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VOLUME THE FIFTY-FOURTH

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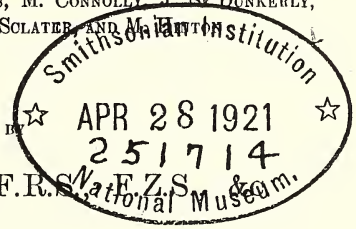
1917

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D. SHARP, H. M. WOODCOCK, F. W. EDWARDS, M. CONNOLLY, I. S. DUNKERLY,
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EXPLANATORY.

This Volume is printed in the Divisions enumerated on p. iv.

The pagination of each Division is separate, and is given at the left-hand top corner of the pages. The number and name of the Division is given as a heading on each left-hand page. The Registration Numbers when of importance are given at the right-hand top corner of the right-hand pages. The date 1917 corresponding to the bulk of the literature indexed is given at the right-hand top corner of the left-hand page.

In the Subject Index of each Division authors are quoted by name only. The full references will be found in the Title Section of the Division.

The Literature indexed is mainly that of 1917 but includes entries for earlier years that have been received too late for inclusion in previous volumes.

On account of the international situation, the Royal Society of London found itself unable to undertake at present any financial responsibility for any volumes of the International Catalogue subsequent to those of the Fourteenth Annual Issue.

Under these circumstances the Zoological Society of London arranged to undertake the issue of the present volume, which is the fifty-fourth of the Zoological Record, and would have been N. Zoology of the Seventeenth Annual Issue of the International Catalogue. Its preparation has been conducted as closely as possible on the model of the previous volumes prepared jointly by the International Catalogue and the Zoological Society.

It can now be purchased from the Zoological Society of London at the price of £2, either in the binding of the Zoological Record or in series with the International Catalogue.

Volume 55, dealing with the Literature of 1918, is in preparation.

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I. COMPREHENSIVE ZOOLOGY

ARRANGED BY

D. SHARP

This section includes works that deal with more than one branch of Zoology, or that are of general interest to Zoologists. It is, therefore, not complete in itself as regards any one subject included in it. The special records complete each subject. A few memoirs included in the special records are repeated in this division.

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II. PROTOZOA

ARRANGED BY

II. M. WOODCOCK.

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Protozoa, fresh-water, Chile, notes, BÜRGER *Anales Univ. Santiago* 122 pp. 137-204 15 pls.

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(a) Amœbaea (Reticulosa + Lobosa).

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(N-4840 e)

not be included in the genus *Entamoeba*], from Man, described, WENYON & O'CONNOR J.R.A.M.C. 28 pp. 89-92 pl. i figs. 10-23.—*E. h.*, *minuta* and *coli*, distinctions as seen in life, WOODCOCK J.R.A.M.C. 29 pp. 394-396.—*E. legeri* Mathis and *E. coli*, minutely compared, MATHIS & MERCIER Arch. Zool. exp. 56 N. et R. pp. 63-72 22 text-figs.—*E. mesnili* sp. n. from larva of *Trichocera hiemalis*, notes, KEILIN C. R. Soc. Biol. 80 pp. 133-136 1 pl.—*E. minuta*, distinct strain or variety of *E. histolytica*, cysts described, WOODCOCK & PENFOLD Brit. Med. J. 1916 pp. 407-409 6 text-figs.—*E. serpentis* sp. n. from *Drymobius bifosatus* CUNHA & FONSECA Brazil Medico 31 p. 279.—*E.* the three common human intestinal, distinctions, DOBELL & JEFFS Brit. Med. J. 1917 i pp. 607-612 14 text-figs.—*E.* human intestinal, comprehensive comparative account; *E. histolytica* and other types regarded as only different forms of the one species, *E. coli*, KNOWLES & COLE Ind. J. Med. Res. 4 pp. 498-610 pls. xxxix-xli.—*E.* of pyorrhœa, notes, MENDEL Ann. Inst. Pasteur 30 pp. 286-298 pl. vii.

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Chilostomella grandis sp. n. Philippines, CUSHMAN T.c. p. 662.

Cristellaria calcarata, *submamilligera* p. 657, *expansa*, and var. n. *planulata*, p. 658, *bradyi*, *cassinoides*, *dorso-costata*, p. 659, *tumido-costata*, and var. n. *labyrinthica*, *paucicostata*, *helicina* p. 660, *helicinoides* p. 661, spp. nn. *C. caltrata* var. n. *decorata*, *rotulata* var. n. *umbonata* p. 656, *orbicularis* varr. nn. *subcarinata*, *subumbonata*, *papillata*, p. 657, *costata* varr. nn. *multicosta*, *subdecorata*, p. 658, *sublaevis* p. 659, *italica* var. n. *acutocarinata* p. 661, Philippines, CUSHMAN T.c.

Cyclanminna compressa, *pauciloculata* spp. n. Philippines, CUSHMAN T.c. p. 653.

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†*Isolepidina pustulosa* sp. n. Tertiary, Trinity Isle (San Fernando); DOUVILLÉ C. R. Acad. Sci. 164 p. 843 6 text-figs.

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Nouria rugosa, sp. n. Faroe Channel, diagnosed, HERON-ALLEN & EARLAND J. R. Microsc. Soc. 1917 pp. 362-364 pl. xxiii.

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Siphogenerina bifrons var. n. *striatula*, *raphanus* var. n. *costulata*, Philippines, CUSHMAN T.c. p. 662.

Thurammina papillata Brady, p. 543 pl. xxvi figs. 1-13, varr. n., *castanea* p. 545, pl. xxvi figs. 14-18, pl. xxix fig. 17, *parallela* p. 546 pl. xxvii figs. 14-17, *haeusleri* p. 547 pl. xxviii figs. 1-12 pl. xxix fig. 16, pl. xxx fig. 8, *murata* p. 549, pl. xxviii figs. 18-21, *sordida* p. 551, pl. xxx figs. 1-6, *hispidula* p. 552, fig. 7, diagnosed, HERON-ALLEN & EARLAND J. R. Microsc. Soc. 1917.

Vaginulina bradyi, *acicula* spp. n. Philippines, CUSHMAN Proc. U.S. Nat. Mus. 51 p. 661.

(c) Heliozoa

Monobia socialis sp. n. Chile, BÜRGER Anales Univ. Santiago 122 p. 151 pl. vii fig. 3.

Nuclearia amphizonellae sp. n., Geneva, described, PENARD Rev. Suisse Zool. 25 p. 26 figs. 38, 40-44.

Oxnerella gen. n. (Aphrothoraca) *maritima* sp. n., described, DOBELL Q. J. Microsc. Sci. 62 pp. 515-538 pl. xxvii.

Rhaphidiophrys schaudinnii sp. n. Chile, BÜRGER Anales Univ. Santiago 122 p. 155 pl. viii fig. 3.

Rhumbleria gen. n. (Chalarothoraca) *mirabilis* sp. n., Chile, BÜRGER T.c. p. 156 pl. viii fig. 4.

(d) Radiolaria.

†*Radiolaria*, Tertiary, Bolognese Apennines, diagnosed, VINASSA DE REGNY Boll. Soc. Geol. Ital. 19 pp. 321-348 pl. iii.

†*Amphibrachium ovale* sp. n., VINASSA T.c. p. 338 pl. iii fig. 16.

†*Cenosphaera scabra* p. 329 pl. iii fig. 1, *diasprina* p. 330 fig. 3, spp. n., VINASSA T.c.

†*Chitonastrum* (?) *apenninicum* sp. n., VINASSA T.c. p. 340 fig. 21.

†*Cyrtocapsa crassa* p. 344 fig. 42, *paronai* p. 345 fig. 43, spp. n., VINASSA T.c.

†*Dicolocapsa elongata* sp. n., VINASSA T.c. p. 342 fig. 37.

†*Dictyastrum diasprinum* sp. n., VINASSA T.c. p. 338 fig. 20.

†*Dictyomitra bononiensis* sp. n., VINASSA T.c. p. 343 figs. 39 & 40.

†*Dorysphaera lissanensis* p. 330 fig. 5, *porosissima* fig. 6, *clathrata* fig. 7 p. 331 spp. n., VINASSA T.c.

†*Ellipsoxyphus lissanensis* sp. n., VINASSA T.c. p. 334 fig. 12.

†*Hagiastrum irregulare* sp. n., VINASSA T.c. p. 341 fig. 29.

†*Pipitella apenninica* p. 335 fig. 15, *bononiensis* fig. 14, *pantanellii* fig. 13 p. 334 spp. n., VINASSA T.c.

†*Rhopalastrum capellini* fig. 22, *lissanensis* fig. 23 p. 339, *clava* fig. 24 p. 340 spp. n., VINASSA T.c.

†*Sethocapsa gutta* p. 341 fig. 33, *prunum* fig. 34, *hirta* fig. 35, p. 342, spp. n., VINASSA T.c.

†*Stauroidictya longispina* p. 336 figs. 26 & 27, *bononiensis* fig. 28, *dubia* fig. 36 p. 337 spp. n., VINASSA T.c.

†*Staurosphaera gigas* sp. n., VINASSA T.c. p. 333 fig. 32.

†*Stichocapsa ampulla* sp. n., VINASSA T.c. p. 345 fig. 31.

†*Stichocorys pagoda* sp. n., VINASSA T.c. p. 344 fig. 41.

†*Stylodictya* (?) *lissanensis* sp. n., VINASSA T.c. p. 337 fig. 18.

†*Stylostaurus simplex* sp. n., VINASSA T.c. p. 333 fig. 11.

†*Thecosphaera* (?) *aculeata* sp. n., VINASSA T.c. p. 330 fig. 4.

†*Theosyringium robustum* sp. n., VINASSA T.c. p. 343 fig. 30.

†*Trigonactura oligopora* fig. 19, *crassa* fig. 25 p. 335, spp. n., VINASSA T.c.

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†*Xyphodictya bombicci* sp. n., VINASSA T.c. p. 336 fig. 17.

3. SPOROZOA.

Sporozoa from fishes, notes on, MAJOR Contrib. Canad. Biol. 1911-1914 pp. 25-38 5 text-figs.

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Cephaline or Polycystid Gregarines of Myriapods, Coleoptera and Orthoptera, including new species, diagnoses, synonymy, records and list of hosts, WATSON Illinois Biol. Monographs 2 No. 3 pp. 211-468 15 pls.

Bulbocephalus gen. n. (*Stylocephalidae*) *wardi* p. 65 figs. 1-3, *elongatus* p. 66 figs. 4-6, spp. n., occurrence and notes, WATSON J. Parasitol. 3.

Frenzelina ampeliscas sp. n. occurrence, intracellular development, NOWLIN & SMITH J. Parasitol. 4 pp. 83-88 1 pl.—*F. delphinia* p. 129 pl. i. figs. 1-8, *olivia* p. 133 figs. 8-10, *nigrofusca* p. 134 figs. 11-14, spp. n. from Crustacea, notes, WATSON op. cit. 2.

Gregarina neglecta sp. n. occurrence and note, WATSON J. Parasitol. 3 p. 69 figs. 13-16.—*G. polymorpha*, occurrence in *Lacerta*, causing disease [the first recorded occurrence of a

Gregarine in a Vertebrate], SCHÖPFLER Centralbl. Bakt. Abth. 1 Orig. 79 pp. 27-29.—*G. udeopsyllae* from *Udeopsylla nigra* p. 117 figs. 260, 261, *platyni* from *Platynus ruficollis* p. 192 figs. 262-264, *coptotomi* from *Coptotomus interrogatus* p. 196 fig. 172, spp. n., WATSON Illinois Biol. Monographs 2 No. 3.

Hirmocystis harpali sp. n. from *H. pennsylvanicus*, diagnosed, WATSON T.c. p. 168 figs. 265-268, 273 & 274.

Leidyana leidy sp. n. occurrence and diagnosis, KAMM J. Parasitol. 4 p. 40 3 text-figs.

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Pyxinia bulbifera sp. n. occurrence and note, WATSON J. Parasitol. 3 p. 67 figs. 7-12.

Selenidium cruzi sp. n. from *Polydora socialis*, FARIA, CUNHA & FONSECA Brazil Medico 31 p. 243.—*S. melchnikovi* sp. n. from *Glossobalanus minutus*, notes on early stages, LÉGER & DUBOSCQ Ann. Inst. Pasteur 31 p. 69 pl. iii.

Steinina harpali sp. n. from *H. pennsylvanicus*, WATSON Illinois Biol. Monographs 2 No. 3 p. 155 figs. 256-259, 269.

Stenophora dauphinia sp. n. for *S. juli* LÉGER & DUBOSCQ, WATSON T.c. p. 57 fig. 9.—*S. lactaria* Watson, development of young stages, effect on host-cells, KAMM J. Parasitol. 3 pp. 124-130 2 pls.

(b) Coccidiidea.

Coccidium (?) *epidermica* p. 61 pl. i, *beauchampii* p. 66 pl. ii, spp. n., from *Glossobalanus minutus*, early development described, LÉGER & DUBOSCQ Ann. Inst. Pasteur 31.

Eimeria, vide *Coccidium*.

Pseudoklossia pectinis sp. n. from *Pecten maximus*, kidneys, phases in life-cycle, origin of *Adelidae*, LÉGER & DUBOSCQ Arch. Zool. exp. 56 N. et R. pp. 88-94 text-figs. 1-17.

Selysina gen. n. (allied to *Aggregatidae*) *perforans* sp. n. from an Ascidian, described, DUBOSCQ, C. R. Acad. Sci. 164 pp. 450-453.

(c) Haemosporidia.

Haemosporidian, endoglobular, non-pigmented, not regarded as a *Proteosoma*, from *Anas discors*, LEGER & MOUZELS Bull. Soc. path. exot. 10 pp. 699 & 700.

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Hepatoozon (syn. *Leucocyto-gregarina*) *ninae kohl-yakimovi* sp. n. from a fish (unspec.), YAKIMOFF Bull. Soc. path. exot. 10 p. 100.—[*H. vide etiam Haemogregarina*.]

Laverania malariae, crescents, minute structure and maturation changes, THOMSON J.R.A.M.C. 29 pp. 407 & 408 figs. 37-55.—*L. falciparum* vide *Plasmodium tenue*.

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ARRANGED BY

H. M. WOODCOCK, D.Sc. (LOND.).

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Drugmatella gen. n. for *Desmacella aberrans* Tops.; HALLMANN T.c. p. 640.

Echinaria frondula (Whitelegge) described; HALLMANN op. cit. 42 pp. 391-398 pl. xxi figs. 3 and 4, pl. xxii.

Ephydatia fluviatilis, occurrence in Notts.; CARR Invertebrate Fauna of Notts. 1916 p. 2.

Forcepia fragilis sp. n., occurrence and diagnosis; STEPHENS Proc. R. Irish Acad. 34 Sect. B p. 9 pl. i fig. 2.

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Thrinacophora simplex Tops. p. 39 pl. iv fig. 12, pl. vi fig. 1, Antarctic, described; TOPSENT T.c.

Toxemma gen. n. for *Desmacella tubulata* (type) and *D. fragilis*; HALLMANN Proc. Linn. Soc. N.S.W. 41 p. 673.

(iv) LITHISTIDA.

[Vacant.]

(d) EUCERATOSA.

[Vacant.]

PORIFERA INCERTAE SEDIS.

† *Tholiasterella* (?) *hindei* sp. n. Cambrian, British Columbia, WALCOTT Smithsonian Misc. Coll. 67 No. 2 p. 25 pl. iv fig. 1.

IV. COELENTERATA

ARRANGED BY

F. W. EDWARDS.

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V. ECHINODERMA

ARRANGED BY

M. CONNOLLY.

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Micropetalon, CLARK 30.

†*Miotoxaster*, LAMBERT 92.

Moira, CLARK 30.

†*Monophora caldenensis* sp. n. Tertiary Chile, GIGOUX Rev. Chilena Hist. Nat. 20 p. 80.

†*Mossaoudia* gen. n. of *Holasteridae* type *H. piriformis* auctt. non Desor, LAMBERT Bull. Soc. Sci. Yonne 70 p. 194 [but as *Messaoudia* p. 223].

Moulinsia vide *Desmoulinaster*.

Nacospatangus with *N. depressus* p. 150 sp. n. California, CLARK Mem. Mus. Comp. Zool. Harvard 46 pp. 149–151.

Neolampas, CLARK 30.

†*Nucleolites orbicularis* apical system, HAWKINS 65.

†*Offaster*, LAMBERT 90, 94.

Oligopodia recens, epigonus, CLARK 30.

- †*Oolaster* as syn. of *Echinocorys*, LAMBERT 94.
- †*Oolopygus piriiformis, gracilis*, LAMBERT 90.
- †*Orchoporus* gen. n. type *O. koehleri* L. and T. Miocene California, LAMBERT & THIÉRY Ess. nom. Echin. 1914 p. 293.
- †*Orthopsis minima*, LAMBERT 92.
- †*Oxyclypeina* nom. mut. (= *Oxypleura* Pom. procc.) LAMBERT & THIÉRY Ess. nom. Echin. 1914 p. 305.
- †*Oxypleura* vide †*Oxyclypeina*.
- Palaeopneustes*, CLARK 30.
- Palaeotropus*, CLARK 30.
- Parapneustes*, CLARK 30.
- Paraster*, CLARK 30.
- Paratinanthus* nom. mut. (= *Paratina* Pom. 1887 non Mik. 1874) LAMBERT & THIÉRY Ess. nom. Echin. 1914 p. 303.
- Parechinus notius* sp. n. Australia, CLARK Biol. Results of F.I.S. Endeavour 4 p. 111.
- †*Pericosmus latus* figd., FOURTAU 81.
- Peronella lesueuri*, CLARK 27.
- Phelsumaster* nom. mut. (= *Phelsumia* Pom. 1883 non Gray 1840) LAMBERT & THIÉRY Ess. nom. Echin. 1914 p. 316.
- Phelsumia* vide *Phelsumaster*.
- Phryssocystis*, CLARK 30.
- Phyllacanthus imperialis*, CLARK 27.
- †*Phyllobrissus cerceleti*, LAMBERT 92.
- †*Phymosoma* with *P. fustuarium* p. 34 sp. n. Campanian Belgium, LAMBERT Mem. Mus. r. Hist. nat. Belg. 4 (4) pp. 10, 34; *P. with P. jurensis* p. 81 sp. n. Barremian Vaullion, LAMBERT Mem. Soc. Acad. Aube 80 pp. 60, 80.
- †*Phymotaxis* nom. mut. (= *Micropellis* Pom. 1883 non Rettenb. 1867), LAMBERT & THIÉRY Ess. nom. Echin. 1914 p. 253.
- †*Pithodia* vide *Pseudodiscoides*.
- Plagiobrissus*, CLARK 30.
- †*Platyclypeina* nom. mut. (= *Platycleura* Pom. 1887 procc.) LAMBERT & THIÉRY Ess. nom. Echin. 1914 p. 304.
- †*Platycleura* vide †*Platyclypeina*.
- †*Plegiocidaris spinigera*, KILIAN & REBOUL 87.
- †*Plesiaster* cf. *bucardium* Goldf., LAMBERT 90.
- †*Plesiechinus macrostoma* (Wright) selected as genotype, HAWKINS 63; *P. ornatus* structure, HAWKINS 66.
- Plesiozonus*, CLARK 30.
- Plethotaenia* gen. n. of *Spatangidae* type *Macropneustes spatangoides* Ag. CLARK Mem. Mus. Comp. Zool. Harvard 46 p. 222.
- †*Pleuropygus thieryi* figd., LAMBERT & THIÉRY 95.
- Plexechinus*, CLARK 30.
- Pourtalesia*, CLARK 30.
- †*Polydiadema cotteaui*, LAMBERT 92.
- Prionocidaris australis*, CLARK 27.
- Protenaster*, CLARK 30.
- †*Psammechinus* with *P. hexaporus* p. 63 sp. n. Hauterivian France, LAMBERT Mem. Soc. Acad. Aube 80 pp. 62-63.
- †*Pseudholaster*, LAMBERT 94.
- Pseudocidaris clunifera*, LAMBERT 92, 93.
- Pseudodiadema*, LAMBERT 92; RAYN 122.
- †*Pseudodiscoides* nom. mut. (= *Pithodia* Pomel 1883 non Pasc. 1865) LAMBERT & THIÉRY Ess. nom. Echin. 1914 p. 282.
- Pseudolovenia*, CLARK 30.
- †*Pseudopyrine pygaea*, LAMBERT 93.
- Pycnolampas*, CLARK 30.
- †*Pygaster semisulcatus* (Phill.) selected as genotype, HAWKINS 63.
- Raphidochinus* gen. n. type *Ech. molaris* Blainv., LAMBERT & THIÉRY Ess. nom. Echin. 1914 p. 241.
- †*Rhabdocidaris copeoides* figd., DOUVILLÉ 43.
- Rhyncolampas caribocarum, pacifica*, CLARK 30.
- Rhynobrissus*, CLARK 30.
- †*Rispolia* subgen. n. of *Nucleolites* type *N. subtrigonata* Cat., LAMBERT Bull. Soc. Sci. Yonne 70 p. 217 [but as gen. n. p. 223].

†*Rotulechinus* nom. mut. (= *Atactus* Pom. 1883 non Schin. 1868), LAMBERT & THIÉRY Ess. nom. *Echin.* 1914 p. 253.

†*Salenia* with *S. rotuli* p. 68 sp. n. Senonian Belgium, LAMBERT Mem. Mus. r. Hist. nat. Belg. 4 (4) pp. 65-69; *S. folium-querci*, *mamillata*, LAMBERT 92.

†*Salenidia* with *S. schluteri* p. 69 sp. n. Senonian Belgium, LAMBERT Mem. Mus. r. Hist. nat. Belg. 4 (4) pp. 40, 69.

Salmacis with *S. oligopora* p. 113 sp. n. Australia, CLARK, Biol. Results of F.I.S. Endeavour 4 pp. 113-115.

†*Samlandaster* Lambert gen. n. type *Scutella germanicus* Beyr., LAMBERT & THIÉRY Ess. nom. *Echin.* 1914 p. 293.

Schizaster, CLARK 30.

†*Schizaster* with *S. cristatus* p. 499 Brazil, Costa Rica, *panamensis* p. 500 Panama spp. n. Tertiary, JACKSON Proc. U.S. Nation. Mus. 53 pp. 498-500; *S. clevei*, *scherzeri* figd., DICKERSON & KEW 39; *S.*, STEFANINI 130.

†*Scutella cazonensis* sp. n. Tertiary México, DICKERSON & KEW Proc. Calif. Acad. Sci. 7 p. 132.—*S. forumjuliensis* sp. n. Miocene Venetia, STEFANINI Atti Acc. Sci. Padova 8 p. 159.—*S.*, WARING 140.

†*Spatagoidea*, LAMBERT 94.

Spatangus with *S. californicus* p. 235 sp. n. S. California, CLARK Mem. Mus. Comp. Zool. Harvard 46 pp. 233-240.—*S. purpureus* regeneration, NUSBAUM-HILAROWICZ & ÖXNER 116; *S. raschi*, NORDGAARD 115.

†*Spatangus regina*, BELL 9.

Sphaerechinus embryology, HERLANT 71; *S. granularis* regeneration, NUSBAUM-HILAROWICZ & ÖXNER 116.

†*Stegaster*, LAMBERT 94.

†*Stegasterinae*, LAMBERT 94.

