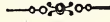


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P. L. SCLATER,

Secretary.

Oct. 15th, 1895.

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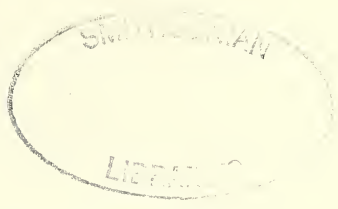
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VOLUME THE THIRTY-FIRST.

BEING

RECORDS OF ZOOLOGICAL LITERATURE

RELATING CHIEFLY TO THE YEAR

1894.

BY J. A. THOMSON, R. LYDEKKER, R. BOWDLER SHARPE, G. A. BOU-
LENGER, W. A. HERDMAN, B. B. WOODWARD, D. SHARP, F. A. BATHER,
FLORENCE BUCHANAN, AND R. HANITSCH.

EDITED (FOR THE ZOOLOGICAL SOCIETY OF LONDON) BY

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

*Curator in Zoology, University Museum of Zoology and Comparative Anatomy,
Cambridge.*

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The Editor thanks those Societies and individuals who have forwarded works and papers for the purposes of the Record, and suggests that Societies publishing Zoological Papers would much facilitate the work of the Recorders by forwarding a separate copy of each Zoological Memoir they publish to the Editor for the use of the Recorder. This is preferable to sending the entire volume, because each paper can go directly to the Recorder it concerns.

PREFACE.

THE first duty of the Editor is to thank the Recorders who have worked at this thirty-first volume of the ZOOLOGICAL RECORD. This he does most heartily; for the labour of making a complete index to the literature of any division of zoology increases every year with the constant augmentation of literature.

Professor Hickson has found that he would be so fully occupied that he could not undertake a record of *Cœlenterata* for this volume. Fortunately a successor to him has appeared in the person of Mr. R. T. Günther, of Magdalen College, Oxford, who will record the literature of 1894, in combination with that of 1895, in the volume for the latter year.

Mr. Pocock having not even commenced his records at the time they should have been in the hands of the printer, it was found necessary at the last moment either to publish the volume without them, or to delay it for a considerable and uncertain period. In conformity with the decision announced in the preface to the twenty-eighth volume, the latter alternative has been adopted with regret.

The list of periodicals has been revised, and increased by the insertion of the names of some sixty or seventy publications. Indications of those now taken in at the Science and Education Library of the South Kensington Museum have been added. It may be noticed that nearly all the periodicals in the list are to be found at South Kensington, either in the Natural History Museum or in the Science and Education Library.

Mr. B. B. Woodward has given most valuable aid in revising the list; and Mr. Bather has kindly supplied most of the additional titles relating to Palæontology. The Editor has also the pleasure of thanking the Librarians of the Royal, of the Linnean, and of the Zoological Societies, as well as the Librarian of the Science and Education Library, for their assistance.

D. SHARP.

CAMBRIDGE, *Sept.* 18, 1895.

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- XI. ARACHNIDA. [Vacant.]
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- XIII. INSECTA. By D. SHARP, F.R.S.
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- XV. VERMES (incl. HEMICHORDATA). By FLO. BUCHANAN, B.Sc.
- XVI. CŒLEENTERATA. [Vacant.]
- XVII. SPONGIÆ. By R. HANITSCH, Ph.D.
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ALPHABETICAL LIST
OF THE
ABBREVIATIONS
USED IN THE
ZOOLOGICAL RECORD
FOR THE
TITLES OF THE JOURNALS, TRANSACTIONS, ETC.,
THAT CONTAIN ZOOLOGICAL PAPERS ;
WITH INDICATIONS OF SOME OF THE PRINCIPAL
LIBRARIES
IN WHICH THE BOOKS ARE CURRENT.

THE primary object of this list is to enable those using the Record to find with ease the full title of a Journal they see quoted in an abbreviated form. The arrangement is therefore a simple alphabetical list of the abbreviations, uncomplicated by syllabic or verbal limitations.

The list has also to serve the Recorders and others as a list of Journals, and for this purpose it is important that it should be fairly complete as regards current periodicals. In order to increase the utility of the list, the abbreviations have been made on a uniform system ; but a few exceptions have, in practice, been found necessary. The chief points that have been kept in view in constructing the abbreviations may be briefly stated as follows :—

The words selected as distinctive in each title are reduced in most cases to three or four.

A distinct abbreviation is used for each different word, and the same abbreviation for the same word is used throughout the list.

Accents are omitted. As a rule the first word of the title is represented by an abbreviation, but this rule is departed from in the case of articles and prepositions, and occasionally in the case of adjectives that are useless for distinctive purposes. Thus "Annual Report" becomes "Rep.", and "Occasional Papers" becomes "Pap." Such adjectives as "New" and "Royal" are omitted, except when necessary for distinctive or other purposes.

The consecutive order of the words of the title is maintained in the abbreviation, except in a few cases where the arrangement of the words in the title is very unusual or faulty.

As an example of the form of abbreviation that is aimed at, we may take Bull. Soc. Moscou. The name of the locality is given at greater length than the more frequently used portions of the abbreviation.

After the titles, the place of publication is given, and this is followed by letters indicating the principal libraries in which the works may be consulted. The explanation of these letters is as follows:—

- N. = British Museum Natural History: general library,
 Nz. = " " " library, zoological department.
 Ng. = " " " " geological "
 K. = Science and Education library; South Kensington Museum.
 R. = Royal Society library.
 Z. = Zoological Society library.
 L. = Linnean " "
 C. = Cambridge University library.
 (C) p= " Philosophical Society library.
 (C) b, or g, or y = Cambridge Balfour, or Woodwardian Museum, or
 Physiological libraries respectively.
 § is appended to titles added since the last list.

-
- Abeille*—L'Abeille: Journal d'entomologie publié par la Société entomologique de France. (Paris, 8vo.) Nz.
Abh. Ak. Berlin—Abhandlungen der königlichen Akademie der Wissenschaften zu Berlin. (Berlin, 4to.) N. K. R. Z. L. C, p.
Abh. Bayer. Ak.—Abhandlungen der mathematisch-physikalischen Classe der königlichen Bayerischen Akademie der Wissenschaften. (München, 4to.) N. K. R. Z. L. C, p.
Abh. Bohm. Ges.—Abhandlungen der mathematisch-naturwissenschaftlichen Classe der k. Böhmisches Gesellschaft. [Called also] Rozprawy tridy mathematicko-přirodvěcke královské České společnosti Nauk. (Prag, 4to.) N. K. R. L. C, p.
Abh. geol. Karte Elsass—Abhandlungen zur geologischen Spezial-Karte von Elsass-Lothringen. (Strassburg, 8vo.) Ng.
Abh. geol. Landesanst. Darmstadt—Abhandlungen der grossherzoglich Hessischen geologischen Landesanstalt zu Darmstadt. (Darmstadt, 8vo.) Ng.
Abh. geol. Reichsanst.—Abhandlungen der Kaiserlich-Königlichen geologischen Reichsanstalt. (Vienna, 4to.) Ng. R. L. C, p.
Abh. Ges. Górlitz—Abhandlungen der naturforschenden Gesellschaft zu Górlitz. (Górlitz, 8vo.) N. K. R.

- Abh. Ges. Gotting.*—Abhandlungen der königlichen Gesellschaft der Wissenschaften zu Göttingen. (Göttingen, 4to.) N. R. Z. L. C, p.
- Abh. Ges. Halle*—Abhandlungen der naturforschenden Gesellschaft zu Halle. (Halle, 4to.) N. K. R. Z. L. C.
- Abh. Ges. Isis*—Sitzungsberichte und Abhandlungen der naturwissenschaftlichen Gesellschaft 'Isis' in Dresden. (Dresden, 8vo.) N. K. Z. C.
- Abh. Ges. Königsb.*—[Part of *Schr. Ges. Königsb.*, q.v.]
- Abh. Ges. Nürnberg*—Abhandlungen der naturhistorischen Gesellschaft zu Nürnberg. (Nürnberg, 8vo.) N. K. C.
- Abh. Ges. Wien*—[Part of *Verh. Ges. Wien*, q.v.]
- Abh. Hamburg. Anst.*—[Part of *Jahrb. Hamburg. Anst.*, q.v.]
- Abh. Mus. Dresden*—Abhandlungen und Berichte des königlichen zoologischen und Anthropologisch ethnographischen Museums zu Dresden. (Berlin, 4to.) Nz. Z. C.
- Abh. Preuss. geol. Landesanst.*—Abhandlungen der königlich Preussischen geologischen Landesanstalt (Neue Folge). [Formerly *Abh. geol. specialkarte von Preussen und den Thüringischen Staaten.*] (Berlin, 8vo.) Ng. K. C.
- Abh. Sachs. Ges.*—Abhandlungen der k. Sächsischen Gesellschaft der Wissenschaften. (Leipzig, 4to.) N. K. R. C, p.
- Abh. Schweiz. pal. Ges.*—Abhandlungen der Schweizerischen paläontologischen Gesellschaft. Mémoires de la Société Paléontologique suisse. (Basel, &c., 4to.) Ng. R. Z. (C) g.
- Abh. Senckenb. Ges.*—Abhandlungen herausgegeben von der Senckenbergischen naturforschenden Gesellschaft. (Frankfort-a.-M., 4to.) N. K. R. Z. L. C.
- Abh. Ver. Bremen*—Abhandlungen herausgegeben vom naturwissenschaftlichen Vereine zu Bremen. (Bremen, 8vo.) N. K. R. Z. L. C.
- Abh. Ver. Hamburg*—Abhandlungen aus dem Gebiete der Naturwissenschaften herausgegeben vom naturwissenschaftlichen Verein in Hamburg. (Hamburg, 4to.) N. K. R. Z. L. C, b.
- Abh. Ver. Karlsruhe*—[Vide *Verh. Ver. Karlsruhe.*]
- Abh. Ver. Kassel*—[Issued with *Ber. Ver. Kassel*, q.v.]
- Acta Ac. German.*—N. Acta Academiæ Cæsareæ Leopoldino-Carolinæ Germanicæ naturæ curiosorum. [Called also] Verhandlungen der k. Leop.-Carol. deutschen Akademie der Naturforscher. (Halle, 4to.) N. K. R. Z. L. C, p.
- Act. Ac. Cordoba*—Actas de la Academia nacional de Ciencias en Córdoba. (Buenos Aires, 4to.) N. R. Z. L.
- Acta Soc. Faun. Fenn.*—Acta Societatis pro Fauna et Flora Fennica (Helsingfors, 8vo.) N. R. L.
- Acta Soc. Lund.*—Acta regiæ Societatis physiographicæ Lundensis. [Published as part of *Acta Univ. Lund.*, q.v.]
- Acta Soc. Sci. Fenn.*—Acta Societatis Scientiarum Fennicæ. (Helsingfors, 4to.) N. K. R. Z. (C) p.

- Acta Soc. Upsal.*—Nova Acta regiæ Societatis Scientiarum Upsaliensis. (Upsala, 4to.) N. K. R. Z. L. C, p.
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- Amer. J. Sci.*—The American Journal of Science. (New Haven, 8vo.) N. K. R. Z. C, p.
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THE ZOOLOGICAL RECORD

FOR 1894.

I. GENERAL SUBJECTS.*

BY

J. ARTHUR THOMSON, M.A.

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1. *ABY, F. S. Karyokinesis in embryos of the domestic Cat. Amer. Micr. J. xiv, pp. 312 & 313.

ACQUISTO, —. [See MONDINO & ACQUISTO (366).]

* It will be understood that papers recorded here may also be recorded under the various classes, II-XVIII. They are included here because of their bearing on some general question; their relevancy, if not obvious, will in most cases be made apparent in the Subject-Index.

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2. AGASSIZ, A. A reconnaissance of the Bahamas and of the elevated reefs of Cuba, in the steam yacht "Wild Duck," January to April, 1893. *Bull. Mus. Harvard*, xxvi, pp. 1-203, 47 pls.
3. ALDRICH, J. M. Courtship among the Flies. *Amer. Natural.* xxviii, pp. 35-37.
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6. AMMON, O. Die natürliche Auslese beim Menschen. Jena : 1893, 8vo, x & 326 pp.
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Some comparative notes ; also notes on psychogenesis ; heredity.
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11. ANON. Nature's method in the evolution of life. London : 8vo, 88 pp.
12. APSTEIN, C. Vergleich der Planktonproduction in verschiedenen Holsteinischen Seen. *Ber. Ges. Freiburg*, viii, pp. 70-88.
13. *AUBERT, E. Histoire naturelle des êtres vivants. Tome I. Anatomie et physiologie animales et végétales. Paris : 8vo, xii & 564 pp.
14. AUERBACH, L. Spermatologische Mittheilungen. *Jahresber. Schlesisch. Ges.* lxxii, pp. 11-39.
- 14A. AYERS, H. *Bdellostoma dombeyi*, Lac. Wood's Holl Biological Lectures, vol. ii, pp. 125-161, 14 figg.
See WHITMAN (572), cited *re* Variation, *Physiol. of Ear, &c.*
15. BAILEY, L. H. Neo-Lamarckism and Neo-Darwinism. *Amer. Natural.* xxviii, pp. 661-678.
16. BALL, W. PLATT. Neuter Insects and Lamarckism. *Nat. Sci.* iv, pp. 91-97.
17. BALLOWITZ, E. Bemerkungen zu der Arbeit von Karl Ballowitz über die Samenkörper der Arthropoden nebst weiteren Bemerkungen, betreffend die Tunicaten, Mollusken, Würmer, Echinodermen, und Cœlenteraten. *Int. J. Anat. Physiol.* xi, pp. 245-280, 2 pls.

18. BALLOWITZ, K. Zur Kenntnis der Samenkörper der Arthropoden. *T. c.* pp. 217-244, 2 pls.
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27. BEARD, J. The development and probable function of the Thymus. *Anat. Anz.* ix, pp. 476-486.
28. *BEAUNIS, H., & BOUCHARD, A. Nouveaux éléments d'anatomie descriptive et d'embryologie. 5 ed. entièrement refondue. Paris : 8vo, xvi & 1072 pp., 557 pls.
29. BECQUEREL, H., & BRONGNIART, CH. La matière verte chez les Phyllies, Orthoptères de la famille des *Phasmides*. *C.R. Ac. Sci.* cxviii, pp. 1299-1303.
30. BEHLA, R. Die Abstammungslehre und die Errichtung eines Institutes für Transformismus. Ein neuer experimenteller phylogenetischer Forschungsweg. Kiel and Leipzig : 8vo, vii & 60 pp.
31. *BELOW, E. Artenbildung durch Zonenwechsel. Frankfurt : 8vo, 24 pp.
32. *BENDA, C., & GUENTHER, P. Histologischer Hand-Atlas. Leipzig and Wien : 8vo, 6 pp., 60 pls.
33. BERGH, R. S. Vorlesungen über die Zelle und die einfachen Gewebe des tierischen Körpers. Mit einem Anhang, technische Anleitung zu einfachen histologischen Untersuchungen. Wiesbaden : 8vo, x & 262 pp., 138 figg.
34. BERNARD, F. Éléments de Paléontologie. 2 Partie. Paris : 8vo, pp. 529-1168, 251 figg.

35. BERNARD, H. M. On the relations of the isotropous to the anisotropous layers in striped muscles. *Zool. Jahrb. Anat.* vii, pp. 533-544, 1 pl.
36. *BERNSTEIN, J. Lehrbuch der Physiologie des tierischen Organismus, im speciellen des Menschen. Stuttgart: 8vo, xiv & 755 pp., 271 figg.
37. *BESTA, R. Anatomia e fisiologia comparate. Milano: 8vo, vii & 218 pp., illustr.
38. BETHE, A. Ueber die Erhaltung des Gleichgewichts. *Biol. Centralbl.* xiv, pp. 95-114.
39. —. Ueber die Erhaltung des Gleichgewichts. *T. c.* pp. 563-582, 7 figg.
40. BICKFORD, E. E. Notes on regeneration and heteromorphosis of Tubularian Hydroids. *J. Morphol.* ix, pp. 417-430.
41. BIRULA, A. A. Ueber die phagocytären Erscheinungen bei den Sexual-processen von Galeodes. *Trav. Soc. St. Petersb.* xxiv, pp. 15-21.
42. BIZZOZERO, G. Accroissement et régénération dans l'organisme. *Arch. ital. Biol.* xxi, pp. 94-129.
43. —. Wachsthum und Regeneration im Organismus. *Votr. geh. xi Internat. Med. Congr. Rome.* *Wien Med. Woch.* xlv, pp. 697-699 & 744-747; *Wien Med. Bl.* xvii, pp. 175, 176, 194-196, & 211-213.
44. BLANC, H. Étude sur la fécondation de l'œuf de la Truite. *Ber. Ges. Freiburg*, viii, pp. 163-191, 1 pl.
45. BOAS, J. E. V. Lehrbuch der Zoologie. - 2 verm. u. verb. Aufl. Jena: 8vo, x & 603 pp., 427 figg.
46. BOHEMAN, H. Intercellularbrücken und Safräume der glatten Muskulatur. *Anat. Anz.* x, pp. 305-315, 6 figg.
47. BOIS-REYMOND, E. DU. *Festrede.* *SB. Ak. Berlin*, 1894, pp. 623-641.
48. *BOMMELI, R. Die Thierwelt. Eine illustrierte Naturgeschichte der jetzt lebenden Thierwelt. Heft. 23-28. Stuttgart: 8vo, pp. 705-888, Tit. xxii.
49. *BORDIER, A. L'hérédité, mécanisme, théories. *Rev. mensuelle de l'école d'anthrop. de Paris*, iv, pp. 313-328.
50. BORGERT, A. Die Thaliacea der Plankton-Expedition. Vertheilung der Doliolen. *Ergebnisse der Plankton-Expedition.* Kiel and Leipzig: 1894, 4to, 68 pp., 2 figg., 2 pls., 1 map, 1 diagram.
51. BORN, G. Die Struktur des Keimbläschens im Ovarialei von *Triton teniatus*. *Arch. mikr. Anat.* xliii, pp. 1-79, 4 pls.
52. —. Ueber neue Compressionsversuche an Froscheiern. *Jahresber. Schlesisch. Ges.* lxxii, pp. 47-56.

53. BOS, J. RITZEMA. Agricultural Zoology. Trans. by J. R. Ainsworth Davis; Introd. by E. A. Ormerod. London: 8vo, xx & 256 pp., 149 figg.
54. —. Untersuchungen über die Folgen der Zucht in engster Blutverwandtschaft. Biol. Centralbl. xiv, pp. 75-81.
BOUCHARD, A. [See BEAUNIS & BOUCHARD (28).]
BOULGER, G. S. [See OWEN, J. A.; & BOULGER (400).]
55. BOURNE, G. C. Epigénesis or evolution. Sci. Prog. i, pp. 105-126.
56. BOUTAN, L. Emploi du scaphandre pour les études zoologiques et la photographie sous-marine. Rev. Scient. (4th ser.) i, pp. 481-490.
57. BOUVIER, E. L. Un nouveau cas de commensalisme: association du genre *Aspidosiphon* avec des polypes madréporaires et un mollusque bivalve. C.R. Ac. Sci. cxix, pp. 96-98.
— [See also MILNE-EDWARDS & BOUVIER (352).]
58. BOVERI, TH. Beziehungen zwischen Zellfunction und Kernstructur. SB. Ges. Würzburg, 1894, pp. 94 & 95.
59. BOYER, E. R. A laboratory manual in elementary biology. Boston: 8vo, xxii & 255 pp.
60. BRAEM, F. Ueber die Knospung bei mehrschichtigen Tieren, insbesondere bei Hydroiden. Biol. Centralbl. xiv, pp. 140-161, 5 figg.
61. —. Ueber den Einfluss des Druckes auf die Zellteilung und über die Bedeutung dieses Einflusses für die normale Eifurchung. T. c. pp. 340-353, 3 figg.
62. —. Mittheilung über den Einfluss des Gefrierens auf die Entwicklung thierischer Keime. Jahresber. Schlesisch. Ges. lxxii, pp. 2 & 3.
63. BRANDES, G. Ueber Aufnahme von Methylenblau im Tierkörper. Abh. Ges. Halle, xix (1893) pp. 81 & 82.
64. BRAUER, A. Zur Kenntniss der Reifung des parthenogenetisch sich entwickelenden Eies von *Artemia salina*. Arch. mikr. Anat. xliii, pp. 162-222, 4 pls.
65. *BRAUN, M. Die thierischen Parasiten des Menschen. 2te vollig. umgearb. Aufl. Würzburg: 8vo, 283 pp., 147 figg.
66. *BREGENZER, I. Thier-Ethik. Darstellung der sittlichen und rechtlichen Beziehungen zwischen Mensch und Thier. Bamberg: 8vo, x & 422 pp.
67. BRITTON, N. L. Our conception of "species" as modified by the doctrine of evolution. Tr. N. York Ac. xiii, pp. 132-135.
Relates chiefly to plants.
BRONGNIART, C. [See BECQUEREL & BRONGNIART (29).]
1894. [VOL. XXXI.]

68. BRÖNN, H. G. Klassen und Ordnungen der Tierreichs, wissenschaftlich dargestellt in Wort und Bild.
- BRAUN, M., see *Vermes* (47). LUDWIG, H., see *Echinoderma* (71). SIMROTH, see *Mollusca* (32).
69. BROOKE, SIR VICTOR. Sportsman and Naturalist : a memoir of his life, and extracts from his letters and journals. Ed. by O. Leslie Stephen, with a chapter on his researches in natural history by Sir Wm. H. Flower. London : 8vo, 252 pp.
70. BRÜNN, A. VON. Verdauungsorgane. Anat. Ergebn. iii, pp. 238-262.
71. BRUSINA, S. Biološke Postaje (die biologische Stationen). Akad. Agram, 1894, 40 pp.
72. BÜHLER, A. Beiträge zur Kenntnis der Eibildung beim Kaniuchen und der Markstränge des Eierstockes beim Fuchs und Menschen. Zeitschr. wiss. Zool. lviii (1894), pp. 314-339, 2 pls.
73. BUNTING, M. The origin of the sex cells in *Hydractinia* and *Podocorynè*; and the development of *Hydractinia*. Morphol. Jahrb. ix, pp. 203-236, 3 pls.
74. BURCKHARDT, R. Der Bauplan des Wirbelthiergehirns. Morphol. Arbeit. iv, pp. 131-150, 1 pl.
75. BÜRGER, O. General Review of Roux's Archiv für Entwicklungsmechanik. Gött. gel. Anz. i (1895), pp. 14-19.
76. BÜTSCHLI, O. Investigations on microscopic foams and on protoplasm. Experiments and observations towards a solution of the question of the physical conditions of the phenomena of life. Authorised translation by E. A. Minchin. London : 8vo, 386 pp., 12 pls.
77. —. Vorläufiger Bericht über fortgesetzte Untersuchungen an Gerinnungschäumen, Sphärokrystallen und die Structur von Cellulose- und Chitin-membranen. Verh. Ver. Heidelb. v, pp. 230-292, 3 pls.
- Also separately published. Heidelberg : 8vo, 63 pp., 3 pls.
78. [ANON.] Notice of British predecessors of Bütschli (RAINEY, HARTING, ORD, MONTGOMERY). Brit. Med. Journ. 1741 (1894), p. 1027.
79. CAMERANO, L. Recherches anatomo-physiologiques sur les Salamandres normalement privées de poumons. Arch. Ital. Biol. xxi, pp. 387-395 ; Atti Acc. Torino, xxix.
80. —. Ricerche anatomo-fisiologiche intorno ai Salamandridi normalmente apneumoni. Anat. Anz. ix, pp. 676-678.
81. CARPENTER, G. H. Nearctic or Sonoran. Nat. Sci. v, pp. 53-57.
82. CALKINS, G. A. History of the archoplasm mass in spermatogenesis of *Lumbricus*. Tr. N. York Ac. xiii, pp. 135-139, 11 figg.

83. *CATTANEO, G. Embriologia e morfologia generale. Milano: 8vo; 222 pp., 71 figg.
84. CAULLERY, —. Sur la dégénérescence des produits génitaux chez les Polyclinidés. C.R. Ac. Sci. cxviii, pp. 666-668.
85. CAVAZZANI, E. Un caso die frammentazione del vitello in un uovo di coniglio non fecondato. Bull. Soc. Veneto-Trent. v, pp. 204 & 205.
86. CAZENEUVE, P. La génération spontanée d'après les livres d'Henry Baker et de Joblot (1754). Rev. Scient. (4th ser.) i, pp. 161-166.
87. CHARLES, R. HAVELOCK. Morphological peculiarities in the Panjabi, and their bearing on the question of the transmission of acquired characters. J. Anat. Physiol. norm. path. xxviii, pp. 271-280.
88. CHARRIN, A., & GLEY, E. Nouvelles recherches expérimentales sur la transmission héréditaire de l'immunité. Arch. Physiol. norm. path. vi, pp. 1-6, 1 pl.
89. CUATIN, A. Signification de l'hermaphrodisme dans la mesure de la gradation des végétaux. C.R. Ac. Sci. cxviii, pp. 773-777.
Of general interest, and with some reference to animals.
90. CHATIN, J. Les organes de relation chez les Vertébrés. Paris: 16mo, 172 pp.
91. CHILTON, C. The subterranean Crustacea of New Zealand, with some general remarks on the fauna of caves and wells. Tr. Linn. Soc. London, vi, pt. 2, pp. 163-284, 8 pls.
92. CHITTENDEN, R. H. Some recent chemico-physiological discoveries regarding the cell. Amer. Natural. xxviii, pp. 97-117.
93. —. Neuere physiologisch-chemische Untersuchungen über die Zelle. Biol. Centralbl. xiv, pp. 320-327, & 375-384.
94. CHOLODKOVSKY, N. Zur Frage über die Anfangsstadien der Spermatogenese bei den Insecten. Zool. Anz. xvii, pp. 302-304.
95. CLARKE, C. B. Zoological regions. [Letter.] Nature, 1, p. 7.
96. COCKERELL, T. D. A. Discontinuous colour-variation. [Letter.] Nature, 1, pp. 197 & 198.
97. *COLLINS, J. A contribution to the arrangement and functions of the cells of the cervical spinal cord, to which is appended a note on central changes secondary to long continuous disuse of an extremity. N. York Med. Journ. v, pp. 40-98.
Re Functional Change.
98. CONKLIN, E. G. The fertilisation of the ovum. Wood's Holl Biological Lectures, vol. ii, pp. 15-35, 10 figg. [See WHITMAN (572).]
99. COPE, E. D. The energy of evolution. Amer. Natural. xxviii, pp. 205-219.

100. [*COPE, E. D.] The origin of structural variations. *New Occasions*, vol. ii, pp. 273-299.
101. CORNEVIN, CH. Recherche spontanée d'aliments d'origine végétale par les Carnivores. *Rev. Scient.* (4th ser.) i, pp. 723 & 724.
102. *CORNEVIN, CH., & LESBRE, F. X. *Traité de l'âge des animaux domestiques d'après les dents et les productions épidermiques.* Paris: 8vo, 462 pp., 211 figg.
103. CUÉNOT, L. Sur le fonctionnement du rein des *Helix*. *C.R. Ac. Sci.* cxix, pp. 539 & 540.
104. —. Défense de l'organisme contre les parasites chez les Insectes. *T. c.* pp. 806-808.
105. —. Études physiologiques sur les Crustacés décapodes. *Arch. Biol.* xiii, pp. 245-303, 2 pls.
106. —. *L'influence du milieu sur les animaux.* Paris: 8vo, 176 pp., 42 figg.
107. CUNNINGHAM, J. T. Neuter insects and Darwinism. *Nat. Sci.* iv, pp. 281-289.
108. —. The logic of Weismannism. [Letter.] *Nature*, 1, p. 523.
— [See also FRY (175).]
109. DALL, W. H. The mechanical cause of folds in the aperture of the shell of *Gasteropoda*. *Amer. Natural.* xxviii, pp. 909-914, 3 figg. [Re Evolution.]
110. DANILEWSKY, A. Le protoplasma. *Rev. Scient.* ii, pp. 583-592, & 619-622.
111. —. Die Fundamentalsubstanz des Protoplasmas und ihre Veränderungen durch das Leben. *Wien. med. Presse*, xxxv, pp. 765-768.
112. DAVENPORT, C. B. Studies in Morphogenesis II. Regeneration in *Obelia* and its bearing on differentiation in the germ-plasma. *Anat. Anz.* ix, pp. 283-294, 391 & 392, 6 figg.
113. DEAN, BASHFORD. The marine biological stations of Europe. *Rep. Smithson. Inst.* 1893, pp. 505-519, 9 pls., 2 figg.; also Wood's *Holl Biological Lectures*, vol. ii, pp. 211-234.
114. *DEBIERRE, C. Pourquoi dans la nature y a-t'il des mâles et des femelles. La fécondation, l'origine des sexes, l'hérédité. Paris: 1894. *Semaine médicale*, xiv, pp. 454-456.
115. DECHAMBRE, P. Races canines, classification et pointage. *Mem. Soc. zool. France*, vii, pp. 331-362. [Re Variation.]
116. DELBŒUF, J. Psychologie des lézards. *Rev. Scient.* (4th ser.) i, pp. 698 & 699.

117. DEMOOR, J. Contribution à l'étude de la physiologie de la cellule (indépendance fonctionnelle du protoplasme et du noyau). Arch. Biol. xiii, pp. 163-244, 2 pls.
118. —. Contribution à la physiologie de la cellule. Individualité fonctionnelle du protoplasma et du noyau. Bull. Soc. belge Micr. xx, pp. 36-40.
119. *DENNERT, E. Der Darwinismus und sein Einfluss auf die heutige Volksbewegung. Berlin: 8vo, 64 pp.
120. D'HAMONVILLE, LE BARON. A quelles causes attribuer les pontes anormales constatées chez certains oiseaux. Mem. Soc. zool. France, vii, pp. 86-91.
121. DISSE, J. Allgemeine Anatomie (Die geformte Elemente des Blutes der Wirbeltiere und ihre Entstehung). Anat. Ergebn. iii, pp. 210-227.
122. DISSELHORST, R. Der Harnleiter der Wirbeltiere. Anat. Hefte, iv, Heft. i, pp. 127-191, 3 pls.
123. DIXEY, F. A. On the relation of mimetic characters to the original form. Rep. Brit. Ass. 1894, pp. 692 & 693.
124. —. On the epidermis of the plantar surface and the question of use-inheritance. *T. c.* p. 698.
125. —. On Mr. Merrifield's experiments on Temperature-Variation as bearing on theories of heredity. Tr. ent. Soc. London, 1894, pp. 439-446.
126. *DODGE, C. W. Introduction to Elementary Practical Biology. New York: xxiii & 422 pp.
127. DRIESCH, H. Analytische Theorie der organischen Entwicklung. Leipzig: 8vo, xiv & 185 pp., 8 figg.
Review by T. Garbowski. Biol. Centralbl. xv, pp. 306-332.
128. —. Von der Entwicklung einzelner Ascidienblastomeren. Arch. Entwicklmech. i, pp. 398-412, pl. xvii.
129. —. Neuere Beiträge zur exakten Formenkunde in englischer Sprache. Kritisches Referat. *T. c.* pp. 414-441.
130. DRÜNER, L. Beiträge zur Kenntniss der Kern- und Zellendegeneration und ihrer Ursache. Jena Zeitschr. xxviii, pp. 294-327, 2 pls.
131. —. Zur Morphologie der Centralspindel. *T. c.* pp. 469-474.
132. —. Studien über den Mechanismus der Zellteilung. *Op. cit.* xxix, pp. 271-344, 5 pls.
133. DRUMMOND, H. The Lowell Lectures on the Ascent of Man. London: 8vo, xi & 444 pp. Critiques: F. A. Bather, Natural Science, v, pp. 449-454; E. Lynn Linton, Fortnightly Rev. 1894, pp. 448-457.

134. DUMONT, A. Natalité et masculinité. *Rev. Scient.* (4th ser.) i, pp. 752-756.
135. EBERTH, C. J. Cirkulationsorgane sog. Blutgefässdrüsen. *Anat. Ergöbn.* iii, pp. 228-237.
136. —. Die Sarkolyse. Nach gemeinsam mit Herrn Dr. Nötzel ausgeführten Untersuchungen an der Froschlarve. *Festschr.* 200 Jubelfeier Univ. Halle. Berlin: 4to, 14 pp., 1 fig., 1 pl.
137. *EBNER, V. VON. Die äussere Furchung des Triton-Eies, und ihre Beziehung zu den Hauptrichtungen des Embryo. *Jena:* 4to, 26 pp., 2 pls. [From *Festschr. f. Alex Rollett.*]
138. EDINGER, L. Vergleichend-anatomische und entwicklungsgeschichtliche Studien im Bereiche der Hirnanatomie. *Verh. Anat. Ges.* viii, pp. 52-59, 4 figg.
139. *EHA, —. A Naturalist on the prowl, or in the jungle. London: 8vo, xii & 257 pp.
140. EISMOND, J. Einige Beiträge zur Kenntniss der Attractionssphären und der Centrosomen. *Anat. Anz.* x, pp. 229-239 & 261-272, 6 figg.
141. EMERY, C. Die Entstehung und Ausbildung des Arbeiterstandes bei den Ameisen. *Biol. Centralbl.* xiv, pp. 53-59.
142. —. Gedanken zur Descendenz- und Vererbungstheorien. VI. H. Fabre's Beobachtungen und die Entstehung der Instinkte. VII. Zur Entstehung und Bedeutung der Knospung bei Metazoën. *T. c.* pp. 721-727.
143. —. Études sur la morphologie des membres des Amphibiens et sur la phylogénie du Chiroptérygium. *Arch. ital. Biol.* xxii, pp. 218-232.
144. ENDRES, H. Anstichversuche an Froscheiern. *Jahresber. Schlesisch. Ges.* lxxii, pp. 71-86.
145. *ENGEL, A. Das Thier und sein Recht im Lichte der Religion, der Philosophie, und Litteratur der Völker. 8vo, 100 pp.
146. *EXNER, S. Entwurf zu einer physiologischen Erklärung der psychischen Erscheinungen. I. Teil. Leipzig and Wien: 8vo, 1894, viii & 380 pp., 63 figg.
Review (Rosenthal) *Biol. Centralbl.* xiv, pp. 813-816.
EYCLESHYMER, A. C. [See JORDAN & EYCLESHYMER (262).]
147. FABRE-DOMERGUE, —. Sur la conservation en collections des animaux colorés. Deuxième note. *C.R. Soc. Biol.* 1894, pp. 803 & 804.
148. FANO, G. Sur le chimisme respiratoire dans les animaux et dans les plantes. *Arch. ital. Biol.* xxi, pp. 272-292, 7 figg.

149. [FANO, G.] La physiologie dans ses rapports avec la chimie et avec la morphologie. Rev. Scient. (4th ser.) ii, pp. 257-264.
150. FATIÒ, V. *Perdix saxatilis*, var. *melanocephala*. Curieux déplacements de couleurs. Mem. Soc. zool. France, vii, pp. 393-398. [Re Variation.]
151. FÉRÉ, CH. Note sur l'influence de la température sur l'incubation de l'œuf de poule. J. Anat. Physiol. xxx, pp. 352-365.
152. —. Note sur les différences des effets de vibrations mécaniques sur l'évolution de l'embryon de poulet suivant l'époque où elles agissent. C.R. Soc. Biol. 1894, pp. 319-323 & 463-465.
153. —. Note sur l'influence des vapeurs mercurielles sur le développement de l'embryon de poulet. T. c. pp. 282-284.
154. FERNALD, C. H. North Greenland *Microlepidoptera*. Ent. News, v, pp. 129-132. [Cited re Natural Selection, see Amer. Nat. xxviii, p. 964.]
155. FIELD, H. H. La réforme bibliographique. Mem. Soc. zool. France, vii, pp. 259-263.
156. *FILHOL, H. Conseils aux voyageurs naturalistes. Paris: 8vo, 306 pp.
157. *FISCHER, E. Transmutation der Schmetterlinge infolge Temperaturänderungen. Experimentelle Untersuchungen über die Phylogense der Vanessen. Berlin: 8vo, 36 pp.
158. FISCHER, M. [Translation.] Rules of nomenclature adopted by the International Congress, held in Moscow, Russia, 1892. Amer. Natural. xxviii, pp. 929-933.
159. *FISH, P. A. The terminology of the nerve-cell. J. Comp. Neurol. iv, pp. 171-175.
160. FLEMMING, W. Morphologie der Zelle und ihrer Theilungserscheinungen. Anat. Ergebn. iii, pp. 24-131.
161. FOA, E. Mes grandes chasses dans l'Afrique Centrale. Paris: 1895, 8vo, iv & 340 pp., 76 figg.
162. FOOT, K. Preliminary note on the maturation and fertilisation of the egg of *Allolobophora fatida*. J. Morphol. ix, pp. 475-484, 8 figg.
163. FORBES, H. O. Antarctica: a vanished Austral land. Fortn. Rev. iv, pp. 194-214.
164. FOREL, A. Polymorphisme et ergatomorphisme des fourmis. Arch. Phys. Nat. xxxii, pp. 373-380.
165. FOREL, F. A. Zoologie lacustre. Arch. Phys. Nat. xxxii, pp. 588-605.
166. FOSGER, M. Text-book of physiology. 6th Edition. Blood: the tissues of movement, the vascular mechanism. London: 8vo, 368 pp., illustr.

167. FOWLER, G. H. Notes on some specimens of antlers of the Fallow Deer, showing continuous variation, and the effects of total or partial castration. *P. Zool. Soc. London*, 1894, pp. 485-494.
168. FRANCÉ, R. H. Zur Biologie des Planktons. *Biol. Centralbl.* xiv, pp. 33-38.
169. FRANCOÏTE, P. Note sur l'œil pariétal, l'épiphyse, la paraphyse et les plexus choroïdes du troisième ventricule. *Bull. Ac. Belgique*, xxvii, pp. 84-112, 2 pls.
170. —. Quelques essais d'embryologie pathologique expérimentale. *T. c.* pp. 382-391, 1 pl.
171. FRENKEL, M. La Paranucléine. *Congr. Internat. Rome. Arch. ital. Biol.* xxii, viii pp.
172. FRIEDLÄNDER, B. Beiträge zur Physiologie des Centralnervensystems und des Bewegungsmechanismus der Regenwürmer. *Arch. ges. Physiol.* lviii, pp. 168-206.
173. FRITZE, A. Ueber Saison-Dimorphismus und Polymorphismus bei japanischen Schmetterlingen. *Ber. Ges. Freiburg*, viii, pp. 152-162.
174. FRORIEP, A. Entwicklungsgeschichte des Kopfes. *Anat. Ergebn.* iii, pp. 391-459.
175. FRY, E. What are acquired characters? *Nature*, li, pp. 8-11, 197 & 198.
 Discussion carried on by LANKESTER, E. R., *t. c.* pp. 54, 102 & 103; POULTON, E. B., pp. 55, 126 & 127; GALTON, F., p. 56; CUNNINGHAM, J. T., p. 126.
176. GALTON, F. Discontinuity in evolution. *Mind*, iii, pp. 362-372.
 —. [See also FRY (175).]
177. GARSTANG, W. Preliminary note on a new theory of the phylogeny of the *Chordata*. *Zool. Anz.* xvii, pp. 122-125.
178. GASCO, F. Chez l'Axolotl le développement normal de l'œuf et le sexe sont tout à fait indépendants du nombre des némaspermes qui se sont insinués dans la sphère vitelline. *Congr. Internat. Rome. Arch. ital. Biol.* xxii, pp. xxiii & xxiv.
179. GAUTIER, A. Die Ernährung der Zelle. *Biol. Centralbl.* xiv, pp. 417-432.
180. —. La nutrition de la cellule. *Rev. Scient.* (4th ser.) i, pp. 513-521.
181. —. Quelques remarques préliminaires sur le mécanisme de la désassimilation des albuminoïdes et la formation de l'urée dans l'économie. *C.R. Ac. Sci.* cxviii, pp. 902-904.
 Observation de M. A. CHAUVEAU, pp. 904-906; de M. BERTHELOT, pp. 906 & 907.
182. —. La chimie de la cellule vivante. Paris: 8vo, 176 pp., figg.

