Oudemans*, Arachn. 29  
 Cheletogenes, *Oudemans*, Arachn. 29  
 Cheletosoma, *Oudemans*, Arachn. 29  
 Chilomazus, *Zang*, Ins. 148  
 Chilotrogus, *Reitter*, Ins. 151  
 Chloresthia, *Fairmaire*, Ins. 154  
 Chlorestriilda, *Shelley*, Aves 85  
 Chlorodryinus, *Perkins*, Ins. 222  
 Choffatella, *Schlumberger*, Prot. 57  
 Chondrostegoides, *Aurivillius*, Ins. 243  
 Chonosia, *Distant*, Ins. 312  
 Chortastus, *Schaufuss*, Ins. 178  
 Chromidina, *Gonder*, Prot. 75  
 Chromodoridella, *Eliot*, Moll. 67  
 Chrotochlora, *Warren*, Ins. 265  
 Chrysocyma, *Hampson*, Ins. 243  
 Chunomyia, *Holt and Tattersall*, Crust. 47  
 Cibotopteryx, *Rehn*, Ins. 340  
 Cichlomyia, *Oberholser*, Aves 64  
 Cilicæopsis, *Hansen*, Crust. 52  
 Cirrhorheuma, *Warren*, Ins. 266  
 Cirrhosoma, *Warren*, Ins. 266  
 Cirrodrilus, *Pierantoni*, Verm. 50  
 Citrina, *Wagner*, Moll. 78  
 Cladodromia, *Bezzi*, Ins. 295  
 Clatha, *Cameron*, Ins. 208  
 Clavactinia, *Thornly*, Coel. 16  
 Clionopsis, *Thiele*, Spong. 14  
 Clithoosa, *Topsent*, Spong. 14  
 Clitiga, *Cameron*, Ins. 208  
 Clydoniceras, *Blake*, Moll. 57  
 Cnidocampa, *Dyar*, Ins. 243  
 Cobalorrhynchus, *Reuter*, Ins. 309  
 Coccidophilus, *Brethes*, Ins. 146  
 Cochlearia, *Flauré-Fremiet*, Prot. 76  
 Coeles, *Breddin*, Ins. 309  
 Cœlacanthopsis, *Traquair*, Pisces 50  
 Cænopria, *Kieffer*, Ins. 223  
 Cænostoma, *Cameron*, Ins. 208  
 Cæsula, *Cameron*, Ins. 208  
 Coiloneura, *Szépligeti*, Ins. 208  
 Collabismodes, *Champion*, Ins. 173  
 Collina, *Distant*, Ins. 312  
 Collocalypta, *Dendy*, Spong. 17  
 Colobodesmus, *Brölemann*, Myr. 11  
 Colosterninus, *Champion*, Ins. 173  
 Colpodonta, *Warren*, Ins. 266  
 Colpopatrum, *Reitter*, Ins. 165  
 Colposternus, *Fall*, Ins. 163  
 Columbites, *Hyatt and Smith*, Moll. 57  
 Columellaia, *Oudemans*, Arachn. 29  
 Colypurus, *Richardson*, Crust. 54  
 Compsolacon, *Reitter*, Ins. 158  
 Compsopus, *Tullgren*, Arachn. 19  
 Concentrica, *Wagner*, Moll. 78  
 Conchochelys, *Hay*, Rept. 34  
 Conibosa, *Distant*, Ins. 312  
 Conilorpheus, *Stebbing*, Crust. 52  
 Conisania, *Hampson*, Ins. 257  
 Conochares, *Smith*, Ins. 257  
 Conopotherax, *Oberholser*, Aves 66  
 Conotrachelodes, *Champion*, Ins. 173  
 Cooksonia, *Druce*, Ins. 236  
 Cophes, *Champion*, Ins. 173  
 Copiocaris, *Thiele*, Crust. 44  
 Coquillettidia, *Dyar*, Ins. 289  
 Cordillerites, *Hyatt and Smith*, Moll. 57  
 Coreius, *Jordan and Starks*, Pisces 46  
 Coremapus, *Norman*, Crust. 57  
 Cornucalanus, *Wolfenden*, Crust. 64  
 Cosmonautilus, *Hyatt and Smith*, Moll. 58  
 Cottiusculus, *Schmidt*, Pisces 36  
 Cotylina, *Lundbeck*, Spong. 17  
 Craniocephala, *Monticelli*, Verm. 59  
 Craspedotella, *Kofoid*, Prot. 74  
 Craterestra, *Hampson*, Ins. 257  
 Cratocryptus, *Cameron*, Ins. 208  
 Crunoeciella, *Ulmer*, Ins. 325  
 Crypsinorhinus, *Fairmaire*, Ins. 179  
 Cryptobethylus, *Halliday and Marshall*, Ins. 223  
 Cryptobiella, *Casey*, Ins. 137  
 Cryptoparlatorea, *Lindinger*, Ins. 321  
 Cryptopeltaster, *Fisher*, Echin. 79  
 Cryptophobeton, *Dyar*, Ins. 244  
 Cryptorama, *Fall*, Ins. 163  
 Cryptotethya, *Dendy*, Spong. 14  
 Ctenane, *Swinhoe*, Ins. 244  
 Ctenistochlora, *Warren*, Ins. 266  
 Ctenolepisma, *Escherich*, Ins. 333  
 Cumellopsis, *Calman*, Crust. 49  
 Curticia, *Walcott*, Braoh. 7

- Cyathotrochus, *Bourne*, Coel. 27  
 Cyclamastra, *Vanatta*, Moll. 64  
 Cyclocephala, *Strobl*, Ins. 299  
 Cyclolymnæa, *Dall*, Moll. 66  
 Cyclothrix, *Wolcott*, Arachn. 29  
 Cylistosoma, *Lewis*, Ins. 145  
 Cyptobunus, *Banks*, Arachn. 25  
 Cyrthyrolaelaps, *Berlese*, Arachn. 29  
 Cyrtopteron, *Bourgeois*, Ins. 160  
 Cytheridella, *Daday*, Crust. 71
- Dacryostactus, *Schaufuss*, Ins. 179  
 Dactylerythropus, *Holt and Tattersall*, Crust. 47  
 Dactyliosphaera, *Squinabol*, Prot. 63  
 Dactylopodella, *Sars*, Crust. 65  
 Dadaya, *Wolcott*, Arachn. 29  
 Dalthomes, *Fiori*, Ins. 160  
 Daphnephila, *Kieffer*, Ins. 285  
 Dasychonopsis, *Bush*, Verm. 43  
 Daubardella, *Boettger*, Moll. 75  
 Daza, *Distant*, Ins. 312  
 Decametrocrinus, *Minckert*, Echin. 88  
 Deinelenchus, *Perkins*, Ins. 169  
 Delocoma, *Swinhoe*, Ins. 258  
 Delphiornis, *Wiman*, Aves 44  
 Dendaroscelis, *Reitter*, Ins. 165  
 Dendoricella, *Lundbeck*, Spong. 17  
 Dendorophis, *Lindholm*, Rept. 32  
 Dendrothuria, *Koehler and Vaney*, Echin. 58  
 Deniya, *Cameron*, Ins. 209  
 Deraspiella, *Bolívar*, Ins. 340  
 Deratopeus, *Casey*, Ins. 138  
 Dercitopsis, *Dendy*, Spong. 12  
 Dercynus, *Champion*, Ins. 173  
 Desmiera, *Douville*, Moll. 80  
 Devescovina, *Foa*, Prot. 72  
 Devisia, *Ogilby*, Rept. 34  
 Diacanthous, *Reitter*, Ins. 158  
 Diadexia, *Turner*, Ins. 274  
 Diarthrotarsus, *Bergroth*, Ins. 308  
 Diastephanus, *Enderlein*, Ins. 218  
 Dicamptus, *Szépligeti*, Ins. 209  
 Dicellachilus, *Waterhouse*, Ins. 154  
 Dicentropus, *Ulmer*, Ins. 325  
 Diceratops, *Hatcher*, Rept. 35  
 Dichroa, *Wagner*, Moll. 78  
 Dichromapteryx, *Dyar*, Ins. 245  
 Dicopia, *Stuiter*, Tun. 5  
 Dictyocircus, *Jorgensen*, Prot. 65  
 Dictyogenus, *Klapálek*, Ins. 330  
 Dictyopterygella, *Klapálek*, Ins. 330  
 Dictyoretmon, *Whitfield*, Bry. 8  
 Diemenia, *Distant*, Ins. 312  
 Dieneria, *Hyatt and Smith*, Moll. 57
- Digamasellus, *Berlese*, Arachn. 29  
 Digitolabrum, *Cossmann*, Moll. 73  
 Digoniozus, *Kieffer*, Ins. 223  
 Dinochærus, *Petersen*, Mamm. 43  
 Dinocryptus, *Cameron*, Ins. 209  
 Dinodriloides, *Benham*, Verm. 47  
 Dinotettix, *Bolívar*, Ins. 340  
 Diplohelopsis, *Tullgren*, Arachn. 17  
 Dipulus, *Waite*, Pisces 34  
 Dirona, *Cockerell and Eliot*, Moll. 68  
 Discenea, *Enderlein*, Ins. 219  
 Discerceis, *Richardson*, Crust. 52  
 Discestra, *Hampson*, Ins. 258  
 Discoidea, *Wagner*, Moll. 78  
 Discophina, *v. Kampen*, Rept. 38  
 Discotropites, *Hyatt and Smith*, Moll. 57  
 Discotus, *Reitter*, Ins. 165  
 Disepyrus, *Kieffer*, Ins. 223  
 Dissocolpus, *Bergroth*, Ins. 303  
 Distylocapsa, *Squinabol*, Prot. 66  
 Diversicolor, *Wagner*, Moll. 78  
 Dokuma, *Distant*, Ins. 312  
 Dolichomorphus, *Fiori*, Ins. 160  
 Dolichopsylla, *Baker*, Ins. 301  
 Dorypyle, *Squinabol*, Prot. 63  
 Drombus, *Jordan and Seale*, Pisces 37  
 Dromillopus, *Matthew*, Rept. 40  
 Dromiolus, *Reitter*, Ins. 133  
 Drunella, *Needham*, Ins. 331  
 Druseia, *Cameron*, Ins. 209  
 Drymyomma, *Jorgensen*, Prot. 63  
 Dulderana, *Distant*, Ins. 312  
 Dunaliella, *Hamburger*, Prot. 72  
 Dyasia, *Schau*, Ins. 245  
 Dynamenais, *Kirkaldy*, Ins. 306  
 Dynamenella, *Hansen*, Crust. 52  
 Dynameniscus, *Richardson*, Crust. 52  
 Dynamosaurus, *Osborn*, Rept. 35  
 Dysalotus, *MacGilchrist*, Pisces 42  
 Dyspetornis, *Oberholser*, Aves 45
- Earrana, *Cameron*, Ins. 209  
 Eatonisca, *Meunier*, Ins. 129  
 Echinomysis, *Illig*, Crust. 47  
 Ectenellus, *Reuter*, Ins. 310  
 Ectmetopterus, *Reuter*, Ins. 310  
 Ectomopsis, *Fairmaire*, Ins. 165  
 Edonis, *Needham*, Ins. 332  
 Edyia, *Cameron*, Ins. 215  
 Eifelosaurus, *Jaekel*, Rept. 31  
 Elæognatha, *Hampson*, Ins. 258  
 Elaphotoxon, *Fowler*, Pisces 38  
 Elasmognathus, *Ashmead*, Ins. 209