Sterechinus diadema, KOEHLER 89.

†*Stereocidaris pseudohirudo*, LAMBERT 90.

†*Sternotaxis*, LAMBERT 94.

†*Stomechinus liasicus* sp. n. Mid-Lias Peru, TILMANN Neu. Jahrb. Min. Stuttgart Beil. Bd. 41 p. 696; *S. audinus*, JAWORSKI 85.

Strongylocentrotus embryology, HERLANT 70, 71, LOEB 101; *S. drobachiensis*, GRIEG 62.

†*Strongylocentrotus cotteaudi*, BELL 9.

†*Synochitis* subg. n. of *Stegaster* type *S. bouillei* Merc., LAMBERT Bull. Soc. Sci. Yonne 70 p. 222 [but as gen. n. p. 223].

†*Temnechinus woodi*, BELL 9.

†*Temnodiscus* Lambert gen. n. of *Echinidae* type *Holectypus circularis* Cott. & Gauth., LAMBERT & THIÉRY Ess. nom. *Echin.* 1914 p. 280.

†*Temnopleurus* FOURTAU 81.

†*Tetrodiscus auritus, bisperforatus*, FOURTAU 81.

†*Thierychinus delanayi* Lambert sp. n. Vesulian Indre, LAMBERT & THIÉRY Ess. nom. *Echin.* 1914 p. 244.

†*Tholeopelta* gen. n. (= *Eurypleura* Lamb. 1912 preoce). LAMBERT & THIÉRY t.c. p. 307.

Tiarechinae trib. n., LAMBERT & THIÉRY t.c. p. 259.

†*Tournoueraster* Lambert gen. n. type *Scutella decemfissus* Desm. LAMBERT & THIÉRY t.c. p. 294.

†*Toxaster dolosus* sp. n. Aptian France, LAMBERT Mem. Soc. Acad. Aube 80 p. 83.

Toxopneustes embryology, GOLDFARB 58, 61.

Tripneustes esculentus larva, MORTENSEN 111.

Tripylaster, CLARK 30.

†*Trochotiara* with *T. pusilla* p. 52 sp. n. Valengian France, LAMBERT Mem. Soc. Acad. Aube 80 pp. 52, 71.

†*Typocidaris* with *T. arenata* p. 42 sp. n. Campanian Belgium, LAMBERT Mem. Mus. r. Hist. nat. Belg. 4 (4) pp. 34, 42, 69; *T.*, LAMBERT 92.

Urechinus, CLARK 30.

†*Zuffardia* gen. n. type *Ps. sanfilippoi*, CHECCHIA-RISPOLI Rend. Acc. Lincei Roma (5) 26 p. 492.

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Acanthaster brevispinus sp. n. Sulu Archipelago, FISHER Proc. Biol. Soc. Washington 30 p. 92.

Allostichaster polyplex, CLARK 27.

Anseropoda rosacea, CLARK 27.

Anthensia acuta, CLARK 27.

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Asterias forbesi development, CHILD 19; *A. rubens* nervous system, GÖTHLIN 57; *A. ochracea* alimentation, LEWIS & JEWELL 97; *A.* embryology, CHAMBERS 16; CHILD 20; *A.*, BELL 10.

Asteridae nervous system, HILTON 75.

Asterina atyphoidea, *leptalantha*, spp. n., Australia, CLARK Biol. Results of F.I.S. Endeavour 4 p. 57; *A. cristata euerces* subsp. n. Palawan, FISHER Proc. Biol. Soc. Washington 30 p. 91; *A. frigida* sp. n. Kerguelen I., KOEHLER Ann. Inst. Oceanogr. 7 (8) p. 46.

Asterinides, VERRILL 138.

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Asterodiscus truncatus, CLARK 27.

Asteroidea physiology, FOSSE 55.

Astrocles gen. n. of *Brisingidae* type *A. actinodetus* sp. n. British Columbia, FISHER Ann. Mag. Nat. Hist. 20 pp. 426, 430.

Astrogonium pareli, GRIEG 62.

Astrolirus gen. n. of *Brisingidae* type *Brisinga panamensis*, FISHER Ann. Mag. Nat. Hist. 20 p. 424, 428.

Astropecten with. *A. schayeri* p. 60 Tasmania, *sagaminus* p. 64 Japan, *sinicus* p. 64 China, *progressor* p. 66, *novae-guineae* p. 136 New Guinea, *weberi* p. 75 Senegambia, *dahomensis* p. 77 Dahomey, *celebensis* p. 118 Celebes, *bandanus* p. 119 Banda Sea, *bengalensis* p. 127, *sarasinorum* p. 151, Ceylon, *mindanensis* p. 131 Mindanao, *gisselbrechti* p. 133 Hakodate, *orientalis* p. 149 E. Indies, *malayanus* p. 153, *timorensis* p. 158, Timor, *hartmeyeri* p. 156 Sharks Bay, *sumbavensis* p. 159 Sumbawa, *problematicus* p. 163, *carcharicus* p. 140, Australia, spp. n., *carcharicus formosanus* p. 141 Formosa, *brasilienensis riensis* p. 84 Rio de Janeiro, *preissi albanicus* p. 162 Australia, subsp. n., *platyacanthus pedicellifera* p. 95 locality unknown, *polyacanthus burbonica* p. 135 Reunion, *mauritanus mascarena* p. 143 Mauritius, *zebra sibogae* p. 156 Macassar, varr. n., DÖDERLEIN Résult. Explor. Siboga Mon. 46a pp. 1-162.—*A.* with *A. articulatus dubius* p. 165 nom. n. for *A. dubius* Gray; *A. comptus* p. 176 *nuttingi* p. 181 [*nuttingi* p. 221] *nitidus* p. 179 cum. var., *forcipatus*, p. 180 Florida, *A. americanus subgracilis* p. 180 S.E. United States, spp. & varr.

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Astrostephane moluccana figd., FISHER 52.

Bathybiaster spinulatus sp. n. Kerguelen I., KOEHLER Ann. Inst. Oceanogr. 7 (8) p. 55.—*B.*, NORDGAARD 115.

†*Belaster* gen. n. of *Hudsonasteridae* type *B. ordovicus* sp. n. Ashgillian Ayrshire, SPENCER Palaeontogr. Soc. London 1915 [1916] p. 73.

Blakiaster VERRILL 138.

Brisinga with *B. trachydisca* figd., FISHER 52.

Brisingella gen. n. of *Brisingidae* type *B. fragilis* Fisher with *B. pusilla* sp. n. California, FISHER Ann. Mag. Nat. Hist. 20 pp. 423, 427.

Brisingenes gen. n. type *B. mimica* FISHER t.c. pp. 419, 427.

Brisingidae, FISHER 52.

Bunaster lithodes sp. n. Philippines FISHER Proc. Biol. Soc. Washington 30 p. 91.

Calliaster spinosus sp. n. Australia, CLARK Biol. Results of F.I.S. Endeavour 4 p. 44.

†*Caractacaster* gen. n. of *Promopalasteridae* type *Palacaster caractaci* Greg., SPENCER Palaeontogr. Soc. London 1915 [1916] p. 80.

Cheiraster diomedea sp. n. Mindanao FISHER Proc. Biol. Soc. Washington 30 p. 90.—*C.* with *C. planus* p. 133, *enoplus* p. 135, spp. n., W. Indies, *C. Mirabilis coronatus* p. 127 nom. n. for *C. coronatus* (Perr.), VERRILL Bull. Mus. Iowa 7 pp. 123-137.

Clenodiscus crispatus, GRIEG 62.

†*Coccaster* gen. n. of *Hudsonasteridae* type *C. bulbiferus* sp. n. Silurian Herefordshire, SPENCER Palaeontogr. Soc. London 1915 [1916] p. 75.

Coronaster halicepus sp. n. Philippine Is., FISHER Proc. Biol. Soc. Washington 30 p. 26.—*C.*, VERRILL 138.

Coscinasterias with *C. tenuispina atlantica* p. 20 var. n. Cuba, VERRILL Bull. Univ. Iowa 7 pp. 18-21.—*C.*, CLARK 27.

Cosmasterias dyscrita sp. n. Australia CLARK Biol. Results of F.I.S. Endeavour 4 p. 71.

Craterobrisinga synaptoma sp. n. British Columbia, FISHER Ann. Mag. Nat. Hist. 20 p. 427.

Cribrella simplex granulata, KOEHLER 89.

Cribrellopsis gen. n. type *C. rallieri* sp. n. Kerguelen I., KOEHLER Ann. Inst. Oceanogr. 7 (8) p. 37.

Crossaster multispinus sp. n. Australia, CLARK Biol. Results of F.I.S. Endeavour 4 p. 66.

Cycethra verrucosa figd., BELL 10.

Dipsacaster imperialis sp. n. Mindoro, FISHER Proc. Biol. Soc. Washington 30 p. 89.

Distolasterias hypacantha sp. n. Cebu, FISHER t.c. p. 92.

Dorigona as syn. of *Ogmaster*, FISHER 50.

Echinaster acanthodes, glomeratus, superbus, spp. n., Australia, CLARK Biol. Results of F.I.S. Endeavour 4 pp. 61, 62, 64; *E. spinulifer*, KOEHLER 89; *E.*, VERRILL 138.

Enoplopatiria, VERRILL 138.

Freyella, FISHER 52.

Freyellidea gen. n. of *Brisingidae* type *F. microplax* sp. n. British Columbia, FISHER Ann. Mag. Nat. Hist. 20 pp. 425, 429-430.

Fromia polypora sp. n. Maria I., Tasmania, CLARK Biol. Results of F.I.S. Endeavour 4 p. 51.

†*Girvanaster* gen. n. of *Hudsonasteridae* type *G. sculptus* sp. n. Ashgillian Ayrshire, SPENCER Palaeontogr. Soc. London 1915 [1916] p. 70.

Glyphodiscus subg. n. of *Iconaster* type *I. perierctus*, FISHER Ann. Mag. Nat. Hist. 20 p. 173.

Goniaster, VERRILL 138.

Henricia microplax, arcystata, spp. n., Philippines, FISHER Proc. Biol. Soc. Washington 30 p. 91.—*H.* with *H. microspina* p. 48 sp. n. Bahamas, VERRILL Bull. Univ. Iowa 7 pp. 44-49; *H. hyadesi*, CLARK 27; *H. sanguinolenta*, GRIEG 62.

Hippasteria phrygiana, GRIEG 62.

†*Hudsonasteridae*, SPENCER 127.

Huesaster hodgsoni, BELL 10.

Iconaster longinatus, FISHER 50.

Labidiaster annulatus, KOEHLER 89.

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L. kerguelensis, KOEHLER 89.

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Lithosoma penicbra sp. n. Philippines, FISHER Proc. Biol. Soc. Washington 30 p. 90.

Lonchotaster magnificus sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 p. 30; *L. tartareus* designated as genotype, FISHER 50.

Lophaster, VERRILL 138.

Ludia vide *Luidia*.

Luidia scotti sp. n. Brazil, BELL Brit. Antarct. Exp. 1910 Zool. 4 p. 8; *L.* with *L. alternata bicolor* p. 203 var. n. Florida, VERRILL Bull. Univ. Iowa 7 pp. 199-209; *L. porteri* sp. n. Chile, CLARK Proc. Biol. Soc. Washington 30 p. 153.—*L. superba* sp. n. Colombia, CLARK t.c. p. 171.—*L. forficifer, maculata*, CLARK 27.—*Ludia foliata* figd., HILTON 74.

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Marginaster, VERRILL 138.

Mediaster australiensis, monacanthus, spp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 pp. 39, 41; *M.*, FISHER 50; VERRILL 138.

†*Mesopalaeaster primus, complicatus*, Ordovician Ayrshire, *M. (?) leintwardensis, kelleyi* Silurian England, spp. n., SPENCER Palaeontogr. Soc. London 1915 [1916] pp. 84, 87, 89, 101.

†*Mesopalaeasteridae*, SPENCER 127.

Metrodiridae fam. n., FISHER Ann. Mag. Nat. Hist. 20 p. 171.

Mimaster gracilis sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 p. 33.

Narcissia, VERRILL 138.

Nardoa tumulosa sp. n. Sulu Archipelago, FISHER Proc. Biol. Soc. Washington 30 p. 90.

Nectria ocellata, ocellifera, CLARK 27; *N. monacantha*, FISHER 50.

Nymphaster pentagonus sp. n. Australia, CLARK Biol. Results of F. I. S.

Endeavour 4 p. 36; *N. protentus* designated as genotype, FISHER 50.

Odinia australis sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 p. 75; *O. magister* sp. n. S. Panay, FISHER Proc. Biol. Soc. Washington 30 p. 93.

Odontaster propinquus sp. n. South-east America, CLARK Proc. Biol. Soc. Washington 30 p. 7; *O.*, VERRILL 138.

Ogmaster capella, CLARK 27.

Ophidiaster confertus sp. n. Lord Howe I., CLARK Biol. Results of F. I. S. Endeavour 4 p. 53; *O.* with *O. alexandri* p. 91 sp. n. Gulf of Mexico, VERRILL Bull. Univ. Iowa 7 pp. 89-92; *O.* larva, MORTENSEN 111.

Oreaster australis, gracilis, CLARK 27; *O.*, VERRILL 138.

Orthasterias, VERRILL 138.

Paranepanthia gen. n. type *Nepanthia platydisca*, FISHER Ann. Mag. Nat. Hist. 20 p. 172.

Pateria (Asterina) mineata early development, HEATH 69.

Pectinaster robustus sp. n. Chile, CLARK Proc. Biol. Soc. Washington 30 p. 155.—*P.* with *P. mixtus* p. 140, *gracilis* p. 145 W. Indies, *dispar* p. 148 Atlantic, spp. n., VERRILL Bull. Univ. Iowa 7 pp. 137-149.

Pedicellaster reticulatus sp. n. Marie I., CLARK Biol. Results of F. I. S. Endeavour 4 p. 69; *P. chrophorus* sp. n. Celebes, FISHER Proc. Biol. Soc. Washington 30 p. 93.—*P. typicus*, GRIEG 62; *P.*, VERRILL 138.

Pentagonaster stibarus, CLARK 27; *P. granularis*, GRIEG 62.

Pisaster antarcticus sp. n. Kerguelen I., KOEHLER Ann. Inst. Oceanogr. 7 (8) p. 30.

Plectaster decanus, CLARK 27.

Plinthaster productus sp. n. Cuba, CLARK Proc. Biol. Soc. Washington 30 p. 67; *P.*, VERRILL 138.

Plutonaster sirius sp. n. Chile, CLARK Proc. Biol. Soc. Washington 30 p. 151; *P.*, VERRILL 138.

Podasterias with *P. kerguelensis* p. 24 sp. n. Kerguelen I., KOEHLER Ann. Inst. Oceanogr. 7 (8) pp. 20-30.

Pontaster, NORDGAARD 115.

Poraia with *P. armata* p. 43 sp. n. Kerguelen I., KOEHLER Ann. Inst. Oceanogr. 7 (8) pp. 42-46; *P.*, VERRILL 138.

Poraniella, VERRILL 138.

Poraniomorpha DAN. and KOR. (= *Rhagaster* and *Lasiaster* SLADON), FISHER 50; *P. hispida*, GRIEG 62.

Priamaster, FISHER 50.

Priamasterinae subfam. n. of *Radiasteridae*, FISHER Ann. Mag. Nat. Hist. 20 p. 172.

Prionaster, VERRILL 138.

†*Promopalacaster elizae*, SPENCER 127.

†*Promopalacasteridae*, SPENCER 127.

†*Promopalacasterinae*, SPENCER 127.

Pseudophidiaster gen. n. of *Linckiidae* type *P. rhyusus* sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 pp. 54, 55.

Psilaster acuminatus, CLARK t.c. p. 32.

Pteraster tetracanthus sp. n. Australia, CLARK t.c. p. 67; *P.* with *P. brachiatus* p. 49 sp. n. Kerguelen I., KOEHLER Ann. Inst. Oceanogr. 7 (8) pp. 48-52; *P.*, GRIEG 62; VERRILL 138.

Remaster, VERRILL 138.

Rhagaster vide *Poraniomorpha*.

Rosaster, VERRILL 138.

Sideriaster, VERRILL 138.

Solaster incertus sp. n. Kerguelen I., KOEHLER Ann. Inst. Oceanogr. 7 (8) p. 40.—*S. caribbaeus* sp. n. W. Indies, VERRILL Bull. Univ. Iowa 7 p. 54 [*caribbaeus* on p. 219]; *S.*, BELL 10; GRIEG 62; NORDGAARD 115.

†*Solaster reedi* sp. n. Pliocene Suffolk, BELL Geol. Mag. London 4 p. 422.

Sporasterias rupicola, perrieri, KOEHLER 89.

Stegnaster, VERRILL 138.

Stellaster with *S. inspinosus* p. 48 sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 pp. 47-48.

Stenobrisinga, FISHER 52.

Stephanasterias with *S. hebes* p. 26 sp. n. W. Indies, VERRILL Bull. Univ. Iowa 7 pp. 24-26.

Tursaster disclichopus sp. n. Macassar Straits, FISHER Proc. Biol. Soc. Washington 30 p. 92.

Tosia aurata, CLARK 27.

Trophodiscus gen. n. of *Astropectinidae* type *T. almus* sp. n. Kamchatka, FISHER Proc. U. S. Nation. Mus. 52 pp. 367, 368.

†*Uranaster kinahani*, SPENCER 127.

†*Uranasteridae* fam. n., SPENCER Palaeontogr. Soc. London 1915 [1916] p. 104.

Zoroaster macracantha sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 p. 68; Z., VERRILL 138.

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Amphiacantha gen. n. of *Amphiurinae* type *Amphioplus acanthinus* Clark, with *A. dividua* p. 180 sp. n. Japan, MATSUMOTO J. Coll. Sci. Tokyo 38 (2) pp. 150, 177.

Amphichilus gen. n. of *Amphiurinae* type *A. trichoides* sp. n. Japan, MATSUMOTO t.c. pp. 150, 175.

Amphilepididae, MATSUMOTO t.c. pp. 144-149.

Amphilepis, CLARK 28.

Amphiophiura colleta sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 p. 93; A., CLARK 28.

Amphioplus affinis, KOEHLER 89.

Amphiura eugeniae, *angularis*, KOEHLER 89; A., CLARK 27, 28.

†*Amphiura lymani* sp. n. Upper Cretaceous California, WARING Proc. Calif. Acad. Sci. 7 p. 58.

Amphiuridae, MATSUMOTO 107.

Amphiurinae, MATSUMOTO 107.

Astero—vide *Astro*—.

Astroconus australis, CLARK 27.

Astrodendrum pustulatum sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 p. 84.

Astronychinae, MATSUMOTO 107.

Astronyx loveni, CLARK 27.

Astroporpa wilsoni sp. n. New Zealand, BELL Brit. Antarct. Exp. 1910 Zool. 4 p. 7; *A. australiensis*, CLARK 27.

Astroschema monobactrum sp. n. Marquesas Is., CLARK Bull. Mus. Comp.

Zool. Harvard Coll. 61 p. 430.—*A. elegans* sp. n. New Zealand, BELL Brit. Antarct. Exp. 1910 Zool. 4 p. 7.

Astroschematinae, MATSUMOTO 107.

Astrothamnus rugosus sp. n. Australia, CLARK Biol. Results of F. I. S. Endeavour 4 p. 85.

Astrotoma benhami sp. n. New Zealand, BELL Brit. Antarct. Exp. 1910 Zool. 4 p. 8.

Astrotominae, MATSUMOTO 107.

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ARRANGED BY

J. S. DUNKERLY.

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VII. BRACHIOPODA AND BRYOZOA

BY

F. W. EDWARDS.

(a) BRACHIOPODA

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- Watson, D. M. S.** *Poikilosakos*, a remarkable new genus of Brachiopods from the upper Coal Measures of Texas. London Geol. Mag. (6) **4** 1917 (212-219) pl. xiv. **41**

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†*Aerothle clitus* sp. n. Canada Cambrian, WALCOTT Smiths. Inst. Misc. Coll. 67 3 p. 70.—†*A. medioradiata* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 813.

†*Atrypa lorana* sp. n. Rhein Devon, FUCHS Abh. geol. Landesanst. 79 p. 21.

†*Axiodeaneia* gen. n. near *Rhynchotretus* p. 374, for *platypleura* sp. n. Montana Carboniferous p. 375, CLARK Bull. Mus. Comp. Zool. Harv. Coll. 61.

†*Camarella ? conybeari* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 925.

†*Camarophoria antiisella* sp. n. Timor Permian, BROILI Pal. v. Timor 7 1916.—
†*C. obesa* sp. n. Montana Carboniferous, CLARK Bull. Mus. Comp. Zool. Harv. Coll. 61 p. 373.

†*Camarotoechia Uandoveriana* var. n. *diversiplicata* Scotland Silurian, REED Edinburgh Trans. R. Soc. 51 p. 943.—
†*C. roadsi* sp. n. Ohio Silurian, FOERSTE Ohio J. Sci. 17 p. 250.

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†*Cliftonia andersoni* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 913.

†*Clitambonites complectens* var. n. *albida*, Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 916.

†*Clorinda transversa* sp. n. Illinois Silurian, SAVAGE Bull. Geol. Soc. Amer. 27 1916 p. 317.

†*Conotreta conoidea* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 817.

†*Crania bouryi* sp. n. Touraine Tertiary, DE MORGAN Bull. Soc. géol. 15 1916 p. 271.

†*Cyclospira ? diversa* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 950.

†*Dalmanella springfieldness* sp. n. Ohio Silurian, FOERSTE Ohio J. Sci. 17 p. 245.—†*D. jugosa* var. n. *subplicata* Michigan Ordovician, FOERSTE Ottawa Nat. 31 p. 99.

†*Dayia cymulua* var. n. *girvanensis*, Scotland Silurian, REED Edinburgh Trans. R. Soc. 51 p. 948.

†*Discina circumcineta* sp. n. Rhein Devon, PRIESTERSBACH Abh. geol. Landesanst. 80 1915 p. 6.—†*D. (Orbiculoidea) mediorhenana* p. 6, *sinosa* p. 7, spp. n. Rhein Devon, FUCHS Abh. geol. Landesanst. 79 1915.

†*Discinisca singewaldi* sp. n. Bolivia Tertiary, SCHUCHERT Proc. U.S. Nat. Mus. 54 1917 p. 116. [In paper by E. W. BERRY.]

†*Eichwaldia personalis* sp. n. Scotland Silurian, REED Edinburgh Trans. R. Soc. 51 p. 936.

†*Eudesia cardioides* sp. n. Sinai Jurassic, DOUVILLÉ Mém. Ac. Sci. 54 1916 p. 64.

†*Girtyella woodworthi* sp. n. Montana Carboniferous, CLARK Bull. Mus. Comp. Zool. Harv. Coll. 61 p. 377.

†*Glottidia inexpectans* sp. n. Virginia Miocene, OLSSON Bull. Amer. Paleont. 5 (No. 24) 1914 p. 59.

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†*Hemipronites carrickensis* p. 918, *thomsoni* p. 919, spp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51.—†*H. giraldi* var. n. *yunnanensis* Yunnan Ordovician, REED Pal. Ind. 63 p. 22.

†*Kingena simiensis* sp. n. California Eocene, WARING Proc. Calif. Acad. Sci. 7 p. 73.

†*Leptella pseudoretroflexa* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 874.