183. GEGENBAUR, C. Zur Phylogenesse der Zunge. *Morphol. Jahrb.* xxi, pp. 1-18, 5 figg.
184. —. Das Flossenskelet der Crossopterygier und das Archipterygium der Fische. *Op. cit.* xxii, pp. 119-160, 5 figg. [*Re Evolution.*]
185. GIACOMINI, C. Influence de l'air raréfié sur le développement de l'œuf de poule. *Arch. ital. Biol.* xxii, pp. 169-183, 1 fig.
186. —. Influenza dell' aria rarefatta sullo sviluppo dell' uovo di pollo. *Giorn. Accad. Med. Torino*, 1894, No. ii, p. 16, 1 fig.
Summary (A. Banchi) *Monit. Zool. ital.* v (1894) pp. 269-271.
187. GIARD, A. Evolution des êtres organisés. Sur certains cas de dedoublement des courbes de Galton dus au parasitisme et sur le dimorphisme d'origine parasitaire. *C.R. Ac. Sci.* cxviii, pp. 870-873, and *C.R. Soc. Biol.* 1894, pp. 341-343.
188. —. Convergence et Poecilogonie chez les Insectes. *Ann. Soc. ent. France*, lxiii, pp. 128-135, *Trans. Psyche.* vii, pp. 171-175. *Zool. Centralbl.* iii (1895) p. 81.
189. —. Sur le mimétisme parasitaire. *Ann. Soc. ent. France*, lxiii, pp. 124-128.
190. GILSON, G. The nephridial duct of *Owenia*. *Anat. Anz.* x, pp. 191-194, 5 figg. [*Cited re morphological interest.*]
191. GIROD, P. Observations physiologiques sur le rein de l'Escargot (*Helix pomatia*, L.). *C.R. Ac. Sci.* cxviii, pp. 294-296. [*Comp. Physiol.*]
- GLEY, E. [*See CHARRIN & GLEY (88).*]
192. *GOETHE'S WERKE. *Naturwiss. Schriften.* Bd. 8. Zur Morphologie. Teil III. herausgegeben von Karl von Bardeleben. Weimar : 8vo, 1893, viii & 362 pp., 5 pls.
193. *GOLGI, C. Untersuchungen über den feineren Bau des centralen und peripherischen Nervensystems. (Trans. by R. Teuscher.) Jena : 4to, 272 pp., 2 figg., atlas, 30 pls.
194. GOSSELET, —. Sur les variations du *Spirifer verneuili*. *C.R. Ac. Sci.* cxix, pp. 356 & 357. *Cf. Mem. Soc. geol. Nord*, iv (1894). [*Variation.*]
195. GOUPIN, H. Sur l'alimentation de deux commensaux. *C.R. Ac. Sci.* cxix, pp. 540-543.
196. GRAF, A. Eine rückgängig gemachte Furchung. *Zool. Anz.* xvii, pp. 424-428, 9 figg.
197. *GRANGER, A. Manuel du naturaliste. *Traité pratique de la récolte, de la preparation, du rangement en collections de tous les objets d'histoire naturelle en zoologie, botanique, géologie : Empaillage des animaux ; Préparation des squelettes, &c.* Paris : 16mo, 336 pp., 257 figg.

198. GRASSI, B., & SANDIAS, A. Costituzione e sviluppo della società dei Termitidi. Osservazioni sui loro costumi con un'appendice sui Protozoi parassiti dei Termitidi e sulla famiglia delle Embidine. *Atti Acc. Gioen.* lxxi, pp. 1-76, 5 pls.
199. GRATACAP, L. P. The numerical intensity of Faunas. *Amer. Natural.* xxviii, pp. 752-760.
200. GREENWOOD, M. On the constitution and mode of formation of "food vacuoles" in *Infusoria*, as illustrated by the history of the processes of digestion in *Carchesium polypinum*. *Phil. Trans.* 185 B, pp. 355-383, 1 pl.
201. GREENWOOD, M., & SAUNDERS, E. R. On the rôle of acid in Protozoan digestion. *J. Physiol.* xvi, pp. 441-467, 1 pl.
202. GRIFFITHS, A. B. Sur la composition du pigment rouge de *Diemyctylus viridescens*. *C.R.* cxix, pp. 912 & 913.
203. GRIFFITHS, J. Retained testes in man and in the dog. *J. Anat. Physiol. norm. path.* xxviii, pp. 209-220, 1 pl.
204. —. The condition of the testes and prostate gland in eunuchoid persons. *T. c.* pp. 221-228, 1 pl.
- GUENTHER, P. [See BENDA & GUENTHER (32).]
205. *GUYARD, E. Histoire du Monde: son évolution et sa civilisation. Paris: 8vo, 700 pp.
206. HAACKE, W. Die Formenphilosophie von Hans Driesch und das Wesen des Organismus. *Biol. Centralbl.* xiv, pp. 626-647, 666-681, & 697-718.
207. —. Die Vererbung erworbener Eigenschaften. *T. c.* pp. 513-528, & 529-543, 2 figg.
208. —. R. v. Lendenfeld's Kritik der Gemmarienlehre. *T. c.* pp. 497-513.
209. *—. Schöpfung und Wesen der Organismenform. Eine historisch-kritische Studie ueber alte und neue Entwicklungslehren. *Nat. Woch.* ix, 385-392, 397-404, 409-416, 423-428, 438-441, 449-452, & 460-468.
210. HÆCKEL, E. Systematische Phylogenie der Protisten und Pflanzen. Erster Theil des Entwurfs einer systematischen Phylogenie. Berlin: 8vo, xv & 400 pp.
211. *—. The problem of progressive heredity. *Open Court*, No. 338, 1894, pp. 3975-3978.
212. HÆCKER, V. Die spätere Entwicklung der Polynoë-Larve. *Zool. Jahrb. Anat.* viii, pp. 245-288, 4 pls.

Cited *re* some histological points.

213. [HÆCKER, V.] Ueber generative und embryonale Mitosen, sowie über pathologische Kerntheilungsbilder. Arch. mikr. Anat. xliii, pp. 759-787, 1 pl., 2 figg.
214. —. Eine neue Schrift zur Vererbungslehre. Biol. Centralbl. xiv, pp. 598-605.
Review of HERTWIG (235).
215. —. Ueber den heutigen Stand der Centrosomenfrage. Verh. deutsch. Zool. Ges. pp. 11-32, 11 figg.
216. HALIBURTON, W. D. Chemical Physiology. Sci. Prog. i; pp. 91-104.
217. * —. The essentials of chemical physiology for the use of students. London: 8vo, 166 pp.
218. HAMMAR, J. A. Altmann's Granula-Theorie. Arch. Anat. 1894, pp. 157-160.
219. * HANAU, A. Ueber die Vererbung von Krankheiten und Fehlern. Ber. St. Gall. Ges. (1892-93) pp. 137-174.
220. HANSEMAN, D. Ueber die Specificität der Zelltheilung. Arch. mikr. Anat. xliiii, pp. 244-251, 1 pl.
221. HARDY, W. B., & KANTHACK, A. A. On the characters and behaviour of the wandering (migrant) cells of the frog, especially in relation to micro organisms. Phil. Trans. 185 B, 1894, pp. 279-318, 1 pl.
HARDY, W. B. [See also KANTHACK, A. A., & HARDY, W. B. (264).]
222. HATSCHKE, B. Ueber den gegenwärtigen Stand der Keimblättertheorie. Verh. deutsch. Zool. Ges. iii, pp. 11-23.
223. HAYCRAFT, J. B. On the rôle of sex in evolution. Rep. Brit. Ass. 1894, pp. 691 & 692.
224. —. Darwinism and race progress. (Milroy lecture.) Lancet, v, pp. 383-388 & 453-457.
225. HEIDENHAIN, M. Neue Untersuchungen über die Centrialkörper und ihre Beziehungen zum Kern- und Zellenprotoplasma. Arch. mikr. Anat. xliiii, pp. 423-758, 7 pls.
226. —. Ueber Bau und Function der Riesenzellen (Megacaryocyten) im Knochenmark. SB. Ges. Würzburg, 1894, pp. 18-32.
Cited for observations on structure of plasma, on central corpuscles, &c.
227. —. Cytomechanische Studien. Arch. Entwicklmech. i, pp. 473-577, pl. xx.
228. * HEIDER, A. R. VON. Die Zoologie in der Medicin. Jena: 4to, 14 pp.
From Festschr. f. Alex. Rollett.

229. HENNEGUY, L. F. Recherches sur l'atrésie des follicules de Graaf chez les Mammifères et quelques autres Vertébrés. *J. Anat. Physiol.* xxx, pp. 1-39, 2 pls.
230. HENSLAW, G. The origin of species without natural selection. *Nat. Sci.* v, pp. 257-264.
231. HERBST, C. Ueber die Bedeutung der Reizphysiologie für die kausale Auffassung von Vorgängen in der tierischen Ontogenese, I. *Biol. Centralbl.* xiv, pp. 657-666, 689-697, & 727-744.
232. —. II Teil. Ueber die Bedeutung der Richtungsreize für die kausale Auffassung ontogenetischer Vorgänge. *T. c.* pp. 753-771 & 800-810.
233. HERLA, V. Étude des variations de la mitose chez l'*Ascaride megalocephale*. *Arch. Biol.* xiii, pp. 423-520, 5 pls.
234. HERTWIG, O. La cellule et les tissus, éléments d'anatomie et de physiologie générales. Traduit de l'allemand par Ch. Julin. Paris: 8vo, xiv & 351 pp.
235. —. Zeit- und Streitfragen der Biologie. Heft. I. Präformation oder Epigenese. Grundzüge einer Entwicklungstheorie der Organismen. Jena: 8vo, iv & 143 pp., 4 figg.
Review, HÆCKER (214).
236. —. Ueber den Einfluss äusserer Bedingungen auf die Entwicklung des Froscheies. *SB. Ak. Berlin*, 1894, pp. 311-317.
237. HERTWIG, R. Lehrbuch der Zoologie. 3 umgearb. Aufl. Jena: 8vo, xii & 599 pp., 568 figg.
238. HEYMONS, R. Ueber die Fortpflanzung der Ohrwürmer. *SB. Ges. naturf. Berlin*, 1894, pp. 65 & 66; *Nat. Wochenschr.* ix, pp. 194 & 195.
Reproductive habits.
239. HICKS, H. The homes and migrations of the earliest known forms of animal life, as indicated by recent researches. *Nat. Sci.* v, pp. 417-421.
240. HICKSON, S. J. The fauna of the deep sea. London: 8vo, xvi & 169 pp., 23 figg.
241. HILL, L. The inheritance of acquired characters. [Letter.] *Nature*, I, p. 617.
242. HILL, M. D. Cell-division. *Nat. Sci.* iv, pp. 38-49 & 417-427, 12 figg.
243. HIS, W. Ueber mechanische Grundvorgänge tierischer Formenbildung. *Arch. Anat.* 1894, pp. 1-80, 50 figg.
244. HJORT, J. Beitrag zur Keimblätterlehre und Entwicklungsmechanik der Ascidien-Knospung. *Anat. Anz.* x, pp. 215-229, 5 figg. [Re experimental embryology.]

245. HOCHSTÄTTER, F. Entwicklung des Venensystems der Wirbeltiere. Anat. Ergebn. iii, pp. 460-489.
246. HODGE, C. F. A microscopical study of the nerve-cell during electrical stimulation. J. Morphol. ix, pp. 449-463, 5 figg.
247. HODGE, C. F. Die Nervenzelle bei der Geburt und beim Tode an Alterschwäche. Anat. Anz. ix, pp. 706-710, 4 figg.; J. Physiol. xvii, pp. 129-134.
248. HOFFMANN, C. K. Zur Entwicklungsgeschichte des Selachierkopfes. Anat. Anz. ix, pp. 638-653, 5 pls.
Metamerism of head.
249. *HOLDEN-WARD, H. An outline of the embryology of the eye, with illustrations from original drawings by the author. New York and London: 1893, 8vo, 69 pp., 12 pls.
250. HOPKINS, F. GOWLAND. The pigments of the *Pieridæ*. A contribution to the study of excretory substances which function in ornament. P. R. Soc. London, lvii, pp. 5 & 6.
251. HOWES, G. B. On the present outlook of vertebrate morphology. Sci. Prog. i, pp. 73-90.
252. HUTCHINSON, H. N. Creatures of other days. London: 8vo, xxiv & 270 pp., illustr.
253. HUXLEY, T. H. Man's place in nature, and other anthropological essays. [Re-ed. Collected Essays.] London: 8vo, 334 pp.
254. HYATT, A. Phylogeny of an acquired character. P. Amer. Phil. Soc. xxxii, pp. 349-647, 14 pls.
255. —. Remarks on Schulze's system of descriptive terms. Amer. Natural. xxviii, pp. 369-379.
256. *IMBERT, A. Traité élémentaire de physique biologique. Paris: 1893, 8vo, 1000 pp., 500 figg.
257. ISHIKAWA, C. Studies of reproductive elements: II. *Noctiluca miliaris*, Sur.; its division and spore-formation. J. Coll. Japan, vi, pp. 297-334, 4 pls.
258. ISRAEL, O. Ueber eine eigenartige Contractionserscheinung bei *Pelomyxa palustris*, Greef. Arch. mikr. Anat. xlv, pp. 228-236, 1 pl.
259. JACOBY, M. Ueber die mediane Schilddrüsenanlage bei Säugern (Schwein). Anat. Anz. x, pp. 49-55, 6 figg.
260. JAECKEL, O. Ueber die Beziehungen der Paläontologie zur Zoologie. Verh. deutsch. Zool. Ges. iii, pp. 76-83.
261. JOHNSON, H. P. The plastogamy of *Actinosphaerium*. J. Morphol. ix, pp. 269-276, 1 fig.
262. JORDAN, E. O., & EYLESHYMER, A. C. On the cleavage of amphibian ova. T. c. pp. 407-416, 1 pl.

263. JUDD, J. W. The chemical action of marine organisms. *Fortn. Rev.* lv, pp. 65-73.
264. KANTHACK, A. A., & HARDY, W. B. The morphology and distribution of the wandering cells of *Mammalia*. *J. Physiol.* xvii, pp. 82-119.
265. KELLER, J. Die ungeschlechtliche Fortpflanzung der Süßwasser-Turbellarien. *Jena. Zeitschr.* xxviii, pp. 370-407, 4 pls.
266. —. Die ungeschlechtliche Fortpflanzung der Süßwasser-Turbellarien. *Vierteljahrsehr. Ges. Zurich*, xxxix, pp. 337-344.
267. KELLER, C. Das Leben des Meeres. Leipzig: 8vo, pp. 1-480, 12 pls., figg.
268. KEMPEN, CH. VAN. Mammifères et oiseaux présentant des variétés de coloration, des cas d'hybridité, ou des anomalies. *Bull. Soc. zool. France*, xix, pp. 76-85.
269. KIESEL, A. Untersuchungen zur Physiologie des facettirten Auges. *SB. Ak. Wien*, ciii, pp. 97-139, 1 pl., 6 figg.
270. KIJANIZIN, J. Influence de l'air sterilisé sur l'assimilation, la désassimilation de l'azote et l'excretion d'acide carbonique chez les animaux. *Arch. Biol.* xiii, pp. 339-388, 1 pl.
271. KINGSLEY, J. S. The origin of the vertebrate skeleton. *Amer. Natural*, xxviii, pp. 633-640.
272. KIP, M. J. VAN ERP JAALMAN. Over de Ontwikkeling van de Müllersche gang by Zoogdieren. *Tijdschr. Nederland. Dierk. Ver.* iv, pp. 71-184, 3 pls.
273. KLAATSCH, H. Ueber die Herkunft der Scleroblasten. Ein Beitrag zur Lehre von der Osteogenese. *Morphol. Jahrb.* xxi, pp. 153-240, 5 pls., 6 figg.
274. —. Zur Kenntniss der Betheiligung des Ectoderms am Aufbau innerer Skelettbildungen. *Verh. Anat. Ges.* viii, pp. 170-172.
275. KLEBS, G. Ueber das Verhältniss des männlichen und weiblichen Geschlechts in der Natur. *Jena*: 8vo, 30 pp.
276. *KLEIN, E. Grundzüge der Histologie. *Ausg. von A. Kollmann.* 3 Aufl., xvi & 410 pp., 194 figg.
277. KLEMM, —. Degenerations- und Regenerationserscheinungen des Protoplasmas. *Ver. Ges. deutsch. Naturf.* Teil 2, Abth. i, pp. 153 & 154.
278. KNAUTHE, K. Einfluss der Nahrung auf Färbung. *Zeitschr. Naturw.* lxxvii, pp. 282-284.
279. KNOLL, PH. Ueber die Blutkörperchen bei wirbellosen Thieren. *SB. Ak. Wien*, cii (1893) pp. 440-478, 2 pls.
280. —. Ueber die Herzthätigkeit bei einiger Evertebraten und deren Beeinflussung durch die Temperatur. *T. c.* pp. 387-405.

281. KOFÓID, C. A. On some laws of cleavage in *Limax*. P. Amer. Ac. xxi, pp. 180-203, 2 pls.
282. KÖRSCHULT, E. Ueber eine besondere Form der Eibildung und die Geschlechtsverhältnisse von *Ophryotrocha puerilis*. Ber. Ges. Freiburg, viii, pp. 1-9, 3 figg.
283. KOSSEL, A. Ueber einige Bestandteile tierischer Zellen nach gemeinschaftlich mit Albert Neumann angestellten Untersuchungen. Arch. Physiol. 1894, pp. 551 & 552.
284. KOSSEL, A., & NEUMANN, A. Über die Spaltungsproducte der Nucleinsäure. SB. Ak. Berlin, 1894, pp. 321-327.
285. KOWALEVSKY, A. Études expérimentales sur les glandes lymphatiques des Invertébrés. Bull. Ac. St. Petersb. xxxvi, pp. 273-295.
286. KRAUSE, W. Die Retina. v. Die Retina der Vögel. Int. Monatsch. Anat. Phys. xi, pp. 1-66, 1 pl., and pp. 69-122, 4 pls.
287. *KUNSTLER, J. Fragments de biologie cellulaire. Bordeaux : 8vo, 128 pp.
288. *KUPFFER, C. Studien zu vergleichenden Entwicklungsgeschichte des Kopfes der Cranioten. Heft. 2. Munchen and Leipzig : 8vo, 79 pp., 12 pls., 3 figg.
289. LACAZE-DUTHIERS, H. DE. L'orthographe du langage scientifique. (Lettre à Ch. Richet). Rev. Scient. (4th ser.) i, pp. 97-105.
290. LAGUESSE, E. Structure et développement du pancréas d'après les travaux récents. J. Anat. Physiol. xxx, pp. 591-608, 2 figg., and pp. 731-783, 5 figg.
291. LANCE, D. Sur la reviviscence des Tardigrades. C.R. Ac. Sci. cxviii, pp. 817 & 818.
292. LANG, ALB. Zur Frage der Knospung der Hydroiden. Biol. Centralbl. xiv, pp. 682-687. [*Re Gen. Embryology.*]
293. LANG, ARN. Lehrbuch der vergleichenden Anatomie. iv. Theil. Jena : 8vo, pp. xvi & 871-1197.
- LANKESTER, E. R. [*See FRY (175).*]
294. LATASTE, F. À propos d'une Note de M. Rémy St. Loup intitulée "Sur les modifications de l'espèce." Act. Soc. Chili, iii, pp. 105-111.
295. —. Rôle des vésicules seminales chez les Mammifères. T. c. pp. cv-cvii.
296. LAVDOWSKY, M. Von der Entstehung der chromatischen und achromatischen Substanzen in den tierischen und pflanzlichen Zellen: Anat. Hefte iv, Heft. 3, pp. 353-446, 6 pls.
297. LAVOCAT, A. Construction des arcs inférieurs de la tête dans la série des animaux vertébrés. Mem. Ac. Toulouse, vi, pp. 23-48.

298. *LEBON, L. De l'hérédité de la longévité. Thèse. Nancy: 4to, 1894, 56 pp.
299. LEE, F. S. The scope of modern physiology. *Amer. Natural.* xxviii, pp. 380-388 & 473-482.
300. —. A study of the sense of equilibrium in Fishes. *J. Physiol.* xv, pp. 311-348.
301. LEMOINE, V. Étude comparée du développement de l'œuf chez le Puceron vivipare et ovipare. *Bull. Soc. ent. France*, lxii, pp. lxxxix-xcvii.
302. LENDENFELD, R. v. Einige neuere Arbeiten über die Verdauung bei Infusorien und Plasmodien. *Biol. Centralbl.* xiv, pp. 777-779. [Comp. Physiol.]
303. —. Haacke's Gemmarienlehre. *T. c.* pp. 413-416.
304. LENHOSSEK, M. v. Zur Kenntniss der Netzhaut der Cephalopoden. *Zeitschr. wiss. Zool.* lviii, pp. 636-660, 2 figg.
- Including general discussion of possible stages in the evolution of the eye.
305. *LEONARDT, C. Vergleichende Zoologie. 3 Aufl. Jena: 8vo, xviii & 295 pp., 208 figg.
- LESBRE, F. X. [See CORNEVIN & LESBRE (102).]
306. LEYDIG, F. Integument und Hautsinnesorgane der Knochenfische. *Zool. Jahrb. Anat.* viii, pp. 1-152, 7 pls. [Re General Considerations.]
307. LINNÆUS, G. Caroli Linnæi Systema Naturæ. Regnum Animale. Editio decima 1758, cura Societatis Zool. Germ. iterum edita. Leipzig: iv & 824 pp.
308. *LINSTOW, O. VON. Die Giftthiere und ihre Wirkung auf den Menschen. Berlin: 8vo, iv & 148 pp., 54 figg.
309. LOCY, W. A. Metameric segmentation in the medullary folds and embryonic rim. *Anat. Anz.* ix, pp. 393-415, 11 figg.
310. —. The mid-brain and the accessory optic vesicles. *T. c.* pp. 486-488.
311. LOEB, J. Ueber die relative Empfindlichkeit von Fischembryonen gegen Sauerstoffmangel und Wasserentziehung in verschiedenen Entwicklungsstadien. *Arch. ges. Physiol.* lv, pp. 530-541.
312. —. Ueber eine einfache methode, zwei oder mehr zusammengewachsene Embryonen aus einem Ei hervorzubringen. *T. c.* pp. 525-529.
313. —. Beiträge zur Gehirnphysiologie der Würmer. *Op. cit.* lvi, pp. 247-269, 4 figg.

314. [LOEB, J.] Ueber die Grenzen der Teilbarkeit der Eissubstanz. *Op. cit.* lix, pp. 379-394.
315. —. Beiträge zur Entwicklungsmechanik der aus einem Ei entstehenden Doppelbildungen. *Arch. Entwicklmech.* i, pp. 453-472, pls. xviii & xix.
316. —. On some facts and principles of physiological morphology. *Wood's Holl Biological Lectures*, vol. ii, pp. 37-61, 28 figg. [See WHITMAN.]
317. *LOEW, O. The energy of the living protoplasma. *Bull. Coll. Agric. Tokyo*, v, pp. 1-33.
318. LWOFF, B. Die Bildung der primären Keimblätter und die Entstehung der Chorda und des Mesoderms bei den Wirbelthieren. *Bull. Soc. Moscou*, 1894, pp. 57-137 & 160-256, 3 pls.
319. LYDEKKER, R. *The Royal Natural History*. Edited by R. Lydekker, with preface by P. L. Sclater. Illustrated with 72 coloured plates and 1600 engravings. London and New York: 8vo, vol. I, xii & viii & 583 pp.; vol. II, xii & 583 pp.; vol. III, xv & 584 pp.
320. MAAS, O. On temperature as a factor in the distribution of marine animals. *Rep. Brit. Ass.* 1894, pp. 687 & 688.
321. —. The effect of temperature on the distribution of marine animals. *Nat. Sci.* v, pp. 276-283.
322. —. Ueber die erste Differenzierung von Generations- und Soma-zellen bei Spongien. *Verh. deutsch. Zool. Ges.* 3 Vers., pp. 27-35, 6 figg.
323. MAGINI, G. L'orientation des nucléoles des cellules nerveuses motrices dans le lobe électrique de la torpille, à l'état de repos et à l'état d'excitation. *Arch. ital. Biol.* xxii, pp. 212-217.
324. MALLOCK, A. Insect sight and the defining power of composite eyes. *P. R. Soc. London*, lv, pp. 85-90, 3 figg.
325. MANN, G. Histological changes induced in sympathetic, motor, and sensory nerve-cells by functional activity (Preliminary note). *J. Anat. Physiol. norm. path.* xxix, pp. 100-108, 1 pl.
326. MARCACCI, A. Les rapports des organes de la respiration et de la natation chez les pulmonés aquatiques. *Arch. ital. Biol.* xxii, pp. 196-203.
327. MARCHAL, P. La vie des Guêpes. *Rev. Scient.* (4th ser.) i, pp. 225-234. [Re Psychology.]
1894. [VOL. XXXI.]

328. MAREY, E. J. Des mouvements que certains animaux exécutent pour retomber sur leurs pieds lorsqu'ils sont précipités d'un lieu élevé. C.R. Ac. Sci. cxix, pp. 714-717, 2 figg.
Notes by GUYON, pp. 717 & 718. Observations sur le principe des aires, M. LÉVY, pp. 718-721; MESNY, pp. 763 H; M. DEPPEZ, pp. 767-769; P. APPELL, pp. 770 & 771; P. CHASSIN, p. 819; M. NANN, p. 871; L. LECORME, pp. 899 & 900.
329. —. Comparative locomotion of different animals. *Smithson. Rep.* 1893, pp. 501-504, 2 pls. [Trans. from *La Nature*, xxi, 1893, pp. 215-218.]
330. MARGESSON, LADY I. Handbook to the study of natural history. London: 8vo, xx & 232 pp. [various authors].
331. MARI, M. De spermatogonii regeneratione in *Telphusa fluviatilis*. *Zool. Res. Ann.* i, pp. 24-27, 1 pl.
332. MARSHALL, A. MILNES. Biological lectures and addresses. London: 8vo, viii & 363 pp.
333. —. Lectures on the Darwinian theory. (Edited by C. F. Marshall.) London: 8vo, 240 pp., 37 figg.
334. MARSHALL, W. Vertheilung der Farben bei einheimischen Schmetterlingen. *Zeitschr. Naturw.* lxxvii, pp. 47-58.
Mimicry and Sexual Selection.
335. —. Neueröffnetes, wundersames Arznei-Kästlein, darin allerlei gründliche Nachrichten, wie es unsere Voreltern mit den Heilkräften der Tiere gehalten haben, zu finden sind. Leipzig: 1894, 16mo, 127 pp.
336. * —. Plaudereien und Vorträge. Leipzig: 8vo.
Asymmetry, Masking, Suicide among animals, etc., etc.
337. *MASON, P. B. Variation in the shells of the Mollusca. *Pres. Address. J. Conch.* vii, pp. 328-346.
338. MATAGNE, H. La réviviscence des Rotifères. *Ann. Soc. Bruxelles*, xviii (1893-4), pp. 64-66. [Cf. GEORGE & HAHN. *T. c.* pp. 116 & 117.]
339. MAURER, F. Die Elemente der Rumpfmuskulatur bei Cyclostomen und höheren Wirbelthieren. Ein Beitrag zur Phylogenie der quergestreiften Muskelfaser. *Morphol. Jahrb.* xxi, pp. 473-619, 4 pls.
340. MAZZARELLI, G. Sull' origine del sympatico nei Vertebrati. *Atti Acc. Lincei*, ccxci, pp. 269-273, 1 fig.
341. MELTZER, S. J. Ueber die fundamentale Bedeutung der Erschütterung für die lebende Materie. *Zeitschr. Biol.* xxx, pp. 464-509.
342. MERKEL, F. Sinnesorgane. *Anat. Ergeb.* iii, pp. 281-305.
343. —. Respirations-Apparat. *T. c.* pp. 274-280.

344. MERRIAM, C. HART. Laws of temperature control the geographical distribution of terrestrial animals and plants. Nat. Geog. Mag. vi (1894), pp. 229-238, 3 maps.
345. MERRIFIELD, F. Temperature experiments, in 1893, on several species of *Vanessa* and other *Lepidoptera*. Tr. ent. Soc. London, 1894, pp. 425-438.
346. MERTENS, H. Recherches sur la signification du corps vitellin de Balbiani dans l'ovule des mammifères et des oiseaux. Arch. Biol. xiii (1893, published July, 1894), pp. 389-422, 1 pl.
347. METZNER, R. Beiträge zur Granulalehre. I. Kern und Kerntheilung. Arch. Physiol. 1894, pp. 309-348, 2 pls.
348. MEVES, F. Ueber eine Metamorphose der Attractionsphäre in den Spermatogonien von *Salamandra maculosa*. Arch. mikr. Anat. xlv, pp. 119-184, 5 pls.
350. ——. Ueber eine Art der Entstehung ringförmiger Kerne und die bei ihnen zu beobachtenden Gestalten und Lagen der Attractionsphären. Inaug. Diss. Kiel, 8vo, 22 pp., 1 pl.
351. MILES, MANLY. Animal Mechanics. Amer. Natural. xxviii, pp. 555-571.
352. MILNE-EDWARDS, M. A., & BOUVIER, E. L. Sur les modifications adaptatives des yeux et des antennules chez les Galathéidés abyssaux. C.R. Soc. Biol. 1894, pp. 231 & 232.
- MINCHIN, E. A. [See BÜTSCHLI.]
353. MINGAZZINI, P. Sulla degenerazione sperimentale dell'ova di *Rana esculenta*. Rend. Acc. Lincei, ccxci, 1894, pp. 459-467; Monit. Zool. ital. v, pp. 86 & 87.
354. *——. Degenerazione sperimentale delle ova di batraci. Atti xi congr. med. internaz. Roma, v, 1894, pp. 86-93.
355. ——. Sur la dégénérescence expérimentale des œufs chez la *Rana esculenta*. Arch. ital. Biol. xxii, pp. xxvi-xxviii.
356. *——. Ricerche sul parassitismo. Ric. Lab. Anat. Roma, iii, pp. 205-219.
- Reciprocity of host and parasite.
357. *MINOT, C. S. Lehrbuch der Entwicklungsgeschichte des Menschen. Deutsche Ausg. mit Zusätzen des Verfassers von Sándor Kaestner mit Vorwort von W. His. Leipzig: 8vo, xxxvi & 844 pp., 436 figg.
358. MITCHELL, P. CHALMERS. Outlines of Biology. London: 8vo, 306 pp., 74 figg.
359. ——. Anlagen. Nat. Sci. v, pp. 366-371.
360. ——. The Spencer-Weismann Controversy. Nature, xlix, pp. 373 & 374.

361. [MITCHELL, P. CHALMERS.] Hertwig's "Preformation or New Formation." *Nat. Sci.* v, pp. 132-134, 184-194, & 292-297.
362. MITROPHANOW, P. Teratogenetische Studien. *Arch. Entwicklmech.* i, pp. 347-379, pls. xiii-xv.
363. * ——. Ueber indirecte Zelltheilung bei Selachiern. *Arb. Zool. Lab. Univ. Warschau*, x, pp. 1-32, 1 pl.
364. MIVART, ST. GEORGE. Critical remarks on the theories of epigenesis and evolution. *Sci. Progr.* i, pp. 501-508.
365. MOENKHAUS, W. J. Variation of North American fishes. I. The variation of *Etheostoma caprodes* Rafinesque. *Amer. Natural.* xxviii, pp. 641-660, 3 pls., 1 map. [*Re* Variation.]
366. MONDINO, C., & ACQUISTO, —. Sui fenomeni di maturazione di alcune uova. *Monit. Zool. ital.* v, pp. 78 & 79, *Atti xi congr. med. internaz. Roma*, 1894, pp. 52 & 53.
367. — & ——. Sur les phénomènes de maturation de quelques œufs. *C.R. Congr. Internat. Rome.* *Arch. ital. Biol.* xxii, pp. xix & xx.
368. MOORE, J. E. S. On the morphological value of the attraction-sphere. Part II. *Sci. Progr.* ii (1894), pp. 319-330, 7 figg.
369. ——. The archoplasm and attraction-sphere. *Nature*, 1, pp. 478 & 479.
370. ——. On the germinal blastema and the nature of the so-called "reduction division" in the cartilaginous fishes. *Anat. Anz.* ix, pp. 547-552, 4 figg.
371. ——. Some points in the spermatogenesis of *Mammalia*. *Internat. Monatschr. Anat. Phys.* xi, pp. 129-166, 2 pls.
372. ——. On the structural differentiation of the *Protozoa* as seen in microscopic sections. *J. Linn. Soc.* xxiv, pp. 364-368.
373. MORAT, J. P. Qu'est ce qu'un centre nerveux. *Rev. Scient.* ii, pp. 642-647 & 679-685.
374. MORGAN, C. LLOYD. Introduction to comparative psychology. London: 8vo, xiv & 382 pp.
375. ——. Instinct and intelligence in chicks and ducklings. *Nat. Sci.* iv, pp. 207-213.
376. MORGAN, T. H. The development of *Balanoglossus*. *J. Morphol.* ix, pp. 1-86, 6 pls.
See observations on Growth.
377. ——. The formation of the embryo of the frog. *Anat. Anz.* ix, pp. 697-705, 2 figg.
Partly concerned with experimental embryology.
378. MORGAN, T. H., & TSUDA, U. The orientation of the frog's egg. *Quart. J. Micr. Sci.*, No. 139, 1894, pp. 373-405, 2 pls.

379. *MOSLER, F., & PEIPER, E. Thierische Parasiten. Wien: 8vo, xii & 345 pp., 124 figg.
380. *MÜLLER, C. Kosmopolitische Thiere. Zool. Garten, xxxiv, pp. 375-381.
381. MÜLLER, R. Die Begründung einer Wissenschaft der Haustierleistungen auf anatomisch - physiologischer Grundlage. Biol. Centralbl. xiv, pp. 473-478.
382. MUSCATELLO, G. La signification physiologique de la forme des endothéliums. Anat. Anz. x, pp. 173-176, 2 figg.
383. NAGEL, W. A. Beobachtungen über den Lichtsinn augenloser Muscheln. Biol. Centralbl. xiv, pp. 385-390.
384. —. Ergebnisse vergleichend-physiologischer und anatomischer Untersuchungen über den Geruchs- und Geschmackssinn und ihre Organe. T. c. pp. 543-555.
385. —. Ein Beitrag zur Kenntnis des Lichtsinnes augenloser Tiere. T. c. pp. 810-813.
386. —. Vergleichend physiologische und anatomische Untersuchungen über den Geruchs- und Geschmackssinn und ihre Organe mit einleitenden Betrachtungen aus der allgemeinen vergleichenden Sinnesphysiologie. Bibl. Zool. viii & 207 pp., 7 pls. Cf. also Zool. Centralbl. ii, pp. 13-16; Arch. ges. Physiol. lvii, pp. 495-522.
387. NATHUSIUS, W. VON. Ueber Farben der Vogeleier. Zool. Anz. xvii, pp. 440-445 & 449-452, 2 figg.
388. NEHRING, —. [Ueber Kreuzungen von *Cavia aperea* und *Cavia cobaya*. Ges. naturf. Berlin.] Reported Biol. Centralbl. xiv, pp. 206-208.
NEUMANN, A. [See KOSSEL, A., & NEUMANN, A. (284).]
389. NEUMEISTER, R. Ueber die Eischalenhäute von *Echidna aculeata* (*E. hystrix*) und der Wirbelthiere im allgemeinen. Zeitschr. Biol. xxxi, pp. 413-420.
390. NOGAKUSHI, K. TOYAMA. Preliminary note on the spermatogenesis of *Bombyx mori*. Zool. Anz. xvii, pp. 20-24.
391. *NUSBAUM, J. Ein kritischer Blick auf einige jetzt herrschende phylogenetische Theorien. Aus "Kosmos:" 1893, 45 pp. (Polish.)
392. OLIVER, C. A. A short note upon so-called "hereditary optic nerve atrophy"—as a contribution to the question of transmission of structural peculiarity. P. Amer. Phil. Soc. xxxii (1893), pp. 269-271.
393. *ORCHANSKY, M. J. Deux types anthropologiques de la famille. Introduction à l'étude de la hérédité. Congr. Internat. d'arch. et d'anthrop. Session xi, Moscow (1893), pp. 155-168, 6 pls. & 2 pls.

394. *ORNSTEIN, B. Noch einmal über die Vererbungsfrage individuell erworbener Eigenschaften. KB. deutsch. Ges. Anthropol. xxv, pp. 49-51.
395. OSBORN, H. F. From the Greeks to Darwin: an outline of the development of the evolution idea. New York and London: 8vo, 259 pp.
396. —. Present problems in evolution and heredity. Smithson. Rep. for 1892, pp. 313-374.
397. —. Alte und neue Probleme der Phylogenese. Anat. Ergebn. iii, pp. 584-620.
398. —. The rise of the *Mammalia* in North America. P. Amer. Ass. (1893) xlii, pp. 189-227.
399. —. The rise of the *Mammalia* in North America. Nature, xlix, pp. 235-238 & 257-260.
400. OWEN, J. A., & BOULGER, G. S. The country month by month. London: 1894-95, 8vo, 12 parts of 64 pp. each.
401. OWEN, R. The life of Richard Owen. By his grandson, the Rev. Rich. Owen. With the scientific portions revised by C. Davies Sherborn; also an essay on Owen's position in anatomical science by T. H. Huxley. 2 vols., xiv & 409 pp., 2 ports., 1 pl., and vii & 393 pp., 2 ports., 2 pls. London: 8vo.
402. PACKARD, A. S. On the inheritance of acquired characters in animals with a complete metamorphosis. P. Amer. Ac. xxix, pp. 331-370.
403. —. On the origin of the subterranean fauna of North America. Amer. Natural. xxviii, pp. 727-752, 1 pl.
404. PALADINO, G. Contribution à la connaissance de l'amitose chez les mammifères. Arch. ital. Biol. xxi, pp. 208-212.
405. PALACKY, J. Ueber Säugethierfaunen. SB. Bohmisch. Ges. 1894, ix, 2 pp.
406. PARATRE, R. Notes sur la *Salamandra maculosa*: sa présence aux environs immédiats de Paris; remarques sur sa reproduction; époque de sa parturition; développement de sa larve. Mem. Soc. zool. France, vii, pp. 132-176.
- [*Re* Reproduction.]
407. *PARKYN, E. A. Darwin: his work and influence. London: 8vo, 40 pp.
408. PATTEN, W. Artificial modification of the segmentation and blastoderm of *Limulus polyphemus*. Zool. Anz. xvii, pp. 72-78.
409. PEARSON, K. Contributions to the mathematical theory of evolution. Phil. Trans. 185A, pp. 71-110, 5 pls., and P. R. Soc. London, liv, pp. 329-333.