- Elathouina, *Reitter*, Ins. 158  
 Elatrigus, *Reitter*, Ins. 158  
 Eleria, *Jordan and Seale*, Pisces 38  
 Elpinus, *Champion*, Ins. 173  
 Embidotroctes, *Enderlein*, Ins. 329  
 Embryulcus, *Zang*, Ins. 148  
 Emmelina, *Tutt*, Ins. 278  
 Enomides, *Champion*, Ins. 173  
 Entomocrabro, *Kohl*, Ins. 200  
 Enytus, *Cameron*, Ins. 209  
 Eocetus, *Fraas*, Mamm. 46  
 Eomops, *Thomas*, Mamm. 34  
 Eopristis, *Stromer*, Pisces 52  
 Eosalenia, *Lambert*, Echin. 67  
 Eospheniscus, *Wiman*, Aves 44  
 Eostrophomena, *Walcott*, Brach. 7  
 Epactris, *Meyrick*, Ins. 281  
 Ephonites, *Cameron*, Ins. 209  
 Epibidis, *Fowler*, Ins. 315  
 Epichæta, *Diets*, Ins. 281  
 Epiclea, *Dyar*, Ins. 245  
 Epicremastus, *Szépligeti*, Ins. 209  
 Epigonatopus, *Perkins*, Ins. 223  
 Epilegis, *Diets*, Ins. 281  
 Epiphyes, *Dyar*, Ins. 238  
 Epipleurothrix, *Zang*, Ins. 148  
 Episannina, *Aurivillius*, Ins. 239  
 Episodiocis, *Lea*, Ins. 173  
 Epitalara, *Dyar*, Ins. 245  
 Eremicaster, *Fisher*, Echin. 79  
 Eremolestes, *Maindron*, Ins. 133  
 Eretris, *Thieme*, Ins. 234  
 Erichsonella, *Benedict*, Crust. 54  
 Eriomastyx, *Rothschild and Jordan*,  
 Ins. 245  
 Eriopygodes, *Hampson*, Ins. 258  
 Erlangerella, *Schouteden*, Ins. 303  
 Ernestiella, *Cameron*, Ins. 215  
 Erycinidia, *Rothschild and Jordan*,  
 Ins. 234  
 Erythrocryptus, *Cameron*, Ins. 209  
 Erythroischnus, *Cameron*, Ins. 209  
 Erythrosuchus, *Broom*, Rept. 35  
 Erythrotheronia, *Cameron*, Ins. 210  
 Escalera, *Boltvar*, Ins. 341  
 Etelides, *Jordan and Thompson*,  
 Pisces, 41  
 Ethaliella, *Pilsbry*, Moll. 80  
 Ethelum, *Budde-Lund*, Crust. 55  
 Eubulopsis, *Champion*, Ins. 173  
 Eucara, *Friese*, Ins. 192  
 Eucentrurus, *Traquair*, Pisces 52  
 Eucharicoris, *Reuter*, Ins. 310  
 Eucremastus, *Szépligeti*, Ins. 210  
 Eucryptina, *Casey*, Ins. 138  
 Eudistylia, *Bush*, Verm. 43  
 Eugnathodus, *Baker*, Ins. 318  
 Eugonatopus, *Perkins*, Ins. 223  
 Eugramma, *Forel*, Ins. 204  
 Euhapsis, *Peterson*, Mamm. 38  
 Eukoebelia, *Perkins*, Ins. 223  
 Eulathrobium, *Cusey*, Ins. 138  
 Euleistulus, *Reitter*, Ins. 133  
 Eumacrodies, *Warren*, Ins. 267  
 Eumaschane, *Schaus*, Ins. 246  
 Eumimographie, *Dognin*, Ins. 281  
 Eumylada, *Reitter*, Ins. 166  
 Euneritella, *Wagner*, Moll. 78  
 Euphobetron, *Dyar*, Ins. 246  
 Eupileta, *Warren*, Ins. 267  
 Euplathous, *Reitter*, Ins. 158  
 Euplatyrhopalus, *Desneux*, Ins. 143  
 Euprosterna, *Dyar*, Ins. 246  
 Eupterygosoma, *Trägårdh*, Arachn.  
 36  
 Eurhodia, *Rothschild and Jordan*,  
 Ins. 246  
 Euriplastes, *Koehler and Vaney*,  
 Echin. 58  
 Eurycalleida, *Maindron*, Ins. 133  
 Eurynannus, *Bergroth*, Ins. 303  
 Eurynola, *Hampson*, Ins. 246  
 Eusigmomys, *Ameghino*, Mamm. 40  
 Eustathia, *Oudemans*, Arachn. 30  
 Eustenia, *Fairmaire*, Ins. 166  
 Eustenia, *Fauvel*, Ins. 138  
 Eutylistus, *Fall*, Ins. 163  
 Eutyptomys, *Matthew*, Mamm. 39  
 Euvriletta, *Fall*, Ins. 163  
 Euzeugapteryx, *Dyar*, Ins. 246  
 Evaniella, *Bradley*, Ins. 218  
 Evaniellus, *Enderlein*, Ins. 218  
 Execesitides, *Jordan and Thompson*,  
 Pisces 35  
 Exodromidia, *Stebbing*, Crust. 37  
 Fallopia, *Oudemans*, Arachn. 31  
 Fatima, *Distant*, Ins. 312  
 Faucheria, *Dollfus*, Crust. 53  
 Faxonia, *Bouvier*, Crust. 45  
 Faxoniuss, *Ortmann*, Crust. 40  
 Feltidia, *Dyar*, Ins. 290  
 Fernaldella, *Leonardi*, Ins. 322  
 Fibulina, *Tornquist*, Echin. 68  
 Filithuria, *Koehler and Vaney*,  
 Echin. 58  
 Finkelnburgia, *Walcott*, Brach. 7  
 Foa, *Jordan and Seale*, Pisces 41  
 Frauenfeldiella, *Rübsaamen*, Ins. 285  
 Fredericina, *Tutt*, Ins. 278  
 Frocymbulia, *Meisenheimer*, Moll. 70  
 Frombachia, *Blaschke*, Moll. 80  
 Fulgora, *Wagner*, Moll. 78  
 Fusania, *Jordan and Starks*, Pisces  
 47

- Fusticularia, *Simpson*, Coel. 30  
 Gabucinia, *Oudemans*, Arachn. 31  
 Galliaetatus, *Ameghino*, Mamm. 46  
 Ganeo, *Klein*, Verm. 60  
 Gastrolobium, *Casey*, Ins. 138  
 Gaussia, *Wolfenden*, Crust. 66  
 Gazuma, *Distant*, Ins. 312  
 Geitonia, *Warren*, Ins. 267  
 Gephyrothuria, *Koehler and Vaney*,  
   Echin. 58  
 Gerarctia, *Hampson*, Ins. 246  
 Gerista, *Bolivar*, Ins. 341  
 Gorstaekeria, *Champion*, Ins. 174.  
 Gigantogobius, *Fowler*, Pisces 37  
 Gillmeria, *Tutt*, Ins. 278  
 Ginaldia, *Schaus*, Ins. 246  
 Glaphurus, *Raymond*, Crust. 77  
 Globasida, *Escalera*, Ins. 166  
 Globulina, *Wagner*, Moll. 78  
 Glossodrilus, *de Martius*, Verm. 47  
 Glypthelmius, *Stafford*, Verm. 60  
 Glyptothuria, *Strebel*, Moll. 73  
 Glyptocombus, *Heidemann*, Ins. 309  
 Gnomon, *Zang*, Ins. 148  
 Gnophodeomyia, *Theobald*, Ins. 290  
 Gois, *Dyar*, Ins. 246  
 Goniatron, *Bruner*, Ins. 341  
 Goniiodromus, *Bilow*, Moll. 63  
 Goniolcium, *Fowler*, Ins. 315  
 Goniomotites, *Gemmellaro*, Moll. 57  
 Goniopsyllus, *Baker*, Ins. 301  
 Gonosphæra, *Jørgensen*, Prot. 66  
 Graphania, *Hampson*, Ins. 259  
 Greenidea, *Schouteden*, Ins. 320  
 Grimaldiella, *Bouvier*, Crust. 45  
 Grypathous, *Reitter*, Ins. 159  
 Guaranisaria, *Distant*, Ins. 312  
 Gudanga, *Distant*, Ins. 312  
 Guerinella, *Chevreaux*, Crust. 57  
 Gymnapogon, *Regan*, Pisces 41  
 Gymnometopa, *Coquillett*, Ins. 290  
 Gymnoplocia, *Warren*, Ins. 268  
 Gymnotropites, *Hyatt and Smith*,  
   Moll. 57  
 Habnoba, *Cameron*, Ins. 216  
 Hadromanus, *Szépligeti*, Ins. 210  
 Hadropareia, *Schmidt*, Pisces 34  
 Hædus, *Distant*, Ins. 306  
 Hæmatomyidium, *Goeldi*, Ins. 287  
 Hajar, *Kirkaldy*, Ins. 315  
 Haldemanina, *Dall*, Moll. 66  
 Haliotimorpha, *Blaschke*, Moll. 81  
 Halithalestris, *Sars*, Crust. 66  
 Hanuala, *Kirkaldy*, Ins. 306  
 Haphsa, *Distant*, Ins. 312  
 Haplathous, *Reitter*, Ins. 159  
 Haplogonatopus, *Perkins*, Ins. 223  
 Haplopacha, *Auriwillius*, Ins. 246  
 Hedonistes, *Gorham*, Ins. 160  
 Heizmannia, *Ludlow*, Ins. 290  
 Helicamatra, *Vanatta*, Moll. 64  
 Heliocrates, *Reitter*, Ins. 166  
 Heliomera, *Raymond*, Crust. 77  
 Helionympha, *Oberholser*, Aves 77  
 Heliscus, *Zang*, Ins. 148  
 Hellinsia, *Tutt*, Ins. 278  
 Hellwigiella, *Szépligeti*, Ins. 210  
 Helotholus, *Jørgensen*, Prot. 66  
 Hemiglyptus, *Ashmead*, Ins. 216  
 Hemiliopsis, *Champion*, Ins. 174  
 Hemimedon, *Casey*, Ins. 138  
 Hemipecten, *Dyar*, Ins. 247  
 Hemipenæopsis, *Bouvier*, Crust. 45  
 Hemipoma, *Wagner*, Moll. 79  
 Hemiptocha, *Dognin*, Ins. 275  
 Hemisphæroma, *Hansen*, Crust. 53  
 Hemitrichestes, *Reitter*, Ins. 166  
 Hendersonia, *Dall*, Moll. 64  
 Hendersonia, *Wagner*, Moll. 79  
 Hendersoniella, *Dall*, Moll. 64  
 Hepaliopsis, *Dyar*, Ins. 247  
 Heptacola, *Konow*, Ins. 227  
 Hercegovites, *Kitl*, Moll. 57  
 Hernandarioides, *Cambridge*,  
   Arachn. 26  
 Herpolasia, *Rothschild and Jordan*,  
   Ins. 247  
 Herrera, *Distant*, Ins. 312  
 Hesperopsis, *Dyar*, Ins. 238  
 Heterathous, *Reitter*, Ins. 159  
 Heterolepisma, *Escherich*, Ins. 333  
 Heteromeryx, *Matthew*, Mamm. 43  
 Heteropsyche, *Perkins*, Ins. 247  
 Heterospatangus, *Fourtau*, Echin.  
   69  
 Heterotiara, *Maas*, Coel. 18  
 Heterudea, *Dognin*, Ins. 275  
 Hexacrobylus, *Sluiter*, Tun. 6  
 Hiallum, *Budde-Lund*, Crust. 55  
 Hilarempis, *Bezzi*, Ins. 295  
 Hilipimorphus, *Champion*, Ins. 174  
 Hilrya, *Schouteden*, Ins. 303  
 Holcalysia, *Cameron*, Ins. 216  
 Holcapanteles, *Cameron*, Ins. 216  
 Holcepyris, *Kieffer*, Ins. 223  
 Holceupelmus, *Cameron*, Ins. 220  
 Holcobracon, *Cameron*, Ins. 216  
 Holcorhopalum, *Cameron*, Ins. 200  
 Hololepida, *Moore*, Verm. 38  
 Hololepidella, *Willey*, Verm. 38  
 Holophryxus, *Richardson*, Crust. 54  
 Holoscolex, *Ude*, Verm. 43  
 Homalopteroides, *Fowler*, Pisces 47