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†*Lyttonia* in Japan and China, HAYASAKA 16.

†*Metacamarella* gen. n. for *Stricklandinia balclatchiensis*, Scotland Silurian, REED Edinburgh Trans. R. Soc. 51 p. 934.

†*Micromitra (Paterina) davidsoni* sp. n. Scotland Ordovician, REED *T.c.* p. 797.—†*M. (P.) charon* sp. n. Canada Cambrian, WALCOTT *Smiths. Inst. Misc. Coll.* 67 3 p. 69.

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†*Pachymagas abnormis* sp. n. New Zealand Tertiary, THOMSON *Trans. N. Z. Inst.* 49 p. 412.

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†*Parathyris* gen. n. p. 35, *plicatoides, plicatissima* spp. n. p. 36, Sinai Jurassic, DOUVILLÉ *Mém. Ac. Sci.* 54 1916.

†*Paterula ? albida* p. 800, *jamesoni* p. 801, spp. n. Scotland Ordovician, REED *Edinburgh Trans. R. Soc.* 51.

†*Pentamerus (Barrandella) undatus* var. n. *penkillensis* Scotland Silurian, REED *T.c.* p. 934.

†*Philhedra sinensis* sp. n. Yun-nan Ordovician, REED *Pal. Ind.* 6 3 p. 20.—†*P. drummuckensis, mullockensis*, p. 822, *penkillensis, playfairi* p. 823, sp. n. Scotland Ordovician and Silurian, REED *Edinburgh Trans. R. Soc.* 51.

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†*Playfairia* subgen. n. vide *Rafinesquina*.

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†*Poikilosakos* gen. n. *Lyttoniidae* for *P. petoloides* sp. n. Texas Carboniferous, WATSON *Geol. Mag.* 4 p. 212.

†*Porambonites acutiplicata* sp. n. Scotland Ordovician, REED *Edinburgh Trans. R. Soc.* 51 p. 923.

†*Productus (? Marginifera) wanneri* sp. n. Timor Permian, BROULT *Pal. v. Timor* 7 1916.

†*Protozyga carrickensis* sp. n. Scotland Ordovician, REED *Edinburgh Trans. R. Soc.* 51 p. 945.

†*Pseudocrania multifilosa* sp. n. Scotland Ordovician, REED *T.c.* p. 826.

†*Rafinesquina brevisculus, pergibosa* spp. n. Michigan Ordovician, FOERSTE *Ottawa Nat.* 31 p. 101.—†*R. deltoidea*, SMITH & DUROR 32.—†*R. expansa* var. n. *macallumi* p. 865, *R. (Playfairia, subgen. n. p. 866) felix* p. 867, *richardsoni* p. 868, spp. n., *deltoidea* varr. n. *multicorrugata* p. 866, *temuicorrugata* p. 867, *R. ? brumalis, subarachnoidea* spp. n. p. 870, Scotland Ordovician and Silurian, REED *Edinburgh Trans. R. Soc.* 51.

†*Rensselaerina* gen. n. *Centronellidae* p. 466, for *R. medioplicata* sp. n. Tennessee Devonian p. 469, DUNBAR Amer. J. Sci. 43.

†*Rhinobolus?* *balelatchiensis* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 802.

†*Rhynchonella renevieri* p. 85, *dunrobinensis*, *obtusiloba* p. 86, *gussmanni* p. 90, *fronto* p. 91, *squamiplex*, *anglica*, *rimosella* p. 92, *northamptonensis* p. 96, *rufimontana*, *dumbletonensis* p. 97, *fallaciosa*, *keilbergensis* p. 99, *heimingensis* p. 100, *temnorhyncha* p. 101, *metensis* p. 103, *lugdunensis* p. 104, *diptycha*, *liguriana*, *oblonga* p. 105, *ravi* p. 106, *valllesiaca* p. 107, *radstockiensis* p. 108, *latecostata* p. 109, *abbatia* p. 112, *harsfeldensis* p. 114, *subacarus*, *savignacensis* p. 117, *acaroides*, *ledonica* p. 118, *parviloba* p. 119, *ardescica* p. 121, *trigeri*, *ornithopsis*, *grossouvrei*, *trachyptycha* p. 122, *sublaevis*, *pauciplicata*, *tenuplicata*, *furcata* p. 123, *minor* p. 126, *asymetrica* p. 127, *hautquintiana*, *quadricristata*, *forax* p. 128, *quinquecristata*, *fornicata*, *trieristata*, *neumayri*, *obtusicoata* p. 129, *planifrons*, *stria* p. 130, *bonarellii* p. 131, *secplicosa* p. 132, *eigenii*, *ferdinandi* p. 133, *pseudodecorata*, *exaltata*, *dilatata*, *risgoviana* p. 139, *pseudoacuta*, *foliata*, *silicea* p. 140, *aliformis* p. 145, *walkei* p. 148, *haasi*, *normandica* p. 150, *haugi*, *alemanica* p. 151, *arcuata*, *planata*, *blumbergensis*, *basileensis* p. 152, *ozoniensis*, *rambertensis* p. 153, *silicicola* p. 155, *crassa* p. 157, *maxima* p. 158, *polonica*, *deiningensis* p. 159, *gallica*, *quadratoidea* p. 160, *brisgoviensis*, *quadrata*, *blumbergensis* p. 161, *riedlingensis*, *yaxleyensis* p. 162, *bugeysiaca* p. 164, *buckmani* p. 165, *longula*, *longovicensis* p. 167, *moelleriensis*, *bradfordiana* p. 168, *eudesi* p. 169, *subinconstans*, p. 170, *huddlestoni* p. 172, *pseudovostrata*, *prosimilis*, *möschii* p. 174, *jacobi* p. 175, *guebhardi*, *salevensis* p. 177, *obtusa*, *speciosa*, *kelheimensis* p. 178, spp. n. England, France and Germany Jurassic, ROLLIER Mém. Soc. Pal. Suisse 42 [all named from previously published figures and misidentifications.]—†*R. wanneri* sp. n. Peru Jurassic, TILMANN N. Jahrb. Min. 41 p. 691.—†*R. dietrichi* sp. n. Deutsch Ostafrika Urgonkalk, HENNIG Zs. D. Geol. Ges. 68 1916 p. 463.—†*R. hanieli* sp. n. Timor Permian, BROILI

Pal. v. Timor 7 1916.—†*R. pugna pauciplicata*, var. n. *Gürichi*, sp. n. p. 167, mit *bisellata*, var. n. *bifurcata*, var. n. p. 169, Oberdevon Brunn, OPPENHEIMER Verh. nat. f. Ver. and Brunn. 54.

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†*Schizocrania asteroidea* sp. n. Scotland Ordovician, REED T.c. p. 819.

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†*Siphonotreta?* *thraivensis* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 811.

†*Spirifer assimilis* p. 22, *loranus* p. 23, *explanatus* p. 25, *bornicensis* p. 26, spp. n. Rhein Devon, FUCHS Abh. geol. Landesanst. 79 1915.—†*S. crassifolius* p. 7, *dorsocarus* p. 11, *assmani*, *parcesurcatus* p. 16, spp. n. Rhein Devon, SPIERSTERSBACH Abh. geol. Landesanst. 80 1915.—†*S. neptunicus* sp. n. Eifel Devon, QUIRING Jahrb. geol. Landesanst. 35 1915 p. 327.—†*S. fulmari* sp. n. p. 569, *rectangulus* var. n. *alta* p. 571, Greenland Carboniferous, GRÖNWALL Medd. Grönl. 43.

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†*Spirigera globula* p. 29, *aequistria* p. 30, spp. n. Rhein Devon, FUCHS Abh. geol. Landesanst. 79 1915.

†*Streptis horneri* sp. n. Scotland Silurian, REED Edinburgh Trans. R. Soc. 51 p. 912.

†*Streptorhynchus pseudopelargonatus* sp. n. Timor Permian, BROILI Pal. v. Timor 7 1916.

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†*Strophonella penkillensis* sp. n. Scotland Silurian, REED Edinburgh Trans. R. Soc. 51 p. 900.

†*Terebratula de-tonii* sp. n. N. Italy Miocene, STEFANINI Atti Acc. ven.-trent. 8 1916 p. 157. —†*T. auxonensis* sp. n. E. France Sinemurian, PETIOLERO Fossiles nouveaux etc. Vesoul 1917 p. 5.—

†*T. cossmanni* sp. n. France Cretaceous, DE BRUN Mém. Soc. géol. 51 1916 p. 47. —*T. miocenica*, FOURTAU 11. —†*T. superates* sp. n. Sinai Jurassic, DOUVILLÉ Mém. Ac. Sci. 54 1916 p. 63. —†*T. Richter*, nom. n. for *Terebratula subcurvata* R. Richter, OPPENHEIMER Verh. nat. f. ver. Brünn. 54 p. 188.

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†*Waldheimia popilanica*, sp. n., Mittl. Kelloway Russland, KRENKEL Palaeontographica Stuttgart 61 p. 338.

†*Wimanella catulus* sp. n. Canada Cambrian, WALCOTT Smiths. Inst. Misc. Coll. 67 3 p. 70.

†*Zeilleria* sp. n. (not named) Spain Cretaceous, JIMENEZ DE CISNEROS Bol. Soc. Esp. Hist. Nat. 17 p. 421.

†*Zygospira orbis* sp. n. Scotland Ordovician, REED Edinburgh Trans. R. Soc. 51 p. 944 —†*Z. recurvirostris* var. n. *turgida* Michigan Ordovician, FOERSTE Ottawa Nat. 31 p. 103.

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| Evolution | ... | ... | ... | ... | ... | ... | ... | |
| Sexual Dimorphism | ... | ... | ... | ... | ... | ... | ... | |
| Economics | ... | ... | ... | ... | ... | ... | ... | |

Variation and Aetiology = 2223 :—

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| General Treatises | ... | ... | ... | ... | ... | ... | ... | } 27 |
| Teratology, Phylogeny and Relationship | ... | ... | ... | ... | ... | ... | ... | |
| Evolution | ... | ... | ... | ... | ... | ... | ... | |

Distribution = 2227 :—

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| General | ... | ... | ... | ... | ... | ... | ... | 27 |
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(a) Recent :—

(a) Marine :—

| | | | | | | | |
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| Arctic Ocean | ... | ... | ... | ... | ... | ... | } 27 |
| North Atlantic Ocean, Caribbean Sea and Gulf of Mexico | ... | ... | ... | ... | ... | ... | |
| Mediterranean Sea, Black Sea | ... | ... | ... | ... | ... | ... | |
| South Atlantic Ocean... | ... | ... | ... | ... | ... | ... | |
| Indian Ocean, Red Sea | ... | ... | ... | ... | ... | ... | |
| Malaysia | ... | ... | ... | ... | ... | ... | |
| Pacific Ocean | ... | ... | ... | ... | ... | ... | |
| Southern Ocean | ... | ... | ... | ... | ... | ... | |
| Antarctic Ocean | ... | ... | ... | ... | ... | ... | |

(β) Non-Marine :—

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| Denmark = 2227 <i>da</i> | } 27 |
| Sweden | |
| Northern Europe | |
| Russia and Poland = 2227 <i>db</i> | |
| Germany = 2227 <i>dc</i> | |
| British Islands = 2227 <i>de</i> | |
| France = 2227 <i>df</i> | |
| Spain and Portugal = 2227 <i>dg</i> | |
| Italy, Sardinia, etc. — 2227 <i>dh</i> | |
| Switzerland = 2227 <i>di</i> | |
| Austria-Hungary = 2227 <i>dk</i> | |
| Balkan Peninsula = 2227 <i>dl</i> | |
| Mediterranean Islands = 2227 <i>dm</i> | |
| Siberia = 2227 <i>ea</i> ' | |
| China = 2227 <i>eb</i> | |
| Japan = 2227 <i>ec</i> | |
| Indo-China, etc. = 2227 <i>ed</i> | |
| Siam = 2227 <i>ee</i> | |
| British India, etc. = 2227 <i>ef</i> | |
| Malaysia, Philippine Islands, etc. = 2227 <i>eg</i> | |
| Caspian and Aral Seas = 2227 <i>ek</i> | } 28 |
| N. Africa = 2227 <i>fa</i> | |
| Sahara, etc. = 2227 <i>fc</i> | |
| W. Africa = 2227 <i>fd</i> | |
| E. and C. Africa, etc. = 2227 <i>ff</i> | |
| S. Africa = 2227 <i>fg</i> | |
| Canada = 2227 <i>gb</i> | |
| United States = 2227 <i>gf</i> | |
| N.E. United States = 2227 <i>gg</i> | |
| S.E. United States = 2227 <i>gh</i> | |
| W. United States = 2227 <i>gi</i> | |
| Mexico = 2227 <i>gl</i> | |
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| West Indies = 2227 <i>hc</i> | |
| Guiana and Venezuela = 2227 <i>hd</i> | |
| Colombia = 2227 <i>he</i> | |
| Peru = 2227 <i>hf</i> | |
| Brazil = 2227 <i>hg</i> | |
| Argentina, Paraguay and Uruguay = 2227 <i>hi</i> | |
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| New Guinea, etc. = 2227 <i>ia</i> | |
| Queensland = 2227 <i>id</i> | |
| New South Wales = 2227 <i>ie</i> | |
| Victoria = 2227 <i>if</i> | |
| S. Australia = 2227 <i>ig</i> | |
| W. Australia = 2227 <i>ih</i> | |
| Tasmania, etc. = 2227 <i>ii</i> | |
| Atlantic = 2227 <i>la</i> | |
| Indian Ocean = 2227 <i>m</i> | |
| Pacific = 2227 <i>n</i> | |

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Placiphorella rufa sp. n. Alaska, BERRY Proc. Calif. Acad. Sci. 7 p. 241; *P. stimpsoni, borealis*, BERRY 28.

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TEREBRIDAE, CONIDAE, TURRIDAE & CANCELLARIIDAE.

Antimitra gen. n. of Turridae (= *Mitromorpha* auctt. non Cptr.) type *Pleurotoma aegrola* Rve., IREDALE Proc. Malac. Soc. 12 p. 328.

Apaturris gen. n. of Turridae type *Mitromorpha expeditionis* Oliver, IREDALE t.c. p. 329.

Cancellaria septemcostata sp. n. Australia, ODINER Vet.-Ak. Handl. Stockholm 52 (16) p. 55.

†*Cancellaria gabbiana*, *C. (Trigonostoma) insularis*, spp. n., Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 163.—*C. crassa* sp. n. Cretaceous California, WARING Proc. Calif. Acad. Sci. 7 p. 66.—*C. (Trigonostoma) cf. ampullacea* (Brocchi), BELL Geol. Mag. London 4 p. 410.

†*Clathurella* [vide etiam *Pleurotomoides*] *amica* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 158.

Clathurina gen. n. (= *Clathurella* auctt. non Cpr.) type *C. foraminata* (Rve) with *C. caltharia, netrodes, spanionema, C. foraminata pyrgodea*, spp. & var. n. Persian Gulf, *C. tineta* var *lemniscata* nom. n. for *C. lemniscata* G. & H. Nev., MELVILL Proc. Malac. Soc. 12 pp. 185-190

†*Clavatula zizac* sp. n. Tortonian Friuli, STEFANINI Atti Acc. Sci. Padova 8 p. 152; *C. zizac, C. asthenotoma* aff. *heckeli* (Hoers.), STEFANINI Mem. Ist. Geol. Univ. Padova 4 pp. 53, 55.

†*Conorbis monairyensis* sp. n. Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 p. 280.

Conus, MELVILL 302, 305.

†*Conus ruckmani* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 179.—*C. xenicus. perlepidus* p. 159, *longitudinalis* p. 160, *simplicissimus, porcellus* p. 161, *pernodosus, gabbi* p. 162, *larvatus* p. 163, spp. n., *furvoides brachys* p. 158, subsp. n. Oligocene Santo Domingo, *trisculptus, consobrinus ultimus* p. 160 sp. & subsp. n. Pliocene Costa Rica, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 pp. 158–163.—*C.* cf. *ventricosus* Bronn, BELL Geol. Mag. London 4 p. 410.—*C.*, STEFANINI 418.

†*Daphnella multicincta, ovata* spp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 457.

Defrancia vide *Pleuromoides*.

Diaugasma subg. n. of *Daphnella* type *D. epicharta* (M. & St.), MELVILL Proc. Malac. Soc. 12 p. 195.

Drillia with *D. chimastrum* sp. n., *D. persica jacintha* var. n. Persian Gulf, *D. crenularis atkinsonii, D. c. griffithii* nomm. n. for *Pleurotoma atkinsonii* Smith & *P. griffithii* Gray; *D. lucida* G. & H. Nev. (= *P. (D.) dissecta* Sm.), MELVILL Proc. Malac. Soc. 12 pp. 149–162.—*D. searadiata, hololeuca*, spp. n., Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) pp. 57, 58.

†*Drillia conradiana* nom. mut. (= *distans* Conrad 1862 non 1860), OLSSON Bull. Amer. Paleont. 5 p. 60.—*D. sovoreula, subgibbosa, elocata* p. 153, *callistura, ischnatracta* p. 154, *scala, hexapleura* p. 155; *mimula, esculenta, orthopleura* p. 156, *callistopleura, foveolata*, spp. n., *lissotropis dorsuosa* p. 157, subsp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 pp. 153–158.

Lienardia mighelsi nom. mut. (= *Pleurotoma rugosa* Migh. non. Lea nec Desh.), IREDALE & TOMLIN J. Conch. 15 p. 216.—*L.* with *L. spurca pasniensis* var. n. Persian Gulf; *L. soror* Sm. (= *Clathurella opsimathes* M. & St.), MELVILL Proc. Malac. Soc. 12 pp. 181–185.

Lora vide *Pleuromoides*.

Lovellona gen. n. of *Conidae* type *Conus atramentosus* Rve., IREDALE Proc. Malac. Soc. 12 p. 329.

Mangilia with *M. callicredemna, woodwardiae* Persian Gulf, *erymna, tri-taeniata* Bombay, *olivieriana* Mekran Coast, spp. n., *M. horneana compar* var. n. Persian Gulf *M. albolabiata* var. *chilosema* and *M. smithii* var. *clarisculpta* nomm. n. for *M. chilosema* and *M. clarisculpta* Melv.; *M. gracilentia* (Rve.) (= *Pleurotoma contracta* Rve. *P. (Drillia) portia* Sm. & ? *Cythara elegantissima* Melv.) *M. polita* Hinds (= *Drillia continua* M. & St.) *M. pupiformis* Sm. (= *M. callistephana* Melv.), MELVILL Proc. Malac. Soc. 12 pp. 165–180.

†*Mangilia radni* sp. n. Miocene Denmark, NØRREGAARD Medd. Dansk. geol. Foren. 5 (1) p. 33.

†*Metulella dominicensis* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 169.

Pleurotoma [vide etiam *Turris*] (*Gemmula*) congener, VREDENBERG 450.

†*Pleurotoma* [vide etiam †*Turris*], NØRREGAARD 325.

†*Pleuromoides* Bronn (= *Lora* Gistel, *Clathurella* Cpr. & *Defrancia* Millet), IREDALE 238.

†*Scobinella tristis* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 158.

Surcula [vide etiam *Turricula*] with *S. cingulifera* var. *amicta* nom. n. for *Pleurotoma amicta* Smith; *S. fulminata gloriosa* var. n. Persian Gulf, MELVILL Proc. Malac. Soc. 12 pp. 162–164.

†*Surcula* sp. Eocene California, WARING Proc. Calif. Acad. Sci. 7 p. 97.

Terebra trismacaria sp. n. Mekran Coast, MELVILL J. Conch. Leeds 15 p. 188.—*T.*, HIRASE 228; MELVILL & STANDEN 306.

†*Terebra baculiformis, hitia*, spp. n., Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 152.—*T.* cf. *pertusa* Bast., NØRREGAARD Medd. Dansk. geol. Foren. 5 (1) p. 31.—*T.* cf. *acuminata* Bors., *T. modesta ventricosa* var. n. Tortonian Veneto, STEFANINI Mem. Ist. Geol. Univ. Padova 4 pp. 43, 46.

Turricula Schum. (= *Surcula* Ads.),
IREDALE 238.

Turridae, MELVILL 300.

Turris [vide etiam *Pleurotoma*] with
T. (Gemmula) granosa quadrens
var. n. Mekran Coast; *T. (Pomopleura)*
nivea varr. *violacea*, *makemonos* and
pouloensis **nomm. n.** for *Pleurotoma*
violacea Hinds, *P. makemonos* Jous.
and *P. pouloensis* Jous., MELVILL
Proc. Malac. Soc. 12 pp. 142-149.

†*Turris* [vide etiam †*Pleurotoma*]
multicinctus, striatus, **spp. n.**, Tertiary
New Zealand, MARSHALL Trans. N. Z.
Inst. 49 pp. 456, 457.—*T. cartagenensis*
sp. n. Oligocene Colombia, PILSBRY &
BROWN Proc. Acad. Nat. Sci. Phila.
69 p. 32.—*T. plicata* **sp. n.** Cretaceous
California, WARING Proc. Calif. Acad.
Sci. 7 p. 68.

Tylotia **subgen. n.** of *Drillia* (= *Clavus* auctt. non Mont.) type *D. canicularis*, MELVILL Proc. Malac. Soc. 12 p. 160.

Veprecula **subgen. n.** of *Clathurina*
type *C. sykesii* (M. & St.), MELVILL
t.c. p. 188.

HARPIDAE, OLIVIDAE, MARGINELLIDAE,
VOLUTIDAE & MITRIDAE.

†*Ancilla olivaeformis* **sp. n.** Helvetican
Meduno, STEFANINI Mem. Ist. Geol.
Univ. Padova 4 p. 64.

†*Boltenella* **gen. n.** of *Volutidae*
type *B. excellens* **sp. n.** Cretaceous
Tennessee, WADE Proc. Acad. Nat.
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†*Falsifusus mezoicus* **sp. n.** Cretaceous
Tennessee, WADE t.c. p. 284

Harpovoluta with *H. striatula* **sp. n.**
Antarctic p. 36, VAYSSIÈRE Deux.
Exp. Antarct. Fr. Moll. amph.
gast. (Opisth. et Prosobr.) 1917
pp. 35-38.

†*Hyllus* **gen. n.** of *Volutidae* with *H. callilateris* type p. 282 [*callilateris* err. typ. p. 281], *coloratus* p. 283, **spp. n.**, Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 pp. 281-283.

†*Lirosoma cretacea* **sp. n.** Cretaceous
Tennessee, WADE t.c. p. 238.

†*Lyria hannibali, andersoni*, **spp. n.**,
Eocene California, WARING Proc. Calif.
Acad. Sci. 7 pp. 84, 97.

Marginella miliaris jullieni **var. n.**
Liberia *M. turbiniformis* Lifou, *tomlini*,
bougei Ouvea, *M. (Granula) atomella*
Mascarene Is., *M. (Volvaria) roberti*
Monterosato mss. Madeira, *M. (V.)*
hirasei Japan, **spp. n.**, *M. mariei*
Crosse (= *isseli* Nev.), BAVAY J.
Conchyliol. 63 pp. 96-108.—*M.* with
M. ameliensis (= *bivittata* Bavay 1912
non 1910) *bahiensis* (= *joubini* Bavay
non Dautz. & Fischer) *sarcodes* (= *carneola* Petit non delle Ch.) *tenuilabra* (= *Bulla pallida* Donovan non Linn.) **nomm. mut.**, TOMLIN Proc. Malac. Soc. 12 pp. 247-306.—*M. avea* locomotion, OLMSTED 333.