- PEIPERS, —. [See RIBBERT (446).]
- PEIPER, E. [See MOSLER & PEIPER (379).]
410. PELSENEER, P. Hermaphroditism in *Mollusca*. Quart. J. Micr. Sci. cxlv, pp. 19-46, 2 pls.
411. PEMBREY, M. S. The response of animals to changes of temperature. Rep. Brit. Ass. 1894, pp. 791 & 792.
- 411A. PEMBREY, M. S., & GORDON, M. H. Further experiments upon the reaction of the developing chick to changes of temperature. J. Physiol. xvi; P. Physiol. Soc. pp. v-viii.
- PENNINGTON, M. E. [See RYDER, J. A. (477).]
412. *PÉREZ, J. Protoplasme et noyau. Mem. Soc. Bordeaux, (4) iv, pp. 277-305.
413. * —. Anomalies provenant d'une influence maternelle. Act. Soc. Bordeaux, xlvii, pp. 263 & 264.
414. PFEFFER, G. Ueber die Umwandlung der Arten auf Grund des Ueberlebens eines verschieden gearteten Durchschnitts je nach dem Wechsel der Lebensbedingungen. Verh. deutsch. Zool. Ges. 3 Vers. pp. 57-69.
415. —. Die Umwandlung der Arten, ein Vorgang functioneller Selbstgestaltung. Verh. Ver. Hamburg, 1894, pp. 44-88.
Separately. Hamburg: 8vo, 48 pp.
416. —. Die inneren Fehler der Weismann'schen Keimplasma-Theorie. *T. c.* pp. 88-102.
417. PHILIPPON, G. Effets produits sur les animaux par la compression et la décompression. J. Anat. Physiol. xxx, pp. 296-330, 10 figg., and pp. 414-448, 10 figg.
418. PHISALIX, C. Recherches sur la matière pigmentaire rouge de *Pyrrhocoris apterus*. C.R. Ac. Sci. cxviii, pp. 1282 & 1283.
419. PIANA, G., & SERTOLI, E. Contribution à l'étude de la fonction spermatogénique. Congr. Internat. Rome. Arch. ital. Biol. xxii, p. liii. (Abstract.)
420. PILLIET, A. H. Sur les conditions qui déterminent la forme du gésier des oiseaux. C.R. Soc. Biol. 1894, pp. 639 & 640.
421. PIZON, A. Evolution des éléments sexuels chez les Ascidies composées. C.R. Ac. Sci. cxix, pp. 569-572.
422. PLATEAU, F. Observations et expériences sur les moyens de protection de l'*Abraxas grossulariata*, L. Mem. Soc. zool. France, vii, pp. 375-395.
423. —. Einige Fälle falscher Mimikry. [Summary.] Biol. Centralbl. xiv, pp. 471-473.

424. POLLARD, H. B. The "cirrhostomial" origin of the head in Vertebrates. *Anat. Anz.* ix, pp. 349-359, 4 figg.
425. POULTON, E. B. Theories of evolution. P. Boston Soc. xxvi, pp. 371-393.
426. —. Experimental proof that the colours of certain Lepidopterous larvæ are largely due to modified plant pigments. P. R. Soc. London, liv (1893), pp. 417-430, 2 pls.
- [See also FRY (175).]
427. PRZESMYCKI, M. Ueber die Zellkörnchen bei den Protozoen. *Biol. Centralbl.* xiv, pp. 620-626. [*Re* Cell Structure.]
428. *— Ueber die Zellen-Granula bei Protozoen. *Arb. Zool. Lab. Univ. Warschau*, xi (1894), 7 pp., xii & 90 pp., 2 pls.
429. *QUATREFAGES, A. DE. Les Émules de Darwin. Précédé d'une préface par M. Edmond Perrier, et d'une notice sur la vie et les travaux de M. de Quatrefages par M. E. T. Hamy. Paris: 1894, 8vo, cxi & 155 pp.
430. RABL, C. Ueber die Herkunft des Skelets. *Verh. Anat. Ges.* viii, pp. 163-167.
431. RABL-RÜCKHARD, —. Das Vorderhirn der Cranioten. *Anat. Anz.* ix, pp. 536-547, 16 figg.
432. RACOVITZA, E. G. Sur les amibocytes, l'ovogénèse et la ponte chez la *Micronereis variegata*, Claparède. *C.R. Ac. Sci.* cxviii, pp. 153-155.
433. —. Notes de Biologie. *Arch. Zool. exp.* i, pp. 21-54, 2 pls.; pp. 491-536, 3 pls., 6 figg. [*Re* Sex and Reproduction.]
434. *RAILLIET, A. Traité de Zoologie médicale et agricole. 2nd Edition. I. Fasc. Paris: 8vo, 736 pp., 494 figg.
435. RAMÓN Y CAJAL, S. La fine structure des centres nerveux. The Croonian lecture. P. R. Soc. London, lv, pp. 444-468.
436. *— Die Retina der Wirbelthiere. Untersuchungen mit der Golgi-Cajal'schen chromsilber Methode und der Ehrlich'schen Methylenblau-Färbung. In Verbindung mit dem Verfasser zusammengestellt übersetzt und mit Einleitung versehen von Dr. Rich. Greeff. Wiesbaden: 8vo, ix & 179 pp., 7 pls., 3 figg.
437. *— Les nouvelles idées sur la structure du système nerveux chez l'homme et chez les vertébrés. Ed. franç revue et augm. par l'auteur; Trad. par L. Azoulay. Préface de M. Duval. Paris: 8vo, xvi & 200 pp., 49 figg.
438. RANVIER, L. Expériences sur le mécanisme histologique de la sécrétion des glandes granuleuses. *C.R. Ac. Sci.* cxviii, pp. 168-172.

439. RASPAIL, X. Recherches et considérations sur l'adoption par les Passereaux de l'œuf du Coucou. Mem. Soc. zool. France, vii, pp. 79-85. [*Re Psychol.*]
440. RATH, O. VOM. Ueber die Konstanz der Chromosomenzahl bei Tieren. Biol. Centralbl. xiv, pp. 449-471, 19 figg.
441. —. Criticism of some cases of apparent transmission of mutilations (Translation). Amer. Natural. xxviii, pp. 1-14.
442. —. Beiträge zur Kenntnis der Spermatogenese von *Salamandra maculosa*. I. Theil. Die Reduktionsfrage. Zeitschr. wiss. Zool. lviii, pp. 97-140, 1 pl.
443. REH, L. Zur Frage nach der Vererbung erworbener Eigenschaften. Biol. Centralbl. xiv, pp. 71-75.
444. REINKE, F. Zellstudien. Arch. mikr. Anat. xlv, pp. 259-284, 1 pl., and *t. c.* pp. 377-420, 3 pls., 1 fig.
445. RETZIUS, G. Biologische Untersuchungen. Neue Folge, vi. Jena: 4to, 87 pp., 32 pls.
446. RIBBERT, —. Beiträge zur kompensatorischen Hypertrophie und zur Regeneration. Mit einem Abschnitt über die Regeneration der Niere, von Dr. Peipers. Arch. Entwicklmech. i, pp. 69-90, pl. iv.
447. —. Neuere Anschauungen über Vererbung, Descendenz, und Pathologie. Deutsche Med. Wochenschr. xx, pp. 10-12 & 31-33.
448. RICHTER, CH. Réponse à H. de Lacaze Duthiers. Rev. Scient. (4th ser.) i, pp. 105 & 106. [*Re Orthography and Nomenclature.*]
449. —. Les procédés de défense de l'organisme. II. Le milieu thermique. *T. c.* pp. 134-142.
450. —. La défense de l'organisme. III. Les traumatismes. *T. c.* pp. 257-264.
451. —. La défense de l'organisme. IV. Les microbes. *T. c.* pp. 490-497.
452. —. v. Les poisons extérieurs. *T. c.* pp. 555-561.
453. —. vi. Les poisons intérieurs. *T. c.* pp. 585-595.
454. RILEY, C. V. On social insects and evolution. Rep. Brit. Ass. 1894, pp. 689-691.
455. RITTER, W. E. On the presence of a parapineal organ in *Phrynosoma coronata*. Anat. Anz. ix, pp. 766-772, 1 fig.
456. ROLLAND, G. Les animaux rejetés vivants par les puits jaillissants de l'Oued Rir. Rev. Scient. (4th ser.) ii, pp. 417-422.
457. ROMANES, G. J. Panmixia. [Letter.] Nature, l, p. 29.
458. ROMPEL, J. *Kentrochona nebalica*, n. g., n. sp., ein neues Infusor aus der Familie der Spirochoninen; zugleich ein Beitrag zur Lehre von der Kerntheilung und dem Centrosoma. Zeitschr. wiss. Zool. lviii, pp. 618-635, 1 pl.

459. ROSEN, —. Neues über die Chromatophilie der Zellkerne. Jahresber. Schlesisch. Ges. lxxii, pp. 3–11.
460. *ROSSI, U. Contributo allo studio della struttura, della maturazione e della distruzione delle uova degli amfibi (*Salamandrina perspicillata* e *Geotriton fuscus*). Monit. Zool. ital. v, pp. 13–23 & 33–41.
461. ROULE, L. Les formes des animaux, leur début, leur suite, leur liaison. L'embryologie comparée. Paris: 8vo, xxvi & 1162 pp., 1014 figg., 1 pl.
462. ROUX, W. Ueber Hertwig, Zeit- und Streitfragen der Biologie. I. Praeformation oder Epigenesis. Gott. gel. Anz. 1894, ix, pp. 681–683.
464. ——. Einleitung. Arch. Entwicklmech. i, pp. 1–42. [Cf. Amer. Natural. xxix, pp. 385–387.]
465. ——. Die Methoden zur Erzeugung halber Froschembryonen und zum Nachweis der Beziehung der ersten Furchungsebenen des Froscheies zur Medianebene des Embryos. Anat. Anz. ix, pp. 248–262 & 265–283.
466. ——. Ueber das Vorkommen von Furchungszellen (Geschwulst-Keimen?) in differenzierten Embryonen. Verh. Ges. deutsch. Naturf. lxvi, 1894, Abth. ii, p. 23.
467. ——. Ueber die active Näherung isolirter Furchungszellen des braunen Frosches gegen einander. T. c. pp. 404 & 405.
468. ——. Ueber den "Cytotropismus" der Furchungszellen des Grasfrosches. Arch. Entwicklmech. i, pp. 43–68, 3 pls., 3 figg., & pp. 161–202.
469. ——. Ueber die verschiedene Entwicklung isolirter erster Blastomeren. T. c. pp. 596–618.
470. RÜCKERT, J. Die Chromatinreduktion bei der Reifung der Sexualzellen. Anat. Ergebn. iii, pp. 517–583.
471. ——. Zur Eireifung bei Copepoden. Anat. Hefte iv, Heft. 2, pp. 263–351, 5 pls.
472. RYDER, J. A. The adaptive forms and vortex-motion of the substance of the red blood-corpuscles of Vertebrates. P. Amer. Phil. Soc. xxxii, pp. 272–275.
473. ——. The correlations of the volumes and surfaces of organisms. Contrib. Zool. Lab. Univ. Pennsylv. i, pp. 3–36, 1 pl.
474. ——. The growth of *Euglena viridis*, when constrained principally in two dimensions of space. T. c. pp. 37–50, 1 pl.
475. ——. Dynamics in evolution. Wood's Holl Biological Lectures, vol. ii, pp. 63–81, 1 fig. [See WHITMAN.]

477. RYDER, J. A., & PENNINGTON, M. E. Non-sexual conjugation of the nuclei of the adjacent cells of an Epithelium. *Anat. Anz.* ix, pp. 759-764, 5 figg.
478. SABATIER, A. Spermatogenèse chez les Crustacés Décapodes. *Mem. Ac. Montpell.* 2^e série, i (1893) pp. 18-107, 10 pls.
479. *SACCO, F. Le variazioni dei Molluschi. Modena : 8vo, 159 pp.
480. SAINT-HILAIRE, C. La fonction phagocytaire des vaisseaux hépatiques de l'écrevisse. *Rev. Sci. St. Petersb.* iv, pp. 345-348. (Russian and French.)
481. —. À propos de l'article de M. Cuénot "Études physiologiques sur les Crustacés Décapodes." *Zool. Anz.* xvii, pp. 349-352.
482. SAINT-LOUP, R. Sur la vitesse de croissance chez les Souris. *Bull. Soc. zool. France*, xviii, pp. 242-245.
483. —. Sur le groupement des éléments pigmentaires dans le pelage des mammifères. *Mem. Soc. zool. France*, vii, pp. 65-68.
484. SALISBURY, MARQUIS of. Presidential Address. *Rep. Brit. Ass.* 1894, pp. 3-15.
485. —. Evolution : a retrospect. The revised address delivered before the British Association. Oxford : 12mo, 58 pp.
486. SAMASSA, P. Zur Kenntnis der Furchung bei den Ascidien. *Arch. mikr. Anat.* xlv, pp. 1-15, 2 pls.
487. SANDEMAN, G. Characters in Biology. *Nat. Sci.* iv, pp. 267-271.
SANDIAS, A. [See GRASSI, B., & SANDIAS, A. (198).]
SAUNDERS, E. R. [See GREENWOOD & SAUNDERS (201).]
488. SCHÄFER, E. A. Address. Section I. *Rep. Brit. Ass.* 1894, pp. 795-804.
489. SCHAFER, J. Kritische Bemerkungen über einige neuere Thymusarbeiten. *Int. J. Anat. Physiol.* xi, pp. 167-176.
490. SCHAUDINN, F. Die Fortpflanzung der Foraminiferen und eine neue Art der Kernvermehrung. *Biol. Centralbl.* xiv, pp. 161-166, 1 fig.
491. *SCHERREN, H. Ponds and rock pools, with hints on collecting for, and the management of the micro-aquarium. London : 8vo, 208 pp., figg.
492. SCHEWIAKOFF, W. Ueber die Natur der sogenannten Exkretkörner der Infusorien. *Zeitschr. wiss. Zool.* lvii, pp. 32-56, 1 pl.
493. SCHIMKEWITSCH, W. Ueber die exkretorische Thätigkeit des Mitteldarmes der Würmer. *Biol. Centralbl.* xiv, pp. 838-841. [*Re Comp. Physiol.*]
494. SCHLATER, G. Zur Morphologie der Zelle. *Arch. mikr. Anat.* xlv, pp. 249-259, 1 pl.

495. SCHULTZE, O. Ueber die Bedeutung der Schwerkraft für die organische Gestaltung, sowie über die mit Hülfe der Schwerkraft mögliche künstliche Erzeugung von Doppelmissbildungen. Verh. Ges. Würzburg, xxviii, pp. 23-44.
496. —. Ueber die Einwirkung niederer Temperatur auf die Entwicklung des Frosches. Anat. Anz. xi, 1894, pp. 291-294.
497. —. Die künstliche Erzeugung von Doppelbildungen bei Froschlarven mit Hilfe abnormer Gravitationswirkung. Arch. Entwickmech. i, pp. 269-305, 2 pls. [Summary, Amer. Natural. xxix, p. 287.]
498. —. Ueber die unbedingte Abhängigkeit normaler thierischer Gestaltung von der Wirkung der Schwerkraft. Verh. Anat. Ges. viii, pp. 117-132.
499. SCHULZE, E. In wie weit stimmen der Pflanzenkörper und der Thierkörper in ihrer chemischen Zusammensetzung überein und in wie fern gleicht der pflanzliche Stoffwechsel dem tierischen. Vierteljahrsh. Ges. Zurich, xxxix, pp. 243-274.
500. SCHULZE, F. E. Ueber die Bezeichnung von Lage und Richtung im Tierkörper. Verh. zool. Ges. iii, pp. 6-11, 4 figg.
501. SCOTT, W. B. On variations and mutations. Amer. J. Sci. xlvi, pp. 355-374.
502. SEDGWICK, A. On the law of development commonly known as Von Baer's Law; and on the significance of ancestral rudiments in embryonic development. Quart. J. Micr. Sci., No. 141, 1894, pp. 35-52.
503. —. On the inadequacy of the cellular theory of development, and on the early development of nerves, particularly of the third nerve and of the sympathetic in *Elasmobranchii*. T. c. No. 145, pp. 87-101.
504. SEELIGER, O. Ueber das Verhalten der Keimblätter bei der Knospung der Coelenteraten. Zeitschr. wiss. Zool. lviii, pp. 152-188, 3 pls.
505. —. Gibt es geschlechtlich erzeugte Organismen ohne mütterliche Eigenschaften? Arch. Entwickmech. i, 1894, pp. 203-223, pls. viii & ix. [Summary, Amer. Natural. xxix, pp. 286 & 287.]
506. SEITZ, A. Allgemeine Biologie der Schmetterlinge. III. Theil, Fortpflanzung. Zool. Jahrb. Syst. vii, pp. 823-851.
507. SEMON, R. Ueber die Embryonalhüllen und den Embryonalkreislauf der Amnioten. Verh. deutsch. Zool. Ges. iv, pp. 51-55.
- SERTOLI, E. [See PIANA & SERTOLI (419).]
508. SERVIER, —. La vie et la disparition des espèces animales et végétales. Rev. Scient. (4th ser.) i, pp. 206-208.
509. SHERBORN, C. DAVIES. Books of reference in the natural sciences. Nat. Sci. v, pp. 115-127.
- [See also OWEN, R. (401).]

510. SHUFELDT, R. W. Scientific taxidermy for museums. Rep. U. S. Nat. Mus. 1892, pp. 369-436, pls. xv-xcvi; Smithsonian Inst. 1894; Nat. Sci. v, p. 161, 8 pls.
511. *SISSON, E. O. Heredity and evolution as they should be viewed by the medical profession. Med. Rev. St. Louis, v, pp. 304-308.
512. SMALIAN, C. Altes und neues aus dem Leben der Ameisen. Zeitschr. Naturw. lxvii, pp. 1-46.
Including some general observations *re* Weismannism, Instinct, &c.
513. SOBOTTA, J. Die Befruchtung des Eies der Maus. Anat. Anz. ix, pp. 220-223, 1 fig.
514. SOLGER, B. Zur Kenntnis der postembryonalen Entwicklung des Skeletts der Säugetiere. Abh. Ges. Halle, xx, pp. 179-196, 2 pls.
515. SPENCER, H. Weismannism once more. Contemp. Review, lxvi, pp. 592-608. Also separately. London: 8vo, 24 pp.
516. ——. Die Unzulänglichkeit der "natürlichen Zuchtwahl." Biol. Centralbl. xiv, pp. 230-240 & 259-269.
517. STANDFUSS, M. Die Beziehungen zwischen Färbung und Lebensgewohnheit bei den paläarktischen Grossschmetterlingen. Vierteljahrsh. Ges. Zurich, xxxix, pp. 85-119.
518. STEINACH, E. Untersuchungen zur vergleichenden Physiologie der männlichen Geschlechtsorgane insbesondere der accessorischen Geschlechtsdrüsen. Arch. ges. Physiol. lvi, pp. 304-338.
519. STILES, C. W. Parasitism. P. ent. Soc. Washington, iii, pp. 1-9.
520. STIRLING, J. HUTCHISON. Darwinism: workmen and work. Edinburgh: 8vo, xvi & 358 pp.
521. STOKVIS, B. J. Chemistry in relation to pharmaco-therapeutics and materia medica. Nat. xlix, pp. 587-591.
Discussion of vital phenomena and their meaning; "vital phenomena" in certain chemical solutions.
522. STRASBURGER, E. Ueber periodische Reduktion der Chromosomenzahl im Entwicklungsgang der Organismen. Biol. Centralbl. xiv, pp. 817-838 & 849-866.
523. ——. The periodic reduction of the number of the chromosomes in the life-history of many organisms. Ann. Botany, viii, pp. 281-316.
524. STRICHT, O. VAN DER. Contribution à l'étude de la forme, de la structure et de la division du noyau. Bull. Ac. Belgique, xxix, pp. 38-58, 1 pl.
525. ——. De l'origine de la figure achromatique de l'ovule en mitose chez le *Thysanozoon brocchii*. Verh. Anat. Ges. viii, pp. 223-232, 5 figg.

526. STUDNIČKA, F. K. Beiträge zur Morphologie der Parietalorgane der Cranioten (Bohemian). SB. Böhmisch. Ges. 1893, 1, pp. 1-12, 1 pl.
527. ——. Zur Lösung einiger Fragen aus der Morphologie des Vorderhirns der Cranioten. Anat. Anz. ix, pp. 307-320, 2 pls.
528. TARCHANOFF, J. DE. Influence de la musique sur les hommes et sur les animaux. Arch. ital. Biol. xxi, pp. 313-317.
529. ——. Influence de la lumière colorée sur l'échange de l'azote dans l'organisme animal. Congr. Internat. Rome. Arch. ital. Biol. xxii, p. lii. (Abstract.)
530. TASCHENBERG, O. Geschichte der Zoologie und der zoologischen Sammlungen an der Universität Halle, 1694-1894. Abh. Ges. Halle, xx, pp. 1-176, 9 pls., 3 figg.
531. ——. Bibliotheca Zoologica. II. Verzeichniss der Schriften über Zoologie welche in den periodischen Schriften enthalten und vom Jahre 1861-80 selbständig erschienen sind. Leipzig: 8vo, sign. 441-480, pp. 3569-3888.
— [See also WICKMANN (573).]
532. TELLYESNICZKY, —. Ueber die Sertoli'schen Zellen und Ebner'schen Spermatoblasten. Verh. Anat. Ges. viii, pp. 232-236.
533. THOMPSON, H. On the correlation of certain external parts of *Palæmon serratus*. P. R. Soc. London, iv, pp. 234-240.
534. THOMSON, J. A. Experimental Embryology. Part II. Proc. Scot. Micr. Soc. 1894, pp. 130-144.
Report of researches of Roux, Hertwig, Driesch, Herbst, &c.
535. TORNIER, G. Ueber Fussknochen-Variation, ihre Entstehungsursachen und Folgen. SB. Ges. naturf. Berlin, 1894, pp. 23-30.
536. ——. Ueber das Fussgewölbe in seinen Hauptmodifikationen. T. c. pp. 67-80.
537. ——. Ein zoophyletisches Entwicklungsgesetz. Verh. Anat. Ges. viii, pp. 102-108.
538. ——. Das Entstehen der Gelenkformen. Arch. Entwicklmech. i, pp. 124-158, 224-268, & 307-346.
539. TOLDT, C. Bauchfell und Gekröse. Anat. Ergebn. iii, pp. 263-273.
540. TRINCHESE, S. Contribution à la connaissance de la structure du protoplasma. CR. Congres. Internat. Rome. Arch. ital. Biol. xxii, pp. xxv & xxvi. (Abstract.)
541. ——. Nouvelles observations sur les vésicules directrices. T. c. pp. xii & xiii.
542. ° ——. Nuove osservazioni sulle vesicole direttrici. Monit. Zool. ital. v, pp. 78 & 79.
TSUDA, U. [See MORGAN & TSUDA (378).]

543. VARIGNY, H. DE. Recherches sur le nanisme expérimental. Contribution à l'étude de l'influence du milieu sur les organismes. *J. Anat. Physiol.* xxx, pp. 147-188, 36 figg.
544. ——. The air and life. *Smithson. Rep.* 1893, pp. 521-544; *Trans. from Revue des Deux Mondes*, cxviii (1893), pp. 95-124.
545. VEJDOVSKY, F. Organogenie der Gordiiden. (Zugleich ein Beitrag zur Kenntniss der Metamorphose und Biologie der Zelle). *Zeitschr. wiss. Zool.* lvii, pp. 642-703, 4 pls., 3 figg.
546. VERNON, E. Zur Spermatogenesis bei der Seidenraupe. *Op. cit.* lviii, pp. 303-313, 1 pl.
547. VERWORN, M. Modern physiology. *Monist*, iv, pp. 355-374.
548. VOGT, C., & YUNG, E. Lehrbuch der praktischen vergleichenden Anatomie, Bd. ii, pp. 769-958, 372 figg. French edition, x, 989 pp., 372 figg.
549. VOIGT, W. *Planaria gonocephala* als Eindringling in das Verbreiterungs-gebiet von *Planaria alpina* und *Polycelis cornuta*. *Zool. Jahrb. Syst.* viii, pp. 131-176, 3 maps.
Of general interest.
550. ——. Die ungeschlechtliche Fortpflanzung der Turbellarien. *Biol. Centralbl.* xiv, pp. 745-751 & 771-777.
551. WAGNER, F. v. Die Allmacht der Naturzüchtung. [Review.] *T. c.* pp. 1-11.
—-. [See also ZIEGLER (592).]
552. WALLACE, A. R. The Rev. George Henslow on natural selection. *Nat. Sci.* v, pp. 177-183.
553. ——. What are zoological regions? *Nature*, xlix, pp. 610-613.
554. ——. The Palæarctic and Nearctic regions compared as regards the families and genera of their Mammalia and Birds. *Nat. Sci.* iv, pp. 433-445.
555. ——. Panmixia and natural selection. [Letter.] *Nature*, 1, pp. 196 & 197.
556. WALTHER, J. Einleitung in die Geologie als historische Wissenschaft. Beobachtungen über die Bildung der Gesteine und ihrer organischen Einschlüsse. I. Bionomie des Meeres. Beobachtungen über die marinen Lebensbezirke und Existenzbedingungen. II. Die Lebensweise der Meeresthiere. Beobachtungen über das Leben der geologisch wichtigen Thiere. III. Lithogenesis der Gegenwart. Jena: 8vo, viii, xxx, & 1055 pp.
557. WARD, L. J. Weismann's concessions. *Pop. Sci. Month.* New York, v, pp. 175-184.
558. WASMANN, E. Kritisches Verzeichniss der myrmekophilen und termitophilen Arthropoden. Mit Angabe der Lebensweise und mit Beschreibung neuer Arten. Berlin: 8vo, xiii & 231 pp.
Discussed, *Zool. Anz.* xviii, pp. 111-114.

559. WATASÉ, S. On the nature of cell-organisation. Wood's Holl Biological Lectures, vol. ii, pp. 83-103. [See WHITMAN.]
560. WEBER, M. On the freshwater Crustacea of the Indian Archipelago, with observations on the fauna of freshwater in general. *Ann. Nat. Hist.* xiv, pp. 237-253.
Trans. from Zool. *Ergebnisse einer Reise in Niederländisch Ost-Indien.* Bd. ii, Heft. 2. Leiden: 1892, pp. 528-543.
561. WEGENER, H. Die statische Labyrinththeorie. *Nat. Wochschr.* ix, pp. 189-191.
562. WEISMANN, A. The Romanes Lecture, 1894: the effect of external influences upon development. London: 1894, 8vo, 69 pp.
563. ——. Äussere Einflüsse als Entwicklungsreize. Jena: 8vo, viii & 80 pp.
564. WEISS, F. E. Recent researches and speculations on the structure of protoplasm. *Tr. Manchester Micr. Soc.* 1894, pp. 1-8.
565. WELBY, F. A. Neo-vitalism. *Nature*, li, pp. 43 & 44.
566. WELDON, W. F. R. On certain correlated variations in *Carcinus maenas*. *P. R. Soc. London*, liv, pp. 318-329, 3 diagrams.
567. ——. Panmixia. [Letter.] *Nature*, l, p. 5.
568. WENDT, G. Ueber den Chemismus im lebenden Protoplasma. *Jena. Zeitschr.* xxviii, pp. 53-75.
569. WERNER, F. Noch etwas über konvergente Anpassung. *Biol. Centralbl.* xiv, pp. 166-169.
570. WETTERHAN, D. Das Verhältnis der Philosophie zu der empirischen Wissenschaft von der Natur. Leipzig: 8vo.
571. WHITE, C. A. The relation of biology to geological investigation. *Smithson. Rep.* 1892, pp. 245-368.
572. WHITMAN, C. O., and others. Biological Lectures delivered at the Marine Biological Laboratory of Wood's Holl in the Summer Session of 1893, vol. ii. Boston: 8vo, 242 pp.
Lectures by AYERS, H., CONKLIN, E. G., DEAN, B., LOEB, J., RYDER J. A., WHITMAN, C. O., WILSON, E. B., *qq. v.*
- 572A. ——. The inadequacy of the cell-theory of development. Wood's Holl Biological Lectures, vol. ii, pp. 105-124, 3 figg.; also *J. Morphol.* viii, pp. 639-658.
573. WICKMANN, H. Die Entstehung der Färbung der Vogeleier. Münster: 8vo, 1893, 64 pp.
Cf. TASCHENBERG, O., Einige Bemerkungen gegen Herrn. Dr. Heinrich Wickmann, *Zool. Anz.* xvii, pp. 304-309.

574. WIEDERSHEIM, R. Der Bau des Menschen als Zeugnis für seine Vergangenheit. Zweite, gänzlich umgearbeitete und stark vermehrte Auflage. Freiburg i. Br. and Leipzig: 1893, 8vo, viii & 109 pp., 109 figg.
575. WILCOX, E. V. Spermatogenesis of *Caloptenus femur-rubrum*. Anat. Anz. x, pp. 303 & 304.
576. WILDEMANN, E. DE. Sur le thermotaxisme des Euglènes. Bull. Soc. belge Micr. ix, pp. 245-258. [*Re Environment.*]
577. *WILL, L. Die neuesten Arbeiten über die Keimblattbildung der Amnioten. Zool. Centralbl. i, pp. 129-139 & 297-304, 3 figg.
578. WILLEY, A. Amphioxus and the ancestry of the Vertebrates. New York and London: 8vo, xiv & 316 pp., 1 pl., 135 figg.
579. ——. On the evolution of the præoral lobe. Anat. Anz. ix, pp. 329-332.
- 579A. WILSON, E. B. The Mosaic theory of development. Wood's Holl Biological Lectures, vol. ii, pp. 1-14, 2 figg.
580. WINDLE, B. C. A. Report on recent teratological literature. J. Anat. Physiol. norm. path. xxviii, pp. 370-379.
581. WOLFF, G. Bemerkungen zum Darwinismus mit einem experimentellen Beitrag zur Physiologie der Entwicklung. Biol. Centralbl. xiv, pp. 609-620.
582. ——. Entwicklungsphysiologische Studien. I. Die Regeneration der Urodelenlinse. Arch. Entwicklmech. i, pp. 380-390, pl. xvi.
583. WOLFGRAMM, ALBERT. Die Einwirkung der Gefangenschaft auf die Gestaltung des Wolfsschädels. Zool. Jahrb. Syst. vii, pp. 773-822, 3 pls.
- YUNG, E. [See VOGT & YUNG (548).]
584. ZACHARIAS, O. Ueber die Verteilung der Plankton-Organismen innerhalb eines Sees. Biol. Centralbl. xiv, pp. 122-128.
585. ——. Ueber die wechselnde Quantität des Planktons im Grossen Plöner See. T. c. pp. 651-656.
586. ——. Statistische Mittheilungen über das Plankton des Grossen Plöner Sees. Zool. Anz. xvii, pp. 457-461.
587. *———. Forschungsberichte aus der Biologischen Station zu Plön. Theil II. Mit Beiträgen von W. Ule, E. H. L. Krause, P. Richter, Graf Castracane, Prof. J. Brun, Prof. R. Blanchard, Dr. E. Walter. Berlin: 8vo, vii & 155 pp., 2 pls., 12 figg., 3 tables, and a map.
588. ZENNECK, J. Die Anlage der Zeichnung und deren physiologische Ursachen bei Ringelnatterembryonen. Zeitschr. wiss. Zool. lviii, pp. 364-393, 1 pl. [*Re Evolution and Comp. Physiol.*]

589. ZIEGLER, H. E. Ueber das Verhalten der Kerne im Dotter der meroblastischen Wirbelthiere. Ber. Ges. Freiburg, viii, pp. 192-209, 4 figg.
590. —. Ueber Furchung unter Pressung. Verh. Anat. Ges. viii, pp. 132-146.
591. —. Ueber die Beziehungen der Zoologie zur Sociologie. Verh. deutsch. Zool. Ges., 3 Vers., pp. 51-55.
592. *—. Die Naturwissenschaft und die sozialdemokratische Theorie. Stuttgart: 1894, 8vo.
Review, F. v. WAGNER, Biol. Centralbl. xiv, pp. 65-71.
593. *ZIMMERMANN, A. Das Mikroskop. Ein Leitfaden der Wissenschaftlichen Mikroskopie. Leipzig and Wien: 8vo, viii & 334 pp., 231 figg.
594. —. Sammel-Referate aus dem Gebiete der Zellenlehre. 8. Die Function des Kernes und Experimentelles. 9. Die Chromatophoren. Beihefte z. Botan. Centralbl. iv, pp. 81-101.
Partly zoological.
595. ZOJA, R. Sullo sviluppo dei blastomeri isolati delle uova di alcune Meduse. Anat. Anz. x, pp. 195-198.
596. —. Sullo sviluppo dei blastomeri isolati delle uova di alcune Meduse (e di altri organismi). Arch. Entwickmech. i, pp. 578-590, pls. xxi-xxiii.
597. —. Contribution à l'étude des substances chromatophiles nucléaires d'Auerbach. Arch. ital. Biol. xxi, pp. 433-436.
598. —. Contribuzione allo studio delle sostanze cromatofile nucleari di Auerbach. Boll. scient. xv, pp. 65-69.

II.—SUBJECT-INDEX.

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Mid-gut gland of Decapod Crustaceans : It absorbs food ; excretes injected pigment ; regulates composition of the blood, &c. ; SAINT-HILAIRE (481).

Environment, influence of ; CUÉNOT (106).—"Organs of relation" in Vertebrates ; CHATIN (90).

Development and probable function of the thymus. The thymus is part of the lining of the gill-clefts (5 Anlagen in *Raja*, 4 in Teleosteans, and a decreasing number as we ascend the series). It is a lymphoid organ specially differentiated from the hypoblast of the gill-clefts, with its original elements converted into leucocytes, which probably serve for the protection of the gills ; BEARD (27).

Study of lymphatic glands of Invertebrates by injecting bacteria ; the results show frequent phagocytic function ; KOWALEVSKY (285).

Physiology of compound eye of insects : (1) Even in darkness there is periodic displacement of pigment, probably, therefore, a sleep phenomenon. (2) Displacement of pigment used as a test of the range of rays to which an insect's eye is sensitive ; thus ultra-red rays are felt. (3) Explanation of the fact that a small visual angle is sufficient for perception of surroundings, and that the insect is thus saved from being blinded in bright light ; KIESEL (269).

Physiology of composite eye : Its adaptation to close vision, its limits in defining objects at a distance ; MALLOCK (324).

Light-sense in eyeless animals : The skin of *Amphioxus*, apart from pigment spot, is diffusely and keenly photoskiptic, *i.e.*, responsive to sudden illumination, but not skioptic, *i.e.*, responsive to shade. *Spirographis spallanzanii* markedly skioptic ; *Ciona intestinalis* photoptic not skioptic ; *Cereanthus membranaceus* the same ; *Adamsia* and *Anemonia* neither skioptic nor photoptic ; *Helix pomatia* and *H. hortensis* diffusely photoskiptic (apart from iconoptic eyes), *H. arbustorum* (darkly pigmented) shows weaker reaction, night snails still weaker ; *Unio pictorum* keenly skioptic and photoskiptic, &c. ; NAGEL (383, 384).

Study of animals which are "skioptic," "photoptic," and "photo-skiopic," without being "iconoptic;" NAGEL (385, 386).

Sense of *Celentera*: Centre of polar area in *Beroe ovata* appears to be an organ sensitive to mechanical stimuli. Umbrella and velum of *Camarina hastata* insensitive to mechanical, chemical, or thermal stimuli. Anemones feebly sensitive except in tentacles. No sensitiveness to sound discovered, and little to light; NAGEL (385).

Smell and Taste; NAGEL (386).

Nervous system and movement in earthworms; FRIEDLÄNDER (172).

Functions of integumentary organs in fishes, annelids, &c.; LEYDIG (306).

Function of equilibration: The simplest means of orientation is that afforded by a difference between the specific gravity of the organism and that of the medium. Other methods; BETHE (38, 39).

Equilibrating function; LEE (300).

Functions of Labyrinth; WEGENER (561).

Brain-physiology of worms: Experiments on *Thysanozoon brocchii*, *Planaria torva*, *Cerebratulus marginatus*, *Nereis*, *Lumbricus*, *Hirudo*, &c. The anterior ganglia act in a general way as "brain;" there seems to be no associative memory or consciousness; there is no parallelism between the brain functions of the several species and their systematic position; LOEB (313).

History of nerve cells: In cerebellum of old man, age 92, Purkinje's cells were shrivelled and fewer by 25 per cent., in comparison with man of 47. In spinal ganglion cells more degeneration. Nerve cells more numerous in young bees than in old, in proportion of 1:2.9. With age the number of cells decreases, the nuclear content decreases, and nucleoli are rarely distinguishable; HODGE (247).

Changes of nerve cell under electric stimulation; HODGE (246).

Changes in nerve cells during functional activity: During rest several chromatic materials are stored up in the nerve cell, and these materials are used up by it during the performance of its function. Activity is accompanied by an increase in size of the cells, the nuclei, and the nucleoli of sympathetic, ordinary motor, and sensory ganglion cells. Fatigue of the nerve cell is accompanied by shrivelling of the nucleus, and probably also of the cell, and by the formation of a diffuse chromatic material in the nucleus; MANN (325).

Nature of a ganglion; MORAT (373).

Introduction to comparative psychology: Psychological discussion of animal intelligence and instinct, perceptions and sensations; LLOYD MORGAN (374).

Instinct and intelligence in chicks and ducklings; LLOYD MORGAN (375).

Physiological "explanation" of psychical phenomena; EXNER (146).

Origin of Instincts: Instincts, to whose evolution we have no clue,

are cases of "saltatory evolution"—discontinuous variations. This remains, however, in great part a mere assertion; EMERY (142).

Psychological study of wasps; MARCHAL (327).

Psychology; ANDRIEZEN (9).

Cannibalism of lizards and rabbits; DELBŒUF (116).

Vegetarian instincts of carnivorous animals; CORNEVIN (101).

Influence of music on different functions; increase of respiratory interchange in dogs, guinea-pigs, &c.; TARCHANOFF (528).

Colours of certain Lepidopterous larvæ proved to be modified plant pigments; POULTON (426).

Coloration of Grass Snake: The three rows of black spots correspond to red lines in young embryo; and these correspond to longitudinal blood-vessels which at regular intervals communicate with deeper vessels; ZENNECK (588).

Red pigment of *Pyrrhocoris apterus* is closely related to carotene; PHISALIX (418).

Influence of food on colour; KNAUTHE (278).

Green colour of *Phyllium*, &c., due to chlorophyll; BECQUEREL & BRONGNIART (29).

Red pigment of *Diemyctylus viridescens* probably a derivative of uric acid; GRIFFITHS (202).

Colour of Bird's eggs; WICKMANN (573), TASCHENBERG (573), VON NATHUSIUS (387).

Relations of organisms to external temperature; RICHET (449), PEMBREY (411), PEMBREY & GORDON (411A).

Defence of organisms. In formulating the defence of organisms against the environment, poisons, parasites, &c., he says, "Il subit toutes les impressions, et il résiste à toutes; il se renouvelle toujours et il est toujours le même;" RICHET (449-453).

Phagocytosis and cell-resistance; RICHET (449).

Defence of the organism against wounds; RICHET (450).

Defence of organism against parasites; CUÉNOT (104).

Sarkolysis; EBERTH & NÖTZEL (136).

Animal mechanics; MILES (351).

Revivification of *Tardigrada*, only in those which are subject to alternately wet and dry media. The desiccation is fatal if not slow; LANCE (291).

Revivification of Rotifers, only the non-fertilised ova survive; MATAGNE (338).

Movements of falling animals; MAREY (328).

Comparative locomotion of animals; MAREY (329).

Action of methylene blue on the living body; BRANDES (63).

Signs of age in domestic animals; CORNEVIN & LESBRE (102).

Compensatory hypertrophy; RIBBERT (446).

Commensalism; BOUVIER (57).

5. PROTOPLASM AND THE CELL.

a. *Protoplasm.*

Recent researches on protoplasm ; WEISS (564).

Energy of living protoplasm ; LOEW (317).—Chemical characteristics of protoplasm ; WENDT (568).—Structure of protoplasm ; two kinds of spheroidal solid elements—smaller granules in a network, larger protomeres in the meshes, the cell-sap around all ; TRINCHESE (540).

General discussion of protoplasm ; DANILEWSKY (110).

Fundamental substance of protoplasm ; DANILEWSKY (111).

Further researches on foam and vacuolar structure ; BÜTSCHLI (77)—Minchin's Translation of work on microscopic foams and protoplasm ; BÜTSCHLI (76).—Limits of dividing egg-protoplasm ; LOEB (314).

b. *Cell Structure and Physiology.*

Lectures on the cell ; BERGH (33).—French translation by Julin of Hertwig's Text-book ; HERTWIG (234).—Nature of cell organisation ; WATASE (559).—Biology of the cell ; VEJDOVSKY (545).—Structure of cell : combines views of Heidenhain, Reinke, and Altmann. Nucleus shows chromatin framework (with oxychromatin, cyanophilous granulations, &c.), and nuclear sap or paralinin (with achromatin granulations = Altmann's) ; SCHLATER (494).—Fragments of cellular biology ; KUNSTLER (287).