- Homœoplectron, *Ulmer*, Ins. 325  
 Homoiotes, *Wilson*, Crust. 66  
 Homoneuronia, *Dyar*, Ins. 247  
 Homostinea, *Dietz*, Ins. 282  
 Hopkinsia, *MacFarland*, Moll. 68  
 Hoplabius, *Reitter*, Ins. 166  
 Hoplariobius, *Reitter*, Ins. 166  
 Hoplolaimus, *von Daday*, Verm. 65  
 Hoplobethra, *Caudell*, Ins. 337  
 Hoplopsyllus, *Baker*, Ins. 301  
 Horizillas, *Oberholser*, Aves 67  
 Horizostoma, *Deninger*, Moll. 74  
 Hovana, *Distant*, Ins. 312  
 Howesia, *Broom*, Rept. 36  
 Hughmilloria, *Sarle*, Crust. 79  
 Hyalochiton, *Horváth*, Ins. 307  
 Hyalomis, *Hampson*, Ins. 247  
 Hycanus, *Brown*, Ins. 174  
 Hydrociodes, *Hampson*, Ins. 259  
 Hydropsychodes, *Ulmer*, Ins. 325  
 Hydrovolzia, *Thor*, Arachn. 32  
 Hypelictis, *Meyrick*, Ins. 282  
 Hypererythroptus, *Holt and Tattersall*, Crust. 47  
 Hypergnathus, *Richardson*, Crust. 55  
 Hypobarathra, *Hampson*, Ins. 259  
 Hypomma, *Crosby*, Arachn. 21  
 Hypophracta, *Warren*, Ins. 268  
 Hyporcus, *von Graff*, Verm. 54  
 Hystrichopogon, *Hermann*, Ins. 294  
  
 Ichthiacris, *Bolívar*, Ins. 341  
 Ichtyopteryx, *Wiman*, Aves 44  
 Icosta, *Speiser*, Ins. 300  
 Ichthyosporidium, *Caulley and Mesnil*, Prot. 71  
 Icuma, *Cameron*, Ins. 200  
 Idiocichla, *Oberholser*, Aves 67  
 Idiopteron, *Bourgeois*, Ins. 160  
 Idiostoma, *Cameron*, Ins. 210  
 Idyella, *Sars*, Crust. 66  
 Idyopsis, *Sars*, Crust. 66  
 Igernella, *Topsent*, Spong. 25  
 Ijimaia, *Sauter*, Pisces 34  
 Ilma, *Swinhoe*, Ins. 238  
 Imogen, *Kirkaldy*, Ins. 310  
 Ingrassia, *Oudemans*, Arachn. 32  
 Inyamana, *Distant*, Ins. 313  
 Inyoites, *Hyatt and Smith*, Moll. 57  
 Iolella, *Richardson*, Crust. 50  
 Iphidella, *Walcott*, Brach. 7  
 Irania, *Douvillé*, Moll. 74  
 Irianassa, *Meyrick*, Ins. 282  
 Iruana, *Distant*, Ins. 313  
  
 Ischadium, *Jukes-Browne*, Moll. 85  
 Isocorypha, *Dietz*, Ins. 282  
 Isolepisma, *Silvestri*, Ins. 333  
 Itzalana, *Distant*, Ins. 315  
 Iulocera, *Warren*, Ins. 268  
 Ixioides, *MacGilchrist*, Crust. 37  
  
 Jacatra, *Distant*, Ins. 313  
 Jamesella, *Walcott*, Brach. 7  
 Japetus, *Reitter*, Ins. 166  
 Jentinkia, *Trouessart*, Mamm. 36  
 Joubertia, *Oudemans*, Arachn. 32  
 Juneoptilum, *Thomson and Henderson*, Cœl. 31  
  
 Kallistaphis, *Kirkaldy*, Ins. 320  
 Kalokonia, *Wagner*, Moll. 79  
 Kareba, *Cameron*, Ins. 216  
 Kaseria, *Schau*, Ins. 248  
 Kataneorodes, *Schouteden*, Ins. 144  
 Katerythroptus, *Holt and Tattersall*, Crust. 47  
 Katius, *Chevreaux*, Crust. 58  
 Kerteszia, *Theobald*, Ins. 290  
 Khimbya, *Distant*, Ins. 313  
 Koranna, *Distant*, Ins. 313  
 Kosmetopoina, *Wagner*, Moll. 79  
 Kowalewskyella, *Svarchevskii*, Spong. 14  
 Kriegeria, *Ashmead*, Ins. 210  
 Krusensterniella, *Schmidt*, Pisces 34  
 Kumanga, *Distant*, Ins. 313  
  
 Labidorhamphus, *Fowler*, Pisces 43  
 Lachnolebia, *Maindron*, Ins. 133  
 Lælogamasus, *Berlese*, Arachn. 33  
 Lagideus, *Konow*, Ins. 227  
 Lagoana, *Melichar*, Ins. 316  
 Lahugada, *Distant*, Ins. 313  
 Laila, *MacFarland*, Moll. 68  
 Lamprechinus, *Doederlein*, Echin. 69  
 Lanceolites, *Hyatt and Smith*, Moll. 57  
 Laophontina, *Norman and Scott*, Crust. 67  
 Larimichthys, *Jordan and Starks*, Pisces 40  
 Lasianobia, *Hampson*, Ins. 260  
 Lasiestra, *Hampson*, Ins. 260  
 Lasiopates, *Warren*, Ins. 269  
 Lasioperix, *Zang*, Ins. 148  
 Lasiophanes, *Warren*, Ins. 269

- Lassophora, *Verhoeff*, Myr. 7  
 Lathrobiella, *Casey*, Ins. 138  
 Lathrobioma, *Casey*, Ins. 138  
 Lathrobiopsis, *Casey*, Ins. 139  
 Lathrolepta, *Casey*, Ins. 139  
 Lathrotaxis, *Casey*, Ins. 139  
 Lathrotropsis, *Casey*, Ins. 139  
 Lechriorchis, *Stafford*, Verm. 61  
 Lecithophyllum, *Odkner*, Verm. 61  
 Leconteia, *Hyatt and Smith*, Moll. 57  
 Leianisorhynchus, *Pic*, Ins. 174  
 Leistophorus, *Reitter*, Ins. 134  
 Lemuriana, *Distant*, Ins. 313  
 Lentagena, *Dyar*, Ins. 248  
 Leonardina, *Mearns*, Aves 67  
 Leontocaris, *Stebbing*, Crust. 44  
 Leopoldia, *Baumberger*, Moll. 57  
 Lepidilla, *Ribaga*, Ins. 329  
 Lepidoscelio, *Kieffer*, Ins. 224  
 Lepidospora, *Escherich*, Ins. 333  
 Lepidotomyia, *Theobald*, Ins. 290  
 Lepilius, *Champion*, Ins. 175  
 Lepodora, *Odkner*, Verm. 61  
 Leptobium, *Casey*, Ins. 139  
 Leptoclinides, *Bjerkan*, Tun. 6  
 Leptomerinhopora, *Rehn*, Ins. 341  
 Leptosomatomyia, *Theobald*, Ins. 290  
 Leptospatha, *Rochebrune and Germain*, Moll. 84  
 Lepturgoides, *Schaaffer*, Ins. 181  
 Lesbidana, *Reitter*, Ins. 166  
 Lethana, *Distant*, Ins. 313  
 Letheaster, *Breddin*, Ins. 305  
 Leucertherus, *Gilbert and Marshall*, Verm. 61  
 Leuciacria, *Rothschild and Jordan*, Ins. 230  
 Leucodellus, *Reuter*, Ins. 310  
 Leucomele, *Dietz*, Ins. 282  
 Leucopæderus, *Casey*, Ins. 139  
 Leucorus, *Casey*, Ins. 139  
 Leucothrips, *Reuter*, Ins. 332  
 Levandera, *Sturany*, Moll. 84  
 Levenna, *Bergroth*, Ins. 303  
 Liccaites, *Kiittl*, Moll. 57  
 Licinoderus, *Deville*, Ins. 134  
 Lienella, *Cameron*, Ins. 211  
 Lignicida, *Swinhoe*, Ins. 260  
 Liistonotus, *Reuter*, Ins. 310  
 Limnesiella, *Daday*, Arachn. 33  
 Limnomys, *Mearns*, Manm. 38  
 Limoniscus, *Reitter*, Ins. 159  
 Linognathus, *Enderlein*, Ins. 323  
 Linolathra, *Casey*, Ins. 139  
 Liostracina, *Monke*, Crust. 77  
 Lipocentris, *Warren*, Ins. 269  
 Lipomera, *Tattersall*, Crust. 51  
 Lisomma, *Warren*, Ins. 269  
 Lissobiops, *Casey*, Ins. 139  
 Lissobracon, *Cameron*, Ins. 216  
 Lissoclastus, *Schaufuss*, Ins. 179  
 Lissosternus, *Lewis*, Ins. 145  
 Lissotheronia, *Cameron*, Ins. 211  
 Listrocryptus, *Brauns*, Ins. 211  
 Litolathra, *Casey*, Ins. 139  
 Litororus, *Reitter*, Ins. 166  
 Lituonella, *Schlumberger and Douville*, Prot. 58  
 Lobocepon, *Nobili*, Crust. 54  
 Lobopeltista, *Schouteden*, Ins. 303  
 Loiada, *Cameron*, Ins. 211  
 Lonchodryinus, *Kieffer*, Ins. 224  
 Lonchopria, *Vachal*, Ins. 193  
 Longurio, *Jordan and Starks*, Pisces 47  
 Loperia, *Walcott*, Brach. 8  
 Lophoceratomyia, *Theobald*, Ins. 290  
 Lophogastra, *Fairmaire*, Ins. 155  
 Lophopodella, *Roussellet*, Bry. 10  
 Lopistus, *Kirkaldy*, Ins. 310  
 Loriolella, *Fucini*, Echin. 70  
 Loxotephria, *Warren*, Ins. 269  
 Lullius, *Distant*, Ins. 307  
 Lycopodina, *Lundbeck*, Spong. 20  
 Lycosceles, *Konow*, Ins. 227  
 Lysianopsis, *Holmes*, Crust. 58  
 Macrocalanus, *Sars*, Crust. 67  
 Macroclada, *Konow*, Ins. 227  
 Macrolobus, *Zang*, Ins. 148  
 Macromeropsis, *Champion*, Ins. 175  
 Macromesodon, *Blake*, Pisces 50  
 Macronectes, *Richmond*, Aves 45  
 Macrophatnus, *Cameron*, Ins. 211  
 Macroption, *Szépligeti*, Ins. 211  
 Macropopillia, *Ohaus*, Ins. 153  
 Macroprota, *Warren*, Ins. 275  
 Macropsylla, *Rothschild*, Ins. 301  
 Macrosaces, *Meyrick*, Ins. 282  
 Majeorona, *Distant*, Ins. 313  
 Malacotonia, *Fairmaire*, Ins. 155  
 Malfeytia, *Schmidt*, Ins. 316  
 Malthodinus, *Fiori*, Ins. 161  
 Malupa, *Schaus*, Ins. 249  
 Mameropsopsis, *Nordenskiöld*, Arachn. 33  
 Manodistomum, *Stafford*, Verm. 61  
 Manodromius, *Reitter*, Ins. 134  
 Manuela, *Vachal*, Ins. 193  
 Mapondera, *Distant*, Ins. 313  
 Maragnicrinus, *Whitfield*, Echin. 89  
 Mardalana, *Distant*, Ins. 313