†*Marginella pacifica* **sp. n.** Oligocene
Washington, DICKERSON Proc. Calif.
Acad. Sci. 7 p. 178.—*M. mediocris*
sp. n. Oligocene Colombia, PILSBRY &
BROWN Proc. Acad. Nat. Sci. Phila.
69 p. 32.—*M. nugax* **sp. n.** Oligocene
Santo Domingo, PILSBRY & JOHNSON
Proc. Acad. Nat. Sci. Phila. 69 p. 165.

Marginellidae, TOMLIN 433.

†*Mitra mesolia, tortuosella*, **spp. n.**,
M. t. frater **subsp. n.** Oligocene Santo
Domingo, PILSBRY & JOHNSON Proc.
Acad. Nat. Sci. Phila. 69 pp. 165-166.—
M. cf. fusiformis Brocchi, BELL Geol.
Mag. London 4 p. 411.—*M. cf. scrobiculata* Broc., NORREGAARD Medd.
Dansk. geol. Foren. 5 (1) p. 28.

†*Oliva proavia, dimidiata*, **spp. n.**
Oligocene Santo Domingo, PILSBRY &
JOHNSON Proc. Acad. Nat. Sci. Phila.
69 pp. 164, 165.—*O. sayana immortua*
subsp. n. Oligocene Colombia, PILSBRY
& BROWN t.c. p. 33.

†*Olivella spissa* **sp. n.** Eocene Cali-
fornia, WARING Proc. Calif. Acad.
Sci. 7 p. 85.

†*Plochelaea gabbi* **sp. n.** Oligocene
Santo Domingo, PILSBRY & JOHNSON
Proc. Acad. Nat. Sci. Phila. 69 p. 166.

†*Scobina* **gen. n.** of *Volutidae* type
S. bicarinata **sp. n.** Cretaceous Ten-
nessee, WADE t.c. pp. 286, 287.

FASCIOLARIIDAE, TURBINELLIDAE, BUCCINIDAE, NASSARIIDAE OF ALECTRIONIDAE, PYRENIDAE, MURICIDAE & THAIDIDAE.

Acanthina calcar crassilabrum, A. c. *imbricata*, DOELLO JURADO 148.

Alectrion [vide etiam *Nassa*] with *A. limacina*, *onchodes*, *polistes*, spp. n., *A. insculptus eupleura* var. n. California and Panama, *A. fossatus* Gld. (= *Buccinum elegans* Rve. non Sow.) *A. pagoda* Rve. (= *B. decussatum* Kien. non L., *Nassa acuta* Cpr. & *N. corpulenta* C. B. Ad.), DALL Proc. U. S. Nation. Mus. 51 pp. 575-577.

†*Alectrion* [vide etiam †*Nassa*] with *A. grammatus* sp. n. Pleistocene California, DALL t.c pp. 575-577.

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†*Alectrionidae* [vide etiam †*Nassidae*] DALL 120.

†*Anachis gracilicostata* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 168.

Arcularia with *A. iodes* sp. n. (?), California; *A. scabriuscula* Powys (= *Nassa stimpsoniana* C. B. Ad.) *A. exilis* Powys (= *N. fontainei* Orb. & *N. panamensis* Phil. non C. B. Ad.), DALL Proc. U. S. Nation. Mus. 51 pp. 577-578.

Buccinella, vide *Fusinella*.

†*Buccinum inexhaustum*, BELL 24.

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†*Cominella conica* sp. n. Pliocene England, BELL Geol. Mag. London 4 p. 412.—*C. sublurida* sp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 455.

†*Ephora proquadricostata* sp. n. Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 p. 293.

Euthria radula, COOKE 103.

†*Exelissa solitudinis* sp. n. Jurassic Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 45.

†*Exilia weaveri* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 173.

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†*Fasciolaria gabbi* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 174.—*F.* with *F. chats-worthensis* p. 97 sp. n. Eocene California, WARING t.c pp. 83. 97.—*F.* cf. *polygonata* Grat., STEFANINI Atti. Acc. Sci. Padova 8 p. 78.

Ficulina, vide *Notofacula*.

Fusinella nom. mut. (= *Buccinella* Thiele non Perry), THIELE Nachr.-Bl. D. malac. Ges. 49 p. 24.

†*Fusinus gesteri* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 179.

†*Fusus* cf. *elongatus* Nyst., STEFANINI Atti Acc. Sci. Padova 8 p. 77.

†*Heteroterma zelandica* sp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 453.

Latirus niger sp. n. Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 50.

†*Latirus (Mazzalina) longirostris* sp. n. Tertiary (?) New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 455.

†*Liomesus* cf. *danicus* (von Koenen), BELL Geol. Mag. London 4 p. 412.

†*Lirosoma sulcosa multicostata* var. n. Miocene Virginia, OLSSON Bull. Amer. Paleont. 5 p. 45.

†*Melongena orthacantha* sp. n. Oligocene Santo Domingo. PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 168.—*M.*, IREDALE 238.

†*Molopophorus stephensoni* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 177.

Murex trunculus brandaris, JACKSON 243.—*M.*, FULTON 170c.

†*Murex vughani* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 174.—*M.* cf. *sismondiae* Bell., GRIPP Neu. Jahrb. Min. Stuttgart Beil. Bd. 41 (1) p. 34.

†*Nassa cornelliana* sp. n. Miocene North Carolina, OLSSON Bull. Amer. Paleont. 5 p. 45.

Nassarina solida sp. n. California, DALL Proc. U. S. Nation. Mus. 51 p. 579.

†*Nassidae* [vide etiam † *Alectrionidae*] HEROLD 220.

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- Notofscula* nom. mut. (= *Ficulina* Thiele non Gray) THIELE Nachr.-Bl. D. malak. Ges. 49 p. 24.
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- Ocenebrina inermis minima* var. n. Gallipoli, PALLARY J. conchyliol. 63 p. 144.
- †*Paramorea* gen. n. of *Purpuridae* type *P. lirata* sp. n. Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 pp. 295, 296.
- †*Perissolax obtusa* sp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 454.
- Phos* with *P. chelonia* Galapagos Is. *alternatus* California, *mexicanus*, *minusculus* Panama, spp. n., DALL Proc. U. S. Nation. Mus. 51 pp. 573-579.
- †*Phos ordinarius, conica*, spp. n., Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 456.
- Pollia bicolor lata* var. n. Gallipoli, PALLARY J. conchyliol. 63 p. 144.
- †*Procerithium deserti* sp. n. Jurassic Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 44.
- Purpura* [vide etiam *Nucella*] *haemostoma*, JACKSON 243a.
- †*Seminola* gen. n. of *Buccinidae* with *S. crassa* type p. 291, *solida* p. 292, spp. n., Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 pp. 290-292.
- †*Sipho rawni* sp. n. Pliocene England, BELL Geol. Mag. London 4 p. 411.—*S. curtus*, BELL 24.
- †*Strepsidura packi* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 177.
- †*Strombina cartagenensis, lloydsmithi*, spp. n., Oligocene Colombia, PILSBRY & BROWN Proc. Acad. Nat. Sci. Phila. 69 p. 33.
- †*Thais santodomingensis* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 169.
- Tritonidea tinca bermudensis* locomotion, OLMSTED 333.
- †*Trophon priestleyi* sp. n. Cainozoic Antarctic, HEDLEY Austral. Ant. Exp. 1911-1914 Geol. 2 p. 87.
- †*Tridicola sulcata* sp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 455.
- †*Typhis harrisi* sp. n. Miocene Florida, OLSSON Bull. Amer. Paleont. 5 p. 46.
- †*Vasum pugnus* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 167.
- Volema* Bolten & *Melongenena* Schum., IREDALE 238.
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- †*Alaria armata* race *naine* Bathonian Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 42.—*A. suteri* sp. n. Cretaceous New Zealand, TRECHMANN Geol. Mag. London (6) 4 p. 304.
- †*Anchura* WARING 466.
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- †*Balhytoma boundeyi* sp. n. Eocene California, WARING Proc. Calif. Acad. Sci. 7 p. 81.
- †*Columbellina fusiformis* sp. n. Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 132.
- †*Conchothyra*, TRECHMANN 440.
- Cypraea miliaris diversa*, *C. m. nivea* & *C. m. intermedia*, FULTON 170c.—*C. pustulata* protection, MORTENSEN 311.—*C. exanthemia* locomotion, OLMSTED 333.—*C.*, GERMAIN 183.
- †*Cypraea* cf. *leporina* Lam., OFFENHEIM 335.
- †*Drepanochilus calcaratus ornata* var. n. Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 134.
- Erato gemma* sp. n. Lifou, BAVAY J. conchyliol. 63 p. 108.
- †*Euritonium* cf. *nodiferum* (Lam.), STEFANINI Mem. Ist. Geol. Univ. Padova 4 p. 74.

†*Ficula* cf. *geometra* (Bors.), BELL Geol. Mag. London 4 p. 413.

†*Ficus plectatus* sp. n. Eocene California, WARING Proc. Calif. Acad. Sci. 7 p. 83.

†*Galcodea dalli* sp. n. Oligocene Washington, DICKERSON t.c. p. 176.

Gelagna Schauf., type *Tritonium clandestinum* Ch. (= *Paralagena* Dall), IREDALE 238.

†*Hippochrenes ampla rutoti* var. n. Pliocene England, BELL Geol. Mag. London 4 p. 413.

†*Malea elliptica, goliath, spp. n.*, Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 pp. 169, 170.

Mayena gen. n. of *Tritonidae* type *Biplex australasia* Perry, IREDALE Proc. Malac. Soc. 12 p. 324.

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†*Perissoptera glabra asiatica* race n. Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 134.

†*Puqnellus* with *P. marshalli, wai-parensis spp. n.*, Cretaceous New Zealand, TRECHMANN Geol. Mag. London (6) 4 pp. 302-304.—*P. rotundus* sp. n. Cretaceous California, WARING Proc. Calif. Acad. Sci. 7 p. 67.

†*Pyrula jamesi* sp. n. Miocene Virginia, OLSSON Bull. Amer. Paleont. 5 p. 47.

†*Seraphs andersoni* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 180.

†*Strombina politissima* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 168.

†*Strombus galliformis, dominator, spp. n.*, Oligocene Santo Domingo, PILSBRY & JOHNSON t.c. pp. 170, 171.—*S. cf. nodosus* Bors., OPPENHEIM 335.

†*Struthiolara minor* sp. n. Tertiary New Zealand, MARSHALL Trans. N.Z. Inst. 49 p. 451.

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†*Trachytrilon titan* sp. n. Eocene California, WARING Proc. Calif. Acad. Sci. 7 p. 87.

Triton tritonis, JACKSON 243.

Trivia bipunctata sp. n. Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 53.

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†*Astades* gen. n. of *Cerithiidae* type *A. densatus* sp. n. Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 pp. 298, 299.

Billium with *B. bartolemensis, santamariensis, serra* California, *challisiae, sanjuanensis* British Columbia, spp. n., BARTSCH Proc. U. S. Nation. Mus. 52 pp. 672-676.—*B. latreillei lineolata* var. n. Tenedos, PALLARY J. conchyliol 63 p. 143.

†*Brouzelia* subg. n. of *Hieria* type *I. sayni*, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 12.

†*Caccum amellifer* nom. mut. (= *C. annulatum* Gabb non Brown), PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 172.

Campanile Fischer (= *Ceratoptilus* Bouvier) *symbolicum* nom. mut. (= *Cerithium leve* Q. and G. or *leve* Gray procc.), IREDALE Proc. Malac. Soc. 12 p. 325.

†*Campanilopa* gen. n. type *Cerithium giganteum* Lam., IREDALE Proc. Malac. Soc. 12 p. 325.

†*Cerithiella chateleti* sp. n. Urgonian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 11.

Cerithiopsis with *C. (Cerithiopsis) charlottensis* British Columbia, *grippi, bakeri* California, *helena* Panama, spp. n., BARTSCH Proc. U.S. Nation. Mus. 52 pp. 668-672.—*C. (Cerithiopsis) anaitis* nom. mut. (= *C.(C) helena* Bartsch 1917 non Bttg. 1901), BARTSCH Nautilus 31 p. 71.—*C. crocea marmorata* var. n. Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 47.

†*Cerithiopsis howardi* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 175.

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Cerithium mysterium nom. mut. (= *C. tomlini* Hedley non Preston), HEDLEY Proc. Linn. Soc. N.S.W. 41 p. 708.—*C. attenuatum brevicaudatum* var. n. Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 47.

†*Cerithium (Uchavacia) mogharensis*, *bituberculatum* spp. n., Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 pp. 137, 138.

†*Diastoma ornatum* sp. n. Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 139.

†*Glauconia deserti* sp. n. Cretaceous Moghara, DOUVILLÉ t.c. p. 139.

†*Itieria (Brouzetia) sayni* sp. n. Urganian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 12.

†*Mrhilaia* cf. *nerinaeformis* Coq. NEWTON Trans. R. Soc. Edinburgh 51 p. 577.

†*Nerinea*, COSSMANN 106.

†*Nerinella bruni* sp. n. Urganian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 15.—*N.* cf. *algarbiensis* Choff., DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 146.

†*Nudivagus* gen. n. of *Cerithiidae* type *N. simplicus* sp. n. Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 pp. 296, 297.

†*Phaneroptyxis cureti* sp. n. Urganian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 12.

†*Potamides gastrodon* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 171.—*P. avus* sp. n. Oligocene Colombia, PILSBRY & BROWN t.c. p. 34.—*P. promargaritaceus promoniliformis* var. n. Oligocene Veneto, STEFANINI Atti Acc. Sci. Padova 8 p. 88.

†*Pseudomesalia* gen. n. of *Turritellidae* with *P. deserti* type p. 141, *bilineata*, *brevis* spp. n. Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 pp. 141, 142.

†*Purpuroidea bruni* sp. n. Urganian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 17.

Sherbornia gen. n. of *Sherborniidae* type *S. mirabilis* sp. n. Christmas I., IREDALE Proc. Malac. Soc. 12 p. 332.

Sherborniidae fam. n., IREDALE Proc. Malac. Soc. 12 p. 331.

†*Terebraliopsis pustulifera* sp. n. Urganian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 18.

†*Terebrella laevis* sp. n. Jurassic Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 44.

†*Triforis martini* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 176.

Triphora bincta sp. n. Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 47.

†*Turritella* with *T. cartagenensis* p. 34, *lloydsmithi* Colombia, *domingensis* p. 35 Santo Domingo, *calostemma* p. 36 Haiti, spp. n. Oligocene, PILSBRY & BROWN Proc. Acad. Nat. Sci. Phila. 69 pp. 34-37.—*T. sulcigyrate* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON t.c. p. 171.—*T.* with *T. reversa*, *simiensis* p. 88, spp. n. Eocene California, WARING Proc. Calif. Acad. Sci. 7 pp. 69, 87-89, 99-100.—*T. americana*, DOELLO JURADO 149.—*T. STEFANINI* 416; TRECHMANN 440.

Vicarya, MARTIN 294.

TIARIDAE, PLEUROCERIDAE, LITTORINIDAE & FOSSARIDAE.

Anculosa vide *Leptoxis*.

Calodonia Stef. eliminated, PALLARY 342.

Canthidomus Swains. eliminated, PALLARY 342.

Ceriphasia, PILSBRY 353.

Goniobasis, BAKER 11.

Leptoxis Raf. (= *Anculosa* Say), PILSBRY 353.

Littorina rudis alticola var. n. Scotland, DACIE J. Conch. 15 p. 180.

†*Littorina oligocenica* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 178.

Martinia vide *Pannonia*.

†*Melania pachecoi*, *bolivari*, spp. n. Cretaceous Mallorca, VIDAL Mem. R. Soc. Esp. Hist. Nat. 10 p. 352.

Melanopsis with *M. moussoni* (= *brevis* Mouss. non Sow.) *mœreleti* (= *brevis* Morel. non Sow.) *ducosi* (= *carinata* Gass. non Sow.) *goulvani* (= *elongata* Gass. non Fér.) *cookiana* (= *fusiformis* Gass. non Sow.) *nomm. mut. M. sevilensis* var. *pleuroplagia* **nom. n.** for *M. pleuroplagia* Bgt. 1884 non 1880; *M. doumeti* Let.-Bgt. (= *olivula* Bgt. non Grat.) PALLARY Bull. Soc. Hist. Nat. Afr. Nord. 7 pp. 70-87.

†*Melanopsis* with *M. eocenica* (= *buccinoidea* Sandb. non Oliv.) *polita* (= *buccinoidea* Cossin. non Oliv.) *aquitana* (= *dufouri* Grat. non Fér.) *conspicua* (= *costata* Grat. non Oliv.) *cosmanni* (= *costata* Cossin. non Oliv.) *venusta* (= *nodosa* Handm. non Fér.) *doncieuxi* (= *nodosa* Donc. non Fér.) *spiridioni* (= *praemorsa* Brus. non L.) *abbreviata* (= *brevis* Donc. non Sow.) *micchelottiana* (= *carinata* Michelotti non Sow.) *subaffinis* (= *affinis* Handm. non Fér.) *sublongata* (= *elongata* Done. non Fér.) *angusta* (= *fusiformis* Handm. non Sow.) *hungarica* (= *fuchsi* Brus. non Handm. & *costata* Fuchs non Oliv.) *limbata* (= *scalaris* Handm. non Gass.) *douvillei* (= *costellata* Douv. non Fér.) *hispidula* (= *turrata* Handm. non Bgt.) *simitis* (= *plicatula* Handm. non Neumayr) *dissimilis* (= *lyrata* Neumayr non Gass.) *vittata* (= *fasciata* Handm. non Gass.) *tumida* (= *obesa* Phil. non Gass.) *ripajensis* (= *paulovici* Brus. non Bgt.) **nomm. mut.**, *M. bouei decorata* var. n., *M. spinea* **nom. n.** for *M. bouei spinea* Sabba; *M. fossile* Gmel. (= *martiniana* Fér.) *M. fuchsi* Handm. (= *handmanni* Brus.) *M. microstoma* Edw. in Newton *nomen nudum*, PALLARY Bull. Soc. Hist. Nat. Afr. Nord 7 pp. 70-87.—*M. cf. impressa* Krs., STEFANINI Mem. Ist. Geol. Univ. Padova 4 p. 86.—*M. molinai*, *navarroi*, spp. n. Mesozoic Mallorca, VIDAL Mem. R. Soc. Esp. Hist. Nat. 10 pp. 353, 354.—*M. callosa curta*, CEREGEDA 86.

Pannonia **nom. mut.** (= *Martinia* Handm. non MacCoy) PALLARY Bull. Soc. Hist. Nat. Afr. Nord. 7 p. 76.

Pleurocera subulare Lea (= *Melania tracta*, *neglecta* & *intensa* Anth. & Tryp. *pallidum* & *labiatum* Lea), GOODRICH 196.—*Pleurocera* Raf. (= *Angitrema* Hald. pars), PILSBRY 353.—*P.* type, WALKER 455.

†*Smendovia* Tournouër eliminated, PALLARY 342.

Stylospirula Rov. eliminated, PALLARY 342.

SOLARIIDAE, SKENEIDAE, LITIOPIDAE, RISSOIDAE, PALUDESTRIDAE, VIVIPARIDAE, VALVATIDAE, AMPULLARIIDAE & ASSEMANIIDAE.

Alvania with *A. bartolomensis* California, *kyskaensis*, *dinora* Alaska, spp. n., BARTSCH Proc. U. S. Nation. Mus. 52 pp. 677-679.

Amnicola bakeriana, *clarkei*, *oneida* spp. n., L. Oneida, PILSBRY Nautilus 31 pp. 44, 45, 46.—*A. deserta* & *neomexicana* Pilsb. figd., Nautilus 30 pl. v.

Amnicolidae BAKER 11.

Ampullaria ampullacea sinistral, WALKER 458.

†*Ampullaria selvensis* sp. n. Cretaceous Mallorca, VIDAL Mem. R. Soc. Esp. Hist. Nat. 10 p. 350.

†*Architectonica inornata* sp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 452.

Bythinella scholtzii, STEENBERG 415.

†*Bythinella thomaei* sp. n. Oligocene Germany, WENZ Jahrb. Nassau. Ver. Naturk. 67 p. 127.

Bythinia tentaculata, *leachii*, BOYCOTT 51.—*B.*, STEENBERG 415.

Coriandria **nom. mut.** (= *Microsetia* Monts. non Stephens) type *M. durbanensis*, TOMLIN J. Coneh. 15 p. 221.

†*Discohelix biconcava*, *brouzelensis*, *panygymna*, spp. n., Urganian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) pp. 19, 20, 21.—*D. elegantula* sp. n. Jurassic Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 47.

†*Heliacis conicus* sp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 453.

Lanistes with *L. (Leroya) farleri alirata* var. n. E. Africa pp. 321, 326, GERMAIN Bull. Mus. Paris 1916 pp. 317-329.

Leroya as subg. of *Lanistes*, GERMAIN 176.

Microsetia vide *Coriandria*.

†*Omalaxis planus* sp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 453.

Paludestrina jenkinsi, BOYCOTT 50, 54, JOHANSEN 245; *P. minuta*, KENNARD & WOODWARD 251; *P.*, BOYCOTT 52.

Paludestrinidae KENNARD & WOODWARD 254.

†*Riselloidea tricarinata* sp. n. Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 145.

†*Rissoa epulata*, *R. (Alvaia) proavia* spp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 pp. 172, 173.

Rissoina mo'tezi Jamaica, *R. tom'i i*, *R. (Stossichia) bouzi* Ouvea spp. n., BAVAY J. conchyliol. 63 pp. 109-112.

†*Solariaxis templetoni* sp. n. Cretaceous California, WARING Proc. Calif. Acad. Sci. 7 p. 68.

Valvata discors, GEYER 187; *V. tricarinata perconfusa* nom. mut. (= *V. t. confusa* Walker non Westld.) [WALKER] Nautilus 31 p. 36.—*V.* STEENBERG 415.

Valvatidae, BAKER 11.

Vivipara ocella sp. n. Siam, FULTON Proc. Malac. Soc. 12 p. 241. *V.*, BUCHNER 57.

Viviparidae, BAKER 11.

CYCLOPHORIDAE, STROPHOSTOMATIDAE, VENTRICULIDAE, POMATIDAE & ACICULIDAE.

Hedleya umbilicata sp. n. Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 75.

Hyalacne subg. n. of *Acme* type *A. similis* Reinh., HESSE Nachr.-Bl. D. malak. Ges. 49 p. 124.

†*Omphalotropis minuta* sp. n. Quaternary Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 99.

Pomatias elegans sex characters, BOYCOTT 48.

Pupinella tortirostris sp. n. Louisiade Archipelago, SOWERBY Proc. Malac. Soc. 12 p. 320.

†*Strophostomatidae* fam. n., WENZ Jahrb. Nassau. Ver. Naturk. 67 p. 123

Tropidophora aiceps bicincta m. t. n. Kilwa, GERMAIN Bull. Mus. Paris 1916 p. 259.

†*Ventriculidae* fam. n., WENZ Jahrb. Nassau. Ver. Naturk. 67 p. 124.

†*Vetriculus* gen. n. of *Vetriculidae* type *Cyclostoma dolium* Tho., WENZ t.c. p. 124.