Arrangement of different cell-types as terms in a developmental series ; HÆCKER (212).

Difference between karyokinesis in rudiments of gonads and that in vegetative tissue ; HÆCKER (213).

Inadequacy of the cellular theory of development. In the so-called mesenchyme tissue of Elasmobranch embryos the separate cells have no existence ; SEDGWICK (503).—Inadequacy of cell theory ; WHITMAN (572A).

Contributions to granula-theory ; METZNER (347).

Physiology of the cell ; VEJDOVSKY (545).—Cell physiology ; HEIDENHAIN (227).—Nutrition, &c., of cell ; GAUTIER (179–182).

Relations of nucleus and cytoplasm. The activity of the protoplasm depends on oxygen, the nucleus is more independent. The function of a cell is the combination of numerous converging functions, among which there is a sort of mutualism ; DEMOOR (117, 118).

Giant cells (Megacaryocytes), of bone medulla, with large single nucleus, multiple central corpuscles in groups, differentiation of plasma in layers. Probable function of Megacaryocytes : to absorb albuminoid material, act upon it specifically, and return it to blood plasma. Multiple central corpuscles in groups in Megacaryocytes. In one case 135 were counted ; HEIDENHAIN (226).

Cell structure :—(1) a coarse nuclear framework, with “nuclear sap” in the interstices; (2) granulation of the framework, some of the granules probably plasmosomes; (3) granulation of the nuclear sap or paralinin with achromatin granules. To oxychromatin and œdematin, Altmann’s achromatin granulations have to be added; SCHLATER (494).

Chemical physiology of the cell; recent researches.—Function of nucleus. “Whatever other functions the nucleus may possess, it is certainly able, in virtue of the properties of its component substances, to superintend the metabolic processes which take place in the cell, to modify and regulate the metabolism”; CHITTENDEN (92).

Nutrition of the cell; GAUTIER (179, 180).

Important note on reducing processes in cells; GAUTIER (181).

Histological mechanism of secretion; RANVIER (438).

Disruption products of nuclein acid; KOSSEL & NEUMANN (284).

Cytotropism; ROUX (468); see also *Experimental Embryology*.

Wandering cells of the frog, three kinds, differing in behaviour; eosinophile cells, hyaline or non-granular cells, and basophile rose-reacting cells; HARDY & KANTHACK (221).

Morphology of wandering cells, distinctions between oxyphile, basophile, and other cells; KANTHACK & HARDY (264).

Nucleus and cytoplasm are, as it were, two poles, alternately active and receptive; the plasma communicates an induction-stimulus to the nucleus, and receives from it a fermentative response; DRIESCH (127).

The contour of the endothelial cells in vascular system and pleuro-peritoneal cavity, which may be straight, sinuous, denticulate, &c., varies according to the dilatation or contraction of the organ; MUSCATELLO (382).

Granules in *Protozoa* corresponding to Altmann’s, but little evidence that these are elemental particles, nor any evidence that the plasm is a “kind of zoogloea”; PRZESMYCKI (427, 428).

Terminology of nerve-cell. The whole cell, neurocyte; the axis-cylinder prolongation, neurote; the other processes, dendrites; the neuroglia cell, spongiocyte; FISH (159).

Origin of chromatin and achromatin substances in cells; LAYDOWSKY (296).

Auerbach’s substance; ZOJA (597).

Paranuclein: Chromosomes formed from nuclein; achromatin from paranuclein; FRENKEL (171).

Chromatophilous nuclear bodies of Auerbach in *Ciliata*, ova of *Ascaris*, ova of *Aphis*, &c.; ZOJA (598).

Intercellular bridges between smooth muscle-cells in food-canal of cat, dog, pig, and rabbit; a system of fluid-containing spaces around the cells; no cementing substance; BOHEMAN (46).

Nuclear and cellular degeneration; DRÜNER (130).

Relations between the function of the cell and the structure of the nucleus; BOVERI (58).—Protoplasm and nucleus; PÉREZ (412).

Microscopic changes in nerve-cells after stimulation ; HODGE (246), MANN (325).

Contraction in *Pelomyxa* ; ISRAEL (258).

c. Nucleus, Nucleolus, Centrosomata.

Nuclear structure : The linin is the nuclear plasma, web-like or foam-like, owing to the granules of chromatin and œdematin embedded in it ; REINKE (444).

Chromatophilous character of nucleus ; ROSEN (459).

Shapes of nuclei : Peculiar lobed shape of nuclei in some of the epithelial cells of larval Salamander appears to be associated with the last stage of mitosis, during the reconstruction of daughter-nuclei ; VAN DER STRICHT (524).

Structure of the nucleus : A fundamental substance (linin) with spherules (microsomes) imbedded in it. Oxychromatin and basichromatin distinguished ; HEIDENHAIN (225).

Function of the nucleus ; ZIMMERMANN (594).

Orientation of nucleoli in motor nerve-cells ; MAGINI (323).

The microcentrum includes the achromatin substance in the centre of the astrosphere, the centrosomes and any accessory corpuscles ; HEIDENHAIN (225).

The archoplasm : This is no substance of specific quality, but part of the cyto-mitome ; HEIDENHAIN (225).

Astrosphere : This is a topographical conception, no definite organ. It owes its origin to the fact that the inner ends of the threads of a centered system are secondarily defined off from the rest of the cell by the appearance of a granular zone ; HEIDENHAIN (225).

Relative positions of microcentrum, nucleus, and plasma-masses, and the polymorphism of the nucleus are interpretable in terms of varying tension in the mitome ; HEIDENHAIN (225, 227).

Annular nuclei and their attraction-spheres ; MEVES (350).

Metamorphosis of attraction-sphere in spermatogonia of Salamander ; MEVES (348).

Attraction-spheres are not more than local differences in the plasmic texture defined by their relations to other parts ; they have no biochemical peculiarities nor morphological definiteness, are very variable, and can be mimicked in Bütschli's emulsion ; EISMOND (140).

Morphological value of the attraction-sphere : In tissue cells, the archoplasm is not always present, nor is it necessarily persistent through successive cellular generations. The only persistent portion is the centrosome, which perhaps owes its importance merely to the fact that it lies in the foci of forces which divide the cell. Consideration of the various modifications of the attraction-spheres, and inquiry as to their meaning ; MOORE (368).

Number of chromosomes in cells : Though each species has probably a typically constant number of chromosomes (Flemming, Rabl), the

number is apt to be disturbed by the occurrence of double or multiple chromosomes, or by the division of a chromosome into units of a lower order. Epithelial and endothelial cells are most typical; VOM RATH (440).

Centrosome; ROMPEL (458).—The present state of the centrosome question; HÆCKER (215).

Centrosomes: Central corpuscles are sharply-defined, solid granules, specifically stainable by iron-hæmatoxylin; they assimilate, grow, and bud; they have a tendency to form groups; they unite the threads by a centered system; HEIDENHAIN (225).

Centrosome in parthenogenetic ova of *Artemia*, a single centrosome, which seems purely a "Theilungsorgan"; BRAUER (64).

Archoplasm and attraction-sphere: The archoplasmic portion of the attraction-sphere is not a permanent organ; but the centrosomes retain their individuality throughout; MOORE (369).

Centrosome and archoplasm in *Noctiluca*; ISHIKAWA (257).

Central corpuscle; SCHÄFER (488).

Central corpuscle and attractive sphere are morphologically quite distinct. Between the two halves of the equatorial plate lies an equatorial "lentille"; HERLA (233).

d. *Cell-Division.*

Summary of recent work on the cell and cell-division; FLEMMING (160), HILL (242).

Cell-division; MARSHALL (332).—Cytomechanics; HEIDENHAIN (227).

Specific character of cell-divisions: The epithelium of the mylohyoid plate, the connective tissue elements of the gills, the red blood-corpuscles—*e.g.*, of the Salamander—have characteristic mitoses, as regard form and arrangement of chromosomes, position of spindle, and size of centrosomes; HANSEMANN (220).—Consequences of specific nature of cells; BARD (20).

"Mechanism of cell-division: The polar rays are non-contractile, but by their growth they displace the poles towards the cell-membrane; the mantle-fibres are contractile; the central-spindle-rays are non-contractile, but elastic, and keep the poles apart against the action of the mantle-rays. Apart from the polar rays, two other sets of fibres proceed from the poles, *viz.*, the fibres of the central spindle (central fibres) which run continuously from pole to pole, and the fibres of the spindle mantle (mantle-fibres) which are attached to the halves of the chromosomes. The central spindle-fibres are elastic, and keep the poles apart against the action of the mantle-fibres, which alone are contractile. The polar fibres, by their growth, displace the poles towards the cell-membrane." The paper includes "An attempt towards a comparative morphology of cell-division"; DRÜNER (132).

Effect of pressure on cell-division; BRAEM (61), BORN (52).

Critical review of our knowledge as to the periodic reduction of chromosomes ; STRASBURGER (522, 523).

Nature of central spindle : A supporting framework, which not only fixes the poles against one another, but by its growth determines their distance. It changes with the strain on the fibres at different moments ; DRÜNER (131).

" Mechanism " of mitosis, &c. ; REINKE (444).—Amitosis in Mammals : In placental neo-formation in guinea-pig ; PALADINO (404).

Mitoses, pathological ; HÆCKER (213).

Contrast of generative and non-generative mitoses ; HÆCKER (213).

The phenomena of karyokinesis are dominated by the attractive-spheres. The chromosomes divide longitudinally by their proper activity, but are passively drawn to the poles by the contractility of the achromatin ; HERLA (233).—Variations in the mitoses of *Ascaris megalocephala* ; HERLA (233).

Rôle of nucleoli in mitosis ; REINKE (444).

Study of karyokinesis in embryo cat ; ABY (1).

Cell-division in *Noctiluca* ; ISHIKAWA (257).

Indirect cell-division in Selachians ; MITROPHANOW (363).

A new type of nuclear multiplication ; SCHAUDINN (490).

Nuclear division ; ROMPEL (458).—Nuclear division in relation to granula theory ; METZNER (347).

6. OOGENESIS, SPERMATOGENESIS, MATURATION, FERTILISATION.

a. *The Ovum.*

Oogenesis : in rabbit, a cell in the germinal epithelium divides by indirect division, gives rise to two cells, of which the one next the stroma, becomes an ovum, is enveloped by epithelial cells and pushed by their growth into the stroma. When the stroma and epithelium have not time to surround the ovum before new ova are formed, balls of cells arise ; in these, at a later stage, the epithelial cells are arranged around the ova, and the developing follicle is embedded in the stroma ; BÜHLER (72).

In *Micronereis variegata* ; RACOVITZA (432).

Peculiar oogenesis, &c., in *Ophryotrocha* ; KORSCHULT (282).

Origin of sex-cells in *Hydractinia*, &c. ; BUNTING (73).

Development of genital cells in composite Ascidians ; PIZON (421).

Degeneration of genital products in *Polyclinidae* ; CAULLERY (84).

Degeneration of Graafian follicle ; HENNEGUY (229).

Experimental degeneration of frog's ova ; MINGAZZINI (353-355).

History of yolk-nuclei ; ZIEGLER (589).

Yolk-nuclei in meroblastic ova. These are elements left behind in the development of the embryo, take no part in forming the germinal layers, and illustrate nuclear degeneration ; ZIEGLER (589).

The term vitelline body has been applied to the attractive-sphere and

to extended chromatin granules of the germinal vesicle. Applies to cat, rat, chick, pigeon, &c.; MERTENS (346).

Structure of germinal vesicle in ovarian ovum of Triton; BORN (51).

Egg-shell of *Echidna*, &c., the keratin-substance in egg-shell of *Echidna*, as in *Scyllium*, *Raja*, birds, reptiles; NEUMEISTER (389).

b. *Spermatozoon*.

Spermatozoa of Arthropods; BALLOWITZ, K. (18): of Tunicates, Molluscs, Worms, Echinoderms, and Cœlentera; BALLOWITZ, E. (17).

Critical summary of recent work on reducing divisions; RÜCKERT (470).

Reducing divisions in spermatogenesis; VOM RATH (442).

Spermatological studies (*Paludina vivipara*, *Astacus fluviatilis*, *Ascaris megalcephala*); AUERBACH (14).

Spermatogenesis in silk-moth; VERNON (546), NOGAKUSHI (390): in insects; CHOLODKOVSKY (94): of *Caloptenus*; WILCOX (575).

Spermatogenesis in Decapod Crustaceans; SABATIER (478): in *Telphusa*; MARI (331): in *Lumbricus*; CALKINS (82).

Some points in spermatogenesis of Mammals; MOORE (371).

Metamorphosis of attraction-sphere in spermatogonia of *Salamandra maculosa*. At end of summer the sphere breaks up into little bodies and is reconstituted in spring; possibly the disruption only affects the cortical portion. Evidence of nuclear and even nucleolar elimination of chromatin into the cytoplasm, possibly corresponding to "réduction karyogamique." Collection of a large number of equally enigmatical phenomena observed by others; MEVES (348).

Ebner's spermatoblasts represent a union of the plasmic débris of Sertoli's cells with groups of spermatozoa; TELLYESNICZKY (532).

Degeneration of cells and nuclei, karyolysis of degenerating cells in the testes of *Salamandra maculosa* due to parasites, of which one is named *Macrococcidium caryolyticum*; DRÜNER (130).

The spermatogenetic function; PIANA & SERTOLI (419).

c. *Maturation*.

Critical summary of recent work on reducing divisions; RÜCKERT (470).

Reducing divisions in Selachians; MOORE (370).

Phenomena of maturation; MONDINO & ACQUISTO (366, 367).

Maturation in general, and in Copepods; RÜCKERT (471).

Maturation in earthworm; FOOT (162).

Maturation quite independent of fertilisation in the trout; BLANC (44).

Maturation of parthenogenetic ova of *Artemia salina*: Abnormal segmentation very common, possibly due to deficiency of chromatin, caused by extrusion of a second polar body, as sometimes occurs; BRAUER (64).

Nucleus in ovarian ovum of Triton: The first stage—a coil of chromatin threads—is a palingenetic phenomenon, corresponding to the first phase of mitosis. The diffuse threadwork stage which follows is cœnogenetic—an exaggeration of the normal nuclear activity. Thirdly, a thickening and concentration of the chromatin produces the secondary coil, which then enters into mitosis; BORN (51).

Polar bodies after expulsion: in *Amphorina cœrulea*, *Berghia cœrulescens*, &c., the polar bodies remain in contact with the vitellus, touch it from time to time, &c.; TRINCHESE (541, 542).

d. Fertilisation.

Fertilisation in trout; BLANC (44): in earthworm; FOOT (162): of mouse ovum; SOBOTTA (513).

Polyspermy in Axolotl; GASCO (178).

Fragmentation in unfertilised ovum of rabbit; CAVAZZINI (85).

Plastogamy; JOHNSON (261).

General; DEBIERRE (114).

7. EMBRYOLOGICAL.

Comparative embryology—a text-book; ROULE (461).

Analytic theory of organic development: The ovum is a mixture of potentialities; these are realised in the successive steps of development, which are induced by stimuli, and determined by mutual relations of parts. Changes are induced partly by internal factors (*e.g.*, tension, pressure, &c.), partly by external factors (*e.g.*, gravity). Each period is the condition of its successor. Each blastomere has the power of responding to certain developmental stimuli; DRIESCH (127).

Criticism of Driesch's theory of development; HAACKE (206).

Epigenesis or evolution; BOURNE (55), MIVART (364), HERTWIG (235).

Hertwig's preformation or new formation; MITCHELL (361).

Recapitulation theory; MARSHALL (332).

Embryos of fowl and dog-fish are *not* closely similar in the young stages. Fowl and duck embryos can be distinguished on the second day. Embryos of *Peripatus capensis* and *P. balfouri* are very different. Ancestral stages of structure are only retained in so far as they are useful to the larva in its free development. Embryonic development, in so far as it is a record at all, is a record of structural features of previous larval stages; SEDGWICK (502).

Inadequacy of cellular theory of development; SEDGWICK (503), WHITMAN (572A).

Physiological Morphology: Organs may grow out of their proper place, *e.g.*, in excised and inverted parts of hydroids (heteromorphosis).

Roots grow only in contact, polyps only when freely washed (stereomorphism). The importance of the osmotic factor in growth; LOEB (316).

“Anlagen;” MITCHELL (359).

Arguments from development of fishes against Weismann and for epigenesis; LOEB (311).

Relations of ontogeny and phylogeny; GEGENBAUR (183).

Teleological ætiology: Inadequacy of ætiological theories which postulate new origins, functionless rudiments, and the like, which seek to explain the cause of an origin in terms of its final function. On the contrary, the material for a new organ is to be found in some pre-existing organ. Illustration of this by theory of origin of paired fins from branchial arches; GEGENBAUR (184).

Theory of développement; HERTWIG (235).

Analysis of stimuli effective in development; HERBST (231, 232).

Present state of embryology as regards germinal layers; HATSCHKE (222). *Cf.* LWOFF (318).

Relation of germinal layers in buds of hydroids; LANG (292).

Origin of sympathetic system: From spinal ganglia, and therefore from ectoderm; MAZZARELLI (340).

Mid-brain and accessory vesicles; LOCY (309).

Embryology of the eye; HOLDEN-WARD (249).

Thyroid: *Paired* origin of median thyroid gland of pig; JACOBY (259)

Ectodermic origin of scleroblasts; KLAATSCH (273).

Metameric segmentation in the medullary folds and embryonic rim; LOCY (309).

Development of the pancreas; LAGUESSE (290).

Critical summary as to development of venous system in Vertebrates; HOCHSTETTER (245).

Critical summary of recent work on the development of the head; FRORIEP (174): metamerism of head; HOFFMANN (248): development of the head; KUPFFER (288).

Nature and origin of blood-cells; DISSE (121).

Post-embryonic development of Mammalian skeleton; SOLGER (514).

Origin of Vertebrate skeleton: Summary of recent work by Goronowitsch, Kastschenko, Platt, Klaatsch; KINGLEY (271).

Mechanical processes in development; HIS (243).

Experimental Embryology.

Experimental embryology; MARSHALL (332), HERBST (231, 232), LOEB (312).—General account of recent researches; THOMSON (534), WILSON (579A).

Methods of study of the mechanics of development; ROUX (464), *cf.* BÜRGER (75).

Influence of gravity: Confirmation of Pflüger's results. With great regularity a simple turning of the fixed ovum through 180° is followed by the production of a double embryo; SCHULTZE (495).

Formation of gastrula: The cells of the blastula, whose specific gravity has been decreasing, are in contact internally with fluid more dilute than that externally, hence a condition of invagination. In diluted sea-water there is a tendency to the reverse; LOEB (315, 316).

Isolated blastomeres of Medusæ: A fraction as small as $\frac{1}{16}$ th will develop like an entire ovum. The early cleavages seem to be quantitative not qualitative; ZOJA (595).

Development of isolated blastomeres of Medusæ and other organisms; ZOJA (596), ROUX (469).

Development of blastomeres of Ascidians; DRIESCH (128).

Experiments in puncturing frog's eggs; ENDRES (144).

Ova protected by phagocytosis and excretion. Bacterial diseases cannot be transmitted either by ovum or spermatozoon; FRANCOU (169).

Influence of pressure on cleavage: Results of experiment applied to the elucidation of normal cleavage; the succession of events in the development of the blastosphere of *Synapta* is influenced by the pressure of the egg membrane on the blastomeres, and by their mutual pressure; BRAEM (61).

Influence of temperature on hen's eggs: The optimum temperature is 38° C. during early days of incubation. On each side of this the embryo increases in susceptibility to injurious influences, e.g., alcoholic vapour; FÉRÉ (151).

Influence of vibrations; FÉRÉ (152).—Influence of mercurial vapours; FÉRÉ (153).

Experiments on frog ova: Temperatures above 25° C. affect the ova injuriously, especially the vegetative part. Partial embryos may result. Weak salt solutions 3:500 affect the formation of blastopore, and the development of brain, &c.; HERTWIG (236).

Cytotropism: Segmented ova of frog were teased; the isolated cells exhibited gliding movements and sometimes pseudopodia; a plasmodial aggregate may be formed; besides the change of position there is change of form; the phenomena are not merely physical; ROUX (468).

Laws of cleavage: In *Limax* there is an alternation in the direction of the spirals of cleavage in successive generations of cells; KOFOID (281).

The production of half-embryos; ROUX (465).

Influence of rarefied air on the development of the chick; GIACOMINI (185, 186).

Orientation of frog's ovum; MORGAN & TSUDA (378).

Ova of *Arbacia* segmenting under pressure, exhibit fusion of cells, and go back; GRAF (196).

In abnormal conditions the ova of *Limulus* segment meroblastically and develop yolk blastopores; PATTEN (408).

Great variation is a frequent occurrence in the early cleavage stages of Amphibian ova; JORDAN & EYGLESHYMER (262).

Blastomeres of *Hydractinia* separated at the two-celled stage develop half planulæ; BUNTING (73).

The planes of the Triton-embryo in relation to those of cleavage: variations, and displacements, yet normal results; VON EBNER (137).

Double or multiple embryos from one ovum: After fertilisation the ova of sea-urchins are placed in diluted sea-water; they burst, and part projects; but returned to normal water may develop into two or several embryos, according to the shape of the "extra ovum"; LOEB (312).

Influence of gravity and the formation of double monsters; SCHULTZE (495).

Ova of *Rana fusca*, fastened to glass slides, fertilised, and inverted, develop into double monsters. A re-arrangement of the material of the inverted cell acts like a partial division, and double development occurs. Double individuals probably arise from imperfectly divided ovarian ova; double monsters from a very slight division; separate individuals from a complete division into separate parts; SCHULTZE (495, 498).

Effect of gravity on developing frog ova: (1) Confirmation of Pflüger, as against Roux. (2) Fixing ova in abnormal position between glass-plates results in abnormality proportional to difference between the normal ovum-axis (between dark and light poles) and the direction of gravity. Thus inversion is followed by equal cleavage, and very regularly by double monsters. (3) General argument: If definite modifications in the influence of gravitation produce specific abnormalities, then the influence of gravitation is a condition of normal development; SCHULTZE (495, 498).

Artificial production of double-formations in frog; SCHULTZE (497).

Origin of double-formations; LOEB (315).

Origin of monstrosities; MITROPHANOW (362).

Influence of cold on the germ; BRAEM (62).

Influence of cold on frog's ova: Exposure to 0° even for fourteen days inhibits all development, but does not kill (until after complete gastrula stage), nor produce abnormalities. Hertwig's results are not in agreement; SCHULTZE (496).

A new method of pressing frog's eggs; BORN (52).

Segmentation under pressure; ZIEGLER (590).

Discussion of germinal layers and developmental mechanics in connection with budding in Ascidians; HJORT (244).

Proposals towards experimental evolution, mostly as regards hybridisation; BEHLA (30).

Formation of embryo of the frog with reference to experiments; MORGAN (377).

First differentiation of body-cells and germ-cells in sponges; MAAS (322).

Comparison of the development of the egg in oviparous and viviparous *Aphides*; LEMOINE (301).

On embryonic membranes; SEMON (507).

Formation of germinal layers; WILL (577).

Rate of growth: In mice, greatest immediately after birth, decreases for 18 days, then increases for 3-4 days; SAINT-LOUP (482).

Growth of *Balanoglossus* larva: First a period of great increase in size, cells increasing in numbers; second, a period of decrease in size, in which no new organs are formed; third, the body begins again to enlarge, the increase in size takes place in all the organs at the same time, and not as in the early stage, at the expense of one set of structures alone; the increase in length is due not to apical growth, but to general interstitial growth; MORGAN (376).

Experiments on Heteromorphosis; LOEB (316), BICKFORD (40).

8. REPRODUCTION, SEX, AND HEREDITY.

a. *Reproduction and Sex.*

Determination of sex in relation to fertilisation; GASCO (178).

Conjugation of nuclei in an adult tissue: intestinal epithelium in *Porcellio*; RYDER & PENNINGTON (477).

Plastogamy of *Actinosphaerium*: No associated mitosis; no subsequent encystment; probably it mitigates the intimacy of the amphimixis, which probably occurs at time of encystment. After many divisions the individuals were too small to capture their food; the only possible escape from starvation was coalescence; JOHNSON (261).

Asexual reproduction in Turbellarians. Paratomy or division accompanied by the formation of organs:—

(a) Paratomy with regeneration of complete parts of the body.

(1) With deferred formation of organs.

(2) With simultaneous formation of organs.

(b) Paratomy without regeneration of complete parts of the body.

(3) With precocious formation of organs and resorption.

(4) With precocious formation of organs, but no resorption.

KELLER (265).

Asexual reproduction of Turbellarians: In *Stenostoma*, regeneration of brain, "eye," pharynx, &c., from Stammzellen, *i.e.*, unbranched connective tissue cells. Their function is (1) to accomplish regeneration and fissiparous proliferation, and (2) to form the reproductive organs. Organogenesis during asexual reproduction is quite the same as in the development of the embryo; KELLER (266).

Asexual multiplication in Turbellarians. An interesting series:—In *Planaria alpina*, over-eating followed by rupture. In *Pl. alpina*, *Pl. albissima*, *Bipalium kewense*, no preparatory process to constriction, nor regular recurrence. In *Pl. alpina* and *Bip. kewense* the plane of division is not fixed. In *Polycelis cornuta* there is a definite zone, division is a normal process of reproduction, the formation of the gullet begins before separation. In *Pl. subtentaculata* the new head has begun before the tail portion is separated off. In *Pl. fissipara* all the new organs are formed before separation; VOIGT (550).

Origin of budding: Budding in sessile organisms—e.g., Hydroids—liable to have parts bitten off, was probably an adaptive regenerative process. In *Cœnurus* there may be the hereditary fixing of a teratological multiplicity; EMERY (142).

Budding of Cœlentera: In *Eudendrium* and *Obelia* both ectoderm and endoderm share in forming the buds. There is no warrant for Albert Lang's conclusion that the bud of *Hydra* and Hydroids is wholly ectodermic; SEELIGER (504). (Cf. LANG (292).

Keimplasma in budding: The conception of a special Knospungs-keimplasma, which Weismann has elaborated, is as unnecessary as it is unverified; SEELIGER (504).

Budding of Hydroids; BRAEM (60), LANG (292).

Regeneration: Summary of recent researches; BARFURTH (21).

Growth and regeneration; BIZZOZERO (42, 43).

Regeneration in *Turbellaria*; KELLER (265).—Regeneration of lens in *Urodela*; WOLFF (582).—Regeneration of a normal lens from the iris in *Triton teniatus*; WOLFF (581).—Regeneration of limbs of *Amphibia*; BARFURTH (22, 23).

Regeneration in *Obelia*: The regenerative tissue is not differentiated at different levels on the stem to produce different things, independent of environment, but at all levels produces the same things. But there is a tendency at all levels to produce preferably certain forms, perhaps related adaptively to the natural frequency of a demand for regeneration at certain points rather than others; DAVENPORT (112).

Regeneration in Hydroids; BICKFORD (40).

Rôle of sex in evolution; HAYCRAFT (223).

Sexually-produced organisms without maternal characters, repetition of Boveri's experiments, with results which throw doubt upon them; SEELIGER (505).

Hermaphroditism in Mollusca: "The study of Mollusca, *Myzostomidae*, Crustacea, and Pisces shows that in these groups the separation of the sexes has preceded hermaphroditism; various cases in other groups tend to show that this is true universally; and the same conclusion applies to plants. In Mollusca, Crustacea, and Pisces, at least, hermaphroditism is grafted upon the female sex"; PELSENEER (410).

Hermaphroditism most common in sluggish animals; CHATIN (89).

Hermaphroditism, hybridism, parthenogenesis; SEITZ (106).

Parthenogenesis of *Artemia*: The segmentation-spindle may contain

84 chromosomes or 168. It may be half of the first directive spindle, or a second division may occur without extrusion, and the two halves may fuse; BRAUER (64).

Hybrids; VAN KEMPEN (268).—Hybrids of *Cavia aperca* and *Cavia cobaya*; NEHRING (388).

Reproduction: particular cases. "Ergatomorphic" males and females among ants. These are sexual, wingless forms, convergent in structure to workers. In *Tomognathus* there is monomorphism—one form—an apterous parthenogenetic female; FOREL (164).

Breeding in and in: Perpetual in *Anergates*; FOREL (164).

Breeding in and in with rats for six years (about thirty generations) resulted in increase of mortality, decrease of number of offspring, and in sterility; BOS (54).

Prepotency, breeding to a type, sex influencing transmission, and kindred questions; MILES (351).

Phenomena of sexual reproduction, differences between the sexes, numerical relations, influences determining sex; KLEBS (275).

Origin of sex; DEBIERE (114).

Extirpation of seminal vesicle in Mammals (rats) has no effect on sexual impulse or power of copulating. But the consequence of complete loss of both vesicular glands and prostate glands is complete impotence. Rats castrated long before puberty have still some sexual inclination. In rats castrated before puberty the accessory glands do not develop; STEINACH (518).—Spermatogenesis is suspended in artificial cryptorchids, but is restored when the testes are drawn to surface; PIANA & SERTOLI (419).—Effect of castration on antlers of fallow deer: Complete castration at birth may result in the formation of simple antlers. Castration late in life known in one case to be associated with great asymmetry in the antlers. Antlers of castrated deer can be shed. Partial castration soon after birth may result in normal but feeble development. Castration on one side may result in abnormality and reduction of one antler; FOWLER (167).—Retained testes are small, with small but more distinct thick-walled seminal tubules, without trace of spermatogenesis. They yet influence the penis and body, a function quite distinct from producing spermatozoa; GRIFFITHS (203).—In eunuchoid persons, where the testes lose power of growth, the individual develops at puberty like a eunuch deprived of testes in early life; GRIFFITHS (204).

Function of seminal vesicles, &c.; LATASTE (295).

Reproductive habits; PARATRE (406): of *Rossia macrosoma*; RACOVITZA (433).—Reproductive peculiarities of Termites; GRASSI & SANDIAS (198).—Reproductive habits in *Lepidoptera*: Bigamy, biandry, polygamy; SEITZ (506).—In earwigs; HEYMONS (238).

Natalité et masculinité; DUMONT (134).

Preferential mating in flies (*Dolichopus*); ALDRICH (3).

Cuckoo's habits; RASPAIL (439).

b. *Heredity.*

General notes on and discussion of heredity ; ANDRIEZEN (9), LLOYD MORGAN (374), ORCHANSKY (393), RIBBERT (457), HÆCKEL (211).

Present problems in evolution and heredity ; OSBORN (396, 397).

What are acquired characters? Discussion by FRY, POULTON, LANKESTER, GALTON, CUNNINGHAM : see FRY (175).

Inheritance of acquired characters ; HAACKE (207).

Inheritance of acquired characters : According to Haacke, the facts proving the inheritance of acquired characters are as abundant as the "sand on the shore," but von Lendenfeld observes that not a grain is in evidence ; LENDENFELD (303).

Case of inheritance of acquired character ; HILL (241).—Inheritance of effects of squatting posture ; CHARLES (87).—Cases from *Lepidoptera* in favour of Neo-Lamarckism ; PACKARD (402) : in cave animals ; PACKARD (403).

Inheritance of diseases and abnormalities ; HANAU (219).

Possibility of inheritance of acquired characters ; KLEBS (275), ORNSTEIN (394).

Acquired characters only transmissible when they presuppose a definite predisposition. A somatogenic adaptation is the outcrop of latent qualities ; REH (443).

Phylogeny of an acquired character : Cumulative results (from study of Cephalopod shells) are held as supporting a Neo-Lamarckian theory ; HYATT (154).

Criticism of alleged transmission of mutilations ; VOM RATH (441).

Heredity optic-nerve atrophy : "A peculiar physical condition which has been obtained from frequently repeated physiological acts during the life of some antecedent form may be transmitted" ; OLIVER (392).

Mechanism of heredity to be discovered by a study of the conditions of growth, the mechanisms and correlations of the same, and not by ontogenetic theories of gemmules and the like ; RYDER (475).

Continuity between genital cord of parent and that of bud in Compound Ascidians ; PIZON (421).

Variations in chromosomes show that one must be careful not to exaggerate the exactness with which these represent the hereditary material ; HERLA (233).

Sexually-produced organisms without maternal characters ; SEELIGER (505).

Regeneration, facts of, requiring to be considered in connection with heredity in Turbellarians ; KELLER (265, 266), VOIGT (550).

Transmission of immunity ; CHARRIN & GLEY (88).

Discussion of theory that "the phenomena of recapitulation, characteristic of ontogeny, are due to the presence of a record in the germ-cells, having a molecular basis similar to that of memory" ; COPE (99).

"Anlagen," the existence of ; MITCHELL (359).

Criticism of germ-plasm theory ; PFEFFER (416).

Heredity and longevity ; LEBON (298).

9. EVOLUTION.

a. *General Subject.*

- Historical sketch : From the Greeks to Darwin ; OSBORN (395).
 Present problems in evolution and heredity ; OSBORN (396, 397).
 Historical and critical survey of old and new evolution-theories ;
 HAACKE (209).—Review of theories of evolution ; POULTON (425).
 Criticism of current phylogenetic theories ; NUSBAUM (391).
 Lectures on the Darwinian theory ; MILNES MARSHALL (333).
 Darwin's emulators ; QUATREFAGES (429).
 Darwin : his work and influence ; PARKYN (407).
 Critical survey of ætiological theories ; BATESON (24), OSBORN (397).

General discussion of evolution theory : Selective synthesis. In evolution we may see the continuous manifestation of a selective synthesis. As crystals and carbon compounds arise by a selective synthesis, in definite controlling environmental conditions, so among organisms. Two factors, an intrinsic synthetic tendency and a constraining and conditioning environment, operate towards differentiation ; LLOYD MORGAN (374).

Effect of external influences. "They are used, so to speak, by nature to regulate in a purposeful manner the appearance of the various forms which members of a species may take. The germ must thus contain all the primary constituents (Anlagen) of these different forms ; and a stimulus—produced by the kind of food, by light, by warmth, or by some other external influence—serves sooner or later to start the development of one kind or of another, as well as to decide which kind it shall be " ; WEISMANN (562).

Factors of evolution : "Evolution of Titanotheres, an uninterrupted march in one direction." "The changes, en route, lead us to believe either in predestination—a kind of internal perfecting tendency, or in kinetogenesis." It is an absolutely definite and lawful progression ; OSBORN (398, 399).

Criticism of Darwinism : "Es mehren sich die Anzeichen, dass die Episode des Darwinismus überwunden werden wird." Repetition of old criticisms—that the Darwinian theory does not explain origins ; that the chances of a fit variation arising are small, except in the case of gradual progressive change. Useful adaptation is the very essence of an organism ; to try to explain adaptation is to try to explain life ; WOLFF (581). Experiment showing regeneration of lens from iris ; WOLFF (582).

Criticism of Darwinism ; HUTCHISON STIRLING (520).

Notes on Darwinism, Weismannism, &c. ; DU BOIS-REYMOND (47).

Darwinism and its social influence ; DENNERT (119).

Critical review of Neo-Lamarckism and Neo-Darwinism ; BAILEY (15).

Adequacy of Neo-Lamarckism : "Neo-Lamarckism gathers up and makes use of the factors both of the St. Hilaire and Lamarckian schools,

as containing the more fundamental causes of variation, and adds those of geographical isolation or segregation (Wagner and Gulick), the effects of gravity, the effect of currents of air and of water, of fixed or sedentary as opposed to active modes of life, the results of strains and impacts (Ryder, Cope, and Osborn), the principle of change of function as inducing the formation of new structures (Dohrn), the effects of parasitism, commensalism, and of symbiosis; in short, the biological environment; together with geological extinction, natural and sexual selection, and hybridity"; PACKARD (402).

Arguments against Lamarckian, and supporting Darwinian position; POULTON (425).

Criticism of Haacke's Gemmaria-Theory; LENDENFELD (303).—Defence of Theory of Gemmaria; HAACKE (208).

Functional "Selbstgestaltung" and modification of species in relation to its variable social environment; PFEFFER (414, 415).

Contributions to the mathematical theory of evolution; PEARSON (409).

Importance of migration and acclimatisation; BELOW (31).

Numerical intensity of faunas varies with environment, favourable to unfavourable, and with vitality, high to low. "If the line of numerical decline for a species proceeds from changing environment, it will be, upon the Darwinian theory, accompanied by specific offshoots, and the disappearing species will sink from sight amidst the emergence of related species; but if it proceeds from devitalisation it will display a species dying as it were alone." . . .; GRATACAP (199).

Periods in species-life. Hypotheses as to periods analogous to youth, growth, and decrepitude; SERVIER (508).

Principles of Bioplastology; HYATT (254).

The energy of evolution: a study of growth-energy or Bathmism; COPE (99).

Zoophyletic law: "Universal" joints preceded uni-functional joints, "universal" feet preceded those adapted for but one kind of movement. So animals adapted to a maximum of life-conditions preceded those adapted for only one. In short, progressive specialization of function; TORNIER (537).

Convergence; WERNER (569).—Convergence and pœcilogony in insects; GIARD (187).

Correlations of volumes and surfaces: The changes of shape exhibited by organisms may be reduced to two categories, (1) indefinite stretching in linear directions, of which dichotomy is only a special form; (2) indefinite flattening, compression, or attenuation of part or all the substance into a flat plate or into laminæ; RYDER (473).

Importance of prolonged dependent infancy in development of intelligence and social organisation; RILEY (454).

Darwinism and race progress; HAYCRAFT (224).

Conception of species as modified by the doctrine of evolution; BRITTON (67).

On modification of species : Hybrids, &c. ; LATASTE (294).

Proposed evolution-experiments, mainly as regards hybridisation ; BEHLA (31).

Third edition of *Der Bau des Menschen* ; WIEDERSHEIM (574).

Spontaneous generation, as discussed by Henry Baker and Joblot ; CAZENEUVE (86).

b. *Variation.*

Materials for the study of variation : Marshalling of facts as to meristic variation. Discontinuity of variation : "The discontinuity of which species is an expression has its origin, not in the environment, nor in any phenomenon of adaptation, but in the intrinsic nature of organisms themselves, manifested in the original discontinuity of variation." "The existence of new forms, having from their first beginning more or less of the kind of perfection that we associate with normality, is a fact that disposes, once and for all, of the attempt to explain all perfection and definiteness of form as the work of selection." Variation in domestication : Refutation of the common belief that variation is greater in amount in domesticated animals than in wild forms. Reversion : Criticism of the hypothesis of reversion, which is conveniently, but without sufficient warrant, appealed to to explain the sudden occurrence of large and regular variations. Definiteness of variation : Bateson's induction discloses a greater definiteness of variation that is suggested by the words "fortuitous," "indefinite," "in every part of the organism," commonly used by Darwinians to describe variations. The suggestion is made that this definiteness is an expression of the physical limitations put upon variation by the conditions of organic stability ; BATESON (24).

Definite lines of variation ; OSBORN (398).

Variation in flat-fishes : colours (of a brill) on dorsal and ventral borders have, so far as three spots are concerned, varied similarly and simultaneously, producing a result nearly symmetrical about the horizontal axis. Another case of plaice with posterior half of "blind" side fully pigmented and with thirteen spots, nine of which coincide with spots on the upper side ; BATESON (25).

Reference to previously expressed conclusions as to discontinuous variation. Evidence of leaps from one position of stability to another ; GALTON (176).

Discontinuous colour-variation ; COCKERELL (96).

The phrase organic stability "used to express the well-substantiated fact that a race does sometimes abruptly produce individuals who have a distinctly different typical centre." "The inference or connotation is that no variation can establish itself unless it be of the character of a sport, that is, by a leap from one position of organic stability to another, or as we may phrase it, through 'transilient' variation." "If there be

no such leap, the variation is, so to speak, a mere bend or divergence from the parent form, towards which the offspring in the next generation will tend to regress; it may, therefore, be termed a 'divergent' variation"; GALTON (176).