- Marquetia, *Ribaut*, Myr. 11  
 Masariella, *Brauns*, Ins. 197  
 Maua, *Distant*, Ins. 313  
 Mazagranus, *Pic*, Ins. 175  
 Mecistocorynus, *Champion*, Ins. 175  
 Mecysolobus, *Reitter*, Ins. 175  
 Medonella, *Casey*, Ins. 139  
 Medonodonta, *Casey*, Ins. 139  
 Megadasus, *Reitter*, Ins. 166  
 Megalechthrus, *Perkins*, Ins. 169  
 Megalopastus, *Dendy*, Spong. 25  
 Megalytoceras, *Buckman*, Moll. 57  
 Meganyctiphanes, *Holt and Tattersall*, Crust. 47  
 Megathous, *Reitter*, Ins. 159  
 Megaxenops, *Reiser*, Aves 62  
 Megorama, *Fall*, Ins. 163  
 Meimuna, *Distant*, Ins. 313  
 Meladocrates, *Reitter*, Ins. 166  
 Melanathous, *Reitter*, Ins. 159  
 Melastrota, *Hampson*, Ins. 249  
 Melinodon, *Broom*, Rept. 36  
 Menares, *Champion*, Ins. 175  
 Meringopalpus, *Hagedorn*, Ins. 179  
 Merrifieldia, *Tutt*, Ins. 278  
 Mesidotea, *Richardson*, Crust. 54  
 Mesocheres, *Norman and Scott*, Crust. 67  
 Mesomalthodes, *Fiori*, Ins. 161  
 Mesomerodon, *Ohaus*, Ins. 153  
 Mesomorphus, *Reitter*, Ins. 166  
 Mesoplophora, *Berlese*, Arachn. 34  
 Mesoporiulus, *Verhoeff*, Myr. 13  
 Mesopteron, *Bourgeois*, Ins. 161  
 Mesorhabdus, *Sars*, Crust. 67  
 Mesostoma, *Cameron*, Ins. 216  
 Mesothisa, *Warren*, Ins. 269  
 Metaboeckella, *Ekman*, Crust. 67  
 Metachone, *Bush*, Verm. 43  
 Metaconomma, *Cambridge*, Arachn. 26  
 Metacrocea, *Dyar*, Ins. 249  
 Metallospora, *Warren*, Ins. 269  
 Metamunna, *Tattersall*, Crust. 51  
 Metapachylus, *Cambridge*, Arachn. 26  
 Metapedius, *Fiori*, Ins. 134  
 Metapenæopsis, *Bruvier*, Crust. 45  
 Metaphæna, *Schmidt*, Ins. 316  
 Metapolybia, *Ducke*, Ins. 197  
 Metapteron, *Bourgeois*, Ins. 161  
 Metarhaucus, *Cambridge*, Arachn. 26  
 Metaxius, *Bouvier*, Crust. 42  
 Meterginus, *Cambridge*, Arachn. 26  
 Meticonaxius, *De Man*, Crust. 42  
 Metophion, *Szépligeti*, Ins. 211  
 Metracopsis, *Dognin*, Ins. 275  
 Metraniella, *Champion*, Ins. 175  
 Metraniopsis, *Champion*, Ins. 175  
 Meunieria, *Kieffer*, Ins. 128  
 Meunieria, *Rübsaamen*, Ins. 286  
 Miacora, *Dyar*, Ins. 249  
 Micraëdes, *Coquillett*, Ins. 291  
 Microlephas, *Dognin*, Ins. 275  
 Microcætus, *Meunier*, Ins. 220  
 Microcleogonus, *Champion*, Ins. 175  
 Microdina, *Murray*, Verm. 71  
 Microhyle, *Hampson*, Ins. 249  
 Mikroklussia, *Krassiltschik*, Prot. 71  
 Microlathra, *Casey*, Ins. 139  
 Micromedon, *Casey*, Ins. 140  
 Micronæmia, *Weise*, Ins. 188  
 Microphadnus, *Cameron*, Ins. 200  
 Microthalestris, *Sars*, Crust. 68  
 Microtherœua, *Verhoeff*, Myr. 7  
 Microtylopteryx, *Rehn*, Ins. 341  
 Microxypterus, *Champion*, Ins. 176  
 Microzeuglodon, *Strömer*, Mamm. 46  
 Microzogus, *Fall*, Ins. 163  
 Miglica, *Reitter*, Ins. 167  
 Miluna, *Wagner*, Moll. 79  
 Mimagathis, *Enderlein*, Ins. 217  
 Mimetillus, *Thomas*, Mamm. 33  
 Minacraga, *Dyar*, Ins. 250  
 Minofala, *Smith*, Ins. 260  
 Minonoa, *Dyar*, Ins. 250  
 Miranha, *Distant*, Ins. 313  
 Misthotus, *Kirby*, Ins. 332  
 Mitriodon, *Rochebrune*, Moll. 84  
 Mixobates, *Thor*, Arachn. 34  
 Moellendorffiella, *Pilsbry*, Moll. 62  
 Moerenthalia, *von Graff*, Verm. 54  
 Mogadoria, *Escalera*, Ins. 167  
 Mojsisovicsites, *Gemmellaro*, Moll. 57  
 Monacanthocnemis, *Ducke*, Ins. 197  
 Monacilla, *Sars*, Crust. 68  
 Mongolesthes, *Reitter*, Ins. 167  
 Monocentrus, *Melichar*, Ins. 317  
 Monocrypta, *Casey*, Ins. 140  
 Monorchoides, *Odhner*, Verm. 61  
 Monotarsobius, *Verhoeff*, Myr. 9  
 Montandonista, *Schouteden*, Ins. 304  
 Montandonistella, *Schouteden*, Ins. 304  
 Montereina, *MacFarland*, Moll. 68  
 Montesauria, *Oudemans*, Arachn. 34  
 Morenoa, *Dugès*, Rept. 33  
 Morokia, *Janson*, Ins. 155  
 Moropsyche, *Banks*, Ins. 326  
 Morphogynandrus, *Carret*, Ins. 134  
 Morphopus, *Boltvar*, Ins. 341  
 Mortensonia, *Doederlein*, Echin. 71  
 Motschulskyia, *Kirkaldy*, Ins. 318  
 Munia, *Varela*, Ins. 308



- Munopsoidea, *Tattersall*, Crust. 51  
 Mura, *Distant*, Ins. 313  
 Musalia, *Shipley and Hornell*,  
 Verm. 61  
 Musiva, *Wagner*, Moll. 79  
 Muttua, *Shipley and Hornell*,  
 Verm. 61  
 Mycetosporidium, *Léger and Hesse*,  
 Prot. 53  
 Mycteropus, *Noé*, Ins. 289  
 Mycterotypus, *Noé*, Ins. 288  
 Mynoglenes, *Simon*, Arachn. 23  
 Myolestes, *Brèthes*, Ins. 295  
 Myopsoenema, *Enderlein*, Ins. 329  
 Myrrhine, *Berg*, Moll. 68  
 Mystrocnemis, *Kieffer*, Ins. 224  
 Mytilella, *Leonardi*, Ins. 322  
 Myxoderma, *Fisher*, Echin. 80  
  
 Namnetia, *Cossmann*, Moll. 84  
 Nannacara, *Regan*, Pisces 39  
 Nannolytoceras, *Buckman*, Moll.  
 57  
 Nasoproculus, *Zang*, Ins. 149  
 Navarcostes, *Schau*, Ins. 250  
 Neanites, *Hyatt and Smith*, Moll. 57  
 Neatypus, *Waite*, Pisces 40  
 Neëressa, *Hampson*, Ins. 250  
 Negombo, *Dendy*, Spong. 14  
 Nematobranchion, *Calman*, Crust. 48  
 Nemotaulius, *Banks*, Ins. 326  
 Neochelognys, *Perkins*, Ins. 224  
 Neocomia, *Rougemont*, Ins. 261  
 Neocordyloporus, *Carl*, Myr. 12  
 Neoculex, *Dyar*, Ins. 291  
 Neodesmodes, *Warren*, Ins. 270  
 Neodryinus, *Perkins*, Ins. 224  
 Neogastromyzon, *Popta*, Pisces 47  
 Neogonatopus, *Perkins*, Ins. 224  
 Neolebertia, *Thor*, Arachn. 34  
 Neomabra, *Dognin*, Ins. 275  
 Neomystocis, *Lea*, Ins. 176  
 Neopenæopsis, *Bouvier*, Crust. 46  
 Neoperla, *Klapálek*, Ins. 330  
 Neophonon, *Fauvel*, Ins. 140  
 Neoptosina, *Théry*, Ins. 157  
 Neorhauca, *Cambridge*, Arachn. 26  
 Neotrichia, *Morton*, Ins. 326  
 Neotrioza, *Kieffer*, Ins. 320  
 Nephantis, *Meyrick*, Ins. 282  
 Nephelista, *Hampson*, Ins. 259  
 Nerenia, *Bolivar*, Ins. 341  
 Nesebra, *Schau*, Ins. 250  
 Nesodromus, *Bergroth*, Ins. 305  
 Nesolynx, *Ashmead*, Ins. 220  
 Nesomesochorus, *Ashmead*, Ins. 212  
 Nesophila, *Warren*, Ins. 270  
  