CAPULIDAE, ADEORBIDAE, LAMELLARIIDAE, NATICIDAE & IANTHINIDAE.

†*Ampullina spiralis* sp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 452.—*A. cureti, acrospira* spp. n. Urgonian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) pp. 22, 23.

†*Ampullospira gardoensis* sp. n. Urgonian France, COSSMANN t.c. p. 21. *A. cf. clementina* and *cf. ervyna* Orb., DOUVILLÉ Mem. Acad. Sci. Paris 54 pp. 144, 145.

Crepidula embryology, CONKLIN 97, 98; *C. plana*, GOULD 197, 198.

†*Gyrodes* with *G. compressus* p. 67 Cretaceous, *robustus* p. 84 Eocene California spp. n., WARING Proc. Calif. Acad. Sci. 17 pp. 66-67, 84.

†*Hippovyx arnoldi, ornata* spp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 pp. 180, 181.—*H. olivosa* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 173.—*H.*, NEWTON 320.

Lamellariopsis turqueti, VAYSSIÈRE 417.

Marseolina liouvillei sp. n. Antarctic, VAYSSIÈRE Deux. Exp. Ant. Fr. Zool. Moll. amph. gast. (Opisth. & Prosobr.) 1917 p. 31.

Marseiopsis with *M. charcoti* sp. n. Antarctic p. 25, VAYSSIÈRE t.c. pp. 22-27.

†*Natica finitima* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 173.—*N. cf. ha toviensis* Pflk., BELL Geol. Mag. London 4 p. 414.—*N. cf. benecchi* v. Koen., NØRREGAARD Medd. Dansk. geol. Foren. 5 (1) p. 21.—*N. (Euspira) variabilis*, TRECHMANN 440.

†*Neverita nomlandi* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 173.

Sinum californicum sp. n. California, OLDROYD Nautilus 31 p. 13.

†*Sinum* with *S. dickersoni* p. 86 sp. n. Eocene California, WARING Proc. Calif. Acad. Sci. 7 pp. 86, 99.

†*Varicigera choffati* sp. n. Cretaceous Moghara, DUVILLÉ Mem. Acad. Sci. Paris 54 p. 143.

EPITONIIDAE.

†*Acirra microstriata*, *corrugata* spp. n. Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 pp. 299, 300.

†*Acis* (*Amblyspira*) *bartschiana* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON t.c. p. 174.

†*Confusiscalia* cf. *dupini* Orb., DUVILLÉ Mem. Acad. Sci. Paris 54 p. 143.

†*Dauciscalia* subg. n. of *Scala* for *S. boriei* Doncieux (type) & *S. potamoensis* Clark, DE BOURY J. conchyliol. Paris 63 p. 42.

Epitonium [vide etiam *Scala*] with *E. appressicostatum* Mexico, *desiclastratum* Washington, *emylonesus*, *rectiluminatum*, *hubéli*, *rhytidum* Galapagos Is. *acapulcanum*, *cookeanum*, *vaatusi*, *arnoldi*, *pacis*, *imperforatum*, *lagunarium*, *persuturum*, *colpoicum*, *pazianum*, *propehexagonum*, *eutaenium*, *apiculatum*, *compradora*, *cylindricum*, *centronium*, *columbianum*, *montereyense*, *californicum*, *tabulatum*, *musidora*, *diegensis*, *regum*, *orcuttianum*, *bialatum*, *zephyrium*, *basicum*, *roberti* California etc. *onchodes*, *columnella*, *tabogense*, *zeteki*, *imbrex*, *thylax*, *E.* (*Pictoscala*) *purpuratum* Panama spp. n. *E. savinae catalinense* California var. n. *E.* (*Nitidoscala*) *fallaciosum* nom. mut. (= *S. hindsii* Cptr. 1865 non 1856), DALL Proc. U. S. Nation. Mus. 53 pp. 471-488.

†*Epitonium* [vide etiam *Scala*] *merriami* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 175.

Hemiacirra cretacia sp. n. Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 p. 301.

†*Nobiliscalia* subg. n. of *Scala* type *S. foliacea* Sow., DE BOURY J. conchyliol. Paris 63 p. 60.

Pictoscala sect. n. of *Epitonium* type *Scalaia lineata* Say, DALL Proc. U. S. Nation. Mus. 53 p. 477.

†*Scala* [vide etiam †*Epitonium*] with *S. performosa* p. 44 nom. mut. (= *S. formosissima* Dall non Jeffreys) *S.* (*Cerithiscalia*) *segreganda* p. 44 sp. n. Cotentin, DE BOURY J. conchyliol. Paris 63 pp. 13-62.—*S.* (*Epitonium*) *parvicostata*, *simplex* spp. n. Tertiary New Zealand, MARSHALL Trans. N. Z. Inst. 49 p. 451.—*S. martiniana* nom. mut. (= *reticulata* Martin non Solander), OLSSON Bull. Amer. Paleont. 5 p. 60.

†*Scalidae*, DE BOURY 45.

STROMBIFORMIDAE & PYRAMIDELLIDAE.

†*Creonella* gen. n. of *Pyramitellidae* type *C. triplicata* sp. n. Cretaceous Tennessee, WADE Proc. Acad. Nat. Sci. Phila. 69 pp. 302, 303.

†*Eulima* [vide etiam †*Melanella*] *clarki* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 179.

Eulimostraca gen. n. of *Melanellidae* type *E. galapagensis* sp. n. Galapagos Is., BARTSCH Proc. U. S. Nation. Mus. 53 p. 333.

Haliella with *H. abyssicola* California, *chilensis* Chile spp. n., BARTSCH t.c. pp. 336, 337.

Lambertia cookeana sp. n. California, BARTSCH t.c. p. 354.

Leiostraca Ads. (= *Subularia* Monts.), BARTSCH 17.

Melanella with *M.* (*Melanella*) *dalli*, *monicensis*, *necropolitana*, *oldroydi*, *californica*, *hemphilli*, *baldra*, *mexicana*, *abrejosensis* California, *panamensis* Panama, *tacomensis* Tacoma, *M.* (*Balcis*) *draconis*, *montereyensis*, *peninsularis*, *lastra*, *arnoldi*, *cosmia*, *halia*, *townsendi*, *berryi*, *prefalcata*, *grippi*, *taravali*, *catalinensis* California, *columbianus*, *comoxensis*, *macra* British Columbia, *ochsneri* Galapagos Is. spp. n. *M.* (*Melanella*) *micans borealis* Vancouver subsp. n., BARTSCH Proc. U. S. Nation. Mus. 53 pp. 302-333.—*M.* with *M. thanumi* p. 220 *kahoolavensis* p. 225 spp. n.

M. cumingi medipacifica p. 221 subsp. n. Hawaiian Is. *M. vafra* nom. mut. (= *Eulima inflexa* Pse. non Blainv.), PILSBRY Proc. Acad. Nat. Sci. Phila. 69 pp. 220-225.

† *Melanella* [vide etiam † *Eulima*] *gabiana* p. 183 sp. n. Oligocene Santo Domingo, *M. astuta* p. 182 nom. mut. (= *robusta* Gabb non A. Ad.), PILSBRY & JOHNSON t.c. pp. 182-183.

Melanellidae, BARTSCH 15.

Niso with *N. excolpa*, *lomana*, *hipolitis* spp. n. California, BARTSCH Proc. U. S. Nation. Mus. 53 pp. 348-352.

Odostomia with *O. (Chrysalida) taravali*, *santamarie*: *sis*, *O. (Evalea) valoroi*, *franciscana* California, *willetti* Alaska, *O. (Odostomia) orcutti* California spp. n., BARTSCH Proc. U. S. Nation. Mus. 52 pp. 663-668.—*O. (Evalea) cassandra* p. 162 *cyprica*, *hypatia* p. 163 *skidegutsensis* p. 164, spp. n., Canada, DALL & BARTSCH Bull. Mus. commem. Victoria B.C., 1913 [1915] pp. 162-165.—*O.*, MARTEL 291.

† *Odostomia* with *O. (Evalea) pleioregona*, *orfordensis* Pliocene Oregon spp. n. *O. (E.) andersoni* nom. mut. (= *Eulimella californica* Anderson & Martin non Dall & Bartsch), BARTSCH Proc. U. S. Nation. Mus. 52 pp. 663-668.—*O. ingloria* p. 178 *myrmecoon*, *O. (Eulimastoma) pyrgulopsis* p. 179 *buthyraphe*, *O. (Evalea) vexator*, *O. (Goniozostomia) superans* p. 180 *circumvineta*, *O. (Parthenina?) cyclocephala* p. 181 *O. (Odostomidea) bartschiana*, *O. (Chrysalida) dulcis* p. 182 spp. n. Oligocene Santo Domingo; *O. santodomingensis* p. 179 nom. mut. (= *polita* Gabb non Bivona nec Pse.), PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 pp. 178-182

Partulida Schauf., type *Turbo spiralis* Mont. (= *Spiralinella* Chaster), IRÉDALE 238.

† *Ptycheulimella* cf. *pyramidata* (Desh.), STEFANI Mem. Ist. Geol. Univ. Padova 4 p. 87.

† *Pyramidella* *forulata famelica* subsp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 174.

Pyramidellida with *P. (Pharcidella) magdalenensis* sp. n. California, BARTSCH Proc. U. S. Nation. Mus. 52 pp. 637-640.

Sabinella with *S. bakeri* California, *chathamensis*, *meridionalis* Galapagos Is. spp. n., BARTSCH Proc. U. S. Nation. Mus. 53 pp. 333-336.

Spiralinella vide *Partulida*.

Strombiformis with *S. alaskensis* Alaska, *roversi*, *californica*, *townsendi*, *lapazana*, *alms*, *barthelowi*, *hemphilli*, *burragei* California, *panamensis* Panama, spp. n., BARTSCH t.c. pp. 339-348.—*S. lapazana* figd., BARTSCH 17.

† *Strombiformis* *praclubrica*, *ischnon*, *S. (Subularia) stimulus*, spp. n., Oligocene Santo Domingo; *S. sarissiformis* nom. mut. (= *Eulima acicularis* Gabb non A. Ad.), PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 183.

Subularia vide *Lei: straca*.

Turbonilla with *T. (Strioturbonilla) canaensis* Alaska, *barkeleyensis* Vancouver, *moztexuma*, *santamariana*, *doredona*, *relondoensis*, *schmitti*, *T. (Pyrgolampros) franciscana*, *tremperi* California, *pugetensis* Seattle, *T. (Pyrgisculus) guilleni*, *T. (Pyrgiscus) dora*, *ina*, *istu*, *eva*, *almejasensis*, *bartolomensis*, *lunna*, *mariana*, *lazarocensis*, *cortezi*, *tecalco*, *corsoensis*, *baegerti*, *ullou*, *cabrilloi*, *T. (Cingulina) urdeneta*, *T. (Mormula) sebastiani*, *viscainoi*, *T. (Ugartea) juani* California, spp. n., BARTSCH Proc. U. S. Nation. Mus. 52 pp. 640-663.—*T. (Pyrgiscus) hecuba* sp. n. Nova Scotia, DALL & BARTSCH Bull. Mus. commem. Victoria B.C. 1913 [1915] p. 161.

† *Turbonilla* with *T. (Pyrgolampros) hannibali* Oregon, *T. (P.) hemphilli* California, spp. n., Pliocene, BARTSCH Proc. U. S. Nation. Mus. 52 pp. 640-663.—*T. polaris* sp. n. Caimozoic Antarctic, HEDLEY Austral. Ant. Exp. 1911-1914 Geol. 2 p. 85.—*T.* with *T. (Pyrgiscus) beatula* p. 174 *santodomingensis* p. 175, *T. (Chemnitzia) galeati*, *peraequa* p. 175, *T. (Nisiturris) aratibacillum*, *insilitia* p. 176 *undecimcostata*, *contexta* p. 177, *T. (Tragula) egressa* p. 178, spp. n., Oligocene Santo Domingo, *T. (Nisiturris?) angustula* nom. mut. (= *angusta* Gabb non Cpr.), PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 pp. 174-178.

Ugarteia subgen. n. of *Tarbovillia* type *T. juani*, BARTSCH Proc. U. S. Nation. Mus. 52 p. 662.

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†*Hemistenetrema quadrisinosa* var. *heydeni* nom. n. for *H. heydeni* Btg., WENZ Jahrb. Nassau. Ver. Naturk. 67 p. 64.

Hygromia [vide etiam *Helix*] *umbrosa* with *H. u. rubra* var. n. Salzburg, TAYLOR Mon. L. and F. W. Moll. British Isles pt. 23 pp. 65-68.—*H. striolata*, TAYLOR 425, 426, 427.—*H. revelata*, TAYLOR 426, TOMLIN 437.

†*Lychnopsis* gen. n. of *Helicidae* type *L. bofilli* sp. n. Mesozoic Mallorca, VIDAL Mem. R. Soc. Esp. Hist. Nat. 10 pp. 357, 358.

†*Lychnus hermiti* sp. n. Mesozoic Mallorca, VIDAL t.c. p. 356.

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†*Omphalosagda goldfussi depressa* var. n. Oligocene Germany. WENZ Jahrb. Nassau Ver. Naturk. 67 p. 52.

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†*Planispira praehadra* sp. n. Quaternary Australia, OEHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 97.

Polygyra labrosa fimbriata var. n. Arkansas, *P. albolabris* and *zulea*, CLAPP Nautilus 30 pp. 139-140.—*P. texasiana allandsiae* subsp. n. Texas, COCKERELL Nautilus 31 p. 36.

Pseudhelicarion fastigata sp. n. Guam, GUDE Proc. Malac. Soc. 12 p. 316.

†*Pyramidula (Gonyodiscus) bohémica* sp. n. (= *Helix multicosata* Auctt. non Tho.) Oligocene Bohemia, WENZ Jahrb. Nassau Ver. Naturk. 67 p. 57.

Sonarella rooseveliana sp. n. Arizona, BERRY Nautilus 31 p. 14.

†*Strobilops fischeri* sp. n. (= *diptyx* "Klika" Bttg. non Klika) Cainozoic Germany, WENZ Jahrb. Nassau. Ver. Naturk. 67 p. 107.

Theba with *T. cantiana tenuis* England *T. c. major* Europe, varr. n. *T. cartusiana scalare* monstr. n., TAYLOR Mon. L. and F. W. Moll. British Isles pt. 23 pp. 77-111.

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Trichodiscina crinita sp. n. Colombia, FULTON Proc. Malac. Soc. 12 p. 240.

†*Tropidomphalus arnoldi* (Tho.) (= *Helix lepidotricha* Sandb.), WENZ 164.

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†*Bulimus darderi* sp. n. Cretaceous Mallorca, VIDAL Mem. R. Soc. Esp. Hist. Nat. 10 p. 355.

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†*Acanthopupa* gen. n. of *Vertiginidae* type *A. joossi* sp. n. Oligocene Germany, WENZ Jahrb. Nassau. Ver. Naturk. 67 pp. 103, 104.

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†*Gastrocopta* with *G. undorfensis* nom. mut. (= *Pupa miliolum* Cless. non *miliola* Orb.) p. 117, PILSBRY t.c. pp. 113-117.

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Holospira (Haplocion) bryantwalkeri sp. n. Mexico, PILSBRY *Nautilus* 30 p. 124.

Hypselostoma with *H. annamiticum altius* p. 181 subsp. n. Annam, PILSBRY *Man. Conch.* 23 pp. 175-188.

†*Hypselostoma australis* sp. n. Quaternary Australia, ODINER *Vet.-Ak Handl.* Stockholm 52 (16) p. 98.

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†*Laminifera maliaca* nom. mut. (= *Cl. (L.) fischeri* Btg. non Mich.), WENZ *Jahrb. Nassau. Ver. Naturk.* 67 p. 84.

Nesopupa farquhari sp. n. South Africa, PILSBRY *Nautilus* 31 p. 50.

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Parabosydia subg. n. of *Boysidia* type *B. paviei* B. & D., PILSBRY *Man. Conch.* 23 pp. 173, 201.

Pupilla muscorum idahoensis subsp. n., HENDERSON & DANIELS *Proc. Acad. Nat. Sci. Phila.* 69 p. 57.—*P. blandi pilhodes* subsp. n. New Mexico, PILSBRY & FERRISS t.c. p. 103.—*P. sterri*, KOLASTUS 261.

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Vertigo modesta subsp. n. New Mexico, PILSBRY & FERRISS *Proc. Acad. Nat. Sci. Phila.* 69 p. 104.

†*Vertigo (Alaea) trolli* sp. n. Miocene Silesia, WENZ *Jahrb. Nassau. Ver. Naturk.* 67 p. 102.

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Curvella afra sp. n. East Africa, BOETTGER *Nachr.-Bl. D. malak. Ges.* 49 p. 124.

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†*Carychium moenanum* sp. n. Oligocene Germany, WENZ Nachr.-Bl. D. malak. Ges. 49 p. 161.

†*Cassidula de-gasperii* sp. n. Toronian Veneto, STEFANINI Mem. Ist. Geol. Univ. Padova 4 p. 41.

Ferrissia chudeaui sp. n. Senegal, GERMAIN Bull. Mus. Paris 1917 p. 526.

Ferrissinae subfam. n. of *Ancylidae*, WALKER Nautilus 31 p. 2.

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†*Planorbis aucapitainei* Bgt. & *duveyrieri* Desh., GERMAIN 177.

Rhodacmea gen. n. of *Ancylus* type *A. filolosus* Conr. with *R. (Rhodacmea) cahawbenis*, *R. (Rhodocephala) rhodacme*, *gwatkiniana*, spp. n.; Alabama, WALKER Nautilus 31 pp. 1-10.

Rhodacmea sect. n. of *Rhodacmea*, WALKER t.c. p. 6.

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Rhodocephala sect. n. of *Rhodacmea*, WALKER t.c. p. 8.

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†*Aphanoconia extincta* sp. n. Quaternary Australia, ODHNER Vet.-Ak. Handl. Stockholm 52 (16) p. 98.

Caucasicola nom. mut. (= *Helle** Hesse 1916 non Osten-Sacken 1896), HESSE Nachr.-Bl. D. malak. Ges. 49 p. 122.

Maltzanella nom. mut. (= *Maltzania** Hesse 1916 non Bttg. 1881), HESSE t.c. p. 122.

* See note overleaf.

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Maurohelix nom. mut. (= *Wiegmannia* * Hesse 1916 non Collinge 1901), HESSE t.c. p. 122.

Pseudofigulina nom. mut. (= *Pelagias** Hesse 1916 non *Pelagis* Ragonot 1890), HESSE t.c. p. 123.

*The paper in which these pre-occupied names were published will be included in the Zool. Record for 1918.

Scaphopoda.

†*Dentalium barremicum* sp. n. Ur-gonian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 31.—*D. rulteni, sokkohense*, spp. n., Miocene Java, MARTIN Samml. Geol. Reichsmus. Leiden 2 p. 262.—*D. solidissimum, cartagenense*, spp. n., Oligocene Colombia, PILSBRY & BROWN Proc. Acad. Nat. Sci. Phila. 69 p. 37.—*D. sagittarii* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON t.c. p. 185.—*D.*, TRECHMANN 440.

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OSTRACOA TETRABRANCHIA.

†*Alectryonia (Ostrea) marshii longistriata* var. n. Bajocian Peru, JAWORSKI Neu. Jahrb. Min. Geol. Paläont. Stuttgart Beil. Bd. 40 p. 441.

Anomia aculeata larva, STAFFORD 409; A., MONTEROSATO 309.

†*Anomia gabbi* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila 69 p. 193.

†*Arctostrea avita* sp. n. Bathonian Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 57.

†*Exogyra* cf. *flabellata* Goldf., NEWTON Trans. R. Soc. Edinburgh 51 p. 564.

Gryphaea, MONTEROSATO 309.

†*Gryphaea* cf. *dilatata* Sow., JAWORSKI Neu. Jahrb. Min. Geol. Paläont. Stuttgart Beil. Bd. 40 p. 442.

†*Heligmus integer* p. 33 Bajocian, *laevis* p. 60 spp. n. *H. rollandi asiatica* p. 59 race n. Bathonian Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 pp. 33, 59-60.

†*Liogryphea costellata* sp. n. Bathonian Moghara, DOUVILLÉ t.c. p. 58.

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†*Ostrea bomasensis, spolongensis*, spp. n., Miocene Java, MARTIN Samml. Geol. Mus. Leiden 2 p. 263; *O. vaughani insularis* subsp. n. Santo Domingo *O. cahobasensis* sp. n. Haiti, *O. Sculpturata osculum* subsp. n. Colombia, Oligocene PILSBRY & BROWN Proc. Acad. Nat. Sci. Phila. 69 p. 40.—*O. bolus* sp. n. Oligocene Haiti, PILSBRY & JOHNSON t.c. p. 193.—*O. celtica*, BELL 24; O., FOURTAU 233, TILMANN 432.

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Operculella gen. n. (?) type *O. operculata* sp. n. Mediterranean and Atlantic, MONTEROSATO Ann. Mus. Genova (3) 7 p. 15.

Pycnodonta with *P. laticardo, floribunda*, spp. n., *P. f. digitata* var. n. Palermo, MONTEROSATO t.c. pp. 12, 13.

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†*Camptonectes* cf. *annulatus* Sow., *aalensis* sp. n. Jurassic Gloucestershire, PARIS & RICHARDSON Q. J. Geol. Soc. London 71 p. 523.

†*Chlamys articulata notgroviensis, sauzeana*, varr. n. Jurassic Gloucestershire, PARIS & RICHARDSON t.c. pp. 525, 526; C., FOURTAU 233, STEFANINI 418.

†*Eopecten* cf. *urgonensis* Pict. and Camp., COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 43.—*E. articulatus, doulingensis*, spp. n., Jurassic British Is., PARIS & RICHARDSON Q. J. Geol. Soc. London 71 p. 531.

†*Flabellipecten*, STEFANINI 418.

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†*Lima belli* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 172.—*L. (Plagiostoma) middletonensis* sp. n. Cretaceous Yorkshire, SHEPPARD Naturalist 1917 p. 310.—*L.* cf. *itierina* Pict. and Roux, NEWTON Trans. R. Soc. Edinburgh 51 p. 569; *L. globosa*, RAVN 368.—*L. perrini* Waring and *hasellinei* Dickerson, WARING 466.

†*Neilhea* with *N. angoliensis* sp. n. Cretaceous Angola, NEWTON Trans. R. Soc. Edinburgh 51 pp. 565-568.

†*Palæopecten daubyi*, REED 171.

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†*Pectenidae*, PARIS & RICHARDSON 345.

†*Plagyostoma* cf. *semicircularis* Goldf., *P. cf. rigidum* Sow., DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 76.

†*Vola*, JAWORSKI 244; TILMANN 432.

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†*Aphanaia*, TRECHMANN 439.

†*Avicula* cf. *costata* Sow., JAWORSKI Neu. Jahrb. Min. Geol. Paläont. Stuttgart Beil. Bd. 40 p. 435.—*A. pectinata* figd., RAVN 368.

†*Crenella diuturna*, *rota*, spp. n., Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 195.

†*Diaphragmella* gen. n. of *Aviculidae* with *D. merismopterooides* sp. n. Permo-Carboniferous New South Wales, ETHERIDGE Rec. Austral. Mus. 11 p. 222.