On variations and mutations, criticism of Bateson's work: Palæontological evidence as to mutation, *i.e.*, steady advance along certain definite lines, as opposed to individual variation. "We can no longer assume as a fundamental and self-evident truth, that individual variations are the material from which new species are constructed"; SCOTT (501).

"The succession of the various species does not represent an evolution by deviations merging insensibly into each other, but by successive stages, each a distinct departure, and as clearly separated from its predecessor and successor as one species from another" (*cf.* Mr. Bateson's thesis!); ANON. (11).

"The differentiation of every new species resulted from new forces *ab extra* superimposed on, and, to some extent, superseding or modifying the forces that produced the species or genus immediately preceding in the same line of development;" ANON. (11).

Correlated variations in eleven parts of 1000 adult females of shore-crab. "The problem of animal evolution is essentially a statistical problem: before we can properly estimate the changes at present going on in a race or species we must know accurately (*a*) the percentage of animals which exhibit a given amount of abnormality with regard to a particular character; (*b*) the degree of abnormality of other organs which accompanies a given abnormality of one; (*c*) the difference between the death-rate per cent. in animals of different degrees of abnormality with respect to any organ; (*d*) the abnormality of offspring in terms of the abnormality of parents, and *vice versa*." When we know the numerical answers to these questions for a number of species, we shall know the direction and the rate of change in these species at the present day, a knowledge of which is the only legitimate basis for speculations as to their past history and future fate; WELDON (566).

Correlated variations of external parts in *Palaemon serratus*; THOMPSON (533).

Mathematical treatment of variations; PEARSON (409).

In skull of *Neotoma micropus* there is "a wide range of purely individual variation, affecting every character that can be used in a diagnostic sense"; ALLEN (5).

Variation of antlers: These fall into three chief groups, and the specimens form a *fairly continuous series*; FOWLER (167).

Origin of structural variations; COPE (100).

Mechanical cause of folds in the aperture of Gasteropod shell; DALL (109).

Variations in Molluscs; SACCO (479).—Variation in Mollusc shells: Due to relation of animal to shell and to environment; MASON (337).

Causes of variations in bones of the foot; TORNIER (535, 536).

Modification of Galton's curves: Due to parasitism; GIARD (187).

Variations of *Spirifer verneuili*; GOSSELET (194).

Variation, particular problems: Polymorphism of ants. Seven types occur among *Formicidæ*: (1) winged females, (2) winged males, (3) wingless workers, large and small, (4) soldiers, (5) ergatomorphic females, (6) transitions between (1) and (3), (7) ergatomorphic males. The ergatomorphic types are wingless and sexual, adapted to subterranean life, convergent in structure to the workers. The author agrees with Weismann that the various forms express germinal variations fixed by natural selection, the environmental influences (food, warmth, &c.) may be stimuli, but are not the efficient causes; FOREL (164).

Report on teratological literature; WINDLE (580).—Teratogenesis; MITROPHANOW (362).

Salamanders without lungs; CAMERANO (80, 81).

Influence of captivity on the form of the skull in wolves; WOLFGRAMM (583).

Variation of North American fishes; MOENKHAUS (365).

Variation in coloration; FATIO (150).

Detailed study of breeds of dogs, variations in form, profile, and general proportions; DECHAMBRE (115).

Variations in number of clutch; D'HAMONVILLE (120).

Variations in colour: Frequent intervention of albinism in the formation of varieties of colour in Mammals; SAINT-LOUP (483).

Variation of coloration; VAN KEMPEN (268).

Variation in *Bdellostoma*; AYERS (14A).

Central nervous changes secondary to long continued disuse of an extremity; COLLINS (97).

Monstrous Annelids (*Allolobophora fatida* and *Podarke obscura*); ANDREWS (8).

c. *Influence of Function and Environment.*

Difficulty raised by continuity of environments and discontinuity of species, if the latter be regarded as arising in adaptation to the former. Answer, that discontinuous variations arise which are neither direct or indirect adaptations to the environment; BATESON (24).

Influence of Environment: (a) "Where to all appearance external influences have had direct action in causing purposeful adaptations, a more careful examination will always show that they have only served to bring some preformed adaptation into activity." (b) "We are undoubtedly justified in attributing the cause of variation to the influence of changed external conditions"; WEISMANN (562).

General lecture on the influence of environment; MARSHALL (332).

Directive stimuli in development; HERBST (231, 232).

Adaptation to environment; MILNE-EDWARDS & BOUVIER (352), PILLIET (420), CUÉNOT (106).

Cold and frog's ova: Exposure to 0° (3 days) inhibits development,

but causes no abnormality. Exposure to 0° (14 days) produces no ill effects on to stage of completed gastrulation; but embryos with closed medullary tube were killed; SCHULTZE (496).

Relative susceptibility of fish embryo to scarcity of oxygen and water. Embryo of *Fundulus* becomes more sensitive to lack of oxygen as it grows older; the germ is more sensitive to lack of water during cleavage than after the formation of the blastoderm; LOEB (311).

By lowering the temperature, the period of time for the egg-laying and ejection of the spermatozoa may be changed; BUNTING (73).

Influence of cold on development; BRAEM (62).

Temperature experiments on *Lepidoptera*: Effects vary at different periods. Great constitutional differences in sensitiveness. Difference of temperature may cause reversion; MERRIFIELD (345).—Discussion of the above; DIXEY (125).

Thermotaxis of *Euglena*: In tubes placed in the dark there was movement of the Infusorians through sand or through water to warmer parts. When tubes were placed at right angles to rays of light, the animals avoided the heat; if the tubes were placed in the same direction as the rays of light, they sought the end nearest the light, even in spite of heat. Relations of thermotaxis and heliotaxis require working out; WILDEMAN (576).

Reactions to heat; RICHTER (449).

Responses to changes of temperature; PEMBREY (411), PEMBREY & GORDON (411A).

Effects of change of pressure; PHILIPPON (417).

Influence of quality of food on form; CUNNINGHAM (107).

Coloured light affecting nitrogenous metabolism; TARCHANOFF (529).

Rarefied air on development of chick; GIACOMINI (185, 186).

Seasonal dimorphism of Japanese butterflies: Related to the fact that the extremes of the Japanese islands include arctic and tropical conditions; FRITZE (173).

Seasonal change of colour in *Lepus americanus*: The change both in autumn and in spring is a change of fur, not a change of colour in the hair itself. The change is regularly periodic, may be somewhat accelerated or retarded, but occupies many weeks. The progress of the change, as regards the parts first affected, is the reverse in spring of the order in autumn. During early spring, after the white overhair is shed, the pelage is the soft winter underfur, which is gradually replaced by the summer coat. In spring the moult occurs quite as early, and proceeds just as rapidly (if not a little more so) in the females as in the males; ALLEN (4).

Characters of cave animals: Argument in favour of transmission of acquired characters; PACKARD (403).

Subterranean Crustacean fauna; CHILTON (91).

Animals thrown up from artesian wells; ROLLAND (456).

Experimental nanism: Nanism in limited space due to want of activity and movement; VARIGNY (543).

Growth of *Euglena* confined to two dimensions of space ; RYDER (474).

Growth conditions : Causes of folds in Gasteropod shells ; DALL (109).

Effect of squatting posture, &c. : The bones of lower extremity of the adult Panjabi are differentiated by certain markings. These are present in fœtus, infant, and child, but are perfected by function. Some have been found in Neolithic man, who probably squatted; they have disappeared from European skeleton. "The facets seen on the bones of the Panjabi infant or fœtus have been transmitted to it by the accumulation of peculiarities gained by habit in the evolution of its racial type—in which the acquisition, having become a permanent possession, profitable to the individual under its conditions of life, is transmitted as a useful inheritance. These markings are due to the influence of certain positions, which are brought about by the use of groups of muscles, and they are the definite results produced by actions of these muscles. The effects of the use of these muscles are transmitted to the offspring, for the markings are present in the fœtus in utero, in the child at birth, and in the infant." The markings are instances of the transmission of acquired characters, which function subsequently develops ; CHARLES (87).

Use-inheritance in relation to epidermis of the plantar surface ? : The plantar thickening was present in embryos, the thickening of the toe-ball had also begun, but the thickening of the heel was not discoverable. The phenomena most readily explained in terms of natural selection ; DIXEY (124).

Modifications of instep from Amphibian to Man : The combined result of bone-growth and exercise of muscle ; TORNIER (536).

Adaptive forms of red blood-corpuscles : "Mechanical origin for the elliptical form of the red blood-corpuscle" ; RYDER (472).

Reciprocity of host and parasite ; MINGAZZINI (356) ; cf. CUÉNOT (104).

Temperature controlling distribution ; HART MERRIAM (344), MAAS (320).

d. *Elimination, Selection, and Isolation.*

Rôle of natural selection : This is lessened if the variations which have been important in the origin of new species were discontinuous in their nature ; BATESON (24).

Insufficiency of natural selection, criticism of Weismannism : Contrasts in power of sense-discrimination at different parts of the body cannot be accounted for by natural selection. Relative minuteness of little toe illustrates increase from use and decrease from disuse. It is impossible to explain by natural selection alone the co-adaptation of co-operative parts. Nutritive origin of different types among social insects. Discussion of panmixia, &c. ; SPENCER (515, 516).

"Selection is the all-sufficient principle on which the development of the organic world has been guided on its course"; WEISMANN (562).

Review of Weismann's *Allmacht der Naturzüchtung*; v. WAGNER (551).

Summary of the Spencer-Weismann controversy; CHALMERS MITCHELL (360).

Origin of species without the aid of natural selection; HENSLOW (230).

Henslow on natural selection; WALLACE (552).

Criticism of Drummond's *Ascent of Man*; BATHER (26), LYNN LINTON (133).

Objections to natural selection; MARQUIS of SALISBURY (484).

Panmixia discussed; WELDON (567), ROMANES (457), WALLACE (555).

Some interesting criticisms of evolution-theory from a breeder's point of view. High (selective) breeding tends to a climax and then falls; crossing at first beneficial, but is soon limited. Too little attention has been paid to the conditions which limit divergence; ANON. (11).

Evolution of social insects: Natural selection among colonies, social selection among individuals. Both forms of selection partly directly utilitarian, partly secondarily useful, partly fortuitous; RILEY (454).

Greenland insects: Number of dark-coloured forms explained by action of natural elimination, weeding out light-coloured individuals, ill-adapted to dark lichen-covered rocks; FERNALD (154).

Observations and experiments as to value of protective coloration in *Abraxas grossulariata*; PLATEAU (422).

Sexual selection in *Lepidoptera*; SEITZ (506).

Arguments from subterranean Crustacea in favour of natural selection and against Lamarckism; CHILTON (91).

Detailed study of the present operation of natural selection on man; AMMON (6).

e. *Particular Problems.*

Origin of joints; TORNIER (535).

Colours of butterflies in relation to mimicry, sexual selection, &c.; MARSHALL (334).

Coloration of grass snake: There is exact correspondence between the rows of pigment spots and longitudinal sub-cutaneous vessels and their communications with deeper vessels; ZENNECK (588).

Relation of mimetic to original form; DIXEY (123).

Apparent mimicry; PLATEAU (423).—False mimicry: True mimicry must be between animals living in the same district, under similar conditions, and occurring together at the same time of year; and the mimicked form must possess means of defence which the mimicking form lacks. Examples of false mimicry; PLATEAU (423).

Parasitic mimicry ; GIARD (189).

Seasonal dimorphism and polymorphism ; FRITZE (173).

Special discussion of castes in social insects : The sterility of the workers is not due to poor nourishment, but to the presence in the egg, owing to selection, of the primary constituents of a rudimentary ovary, as well as those of a perfect one, the former undergoing development when the young larva is less richly nourished ; WEISMANN (562).

Evolution of worker-caste in ants : Origin of workers depends on a special capacity of the germ-plasm to react to qualitative and quantitative differences of nutrition which hasten development of jaws and brain, but retard wings and gonads. What is transmitted is a capacity of the germ-plasm to react to given conditions ; EMERY (141).

Polymorphism of ants expresses phylogenetic germinal variations fixed by natural selection ; nutrition and other such influences may act as stimuli, not as efficient causes ; FOREL (164).

Neuter insects and Lamarckism ; BALL (16).—Neuter insects and Darwinism ; CUNNINGHAM (107).

Social insects ; RILEY (454).

Castes among Termites ; GRASSI & SANDIAS (198).

Convergence and pœcilogony in insects ; GIARD (188).

Origin of cave animals : General view that heredity of acquired characters (optic atrophy, &c., from disease) was in the beginning the general rule among the cave animals, but the congenital occurrence of blindness and its persistence is also allowed ; PACKARD (403).

Peculiarities of subterranean Crustaceans ; HILTON (91).

Instincts of insects : Budding of Metazoa ; EMERY (142).

Detailed discussion of evolution of nautiloid shell ; HYATT (254).

Useful illustration of a method : The musculature moving the tongue has its origin in musculature whose primary function is to compress glands ; GEGENBAUR (183).

Ancestry of Vertebrates : "The proximate ancestor of the Vertebrates—a free-swimming animal intermediate in organisation between an Ascidian tadpole and *Amphioxus*, possessing the dorsal mouth, hypophysis, and restricted notochord of the former, and the myotomes, coelomic epithelium, and straight alimentary canal of the latter. The ultimate or primordial ancestor—a worm-like animal whose organisation was approximately on a level with that of the bilateral ancestors of the Echinoderms" ; WILLEY (578).

Phylogeny of the Chordata ; GARSTANG (177).

Phylogeny of Protists ; HÆCKEL (210).

Possible evolution of the eye ; LENIHOSSEK (304).

Evolution of the tongue ; GEGENBAUR (183).

Evolution of the Cheiropterygium ; EMERY (143), GEGENBAUR (184)

Evolution of striped muscle-fibres ; MAURER (339).

Poisonous animals and their action ; LINSTOW (308).

Myrmecophilous and Termitophilous Arthropods: 1177 species of myrmecophilous insects, mostly *Coleoptera* (993); 105 species of termitophilous insects, mostly *Coleoptera* (87); also 64 Arachnids and 9 Crustaceans. Emphasis on the numerous correlations between structure and habit; WASMANN (558).

Domestication; MÜLLER (381).

Biological classification of parasites; STILES (519).

Animal parasites; MOSLER & PEIPER (379). Parasites of man; BRAUN (65).

Commensalism; BOUVIER (57), GOUPIN (195).

Origin of family; ZIEGLER (592).

II. MAMMALIA.

BY

R. LYDEKKER, B.A., F.R.S., F.G.S.

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FROM a systematic point of view, undoubtedly the most important event of the year is the discovery of the new Anomalurid genus *Idiurus*, which has been described by MATSCHIE. The zoological world was also startled by the alleged discovery in the Pleistocene of Java of an erect man-like ape (*Pithecanthropus*), but the criticisms which have recently appeared seem to indicate that the describer, DUBOIS, was misled in his interpretation of the nature of the specimens.

New species and subspecies continue to be described as rapidly as ever; the chief workers in this department being J. A. ALLEN, BANGS, MERRIAM, MILLER, RHOADS, and TRUE, in America, MATSCHIE in Germany, and THOMAS in England. While, however, the first five of them confine their attention to the Mammals of their own country, the work of the last three has a cosmopolitan range. Among faunistic works, H. ALLEN'S Monograph of the Bats of North America deserves special mention; while reference must likewise be made to BÜCHNER'S continuation of his description of the Mammals of Central Asia. NOACK has helped to increase our knowledge of the Mammals of Ethiopian

Africa. MAJOR has done good work among the Lemuroids; and all zoologists will hail the appearance of the first part of the important Monograph of Antelopes by SCLATER and THOMAS.

In anatomical work the investigations of DUVAL and HUBRECHT on the placenta occupy an important position; while equally valuable are HENNEGEX'S researches on the Graafian follicles. WOODWARD'S examination of the milk-dentition of Rodents is likewise noteworthy; while PARSON'S dissections of the myology of the same group must prove valuable. A special feature of the year is the large amount of attention that has been directed to the anatomy and histology of the Monotremes.

In Palæontology the commencement of ROGER'S new list of all known forms is of the highest importance. While there is nothing calling for special notice in European palæontology, in North America SCOTT & WORTMAN have done valuable work, and in South America AMEGHINO and the Recorder have both published memoirs on the fauna of the Argentine Republic.

I.—TITLES.*

- ADAMS, W. H. On the habits of the Flying-Squirrels of the genus *Anomalurus*. P. Zool. Soc. London, 1894, pp. 243-246.
- ALBINI, G. Sull' Immobilità come causa iniziante il letargo iemale de Moscardini (*Myoxus avellanarius*). Rend. Acc. Napoli (2) viii, pp. 15-19.
- ALLEN, H. A monograph of the Bats of North America. Bull. U. S. Mus. No. 43, 1893, x & 198 pp., 38 pls.
- Observations on *Blarina brevicauda*. P. Ac. Philad. 1894, pp. 269-276.
- On a new species of *Ametrida*: P. Boston Soc. xxvi, pp. 240-246. [See p. 26, *Phyllostomatidæ*.]
- ALLEN, J. A. Notes on Mammals from New Brunswick, with description of a new species of *Evotomys*. Bull. Amer. Mus. vi, pp. 99-106.
- In addition to the new form, 32 species are noticed. [See p. 31, *Muridæ*.]
- On the seasonal change of colour in the varying Hare (*Lepus americanus*, Erxl.). T. c. pp. 107-128.
- On the Mammals of Arcansas County, Texas, with descriptions of new forms of *Lepus* and *Oryzomys*. T. c. pp. 165-198. [See p. 31, *Muridæ*, and p. 35, *Leporidæ*.]

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

[ALLEN, J. A.] Cranial variations in *Neotoma micropus* due to growth and individual variation. *T. c.* pp. 233-246, pl. iv.

— Remarks on specimens of *Chilonycteris rubiginosus* from Western Mexico, and on the colour-phases of *Pteronotus davyi*, Gray. *T. c.* pp. 247 & 248.

— Descriptions of ten new North American Mammals, and remarks on others. *T. c.* pp. 317-322. [See p. 31, *Sciuridæ*, p. 31, *Muridæ*, and p. 34, *Geomyidæ*.]

— Descriptions of five new North American Mammals. *T. c.* pp. 347-350. [See p. 31, *Sciuridæ*, p. 31, *Muridæ*, and p. 35, *Leporidæ*.]

— Remarks on a second collection of Mammals from New Brunswick, and on the rediscovery of the genus *Neotoma* in New York State. *T. c.* pp. 359-364.

— Recent progress in the study of North American Mammals. *P. Linn. Soc. N. York*, 1894, pp. 17-45.

Gives a full account of the method of working and collecting now followed by the zoologists of the United States, and lists of the new species named during the last few years.

AMEGHINO, F. Énumération synoptique des espèces de Mammifères fossiles des formations Éocènes de Patagonie. *Bol. Ac. Cordoba*, xiii, pp. 259-452.

A complete synopsis of the Tertiary Mammals of Patagonia, with descriptions of a number of new genera and species. The placental and marsupial Carnivores are united in a single group. [See p. 30, *Borhyænida*, pp. 34 & 35, *Octodontidæ* and *Chinchillidæ*, p. 37, *Protherotheidæ* and *Homalodontotheriidæ*, p. 27, *Platanistidæ*, p. 43, *Megatheriidæ* and *Dasypodidæ*, p. 44, *Dasyuridæ*, and p. 46, *Abderitidæ*, *Epanorthidæ*, and p. 47, *Garzoniidæ*.]

— Sur les Ongules fossiles de l'Argentine; examen critique de l'ouvrage de M. R. Lydekker. "A study of the extinct Ungulates of Argentina." *Rev. Jard. Zool. Buenos Aires*, ii, pp. 193-303.

Disputes the Recorder's views as to the synonymy of the Argentine Fossil Ungulates, and gives figures of the feet of several forms.

ANONYMOUS. A Mammut Kipusztulasa. *Termes. Kozl. Magyar Tars.* 1894, pp. 467-474. Discusses various theories as to the climate, &c., of Siberia during the Mammoth Epoch.

APLIN, O. V. Field-notes on the Mammals of Uruguay. *P. Zool. Soc. London*, 1894, pp. 297-315.

Has observations on the habits of a large number of forms, with description of a new variety of Skunk. [See p. 29, *Mustelidæ*.]

ASSHETON, R. A reinvestigation into the early stages of the development of the Rabbit. *Quart. J. Micr. Sci.* (2) xxxvii, pp. 113-164, pls. xiii-xvii.

- [ASSHETON, R.] On the phenomenon of the fusion of the epiblastic layers in the Rabbit and the Frog. *T. c.* pp. 165-172, pl. xviii.
- On the causes which lead to the attachment of the Mammalian Embryo to the walls of the uterus. *T. c.* pp. 173-190, pl. xix.
- The primitive streak of the Rabbit; the causes which may determine its shape, and the part of the Embryo formed by its activity. *T. c.* pp. 191-222, pls. xx-xxii.
- BANGS, O. *Synaptomys cooperi*, Baird, in Eastern Massachusetts; with notes on *S. stonei*, Rhoads. *P. Soc. Washington*, ix, pp. 94-104.
- Description of a new Field-Mouse (*Arvicola terranova*) from Codroy, Newfoundland. *T. c.* pp. 129-132.
- Description of a new Musk-Rat from Codroy, Newfoundland. *T. c.* pp. 133-138. [See p. 31, *Muride.*]
- [See also MEARNS, and MILLER.]
- BARDELEBEN, K. v. Hand und Fuss. *Verh. Anat. Ges.* 1894, pp. 257-337.
- 'Bemerkungen zu meinem Referat "Hand und Fuss." *Anat. Anz.* x, p. 304.
- On the Bones and Muscles of the Mammalian Hand and Foot. *P. Zool. Soc. London*, 1894, pp. 354-376, pls. xx & xxi.
- Further observations bearing on the presence of a prepollex and prehallux; a large number of animals having been examined.
- BARKLEY, MACD. Notes upon the Antelopes of the Pungue Valley. *P. Zool. Soc. London*, 1894, pp. 130-132.
- BARRETT-HAMILTON, G. E. H. The Marten in Ireland. *Zoologist* (3) xviii, pp. 134-142.
- BARTELLI, D. Contributo alla anatomia del diaframma nei Carnivori. *Monit. Zool. ital.* v, pp. 211-215.
- BARTHÉLEMY, F. Sur des Molaires de Mammoth trouvées a Nancy. *Bull. Soc. Nancy* (2) xiii, pp. 25-27.
- BEAUREGARD, H. Le Rorqual de Kerafédé. *C.R. Soc. Biol.* (10) i, pp. 275-277.
- Describes an example of *Balenoptera musculus* stranded on the coast of Finisterre.
- Recherches sur l'oreille interne de la Rousette de l'Inde (*Pteropus medius*). *C.R. Ac. Sci.* cxix, pp. 1351 & 1352.
- Recherches sur l'appareil auditif chez les Mammifères. *J. Anat. Physiol.* xxx, pp. 366-413, pls. ix-xi. (Continuation.)
- & BOULART, R. Sur l'Utricule prostatique et les canaux déférentes des Cétacés. *C.R. Ac. Sci.* cxix, pp. 596 & 597.

- [BEAUREGARD, H., & BOULART, R.] Note sur un plexus veineux de l'Œil de *Balenoptera musculus*. C.R. Soc. Biol. (10) i, pp. 775 & 776.
- BEDDARD, F. E. On some points in the anatomy of *Ornithorhynchus*. P. Zool. Soc. London, 1894, pp. 715-722.
- BENHAM, W. B. A description of the cerebral convolutions of the Chimpanzee known as "Sally"; with notes on the convolutions of other Chimpanzees, and of two Orangs. Quart. J. Micr. Sci. (2) xxxvii, pp. 47-86, pls. vii-xi.
- BERKLEY, J. The neuroglia cells of the walls of the middle ventricle in the adult Dog. Anat. Anz. ix, pp. 746-753.
- BIANCHI, S. Sulle ossa parietali nel genere *Bos*. Monit. Zool. ital. v, pp. 134-137.
- BLANE, L. Étude sur la Polydactylie chez les Mammifères. Ann. Soc. Linn. Lyon (2) xiv, pp. 53-88.
- A distinction is made between atavistic and teratological polydactylism; numerous examples of both being figured.
- BOULART, R. [See BEAUREGARD, and DENIKER.]
- BROWN, A. E. On the true character and relationships of *Ursus cinnamomeus*, Aud. and Bach. P. Ac. Philad. 1894, pp. 119-129. [See p. 29, *Ursidæ*.]
- BRUCE, W. S. A few notes on Seals and Whales seen during the voyage to the Antarctic Ocean, 1892-93. Rep. Brit. Ass. 1893, p. 807.
- . Animal life observed during a voyage to Antarctic Seas. P. Phys. Soc. Edinb. xii, pp. 350-354.
- BÜCHNER, C. H. Wissenschaftliche Resultate der von N. M. Przewalski nach Central-Asien unternommenen Reisen. Säugethiere i, pt. 5, pp. 185-232, pls. xxi-xxv. St. Petersburg: 1894, 4to.
- This part contains a portion of the *Leporidae* and *Felidae* (q.v.).
- CAMERON, A. G. The origin and purpose of the Horns and Antlers of Ruminants. Zoologist (3) xviii, pp. 241-252 & 281-292.
- CAPELLINI, G. Resti di Mastodonti nei depositi Marini Pliocenici della provincia di Bologna. Mem. Acc. Bologna (5) iii, pp. 163-170, plate.
- CARPENTER, G. H. Nearctic or Sonoran? Nat. Sci. v, pp. 53-57.
- Basing his conclusions largely on the Mammals, the author supports Merriam's view of the propriety of transferring the northernmost parts of America to the Palearctic or Holarctic region, and adopting the name Sonoran for the more southern zone.

CHAPMAN, F. M. Remarks on certain land Mammals from Florida, with a list of the species known to occur in the State. Bull. Amer. Mus. xiv, pp. 333-346.

A total of 53 species and subspecies is recorded.

CHAPMAN, H. C. Homologies of the Alisphenoid and Petromastoid Bones in Vertebrates. P. Ac. Philad. 1894, pp. 32-52.

CHEESEMAN, T. F. Notes on the New Zealand Bats. Tr. N. Zealand Inst. xxvi, pp. 218-222.

CHIARUGI, G. Di una particolare connessione della parete ventrale del cervello intermedio coll' ectoderma in embrioni di mammifero. Monit. Zool. ital. v, pp. 109-112.

CLARKE, W. E. [See HINXMAN.]

CLELAND, J. On the development of the Molar Teeth of the Elephant, with remarks on dental series. Rep. Brit. Ass. 1893, p. 808.

COPE, E. D. Description of a Lower Jaw of *Tetrabelodon sheppardii*. P. Ac. Philad. 1893, pp. 202-204. [Omitted from Zool. Rec. xxx.]

CORYNDON, R. T. On the occurrence of the White or Burchell's Rhinoceros in Mashonaland. P. Zool. Soc. London, 1894, pp. 329-334, pl. xviii.

*CRETY, C. Contribution à la connaissance de l'ovaire des Chiroptères. Rech. Lab. Anat. Univ. Rom. iii, art. 3 (1893). [Summary in Arch. ital. Biol. xxii, p. 148.]

DAGIEL, A. S. Die Nervendigungen in den Nebennieren der Säugethiere. Arch. Anat. 1894, pp. 90-104, pls. i & ii.

DAWSON, G. M. The extinct Northern Sea-Cow and early Russian explorations in the North Pacific. Ottawa Natural. vii, pp. 151-161.

DECHAMBRE, P. Races canines : Classification et Pointage. Mem. Soc. zool. Paris, vii, pp. 331-362.

DELISLE, P. Sur l'Ostéologie des Orangs-Outans. C.R. Ac. Sci. cxix, pp. 241 & 242.

DENIKER, J., & BOULART, R. Sur divers points de l'Anatomie de l'Orang-Outan. T. c. pp. 235-238.

DEPÉRET, C. Sur la classification et le parallélisme du système Miocène. Bull. Soc. geol. France (3) xxi, pp. 170-266 (1893).

The various Mammalian faunas are noted and collated.

—. Sur un gisement sidérolithique de Mammifères de l'Éocène moyen à Lissieu, près Lyon. C.R. Ac. Sci. cxix, pp. 822 & 823.

DE VIS, C. W. A Thylacine of the earlier Nototherian period in Queensland. P. Linn. Soc. N. S. Wales (2) viii, pp. 443-447.

- DE WINTON, W. E. On a neglected Species of British Field-Mouse, *Mus flavicollis*, Melchior. Zoologist (3) xviii, pp. 442-445.
- DUBALEN, P. E. Un Micromammifère nouveau pour le Département des Landes. Bull. Soc. Borda Dax, xix, pp. 173 & 174.
Records *Myogale pyrenaica*.
- DUBOIS, E. *Pithecanthropus erectus*, eine Menschenähnliche Uebergangsform aus Java. Batavia: 1894, 4to, 40 pp., 2 pls. [See p. 24, *Primates*.]
- . Voorloopig Bericht omtrent het Onderzoek naar de Pleistocene en Tertiare Vertebraten-Fauna van Sumatra en Java, gedurende het Jaar 1890. Tijdschr. Nederl. Indie, li, pp. 93-100.
A review of the fossil Mammals hitherto described from the Pleistocene of the islands in question.
- DUGÈS, A. Felis fossil de San Juan de Los Lagos. Nat. Mex. (2) ii, pl. xxii. [See p. 28, *Felida*.]
- DUVAL, M. Le Placenta des Carnassiers. J. Anat. Physiol. xxx, pp. 189-240, & 262-295, pls. iv-viii. (Continuation.)
- EHLERS, H. Der Processus xiphoideus und seine Muskulatur von *Manis macrura* und *Manis tricuspis*. Abh. Ges. Gotting. 1894; Zool. Miscell. pp. 1-34, pls. i & ii.
- ENDRÉ, B. A "Sealskin" prém (Képpel). Termes. Kozl. Magyar Tars. 1894, pp. 30-33.
Discusses the Seals of Behring Straits and the Pribiloffs.
- EVANS, W. The Whiskered Bat (*Vespertilio mystacinus*, Leisl.) in East Lothian. Ann. Scott. Nat. Hist. 1893, p. 146.
- . The Mammalian Fauna of the Edinburgh District, &c. Edinburgh: 1892. [Omitted from previous Records.]
- EVERMAN, J. Preliminary notice of a new species of *Temnocyon*, and a new genus from the John Day Miocene of Oregon. Amer. Geol. xiii, pp. 320 & 321.
- EWART, J. C. The development of the skeleton of the limbs of the Horse. Part II. J. Anat. Physiol. norm. path. xxviii, pp.
The continuation of the paper quoted in Zool. Rec. xxx, *Mamm.* p. 8.
- . The Second and Fourth Digits in the Horse: their development and subsequent degeneration. P. R. Soc. Edinb. 1894, pp. 185-191.
- FILHOL, H. Sur quelques Points de l'Anatomie du Cryptoprocte de Madagascar. C.R. Ac. Sci. cxix, pp. 1060-1062.
- FORBES, H. O. A Handbook to the Primates (Allen's Naturalists' Library). 2 vols., illustrated.

FOWLER, C. H. Notes on some specimens of Antlers of the Fallow Deer, showing continuous variation, and the effects of total or partial castration. P. Zool. Soc. London, 1894, pp. 485-494, pl. xxxiv.

FRITZE, A. Die Fauna der Liu-Kiu Insel, Okinawa. Zool. Jahrb. Syst. vii, pp. 851-926.

5 Mammals are mentioned.

GIGLIO, T. E. Sull' omologia tra il diaframma degli Anfi Anuri. Atti Ac. Torino, xxix, pp. 248-258.

The author concludes that the imperfect diaphragm of the Ecaudate Amphibians is strictly homologous with the fully-developed Mammalian diaphragm.

GOELDI, E. A. Bemerkungen zur Osteologie des Delphins aus der Bucht von Rio de Janeiro (*Sotalia brasiliensis*, E. van Beneden). Zool. Jahrb. Anat. iii, pp. 134-144.

— Critical gleanings on the *Didelphyidae* of the Serra dos Orgãos, Brazil. P. Zool. Soc. London, 1894, pp. 457-467. [See p. 45, *Didelphyidae*.]

GOPPERT, E. Der Musculus obliquus superior oculi der Monotremen. Morphol. Jahrb. xxi, pp. 278-280.

GOODRICH, E. S. On the fossil *Mammalia* from the Stonesfield Slate. Quart. J. Micr. Sci. (2) xxxv, pp. 407-432, pl. xxvi.

A careful revision of the generic and specific characters of all the known specimens of Mammalian jaws from the Stonesfield, in which some important amendments are made on previous determinations. While supporting the doctrine of trituberculism as a primitive factor in Mammalian dental evolution, the author denies that the triconodont type is likewise primitive, maintaining that this is a secondary development which has arisen independently in several distinct groups. [See p. 45, *Amphitheriidae*.]

GLUR, G. Beiträge zur Fauna der schweizerischen Pflalbauten. Mt. Ges. Bern. 1894, pp. 1-56, pls. i & ii.

In describing the fauna of the lake-dwellings the author enters into a long discussion as to the origin of domestic sheep and goats, giving a classification of their various races.

GREGORIO, A. DE [MARQUIS]. Description de quelques ossements des cavernes des environs de Cornedo et Valdagno dans le Vicentin (Rongeurs, Insectivores, Chéiroptères, &c.). Ann. Geol. Pal., pt. 15, 16 pp., 3 pls.

HARLÉ, E. Restes d'Élan et de Lion dans une station préhistorique à St. Martory (Haute-Garonne). L'Anthropologie, v, pp. 402-406.

- [HARLÉ, E.] Une Mandibule de singe du repaire d'Hyènes de Montsaunès (Haute-Garonne). Bull. Soc. Sci. Toulouse, 1892, pp. ix-xi.
- Les brèches á ossements de Montoussé (Haute Pyrénées), [suivie d'appendices sur des Equidés, Rhinocéros, Bovidés, et Marmottes quaternaires du Sud-Ouest de la France]. *T. c.* pp. 113-125.
- Le Repaire d'Hyènes de Roc-Traücat, à St. Girons (Ariège), et sur des restes de Mégacéros du Sud-Ouest de la France. *T. c.* pp. xl-xlii.
- Restes d'Éléphants du Sud-Ouest de la France. *T. c.* 1893, 6 pp.
- Restes de Marmottes dans la Grotte de Lestélas, Commune de Cazavet (Ariège). *T. c.*, 2 pp.
- Découverte d'ossements d'Hyènes Rayées dans la Grotte de Montsaunès (Haute-Garonne). Bull. Soc. geol. France (3) xxii, pp. 234-241, and C.R. Ac. Sci. cxix, pp. 824 & 825.
- HARTERT, E. On *Lepus nigronuchalis*. Nov. Zool. i, p. 40. [See p. 35, *Leporidae*.]
- [See also THOMAS, p. 22.]
- HARTING, J. E. The Otter. Zoologist (3) xviii, pp. 1-10, 41-47, & 379-385, pl. i.
- The Marten in Ireland. *T. c.* pp. 100-107.
- The Weasel. *T. c.* pp. 417-423 & 445-454, pl. ii.
- HATCHER, J. E. A Median-Horned Rhinoceros from the Loup Fork beds of Nebraska. Amer. Geol. xiii, pp. 149 & 150.
- On a small collection of Vertebrate Fossils from the Loup Fork beds of North-Western Nebraska. Amer. Natural. xxviii, pp. 236-248, pls. i & ii. [See p. 29, *Canidae*, and p. 38, *Rhinocerotidae*.]
- HENNEGUY, L. F. Recherches sur les Follicules de Graaf chez les Mammifères et quelques autres Vertébrés. J. Anat. Physiol. xxx, pp. 1-39, pls. i & ii.
- HINXMAN, W. L., & CLARKE, W. E. A contribution to the Vertebrate Fauna of West Ross-shire. P. R. Phys. Soc. Edinb. xii, pp. 777-415.
- HUBRECHT, A. A. W. Studies in Mammalian embryology. III. The placentation of the Shrew (*Sorex vulgaris*). Quart. J. Micr. Sci. (2) xxxvii, pp. 481-538, pls. xxxi-xxxix.
- Die Placentatie van de Spitsmuis (*Sorex vulgaris*). Verh. Ak. Amsterdam (2) iii, art. 6.

HUTCHINSON, H. N. *Creatures of Other Days*. London: 1894, 8vo, xxiv and 270 pp., illustrated.

Contains numerous restorations of extinct Mammals.

IHERING, H. VON. *Os Mammiferos de S. Paulo, Catalogo*. São Paulo: 1894, 12mo, 30 pp.

Contains a descriptive list of the Mammals of the St. Paulo district, Brazil.

INVERARITY, J. D. *The Four-horned Antelope*. *J. Bombay Soc.* ix, p. 193, and pl.

JACOBY, M. *Ueber die mediane Schilddrüsenanlage bei Säugern (Schwein)*. *Anat. Anz.* x, pp. 49-55.

JAMESON, H. *Irish Bats*. *Irish Natural.* iii, pp. 69-71.

JENTINK, F. A. *On Bubalus mindorensis*, Heude. *Notes Leyden Mus.* xvi, pp. 199-204, pls. viii-xi.

— . *On Trichys fusciculata*. *T. c.* pp. 205-209. [See p. 35, *Hystrioidæ*.]

— . *On a specimen of Herpestes semitorquatus*, Gray, from Sumatra. *T. c.* p. 210.

— . *On the Rhinoceroses from the East Indian Archipelago*. *T. c.* pp. 231-233.

— . *On Potamogale velox*, Du Chaillu. *T. c.* pp. 234-236.

JOHNSON, G. L. *On the pupils of the Felidæ*. *P. Zool. Soc. London*, 1894, pp. 481-484. [See p. 28, *Felidæ*.]

KAFKA, J. *Recente und fossile Nagethiere Böhmens*. *Arch. Landesdf. Bohmen*, vii, art. 5, 113 pp., figg. (1893).

KEITH, A. *The ligaments of the Catarhine Monkeys, with references to corresponding structures in Man*. *J. Anat. Physiol. norm. path.* xxviii, pp. 149-168.

— . *Notes on a theory to account for the various arrangements of the Flexor Profundus Digitorum in the Hand and Foot of Primates*. *T. c.* pp. 335-339.

KERVILLE, H. G. DE. *Les Moutons à Cornes Bifurquées*. *Naturaliste*, 1894, pp. 111 & 112, fig.

KOLLMANN, J. *Les Muscles de l'Anus chez les Singes à Queue et chez les Anthropoides*. *Arch. ital. Biol.* xxi, p. xxxii.

LAFFAN, G. B. [See LEESON & LAFFAN.]

LANGKAVEL, B. *Verbreitung europäischer und kaukasischer Auerochsen*. *Zool. Garten*, xxxv, pp. 13-17 & 43-49.

— . *Aulacodus swinderianus*. *T. c.* pp. 328-332, figg.

LAST, J. T. [See SCLATER & LAST.]