 Nesoryzomys, *Thomas*, Mamm. 39  
 Netuschilia, *Reitter*, Ins. 167  
 Neurepyris, *Kieffer*, Ins. 224  
 Nevillina, *Sidebottom*, Prot. 59  
 Nilotonia, *Thor*, Arachn. 34  
 Niptinus, *Fall*, Ins. 163  
 Nirva, *Bergh*, Moll. 69  
 Nisusia, *Walcott*, Brach. 8  
 Nomenia, *Pearsall*, Ins. 270  
 Notæolidea, *Eliot*, Moll. 69  
 Notechinus, *Doederlein*, Echin. 71  
 Nothanomalon, *Szépligeti*, Ins. 212  
 Nothoblatta, *Bolivar*, Ins. 336  
 Nothopsyche, *Banks*, Ins. 326  
 Notiocichla, *Oberholser*, Aves 71  
 Notospiza, *Oberholser*, Aves 85  
 Notomideopsis, *Walcott*, Arach. 34  
  
 Ochrolamus, *Reitter*, Ins. 167  
 Ocinaropsis, *Aurivillius*, Ins. 250  
 Oclasina, *Melichar*, Ins. 318  
 Ocyplanus, *De Vis*, Aves 47  
 Odontelia, *Hampson*, Ins. 261  
 Odontestra, *Hampson*, Ins. 261  
 Odontomyrmex, *André*, Ins. 205  
 Odontopsyllus, *Baker*, Ins. 301  
 Œdalometopon, *Rehn*, Ins. 341  
 Offneria, *Paquier*, Moll. 83  
 Ogasawarana, *Wagner*, Moll. 79  
 Ohlinia, *Strebel*, Moll. 72  
 Okanagana, *Distant*, Ins. 313  
 Oligomerodes, *Fall*, Ins. 163  
 Oligophlebodes, *Ulmer*, Ins. 326  
 Ollanta, *Distant*, Ins. 313  
 Omostilicus, *Casey*, Ins. 140  
 Omphalucha, *Warren*, Ins. 270  
 Onchocalanus, *Sars*, Crust. 68  
 Oncopodura, *Carl and Lebedinsky*,  
 Ins. 334  
 Onychestra, *Hampson*, Ins. 261  
 Onychocardium, *Whitfield*, Moll.  
 83  
 Oocormus, *Boulenger*, Rept. 39  
 Oöthrix, *Farran*, Crust. 68  
 Opatronesthes, *Reitter*, Ins. 167  
 Ophiogypsis, *Koehler*, Echin. 84  
 Ophiomorpha, *Szépligeti*, Ins. 212  
 Opisthosiphon, *Dall*, Moll. 76  
 Opsaroa, *Hampson*, Ins. 251  
 Orapa, *Distant*, Ins. 313  
 Orbiculata, *Wagner*, Moll. 79  
 Orechinus, *Doederlein*, Echin. 71  
 Oreilla, *Ludlow*, Ins. 291  
 Orellana, *Distant*, Ins. 313  
 Oreodicastes, *Maindron*, Ins. 134  
 Oreoscopus, *North*, Aves 72  
 Orobophana, *Wagner*, Moll. 79

- Orona, *Cameron*, Ins. 212  
 Orthogoceros, *Trouessart*, Mamm. 41  
 Orthathous, *Reitter*, Ins. 159  
 Orthocomotis, *Dognin*, Ins. 279  
 Orthogonalys, *Schulz*, Ins. 219  
 Orthosplanchnus, *Odhner*, Verm. 61  
 Orthothereua, *Verhoeff*, Myr. 7  
 Orthoxiphus, *Dohrn*, Ins. 339  
 Orusia, *Walcott*, Brach. 8  
 Otusia, *Walcott*, Brach. 8  
 Ovendenia, *Tutt*, Ins. 278  
 Owenites, *Hyatt and Smith*, Moll. 57  
 Oxopsis, *Nordenskiöld*, Arachn. 35  
 Oxyalcia, *Dognin*, Ins. 276  
 Oxyfidonia, *Warren*, Ins. 270  
 Oxymedon, *Casey*, Ins. 140  
 Oxypteropsis, *Champion*, Ins. 176  
 Ozotrioza, *Kieffer*, Ins. 320
- Pacarina, *Distant*, Ins. 313  
 Pachyanthidium, *Friese*, Ins. 194  
 Pachygonatopus, *Perkins*, Ins. 224  
 Pachylytoceras, *Buckman*, Moll. 57  
 Pachymerinus, *Silvestri*, Myr. 9  
 Pachypodistes, *Hampson*, Ins. 276  
 Pachypteryx, *Wiman*, Aves 44  
 Pachystilicus, *Casey*, Ins. 140  
 Pachystoma, *Wagner*, Moll. 79  
 Pachytroctes, *Enderlein*, Ins. 329  
 Pæderillus, *Casey*, Ins. 140  
 Pagophoca, *Trouessart*, Mamm. 36  
 Paharia, *Distant*, Ins. 313  
 Paipila, *Cameron*, Ins. 212  
 Palæoanaclinia, *Meunier*, Ins. 129  
 Palæoboletina, *Meunier*, Ins. 129  
 Palæodocosia, *Meunier*, Ins. 129  
 Palæoepicypta, *Meunier*, Ins. 130  
 Palæohelicina, *Wagner*, Moll. 79  
 Palæophocæna, *Abel*, Mamm. 45  
 Palæophthinia, *Meunier*, Ins. 129  
 Palæopsyche, *Perkins*, Ins. 251  
 Palæosycorax, *Meunier*, Ins. 128  
 Palæotrichonta, *Meunier*, Ins. 129  
 Palæoziphius, *Abel*, Mamm. 45  
 Palicites, *Gemmellaro*, Moll. 57  
 Palmobius, *Needham*, Ins. 328  
 Palpinus, *Cambridge*, Arachn. 26  
 Palponima, *Hampson*, Ins. 261  
 Pamcolma, *Schaus*, Ins. 251  
 Panacca, *Dall*, Moll. 82  
 Pancelus, *Richardson*, Crust. 50  
 Panka, *Distant*, Ins. 313  
 Pantiella, *Ludwig*, Echin.  
 Pantoleon, *True*, Mamm. 36  
 Paraceratites, *Kittl*, Moll. 57  
 Paracerceis, *Hansen*, Crust. 53  
 Parachartergus, *Thering*, Ins. 197  
 Parachondria, *Dall*, Moll. 77  
 Paraclea, *Dyar*, Ins. 251  
 Paracossus, *Hampson*, Ins. 251  
 Paracruga, *Dyar*, Ins. 251  
 Paracyphocaris, *Chevreaux*, Crust. 58  
 Paradryinus, *Perkins*, Ins. 224  
 Paradynamene, *Richardson*, Crust. 53  
 Paraedwardsia, *Nordgaard*, Cœl. 33  
 Paraganides, *Hyatt and Smith*, Moll. 57  
 Paragonatopus, *Perkins*, Ins. 224  
 Paragramma, *Warren*, Ins. 271  
 Paragyrtis, *Meyrick*, Ins. 271  
 Parahoplhrys, *Nobili*, Crust. 34  
 Paralaccon, *Reitter*, Ins. 159  
 Paralaelius, *Kieffer*, Ins. 224  
 Paralathra, *Casey*, Ins. 140  
 Paralesteva, *Casey*, Ins. 141  
 Paralobium, *Fall*, Ins. 164  
 Paraloelius, *Cameron*, Ins. 224  
 Paramblyops, *Holt and Tattersall*, Crust. 48  
 Paramedon, *Casey*, Ins. 141  
 Paramitraceras, *Cambridge*, Arachn. 26  
 Paramylodon, *Brown*, Mamm. 46  
 Paramyxilla, *Dendy*, Spong. 22  
 Paranannites, *Hyatt and Smith*, Moll. 57  
 Paraneura, *Dietz*, Ins. 282  
 Paranodon, *Cockerell*, Ins. 154  
 Paranotonyx, *Nobili*, Crust. 36  
 Paranteon, *Perkins*, Ins. 224  
 Parapalæonarica, *Blaschke*, Moll. 81  
 Parapaloesia, *Dyar*, Ins. 251  
 Parapetenia, *Boulenger*, Pisces 39  
 Paraphorhynchus, *Weller*, Brach. 8  
 Paraplesia, *Dietz*, Ins. 282  
 Pararhaucus, *Cambridge*, Arachn. 26  
 Parartemesia, *Bouvier*, Crust. 46  
 Parasabella, *Bush*, Verm. 43  
 Parascaphirynchus, *Forbes and Richardson*, Pisces 50  
 Parasemidalis, *Enderlein*, Ins. 328  
 Parashada, *Hampson*, Ins. 251  
 Paraspinnaria, *Cameron*, Ins. 217  
 Paraspira, *Dall*, Moll. 66  
 Paraspistes, *Meyrick*, Ins. 282  
 Parasteinia, *Cockerell*, Ins. 298  
 Parastenus, *von Heyden*, Ins. 141  
 Parastephanus, *Enderlein*, Ins. 218  
 Parastropecten, *Ludwig*, Echin. 80  
 Paratalara, *Dyar*, Ins. 251  
 Paratetilla, *Dendy*, Spong. 13