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†*Gervillia orientalis* sp. n. Callovia Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 59.—*G. cf. lamellosa* Lep., JAWORSKI Neu. Jahrb. Min. Geol. Paläont. Stuttgart Beil. Bd. 40 p. 416.

†*Glyptodesma* (?) *bundanoonensis* sp. n. Permo-Carboniferous New South Wales, ETHERIDGE Rec. Austral. Mus. 11 p. 223.

†*Gosseletia* (?) *tawneyi* sp. n. Silurian British Is., REED Proc. Cotteswold Nat. F. C. 19 p. 163.

†*Inoceramus* with *I. pembertoni* p. 61 sp. n. Cretaceous California, WARING Proc. Calif. Acad. Sci. 7 pp. 61-62.—*I. orbicularis* figd., RAVN 368.

†*Lithophaga yorkensis* sp. n. Miocene Virginia, OLSSON Bull. Amer. Paleont. 5 p. 51.

†*Modiola chateleti* sp. n. Urgonian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 40.—*M. progoënsis*, *barbatiaeformis*, spp. n. Miocene Java, MARTIN Samml. Geol. Reichsmus. Leiden 2 p. 264.—*Modiolus pulchellus* Virginia, *gigantoides* North Carolina, spp. n., Miocene, OLSSON Bull. Amer. Paleont. 5 pp. 50, 51.

Mytilus edulis larva, STAFFORD 409, ecology, WRIGHT 479; *M.*, MEEK 299.

†*Mytilus aquitanicus taramellii* var. n. Tortonian Veneto, STEFANINI Mem. Ist. Geol. Univ. Padova 4 p. 150.

†*Pinna*, JAWORSKI 244.

†*Pachymytilus exogyroides* sp. n. Urgonian France, COSSMANN Mem. Soc. Geol. Fr. 21 (51) p. 39.

†*Septifer elegans* sp. n. Eocene California, WARING Proc. Calif. Acad. Sci. 7 p. 79.

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†*Arca washingtoniana* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 166.—*A. (Scapharca)*

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†*Barbatia gabbi* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 167.

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†*Idonearca orientalis, deserti*, spp. n., Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 pp. 175, 176.

†*Leda merriami* sp. n. Oligocene Washington, DICKERSON Proc. Calif. Acad. Sci. 7 p. 166.—*L. decorata* sp. n. Jurassic Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 61.—*L. radiata* sp. n. Miocene Java, MARTIN Samml. Geol. Reichsmus. Leiden 2 p. 266.—*L. extricata* nom. mut. (= *acuta* Gabb non Conrad) PILSBRY & JOHNSON, Proc. Acad. Nat. Sci. Phila. 69 p. 185.—*L. gracilis*, NØRREGAARD 325.

†*Malletia elongata* sp. n. ? Miocene New Zealand, MARSHALL, Trans. N.Z. Inst. 49 p. 458.

†*Nucula margaritifera* sp. n. Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 177.

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†*Crassatella subregularis* sp. n. Cretaceous Moghara, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 162.

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†*Crassatellites (Crassinella) microdelta*, *dolatus*, spp. n., Oligocene Santo Domingo, PRIBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 196.—*C. with C. triangulatus* p. 59 sp. n. Cretaceous California, WARING Proc. Calif. Acad. Sci. 7 pp. 59, 74-75.

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†*Labiosa (Raeta) gabbi* sp. n. Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 202.

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†*Ceromya (Ceromyopsis) rostrata* sp. n. Bajocian Moghara DOUVILLÉ t.c. p. 32.

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†*Cuspidaria ornator*, *gabbi*, spp. n., Oligocene Santo Domingo, PILSBRY & JOHNSON Proc. Acad. Nat. Sci. Phila. 69 p. 195.

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†*Arnioceras* cf. *geometricum* Orb. Liassic Peru, JAWORSKI Neu. Jahrb. Min. Stuttgart Beil. Bd. 40 p. 426.

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†*Balatonites* with *B. quaternonodatus* p. 291, *zimmeri* p. 292, *zimmermanni* p. 294, spp. n., *B. ottonis rectangularis* p. 289 var. n. Triassic Germany, RASSMUS Jahrb. k. Preuss. Geol. Landesanst 34 pp. 287-302.

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- †*Costidiscus*, KILIAN & REBOUL 255.
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- †*Deroceras cf. armatum* Sow., JAWORSKI t.c. p. 451.
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- †*Duvalia cf. grasi* Duval, DOUVILLÉ Mem. Acad. Sci. Paris 54 p. 90.
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- †*Gymnites spiniger* sp. n. Triassic Bosnia, DIENER Centralbl. Min. Geol. Paläont. Stuttgart 1917 p. 110.
- †*Hamites cf. compressus* Sow., *H. cf. elegans* Sow., DOUVILLÉ Mem. Acad. Sci. Paris 54 pp. 96, 97.
- †*Haplopleuroceras* with *H. rhodanense* sp. n. Jurassic Rhonetal, VON BÜLOW Z. D. Geol. Ges. 69 pp. 85-90.
- †*Harpoceras cf. eseri* Opp. JAWORSKI Neu. Jahrb. Min. Stuttgart Beil. Bd. 40 p. 429.
- †*Havericeras transitionale* sp. n. Cretaceous California, WARING Proc. Calif. Acad. Sci. 7 p. 69.
- †*Hoplites* with *H. (Kilianella) cf. ambiguus* Uhlig, REVIL Mem. Acad. Sci. Savoie 2 pp. 291-293.
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- †*Kossmatella costata* sp. n. Cretaceous Moghara, DOUVILLÉ t.c. p. 96.
- †*Kossmaticeras zelandicum, tenuicostatum*, spp. n., Miocene New Zealand, MARSHALL Trans. N.Z. Inst. 49 pp. 444, 445.
- †*Leopoldia dubisiensis* var. *bergemensis* nom. n. for *L. bergemensis* Kil., KILIAN & REBOUL Mém. carte géol. Fr. Paris 1915 p. 244.
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†*Saynella termieri* sp. n. Aptian France, KILIAN & REBOUL Mém. carte géol. Fr. Paris 1915 p. 29.

†*Schloenbachia varians, coupei*, RAVN 368.

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†*Sphaeroceras*, JAWORSKI 244.

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(GENERAL)

ARRANGED BY

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Australia, *Potamonidae (Cyclom.), Astacopsis (Nephrop.)*; McCulloch, 88 : Australia and Norfolk I., *Paratya (Carid.)*; Kemp, 81 : S. Australia, *Deto (Onisc.)*; Chilton, 28 : *Oniscoidea, Phyllopoda*; Chilton, 29 : W. Australia, *Phyllopoda, Schwartz, 115* : Northwest Australia, *Cyprinotus (Ostrac.)*; Skogsborg, 116.

New Zealand, *Talorchestia (Gamm.)*; Chilton, 27 : *Lepidurus (Phyllop.)*; Herriott, 70 : *Paratya (Carid.)*; Kemp, 81 : Wellington, *Oniscoidea*; Chilton, 31.

C. MARINE.

(The arrangement is based on that of Borradaile, Bibliography of the Marine Fauna, Challenger Society. 2nd Edn., 1914.)

General.

Sesarninae (Catom.); Tesch, 132 : *Pontoniinae (Carid.)*; Borradaile, 10 : *Euphausiacea*; Colosi, 51 : *Gammaridea*; Chilton, 32 and 33 : *Flabellifera, Valvifera, Asellota*; Nierstrasz, 95 : *Rhincalanus (Copep.)*; Schmaus, 114 : *Ostracoda* from "Liguria" Exp.; Granata, 65.

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St. Andrews, New Brunswick, *Crustacea (plankton)*; McMurrich, 89.

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New Guinea, *Decapoda*, *Stomatopoda*; Roux, 110.

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†*Cancer urbanus* sp. n. Pliocene California p. 451 fig. RATHBUN Proc. U.S. Nat. Mus. 53.

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†*Distefania* gen. n. p. 174, *himeraensis* sp. n. Cenomanian, Sicily, p. 177 figs., CECCHIA RISPOLI Boll. Soc. Zool. Ital. 3.

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XI. ARACHNIDA

TO WHICH ARE ADDED

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PANTOPODA, TARDIGRADA, PENTASTOMIDA, MYRIOPODA
and PROTOTRACHEATA

ARRANGED BY

W. T. CALMAN, D.Sc.

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- Holmgren, N. Zur vergleichenden Anatomie des Gehirns von Polychaeten, Onychophoren, Xiphosuren, Arachniden, Crustaceen, Myriopoden und Insekten. Vorstudien zu einer Phylogenie der Arthropoden. Stockholm Vet.-Ak. Handl. 56 No. 1 1916 (303 pp.) 12 pls. 64 text figs. 3
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Ocneria dispar, Adkin, 12.

Foreign Pap., Green, p. 278 Ent. Mo. Mag. 53.

Ocystola acroxantha, Meyrick p. 265 Ent. 50.

Sphinx convolvuli in Scotland, Scott. Nat. 1917 pp. 289-292.

Noctuidae arrangement, South, 1257.

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Lucas, 827.

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Bagnall, 65; Bagnall & Harrison, 66; Collin, 321; Grimshaw, 582; Harrison, 616; Stewart, 1264.

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Hemiptera.

Butler, 226; Green, *Coccidae*, 577, 578, and *Novelties* p. xxiv Pr. ent. Soc. Lond. 1917; Harrison, *Aleurodidae*, 612; Harrison, *Homoptera*, 615.

Theobald, *Aphidae*, 1294.

Psylla aeruginosa Britten p. 166 Ent. Mag. 53.

Ellipoptera.

Grimshaw, 581.

Paraneuroptera.

Lucas, 829.

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Lucas, 828.

Aptera.

Bagnall Lancash. Nat. 10 pp. 80, 84.

Bagnall, *Protura*, 60.

Shoebottom, *Collembola*, 1232.

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Insecta, collectively.

Devon: Perkins, 1032; Champion p. 14 Ent. Mo. Mag. 53 and p. 277 t.c. New forest, Walker, 1372.

Stroud, Nicholson Ent. Mo. Mag. 53 pp. 116-122.

Glamorgan, Hallett, 598.

Wallasey & Porthcawl, Hallett pp. 307-310 Lancash. Nat. 10.

Lancashire & Cheshire, Lancashire Nat. 9 & 10 various notes.

Yorkshire, many notes in *Naturalist* 1917.

Coleoptera.

Devon, Mitchell Ent. Mo. Mag. 53 p. 40.

Dorset, Haines pp. 162-164 Ent. Mo. Mag. 53.—Dorset, *Lytta*, Haines p. 235 Entomol. 50.

Glamorgan *Claviger longicornis*, Hallett p. 15 Ent. Mag. 53.

Gloucestershire, Davis p. 129 Ent. Mag. 53.

Somerset *Dytiscus dimidiatus*, Blair p. 85 Ent. Mo. Mag. 53.

Chichester *Lytta*, Anderson p. 188 Entomol. 50.

Stroud *Trogoderma khapra*, Walker p. 165 Ent. Mag. 53.

Berks *Anch. sexpunctatus* & *Nan. gracilis*, Tomlin p. 24 Ent. Mo. Mag. 53.

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Wood Walton water-beetles, **Donisthorpe**
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Southport, *Arena*, **Wilding** p. 235
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Berwick, *Monohammus*, *Acanthocinus*,
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Scotland **Evans** (continuation) **Scott**.
Natural. 1917 p. 19-24.

Peebleshire **Black** p. 277 Ent. Mo. Mag. 43.

East Lothian *Salpingus ater*, **Black**
p. 182 Ent. Mo. Mag. 53.

Renfrew, *Atomaria procerula*, **Fergusson**
p. 71 Scott. Natural 1917.

Hamilton, *Triphyllus punctatus*,
King p. 296 Scott. Nat. 1917.

Meath and Cavan, **Nicholson** Irish
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Hymenoptera.

Dorset *Tenthredinidae*, **Haines** pp. 63-65
Ent. Mo. Mag. 53.

London district *Tenthredinidae*, **Box**
p. 63 Ent. Mo. Mag. 53.

Essex, *Ants*, **Box** p. 17 Ent. Mo. Mag. 53.

Staffordshire, *Ichneumonidae*, **Morley**
Ent. Mo. Mag. 53 pp. 39 and 40.

Roxburgh, *Rhyssa*, **Evans** p. 212
Ent. Mo. Mag. 53.

East Lothian **Evans** p. 230
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Renfrew *Sirex*, **Stewart** p. 257
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Ireland *Ichneumonidae*, **Johnson**
Irish. Nat. 27 pp. 37-40.

Wexford *Psithyrus*, **Moffat** Irish
Nat. 27 p. 154.

Lepidoptera.

Guernsey **Lowe** p. 253-255
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Paignton, **Milman** p. 44
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Dorset *Hypena obsitalis*, **Haines**
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Gloucestershire, **Davis** p. 60
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Entomol. 50.

Canterbury, **Whittle** p. 18
Entomol. 50.

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Entomol. 50.

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Entomol. 50.

Lewisham, **Adkin** p. 141
Entomol. 50.

Wanstead **Thurnall** p. 190
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Ent. 50.

Bucks *Rhopalocera*, **Oliver** p. 286
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- Hertfordshire, Gibbs, 524.
 Hertfordshire, Foster, 480.
 Woodbridge *S. pinastri*, Waller p. 258 Ent. 50.
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 Rugby M. Bateson Rep. Rugby School. Soc. 1916 pp. 93-97.
 Marlborough, Stowell Entomol. 59 p. 253-255; Holt Rep. Marlborough Coll. Soc. 65 pp. 31-36.
 N. Yorksh., Lofthouse pp. 104-106 Ent. Rec. 29.
 Yorks and Lancs., *Euvanessa*, Rowland-Brown p. 233 Ent. 50.
 Lancashire *V. antiopa*, Midgley Lancash. Nat. 10 p. 101.
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 Scotland, *Euvanessa*, R.-B. p. 258 Ent. 50.
 Wigtownshire, Gordon 567; Maxwell p. 278 Scott. Nat. 1917.
 Forth *Venusia*, Evans p. 230 Scott. Nat. 1917.
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 Ireland, *Agriades*, *bellargus*, etc., Wilson p. 237 Entomol. 50.
 Clare, Langham Irish. Nat. 27 pp. 114-117.
 Tyrone *Hadena protea*, Greer Irish Nat. 27 p. 121.
 Cork *Anosia archippus*, Irish Nat. 27 p. 18.
 Kerry *Notodonta bicoloria*, Bonaparte-Wyse Irish Nat. 27 p. 164.
- Trichoptera*.
 Cumberland *L. elegans*, Porritt p. 279 Ent. Mo. Mag. 53.
- Neuroptera*.
 Essex *Raphidia*, Box p. 18 Ent. Mo. Mag. 53.
 Kincardine, *Megalomus hirtus*, King p. 87 Ent. Mo. Mag. 53.
- Diptera*.
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- Wareham, Pearce p. 257 Ent. 50.
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 Marlborough, Kirkpatrick Rep. Marlborough Coll. Soc. 65 pp. 31-37 pl.
 Norfolk and Suffolk, Morley & Atmore 934.
 Forth *Tip vittata*, Evans p. 68 Scott. Nat. 1917.
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 Blairgowrie *Limnobia bifasciata*, Carter p. 18 Scott. Nat. 1917.
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- Hemiptera*.
 Oxford *Metatropis*, *Ploiariola*, *Berytus*, Britten pp. 182 and 183 Ent. Mo. Mag. 53.
 Glamorgan, Hallett, 597.
 Cumberland, Murray p. 112 Ent. Mo. Mag. 53.
 Rannoch *Aradus corticalis*, King p. 296 Scott. Nat. 1917.
- Paraneuroptera*.
 Hants, *Somatochlora*, Distant p. 191 Entomol. 50.
 Cumberland, Day p. 183 Ent. Mo. Mag. 53.
- Aptera*.
 Lancashire and Cheshire, *Aptera Collembola*, Shoebottom Lancash. Nat. 10 pp. 219-223.
 Scotland *Campodea fragilis*, Evans p. 234 Scott. Nat. 1917.
- (e) Central and Eastern Europe.
Insecta, collectively.
 Ulmer and others, Baltic, 1344.
 †Meunier (Germany) 898.
- Coleoptera*.
 Denmark *Coleoptera*, Hansen 609 West, 1399; West Ent. Meddel. 11 pp. 16-19 and pp. 360-362.
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Hymenoptera.

- †Meunier (Holland) 896.
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Lepidoptera.

- Denmark, Hoffmeyer 647; Larsen 794; Klocker, 766.
Auriol, Jura, 49, 50.
Switzerland: Mongenet 921; Wehrli 1390.

Trichoptera.

- Findal, Denmark, p. 359 Ent. Meddel. 11.

Diptera.

- Jørgensen, Denmark, 721.
Schmitz, Holland 1185 and 1186.

Hemiptera.

- Denmark, Anon. pp. 363, 364 Ent. Meddel. 11; Jacobsen 703; Jensen-Haarup 716 and 718.

Paraneuroptera.

- Mierzejewski, Livland, 912.

Orthoptera.

- Willemse, Holland 1425.

(f) France.

Insecta, collectively.

- †Bolton 140; Howard 659;
Lambertie, 786; Picard 1069.

Coleoptera.

- Auzat, 52, 53; Bedel, 98; Chobaut, 268; Fagniez, 441, 442; Gavoy, 515; Hustache, 675; Jeannel, 711, 713; Peyerimhoff, 1041, 1047; Picard & Lichtenstein, 1070.

Hymenoptera.

- Bondroit, 141.
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Lepidoptera.

- Gouin, 570; McClymont, 841; Smart, pp. 11-14 etc. Entomol. 50.
Brown, Champagne, p. 189 Entomol. 50.

Trichoptera.

- Lacroix, 781.

Diptera.

- Pierre, 1074; Villeneuve, 1361 & p. 218 Bull. Soc. ent. France 1917.

Orthoptera.

- Chopard, 272.

(g) South Europe and Mediterranean Basin.

Insecta, collectively.

- Spain: Bohigas & Sanchez, 134; Fuente, 503; Navas, 959.

- Minozzi, Italy, 914.

- Lesbos, *Lep. & Neur.*, Joannis p. 247 Bull. Soc. ent. France 1916.

- Egypt, Willcocks, 1421; Tourah, Boehm pp. 46-48 Bull. Soc. ent. Egypte 7; Innes, *Col. & Hem. aquatic*, Bull. Soc. ent. Egypt 9 p. 93 & 94; Cairo, Sowerby pp. 9-11 etc. Entomol. 50.

Coleoptera.

- Sahlberg's list, Andres pp. 84-132 Bull. Soc. ent. Egypte 6.

- Spain, Bolivar, 135, 136, 137; Escalera, 430; Jeannel, 711.

- Italy, Benick, 106; Dodero, 370; Grouvelle, 587.

- Mallorca, Reitter, 1113a.

- Sardinia, Reitter, 1113d.

- Balkans, Müller, 939.

- Egypt, Alfieri, 20; Andres, 37; Clainpanain, 280; Ferrante, 456; Innes, Bey, 694, 695; Pic, 1053, 1054; Reitter, 1113; Thery, 1295; Andres, *Pimelia*, Bull. Soc. ent. Egypte 6 pp. 50-55; Ferrante Bull. Soc. ent. Egypte 1912 p. 145; Iconomopoulos, Bull. Soc. ent. Egypte 9 pp. 109-113.

- North Africa, Bedel, 99; Laboissière, 778; Lesne, 809; Normand, 982; Peyerimhoff, 1040, 1042, 1044, 1045; Théry, 1296.

Hymenoptera.

- Emery, 417; Pic, 1060.

- Malenotti, Spain, 859; Mercet, Spain, 888, 889, 890.

- Malenotti, Sicily, 862.

Italy, Malenotti, 861; Masi, 878; (h) Caucasus, West & Central Asia. Silvestri, 1235, 1236, 1237.

Tunis, Smits van Burgst, 1254a.

Egypt, André, 34; Debski, 349; Du Buysson, 228; Dudgeon & Gough, 332; Storey, 1267.

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Italy, Turati, 1323; Verity, 1353.

Studd, Salonica, Pr. ent. soc. Lond. 1917 pp. ii & iii.

North Africa, Chrétien, 273; Faroult, 446; Lucas, 826; Nissen, 980; Oberthür, 989; Rothschild, 1149.

Egypt, Andres, 35; Graves, 575; Storey Bull. soc. ent. Egypte 7 p. 70.

Asia Minor, Meyrick, 903; Reverdin, 1115.

Trichoptera.

Navás, Egypt, 958.

Neuroptera.

Navás, Egypt, 958.

Diptera.

Silvestri, Italy, 1234.

Bezzi, N. Africa, 121.

Hemiptera.

Leonardi, Italy, *Coccidae*, 807; Malenotti, Italy, *Coccidae*, 860.

Bergevin, Algeria, *Homoptera*, 107, 108, 109.

Newstead, Algeria, *Coccidae*, 972.

Distant, Egypt, *Homoptera*, 365.

Horvath, Egypt, *Homoptera*, 658.

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Orthoptera.

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Insecta, collectively.

Arrow etc. 47; Carpenter, 240; Silvestri, 1239.

Coleoptera.

Achard, 4; Alluand, 22, 23, 24, 28; Arrow, 43, 45; Bedel, 97; Blair & Poulton, 128; Bourgoin, 163; Champion, 249, 253; Chatanay, 266; Clavareau, 281; Desbordes, 355, 356, 357; Gestro, 520; Grouvelle, 586, 588, 590; Heller, 632; Laboissière, 779; Peschet, 1033, 1035; Pic, 1055, 1057, 1063, 1066 Schouteden, 1198; Sharp, 1218.

Hymenoptera.

Arnold, 41; Berlese, 115; Brauns, 173; Cockerell, 291, 298, 304, 310, 311; Grandi, 572; Mantero, 868, 869; Morley, 932; Santochi, 1168; Schouteden, 1199; Strand, 1268; Turner, 1328-1337, 1339; Turner & Waterston, 1341; Viereck, 1356a; Waterston, 1384, 1385, 1387.

Lepidoptera.

Blachier, 127a; Breyer, 190, 191; Closs, 285; Hampson, 603-606; Hobbly Mombasa *Urania croesus* p. 185 J. E. Africa Soc. 6; Holland, 648; Janse 701, 705, 706, 707; Joicey and Kayes 731, 732; Mabille and Bouillet 836; Meyrick 903, 909, 910; Prout, 1092, 1095, 1096; Rothschild 1150, 1152.

Trichoptera.

Navás 957 963.

Neuroptera.

Eshen-Petersen, 426, 429; Navás, 956, 957.

Diptera.

Alexander 19.

Bezzi, 123, 125; Edwards 410; Enderlein, 420; Gedoelst, 516, 517; Lamb, 784, 785; Rouband & Villeneuve, 1158; Schmitz 1184; Townsend 1311; Villeneuve, 1359, 1360, 1363.

Aphaniptera.

Fox 483.

Hemiptera.

Brain & Kelly, *Coccidae* 171; Del Guercio, *Aphidae* 351; Gowley, *Coccidae* 571; Distant 365; Jeannel 712, 714; Montandon 923; Newstead, *Coccidae* 971, 972; Schouteden, 1190; 1192, 1193, 1194, 1195, 1196, 1197, 1202.

Elliptera.

Ferris 438; Waterston 1383.

Psocoptera.

Enderlain, 422.

Lipoptera.

Waterston, 1388.

Isoptera.