- LATASSE, F. Les cornes surnuméraires des Ruminants Cavicornes. *Naturaliste*, 1894, pp. 30-32.
- LEESON, J. R., & LAFFAN, G. B. On the Geology of the Pleistocene deposits in the valley of the Thames at Twickenham, with contributions to the Fauna and Flora of the period. *Quart. J. Geol. Soc.* 1, pp. 453-462.
- Remains of several existing Mammals are recorded, among which is the so-called *Bos longifrons*.
- LEMOINE, V. Étude sur les os du pied du Mammifères de la Faune Cernaysienne, et sur quelques pièces osseuses nouvelles de cet horizon paléontologique. *Bull. Soc. geol. France*, xxi, pp. 353-368, pls. ix-xi.
- LEONARD, A. G. The Camel, its uses and management. London: 1894, 8vo, ix and 335 pp.
- LIEBENWALDE, J. M. Dickhornschaf (*Ovis montana*) and Felsengebirgsziege (*Aplocerus lanigerus*). *Zool. Garten*, xxxv, pp. 234-237 & 257-260.
- LITTLEDALE, ST. G. Field-notes on the wild Camel of Lob-Nor. *P. Zool. Soc. London*, 1894, pp. 446-448.
- LODER, [SIR] E. G. On the "Reem" Antelope of Algeria. *T. c.* pp. 473-478.
- . Note on the period of gestation of the Indian Antelope, *Antilope cervicapra* (Linn.). *T. c. p.* 478.
- LOEWENTHAL, N. Zur Kenntniss der Glandula submaxillaris einiger Säugethiere. *Anat. Anz.* ix, pp. 223-229.
- . Zur Kenntniss der Glandula infraorbitalis einiger Säugethiere. *Op. cit.* x, pp. 123-130.
- LORENZ, L. Ueber die von Herrn. Dr. E. Holub gespendeten Südafrikanischen Säugethiere. *Ann. Hofmus. Wien*, ix, Notizen, pp. 59-67. [See p. 38, *Bovidae*.]
- LYDEKKER, R. The Royal Natural History. London: 8vo, illustrated, vol. i, pts. 3-6, vol. ii, & vol. iii, pts. 1 & 2. Mammals.
- . Life and Rock; a collection of zoological and geological essays. London: 12mo, xi & 221 pp., illustrated.
- Contains several articles treating of Mammals, both living and extinct.
- . A Hand-Book to the *Marsupialia* and *Monotremata* (Allen's Naturalists' Library). London: 12mo, xvii & 302 pp., 37 pls.
- Contains a semi-popular account of all the living species, with some notice of fossil forms.

[LYDEKKER, R.] The La Plata Museum. Nat. Sci. iv, pp. 27-35 & 117-128, pls. i-iii.

Has several observations on the extinct Mammals of Argentina, and concludes that none of them are older than the Miocene, or possibly the upper Oligocene. Translated in An. Soc. Argent. xxxvii, pp. 53-78.

— Contributions to a knowledge of the Fossil Vertebrates of Argentina. An. Mus. La Plata, Pal. Arg. ii (1893).

Contains three articles, viz.: (1) The Dinosaurs of Patagonia, (2) Cetacean Skulls from Patagonia, and (3) A Study of extinct Argentine Ungulates, illustrated by 43 plates. While the second article deals with forms many of which have been hitherto undescribed, the third is mainly a revision of types already named, and attempts a large reduction of genera and species. The author argues that the Santa Cruz beds of Patagonia have no claim to be regarded as Eocene. [See p. 39, *Cervidae*, p. 41, *Camelidae*, p. 37, *Equidae*, p. 37, *Litopterna* and *Astrapotheria*, p. 36, *Toxodontia*, and p. 42, *Balantidae*, *Physodontidae*, *Squalodontidae*, *Argyrocetidae*, and *Platanistidae*.]

— Contributions to a knowledge of the fossil Vertebrates of Argentina. Part II. *Op. cit.* iii: 1, Supplemental Observations on Argentine Ungulates, pp. 1-6, 1 pl.; 2, Extinct Edentates of Argentina, pp. 1-118, 62 pls.; 3, On Two Extinct Carnivores, pp. 1-5, 2 pls. [See p. 29, *Canidae* and *Procyonidae*, p. 36, *Tyotheriidae* and *Pyrotheriidae*, p. 43, *Megatheriidae* and *Dasypodidae*, and p. 44, *Glyptodontidae*.]

MCKAY, W. J. S. The morphology of the Muscles of the Shoulder-Girdle in Monotremes. P. Linn. Soc. N. S. Wales, ix, pp. 263-360, pls. xx-xxiii.

— [See also WILSON.]

MAGGI, L. Sull' interparietale del Leone. Rend. Ist. Lombardo (2) xxvii, pp. 234-242, pl. iii.

— Preinterparietale e fontanelle interparietali in un idrocefalo di *Bos taurus*, juv. *T. c.* pp. 160-171, 1 pl.

MAJOR, C. J. FORSYTH. Diagnosis of a new species of the genus *Lepidolemur*. Ann. Nat. Hist. (6) xiii, p. 211. [See p. 25, *Lemuridae*.]

— Ueber die Malayassischen Lemuriden-Gattungen *Microcebus*, *Opolemur*, und *Chirogale*. Nov. Zool. i, pp. 2-39, pls. i & ii. [See p. 25, *Lemuridae*.]

— On *Megaladapis madagascariensis*, an extinct gigantic Lemuroid from Madagascar, with remarks on the associated fauna, and on its geological age. Phil. Trans. clxxxv, B, pp. 15-38, pls. v-vii.

The full text of the memoir referred to in Zool. Rec. xxx, *Mamm.* p. 13. The species is believed to have survived into the historic period.

- MANNERS-SMITH, T. On some points in the anatomy of *Ornithorhynchus paradoxus*. P. Zool. Soc. London, 1894, pp. 694-715.
- MARSH, O. C. Restoration of *Elotherium*. Amer. J. Sci. (3) xlvii, pp. 407 & 408, pl. ix.
- . A new Miocene Mammal. *T. c.* p. 409. [See p. 40, *Anthracotheriidae*.]
- . Eastern division of the *Miohippus* Beds, with notes on some of the characteristic Fossils. *Op. cit.* xlviii, pp. 91-94. [See p. 40, *Protoceratidae* and *Anthracotheriidae*, and p. 41, *Dicotylidae*.]
- . Miocene Artiodactyles from the Eastern *Miohippus* Beds. *T. c.* pp. 175-178. [See *Anthracotheriidae*.]
- . Description of Tertiary Artiodactyles. *T. c.* pp. 261-274. [See p. 40, *Camelidae*, *Cotylopidae*, *Anthracotheriidae*, and p. 41, *Dicotylidae*.]
- MARTIN, P. Zur Endigung des Nervus acusticus im Gehirn der Katze. Anat. Anz. ix, pp. 181-184.
- . Zur Entwicklung des Gehirnbalkens bei der Katze. *T. c.* pp. 472-476.
- MATSCHE, P. Die naturliche Verwandtschaft und die Verbreitung der *Manis*-Arten. SB. Ges. naturf. Berlin, 1894, pp. 1-13.
- Besides characterising the species of *Manis*, the author replies to certain criticisms with regard to other Mammals described by himself. [See p. 44, *Manidae*.]
- . Die von P. Neumann in Argentinien gesammelten und beobachteten Säugethiere. *T. c.* pp. 57-64.
- A total of 44 species is referred to, mostly obtained from southern Argentina and Tucuman.
- . Drei neue Säugethiere (*Herpestes*, *Pediotragus*, *Chrysochloris*) von Ostafrika. *T. c.* pp. 121-125. [See p. 27, *Chrysochloridae*, p. 28, *Viverridae*, p. 38, *Bovidae*.]
- . Neue Säugethiere aus den Sammlungen der Herren Zenker, Neumann, Stuhlmann, und Emin. *T. c.* pp. 194-206.
- Describes a new genus of *Anomaluridae* and three other new forms. [See p. 26, *Pteropodidae*, p. 27, *Soricidae*, p. 31, *Anomaluridae* and *Muridae*.]
- . Die Afrikanischen Wildpferde, als Vertreter zoogeographischer Subregionen. Zool. Garten, xxxv, pp. 33-39 & 65-74. [See p. 37, *Equidae*.]
- . Neuerworbene Säugethiere des Naturhistorischen Museums in Lübeck. Mittheil. Nat. Mus. Lubeck (2) i, pp. 129-134.
- Describes *Cariacus peruvianus*, and notices a number of Mammals from the Cameroons. [See p. 39, *Cervidae*.]

- MEARNS, E. A. Description of a new species of Cotton-Rat (*Sigmodon minima*) from New Mexico. P. U. S. Mus. xviii, pp. 129 & 130.
- MEIJERE, J. C. H. DE. Ueber die Haare der Säugethiere. Morphol. Jahrb. xxi, pp. 312-424.
- MENGES, J. Eine neue Antilope des Somalilandes. Zool. Anz. 1894, pp. 130 & 131. [See p. 38, *Bovidae*.]
- MERRIAM, C. H. A new subfamily of Murine Rodents—the *Neotominae*, with description of a new genus and species, and a synopsis of the known forms. P. Ac. Philad. 1894, pp. 225-252, pl. ix. [See p. 31, *Muridae*.]
- . Descriptions of eight new Pocket-Mice (Genus *Perognathus*). T. c. pp. 262-268. [See p. 34, *Geomyidae*.]
- . Preliminary descriptions of eleven new Kangaroo-Rats of the genera *Dipodomys* and *Perodipus*. P. Soc. Washington, ix, pp. 109-116. [See p. 34, *Geomyidae*.]
- . Abstract of a study of the American Wood-Rats, with descriptions of fourteen new species and subspecies of the genus *Neotoma*. T. c. pp. 117-128. [See p. 31, *Muridae*.]
- . Descriptions of four new Pocket-Mice from Lower California. P. Calif. Ac. (2) vol. iv, pp. 457-462. [See p. 34, *Geomyidae*.]
- MEYER, A. B. Eine neue *Tarsius*-Art. Abh. Mus. Dresden, 1894, art. i, pp. 1 & 2. [See p. 25, *Tarsiidae*.]
- . Remarks on *Cercopithecus wolfi*. P. Zool. Soc. London, 1894 pp. 83 & 84, pl. vii.
- MILLER, G. S. Description of a new Mouse from Southern New Mexico and Arizona. Bull. Amer. Mus. v, pp. 331-334. [See p. 31, *Muridae*.]
- . On a collection of small Mammals from the New Hampshire mountains. P. Boston Soc. xxvi, pp. 177-197, pls. iii & iv. [See p. 31, *Muridae*.]
- & BANGS, O. A new Rabbit from Western Florida. P. Soc. Washington, ix, pp. 105-108. [See p. 35, *Leporidae*.]
- MILNE-EDWARDS, A. Sur deux Orangs-Outans adultes morts à Paris. C.R. Ac. Sci. cxix, pp. 191-194.
- NEHRING, A. *Cricetus nigricans*, Brdt., in Ost-Bulgarien und Dagestan. Zool. Anz. 1894, pp. 147-150. [See p. 31, *Muridae*.]
- . Die Verbreitung des Hamsters (*Cricetus vulgaris*) in Deutschland. Arch. Naturg. 1894, i, pp. 15-32, pl. iii.
- . Einige Notizen über die Pleistocäne Fauna von Türmitz in Böhmen. N. Jahrb. Min. 1894, ii, pp. 278-290.

- [NEHRING, A.] Ueber Säugethiere von den Philippinen, namentlich von der Palawan-Gruppe. SB. Ges. naturf. Berlin, 1894, pp. 179-193. [See p. 38, *Bovidæ*.]
- Ueber *Sus marchei*, Huet, and *Tragulus nigricans*, Thomas. *T. c.* pp. 219-226. [See p. 39, *Tragulidæ*, and p. 41, *Suidæ*.]
- Kreuzungen von Zahmen und wilden Meerschweinchen, *Cavia cobaya* und *C. aperea*. Zool. Garten, xxxv, pp. 1-6, 39-43, & 74-78.
- NEUMEISTER, R. Ueber die Eischalenhäute von *Echidna aculeata* (*E. hystrix*), und der Wirbelthiere im allgemeinen. Zeitschr. Biol. xxxi, pp. 413-420.
- NEWSTEAD, E. A preliminary list of the Mammals of Cheshire and N. Wales. P. Chester Soc. i, pp. 242-250.
- NEWTON, E. T. The Vertebrate Fauna collected by Mr. Lewis Abbott from the fissure near Ightham, Kent. Quart. J. Geol. Soc. I, pp. 188-210, pls. x-xii.
- Among the more important species found in this fissure, but extinct in Britain, may be noticed, besides *Elephas primigenius*, *Rhinoceros antiquitatis*, and *Hyæna*, *Ursus arctos*, *Canis lagopus*, *Myodes torquatus*, *Myodes lemmus*, *Microtus gregalis*, *M. ratticeps*, *Lagomys pusillus*, *Spermophilus*, and *Rangifer tarandus*. The name of *Mustela robusta* is proposed for some limb-bones intermediate between the Polecat and Marten, and the remains of an extremely small Weasel are noticed as a variety of *Mustela vulgaris*; while a new *Mus* is described. Although the large number of living species gives a recent aspect to this series of remains, the evidence, it is believed, points rather to their being of Pleistocene age, and most nearly allied to the fauna of British caves. [See p. 29, *Mustelidæ*, and p. 31, *Muridæ*.]
- NOACK, T. Dr. Eduard Fleck's Reisen ausbeute aus Sudwest-Afrika; I. Säugethiere. Ber. Senckenberg. Ges. 1894, pp. 53-82, pl. i.
- Contains descriptive and critical notices of 19 species of Mammals from the district named.
- Ueber die neue von Herrn. J. Menges beschriebene Antilope der Somali-Landes. Zool. Anz. 1894, pp. 202-204. [See p. 38, *Bovidæ*.]
- Neue Beiträge zur Kenntniss der Säugethier-Fauna von Ostafrika. Zool. Jahrb. Syst. vii, pp. 523, 594, pl. xviii.
- Bemerkungen über die Caniden. Zool. Garten, xxxv, pp. 165-170, 195-201, 241-246, & 260-265.
- OLSEN, —. Bæver (*Castor fiber*) i Suldal. Stavanger Mus. Aarsb. 1892, pp. 27-29.
- OSBORN, H. F. The Rise of the Mammalia in North America. Nature, xlix, pp. 235-238 & 257-260.

- OSBORN, H. F., & WORTMAN, J. L. Fossil Mammals of the Lower Miocene White River beds. Collection of 1894. Bull. Amer. Mus. vi, pp. 199-228, pls. ii & iii.
Treats of the Rhinoceroses and their allies, Horses, Oreodonts, Anthracotheres, Creodonts, and Carnivores. [See p. 30, *Hyaenodontidae*, p. 40, *Anthracotheriidae*, p. 37, *Equidae*, and p. 38, *Rhinocerotidae*.]
- OSBORN, H. L. Notes on *Geomys bursarius*, the Pocket-Gopher. Science, xxiii, pp. 102 & 103.
Deals with the osteology and muscles.
- OUDEMANS, J. T. Die accessorischen Geschlechtsdrüsen der Säugethiere. Naturk. Verhand. Haarlem, 1892, 96 pp., pl. xvi. [Omitted from previous Records.]
- OUSTALET, E. Les Mammifères et les Oiseaux d'Obock et du Pays du Comalis. Mem. Soc. zool. France, vii, pp. 73-78.
- PAQUIER, V. Étude sur quelques Cétacés du Miocène. Mem. Soc. geol. France, Pal. iv, art. 12, 20 pp., pls. xvii & xviii.
- PARKER, W. N. On some points in the structure of the young of *Echidna aculeata*. P. Zool. Soc. London, 1894, pp. 3-14, pls. i-iii. [See p. 46, *Echidnidae*.]
- PARSONS, F. G. On the Myology of the Sciuriform and Hystricomorphine Rodents. *T. c.* pp. 251-296.
— On the anatomy of *Atherura africana* compared with that of other Porcupines. *T. c.* pp. 675-692.
- PATTERSON, R. The occurrence of the Marten (*Martes sylvatica*) in Ulster. Rep. Belfast Soc. 1893-94, p. 76, and Irish Natural. iii, pp. 106-109.
- PAVLOW, M. (MADAME). Étude sur les Mastodontes trouvés en Russie. Bull. Soc. Moscou, 1894, pp. 146-154.
A paper in Russian, with a summary in French.
- PHILIPPI, F. Ein neues Beutelthier Chile's. Arch. Naturg. 1894, i, pp. 33-35.
— Beschreibung einer dritten Beutelmaus aus Chile. *T. c.* p. 36. [See p. 45, *Didelphyidae*.]
- PHILLIPS-WOLLEY, C., and other writers. Big Game Shooting. London: 1894, 8vo, 2 vols., illustrated.
Contains a sporting account of the larger Mammals.
- PILLIET, A. H. Note sur la structure de l'Estomac du Phoque et de l'Otarie. C.R. Soc. Biol. (10) i, pp. 743 & 745.
- *POMEL, A. Monographie des Bœufs-Taureaux fossiles des terrains quaternaires de l'Algérie. Paris: 4to, 19 pls.
- POPOWSKY, J. Das Arteriensystem der unteren Extremitäten bei den Primaten. Anat. Anz. x, pp. 55-80 & 99-114.

- POULTON, E. B. The Structure of the bill and hairs of *Ornithorhynchus paradoxus*; with a discussion of the homologies and origin of mammalian hair. *Quart. J. Micr. Sci.* (2) xxxvii, pp. 143-200, pls. xiv, xv, xv A.
- POUSARGUES, —. Description d'une nouvelle espèce de Mammifères du genre *Crossarchus*, et considerations sur la répartition géographique des Crossarques rayés. *Arch. Mus. Paris* (3) vi, pp. 121-134, pl. i. [See p. 28, *Viverridæ*.]
- . Des Galagos, et description d'une nouvelle espèce appartenant a ce groupe. *T. c.* pp. 135-167, pl. ii. [See p. 25, *Lemuridæ*.]
- . Sur les affinités du *Cercopithecus erythrogaster*, Gray. *Mem. Soc. zool. France*, vii, pp. 69-72.
- . Sur l'appareil génital mâle de l'Orang-Outan. *C.R. Ac. Sci.* cxix, pp. 238-240.
- PRENANT, A. Note preliminaire sur le développement des corps olivaires du bulbe rachidien des Mammiferes. *C.R. Soc. Biol.* (10) i, pp. 392-394.
- PRICE, W. W. A collection of Mammals from the Sierra Nevada. *Zoe*, iv, pp. 315-332.
- RAVN, E. Zur Entwicklung des Nabelstrange der weissen Mause. *Arch. Anat.* 1894, pp. 293-312, pl. xx.
- . Ueber die Arteria omphalo-mesenterica der Ratten und Mause. *Anat. Anz.* ix, pp. 420-424.
- REEKER, H. Ueber die europäischen Ratten. *Jahresber. Westfal. Ver.* xxii, pp. 69-86, pl.
- *REGALIA, E. Sulla Fauna della Grotta dei Colombi (Is. Palmaria, Spezia). *Archiv. Antrop. e Etnol.* xxiii, pt. 3, 109 pp. (1893). Summary in *Monit. Zool. ital.* v, pp. 189-195.
- REGNAULT, F. Des anomalies dentaires chez les animaux. *Naturaliste*, 1894, pp. 114-116.
- RETTNERER, E. Développement et constitution du tarse du Lapin. *C.R. Soc. Biol.* (10) i, pp. 807-810.
- RHOADS, S. N. Descriptions of three new Rodents from California and Oregon. *Amer. Natural.* xxviii, pp. 67-70. [See p. 31, *Muridæ*, and p. 34, *Geomyidæ*.]
- . Description of a new genus and species of Arvicoline Rodent from the United States. *T. c.* pp. 182-185. [See p. 31, *Muridæ*.]
- . Description of a new *Perognathus* collected by J. K. Townsend in 1834. *T. c.* pp. 185-187. [See p. 34, *Geomyidæ*.]
1894. [VOL. XXXI.]

[RHODES, S. N.] Some proposed changes in the nomenclature of the American Mammals. *T. c.* pp. 523-526.

Refers to the names of 26 species given by Ord in the American edition of "Guthrie's Geography."

— Description of new species of North American Mammals, with remarks on species of the genus *Perognathus*. P. Ac. Philad. 1893, pp. 404-412. [See p. 34, *Geomyidae*.]

— Geographic variation in *Bassariscus astutus*. *T. c.* pp. 413-418. [See p. 29, *Mustelidae*.]

— Description of a new Armadillo, with remarks on the genus *Muletia*, Gray. *Op. cit.* 1894, pp. 111-114. [See p. 43, *Dasypodidae*.]

— Contributions to the Mammalogy of Florida. *T. c.* pp. 152-161. [See p. 27, *Talpida*, and p. 29, *Mustelida*.]

— A contribution to the Life-History of the Alleghany Cave-Rat, *Neotoma magister*, Baird. *T. c.* pp. 213-221.

— Descriptions of four new species and two subspecies of White-footed Mice from the United States and British Columbia. *T. c.* pp. 253-261. [See p. 31, *Muridae*.]

— Description of a new subgenus and new species of Arvicoline Rodents from British Columbia. *T. c.* pp. 282-288. [See p. 31, *Muridae*.]

— Notes on the Mammals of Monroe and Pike Counties, Pennsylvania. *T. c.* pp. 387-396.

— A new Jumping Mouse from the Pacific slope. *T. c.* pp. 421 & 422. [See p. 34, *Dipodidae*.]

— A reprint of the North American Zoology. By George Ord. Haddonfield, New Jersey : 1890, pp. x & 290-361, and Appendix, pp. 1-52.

The names proposed by Ord for Mammals in this contribution to "Guthrie's Geography" (1815) are as follows, of which those printed in italics stand, viz., *Vespertilio americanus*, *V. rubra*, *Viverra albus*, *Mustela hudsonius*, *Ursus horribilis*, *Mus tuza*, *M. cinereus*, *M. canadensis*, *M. pennsylvanica*, *Arctomys ludoviciana*, *A. columbianus*, *Sciurus pennsylvanicus*, *S. hiemalis*, *S. carolinensis*, *S. labradorius*, *Antelope americanus*, *Ovis montanus*.

ROGER, O. Verzeichniss der bisher bekannten Fossilen Säugethiere. Part I. Ber. Ver. Schwaben u. Neuburg, xxxi, pp. 1-40.

The first part of a new list of all known fossil Mammals; this section embracing Monotremes, Multituberculates, Marsupials, and Edentates.

ROTH, S. Embrollos Cientificos. An. Soc. Argent. xxxvii, pp. 5-32.

Mainly criticizes Ameghino's determinations of fossil Argentine Mammals.

- RUDINGER, N. Ueber die Hirne verschiedener Hunderacen. SB. Ak. Munchen, 1894, pp. 249-255.
- SACCO, F. Il Delfino Pliocenico di Camerano Carasco. Mem. Soc. ital. ix, art. 5, 2 pls.
- ST. LOUP, R. Sur le groupement des éléments pigmentaires dans le pelage des Mammifères. Mem. Soc. zool. France, vii, pp. 65-68.
- SANYAL, R. B. Notes on *Cynogale bennetti*, Gray. P. Zool. Soc. London, 1894, pp. 296 & 297.
- SCHARFF, R. F. On the origin of the Irish Land and Freshwater Fauna. P. Irish Ac. (3) iii, pp. 479-485.
- SCHIEDT, P. Morphologie und Ontogenie des Gebisses der Hauskatze. Morphol. Jahrb. xxi, pp. 425-462, pl. xii.
- SCHLOSSER, M. Bemerkungen zu Rüttimeyer's "Eocene Säugethierwelt von Egerkingen." Zool. Anz. 1894, pp. 157-162.
- A criticism on the memoir quoted in Zool. Rec. xxix, *Mamm.* p. 14, in which some emendations are made in classification, as well as in certain generic and specific determinations.
- SCHWALBE, G. Ueber eine seltene Anomalie des Milch-Gebisses beim Menschen, und ihre Bedeutung für die Lehre von Dentitionen. Morphol. Arbeit. iii, pp. 491-536.
- . Ueber Theorien der Dentition. Verh. Anat. Ges. 1894, pp. 1-10.
- A general view of recent work and theories on dentition.
- SCLATER, P. L., & LAST, J. P. On the River-Hog of Madagascar. P. Zool. Soc. London, 1894, pp. 92-94. [See p. 41, *Suidæ*.]
- & THOMAS, O. T. The Book of Antelopes. Part I. London: 1894, 4to, illustrated.
- SCLATER, W. L. The Geography of Mammals. Geographical Journal, iii, pp. 95-105, iv, pp. 35-52, and maps.
- A survey of the Mammalian fauna of the geographical regions established by P. L. SCLATER, in which the distinctness of the Palæartic is strongly supported. [See also WALLACE, *infra*.]
- SCOTT, W. B. The *Mammalia* of the Deep River Beds. Trans. Amer. Phil. Soc. xvii, pp. 55-185, pls. i-vi.
- The forms described include *Cynodesmus*, *Steneofiber*, *Miohippus*, *Desmatippus*, *Protohippus*, *Anchitherium*, *Aphelops*, *Mesoreodon*, *Merychys*, and *Cyclopidius*. [See p. 29, *Canidæ*, and p. 37, *Equidæ*.]
- . Notes on the Osteology of *Agriochærus*, Leidy (*Artionyx*, O. & W.). P. Amer. Phil. Soc. 1894, pp. 243-251. [See p. 40, *Agriochæridæ*.]
- . Notes on the Osteology of *Ancodus*. Geol. Mag. (4) i, pp. 492-494. [See p. 40, *Anthracotheriidae*.]
- . The Manus of *Hyopotamus*. Amer. Natural. xxviii, pp. 164 & 165.

- SENNA, A. Sulla creduta presenza del *Vesperugo (Vesperus) borealis*, Nilss., nell' Andalusia. *Monit. Zool. ital.* v, pp. 138-140. [See p. 26. *Vespertilionidae.*]
- SHRYOCK, W. *Mammalia* of Mount Pocono. *Amer. Natural.* xxviii, pp. 347 & 348.
- SIMON, C. Contribution à l'étude du développement organique de la glande thyroïde chez les Mammifères. *Rev. biol. Nord France*, vi, pp. 379-389, pl. iv.
- . Note préliminaire sur l'évolution de l'ébauche thyroïdienne latérale chez les Mammifères. *C.R. Soc. Biol.* (10) 1, pp. 202-204.
- SOUTHWELL, T. W. On the occurrence of the Bearded Seal (*Phoca barbata*) on the Norfolk Coast. *Zoologist* (3) xviii, pp. 80-83.
- . Notes on the Seal and Whale Fishery of 1893. *T. c.* pp. 128-134.
- STAURENGHI, C. Ancora sull' ossificazione del Basioccipitale del *Sus scropha* (var. *dom.*). *Boll. scient.* xvi, pp. 65-79, pls. i-iii.
- STIEDA, L. Die Gefässfurchen am knöchernen Gaumen des Menschen. *Anat. Anz.* ix, pp. 729-735.
- STIRLING, E. C. The recent discovery of fossil remains at Lake Callabonna, South Australia. *Nature*, 1, pp. 184-188 & 206-209.
- In the course of this paper the author confirms the identity of *Sceparnodon* with *Phascolonus*.
- . Supplemental note on the Osteology of *Notoryctes typhlops*. *Tr. R. Soc. S. Austral.* xviii, pp. 1 & 2, pl. i.
- STONE, W. Description of a new species of *Neotoma* from Pennsylvania. *P. Ac. Philad.* 1893, pp. 16 & 17. Omitted from *Zool. Rec.* xxx. [See p. 31, *Muridae.*]
- STOUCKENBERG, A. Les Mammifères Post-pliocènes de l'Est de la Russie. *Bull. Soc. Moscou*, 1894, pp. 155-159.
- STOWELL, J. M. On the occurrence of *Nyctinomus mohavensis* in the Santa Clara Valley. *Zoe*, iv, pp. 362-364.
- STRONG, H. A. Notes on the Rabbit, historical and geographical. *Zoologist* (3) xviii, pp. 400-406.
- SWAYNE, H. G. C. Further field-notes on the Game-animals of Somaliland. *P. Zool. Soc. London*, 1894, pp. 316-323.
- THILENIUS, G. Die "ueberzahligen" Carpus-elemente menschlicher Embryonen. *Anat. Anz.* ix, pp. 665-671.
- . Ueber Sesambeine fossiler Säugethiere. *Op. cit.* x, pp. 42-48.
- THOMAS, O. Description of a new Bat of the Genus *Stenoderma* from Montserrat. *P. Zool. Soc. London*, 1894, pp. 132 & 133. [See p. 26, *Emballonuridae.*]

[THOMAS, O.] On the Mammals of Nyasaland. Third contribution. *T. c.* pp. 136-145.

Among the 39 forms noticed, the dental characters of *Rhynchogale* (*Rhinogale*) are amended, while a new species of *Lepus*, and another of *Procavia* are described. [See p. 28, *Viverridæ*, p. 35, *Leporidae*, and p. 36, *Procaviidæ*.]

— On the Dwarf Antelopes of the genus *Madoqua*. *T. c.* pp. 323-329. [See p. 38, *Bovidæ*.]

— On some specimens of Mammals from Oman, S. E. Arabia. *T. c.* pp. 448-457, pl. xxi. [See p. 35, *Leporidae*, and p. 38, *Bovidæ*.]

— On some Gazelles brought by Sir Edmund Loder from Algeria. *T. c.* pp. 467-472, pl. xxxii. [See p. 38, *Bovidæ*.]

— Descriptions of two new species of *Macroselides*. *Ann. Nat. Hist.* (6) xiii, pp. 67-70. [See p. 27, *Macroselididæ*.]

— On a new species of Armadillo from Bolivia. *T. c.* pp. 70-72. [See p. 43, *Dasypodidæ*.]

— Description of a new species of Reed-Rat (*Aulacodus*) from East Africa, with remarks on the Milk-Dentition of the genus. *T. c.* pp. 202-204. [See p. 34, *Octodontidæ*.]

— Note on *Mus burtoni*, Thos. *T. c.* pp. 202-205. (See p. 31, *Muridæ*.)

— Diagnosis of a new *Pteropus* from the Admiralty Islands. *T. c.* p. 293. [See p. 26, *Pteropodidæ*.]

— On two new Chinese Rodents. *T. c.* pp. 363-365. [See p. 31, *Sciuridæ*, and p. 35, *Leporidae*.]

— Preliminary description of a new Goat of the genus *Hemistragus*, from South-eastern Arabia. *T. c.* pp. 365 & 366. [See p. 38, *Bovidæ*.]

— On the Palawan representative of *Tupaia ferruginea*. *T. c.* p. 367. [See p. 27, *Tupauidæ*.]

— On two new Neotropical Mammals. *T. c.* pp. 436-439. [See p. 34, *Geomyidæ*, and p. 45, *Didelphyidæ*.]

— Preliminary notice of a new Gazelle from Algeria. *T. c.* p. 452.

— On a new African genus of *Mustelidæ*. *T. c.* pp. 522-524. [See p. 29, *Mustelidæ*.]

— On *Micoureus griseus*, Desm., with the description of a new genus and species of *Didelphyidæ*. *Ann. Nat. Hist.* (6) xiv, pp. 184-188. [See p. 45, *Didelphyidæ*.]

— Description of a new species of *Vespertilio* from China. *T. c.* pp. 300 & 301. [See p. 26, *Vespertilionidæ*.]

[THOMAS, O.] Descriptions of some new Neotropical *Muridæ*. *T. c.* pp. 346-366. [See p. 31, *Muridæ*.]

— A preliminary revision of the Bornean species of the genus *Mus*. *T. c.* pp. 449-460.

14 species are recognized, several being new. [See p. 31, *Muridæ*.]

— Descriptions of two new Bats of the genus *Kerivoula*. *T. c.* pp. 460-462. [See p. 26, *Vespertilionidæ*.]

— & HARTERT, E. First glimpses of the Zoology of the Natuna Islands. III. List of the First Collection of Mammals. *Nov. Zool.* i, pp. 652-660.

38 species are recorded, among which a species and a subspecies are new. [See p. 25, *Cercopithecidæ*, and p. 31, *Sciuridæ*.]

— [See also SCLATER & THOMAS.]

TIMOFEEV, D. V. Zur Kenntniss der Nervenendigungen in den männlichen Geschlechtsorganen der Säuger. *Anat. Anz.* ix, pp. 342-348.

TRAQUAIR, R. H. Note on the Skeleton of Risso's Grampus (*Grampus griseus*). *Ann. Scott. Nat. Hist.* 1894, pp. 1 & 2.

TROIS, E. T. Elenco dei Cetacei dell' Adriatico. *Riv. ital. Sci. Nat.* xiv, pp. 113-115.

TROUESSART, E. Le *Megaladapis*, Lémurien gigantesque récemment découvert a Madagascar. *Nature (La)* xxii, pp. 198-202, figg.

A popular illustrated account of the extinct Lemuroid described by Major (*q.v.*).

TRUE, F. W. Description of a new species of Mouse (*Sitomys decolorus*) from Central America. *P. U. S. Mus.* xvi, pp. 689 & 690.

— On the relationships of Taylor's Mouse, *Sitomys taylori*. *T. c.* pp. 757 & 758. [See p. 31, *Muridæ*.]

— Notes on Mammals of Baltistan and the Vale of Kashmir, presented to the National Museum by Dr. W. L. Abbott. *Op. cit.* xvii, pp. 1-16. [See p. 25, *Cercopithecidæ*, and p. 31, *Muridæ*.]

— Notes on Skeletons and Skulls of Porpoises of the genus *Prodelphinus*, collected by Dr. W. L. Abbott in the Indian Ocean. *T. c.* pp. 33-37.

— Diagnoses of new North American Mammals. *T. c.* pp. 241-243. [See p. 27, *Talpidae*, p. 31, *Sciuridæ* and *Muridæ*.]

— On the Rodents of the genus *Sminthus* in Kashmir. *T. c.* pp. 341-343. [See p. 34, *Dipodidæ*.]

— Diagnosis of some undescribed Wood-Rats (genus *Neotoma*) in the National Museum. *T. c.* pp. 353-355. [See p. 31, *Muridæ*.]

TURNER, [SIR] W. The fœtus of *Halicore dugong* and of *Manatus senegalensis*. *J. Anat. Physiol. norm. path.* xxviii, pp. 315-334.

- VIEIRA, L. Étude comparative du Squelette du Chien et du Loup. Ann. Sci. Nat. Porto, i, pp. 108-114.
- WAITE, E. R. Observations on *Dendrolagus bennettianus*. P. Linn. Soc. N. S. Wales (2) ix, p. 571.
- WALLACE, A. R. The Palæarctic and Nearctic Regions compared as regards the Families and Genera of their Mammals and Birds. Nat. Sci. iv, pp. 433-445.
- An important memoir dealing with the right of the Palæarctic region to stand by itself. This is considered to be fully established; its distinction from the Nearctic being more marked than is that of the Oriental from the Ethiopian region. [See also SCLATER, *suprà*.]
- WILLISTON, S. W. A new Dicotyline Mammal from the Kansas Pliocene. Science, xxiii, p. 164. [See p. 41, *Dicotylidæ*.]
- WILSON, J. T. Observations upon the anatomy and relations of the "Dumb-bell-Shaped" Bone in *Ornithorhynchus*, with a new theory of its homology; and upon a hitherto undescribed character of the Nasal Septum in the genera *Ornithorhynchus* and *Echidna*. P. Linn. Soc. N. S. Wales, ix, pp. 129-150, pls. viii & ix.
- On the Myology of *Notoryctes typhlops*, with comparative notes Tr. R. Soc. S. Austral. xviii, pp. 3-74, pls. ii-xv.
- & MCKAY, W. J. S. On the homologies of the borders and surfaces of the Scapula in Monotremes. P. Linn. Soc. N. S. Wales, viii, pp. 377-388, pl. xxi.
- WOODWARD, M. F. On the Milk-Dentition of the Rodentia, with a description of a vestigial Milk-Incisor in the Mouse (*Mus musculus*). Anat. Anz. ix, pp. 619-631.
- WORTMAN, J. L. Osteology of *Patriofelis*, a Middle Eocene Creodont. Bull. Amer. Mus. vi, pp. 129-164, pl. i. [See p. 30, *Oxyæhidæ*.]
- On the affinities of *Leptarctus primus* of Leidy. T. c. pp. 229-231. [See p. 29, *Procyonidæ*.]
- [See also OSBORN & WORTMAN, p. 16.]

II.—FAUNAS.

PALÆARCTIC REGION.—See BÜCHNER (Central Asia), EVANS (Scotland), FRITZE (Liu-Kiu Is.), HINXMAN & CLARKE (Scotland), DEPÉRET (France), GLUR (Switzerland), GREGORIO (Italy), JAMESON (Ireland), KAFKA (Bohemia), LEESON & LAFFAN (Thames Valley), NEHRING (Bohemia), NEWSTEAD (Wales and Cheshire), NEWTON (S. E. England), PRICE (Spain), REGALIA (Italy), SCHARFF (Ireland), TRUE (Baltistan and Kashmir), and WALLACE (General).

ETHIOPIAN REGION.—See BARKLEY (Pungue Valley), MAJOR (Madagascar), NOACK, and OUSTALET (Somaliland).

ORIENTAL REGION.—See THOMAS and HARTERT (Natuna Is.).

NEARCTIC REGION.—See ALLEN, CARPENTER, CHAPMAN (Florida), OSBORN (Evolution of Fauna), SCOTT (Deep River Mammals), SHRYOCK, (Mt. Pocono), and WALLACE.

NEOTROPICAL REGION.—See AMEGHINO (Patagonia), APLIN (Uruguay), IHERING (Brazil), and LYDEKKER (Argentine and Patagonia).

For General Distribution, see SCLATER, W. L.

III.—BIOLOGICAL INDEX.

ANATOMY AND HISTOLOGY.—See BARTELLI, BEAUREGARD, BEDDARD, BENHAM, BERKLEY, BLANE, BOULART, CHIARUGI, DENIKER, DUVAL, EHLERS, FILHOL, GIGLIO, GOPPERT, HENNEGUY, JACOBY, JOHNSON, KEITH, KOLLMANN, LOEWENTHAL, MCKAY, MANNERS-SMITH, MARTIN, MEIJERE, NEUMEISTER, OUDEMANS, PARKER, PARSONS, PILLIET, POPOWSKY, POULTON, POUSARGUES, RUDINGER, ST. LOUP, TIMOFEEV, TURNER, and WILSON.

OSTEOLOGY.—See CHAPMAN, BIANCHI, DELISLE, EWART, GOELDI, LEMOINE, MCKAY, MAGGI, RETTERER, SCOTT, STIEDA, THILENIUS, TRACQUAIR, TRUE, VIEIRA, WILSON, and WORTMAN.

DENTITION. — See CLELAND, GOODRICH, REGNAULT, SCHEIDT, SCHWALBE, STAURENGHI, and WOODWARD.

DEVELOPMENT.—See ASSHETON, CRETY, DAGIEL, DUVAL, EWART, HUBRECHT, PRENANT, RAYN, RETTERER, and SIMON.

IV.—SYSTEMATIC WORK.

(*Extinct groups and species are indicated by a †.*)

I. PRIMATES.

For a general account of all the known species, see FORBES, *suprà*, p. 7; for Myology, see KOLLMANN, p. 10; arteries, POPOWSKY, p. 16.

I. ANTHROPOIDEA.

For ligaments and tendons of hand and foot, see KEITH, *suprà*, p. 10.

1. HOMINIDÆ.

Pithecanthropus, n. g., *erectus*, n. sp., DUBOIS, *suprà*, p. 7; founded upon a calvarium, a molar tooth, and a femur from the superficial deposits of Java, said to indicate an upright man-like anthropoid with strongly marked human resemblances.

2. SIMIIDÆ.

Anthropopithecus, structure of brain; BENHAM, *suprà*, p. 5.

Simia: the validity of the species, MILNE-EDWARDS, *suprà*, p. 14; genital apparatus, POUSARGUES, *suprà*, p. 17; osteology, DELISLE, *suprà*, p. 6; anatomy, DENIKER & BOULART, *suprà*, p. 6.

3. CERCOPITHECIDÆ.

- Cercopithecus erythrogaster*, transferred by POUSARGUES, Mem. Soc. zool. France, vii, p. 71, from the Melanochirine to the Rhinostictine group of the genus, in the neighbourhood of *C. petaurista*. Note on its systematic position; SCLATER, P. Zool. Soc. London, 1894, p. 1.
- Cercopithecus wolffi*, described and figured; MEYER, *t. c.* p. 83, pl. vii.
- Macacus rhesus villosus*, n. subsp., TRUE, P. U. S. Mus. xvii, p. 2, Kashmir.
- †*Macacus tolosanus*, n. sp., HARLÉ, Bull. Soc. Sci. Toulouse, 1892, p. (2), Pleistocene, Haute-Garonne.
- Semnopithecus natuna*, n. sp., THOMAS & HARTERT, Nov. Zool. i, p. 652, Natuna Is.