- Parateuthras, *Bolívar*, Ins. 339  
 Paratrytone, *Dyar*, Ins. 238  
 Paraxiopsis, *De Man*, Crust. 42  
 Paresperella, *Dendy*, Spong. 22  
 Pareuschema, *Thierry-Mieg*, Ins. 271  
 Pareuthria, *Strebel*, Moll. 73  
 Parexostoma, *Regan*, Pisces 45  
 Parexysma, *Csiki*, Ins. 187  
 Parhypochthonius, *Berlese*, Arachn. 35  
 Parmulechinus, *Lambert*, Echin. 72  
 Parmulophora, *Dall*, Moll. 83  
 Parnkalla, *Distant*, Ins. 314  
 Paropeas, *Pilsbry*, Moll. 65  
 Parophasma, *Erlanger*, Aves 67  
 Paraphiocephalus, *Pöpta*, Pisces 42  
 Parvittya, *Distant*, Ins. 314  
 Paschocaris, *Nobili*, Crust. 44  
 Patagium, *Heymann*, Verm. 61  
 Patago, *Bergroth*, Ins. 308  
 Patiniger, *Dall*, Moll. 82  
 Pauliella, *Ludwig*, Echin. 81  
 Paurophatnus, *Cameron*, Ins. 212  
 Pausoptinus, *Lea*, Ins. 164  
 Pecomyia, *Theobald*, Ins. 291  
 Pegalosphæra, *Mingazzini*, Verm. 35  
 Peggioga, *Kirkaldy*, Ins. 316  
 Pelamycybius, *Toula*, Pisces 38  
 Pelinopsis, *Dognin*, Ins. 276  
 Pellinella, *Thiele*, Spong. 22  
 Pellobunus, *Banks*, Arachn. 26  
 Pelosuchus, *Broom*, Rept. 36  
 Peltoperla, *Needham*, Ins. 330  
 Pentacrinula, *Minckert*, Echin. 89  
 Pentanota, *Bernhauer*, Ins. 141  
 Pentasphæra, *Squinabol*, Prot. 64  
 Pentellina, *Schlumberger*, Prot. 60  
 Pentholasius, *Reitter*, Ins. 167  
 Penthomegus, *Reitter*, Ins. 167  
 Pentidotea, *Richardson*, Crust. 54  
 Perasis, *Hermann*, Ins. 295  
 Perieres, *Champion*, Ins. 176  
 Periscolex, *de Martius*, Verm. 49  
 Perispatangus, *Fourtau*, Echin. 72  
 Perissomastix, *Warren and Rothschild*, Ins. 282  
 Perizona, *Koehler and Vaney*, Echin. 59  
 Peroara, *Schaus*, Ins. 251  
 Perrottetia, *Kobelt*, Moll. 58  
 Persectania, *Hampson*, Ins. 261  
 Petriola, *Dall*, Moll. 65  
 Phagomyia, *Theobald*, Ins. 291  
 Phalega, *Cameron*, Ins. 212  
 Phalgea, *Cameron*, Ins. 212  
 Phantiopsis, *Melichar*, Ins. 316  
 Pharangitis, *Meyrick*, Ins. 282  
 Pharzites, *Cameron*, Ins. 212  
 Phassodes, *Bethune-Baker*, Ins. 251  
 Phaulomys, *Thomas*, Mamm. 39  
 Phaulothorax, *Zang*, Ins. 148  
 Phenacolletes, *Cockerell*, Ins. 194  
 Phereurhinus, *Jacobi*, Ins. 318  
 Philomacroploea, *Cameron*, Ins. 217  
 Philopsyche, *Cameron*, Ins. 212  
 Phonorhynchus, *von Graff*, Verm. 54  
 Phormacantha, *Jørgensen*, Prot. 66  
 Phorticolea, *Bolívar*, Ins. 336  
 Photia, *Oudemans*, Arachn. 35  
 Phrydops, *Boulenger*, Rept. 33  
 Phrynopsis, *Fairmaire*, Ins. 153  
 Phryx, *Blaschke*, Moll. 77  
 Phylacodes, *Meyrick*, Ins. 283  
 Phyllobranchopsis, *Cockerell and Eliot*, Moll. 69  
 Phyllothalestris, *Sars*, Crust. 68  
 Phyracaces, *Emery*, Ins. 205  
 Physoseris, *Vaughan*, Cœl. 33  
 Phytocoridae, *Reuter*, Ins. 310  
 Phytoptipalpus, *Trägårdh*, Arachn. 35  
 Pieridopsis, *Rothschild and Jordan*, Ins. 235  
 Pierosoma, *Dall*, Moll. 66  
 Pilsbryella, *Ihering*, Moll. 63  
 Pilsbryella, *Nierstrasz*, Moll. 86  
 Pimeliaphilus, *Trägårdh*, Arachn. 35  
 Pimelopus, *Jacoby and Clavareau*, Ins. 185  
 Pisæus, *Champion*, Ins. 176  
 Plagiopneustes, *Fourtau*, Echin. 72  
 Plagiosmicra, *Cameron*, Ins. 220  
 Planepyris, *Kieffer*, Ins. 224  
 Plastanoxus, *Kieffer*, Ins. 224  
 Plastophora, *Brues*, Ins. 297  
 Platehippius, *Navás*, Ins. 339  
 Platycentropus, *Ulmer*, Ins. 327  
 Platychalcis, *Cameron*, Ins. 220  
 Platycuma, *Calman*, Crust. 49  
 Platydromus, *Fauvel*, Ins. 141  
 Platygonyx, *Schulz*, Ins. 219  
 Platylælaps, *Berlese*, Arachn. 35  
 Platypthiina, *Rothschild and Jordan*, Ins. 235  
 Platystroterna, *Dyar*, Ins. 252  
 Platyrophalopsis, *Desneux*, Ins. 143  
 Plaxopsis, *Cameron*, Ins. 217  
 Plectacantha, *Jørgensen*, Prot. 67  
 Plectoptilus, *Simon*, Arachn. 18  
 Pleraplysilla, *Topsent*, Spong. 25  
 Plesiomasaris, *Cameron*, Ins. 197  
 Plesiozethus, *Cameron*, Ins. 197  
 Pleurathous, *Reitter*, Ins. 159  
 Pleurobela, *Kobelt*, Moll. 72  
 Pleuropria, *Kieffer*, Ins. 224  
 Plutarchusia, *Oudemans*, Arachn. 36

- Pneumaculex, *Dyar*, Ins. 291  
 Pnesticerus, *Horváth*, Ins. 307  
 Podogymnura, *Mearns*, Mamm. 34  
 Podotherua, *Verhoeff*, Myr. 7  
 Pœcilothais, *Maindron*, Ins. 134  
 Pogonozada, *Hampson*, Ins. 261  
 Poliodes, *Druce*, Ins. 262  
 Polyconia, *Weise*, Ins. 166  
 Polylepido-myia, *Theobald*, Ins. 291  
 Polyleptomyia, *Theobald*, Ins. 291  
 Polymedon, *Casey*, Ins. 141  
 Polyortha, *Dognin*, Ins. 279  
 Polyphematia, *Verhoeff*, Myr. 11  
 Polyplectropus, *Ulmer*, Ins. 327  
 Polyptychus, *Dovillé*, Moll. 83  
 Polytelodes, *Hampson*, Ins. 262  
 Polytropina, *Donald*, Moll. 81  
 Polyxo, *Monti*, Arachn. 36  
 Pontoptilus, *Sars*, Crust. 68  
 Popea, *Ludlow*, Ins. 291  
 Porritia, *Tutt*, Ins. 278  
 Portumnoides, *Bohn*, Crust. 35  
 Præcapriua, *Paquier*, Moll. 83  
 Prasinoscia, *Warren*, Ins. 271  
 Preptoceros, *Furlong*, Mamm. 42  
 Primeana, *Wagner*, Moll. 79  
 Pringleophaga, *Enderlein*, Ins. 283  
 Prionothorax, *Luze*, Ins. 141  
 Pristepyris, *Kieffer*, Ins. 225  
 Pristiopsis, *Schmidt*, Ins. 316  
 Pristobethylus, *Kieffer*, Ins. 225  
 Pristocelus, *Szépligeti*, Ins. 213  
 Proanaclina, *Meunier*, Ins. 129  
 Proboletina, *Meunier*, Ins. 129  
 Procalyzoa, *Kieffer*, Ins. 225  
 Procambarus, *Örtmann*, Crust. 41  
 Procampodea, *Silvestri*, Ins. 334  
 Proceratites, *Kittl*, Moll. 57  
 Procerosaurus, *Fritsch*, Rept. 37  
 Procrærus, *Reitter*, Ins. 159  
 Procululus, *Zang*, Ins. 149  
 Progona, *Dietz*, Ins. 283  
 Prokelisia, *Osborn*, Ins. 316  
 Prolelius, *Kieffer*, Ins. 225  
 Promalthodes, *Fiori*, Ins. 161  
 Promasia, *Chrétien*, Ins. 283  
 Promesitius, *Kieffer*, Ins. 225  
 Proneoglyphyoptera, *Meunier*, Ins. 129  
 Pronomeuta, *Meyrick*, Ins. 283  
 Pronotestra, *Hampson*, Ins. 262  
 Propappus, *Michaelsen*, Verm. 52  
 Propheletes, *Fiori*, Ins. 159  
 Propristocera, *Kieffer*, Ins. 225  
 Prosanteon, *Perkins*, Ins. 225  
 Prosclerogibba, *Kieffer*, Ins. 225  
 Prosierola, *Kieffer*, Ins. 225  
 Prosorhynchus, *Odhner*, Verm. 62  
 Prospileurus, *Kolbe*, Ins. 154  
 Prosphorocichla, *Oberholser*, Aves 67  
 Proteinania, *Hampson*, Ins. 262  
 Proterosphex, *Fernald*, Ins. 201  
 Prostetrica, *Schouteden*, Ins. 304  
 Prothalmodes, *Fiori*, Ins. 161  
 Protoelytra, *Weise*, Ins. 185  
 Protomocælus, *Zang*, Ins. 148  
 Protopsis, *Kittl*, Moll. 84  
 Protoplatytes, *Cockerell*, Moll. 57  
 Protopolybia, *Ducke*, Ins. 198  
 Protoscenium, *Jørgensen*, Prot. 67  
 Protosuberites, *Svarchevskii*, Spong. 15  
 Prubotella, *Metz-Kassowska*, Cœl. 20  
 Psaltica, *Meyrick*, Ins. 283  
 Psammetta, *Schulze*, Prot. 54  
 Psectrosema, *Kieffer*, Ins. 286  
 Pselliopus, *Bergroth*, Ins. 308  
 Pseudacherusia, *Kerremans*, Ins. 157  
 Pseudachorutides, *Becker*, Ins. 334  
 Pseudammomanes, *Bianchi*, Aves 81  
 Pseudamyciæa, *Simon*, Arachn. 22  
 Pseudanapis, *Simon*, Arachn. 21  
 Pseudanomalon, *Szépligeti*, Ins. 213  
 Pseudasaphus, *Schmidt*, Crust. 78  
 Pseudeuchæta, *Sars*, Crust. 69  
 Pseudevania, *Bradley*, Ins. 218  
 Pseudisobrachiium, *Kieffer*, Ins. 225  
 Pseudobrissus, *Lambert*, Echin. 74  
 Pseudobryophila, *Thierry-Mieg*, Ins. 262  
 Pseudochartergus, *Ducke*, Ins. 198  
 Pseudochlorota, *Ohaus*, Ins. 153  
 Pseudocloëon, *Klapálek*, Ins. 331  
 Pseudocoræbus, *Théry*, Ins. 157  
 Pseudocremastus, *Szépligeti*, Ins. 213  
 Pseudoculex, *Dyar*, Ins. 291  
 Pseudocyphus, *Schaeffer*, Ins. 177  
 Pseudodiastylis, *Calman*, Crust. 49  
 Pseudodorcatoma, *Pic*, Ins. 164  
 Pseudogonatopus, *Perkins*, Ins. 225  
 Pseudograbhamia, *Theobald*, Ins. 291  
 Pseudoheligmus, *Dovillé*, Moll. 85  
 Pseudolathra, *Casey*, Ins. 141  
 Pseudoloxops, *Kirkaldy*, Ins. 310  
 Pseudomacronema, *Ulmer*, Ins. 327  
 Pseudomopsis, *Champion*, Ins. 177  
 Pseudopachyæta, *Strobl*, Ins. 299  
 Pseudoparastrophia, *Distaso*, Moll. 74  
 Pseudophiloscia, *Budde-Lund*, Crust. 55  
 Pseudopotamilla, *Bush*, Verm. 44  
 Pseudoptochus, *Formánek*, Ins. 177  
 Pseudosaccocoma, *Remés*, Echin. 90