Silvestri, 1240; Schmitz 1182.

Paraneuroptera.

Ris, 1126; Schouteden 1200; Sjöstedt 1244.

Orthoptera.

Giglio-Tos 532, 533, 535, 536; Schouteden 1191, 1201; Sjöstedt 1245.

Madagascar and Mascarene Islands.

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Coleoptera.

Alluand, 22, 24, 25, 26, 27; Bourgoin 165; Champion Seychelles 247; Hustache 676; Lameere 792; Ley 813; Maulik, Seychelles 884; Peschet 1034; Pic, 1051, 1068; Pouillaude 1087; Scott, Seychelles 1211.

Hymenoptera.

Cockerell 304; Masi Seychelles 877.

Lepidoptera.

Hampson, 604; Kenrick, 750; Le Cerf, 804; Meyrick 903; Prout 1095.

Diptera.

Bezzi Mauritius 125; Hervé-Bazin 635; Villeneuve 1357.

Hemiptera.

Distant, Seychelles, 363; Newstead, *Coccidae*, Mauritius, 972.

Paraneuroptera.

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Asia, Tropical and Eastern.

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Fletcher, India, 469; Navás, Indo-China, 964.

Coleoptera.

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Hymenoptera.

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Lepidoptera.

Ellis, 415; Hampson, 605, 606; Hampson India, 603; Hampson Formosa, 604; Joicey & Kaye, 732; Joicey & Kaye Tibet, 731, 732; Le Cerf, 804; Marumo Japan, 876; Meyrick, 903; Meyrick India, 908; Nagano Japan, 954; Nire Japan, 979; Prout, 1092, 1093, 1096a; Rhe-Philipe India, 1119; Rothschild, 1150; Seitz and others, 1214d; Strand Formosa, 1269; Swinhoe, 1281-1284; Wileman & South, Formosa, 1415, 1417, 1419; Wileman & South, Japan and Formosa, 1418, 1419.

Trichoptera.

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Neuroptera.

Navás, 961.

Diptera.

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Hemiptera.

Crawford India, *Psyllidae*, 332; Distant *Homoptera*, 364, 366; Goot India, *Aphidae*, 564; Kuwana Japan, *Coccidae*, 776, 777; Maki Japan, *Homoptera*, 856; Matsumura Japan, *Cicadidae*, 878a; Matsumura Japan, *Aphidae*, 880, 881; Muir Formosa, *Homoptera*, 944; Newstead India, *Coccidae*, 972; Quaintance & Baker *Aleurodidae*, 1097.

Isoptera.

Bugnion Termites indo-malais, 215a.
Oshima China, 1005.

Lipoptera.

Uchida Japan, 1342.
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Paraneuroptera.

Laidlaw India, 782; Ris China, 1127.

Orthoptera.

Borelli China, 154; Burr Indo-China, 220; Giglio-Tos, 532, India, 535; Hebard India, 625; Pantel India, 1013.

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Carpenter India, 241; Kinoshita Japan, 754 755.

Asiatic Archipelago.

Java to New Guinea, incl. Philippines.

Insecta, collectively.

Shelford Borneo, 1223.

Coleoptera.

Arrow 43; Champion Borneo, 248; Gestro Philippines, 521; Grouvelle N. Guinea 584; Grouvelle Philippines 585; Heller Philippines, 633; Kleine 762, 763 765; Kleine Java, 761; Kleine Borneo, 764; Peschet Sumatra, 1033; Pic 1051 1057; Pic Philippines, 1037; Schultze Philippines, 1207; Weise N. Guinea, 1391; Zimmermann Borneo, 1446.

Hymenoptera.

Baker Philippines, 74, 75, 76; Cockerell Philippines, 300; Doop 376; Elliott, 413, 414; Fullaway Philippines 504; Girault, 559; Grandi Java, 573; Turner, 1328; Turner and others, N. Guinea, 1340.

Lepidoptera.

Durrant New Guinea, 386; Hampson, 603-606; Joicey & Kaye, 732; Joicey & Talbot N. Guinea, 734, 735; Le Cerf, 804; Meyrick, 903; Prout, 1092, 1093; Rothschild, 1150, 1151, 1152; Rothschild New Guinea, 1148; Seitz and others, 1214d; Swinhoe, 1281, 1282, 1283, 1284; Wileman & South Philippines, 1416.

Neuroptera.

Esben-Petersen, 426.

Diptera.

Alexander Philippines, 17; Bezzi Philippines 122; Breemen, 173a; Citroen Java, 278; Knab Philippines, 768; Meyere, 902; Meyere Java, 901; Parker Philippines, 1015; Salm Java, 1163; Schüffner, und Heyden, van der, 1204; Swellengrebel Sumatra, 1278, 1278a; Townsend, 1314.

Aphaniptera.

Fox Philippines, 484; Rothschild New Guinea, 1147.

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Bergroth Philippines, 112; Crawford Philippines, 332; Goot van der, Java, *Aphidae*, 566; Montandon New Guinea, 924; Moulton Sumatra, *Homoptera*, 938; Muir *Homoptera*, 944; Muir Philippines, *Homoptera*, 940, 942; Muir Borneo, *Homoptera*, 941; Quaintance & Baker Java, *Homoptera*, 1097; Robinson Philippines *Coccidae*, 1130.

Isoptera.

Oshima Philippines, 1002.

Thysanoptera.

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Orthoptera.

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Australia and Tasmania.

Coleoptera.

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Hymenoptera.

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Lepidoptera.

Hampson, 604, 606; Le Cerf, 804; Lower, 825; Meyrick, 903; Rothschild, 1150; Seitz, Draudt, Rothschild Strand, 1214d; Swinhoe, 1281; Turner, 1325.

Neuroptera.

Esben-Petersen, 428.

Diptera.

Lamb, 784; Ricardo, 1120; Taylor, 1288, 1289.

Hemiptera.

Distant *Homoptera*, 365; Froggatt *Coccidae*, 493; Muir *Homoptera*, 744.

Paraneuroptera.

Sjöstedt, 1242; Tillyard, 1302.

Orthoptera.

Giglio-Tos, 532.

Collembola.

Schött, 1187.

North America.

Insecta, collectively.

Cockerell Colorado, 299; †Cockerell, 294, 312, 313; Lutz Arizona J. N. York ent. Soc. 25 p. 142; May, 886a; Needham, 967; Tothill Canada, 1308; Weiss, 1393, New Jersey 1394.

Coleoptera.

Andrews, 38; Blaisdell, 129; Blaisdell & Reynolds, 130; Blatchley, 131; Carnochan, 238; Chamberlin, 244, 245; Davis *Ammodonus* Staten isld.; J. N. York ent. Soc. 25 p. 126.

Fall, 443, 444, 445; Fisher, 463, 464; Green, 579a; Leng, 306; Liljeblad, 816; Pierce, 1072a; Schaeffer, 1175, 1176, 1177; Van Dyke, 1351; Swaine Canada, 1274.

†Wickham, 1411, 1412.

Hymenoptera.

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Ernobius; Sharp's species, PIC p. 94 Bull. Soc. ent. France 1917 and pp. 2-4 sep. pag. Echange No. 380.—*E. pueli* & *pallidipennis*, LAVAGNE p. 61 Miscell. ent. 23: PIC op. cit. 24 p. 1.

Pausoceros cremastogastris sp. n. North-western Australia, LEA Trans. R. Soc. S. Aust. 41 p. 153.

Polyplocotes perforatus Western Australia, *scabricollis* Northern Territory, *longipes* North-western Australia, spp. n., LEA pp. 150-153 pl. 12 figs. 7-8 T.c.

Ptilinus tonkineus Tonkin, *gounellei* Brazil, spp. n. p. 2, PIC M^él. 23.—*P. laticollis* sp. n. Abyssinia p. 2, PIC M^él. 24.

Ptinobruchus martinezi sp. n. Guadarrama p. 234, ESCALERA Bol. Soc. espan. 17.

Ptinus leucomelas, *caeruleipennis*, spp. n. Queensland, LEA Trans. R. Soc. S.

Aust. 41 pp. 147-149.—*P. aethiopicus* var. n. *subelongatus* p. 2, PIC M^él. 24.

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† *Vrilletta monstrosa* sp. n. Florissant miocene p. 468 pl. xxxvii f. 5, WICKHAM P.U.S. nat. Mus. 52.

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Boring lead, *Xylothrips gibbicollis*, FROGGATT Agric. Gaz. N.S.W. 28 p. 814.

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Bostrichus furcatus, omitted sp., is a *Ceracis*, LESNE p. 192 Bull. Soc. ent. France 1917.

Ceracis compressicornis to *Cis*, LESNE p. 191 T.c.

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Macrocis grandicornis sp. n. Guiana p. 4, PIC T.c.

Rhopalodontus harmandi sp. n. Japan p. 191, LESNE Bull. Soc. ent. France 1917.

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†*Eurygenius wickhami* sp. n. Burma, COCKERELL p. 324 fig. Ann. Amer. ent. Soc. 10.

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Trichananca pisoniae Queensland, *nigripennis* Northern Territory, spp. n., LEA Trans. R. Soc. S. Aust. 41 p. 178-179.

Trotomma impressicollis Cephalonia, *vauogeri* Tunis, spp. n., p. 3, *pubescens* var. n. *tunisea* p. 5, PIC Echange 33.

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flavicollis, *flavocastaneus*, *brachyderes*, spp. n., p. 185-209, *X. (Syzeton) lateralis* Blackb. nom. mut. to *X. interruptus*, p. 185, *X. (Syzetonellus) humeralis* Lea nom. mut. to *X. incisus*, p. 185, LEA Adelaide S. Aust. Trans. R. Soc. 41.

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Glipe favareli Gaboon, *rufotincta* Madagascar p. 21, *batjanensis*, *borneensis*, *baeri* Manila, p. 22, spp. n., PIC Mél. 25.—*G. balabacana*, *gounellei* Brazil, *subsinnata* Guiana, *testaceicoxis* Java, p. 12, *rufonotata* Sumatra p. 13, spp. n., *malaccana* var. n. *semirecta* p. 12, PIC Mél. 26.

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melvillensis, *pulcherrima*, Northern Territory, spp. n., LEA Trans. R. Soc. S. Aust. 41 p. 248-253 pl. 15 fig. 118.—*M. rutila*, *exilis*, p. 10, *rufa*, *insolita*, *vera*, p. 11, *pulchra*, *wolcottii*, p. 12, *gigas* p. 13, spp. n., U.S., LILJE-
BLAD Canad. Ent. 49.

Tomoxia melasoma, *melanura*, Queensland, *howensis* Lord Howe Island, *exoleta* North-western Australia, spp. n., LEA Trans. R. Soc. S. Aust. 41 p. 244-245.

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Euctenia megalops Western Australia, *fusca* Queensland, spp. n., LEA Trans. R. Soc. S. Aust. 41 p. 265-267.

†*Myodites burmiticus* sp. n. in amber, COCKERELL p. 22 Ann. ent. Soc. Amer. 2.

Pelecotomoides nigrolateralis, *hackeri*, spp. n. Queensland, LEA Trans. R. Soc. S. Aust. 41 p. 268-269.

Rhipidius mollipes sp. n. Queensland, LEA p. 253 T.c.—*R. amori* sp. n. Cordoba p. 249 fig., BOLIVAR Bol. Soc. espan. 17.

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Larvae, their claws, term triangulin, CROS pp. 159-164 figs. Ann. Soc. ent. France 86.

Catalogue of *Meloidae* and *Cephaloidae*, Berlin (Junk) pars 69, 208 pp.

Diaphorocera sicardi sp. n. Marocco p. 364, BEDEL Bull. Soc. ent. Fr. 1917, 1918.

Epicauta ruficeps, Biologisches, ROEPKE Tyds. Ent. 50 p. 259.

Mytabris hermannioides with var. *lamborni* p. cviii, *farquharsoni* with var. *ibadanensis* p. cix, spp. n. Nigeria pl. B, BLAIR Pr. ent. Soc. Lond. 1916.—*M. pustulata*, Biologisches, ROEPKE Tyds. Ent. 60 p. 252.

Nephrites nitidus Sh. = (*Sitarida minor* Ch.), taxonomy, BLAIR p. 122 Ent. Mag. 53.

Sitarobrachys alferii, male PIC p. 119 Bull. Soc. ent. Egypte 7.

Zonitis longiceps Northern Territory, *breviceps* Queensland, spp. n., LEA Trans. R. Soc. S. Aust. 41 p. 269-271.

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Copidita maritima, *mira*, Australia, *fuscicollis* South Australia, *interocularis* Lord Howe Island, *oblongicollis*, *erythroderes*, Western Australia, *appendiculata* New South Wales, *interrupta*, *apicifusca*, Queensland, *illota* Northern Territory, spp. n., LEA Trans. R. Soc. S. Aust. 41 p. 299-308 pl. 13 fig. 53-54.

Dohrnia bifoveicollis sp. n. Queensland and New South Wales, LEA p. 294 T.c.

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Amalorrhynchus melanarius, correction, HANSEN p. 357 Ent. Meddel. 11.

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Anthonomus bituberculatus, valid, p. 357, HANSEN Ent. Meddel. 11.

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Arachnopus fimbriatus = (*biplagiatus* Marsh.), MARSHALL p. 541 Brit. O.U. exp. New Guinea 1.

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Belus semipunctatus poverus var. n.; *interruptus* Queensland, *mimicus, multumaculatus, podagrosus, variabilis, halmaturinus, lacustris, orthodoxus*, South Australia, *exilis, acutipennis*, New South Wales, *angustatus, floccosus, villosus*, South and Western Australia, *cylindricus, trilineatus*, Western Australia, spp. n., LEA Trans. R. Soc. S. Aust. 41 p. 597-615.

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Cholus cattleyarum sp. n. Washington (from S. America), BARBER p. 178 pl. xiii. P. ent. Soc. Washington 18.—*C. cattleyae* pl. v f. 2 p. 28, WEISS Ent. News 28.

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Dichotychius cupulifer var. n. *niveolineatus*, PIC p. 10 Échange 33.

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Ectopsis foveigerus sp. n. New Zealand, p. 448, BROUN Bull. N.Z. Inst. 1.

Eisonyx (Eumononycha) picipes sp. n. Tennessee p. 472, PIERCE Proc. U.S. Nat. Mus. 51, 1916.

Epacticus whitei South Australia, *occidentalis* Western Australia, *bimaculatus* South and Western Australia, spp. n., LEA Trans R. Soc. S. Aust. 41, pp. 594–596.

Epitimetes cupreus, *foveiger*, spp. n., New Zealand, BROUN p. 406 Bull. N.Z. Inst. 1.

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Exomias pellucidus, food-plant, TOMLIN p. 234 Ent. Mo. Mag. 53.

Exophthalmodes nom. n. for *Exophthalmus* Schönherr, type *opulentus* (Boheman) p. 465, PIERCE Proc. U.S. Nat. Mus. 51.

Getacalles baccatellus p. 449, *foveiceps* p. 450, spp. n., New Zealand, BROUN Bull. N.Z. Inst. 1.

Gymnetron hispidum, HUSTACHE p. 281 Bull. Soc. ent. France 1917.

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- Misophrice arida* sp. n. South Australia, LEA Trans. R. Soc. S. Aust. 41 p. 593.
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- Nanophyes maculatus*, jumping larva, ADAIR p. 83 Bull. Soc. Ent. Egypte 6.
- Nesotocus giffardi* from *Cheirodendron*, SWEZEY Proc. Hawaiian Ent. Soc. 3 1915 p. 57.
- Nestrius sulcirostris* p. 437, *prolixus* p. 438, spp. n. New Zealand, BROWN Bull. N. Z. Inst. 1.
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- Orchestes angustifrons* sp. n. Denmark p. 24, WEST Ent. Meddel. 11, 1916.
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Euproctis celebesicola p. 341, *cina*, Borneo p. 342, spp. n., STRAND Seitz Fauna exot. Indo-austr. 10.—*E. postfusca* sp. n. Formosa p. 146, WILEMAN & SOUTH Entomol. 50.—*E. aurantiicolor, bisecta* f. 53, *nebulosa* f. 72, *postbicolor* f. 33, *fusca*, p. 75 spp. n. New Guinea, ROTHSCHILD Rep. B.O.U. exp. 2 No. 15, 1916.—*E. chlorospila* pl. i f. 8, *acrita* f. 10, p. 55, *chlora* f. 11, *semirufa* f. 9, p. 56, spp. n. New Guinea, JOICEY & TALBOT Ann. Nat. hist. 20.—*E. servilis*, synonymy, distribution, SWINHOE p. 336

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Gargetta melanosticta sp. n. New Guinea p. 61 pl. ii. f. 5, JOICEY & TALBOT Ann. Nat. hist 20.

Gastrolakaeis flaveola sp. n. Senegal p. 130 pl. v. f. 7, CLOSS Ent. Mitt. 6.

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Halisidota luridoides Colombia, *pseudofalacra* Nicaragua, spp. n., ROTHSCHILD p. 482 Nov. zool. 24.—*H.*, spp. SWAINE figs. Agric. Gaz. Canada 4 pp. 1043-1047.—*H. caryas*, ISELY Bull. 598 U. S. Dep. Agric. Ent. 3 pls.

Hapigia rufocinnamomia sp. n. Guiana p. 263, ROTHSCHILD Nov. zool. 24.

Hapigiodes klagesi sp. n. Amazons p. 264, ROTHSCHILD T.c.

Haplojana insignifica, *roseobrunnea*, *soricis*, *abyssinica*, p. 489, *distincta* p. 490, spp. n. Africa, ROTHSCHILD T.c.

Helitura mimula sp. n. Bolivia p. 212, DRAUDT Seitz Fauna exot. Americ. 6.

Hemijana ruberrima, *griseola*, *variegata*, spp. n. Africa p. 490, ROTHSCHILD Nov. zool. 24.

Heterusia venus sp. n. New Guinea p. 106 figs. 38 and 74, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15, 1916.

Histiæa peruviana, *excreta*, spp. n. Peru p. 102, DRAUDT Seitz Fauna exot. americ. 6, 1915.

Holoreta leucospila sp. n. New Guinea p. 82 pl. iii. f. 12, *flavobscura* f.n. p. 83, JOICEY & TALBOT Ann. Nat. hist. 20.

Homococera staminea p. 45, *modesta*, *janthina*, p. 197, spp. n. Bolivia, DRAUDT Seitz Faun. exot. americana 6, 1915.

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Horamella gen. n. near *Horama*, *fassli* sp. n. Colombia, DRAUDT p. 145 Seitz Fauna exot. americ. 6, 1915.

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Hypsa lara to *Aganais* = (*intacta* var. Sn.), SWINHOE p. 333 Ann. Nat. hist. 19.

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Ichthyura castanea sp. n. New Guinea p. 80 f. 60, ROTHSCHILD Rep. B. O. U. esp. 2 No. 15, 1916.

Idalus albidior p. 475, *affinis* p. 476, spp. n. Amer. mer., ROTHSCHILD Nov. zool. 24.

Ilema griseola, larva, pupa, pl. i. figs. 6 and 7, p. 231, WILEMAN Philipp. J. Sci. D 12.

Illice sexalata p. 257, *lycomorphodes* p. 260, spp. n. Bolivia, DRAUDT Seitz Fauna exot. americ. 6.

Imaus cinnamomima sp. n. New Guinea p. 77, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15 1916.—*I. nepha* p. 57 pl. i f. 12, *basistriga* p. 58 f. 13, spp. n. New Guinea, JOICEY & TALBOT Ann. Nat. hist. 20.

Isanthrene pertexta sp. n. Brazil p. 197, DRAUDT Seitz Faun. exot. americ. 6.

Ixylasia trogon sp. n. Colombia p. 209, DRAUDT Seitz Fauna exot. americ. 6.

Jana pseudostrigina, *roseata*, p. 487, *aurivilliusi*, *variegata*, *germana*, p. 488, spp. n. Africa, ROTHSCHILD Nov. zool. 24.

Kakivora flavofasciata Nagano, Meta-morphosis (Japanese), NAGANO Konch-Sek. Gifu 21 pp. 10-14.

Koxjikia gen. n. *Drepanidae*, NAGANO Bull. Nawa Ent. Lab. 2 1917 (1-45).

Kunugia gen. n. *Lasiocampidae*, *yamadai* sp. n., NAGANO Bull. Nawa ent. Lab. 2 pp. 1-45, pls.

Lambessa decolorata albescens p. 366 subsp. n., ROTHSCHILD Nov. Zool. 24.

Lasioceros dentilinea sp. n. New Guinea p. 63 pl. ii f. 6, JOICEY & TALBOT Ann. Nat. hist. 20.

Lasiomorpha meeki sp. n. New Guinea p. 466, ROTHSCHILD Nov. Zool. 24.

Lentagena rufiflava sp. n. Guiana p. 15, DOGNIN Hétér. 13.

Lepasta bractea gigantea subsp. n. p. 235, ROTHSCHILD Nov. Zool. 24.—*L. bractea* g. = *L. b. majorina* D., DOGNIN p. 4 Hétér. 13.

Leucodrepana serratilinea sp. n. Formosa p. 147, WILEMAN & SOUTH Entomol. 50.

Leucodrepanilla gen. n. *Drepanidae*, NAGANO Bull. Nawa Ent. Lab. 2 pp. 1-45 with 10 pls.

Leucoma seminsula Hongkong p. 309, *singaporensis* p. 310 spp. n., STRAND Seitz Fauna exot. Indo-austr. 10.

Lirimiris guatemalensis, *chimaera*, *lemoulti*, p. 237, *mirabilis* p. 238, Amer. mer. spp. n., *elongata postpallida* and *e. orientalis* subspp. n. p. 240, *euribya* distinct p. 239, ROTHSCHILD Nov. Zool. 24.

Lithosia lutarella var. n. *postmelanica* p. 299, STRAND Ent. Mitt. 6.

Lithosiidae; revision of algerian, OBERTHÜR Ét. Léop. comp. 13 pp. 17-24, figs. 3752-3766.

Loxomima gen. n. near *Loxophlebia*, *imitans* sp. n. Brazil, DRAUDT p. 146 Seitz Fauna exot. Americ. 6 1915.

Loxophlebia asseda p. 62, *austrea* p. 63, *Santos*, *parca*, *septa*, p. 64 Colombia, spp. n., DRAUDT T.c.

Lycomorhodes splendida sp. n. Colombia p. 253, DRAUDT Seitz Faun. exot. americ. 6.

Lymantria variegata, *nigrita*, *fusca*, *griseata*, spp. n. New Guinea p. 76, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15 1916.—*L. nudala* hab. (?) p. 320, *ganaroides* New Guinea (?) p. 325,

spp. n., STRAND Seitz Faun. exot. Indo-austr. 10.—*L. monacha*, pupa, LJUNGDAHL Ent. Tidskr. 38 pl. ii fig. 1.

Lymire candida Jamaica p. 344, *senescens* Porto rico p. 345, spp. n., FORBES Bull. Amer. Mus. 37.

Macuduma sordidescens, *umbrina*, *recurva*, spp. n. New Guinea p. 46, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15 1916.—*M. rothschildi* sp. n. Queensland p. 190, DRAUDT Seitz Faun. exot. Indo-austr. 10.

Macronadata brunnea sp. n. Lado p. 259, ROTHSCHILD Nov. Zool. 24.

Maerotherylacia rubi, rearing, NEWMAN p. 58 Entomol. 50.