II. LEMUROIDEA.

4. LEMURIDÆ.

- MAJOR, Nov. Zool. i, pp. 2-39, monographs the species of the genera *Microcebus*, *Opolemur*, and *Chirogale*, with figures of the skulls and teeth, and detailed characters of the genera.
- Opolemur thomasi*, n. sp., MAJOR, *op. cit.* p. 20, pl. i, fig. 1, Madagascar.
- Chirogale melanotis*, n. sp., MAJOR, *t. c.* p. 25, *ibid.*
- Lepidolemur leucopus*, n. sp., MAJOR, Ann. Nat. Hist. (6) xiii, p. 211, S. E. Madagascar.
- Propithecus majori*, n. sp., ROTHSCHILD, Nov. Zool. i, p. 666, S. W. Madagascar.
- Galago (Hemigalago) anomolurus*; POUSARGUES, Arch. Mus. Paris (3) vi, p. 158, pl. ii, Oubangui, Africa.

5. TARSIIDÆ.

- Tarsius philippensis*, n. sp., MEYER, Abh. Mus. Dresden, 1894, art. i, p. 1, Philippines.

6. †MEGALADAPIDÆ.

- †*Megaladapis madagascariensis*, its remains described and figured by MAJOR, Phil. Trans. clxxxv, B, pp. 15-38, pls. v-vii. See also TROUËSSART, *suprà*, p. 22.

II. CHIROPTERA.

- New Zealand Bats, CHEESEMAN, *suprà*, p. 6; Irish, JAMESON, *suprà*, p. 10; Italian, SENNA, *suprà*, p. 20. The whole of the N. American forms monographed, by H. ALLEN, Bull. U. S. Mus., No. 43, with enlarged figures of dentition, and an introduction on the order. Ovary, CRETY, *suprà*, p. 6.

1. PTEROPODIDÆ.

Scotonycteris, n. g., *zenkeri*, n. sp., MATSCHIE, SB. Ges. naturf. Berlin, 1894, pp. 200-202, Cameroons.

Pteropus admiralitatum, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 293, Admiralty Is.

Pteropus medius, internal ear ; BEAUREGARD, *suprà*, p. 4.

2. RHINOLOPHIDÆ.

Phyllorhina rubra, n. sp., NOACK, Zool. Jahrb. Syst. vii, p. 586, Luger runge River, E. Africa.

†*Rhinolophus bottegoi*, n. sp., REGALIA, Archiv. Antrop. e Ethnol. xxiii, pt. 3 (1893), see also Monit. Zool. ital. v, p. 192.

3. VESPERTILIONIDÆ.

Vesperugo borealis, its alleged occurrence in Andalusia due to *V. serotinus* having been mistaken for it ; SENNA, Monit. Zool. ital. v, pp. 138-140.

Vespertilio murinus, the record of this species from the Isle of Wight incorrect ; A. G. MORE, Zoologist (3) xviii, p. 148.

Vespertilio (Leuconoë) ricketti, n. sp., THOMAS, Ann. Nat. Hist. (6) xiv, p. 301, Foochow, S. China.

Vespertilio mystacinus, recorded by EVANS, Ann. Scott. Nat. Hist. 1893, p. 146, from Scotland.

Kerivoula whiteheadi, p. 460, Luzon, *K. pusilla*, p. 461, Sarawak, n. spp., THOMAS, Ann. Nat. Hist. (6) xiv.

4. EMBALLONURIDÆ.

Nyctinomus macrotis nevadensis, n. subsp., H. ALLEN, Bull. U. S. Mus. No. 43, p. 171, Nevada.

Nyctinomus mohavensis, in Santa Clara Valley ; STOWELL, Zool. iv, p. 362.

5. PHYLLOSTOMATIDÆ.

Chilonycteris rubiginosa, J. ALLEN, Bull. Amer. Mus. vi, pp. 247 & 248, has notes on the coloration of this species and *Pteronotus davyi*.

Stenoderma montserratense, n. sp., THOMAS, P. Zool. Soc. London, 1894, p. 133, Montserrat, W. Indies.

Ametrida minor, n. sp., H. ALLEN, P. Boston Soc. xxvi, p. 240, N. America.

III. INSECTIVORA.

1. TUPAIIDÆ.

Tupaia ferruginea, note on, NEHRING, SB. Ges. naturf. Berlin, 1894, p. 184. *T. ferruginea palawanensis*, n. subsp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 367, Palawan.

2. MACROSCOLIDIDÆ.

Macroscelides fuscipes, p. 68, Niam-Niam Country, *M. pulcher*, p. 69, S. of Victoria Nyanza, n. spp., THOMAS, Ann. Nat. Hist. (6) xiii.

3. SORICIDÆ.

Pachyura leucura, n. sp., MATSCHIE, SB. Ges. naturf. Berlin, 1894, p. 205, Cameroons.
Blarina brevicauda, its osteology; H. ALLEN, P. Ac. Philad. 1894, p. 269.

4. TALPIDÆ.

Scalops parvus, n. sp., RHODES, P. Ac. Philad. 1894, p. 157, Florida.
Parascalops, n. g., TRUE, P. U. S. Mus. xvii, p. 242; type, *Scalops breweri*, Bachman.
Scapanus dilatatus, n. sp., TRUE, *loc. cit.*, Oregon.
Myogale pyrenaica, recorded by DUBALEN, *suprà*, p. 7, from the Landes.

5. POTAMOGALIDÆ.

Potamogale allmani, n. sp., JENTINK, Notes Leyden Mus. xvi, p. 236; a provisional name for the specimen figured by Allman as *P. velox*.

6. CHRYSOCHLORIDÆ.

Chrysochloris stuhlmanni, n. sp., MATSCHIE, SB. Ges. naturf. Berlin, 1894, p. 123, Ugogo.

IV. CARNIVORA.

1. CARNIVORA VERA.

For diaphragm, see BARTELLI, *suprà*, p. 4; for placenta, DUVAL, p. 7.

1. FELIDÆ.

JOHNSON, P. Zool. Soc. London, 1894, p. 481, states that after an examination of the eyes of 180 domestic Cats, as well as the eyes of all the *Felidæ* in the Zoological Society's Gardens, he had come to the conclusion that the natural shape of the pupil in *Felis* is circular. Although under various degrees of light one might get every shape from the circle through all degrees of oval to a perfectly vertical line, yet instillations of atropine or cocaine solutions caused every pupil to become a true circle. The younger the cat the greater the tendency for the pupil to become pointed oval in ordinary light, and, conversely, the older the cat the more frequently is there a circular pupil. Brilliant light always caused contraction to oval, and direct sunlight to a thin line in the smaller *Felidæ*; in the larger *Felidæ* he had frequently found the pupils contract to a small circle. Suddenly alarming a cat had the effect of momentarily dilating the pupil; while in sleep the pupil was always contracted.

Felis tigris, its distribution and habits in Central Asia; BÜCHNER, Result. Przewalski Reisen. Säugeth. i, p. 217.

Felis pallida, described and figured by BÜCHNER, *t. c.* p. 228, pl. xxvii (the latter not issued).

Felis leo, interparietal bone, MAGGI, *suprà*, p. 12.

Felis domestica, dentition, SCHEIDT, *suprà*, p. 19; nerves, MARTIN, *suprà*, p. 13.

Felis, *cf. concolor*. Fossil footprints from later Tertiary formation described by DUGÈS, Nat. Mex. (2) ii.

2. VIVERRIDÆ.

Cryptoprocta: in describing its anatomy, FILHOL, *suprà*, p. 7, considers that the genus should be transferred to the *Felidæ*.

Rhynchogale, n. n., THOMAS, P. Zool. Soc. London, 1894, p. 139, to replace *Rhinogale*, Gray, *nec* Gloger. It is shown that the presence of five premolars in the type of the single species is an abnormality.

Herpestes semitorquatus, recorded from Sumatra; JENTINK, Notes Leyden Mus. xvi, p. 210.

Herpestes neumanni, n. sp., MATSCHIE, SB. Ges. naturf. Berlin, 1894, p. 121, Ugogo.

Crossarchus dybowskii, n. sp., POUSARGUES, Arch. Mus. Paris (3) vi, p. 121, pl. i, Oubangui, W. Africa.

Cynogale bennetti, habits, SANYAL, *suprà*, p. 19.

3. HYÆNIDÆ.

Hyæna striata, recorded by HARLÉ, *suprà*, p. 9, from a cavern in the Haute-Garonne.

4. CANIDÆ.

- SCOTT, Trans. Amer. Phil. Soc. xvii, p. 75, concludes that the evolution of *Canis* took place in North America, the ancestry being traced through *Cynodesmus* of the John Day Beds to *Daphænus* of the White River, and thence to the Creodont *Miacis* of the Bridger; *Cynodictis* forming a lateral branch. For brain of *Canidæ*, see RUDINGER, *suprà*, p. 19; and for classification and points of domestic dogs, DECHAMBRE, p. 6. Skeleton of dog and wolf, VIEIRA, *suprà*, p. 23. For a general account of the family, see NOACK, *suprà*, p. 15.
- † *Elurodon taxoides*, p. 236, *meandrinus*, p. 239, n. spp., HATCHER, Amer. Natural. xxviii, Loup Fork Beds, Nebraska.
- † *Temnocyon ferox*, n. sp., EVERMAN, Amer. Geol. xiii, p. 320, John Day, Miocene, Oregon.
- † *Hypotemnodon*, n. g., EVERMAN, *t. c.* p. 321; type, *Temnocyon coryphæus*, Cope.
- † *Canis moreni*, n. sp., LYDEKKER, An. Mus. La Plata, Pal. Arg. iii, art. 3, p. 3, Pleistocene, Buenos Aires.

5. URSIDÆ.

- Ursus arctus*, BROWN, P. Ac. Philad. 1894, pp. 119-129, considers that *U. americanus*, *cinnamomeus*, *luteolus*, and *horribilis*, are all merely varieties of this species, *cinnamomeus* and *americanus* being more distinct than is *horribilis*.

6. MUSTELIDÆ.

- † *Mustela robusta*, n. sp., NEWTON, Quart. J. Geol. Soc. l, p. 200, Pleistocene, Kent.
- Mustela martes*, in Ireland, BARRETT-HAMILTON, *suprà*, p. 4; HARTING, p. 9; and PATTERSON, p. 16.
- Mustela vulgaris*, see HARTING, *op. cit.*
- Putorius peninsula*, n. sp., RHOADS, P. Ac. Philad. 1894, p. 152, Florida.
- Conepatus mapurito monzoni*, n. subsp., APLIN, P. Zool. Soc. London, 1894, p. 302, Uruguay.
- Galeriscus*, n. g., *jacksoni*, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 522, Masailand.

7. PROCYONIDÆ.

- † *Leptarctus*: notes on its affinities; LEIDY, Bull. Amer. Mus. viii, pp. 229-231.
- Bassariscus*, n. nom., RHOADS, P. Ac. Philad. 1893, p. 413, to replace *Bassaris*, Licht., *nec* Hubner; *B. astutus flavipes*, n. subsp., p. 417, Texas.
- † *Cyonasua argentina*, skull described and figured by LYDEKKER, An. Mus. La Plata, Pal. Arg. iii, art. 3, p. 2.

II. PINNIPEDIA.

For Seals of Behring Straits, see ENDRÈ, *Termes. Kozl. Magyars Tars.* 1894, p. 30; for those of Antarctic Sea, BRUCE, *suprà*, p. 5. Structure of stomach, PILLIET, *suprà*, p. 16; Seal-fishery, SOUTHWELL, *suprà*, p. 20.

PHOCIDÆ.

Phoca barbata, from Norfolk coast; SOUTHWELL, *suprà*, p. 20.

III. †CREODONTA.

8. †OXYENIDÆ.

†*Patriofelis*: its osteology described; WORTMAN, *Bull. Amer. Mus.* vi, p. 129. This genus is regarded as a descendant of *Oxyæna*; and reasons are given for considering the family as the ancestral stock of the Seals. Attention is also directed to the intimate connection existing between the Creodonts and true Carnivores.

9. †HYÆNODONTIDÆ.

†*Hyænodon paucidens*, n. sp., OSBORN & WORTMAN, *Bull. Amer. Mus.* vi, p. 223, Miocene, White River. Differs from other species in want of first upper premolar. Characters of the milk-dentition given.

10. †BORHYÆNIDÆ.

†*Borhyæna zitteli*, n. sp., AMEGHINO, *Boll. Ac. Cordoba*, xiii, p. 375, Tertiary, Patagonia.

V. RODENTIA.

For the Rodent fauna (recent and fossil) of Bohemia, see KAFKA, *suprà*, p. 10. WOODWARD, *suprà*, p. 23, examines the milk-dentition of the order, and ascertains the transitory presence of a milk-incisor in the Mouse.

PARSONS, *P. Zool. Soc. London*, 1894, pp. 251-296, records a series of observations on Rodent myology, based on the dissection of the muscles of examples of twenty-one species, belonging to many families of the *Hystricomorpha* and *Sciuromorpha*. The results of these discussions have been compared with the writings of other observers, and arranged, firstly under the heads of the different muscles, and secondly under those of different families. The arrangement of the muscles coincided in a marked manner with the usual classification of the order, and seemed to depend much more upon

the affinities of the animals than upon their habits and mode of life. The muscles which seemed most characteristic of the two principal sections are the masseter, the long flexors of the foot, the sternoscapular, and the digastric. Three genera of the *Dipodidae* had been examined, and were found to resemble the *Hystricomorpha* in many respects, while in others they approached the Sciuromorphic type.

1. ANOMALURIDÆ.

Anomalurus: its habits; ADAMS, P. Zool. Soc. London, 1894, pp. 243-246.
Idiurus zenkeri, n. g. & sp., MATSCHIE, SB. Ges. naturf. Berlin, 1894, pp. 194-197, fig., Cameroons.

2. SCIURIDÆ.

Sciurus styani, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 363, Kiang-su, China.
Sciurus bicolor bunguranensis, n. subsp., THOMAS & HARTERT, Nov. Zool. i, p. 658, Natuna Is.
Sciurus aberti concolor, n. var., TRUE, P. U. S. Mus. xvii, p. 241, Colorado.
Sciurus hudsonicus dakotensis, p. 324, Dakota, *h. grahamensis*, p. 350, Arizona, *S. arizonensis huachuca*, p. 349, Huachuca Mts., n. subsp., ALLEN, Bull. Amer. Mus. vi.

3. CASTORIDÆ.

Castor fiber, its occurrence in Norway; OLSEN, *suprà*, p. 15.

4. MYOXIDÆ.

Myoxus avellanarius, its hibernation; ALBINI, *suprà*, p. 2.

5. MURIDÆ.

Umbilical cord, &c.; RAVN, *suprà*, p. 17.
Phlæomys pallidus, note on; NEHRING, SB. Ges. naturf. Berlin, 1894, p. 179.
Cricetus nigricans, n. var. *raddei*; NEHRING, Zool. Anz. 1894, p. 147, Daghestan. For distribution of *C. vulgaris*, see NEHRING, *suprà*, p. 14.
Oryzomys palustris texensis, n. subsp., ALLEN, Bull. Amer. Mus. vi, p. 177, Texas.
Oryzomys kalinowskii, p. 349, Peru, *meridensis*, p. 351, Venezuela, *flavicans*, p. 351, Venezuela, *ferrugineus*, p. 352, Rio, *xanthæolus*, p. 354, Peru, *phæopus*, p. 355, Ecuador, *phæopus obscurior*, p. 356, Colombia, *stolzmanni*, p. 357, Peru, *gracilis*, p. 358, Colombia, *microtinus*, p. 358, Surinam, *venustus*, p. 359, Cordova, n. spp., THOMAS, Ann. Nat. Hist. (6) xiv.

- Acodon*, Meyen, 1838, to supersede *Habrothrix*, Waterhouse, 1837; THOMAS, Ann. Nat. Hist. (6) xiv, p. 360.
- Acodon jelskii*, p. 360, Peru, *jelskii pyrrhotis*, p. 361, Peru, *punctulatus*, p. 361, Ecuador, *macronyx*, p. 362, Mendoza, *mollis*, p. 363, Peru, n. spp., THOMAS, *op. cit.*
- Sitomys (Rhipidomys) decolorus*, n. sp., TRUE, P. U. S. Mus. xvi, p. 689, Central America.
- Baiomys*, n. subg., for *Sitomys taylori*, TRUE, *t. c.* pp. 757 & 758, for this form.
- Sitomys rowleyi*, n. var. *pinalis*; MILLER, Bull. Amer. Mus. v, p. 331, N. Mexico and Arizona.
- Sitomys americanus arizonæ*, n. var., ALLEN, *op. cit.* vi, p. 321, Arizona.
- Sitomys megacephalus*, n. sp., p. 254, Alabama, *insolatus*, n. sp., p. 256, California, *herroni nigellus*, n. var., p. 257, California, *keeni*, n. sp., p. 258, Queen Charlotte I., *macrorhinus*, n. sp., p. 259, Brit. Columbia, *americanus artemisia*, n. var., p. 260, Brit. Columbia, RHOADS, P. Ac. Philad. 1894.
- Peromyscus*, Gloger, 1841, supersedes *Sitomys*, Fitzinger, 1867; THOMAS, Ann. Nat. Hist. (6) xiv, p. 364.
- Peromyscus leucurus*, p. 364, Tehuantepec, *gymnotis*, p. 365, Guatemala, n. spp., THOMAS, *op. cit.*
- Neotomys*, n. g., *ebriosus*, n. sp., THOMAS, *op. cit.* pp. 346 & 348, Central Peru.
- Sigmodon minima*, n. sp., MEARNS, P. U. S. Mus. xviii, p. 130, New Mexico.
- Rhithrodontomys mexicanus fulvescens*, n. var., ALLEN, Bull. Amer. Mus. vi, p. 319, Arizona.
- Neotoma* is regarded by MERRIAM, P. Ac. Philad. 1894, pp. 225-252, as the type of a subfamily. He gives a synopsis of the known forms, and compares the Tertiary genera *Ptyssophorus* and *Tretomys* with the undermentioned one, viz.,
- Hodomys*, n. g., MERRIAM, *t. c.* p. 232; type, *Neotoma alleni*, Merriam, 1892.
- Neotoma monochroua* and *intermedia*, n. spp., RHOADS, Amer. Natural. xxviii, pp. 67 & 68, Oregon and California.
- Neotoma micropus*, its cranial variation; ALLEN, Bull. Amer. Mus. vi, p. 233.
- Neotoma leucodon*, p. 120, *latifrons*, *fulviventor*, p. 121, *orizabæ*, p. 122, *baileyi*, *fallax*, p. 123, *desertorum*, p. 125, *orolestes*, p. 128, n. spp., MERRIAM, P. Biol. Soc. Washington, ix, N. America.
- Neotoma mexicana bullata*, p. 122, *fuscipes streatorum* and *dispar*, p. 124, *desertorum sola*, p. 126, *intermedia melanura* and *angusticeps*, pp. 126 & 127, n. varr., MERRIAM, *op. cit. ibid.*
- Neotoma campestris*, p. 322, Kansas, *rupicola*, p. 323, Dakota, *grangeri*, p. 324, Dakota, n. spp., ALLEN, Bull. Amer. Mus. vi.
- Neotoma splendens*, p. 353, *venusta*, p. 354, n. spp., California, *N. occidentalis fusca*, p. 354, n. var., Oregon, TRUE, P. U. S. Mus. xvii.

- Neotoma magister*, characters and habits; RHOADS, P. Ac. Philad. 1894, p. 213.
- Neotoma pennsylvanica*, n. sp., STONE, *op. cit.* 1893, p. 16, Pennsylvania.
- Phenacomys truei*, n. sp., ALLEN, Bull. Amer. Mus. vi, p. 331, Montana.
- Arvicola fertilis*, p. 10, Kashmir, *montosa*, p. 11, Kashmir, *albicauda*, p. 12, Baltistan, n. spp., TRUE, P. U. S. Mus. xvii.
- Arvicola terranova*, n. sp., BANGS, P. Soc. Washington, ix, p. 129, Newfoundland.
- Arvicola leucophæus*, p. 320, Arizona, *insperatus*, p. 347, Dakota, n. spp., ALLEN, Bull. Amer. Mus. vi.
- Tetramesodon*, n. subg., for *Arvicola tetramerus*, n. sp., RHOADS, P. Ac. Philad. 1894, p. 282, Brit. Columbia. Notes on *A. borealis* and *drummondi*, t. c. pp. 285-287.
- Arvicola chrotorrhinus*, n. sp., MILLER, P. Boston Soc. xxvi, p. 190, N. Hampshire.
- Aulacomys*, n. g., *arvicoloïdes*, n. sp., RHOADS, Amer. Natural. xxviii, p. 183, Cascade Mountains, U. S. A.
- Evotomys fuscodorsalis*, n. sp., J. A. ALLEN, Bull. Amer. Mus. vi, p. 103.
- Evotomys gapperi ochraceus*, n. subsp., MILLER, P. Boston Soc. xxvi, p. 193, N. Hampshire.
- Evotomys pygmæus*, n. sp., Washington, ~~*gapperi saturatus*~~, n. subsp., Brit. Columbia, RHOADS, P. Ac. Philad. 1894, p. 284.
- Synaptomys cooperi* and *stonci*, see BANGS, *suprà*, p. 4.
- Myodes nigripes*, n. sp., TRUE, P. U. S. Mus. xvii, p. 242, Alaska.
- Mictomys*, n. g., *innuitus*, n. sp., TRUE, *op. cit.* pp. 242 & 243, Labrador. Allied to *Myodes* and *Synaptomys*.
- Fiber obscurus*, n. sp., BANGS, P. Soc. Washington, ix, p. 133, Newfoundland.
- Mus rattus*, *decumanus*, and *alexandrinus*, compared by REEKER, *suprà*, p. 17.
- Mus rajah*, *ochraceiventer*, p. 451, *whiteheadi*, p. 454, *baeodon*, p. 452, *baluensis*, p. 454, n. spp., THOMAS, Ann. Nat. Hist. (6) xiv, Borneo.
- Mus flavicollis*, recorded by DE WINTON, Zoologist (3) xviii, p. 441, from Britain.
- +*Mus abbotti*, n. sp., NEWTON, Quart. J. Geol. Soc. 1, p. 195, Pleistocene, Kent.
- Mus arianus griseus*, n. subsp., TRUE, P. U. S. Mus. xvii, p. 8, Kashmir.
- Mus neumanni*, n. sp., MATSCHIE, SB. Ges. naturf. Berlin, 1894, p. 204, Cameroons.
- Mus tullbergi*, n. nom., THOMAS, Ann. Nat. Hist. (6) xiii, p. 205, to supersede *M. burtoni*, Thos.

6. SPALACIDÆ.

- Heliophobius emini*, n. sp., NOACK, Zool. Jahrb. Syst. vii, p. 559, Simba Muenne, E. Africa.
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7. GEOMYIDÆ.

- Geomys scalops*, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 437, Tehuantepec.
- Geomys bursarius*, note on ; OSBORN, Science, xxiii, p. 102.
- Dipodomys simiolus*, p. 410, *similis*, p. 411, P. Ac. Philad. 1893 ; *parvus*, Amer. Natural. xxviii, p. 69, n. spp., RHOADS, California.
- Dipodomys elator*, p. 109, *ornatus*, p. 110, *perotensis*, p. 111, n. spp., MERRIAM, P. Soc. Washington, ix, N. America.
- Dipodomys merriami nevadensis*, p. 111, *nitratatus*, *nitratoides*, p. 112, *exilis*, *atronasus*, p. 113, n. subsp., MERRIAM, t. c., *ibid.*
- Perodipus streatoris*, p. 113, *panamintinus*, p. 114, *ordi columbianus*, p. 115, n. spp. & subsp., MERRIAM, t. c., *ibid.*
- Perognathus latirostris*, n. sp., RHOADS, Amer. Natural. xxviii, p. 185, (?) Nebraska or Wyoming.
- Perognathus baileyi*, *columbianus*, *nevadensis*, *nelsoni*, *stephensi*, n. spp., MERRIAM, P. Ac. Philad, 1894, pp. 262-268, N. America.
- Perognathus longimembris panamintinus*, *flavus mexicanus*, *intermedius canescens*, n. subsp., MERRIAM, t. c. pp. 265-267, N. America.
- Perognathus copei*, p. 404, Texas, *alticolus*, p. 412, California, n. spp., RHOADS, *op. cit.* 1893. Notes on several other species also given.
- Perognathus pricei* and *conditi*, ALLEN, Bull. Amer. Mus. vi, p. 318, Arizona.
- Perognathus bryanti*, p. 458, *margaritæ*, p. 459, *spinatus peninsulae*, p. 460, *arenarius*, p. 461, n. spp. & subsp., MERRIAM, Pap. Calif. Ac. (2) iv, Lower California.

8. DIPODIDÆ.

- Sminthus flavus*, n. sp., TRUE, P. U. S. Mus, xvii, p. 341, Kashmir.
- Zapus tricinclus*, n. sp., RHOADS, P. Ac. Philad. 1894, p. 421, Brit. Columbia.

9. OCTODONTIDÆ.

- Aulacodus gregorianus*, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 202, Brit. E. Africa. The milk-dentition of the adult also noticed.
- Aulacodus swinderianus*, anatomical notes ; LANGKAVEL, *suprà*, p. 10.
- †*Neoremys variegatus*, n. sp., AMEGHINO, Bol. Ac. Cordoba, xiii, p. 324, Tertiary, Patagonia.
- †*Scleromys osbornianus*, n. sp., AMEGHINO, t. c. p. 325, *ibid.*
- †*Adelphomys eximius*, n. sp., AMEGHINO, l. c., *ibid.*
- †*Stichomys arenurus* and *regius*, n. spp., AMEGHINO, t. c. p. 326, *ibid.*
- †*Spaniomys buplicatus*, n. sp., AMEGHINO, l. c., *ibid.*

10. CHINCHILLIDÆ.

- †*Perimys impactus*, *amulus*, *pacificus*, *reflexus*, and *diminutus*, n. spp., AMEGHINO, Bol. Ac. Cordoba, xiii, pp. 328 & 329, Tertiary, Patagonia.
 †*Prolagostomus amplus*, n. sp., AMEGHINO, t. c. p. 329, *ibid.*
 †*Dicardia proxima*, n. sp., AMEGHINO, t. c. p. 330, *ibid.*

11. CAVIIDÆ.

- Cavia cobaya*, recorded by GREGORIO, *suprà*, p. 8, from a French cave.
 For interbreeding of different species, see NEHRING, *suprà*, p. 14.

12. HYSTRICIDÆ.

- Atherura africana*, PARSONS, P. Zool. Soc. London, 1894, p. 251, compares its anatomy with other Porcupines. In addition to the points mentioned by Gray and Günther, as differences between the skulls of *A. africana* and *A. macrura*, the arrangement of the fronto-nasal suture, the position of the maxillomalar suture, and the frequent presence of an "os anti-epilepticum" are noticed. The presence of intercentra is also drawn attention to. The muscles in the main bear out the remarks already published by the author in his paper on "The Myology of the Sciuromorphic and Hystricomorphino Rodents." The liver agrees with that of *Hystrix cristata* and *H. javanica* in having the left central lobe divided into two. There is no gall-bladder. The lungs are specially remarkable for being divided up into a large number of lobes, there being 34 lobes on the left, and over 40 on the right side.
Trichys fasciculata, JENTINK, Notes Leyden Mus. xvi, p. 205, regards this as the proper name for *T. guentheri*.

13. LAGOMYIDÆ.

- Lagomys kosłowi*, n. sp., BÜCHNER, Result. Przewalski Reisen. Säugeth. i, p. 187, pls. xxii & xxiii; other species also described and figured.

14. LEPORIDÆ.

- Lepus americanus*, its seasonal colour-change, ALLEN, Bull. Amer. Mus. vi, p. 107; due to change of pigment.
Lepus sylvaticus mearnsi, p. 171, Iowa and Minnesota, s. *pinetus*, p. 348, White Mountains, *texianus eremicus*, p. 347; Arizona, n. subsp., ALLEN, t. c.
Lepus swinhoei, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 364, Cheefoo.
Lepus nigronuchalis, n. sp., HARTERT, Nov. Zool. i, p. 40, Venezuela.
Lepus whitei, p. 142, Nyasaland, *omanensis*, p. 450, Oman, S. E. Arabia, n. spp., THOMAS, P. Zool. Soc. London, 1894.

- Lepus paludicola*, n. sp., MILLER & BANGS, P. Soc. Washington, ix, p. 105, Florida.
- Lepus timidus (variabilis)*, considered by SCHARFF, P. Irish Ac. (3) iii, p. 480, to be circumpolar.
- Lepus tolai* and the other Central-Asian species described by BÜCHNER, *suprà*, p. 5.
- Lepus cuniculus*: development of tarsus, RETTERER, *suprà*, p. 17: foetal development, ASSHETON, *suprà*, p. 4: in Britain, STRONG, *suprà*, p. 20.

VI. UNGULATA.

I. PROBOSCIDEA.

1. ELEPHANTIDÆ.

- Elephas*: development of molars; CLELAND, *suprà*, p. 6.
- Elephas africanus*, its occurrence in Sierra Leone; MITFORD, P. Zool. Soc. London, 1894, pp. 2 & 3.
- †*Elephas primigenius*, molars from France; BARTHÉLEMY, *suprà*, p. 4.
- †*Mastodon (Tetrabelodon) sheppardi*, lower jaw; COPE, *suprà*, p. 6.
- †*Mastodon arvernensis*, from Bologna; CAPELLINI, *suprà*, p. 5.
- For the Mastodons of Russia, see PAVLOW, *suprà*, p. 16.

†PYROTHERIIDÆ.

- †*Pyrotherium*, from the Patagonian Tertiaries, referred by LYDEKKER, An. Mus. La Plata, Pal. Arg. iii, art. 1, p. 4, to this order.

II. HYRACOIDEA.

- NOACK, Zool. Jahrb. Syst. vii, pp. 540-542, considers this group as closely allied to, if not identical with, the *Toxodontia*, the annectant forms being *Hegetotherium* and *Pachyrucus*.

2. PROCAVIIDÆ.

- Procavia johnstoni*, n. sp., THOMAS, P. Zool. Soc. London, 1894, p. 142, Nyasaland.
- Procavia syriaca*, note on its anatomy; MATSCHIE, SB. Ges. naturf. Berlin, 1894, p. 193.

III. †TOXODONTIA.

- For characters and synonymy of the various genera and species of the *Pachyrucidæ*, *Typotheriidæ*, and *Toxodontidæ*, see LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 3, pp. 2-41. [See also *Hyracoidea*, *suprà*.]

TYPOTHERIIDÆ.

- †*Trachytherus*, the type specimen from the Patagonian Tertiaries described and figured by LYDEKKER, An. Mus. La Plata, Pal. Arg. iii, art. 1, p. 1.

IV. †ASTRAPOTHERIA.

For synonymy and characters of the genera *Astrapotherium* and *Homalodontotherium* and their species, see LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 3, pp. 42-56.

3. †HOMALODONTOTHERIIDÆ.

†*Homalodontotherium excursum* and *crassum*, n. spp., AMEGHINO, Bol. Ac. Cordoba, xiii, p. 320, Tertiary, Patagonia.

V. †LITOPTERNA.

The families *Proterotheriidae* and *Macraucheniidae*, with their leading genera and species, defined by LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 3, pp. 56-71.

4. †PROTEROTHERIIDÆ.

†*Proterotherium pyramidatum*, *nitens*, *principale*, *divorticum*, *brachygnathum*, *intermedium*, and *mixtum*, n. spp., AMEGHINO, Bol. Ac. Cordoba, xiii, pp. 293-295, Tertiary, Patagonia.

†*Tetramerorhinus fortis* and *lucarius*, n. g. & spp., AMEGHINO, t. c. pp. 295 & 296, *ibid.*

†*Licaphrium granatum*, *proclivum*, *debile*, and *tenuæ*, n. spp., AMEGHINO, t. c. pp. 297-299, *ibid.*

†*Tichodon*, n. g., *quadrilobus*, n. sp., AMEGHINO, t. c. p. 43, *ibid.*

†*Heptaconus*, n. g., *acer*, n. sp., AMEGHINO, t. c. p. 300, *ibid.*

†*Thoatherium rhabdodon*, n. sp., AMEGHINO, t. c. p. 301, *ibid.*

†*Diadiaphorus robustus*, n. sp., AMEGHINO, t. c. p. 303, *ibid.*

5. †MACRAUCHENIIDÆ.

Scalabrinia, n. nom., LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 3, p. 69 (1893), to replace *Scalabrinitherium*, Ameghino.

VI. PERISSODACTYLA.

6. EQUIDÆ.

For the Argentine Tertiary species of *Equus*, *Hippidium*, and *Onohippidium*, see LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 3, pp. 73-77, where *Hippaplus*, Ameghino, is shown to be inseparable from *Hippidium*. SCOTT, Tr. Amer. Phil. Soc. xvii, pp. 111-122, is of opinion that the genus *Equus* was evolved in North America, and that *Anchitherium*, in its restricted sense, was off the direct line. He arranges the direct ancestral forms of the upper Tertiary from above downwards, in the order *Protohippus*, *Desmatippus*, *Miohippus*, and *Mesohippus*; *Anchitherium* branching off from *Miohippus* and *Hipparion* from *Protohippus*. See also OSBORN & WORTMAN, Bull. Amer. Mus. vi, p. 213.

Equus caballus: EWART, *suprà*, p. 7, shows that in the foetus there are vestiges of the second and fourth digits, which never ossify.

Equus zebra, *quagga*, *burchelli*, *chapmani*, *antiquorum*, *boehmi*, and *grevyi*, are recognized by MATSCHIE, *suprà*, p. 13, as distinct species, and their characters and distribution given.

† *Mesohippus longipes*, n. sp., OSBORN & WORTMAN, Bull. Amer. Mus. vi, p. 214, Miocene, White River.

7. RHINOCEROTIDÆ.

Rhinoceros simus, figured, with notes on its occurrence in Mashonaland, CORYNDON, P. Zool. Soc. London, 1894, p. 329, pl. xviii.

Rhinoceros sondaicus and *R. sumatrensis*, JENTINK, Notes Leyden Mus. xvi, p. 231, doubts whether the former occurs in Sumatra and Borneo, and the latter in Java.

† *Aceratherium trigonodum*, p. 201, *platycephalum*, p. 206, n. spp., OSBORN & WORTMAN, Bull. Amer. Mus. vi, Miocene, White River.

† *Amyndon*: skeleton described by OSBORN & WORTMAN, *op. cit.* p. 208.

† *Teleoceros*, n. g., *major*, n. sp., HATCHER, Amer. Geol. xiii, p. 149, and Amer. Natural. xxviii, p. 241, Loup Fork Beds, Nebraska. Distinguished from other American Rhinoceroses by the presence of a median horn.

VII. ARTIODACTYLA.

CAMERON, Zoologist (3) xviii, pp. 241-252, & 281-292, discusses the origin and object of the cranial appendages of the Pecora, and concludes that they are for purposes of defence against carnivores, being generally harmless against individuals of the same species as their owners.

8. BOVIDÆ.

SCLATER & THOMAS (Book of Antelopes) commence their illustrated description of all the species of Antelopes. *Bos*, parietal, BIANCHI, *suprà*, p. 5; Algerian Pleistocene species, POMEL, *suprà*, p. 16; *Bos taurus*, interparietal, MAGGI, *suprà*, p. 12; *B. bison*, its distribution, LANGKAVEL, *suprà*, p. 10.

Bos moellendorffi, n. sp., NEHRING, SB. Ges. naturf. Berlin, 1894, p. 185, Philippines. *Bos* (*Bubalus*) *mindorensis*, suggested by JENTINK, Notes Leyden Mus., *suprà*, p. 10, to be a cross between the buffalo and the anoa.

Ovis aries and *Capra hircus*, for the origin of the domesticated races and their classification, see GLUR, Mt. Ges. Bern, 1894, pp. 1-56. For supplemental horns, see KERVILLE, p. 10, and LATASTE, *suprà*, p. 11.

Ovis montana, LIEBENWALDE, *suprà*, p. 11.

Haploceros montanus (*lanigerus*), LIEBENWALDE, *loc. cit.*

- Hemitragus jayakari*, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 365, P. Zool. Soc. London, 1894, p. 452, pl. xxxi, Oman, S. E. Arabia.
- Strepsiceros strepsiceros zambesiensis*, n. subsp., LORENZ, Ann. Hofmus. Wien, ix, p. 63, Matabeliland.
- Gazella loderi*, Ann. Nat. Hist. (6) xiii, p. 452, and P. Zool. Soc. London, 1894, p. 470, pl. xxxii, *rufina*, P. Zool. Soc. London, 1894, p. 467, n. spp., THOMAS, Algeria. For habits of former, see LODER, *t. c.* p. 473.
- Epyceros melampus holubi*, n. subsp., LORENZ, Ann. Hofmus. Wien, ix, p. 62, North of Zambesi.
- Antilope cervicapra*, its gestation; LODER, P. Zool. Soc. London, 1894, p. 478.
- Madoqua*, Og.: this name adopted by THOMAS, P. Zool. Soc. London, 1894, p. 323, in place of *Neotragus*. 6 species are recognized. *M. guentheri*, p. 324, Berbera, *phillipsi*, p. 327, N. Somaliland, *swaynei*, p. 328, N. Somaliland, n. spp., THOMAS, *op. cit.*
- Tetraceros quadricornis*, see INVERARITY, J. Bombay Soc. ix, p. 193.
- Cephalophus grimmia flavescens*, n. subsp., LORENZ, Ann. Hofmus. Wien, ix, p. 61, Victoria Falls.
- Pediotragus neumanni*, n. sp., MATSCHIE, SB. Ges. naturf. Berlin, 1894, p. 122, Ugogo.
- Oreotragus megalotis*, n. sp., MENGES, Zool. Anz. 1894, p. 131, Somaliland, Referred by NOACK, *t. c.* p. 202, to *Dorcatragus*, n. g.
- Damaliscus*, n. g., SCLATER & THOMAS, The Book of Antelopes (*suprà*, p. 19), p. 51, to replace *Damalis*, Gray.
- † *Antilope saglionei*, n. sp., REGALIA, Archiv. Antrop. e Etnol. xxiii, pt. 3 (1893), Cavern, Italy; see also Monit. Zool. ital. v, p. 192.

9. CERVIDÆ.

- Cariacus*: for synonymy and characters of Argentine Tertiary species, see LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 3, pp. 79-83.
- Cariacus peruvianus*, note on, MATSCHIE, Mittheil. Nat. Mus. Lubeck (2) i, p. 129.
- Cervus dama*, effects of castration on antlers; FOWLER, P. Zool. Soc. London, 1894, p. 485.

10. GIRAFFIDÆ.

The distinction in the coloration of the North and South African forms pointed out by THOMAS, P. Zool. Soc. London, 1894, pp. 135 & 136.

11. TRAGULIDÆ.

- Tragulus nigricans*, note on; NEHRING, *suprà*, p. 15.

12. CAMELIDÆ.

For characters and synonymy of the Argentine Tertiary forms, see LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 3, p. 83. For Arabian Camel, see LEONARD, *suprà*, p. 11; and for Wild Camels of Lob-Nor, LITTLEDALE, P. Zool. Soc. London, 1894, p. 446.

†*Procamelus altus*, n. sp., MARSH, Amer. J. Sci. (3) xlviii, p. 274, Pliocene, Oregon.

†*Parameryx lavis*, n. sp., MARSH, *op. cit.* p. 269, L. Eocene, N. Mexico.
Leptotragulus is identified with this and the next genus.

†*Oromeryx plicatus*, n. sp., MARSH, *loc. cit., ibid.*

13. †PROTOCERATIDÆ.

†*Protoceras comptus*, n. sp., MARSH, Amer. J. Sci. (3) xlviii, p. 93, Miocene, Oregon.

†*Calops*, n. g., *cristatus*, n. sp., MARSH, *op. cit.* pp. 94 & 273, *ibid.*

14. †COTYLOPIDÆ.

For the Oreodonts of the Deep River Beds, see SCOTT, Trans. Amer. Phil. Soc. xvii, pp. 125-166; for those of White River, OSBORN & WORTMAN, Bull. Amer. Mus. vi, p. 215.