- Pseudosetodes, *Ulmer*, Ins. 327  
 Pseudosperместes, *Dubois*, Aves 84  
 Pseudosphærocera, *Strobl*, Ins. 299  
 Pseudospinaria, *Enderlein*, Ins. 217  
 Pseudothuria, *Kochler and Vaney*,  
   Echin. 59  
 Pseudouranotænia, *Theobald*, Ins.  
   291  
 Pseudovertagus, *Vignal*, Moll. 74  
 Pseudovirgatites, *Vetters*, Moll. 57  
 Psilomus, *Zang*, Ins. 148  
 Psyllia, *Kirkaldy*, Ins. 320  
 Pterodonta, *Austaut*, Ins. 239  
 Pteromerula, *Fleischer*, Ins. 144  
 Ptilomutilla, *André*, Ins. 201  
 Ptyobathra, *Turner*, Ins. 276  
 Punctiscalcata, *Wagner*, Moll. 79  
 Purana, *Distant*, Ins. 314  
 Pycnocypta, *Casey*, Ins. 141  
 Pycnorus, *Casey*, Ins. 141  
 Pycnostega, *Warren*, Ins. 271  
 Pycnostignus, *Cameron*, Ins. 226  
 Pygmæocidaris, *Doederlein*, Echin.  
   74  
 Pylopaguropsis, *Alcock*, Crust. 40  
 Pyralopsis, *Dognin*, Ins. 276  
 Pyramirhyssa, *Mocsáry*, Ins. 213  
  
 Quebecia, *Walcott*, Brach. 8  
 Quesada, *Distant*, Ins. 314  
  
 Rachionotomyia, *Theobald*, Ins. 291  
 Radiocentrum, *Pilsbry*, Moll. 62  
 Radiolitella, *Dowville*, Moll. 83  
 Radiosphæra, *Jørgensen*, Prot. 65  
 Radiozoum, *Mingazzini*, Prot. 74  
 Ravigia, *Dyar*, Ins. 252  
 Reedomyia, *Ludlow*, Ins. 291  
 Rekania, *Cameron*, Ins. 221  
 Reticulata, *Wagner*, Moll. 79  
 Retorquata, *Wagner*, Moll. 79  
 Reuteroscopus, *Kirkaldy*, Ins. 310  
 Rhabdoceras, *Ulmer*, Ins. 327  
 Rhabdokonia, *Wagner*, Moll. 79  
 Rhabdostropha, *Donald*, Moll. 74  
 Rhachicreagra, *Rehn*, Ins. 342  
 Rhacospathius, *Cameron*, Ins. 217  
 Rhacoteleia, *Cameron*, Ins. 225  
 Rhagadotarsus, *Breddin*, Ins. 308  
 Rhagamys, *Major*, Mamm. 38  
 Rhamnura, *Enderlein*, Ins. 217  
 Rraphiolepis, *Fowler*, Pisces 38  
 Rhinapion, *Beguin-Billecocq*, Ins.  
   177  
 Rhinocassis, *Spaeth*, Ins. 187  
 Rhinopias, *Gill*, Pisces 36  
  
 Rhinosporidium, *Minchin and Fan-*  
   *tham*, Prot. 71  
 Rhipsaspis, *Zang*, Ins. 148  
 Rhizalemus, *Reitter*, Ins. 167  
 Rhodesia, *Warren*, Ins. 272  
 Rhodocyathus, *Bourne*, Cœl. 34  
 Rhopalopsyllus, *Baker*, Ins. 301  
 Rhynchocryptus, *Cameron*, Ins. 213  
 Rhynchothalestris, *Sars*, Crust. 69  
 Rhynchotragus, *Neumann*, Mamm.  
   42  
 Rhyssosigalphus, *Cameron*, Ins. 217  
 Roena, *Cameron*, Ins. 225  
 Rostrata, *Wagner*, Moll. 79  
 Rothschildia, *Mocquart*, Rept. 38  
 Rustella, *Walcott*, Brach. 8  
  
 Sabatieria, *de Rouville*, Verm. 65  
 Saïdjahus, *Budde-Lund*, Crust. 56  
 Sammonica, *Oudemans*, Arachn. 37  
 Sanazarius, *Distant*, Ins. 307  
 Sapantanga, *Distant*, Ins. 314  
 Sarkaster, *Ludwig*, Echin. 82  
 Satorystia, *Reitter*, Ins. 147  
 Sauritinia, *Dyar*, Ins. 253  
 Sawda, *Distant*, Ins. 314  
 Scalmus, *Zang*, Ins. 148  
 Scaphoceros, *Osgood*, Mamm. 41  
 Scaritolius, *Fairmaire*, Ins. 134  
 Schematorhages, *Warren*, Ins. 272  
 Scheviakovella, *Caullery and Mesnil*,  
   Prot. 71  
 Schiœdia, *Kirkaldy*, Ins. 304  
 Schizobrachium, *Meisenheimer*, Moll.  
   71  
 Schizobranchia, *Bush*, Verm. 44  
 Schizomicrus, *Casey*, Ins. 177  
 Schizopera, *Sars*, Crust. 69  
 Schoutedenia, *Rübsaamen*, Ins. 321  
 Schuchertina, *Walcott*, Brach. 8  
 Schulthessia, *Boltvar*, Ins. 342  
 Sciadiocapsa, *Squinabol*, Prot. 67  
 Sciocharella, *Casey*, Ins. 141  
 Scleronimon, *Reitter*, Ins. 167  
 Scolocephalus, *Bruner*, Ins. 342  
 Scolopsella, *Ball*, Ins. 317  
 Scopæoma, *Casey*, Ins. 141  
 Scopæopsis, *Casey*, Ins. 142  
 Scotophinus, *Simon*, Arachn. 18  
 Scottocalanus, *Sars*, Crust. 69  
 Scriptania, *Hampson*, Ins. 262  
 Sculpta, *Wagner*, Moll. 79  
 Scydmaenichnus, *Reitter*, Ins. 144  
 Scypholanceola, *Woltereck*, Crust. 59  
 Scyphoproctus, *Gravier*, Verm. 42  
 Scyracepon, *Tattersall*, Crust. 54  
 Sebastosemus, *Gill*, Pisces 36

- Sellula, *Wiman*, Crust. 73  
 Selysiophlebia, *Förster*, Ins. 332  
 Semæodogaster, *Bradley*, Ins. 218  
 Semidialis, *Enderlein*, Ins. 328  
 Semiota, *Dietz*, Ins. 283  
 Sena, *Distant*, Ins. 314  
 Seringophorus, *Odhner*, Verm. 62  
 Sesamodon, *Broom*, Rept. 36  
 Shastites, *Hyatt and Smith*, Moll. 57  
 Sialoscarta, *Jacobi*, Ins. 318  
 Sibogita, *Maas*, Cæl. 21  
 Siculites, *Gemmellaro*, Moll. 57  
 Sierra, *Fowler*, Pisces 38  
 Silvestrella, *Escherich*, Ins. 334  
 Simpsonia, *Rochebrune*, Moll. 84  
 Sinalda, *Distant*, Ins. 307  
 Siron, *Champion*, Ins. 177  
 Sisyrua, *Navás*, Ins. 328  
 Solariella, *Flach*, Ins. 177  
 Sommatericola, *Trägårdh*, Arachn. 37  
 Sontiochelys, *Stache*, Rept. 34  
 Spadobius, *Needham*, Ins. 328  
 Spaniolepis, *Kramberger*, Pisces 50  
 Spanophatnus, *Cameron*, Ins. 213  
 Spelæosphæroma, *Dollfus*, Crust. 53  
 Sphæroidea, *Wagner*, Moll. 79  
 Sphærolichus, *Berlese*, Arachn. 37  
 Spilomegastigmus, *Cameron*, Ins. 221  
 Spilonotella, *Cockerell*, Ins. 185  
 Spilonotus, *Champion*, Ins. 177  
 Spilophon, *Cameron*, Ins. 213  
 Spilopsyllus, *Baker*, Ins. 301  
 Spiroclypeus, *Douvillé*, Prot. 61  
 Spironema, *Vuillemin*, Prot. 72  
 Sporadochæta, *de Martius*, Verm. 50  
 Sporadoporus, *Wolcott*, Arachn. 37  
 Sporophyla, *Meyrick*, Ins. 277  
 Squamophora, *Nierstrasz*, Moll. 86  
 Squamopleura, *Nierstrasz*, Moll. 86  
 Stachyotis, *Meyrick*, Ins. 283  
 Staffola, *Dall*, Moll. 79  
 Stantonites, *Hyatt and Smith*, Moll. 58  
 Staseas, *Champion*, Ins. 177  
 Staurobothrium, *Shipley and Hornell*, Verm. 58  
 Steganopora, *England and Hickson*, Cæl. 21  
 Stegopelta, *Williston*, Rept. 35  
 Stelgidocichla, *Oberholser*, Aves 66  
 Stelgidonotus, *Gilbert and Thompson*, Pisces 36  
 Stenaster, *Lambert*, Echin. 76  
 Stenellina, *Cockerell*, Ins. 185  
 Stenodonta, *Warren*, Ins. 272  
 Stenognathus, *Newberry*, Pisces 52  
 Stenophthalmus, *Szépligeti*, Ins. 213  
 Stenoptinea, *Dietz*, Ins. 283  
 Stenorista, *Dognin*, Ins. 277  
 Stenotroctes, *Enderlein*, Ins. 329  
 Stephanocare, *Monke*, Crust. 78  
 Stephanospondylus, *Stappenbeck*, Rept. 37  
 Steremnia, *Thieme*, Ins. 235  
 Stereobela, *Turner*, Ins. 277  
 Stereomera, *Arrow*, Ins. 151  
 Sternachella, *Eigenmann*, Pisces 47  
 Sternarchogiton, *Eigenmann*, Pisces 47  
 Sternarchorhamphus, *Eigenmann*, Pisces 47  
 Sthenolepis, *Willey*, Verm. 40  
 Stichoptychus, *Fall*, Ins. 164  
 Stictichneumon, *Cameron*, Ins. 213  
 Stictocoris, *Thomson*, Ins. 319  
 Stictionomia, *Cameron*, Ins. 195  
 Stictionotion, *Kirkaldy*, Ins. 304  
 Stigmatocoris, *Forel*, Ins. 206  
 Stilicolina, *Casey*, Ins. 142  
 Stilicosoma, *Casey*, Ins. 142  
 Stilpnaspis, *Weise*, Ins. 187  
 Stomatosema, *Kieffer*, Ins. 286  
 Straganiopsis, *Baker*, Ins. 319  
 Streptartemon, *Kobelt*, Moll. 58  
 Streptomylus, *Kindle*, Moll. 86  
 Strigania, *Hampson*, Ins. 262  
 Strongylophora, *Dendy*, Spong. 23  
 Struthisca, *Meyrick*, Ins. 283  
 Sturanya, *Wagner*, Moll. 79  
 Stylobelemnoides, *Thomson and Henderson*, Coel. 36  
 Stylochocestus, *Laidlaw*, Verm. 56  
 Stylopandalus, *Coutière*, Crust. 45  
 Stylotellopsis, *Thiele*, Spong. 24  
 Styracoteuthis, *Crick*, Moll. 56  
 Suarazia, *Budde-Lund*, Crust. 56  
 Subglobulosa, *Wagner*, Moll. 79  
 Sublævigata, *Wagner*, Moll. 80  
 Succincta, *Wagner*, Moll. 80  
 Suidasia, *Oudemans*, Arachn. 37  
 Sunniva, *Budde-Lund*, Crust. 56  
 Swantonia, *Walcott*, Brach. 8  
 Syletria, *Rehn*, Ins. 342  
 Sylvisorex, *Thomas*, Mamm. 34  
 Symbos, *Osgood*, Mamm. 42  
 Symphlebomis, *Hampson*, Ins. 253  
 Sympterura, *Bather*, Echin. 86  
 Synaptobothrium, *v. Linstow*, Verm. 62  
 Syndoceras, *Barbour*, Mamm. 43  
 Synephippius, *Navás*, Ins. 339  
 Synoecoides, *Ducke*, Ins. 198  
 Syncæstropsis, *Ulmer*, Ins. 327