Malacosoma franconica brunneoolivacea subsp. n. p. 361, ROTHSCHILD Nov. Zool. 24.—*M. neustria*, pupa, LJUNGDAHL Ent. Tidskr. 38 pl. ii fig. 6.—*M. neustria* var. *brunnea*, larva, etc., HAMMOND Proc. Croydon Soc. 8 pp. 133-135.

Malmella gen. n. *Megalopygidae*, type *strigiprima* D., DOGNIN p. 19 Hétér. 13.

Malocampu bucephaloides, *phaleroides*, spp. n. Amer. mer. p. 249, ROTHSCHILD Nov. zool. 24.

Maschane costipuncta sp. n. Amazon p. 262, ROTHSCHILD T.c.; this is *frondea* Sch., DOGNIN p. 5 Hétér. 13.

Melanergon vidua fergussonis and *louisadensis* subspp. n., ROTHSCHILD p. 467 Nov. Zool. 24.

Melanothrix intermedia Mergui Arch. p. 464, *semperi* Philippines p. 465, spp. n., *nymphaliaria albidior* and *philippina*, subspp. n. p. 463, ROTHSCHILD T.c.

Meragisa arida Schaus = (*Eragisa basifera* R., as above), DOGNIN p. 4 Hétér. 13.

Mesotheren roseifemur sp. n. Colombia p. 66, DRAUDT Seitz Fauna exot. americ. 6, 1915.

Metalobosia postflavida p. 256, *similis* p. 257 spp. n. Colombia, DRAUDT T.c.

Metanastria digramma curvifascia and *parallelifascia* subspp. n. p. 453, ROTHSCHILD Nov. zool. 24.

Miacora roseobrunnea sp. n. Guiana p. 16, DOGNIN Hétér. 13.

Miltochrista javana p. 135, *rothschildi* Assam p. 137, spp. n., DRAUDT Seitz Faun. exot. Indo-austr. 10.

Monda delicatissima Walk. p. 603 pl. xliii. fig. 7, JANSE Ann. Natal. mus. 3.

Moresa hieroglyphica, *obliquifascia*, *plumbeiplaga*, spp. n. Amer. mer. p. 261, ROTHSCHILD Nov. zool. 24.—This is *Rosema magniplana* Sch., DOGNIN p. 5, HÉTÉR. 13.

Napata banghaasi Brazil, *lisita* Ecuador, p. 139, *abbreviata* Bolivia p. 140, spp. n., DRAUDT Seitz Faun. exot. americ. 6, 1915.

Naprepa fusconubilata, *adusta*, spp. n. Amer. mer. p. 231, ROTHSCHILD Nov. zool. 24.

Narasodes hamptoni sp. n. Borneo p. 191, DRAUDT Seitz Fauna exot. Indo-austr. 10.

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Neritos subgaudialis sp. n. Guiana p. 479, ROTHSCHILD T.c.

Norviconpressa bakeri sp. n. New Guinea p. 65 pl. iii. f. 15, JOICEY & TALBOT Ann. Nat. hist. 20.

Nesiotica gen. n. near *Goniosema*, *cladara* sp. n. Norfolk Island, TURNER Trans. R. Soc. S. Australia 41 pp. 54-55.

Norape subdelineata p. 17, *divisata* p. 18, spp. n. Colombia, DOGNIN HÉTÉR. 13.

Notoplusia distinguenda sp. n. Amazons p. 240, ROTHSCHILD Nov. zool. 24.—This is *Chadisa flavodiscata* D., DOGNIN p. 5 HÉTÉR. 13.

Nyctemera nesites, *biserrata*, Sumatra, spp. n., p. 269 SEITZ Faun. exot. Indo-austr. 10.

Nystalea nigriplaga p. 232, *cossooides*, *zeuzeroides*, *ocellata*, p. 233, spp. n. Amer. mer. ROTHSCHILD Nov. zool. 24.

Ocnogyna adaena pallida subsp. n. p. 305, ROTHSCHILD T.c.

Oenetus wollastoni sp. n. New Guinea p. 146 f. 56, *marginatus saturatior* subsp. n. p. 145, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15, 1916.

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Omichlis parallelistriga sp. n. New Guinea p. 80, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15, 1916.—*O. pseudolibatrix*, *plusiotis*, p. 259, *mediofasciata* p. 260, spp. n. New Guinea, ROTHSCHILD Nov. zool. 24.—*O. leucosticta* pl. ii f. 4, *plagiola* f. 3, spp. n. New Guinea p. 62, JOICEY & TALBOT Ann. Nat. hist. 20.

Opharus catharinae sp. n. Amer. mer. p. 482, ROTHSCHILD Nov. zool. 24.

Opsirhina melanacra sp. n. New Guinea p. 82 pl. ii. f. 8, JOICEY & TALBOT Ann. Nat. hist. 20.

Oreta trogoptera sp. n. New Guinea p. 109, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15, 1916.

Osmocnema gen. n. near *Schasiura*, *bracata* sp. n. Colombia, DRAUDT p. 209, Seitz Fauna exot. americ. 6.

Pachychira excellens, *olivaceofusca*, spp. n. New Guinea p. 260, ROTHSCHILD Nov. zool. 24.

Pachypasa limosa intermedia subsp. n. p. 370, ROTHSCHILD T.C.

Pachytelia unicolor, pupa, LJUNGBAHL Ent. Tidskr. 38 pl. ii. fig. 13.

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Paradinia gen. n. near *Dinia*, *chryso-gastrides* sp. n. Colombia, DRAUDT p. 110 Seitz Fauna exot. americ. 6 1915.

Paraethria mapiria sp. n. Bolivia p. 116, DRAUDT T.c.

Paramevania gen. n., *inconspicua* sp. n. hab. ? DRAUDT p. 161 T.c.

Paranerita postrosea p. 477, *diversa*, *plagosa*, *translucida*, *kennedyi*, p. 478, *rubrosignata* p. 479, spp. n., Amer. mer., ROTHSCHILD Nov. zool. 24.

Parascraptia insignifica sp. n. New Guinea p. 46, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15 1916.

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- Phalera elongata*: Assam, *postaurantia*, *inexpectata*, Africa, spp. n., p. 253, ROTHSCHILD Nov. zool. 24.
- Phasicnecus monteironis*, *giganteus*, p. 491, *peropalinus*, *nivalis*, p. 492, spp. n., Africa, *similis* subsp. n. *flavidior*, p. 491, ROTHSCHILD T.c.
- Pheia regesta* Matto-grosso p. 60, *sandix* Cuyaba p. 61, spp. n., DRAUDT Seitz Faun. exot. americ. 6 1915.
- Philosamia*; silk of hybrid, HAWKES J. exp. Zool. 21 p. 51.
- Phoenicoprocta ignicauda* sp. n. Matto Grosso p. 58, DRAUDT Seitz Faun. exot. americ. 6 1915.
- Poecilosoma annulatum* sp. n. Bolivia p. 202, DRAUDT T.c.
- Polyosia umbra* sp. n. New Guinea p. 50, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15 1916.
- Polypoetes mesitana* sp. n. Colombia p. 3, DOGNIN Hétér. 13.
- Porina fuliginosa*, *postflavida*, spp. n., New Guinea p. 145, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15 1916.—*P. nigripuncta* p. 83 pl. ii f. 10, *nigricosta* p. 84 f. 11, *subochrea* f. 12, *argenitipuncta* f. 13, p. 85, spp. n., New Guinea, JOICEY & TALBOT Ann. Nat. hist. 20.
- Porthesia euproctiformis* Darjeeling ? sp. n. p. 333, STRAND Seitz Fauna exot. Indo-austr. 10.
- Procris*; figures of North-african, OBERTHÜR Ét. Lép. comp. 13 figs. 3698–3720 pp. 43 & 44.—*P. orana algirica*, *bellieri prasina*, subspp. n. p. 345, ROTHSCHILD Nov. zool. 24.
- Proctocopis* gen. n. near *Androcharta*, *forficula* sp. n. Colombia, DRAUDT p. 132 Seitz Fauna exot. americ. 6 1915.
- Psalis*? *kanshireiensis* sp. n. Formosa p. 146, WILEMAN & SOUTH Entomologist 50.
- Pseudojana pallidipennis grandis* subsp. n., *perspicuifascia* sp. n. Java with subsp. *massana*, ROTHSCHILD p. 487 Nov. zool. 24.
- Pseudomya absona* sp. n. Peru p. 87, DRAUDT Seitz Faun. exot. americ. 6 1915.
- Pseudosphex cauca*, *pellax*, spp. n., Amer. mer. p. 38, DRAUDT T.c.—*P. fassli* sp. n. Bolivia p. 196, DRAUDT T.c.
- Psilacron sericeus* p. 239, *divisa* p. 240, spp. n., Amer. mer., ROTHSCHILD Nov. zool. 24.
- Psilopleura albipes* sp. n. Santos p. 89, DRAUDT Seitz Faun. exot. americ. 6 1915.
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- Psychidae*; larval cases etc., BURROWS pp. 69–73 pl. iv Ent. Rec. 29, and T.c. pp. 155–159.
- Rajacoa fuscicapicalis*, *rotundata*, spp. n., New Guinea p. 74, ROTHSCHILD Rep. B.O.U. exp. 2 No. 15 1916.
- Rhodogastria ruftarsus*, *curta*, *similima*, *erythropus*, spp. n., Rook island p. 185, ROTHSCHILD Nov. zool. 24.
- Rhuda opalistriga* p. 249, *posttriangulum* p. 250, spp. n., Amer. mer., ROTHSCHILD T.c.—*R. opalistriga* = *R. minor* Sch., DOGNIN p. 5 Hétér. 13.
- Rhyncopyga pimpla*, *xanthozona*, Peru, *semiflava* Colombia, p. 90, *albigutta* Peru p. 91, *aurantiaca* Bolivia p. 203, spp. n., DRAUDT Seitz Fauna exot. americ. 6 1915.
- Risargia cossoides*, *terebricides*, *biplaga*, p. 254, *basiplaga*, *steinbachi*, *muscosa*, p. 255, *intermedia* p. 256, spp. n., Amer. mer., ROTHSCHILD Nov. zool. 24.—*R. basiplaga* is *Anita galibensis* Sch., DOGNIN p. 5 Hétér. 13.—*R. phasma* sp. n. Brazil p. 6, DOGNIN Hétér. 13.
- Robinsonia irregularis* sp. n. Matto Grosso p. 475, ROTHSCHILD Nov. zool. 24.
- Roeselia mandschuriana* larva pl. i f. 3 p. 230, WILEMAN Philipp. J. Sci. D. 12.
- Rosema klagesi* sp. n. Amazons p. 261, ROTHSCHILD Nov. zool. 24; this is *apollinarei* D., DOGNIN p. 5 Hétér. 13.
- Salluca psitticula* sp. n. Guiana p. 5, DOGNIN Hétér. 13.
- Samia cynthia* f.n. *radiata* p. 130 pl. v f. 6, CLOSS Ent. Mitt. 6.
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Sewa orbiferata = (*Platypteryx cilioides* Sn.), SWINHOE p. 333 Ann. Nat. hist. 19.

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Stauropus malgassica, *lilacina*, spp. n., Madagascar p. 85 pl. figs., KENRICK Tr. ent. Soc. Lond. 1917.—*S. nitidus*, *flavicollis*, p. 241, *purpurascens*, *viridinitens*, *leucophaeus*, *glaucoviridis*, p. 242, *triplagosus*, *frugilegus*, *viridogrisea*, p. 243, *alboviridis*, *germana*, *rufescens*, p. 244, *affinis*, New Guinea; *mediolinea* China, *incisus* Niger, *apiculatus* Penang, p. 245, *notodontina* Assam, *bipunctatus* Penang, p. 246, spp. n., *sikkimensis khasianus* subsp. n. p. 245, ROTHSCHILD Nov. zool. 24.—*S. oblitterata* sp. n. Japan p. 29, WILEMAN & SOUTH Entomol. 50.—*S. chloriolus* pl. i f. 15, *leucocraspedus* pl. ii f. 2, p. 59, *melanogramma* pl. i f. 16, *trispopylus* pl. ii f. 1, p. 60, spp. n., New Guinea, JOICEY & TALBOT Ann. Nat. hist. 20.

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Tachida cossula sp. n. Bolivia p. 235, ROTHSCHILD Nov. zool. 24; cf. DOGNIN p. 4 Hétér. 13.

Tagora pallida sp. n. Assam p. 486, ROTHSCHILD Nov. zool. 24.

Takanea gen. n. *Lasiocampidae*, NAGANO Bull. Nawa Ent. Lab. 2 pp. 1-45, pls.

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Trischalis submarginata sp. n. p. 50 New Guinea, ROTHSCHILD Rep. B. O. U. exp. 2 No. 15 1916.

Turnaca mediofascia Assam, *phragmatoecioides*, p. 257, *lanuginosa*, *nigripuncta*, p. 258, Africa, spp. n., ROTHSCHILD Nov. zool. 24.

Turupitana pellucida, steinbachi, fuscescens, spp. n., Amer. mer. p. 484, ROTHSCHILD T.c.

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Nacoleia auranti-maculalis, *distincti-*
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Capanica gen. n. near *Xestocasis, astrophanes, lamprolitha*, spp. n. Guiana; MEYRICK p. 63, T.c.

Cathalistis gen. n. *Tineidae, orniphela* sp. n., MEYRICK p. 14 Ann. S. Afr. Mus. 17.

Cecidoses eremita Curt. p. 134, BRÈTHES An. Ci. Argent. 82; *Cecidoses eremita* = (*Clistoses artifex* K. & J.), natural history, JØRGENSEN p. 1, gall pl. i f. 12, Physis 3.

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Celestica gen. n. *Tineidae*, type *angustipennis* H.—Schaeff, MEYRICK p. 79 Exot. Micr. 2.

Ceromitia xanthocoma p. 617 sp. n. MEYRICK Ann. Natal, Mus. 3.—*Ceromitid* sp. n. p. 17 MEYRICK Ann. S. Afr. Mus. 17.

Chezala absona Northern Territory *aleurias, silvestris, torpida*, Queensland spp. n., TURNER Trans. R. Soc. S. Aust. 41 p. 80-82.

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Cholotis pachnodes Bengal, *archaica* Ceylon, *spp. n.* p. 44, MEYRICK Exot. Micr. 2.

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Citharodica leparga *sp. n.* Queensland, TURNER Trans. R. Soc. S. Aust. 41 p. 108.

Coesyra euryzona, *phaeocephala*, *delicia*, *epiplasta*, *lochmaea*, *diadela*, *silacea*, *gilvella*, *asema*, *sporeta*, Queensland, *timalphes* Victoria, *stenotypa*, *haplogramma*, *achranta* New South Wales, *disticta* Northern Territory and Queensland, *zanclotypa* Queensland and Western Australia, *thiodes* Western Australia, *monoides* Queensland and New South Wales, *spp. n.*, TURNER p. 69-75 T.c.

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Duvita *gen. n.* near *Approerema*, *vittella* *sp. n.* U. S., BUSCK p. 147 P. ent. Soc. Washington 18.

Elasmopalpus lignosellus, LUGINBILL & AINSLIE Bull. 539 U. S. Dep. Agric. Ent. 3 pls.

Enteremina *gen. n.* *Xyloryctidae* type *dolerastis* Meyr., MEYRICK p. 55 Exot. Micr. 2.

Eomystis ebenosticha Western Australia, *melanopteca* Queensland, *spp. n.*, TURNER Trans. R. Soc. S. Aust. 41 p. 110-111.

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Euprionocera eremnopa sp. n. Northern Territory TURNER p. 102 T.c.

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- Linnoecia heterosticta* p. 42, *asteroleuca, psalidota* India, *dasythicha* Guiana, p. 43, spp. n., MEYRICK Exot. Micr. 2.
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- Lita disjunctella* var. n. *tridentella* p. 471, CHRÉTIEN Ann. Soc. ent. France 85.
- Machaeritis calliphylla, hylobita, chalicrata, polycapna*, Queensland, *dulcicula* New South Wales, spp. n. TURNER, Trans. R. Soc. S. Aust. 41 pp. 59-61.
- Machetis plagiozona, laticincta, eudmeta*, spp. n. Queensland, TURNER, p. 114-116 T.c.
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- Mesopherna entripta* sp. n. Queensland, p. 88, MEYRICK T.c.
- Microcolona citroplecta* p. 49, *cricota, porota*, India, *empyrica*, Ceylon, p. 50, *pantomima*, Congo p. 51, spp. n. MEYRICK T.c.
- Micropteryx*, brain, BUXTON Tr. ent. Soc. London 1917 pp. 112-153 pls. vii-x.
- Mompha musota, permota*, p. 52, *præfinita* p. 53, spp. n. Amer. mer., MEYRICK Exot. Micr. 2.
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- Myrmecozela favens* p. 87, *typhodes* p. 88, spp. n. Africa, MEYRICK Exot. Micr. 2.
- Neosigala* gen. n. near *Mimozela, ceroplasta* sp. n. Queensland, TURNER Trans. R. Soc. S. Aust. 41 p. 118.
- Neopastis* gen. n. *Xyloryctidae, calpidias* sp. n. India, MEYRICK, p. 59, Exot. Micr. 2.
- Nephogenes hylophila, pilidiota, lochmaula, cirrhocephala, thiocrossa, carbasea, napæa, argyrodès, stenoptila*, Queensland, *syncolla, scitula*, New South Wales, *hypopolia* Queensland and New South Wales, *epiperena* Queensland and Victoria, spp. n. TURNER, Trans. R. Soc. S. Aust. 41 p. 95-101.
- Nephogenes variabilis* synonym. with *Mesolecta angustella*, TURNER, Trans. R. Soc. S. Aust. 41 p. 101.
- Nepticula porphyreuta* sp. n. p. 13 MEYRICK Ann. S. Afr. Mus. 17.—*N. oriastra* sp. n. New Zealand p. 247, MEYRICK Tr. N. Z. Inst. 49.
- Nosymna obrubila* sp. n. New Guinea, p. 161, DURRANT Rep. B. O. U. exp. 2 No. 15 1916.
- Octasphales eubrocha* sp. n. Queensland, TURNER, Trans. R. Soc. S. Aust. 41 p. 120.
- Ocystola proselia, esthlopiis, idiosticha, ptochodes, acrocosma, xantholoma, phaulopis, eucraera, embolistis, macrotricha, cléthrosema, trichophora, auchmera, chrysoïdes*, Queensland, *pachythrix* Victoria, *glycydora* New South Wales and Queensland, spp. n. TURNER p. 62-68 T.c.
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- Oecophora angustella* Synon. with *Mesolecta angustella*, TURNER, Trans. R. Soc. S. Aust. 41 p. 101.
- Oliera* gen. n. *Cecidosidae, argentinana* sp. n. BRÉTHES, p. 139 An. Ci. Argent. 82.

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Pachybela gen. n. near *Nephogenes*, *eremica* Queensland and Victoria, *parisa* Queensland, spp. n., TURNER Trans. R. Soc. S. Aust. 41 p. 94-95.

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Parapsectris anxia sp. n. p. 4, MEYRICK Ann. S. Afr. Mus. 17.

Paraptica gen. n. *Tineidae*, *concinerata* sp. n., MEYRICK, p. 15 Ann. S. Afr. Mus. 17.

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Perixestis gen. n. *Xyloryctidae* type *eucephala* Turn., MEYRICK p. 56 Exot. Micr. 2.

Philaristis gen. n. *Xyloryctidae* type *porphyrinella* Walk., MEYRICK p. 54 T.c.

Philolota mysticodes, *xanthoprepes*, *thermophanes*, *mimetis*, *lochitis*, *eucrita*, *delosema*, *orthotoma*, *diaereta*, *ceratochroa*, *hilda*, *euctista*, Queensland, *pandora* Tasmania, *leucocosma*, *megalozaitha* Western Australia, *diacrita*, *agrapha*, *enchalca*, *borborodes*, *ovestera*, New South Wales, *orthomita*, *metria*, *polybotrya*, Victoria, *cnecopsis* Northern Territory, spp. n. TURNER S. Aust. Trans. R. Soc. S. Austr. 41 pp. 84-93.

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Phyzanica gen. n., *tapinopa* sp. n. Queensland, TURNER Trans. R. Soc. S. Aust. 41 p. 117.

Pierogenes gen. n. p. 5, *bactrospila* sp. n. MEYRICK Ann. S. Afr. Mus. 17.

Pleurota chrysopepla, *leucogramma*, *gypposema*, *epitriptata*, Queensland, *leuconeura* Victoria, spp. n. TURNER Trans. R. Soc. S. Aust. 41 pp. 76-78.

Polyeucta gen. n. superficially like *Wingia*, *callimorpha*, TURNER p. 104 T.c.

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Potniarcha gen. n. *Xyloryctidae* type *hierastis* Meyr., MEYRICK p. 56 Exot. Micr. 2.

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Pycnozantla gen. n. near *Eomystis*, *erythrodes* sp. n. Queensland, TURNER Trans. R. Soc. S. Aust. 41 pp. 109-110

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Sindonophora gen. n. *Lamproviidae*, *leuzozona* sp. n., p. 16, MEYRICK Ann. S. Afr. Mus. 17.

Sphyrclata laetifica Queensland and New South Wales, *acritopsis*, *ptochica*, *arrhythma*, Queensland, spp. n., TURNER Trans. R. Soc. S. Aust. 41 p. 116.

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Stenoma reticens Bengal, *emphanes* Burma, spp. n. p. 58, MEYRICK Exot. Micr. 2.

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Thalerostoma gen. n. near *Limnoecia*, *orthocentra* sp. n. India, MEYRICK p. 42 T.c.

Theatrissa gen. n. near *Hapsifera*, *subnigrata* sp. n. E. Africa, MEYRICK p. 95 T.c.

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Thyestarcha acrogypsa sp. n. p. 8 MEYRICK Ann. S. Afr. Mus. 17.

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Tinea obnoxia sp. n. p. 13, MEYRICK Ann. S. Afr. Mus. 17.—*T. sextaria*, *asyn-tacta*, p. 76, *frugivora*, *isopela*, p. 77, India, *tragophila* Senegal, *exhausta*, *pyriata*, *translucens*, India, *enchrista* Burma, p. 78, *haplodora* Sydney p. 79, spp. n., MEYRICK Exot. Micr. 2.—*T. ankerella* var. n. *nigratella* p. 500, CHRÉTIEU Ann. Soc. ent. France 85.—*T. granella* peculiar food, JOANNIS p. 220 Bull. Soc. ent. France 1917.

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Talantis chimerina synonym with *Mesolecta angustella*, TURNER Trans. R. Soc. S. Aust. 41 p. 101.

Trachyzancle gen. n. near *Chezala*, *histrica* sp. n. Western Australia, TURNER p. 79-80 T.c.

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Zelotechna psittacodes sp. n. Queensland, TURNER Trans. R. Soc. S. Aust. 41 p. 103.

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INCLUDING

ENTEROPNEUSTA AND PTEROBRANCHIA

BY

C. TATE REGAN, F.R.S.

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(GENERAL)

i.e., complementary to Mammalia, Aves, Reptilia, and Pisces

BY

D. S H A R P,

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XVI. REPTILIA AND BATRACHIA

ARRANGED BY

C. TATE REGAN, F.R.S.

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W. L. SCLATER, M.A.

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ARRANGED BY

MARTIN A. C. HINTON.

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