- Syntames, *Fowler*, Ins. 317  
 Syntrita, *Dognin*, Ins. 277  
 Syntypica, *Turner*, Ins. 277
- Tachynautes, *Oberholser*, Aves 57  
 Tachythereua, *Verhoeff*, Myr. 8  
 Tæniocystis, *Léger*, Prot. 68  
 Tænionema, *Banks*, Ins. 331  
 Tagasta, *Bolívar*, Ins. 342  
 Taipinga, *Distant*, Ins. 314  
 Talmecca, *Schaus*, Ins. 253  
 Tamasa, *Distant*, Ins. 314  
 Tambusa, *Distant*, Ins. 182  
 Tanadema, *Dyar*, Ins. 254  
 Tanera, *Cameron*, Ins. 214  
 Tanna, *Distant*, Ins. 314  
 Tancoryphus, *Cameron*, Ins. 221  
 Tanyoprymnus, *Cameron*, Ins. 202  
 Tanyphatnus, *Cameron*, Ins. 214  
 Taphrospira, *Blanford*, Moll. 60  
 Taprobane, *Dendy*, Spong. 13  
 Tardeceras, *Hyatt and Smith*, Moll. 58  
 Tarsocheylus, *Berlese*, Arachn. 37  
 Tarsomys, *Mearns*, Mamm. 38  
 Tarsonemoides, *Trägårdh*, Arachn. 37  
 Tatria, *Kowalewski*, Verm. 58  
 Taxiarchus, *Bruner*, Ins. 342  
 Teinistion, *Monke*, Crust. 78  
 Temnostega, *Enderlein*, Ins. 134  
 Teras, *Bernhauer*, Ins. 142  
 Termitadelphos, *Holmgren*, Ins. 292  
 Termitodipteron, *Holmgren*, Ins. 292  
 Termitusa, *Wasmann*, Ins. 142  
 Testricoides, *Schouteden*, Ins. 304  
 Tetanonema, *Ulmer*, Ins. 327  
 Tetracarcinus, *Weller*, Crust. 37  
 Tetragonocephalum, *Shipley and Hornell*, Verm. 58  
 Tetrallus, *Bernhauer*, Ins. 142  
 Tetramedon, *Casey*, Ins. 142  
 Teuthroides, *Bolívar*, Ins. 339  
 Teutomanis, *Ameghino*, Mamm. 46  
 Thalamoplana, *Laidlaw*, Verm. 56  
 Thalattoscopus, *Kirkaldy*, Ins. 319  
 Thalattosaurus, *Merriam*, Rept. 36  
 Thapsinillas, *Oberholser*, Aves 66  
 Thaumatomydrius, *Perkins*, Ins. 225  
 Thegilis, *Champion*, Ins. 177  
 Thelegnathus, *Broom*, Rept. 37  
 Thereuopodina, *Verhoeff*, Myr. 8  
 Thescelocichla, *Oberholser*, Aves 67  
 Thompsonula, *Scott*, Crust. 69  
 Thripimorpha, *Enderlein*, Ins. 293  
 Thrombus, *Oudemans*, Arachn. 38  
 Thyrestra, *Hampson*, Ins. 262  
 Thysanolytoceras, *Buckman*, Moll. 58  
 Tilesina, *Schmidt*, Pisces 35  
 Tillodenops, *Hintz*, Ins. 162  
 Timorella, *Bergh*, Moll. 69  
 Tinolestes, *Coquillett*, Ins. 292  
 Titanoptilus, *Hampson*, Ins. 278  
 Tmetolophota, *Hampson*, Ins. 263  
 Toëschna, *Foerster*, Ins. 332  
 Tokea, *Benham*, Verm. 50  
 Tomopaguropsis, *Alcock*, Crust. 40  
 Tornquistites, *Hyatt and Smith*, Moll. 58  
 Torquis, *Dall*, Moll. 66  
 Tortaxis, *Pilsbry*, Moll. 65  
 Toxopus, *Bergroth*, Ins. 309  
 Trabutina, *Marchal*, Ins. 322  
 Trachymetus, *Reitter*, Ins. 168  
 Trachyopsis, *Dendy*, Spong. 24  
 Trapezochilus, *Zang*, Ins. 148  
 Traskites, *Hyatt and Smith*, Moll. 58  
 Treponema, *Schaudinn*, Prot. 72  
 Trhypochthonius, *Berlese*, Arachn. 38  
 Tribonica, *Meyrick*, Ins. 279  
 Trichælurus, *Satunin*, Mamm. 35  
 Trichearias, *Dognin*, Ins. 254  
 Trichestra, *Hampson*, Ins. 263  
 Tricheurois, *Hampson*, Ins. 263  
 Trichilogaster, *Mayr*, Ins. 221  
 Trichiobracon, *Cameron*, Ins. 217  
 Trichionotus, *Cameron*, Ins. 214  
 Trichonotus, *Cameron*, Ins. 214  
 Trichopronomyia, *Theobald*, Ins. 292  
 Trichorbiza, *Hampson*, Ins. 263  
 Trichorhynchus, *Theobald*, Ins. 292  
 Trichozonon, *Carl*, Myr. 12  
 Trichroa, *Wagner*, Moll. 80  
 Tricolus, *Blanford*, Ins. 179  
 Triconulus, *Horváth*, Ins. 307  
 Tridentella, *Richardson*, Crust. 53  
 Trigena, *Dyar*, Ins. 254  
 Triglenus, *Marshall*, Ins. 225  
 Trigonephrus, *Pilsbry*, Moll. 63  
 Triscædecia, *Hampson*, Ins. 278  
 Trissepyris, *Kieffer*, Ins. 225  
 Tritoniopsis, *Eliot*, Moll. 69  
 Trizetes, *Berlese*, Arachn. 38  
 Trochophora, *Konow*, Ins. 227  
 Troctoceras, *Dognin*, Ins. 277  
 Tropihypnus, *Reitter*, Ins. 160  
 Tropobracon, *Cameron*, Ins. 217  
 Troporhogas, *Cameron*, Ins. 217  
 Trotopogonia, *Warren*, Ins. 273  
 Trymalitis, *Meyrick*, Ins. 279  
 Tryptodema, *Dietz*, Ins. 284  
 Turbinata, *Wagner*, Moll. 80  
 Turristylus, *Blaschke*, Moll. 75  
 Tylodinus, *Champion*, Ins. 178  
 Typhlocirolana, *Racovitzza*, Crust. 53  
 Typhlocybella, *Baker*, Ins. 319

- Tyrannion, *Champion*, Ins. 178  
 Tyrannosaurus, *Osborn*, Rept. 35
- Ueana, *Distant*, Ins. 314  
 Uhagonia, *Bolívar*, Ins. 342  
 Uleia, *Rübsaamen*, Ins. 286  
 Ulmus, *Distant*, Ins. 307  
 Ulosominus, *Champion*, Ins. 178  
 Ulrichospira, *Donald*, Moll. 81  
 Urabunana, *Distant*, Ins. 315  
 Urogale, *Mearns*, Mamm. 34  
 Uropsylla, *Baker*, Ins. 301  
 Urosporidium, *Cauillery and Mesnil*,  
 Prot. 71  
 Utobium, *Fall*, Ins. 164
- Vanhoeffenella, *Rhumbler*, Prot. 62  
 Varchia, *Oudemans*, Arachn. 38  
 Variabilis, *Wagner*, Moll. 80  
 Verdulia, *Bolívar*, Ins. 342  
 Vermispongia, *Whitfield*, Spong. 26  
 Vexillicarax, *Fowler*, Pisces 38  
 Vibilioides, *Chevreaux*, Crust. 59  
 Villiersiella, *Kobelt*, Moll. 72  
 Vipsophobetron, *Dyar*, Ins. 254  
 Vireia, *Dollfus*, Crust. 53  
 Viridibucco, *Oberholser*, Aves 59  
 Vitessidia, *Rothschild and Jordan*,  
 Ins. 277  
 Voeltzkowia, *Lenz*, Crust. 37
- Waldemaria, *Wagner*, Moll. 80  
 Weda, *Schoutedden*, Ins. 304  
 Wheeleria, *Forel*, Ins. 206  
 Wheeleria, *Tutt*, Ins. 278  
 Woodworthia, *Laidlaw*, Verm. 56
- Xarifa, *Fall*, Ins. 164  
 Xenarescus, *Weise*, Ins. 187  
 Xenophasma, *Dognin*, Ins. 277  
 Xenopomichthys, *Pellegrin*, Pisces  
 46  
 Xenorhynchopsis, *De Vis*, Aves  
 48  
 Xeranobium, *Fall*, Ins. 164  
 Xerophyllopteryx, *Rehn*, Ins. 339  
 Xiphornis, *Oberholser*, Aves 62  
 Xiphosomella, *Szépligeti*, Ins. 214  
 Xyletomerus, *Fall*, Ins. 164  
 Xylomania, *Hampson*, Ins. 263  
 Xystromutilla, *André*, Ins. 202
- Yemma, *Horváth*, Ins. 307
- Zagonia, *Coquillett*, Ins. 299  
 Zalusa, *Enderlein*, Ins. 293  
 Zeugorchis, *Stafford*, Verm. 62  
 Zeuxidiplosis, *Kieffer*, Ins. 286  
 Zosterothrix, *Zang*, Ins. 148  
 Zygodlistron, *Rehn*, Ins. 342

## CORRIGENDA.

- INSECTA, p. 86, line 8 from bottom, for *corei* read *cerci*.  
 „ p. 160, „ 12 „ „ for *Danacaca* read *Danacaea*.

END OF THE FORTY-SECOND VOLUME.



The preservation photocopy  
was made and hand bound at BookLab, Inc.  
in compliance with copyright law. The paper,  
Weyerhaeuser Cougar Opaque Natural,  
meets the requirements of ANSI/NISO  
Z39.48-1992 (Permanence of Paper).



Austin 1994



















SMITHSONIAN INSTITUTION LIBRARIES



3 9088 01350 8569