†*Agriomeryx*, n. g., *migrans*, n. sp., MARSH, Amer. J. Sci. (3) xlviii, p. 270, Miocene, Dakota.

15. †AGRIOCHÆRIDÆ.

†*Artionyx*, Osborn & Wortman, is shown by SCOTT, P. Amer. Phil. Soc. 1894, p. 243, to be identical with *Agriochærus*, Leidy. The genus has no affinity with *Chalicotherium*, but appears to be a specialized Oreodont, with partially unguiculate feet, and perhaps having some relationship to *Hyopotamus*.

16. †ANTHRACOTHERIIDÆ.

†*Ancodus* (*Hyopotamus*); SCOTT, Geol. Mag. (4) i, pp. 492-494, shows that in the American forms there were five digits in the manus, and the general osteology approaches closely to that of the Oreodonts.

†*Hyopotamus brachyrhynchus*, n. sp., OSBORN & WORTMAN, Bull. Amer. Mus. vi, p. 220, Miocene, White River.

†*Anthracotherium kareense*, n. sp., OSBORN & WORTMAN, *t. c.* p. 222, *ibid.*

†*Heptacodon*, n. g., *curtus*, n. sp., MARSH, Amer. J. Sci. (3) xlvii, p. 49; *H. armatus*, p. 93, *gibbiceps*, p. 175, *op. cit.* xlviii, n. spp., Miocene, Dakota.

†*Octacodon*, n. g., *valens*, n. sp., MARSH, *op. cit.* xlviii, pp. 92 & 173, Miocene, Oregon.

- †*Eomeryx*, n. g., *armatus*, MARSH, Amer. J. Sci. (3) xlviii, p. 176; type *Heptacodon armatus*.
 †*Hyomeryx*, n. g., *breviceps*, n. sp., MARSH, *l. c.* p. 268, Miocene, Dakota. Both this genus and the last are assigned to a new family, *Eomerychidae*.

†FAMILY UNCERTAIN (*Eohyidae*, Marsh).

- †*Eohyus distans* and *robustus*, n. spp., MARSH, Amer. J. Sci. (3) xlviii, pp. 259 & 260, Lower Eocene, N. Mexico.
 †*Parahyus aberrans*, n. sp., MARSH, *op. cit.* p. 261, *ibid.*
 †*Homacodon priscus*, n. sp., MARSH, *l. c.*, *ibid.*, on p. 263, *Pantolestes*, Cope, is identified with this genus.
 †*Nanomeryx*, n. g., *caudatus*, n. sp., MARSH, *op. cit.* p. 263, *ibid.*

17. †CHEROPOTAMIDÆ.

- †*Elotherium crassum*, its restored skeleton, MARSH, Amer. J. Sci. (3) xlvii, pp. 407 & 408, pl. ix.

18. DICOTYLIDÆ.

- †*Thinohyus robustus*, n. sp., MARSH, Amer. J. Sci. (3) xlviii, p. 94, Miocene, Oregon. *T. nanus*, n. sp., *op. cit.* p. 271, Miocene, Dakota.
 †*Leptochoerus gracilis*, n. sp., MARSH, *op. cit.* p. 271, Miocene, Dakota.
 †*Platygonus rex*, n. sp., MARSH, *op. cit.* p. 273, Pliocene, Oregon.
 †*Platygonus leptorhinus*, n. sp., WILLISTON, Science, xxiii, p. 164, Pliocene, Kansas.

19. SUIDÆ.

- Sus barbatus*, note on two Philippine varieties, NEHRING, SB. Ges. naturf. Berlin, 1894, pp. 190 & 191.
Sus marchei, identified with *S. celebensis*, var. *philippensis*, NEHRING, *op. cit.* p. 219.
Sus scrofa, osteology; STAURENGHI, *suprà*, p. 20.
Potamochoerus edwardsi, of Madagascar, shown by SCLATER, P. Zool. Soc. London, 1894, p. 92, to be a distinct species; LAST, *l. c.*, notes its habits.

VII. SIRENIA.

1. RHYTINIDÆ.

- Rhytina gigantea*, its extinction and distribution; DAWSON, *suprà*, p. 6.
Manatus and *Halicore*, the fœtus; TURNER, *suprà*, p. 22.

VIII. CETACEA.

Notes on Antarctic Cetaceans, BRUCE, *suprà*, p. 5; prostate, BEAUREGARD & BOULART, *suprà*, p. 4; whale-fishery, SOUTHWELL, *suprà*, p. 20. An account of the French Miocene representations of the order is given by PAQUIER, *suprà*, p. 16, with some remarks on the phylogeny of Cetaceans in general, and the antiquity of the *Platanistidæ*.

1. BALÆNIDÆ.

- †*Cetotherium moreni*, n. sp., LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 2, p. 2, Tertiary, Patagonia (1893).
Balaenoptera musculus, plexus of eye; BEAUREGARD, *suprà*, p. 4.

2. †PHYSODONTIDÆ.

- †*Physodon patagonicus*, n. sp., LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 2, p. 4, Tertiary, Patagonia (1893). It is shown that the genus differs from the *Physeteridæ* in the presence of functional upper teeth.
 †*Hypocetus*, n. nom., LYDEKKER, *op. cit.* p. 7, to replace *Mesocetus*, Moreno, 1892, *nec* Van Beneden; *Diaphorocetus*, n. nom., AMEGHINO, Bol. Ac. Cordoba, xiii, p. 437, in the same sense.

3. †SQUALODONTIDÆ.

- †*Prosqualodon*, n. g., *australis*, n. sp., LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 2, p. 8, Tertiary, Patagonia (1893). Among other characters, the genus differs from *Squalodon* in the possession of nasals partially roofing the nasal cavity.
 †*Squalodon zitteli*, n. sp., PAQUIER, Mem. Soc. geol. France, Pal. iv, art. 12, p. 15, Miocene, France.

4. †ARGYRO CETIDÆ.

- †*Argyro cetus*, n. g., *patagonicus*, n. sp., LYDEKKER, An. Mus. La Plata, Pal. Arg. ii, art. 2, p. 10, Tertiary, Patagonia (1893).

5. PLATANISTIDÆ.

- †*Argyrodelphis*, n. nom., LYDEKKER, *op. cit.* p. 12, to replace *Notocetus*, Moreno, 1892, *nec* *Notiocetus*, Ameghino; *Diochotichus*, n. nom., AMEGHINO, Bol. Ac. Cordoba, xiii, p. 438, in the same sense.
 †*Schizodelphis depereti*, n. sp., PAQUIER, Mem. Soc. geol. France, Pal. iv, art. 12, p. 7, Miocene, France.

6. DELPHINIDÆ.

Prodelphinus, TRUE, P. U. S. Mus. xvii, pp. 33-37, has notes on skulls of specimens from the Indian Ocean.

Sotalia brasiliensis, its osteology; GOELDI, *suprà*, p. 8.

Grampus griseus, its osteology; TRAQUAIR, *suprà*, p. 22.

Lagenorhynchus albiröstris, specimen caught in Kilbrannan Sound, Arran, September 1, 1894; J. M. CAMPBELL, Zoologist (3) xviii, pp. 424-426.

†*Tursiops cortesii*, from Italian Pliocene; SACCO, *suprà*, p. 19.

IX. EDENTATA.

1. †MEGATHERIDÆ.

After a comparison of all the more important specimens in the La Plata Museum, LYDEKKER (*suprà*, p. 12, An. Mus. La Plata) recognizes only the following S. American genera as valid, viz.: *Megatherium*, *Myiodon*, *Glossotherium*, *Scelidotherium*, *Catonyx*, *Nothrotherium*, *Nothropus*, *Ortotherium*, *Eucholœops*, and *Pseudhalalops*.

†*Eucholœops ingens*, n. sp., LYDEKKER, An. Mus. La Plata, Pal. Arg. iii, art. 2, p. 99, Santa Cruz Beds, Patagonia.

†*Hapalops brachycephalus*, n. sp., AMEGHINO, Bol. Ac. Cordoba, xiii, p. 402, Tertiary, Patagonia.

†*Amarorhynchus*, n. g., *latus*, n. sp., AMEGHINO, t. c. p. 403, *ibid.*

†*Pseudhalalops altiramis* and *grandis*, n. spp., AMEGHINO, t. c. pp. 406 & 407, *ibid.*

†*Eucholœops curtus*, n. sp., AMEGHINO, t. c. p. 410, *ibid.*

†*Mecorhinus*, n. g., *primus*, n. sp., AMEGHINO, t. c. pp. 412 & 413, *ibid.*

†*Uranokyrtus*, n. g., *bombifrons*, n. sp., AMEGHINO, t. c. pp. 415 & 416, *ibid.*

†*Adiastemus*, n. g., *compressidens*, n. sp., AMEGHINO, t. c. p. 417, *ibid.*

†*Prepothërium moyani*, n. sp., AMEGHINO, t. c. p. 418, *ibid.*

†*Analcimus giganteus*, n. sp., AMEGHINO, t. c. p. 421, *ibid.*

†*Ammotherium aculeatum* and *declive*, n. spp., AMEGHINO, t. c. p. 424, *ibid.*

2. DASYPODIDÆ.

The following genera are recognized by LYDEKKER (*suprà*, p. 12, An. Mus. La Plata) from the Argentine Tertiaries, viz.: *Dasyppus*, *Eutatus*, *Tatusia*, and *Peltephilus*.

†*Dasyppus moreni*, n. sp., LYDEKKER, An. Mus. La Plata, Pal. Arg. iii, art. 2, p. 58, Tertiary, Catamarca.

Tatusia (Muletia) propalatum, n. sp., RHOADS, P. Ac. Philad. 1894, p. 111, Bahia, Brazil.

Dasyppus nationi, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 70, Bolivia.

†*Eodasyppus*, n. g., type *P. nanus*, Amegh.; AMEGHINO, Bol. Ac. Cordoba, xiii, p. 429, Tertiary, Patagonia.

†*Peltephilus giganteus*, n. sp., AMEGHINO, t. c. p. 435, *ibid.*

3. †GLYPTODONTIDÆ.

For a survey of the Argentine forms, see LYDEKKER, *suprà*, p. 12, by whom the following genera are recognized, viz.: *Glyptodon*, *Plophorus*, *Lomaphorus*, *Panochthus*, *Dædicurus*, and *Palæohoplophorus*.

†*Panochthus intermedius*, n. sp., LYDEKKER, An. Mus. La Plata, Pal. Arg. iii, art. 2, p. 34, Pampean, Buenos Aires.

4. MANIDÆ.

For osteology and myology, see EHLERS, *suprà*, p. 7. MATSCHIE, SB. Ges. naturf. Berlin, 1894, pp. 1-13, recognizes the following species, viz.: *Manis tetradactyla*, *M. tricuspis*, and *M. gigantea*, from W. Africa; *M. temmincki*, S. Africa; *M. pentadactyla*, India; *M. aurita*, Himalaya to S. China; and *M. javanica*, Malayana.

X. MARSUPIALIA.

1. MACROPODIDÆ.

Dendrolagus bennettianus, figured and described; SCLATER, P. Zool. Soc. London, 1894, pp. 693 & 694, pl. xlvi; WAITE, P. Linn. Soc. N. S. Wales (2) ix, p. 571.

2. †PHASCOLOMYIDÆ.

†*Sceparnodon*: its identity with *Phascolomus* confirmed by STIRLING, *suprà*, p. 20.

3. DASYURIDÆ.

†*Thylacinus rostralis*, n. sp., DE VIS, P. Linn. Soc. N. S. Wales (2) viii, p. 446, Tertiary, Queensland.

†*Prothylacinus brachyrhynchus*, n. sp., AMEGHINO, Bol. Ac. Cordoba, xiii, p. 380, Tertiary, Patagonia.

†*Napodonictis*, n. g., *thylacynoides*, n. sp., AMEGHINO, t. c. p. 381, *ibid.*

†*Anutherium oxyrhynchus*, n. sp., AMEGHINO, t. c. p. 384, *ibid.*

†*Cladosictis lateralis*, n. sp., AMEGHINO, t. c. p. 389, *ibid.*

†*Amphiproviverra minuta* and *crassa*, n. spp., AMEGHINO, t. c. pp. 390 & 391, *ibid.*

†*Sipalocyon curtus*, *mixtus*, *altiramis*, and *longus*, n. spp., AMEGHINO, t. c. pp. 394 & 395, *ibid.*

†*Ictioborus destructor*, n. sp., AMEGHINO, t. c. p. 396, *ibid.*

4. NOTORYCTIDÆ.

Notoryctes typhlops, *pollex*, STIRLING, *suprà*, p. 20; myology, WILSON, *suprà*, p. 23.

5. DIDELPHYIDÆ.

In a communication on the Opossums of the Organ Mountains, Rio de Janeiro, GOELDI, P. Zool. Soc. London, 1894, pp. 457-467, considers that *Didelphys aurita* is probably entitled to stand as a species. *Micoureus griseus*, *M. pusillus*, *Peramys tristriatus*, and *Chironectes palmatus* are also noticed; while *Didelphys alboguttata* is declared to be founded on a specimen of *Dasyurus viverrinus*.

Didelphys trinitatis, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 438, Trinidad. *D. (Micoureus) griseus* shown by same writer, *op. cit.* xiv, p. 184, to be a Paraguayan form distinct from the Brazilian *D. (M.) incana*.

Didelphys australis, p. 33, *soricina*, p. 36, n. spp., PHILIPPI, Arch. Naturg. 1894, i, Valdivia.

Dromiciops, n. g., *gliroides*, n. sp., THOMAS, Ann. Nat. Hist. (6) xiii, p. 187, Chiloe I.

6. †AMPHITHERIIDÆ.

In the course of his description of the Mammalian remains from Stonesfield belonging to this and other families, GOODRICH (*suprà*, p. 8) shows that the lower molars of *Amphitherium* were of the tri-tubercular-sectorial type.

XI. MONOTREMATA.

MCKAY, *suprà*, p. 12, describes the myology of the shoulder-girdle; WILSON, *suprà*, p. 23, proposes a new theory of the homologies of the borders of the scapula. For muscles of the eye, see GOPPERT, *suprà*, p. 8.

1. ORNITHORHYNCHIDÆ.

Ornithorhynchus anatinus: MANNERS-SMITH, P. Zool. Soc. London, 1894, p. 694, has a paper relating chiefly to the muscular anatomy, followed by a short description of the trunk-arterial system. As regards the anatomy, the author appears to have worked out for the first time the comparative morphology of the skeletal muscles of the Monotremes as determined by their innervation.

BEDDARD, in another communication published in the same journal, p. 715, deals in the first place with the existence of a free fold passing from the bladder to the liver, where it became continuous with the falciform ligament of the liver. This fold, however, exhibited no traces of an anterior abdominal vein. The author also gives a description of the right auriculo-ventricular valve of the heart. In

two hearts examined by him the septal flap of this valve was complete, though less conspicuous than the free flap, owing to the fact that it had either no papillary muscles attached to it, or that the muscles were very small.

POULTON, *suprà*, p. 17, discusses the nature of the beak and hairs. The so-called dumbbell-shaped bone is shown by WILSON, *suprà*, p. 23, to be vomerine, rather than premaxillary in origin.

2. ECHIDNIDÆ.

In describing the young, PARKER, P. Zool. Soc. London, 1894, pp. 3-14, states that it resembles that of *Ornithorhynchus* in the following points:—(1) In the possession of a thick horny layer covering the snout, as well as horny teeth, and a horny caruncle for breaking open the egg-shell; (2) Glands resembling ordinary sweat-glands opening on the snout, as well as on the front of the palate; (3) A highly developed Jacobson's organ, comparable to that of the *Squamata*; (4) A complicated maxillo-turbinal; (5) A communication between the two nasal cavities; (6) Numerous glands in connection with the nasal chamber and Jacobson's organ. On the other hand, the following features are peculiar to *Echidna*, viz.: (1) The absence of any traces of true teeth; (2) The possession of a mammary pouch in the young female; (3) The less solid nature of the nasal chamber, the development of the ethmo-turbinals, and the absence of transverse septa in the front of the nasal cavity; (4) The slightly smaller size of Jacobson's organ and its turbinal. It is concluded that *Ornithorhynchus* is the more primitive type of the two; the young *Echidna* resembling the former much more than does the adult, and being very highly specialized as regards many characters; and that both genera are nearly allied. For structure of shell of egg, see NEUMEISTER, *suprà*, p. 15.

INCERTÆ SEDIS.

†ABDERITIDÆ.

†*Abderites altiramis*, n. sp., AMEGHINO, Bol. Ac. Cordoba, xiii, p. 340, Tertiary, Patagonia.

†*Metriodromus*, n. g., *arenarus* and *spectans*, n. spp., AMEGHINO, t. c. pp. 342 & 343, *ibid.*

†*Callomenus ligatus* and *robustus*, n. spp., AMEGHINO, t. c. p. 344, *ibid.*

†EPANORTHIDÆ.

†*Epanorthus simplex*, n. sp., AMEGHINO, t. c. p. 347, *ibid.*

†*Metaepanorthus*, n. g., *complicatus*, n. sp., AMEGHINO, t. c. p. 348, *ibid.*

†*Paraepanorthus*, n. g., type *P. minutus*, Amegh.; AMEGHINO, l. c., *ibid.*

†*Prepanorthus*, n. g., *lanius*, n. sp., AMEGHINO, t. c. p. 351, *ibid.*

†GARZONIIDÆ.

- †*Phonocdromus*, n. g., *patagonicus* and *gracilis*, n. spp., AMEGHINO, Bol. Ac. Cordoba, xiii, pp. 355 & 356, Tertiary, Patagonia.
- †*Parhalmarhipus*, n. g., type *Gaz. annectans*, Amegh.; AMEGHINO, t. c. p. 356, *ibid.*
- †*Stilotherium grande*, n. sp., AMEGHINO, t. c. p. 358, *ibid.*
- †*Cladoclinus*, n. g., *copei*, n. sp., AMEGHINO, t. c. pp. 358 & 359, *ibid.*

FAMILY UNCERTAIN.

- Creoadapis*, n. g., *douvillei*, n. sp., LEMOINE, Bull. Soc. geol. France, xxi, pp. 361 & 362, Eocene, Reims.
- Plesidissacus europæus*, LEMOINE, *op. cit.* pp. 362 & 363, *ibid.*

III. AVES.

BY

R. BOWDLER SHARPE, LL.D.

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 P. Zool. Soc. London, 1894, pp. 108-123, pls. xiv & xv.
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 P. L. SCLATER. *Ibis*, 1894, pp. 149-215, pl. v.
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T. c. pp. 367-432.
- ARRIGONI DEGLI ODDI, E., & LEVERKUHN, P. Die ornithologische Lit-
 teratur Italien's während der Jahre 1891 bis 1893. *J. Ornith.* 1894,
 pp. 280-290.
- AUDUBON, M. B. [See SHUFELDT, R. W.]
- BAGG, EGBERT. Birds of Oneida County, New York. *Auk*, xi,
 pp. 162-164.
- BAKER, E. C. STUART. The birds of North Cachar. Part II. *J. Bombay*
Soc. ix, pp. 1-24, pl. B, & pp. 111-146, pl. C.
 [*Sylviidæ*, p. 49; *Turdidæ*, p. 50.]
- BALDAMUS, A. K. E. Obituary. *Ibis*, 1894, p. 148, and R. BLASIUS, *Ornith.*
Jahrb. v, pp. 161-175.
- BARBOZA DU BOCAGE, J. V. Mammiferos, aves e reptis da Ilha Anno-
 Bom. *Jorn. Lisb.* (2) iii, No. ix, *Aves*, pp. 44 & 45.
- BAUER, R. W. Ueber das Verhältniß von Eiweiss zu Dotter und Schaale
 in den Vogeleiern. *Biol. Centralbl.* xiv, p. 560.

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

- BEDDARD, F. E., & MITCHELL, P. C. On the anatomy of *Palamedea cornuta*. P. Zool. Soc. London, 1894, pp. 536-557.
[*Palamedeidae*, p. 31.]
- BENDIRE, C. Descriptions of nests and eggs of some new Birds collected on the island of Aldabra, north-west of Madagascar, by Dr. W. L. Abbott. P. U. S. Mus. xvii, pp. 39-41.
[*Pycnonotidae*, p. 52; *Ploceidae*, p. 41; *Ralliformes*, p. 25.]
- BENNETT, G. Obituary. Ibis, 1894, pp. 147 & 148.
- BEREZOWSKI, M., & BIANCHI, B. Aves expeditionis Potanini per provinciam Gan-su et confinia. St. Petersburg: 1891, 4to, xl & 123 pp., pls. i-iii.
[*Timeliidae*, p. 51; *Turdidae*, p. 50; *Paridae*, p. 47; *Sittidae*, p. 45.]
- BERLEPSCH, H. VON, & STOLZMANN, J. Descriptions de quelques espèces nouvelles d'oiseaux du Pérou central. Ibis, 1894, pp. 385-405, pl. xi.
[*Tanagridae*, p. 42; *Fringillidae*, p. 44; *Tyrannidae*, p. 54; *Pipridae*, p. 54; *Dendrocolaptidae*, p. 55; *Formicariidae*, p. 55; *Trochilidae*, p. 36; *Caprimulgi*, p. 35; *Picidae*, p. 38; *Psittacidae*, p. 37; *Plataleae*, p. 30.]
- BIANCHI, B. [See BEREZOWSKI, M., & BIANCHI, B.]
- BIDWELL, E. Note on some newly-discovered Eggs of the Great Auk. Ibis, 1894, pp. 422 & 423.
— [See also PEARSON, H. J., & BIDWELL, E.]
- BLANFORD, W. T. On the scientific names of the imperial and spotted eagles and on the generic names of Bonelli's eagle and the black eagle. Ibis, 1894, pp. 283-289.
— Notes on synonymy of Indian owls. Bull. B. O. C. iii, p. xlii.
- BLASIUS, R. Erste Ankunftszeiten der Zugvögel in Braunschweig. Zusammengestellt von Otto Herman. Aquila, i, pp. 36-44.
— [See also BALDAMUS, E., and MIDDENDORF, A. T.]
- BLAAUW, F. E. Remarks on *Cygnus americanus* and *C. buccinator*. P. Zool. Soc. London, 1894, p. 606.
- BLÜME, J. B. Die Vogelkojen und der Entenfang auf den Nord Friesischen Inseln. Verh. Ver. Hamburg, viii, pp. 70-73.
- BOCAGE, J. V. [See BARBOZA DU BOCAGE.]
- BOLLINGER, O. Ueber die Grossenverhältnisse des Herzens bei Vögeln. SB. Ges. München, ix, pp. 106-113.
- BOUCARD, A. Genera of humming birds. Humming Bird, iv, pp. 107-202.

BOURNS, F. S., & WORCESTER, D. C. Preliminary notes on the birds and mammals collected by the Menage scientific expedition to the Philippine Islands. Occ. Pap. Minnes. Acad. i, No. 1, 64 pp.

[*Strigiformes*, p. 33; *Columbiformes*, p. 24; *Podargi*, p. 33; *Halcyones*, p. 34; *Cuculi*, p. 37; *Pici*, p. 38; *Dicruridae*, p. 41; *Oriolidae*, p. 41; *Nectariniidae*, p. 46; *Diceidae*, p. 46; *Zosteropidae*, p. 47; *Laniidae*, p. 48; *Muscicapidae*, p. 53; *Turdidae*, p. 50; *Timeliidae*, p. 51; *Pycnonotidae*, p. 52.]

BOWER, HAMILTON. Diary of a journey across Thibet. 1894, 8vo, pp. —.

BRANFORD, W. E. Bird life on the Farne Islands. Nat. Hist. Tr. Northumb. xi, pp. 357-360.

BREWSTER, W. Notes and song-flight of the Woodcock (*Philohela minor*). Auk, xi, pp. 291-298.

BRIGGS, A. Some further bird notes from North Ronaldshay. Ann. Scott. Nat. Hist. iii, pp. 82-87.

BROOKS, W. E. A few observations on some species of *Phylloscopus*. Ibis, 1894, pp. 261-268.

[*Sylviidae*, p. 49.]

BUDA, ADAM VON. Ein interessantes Bild aus dem Vogelzuge vom Jahre 1892. Aquila, i, pp. 51-54.

BULLER, W. L. On the birds observed during a voyage from New Zealand to England. Tr. N. Zealand Inst. xxvi, pp. 182-189.

—. Notes made on the return voyage from Plymouth to Auckland, by way of the Cape of Good Hope. T. c. pp. 189-199.

BUTLER, A. G. Foreign cage-birds in captivity. Part I. London: 4to, 1894, pp. 1-28, pls. i-vi.

BÜTTIKOFER, J. Ornithologische Sammlungen aus Celebes, Saleyer and Flores. In Max Weber's Zool. Ergeb. Reis. Nederl. Ost-Indien, iii, pp. 269-306, taf. xvii & xviii.

[*Psittaciformes*, p. 37; *Corvidae*, p. 39; *Diceidae*, p. 47; *Muscicapidae*, p. 53; *Paradiseidae*, p. 39.]

BUTRESS, L. Ornithological notes from North Notts for 1893. Naturalist, 1894, pp. 345-348.

CAMPBELL, A. J. Ornithological remarks. Victorian Natural. x, pp. 179-183.

—. List of Victorian birds. *Op. cit.* xi, pp. 55 & 56.

—. Eggs of the Australian *Charadriidae*. P. Austral. Ass. pp. 423-442.

CAMPBELL, D. C. Notes on the breeding birds of Inch, Lough Swilly. Irish Natural. 1894, pp. 185-189.

CARPENTER, G. H. Nearctic or Sonoran region? Nat. Sci. v, pp. 53-57.

- CHAPMAN, A. C. A contribution towards the Ornithology of West Jutland. *Ibis*, 1894, pp. 339-351.
 [*Pelecaniformes*, p. 31.]
- CHAPMAN, F. M. On the birds of the Island of Trinidad. *Bull. Amer. Mus.* vi, pp. 1-86.
 [*Mniotiltidae*, p. 45 ; *Tanagridæ*, p. 42 ; *Tyrannidæ*, p. 54.]
- . Remarks on the origin of bird migration. *Auk*, xi, pp. 12-17.
- CHERNEL, S. VON. Vergleichende Datenreihe. *Aquila*, i, p. 45.
- *CHERRIE, G. K. Exploraciones zoológicas efectuados en la parte meridional de Costa Rica por los años de 1891-92. I. *Aves*, 12mo, pp. 1-59.
 [*Troglodytidae*, p. 50.]
- CLARK, H. L. The pterylography of certain American goatsuckers and owls. *P. U. S. Mus.* xvii, pp. 551-572.
- CLARKE, W. EAGLE. On some birds from the Island of Negros, Philippines. *Ibis*, 1894, pp. 531-535.
 [*Nectariniidæ*, p. 46 ; *Cypseli*, p. 35.]
- . [See also HINXMAN, L. W., & CLARKE, W. E.]
- COALE, H. K. Ornithological notes on a flying trip through Kansas, New Mexico, Arizona, and Texas. *Auk*, xi, pp. 215-222.
- COCKS, A. H. [See COLLETT, R.]
- COLENZO, W. Notes and observations on M. A. de Quatrefores' paper "On Moas and Moa-hunters," republished in vol. xxv, Transactions New Zealand Institute. *Tr. N. Zealand Inst.* xxvi, pp. 498-513.
- COLLETT, R. Bird Life in arctic Norway ; A popular brochure. Translated by A. Heneage Cocks. London : 1894, 8vo, xi & 42 pp., App. x pp.
- . On the occurrence of *Colymbus adamsi* in Norway. *Ibis*, 1894, pp. 269-283, pl. viii.
 [*Colymbiformes*, p. 25.]
- COLLIN, A. Ein merkwürdiger Einschluss im Hühnerei. *Ornith. Monber.* ii, pp. 3 & 4.
- CORDEAUX, J. Bird-Notes from the Humber District. *Naturalist*, 1894, pp. 39-43 & 205-208.
- CORDEAUX, W. W. List of birds observed in Dras and Suru. *Ibis* 1894, pp. 367-374.
- COX, U. O. Description of a new species of *Pipilo* from Mount Orizaba, Mexico. *Auk*, xi, pp. 161 & 162.
 [*Emberizinae*, p. 44.]
- DAVIES, S. A. Ornithological notes from Mid-Hants. *Zoologist*, 1894, pp. 295-303.

- DE VIS, C. W. Report on ornithological specimens collected in British New Guinea. [Blue-book, pp. 1-7.]
 [*Alcedinidæ*, p. 34; *Muscicapidæ*, p. 52; *Campophagidæ*, p. 52; *Laniidæ*, p. 48; *Certhiidæ*, p. 45; *Meliphagidæ*, p. 46; *Timeliidæ*, p. 51; *Motacillidæ*, p. 45; *Paradiseidæ*, p. 40; *Columbæ*, p. 24; *Turdidæ*, p. 50.]
- DEDITIUS, K. Bemerkungen zu dem Aufsatz des Herrn Dr. Alwin Voegt: "Die schriftliche Darstellung von Vogelstimmen." *J. Ornith.* 1894, pp. 227 & 228.
- DE STEFANI, T. [See RIGGIO, G.]
- *DEWAR, T. F. Natural history of Arbroath and district. Arbroath: 1894, pp. —.
- DOBIE, W. H. Birds of West Cheshire, Denbighshire, and Flintshire. *P. Chester Soc.* iv, pp. 282-349, with map.
- DONALD, C. W. On the Penguins observed during the sealing voyage of the s.s. "Active" in the neighbourhood of Erebus and Terror Gulf. *P. R. Soc. Edinb.* xx, pp. 170-176.
- The Penguins of Erebus and Terror Gulf. *P. Phys. Soc. Edinb.* xii, pp. 329-335.
- DRANE, R. Natural History notes from Grassholm. *Rep. Cardiff Soc.* xxvi, pt. i, pp. 1-13.
- DRESSER, H. E. Remarks on some specimens of Central-Asiatic Shrikes. *Ibis*, 1894, pp. 384 & 385.
- EDEN, R. Ein Beitrag zur Avifauna von Teplitz und Umgebung. *Ornith. Jahrb.* v, pp. 254-266.
- EISMOND, O. P. Zamyechaniya k voprosu o ghastrulyatzi u Ptitz. (Quelques remarques complémentaires concernant la gastrulation chez les oiseaux.) *Protok. Obshch. Varshav.* 1893-94, No. 6, pp. 15 & 16.
- ELLIOT, D. G. The life and services of J. J. Audubon. *Tr. N. York Ac.* xiii, 43 pp.
- EMIN PASHA. Obituary. *Ibis*, 1894, pp. 142-147.
- ERLANGER, C. VON, & SPATZ, P. W. H. Reisenotizen aus Tunis. *Ornith. Monber.* ii, pp. 1-3.
- EVANS, A. H. [See WILSON, S. B., & EVANS, A. H.]
- FATIO, V., & STUDER, TH. Catalogue des oiseaux de la Suisse, élaboré par ordre du département fédéral de l'industrie et de l'agriculture (division des forêts). II^e Livraison. Hiboux [*Strigiformes*, p. 33] et Fissirostres. Berne: 8vo, 1894, pp. 109-210.
 [*Caprimulgi*, p. 35; *Cypseli*, p. 35; *Hirundinidæ*, p. 53.]
- FÉRÉ, C. Note sur l'épilepsie hémiplegique chez les oiseaux. *C.R. Soc. Biol.* (x) i, p. 837.

- FERRANT, V. Nutzen und Schaden der einheimischen Vogelwelt. Fauna, 1892, No. 3, pp. 37-43, No. 4, pp. 51-56; 1893, No. 1, pp. 10-13, No. 4, pp. 52-56; 1894, No. 2, pp. 24-28, No. 3, pp. 42-44, No. 7, pp. 103-110.
- FESTA, E. Viaggio in Palestina nel Libano e regioni vicine. Uccelli. Boll. Mus. Torino, ix, No. 174, pp. 1-10.
[*Fringillidæ*, p. 43; *Alaudidæ*, p. 44.]
- FIELD, G. W. Notes on the birds of Port Henderson, Jamaica, West Indies. Auk, xi, pp. 117-127.
- FIELD, H. C. The date of the extinction of the Moa. Tr. N. Z. Inst. xxvi, pp. 560-568.
- FINN, FRANK. The significance of the bird's foot. Nat. Sci. iv, pp. 453-456; *op. cit.* v, pp. 10, 159, 210 & 211. [See LUCAS, F. A., *t. c.* pp. 208-210, P. C. MITCHELL, *t. c.* pp. 211-213.]
- FIORI, A. Alcuni casi di melanismo in due specie di uccelli. Atti Soc. Modena (3) xiii, Fasc. 1, pp. 87-92.
- FLECK, E. Das Vogelleben Deutsch-Sudwestafrikas und dessen Schau- platz. J. Ornithol. 1894, pp. 290-347 & 353-415, Taf. iii.
[*Cuculi*, p. 37.]
- FLOERICKE, C. Ornithologische Berichte von der Kurischen Nehrung. i. T. c. pp. 136-155.
- FLOWER, SIR W. H. On a collection arranged to illustrate the general characters of the eggs of birds. Ibis, 1894, pp. 351-361.
- FRISTEDT, C. List of birds from Northern Australia, New Zealand, Southern Pacific and Southern Atlantic oceans. Ovf. Ak. Forh. 1894, pp. 325-331.
- FRITZE, A. Die Fauna der Liu-Kiu Insel, Okinawa. Zool. Jahrb. vii, pp. 852-926. [*Aves*, pp. 855-859.]
- FÜRBRINGER, M. [See HELM, F., & FÜRBRINGER, M.]
- GABRIEL, J. Report of expedition to the Furneaux group. Victorian Natural x, pp. 167-178, cum tab., with map.
- GADOW, H. Dr. H. G. Bronn's Klassen und Ordnungen des Thier-Reichs. Band. VI., Abtheilung IV. *Aves* II. Systematischer Theil. 8vo, 303 pp.
— [See also NEWTON, A.]
- GARMAN, H. A preliminary list of the vertebrate animals of Kentucky. Bull. Essex Inst. xxvi, pp. 7-33.
- GHYMES, KARL FORGÁCH VON, & MIDDENDORF, ERNST VON. Eine vergleichende Bearbeitung der Frühjahrs-Ankunfts-Datenreihen. Aquila, i, pp. 106-123.

- GIACOMINI, E. Sur le mécanisme de réception du sac vitellin dans la cavité abdominale des oiseaux, comparé à celui des reptiles. Arch. Ital. Biol. xxi, Fasc. i, pp. 154 & 155.
- GODMAN, F. D. [See SALVIN, O., & GODMAN, F. D.]
- GOELDI, E. A. Monographias Brasilieras. II. As Aves do Brazil. I. Parte. Rio de Janeiro: 1894, 12mo, 311 pp.
- . On the nesting of *Phibalura flavirostris* and *Lochmias nematura*. Ibis, 1894, pp. 484-494.
[*Cotingidæ*, p. 54; *Dendrocolaptidæ*, p. 55.]
- GOODCHILD, J. G. Supplementary observations on the cubital coverts of the *Euornithes*. P. Phys. Soc. Edinb. xii, pp. 171-181.
- GRANDIDIER, A. [See MILNE-EDWARDS, A.]
- GRANGER, A. Catalogue des oiseaux exotiques de volière avec indication de leurs dénominations vulgaires et de leurs noms scientifiques. Bull. Soc. Beziers, xvi, pp. 1-35.
- GRANT, W. R. [See OGILVIE-GRANT.]
- GURNEY, J. H. On the partial assumption by female birds of male plumage. Zoologist, 1894, pp. 15-18.
- . Ornithological notes from Norfolk. *T. c.* pp. 83-90.
- HALL, R. Notes on the swimming birds of Australia. Victorian Natural. xi, pp. 35-44.
- HAMILTON, A. Result of a further exploration of the bone-fissure at the Castle Rocks, Southland. Tr. N. Zealand Inst. xxvi, pp. 226-229, pls. xxiii & xxiv.
- . Materials for a bibliography of the *Dinornithidæ*, the great extinct birds of New Zealand, usually called Moas. *T. c.* pp. 229-257.
- HANCOCK, J. L. Ornithophilous pollination. Amer. Natural. xxviii, pp. 679-683, pl. xxii.
- HARTERT, E. List of the first collection of birds from the Natuna Islands. Nov. Zool. i, pp. 469-483.
[*Timeliidæ*, p. 51; *Campophagidæ*, p. 52; *Muscicapidæ*, p. 53.]
- . On little-known and undescribed eggs from the Kakurnoor. *T. c.* pp. 669-673.
- . Wie hält der fliegende Raubvogel seine Beine? Ornith. Monber. ii, pp. 5 & 6.
- HARTERT, E., & HARTERT, C. On a collection of Humming Birds from Ecuador and Mexico. Nov. Zool. i, pp. 43-64, pl. iv.
- HARTLAUB, G. Ueber die Gätke'sche Vogelsammlung. Ornith. Monber. ii, pp. 143-145.
- HEADLEY, F. W. Wind and flight. Nat. Sci. iv, pp. 344-346.
- HEINE, FERD. Obituary. Ibis, 1894, p. 459.

- HELM, F., & FÜRBRINGER, M. Untersuchungen zur Morphologie und Systematik der Vögel; zugleich ein Beitrag zur Anatomie der Stütz- und Bewegungsorgane. Biol. Centralbl. xiv, pp. 399-408, 434-443, 593-598, & 647-651.
- HENNICKE, C. R. Ein Beitrag zur Avifauna der Umgebung von Leipzig. Ornith. Jahrb. v, pp. 121-132 & 189-196.
- . [See also LIEBE, K. TH.]
- HERMAN, OTTO. Aquila. A Magyar ornithologiai Központ Folyóirata. Jahrg. I. Budapest: 1894, 8vo, 188 pp., tab. i.
- . Ernst von Middendorff's Daten und Serien über den Zug der Vögel. Aquila, i, pp. 28-36.
- . In memoriam, Samuel Fenichel. T. c. pp. 69-71.
- . [See also BLASIUS, R.]
- HINXMAN, L. W. Report on the movements and occurrence of birds in Scotland during 1893. Ann. Scott. Nat. Hist. iii, pp. 146-153 & 212-224.
- HINXMAN, L. W., & CLARKE, W. E. A contribution to the vertebrate fauna of West Ross-shire. P. Phys. Soc. Edinb. xii, pp. 395-414. [Aves.]
- HIROTA, S. On the sero-amniotic connection and the foetal membranes in the chick. J. Coll. Japan, vi, pp. 337-369, pls. xv-xvii.
- HÖHNEL, LUDWIG VON. Discovery of Lakes Rudolf and Stefanie, a narrative of Count Samuel Teleki's exploring and hunting expedition in Eastern Equatorial Africa in 1887 and 1888. Translated by Nancy Bell (N. d'Anvers). London: 1893, 2 vols.
- HOWES, G. B., & HILL, J. P. On the pedal skeleton of the Dorking fowl, with remarks on hexadactylism and phalangeal variation in the amniota. J. Anat. xxvi, pp. 397-403.
- HUDSON, W. H. Lost british birds. Redhill, Surrey: 1894, 32 pp.
- JENTINK, F. A. Catalogue systematique de la collection de feu J. P. Van Wickevoort Crommelin. [Mus. Pays Bas, vol. xiv.] Leide: 1894, 8vo, pp. ix, 94.
- JOHANSEN, H. Die Vogelwelt des Gouvernements Twer. Ornith. Jahrb. v, pp. 1-13.
- JOUY, P. L. Notes on birds of Central Mexico, with descriptions of forms believed to be new. P. U. S. Mus. xvi, pp. 771-791.
- [*Turdidae*, p. 50, *Paridae*, p. 48, *Fringillidae*, p. 43.]
- *KELSALL, H. J., & RIDLEY, H. N. Account of a trip up the Pahang, Tencheling, and Tahan rivers, and an attempt to reach Ganong Tahan. J. Straits Asiatic Soc. xxv, pp. 33, &c. (1894).
- KEMPEN, C. VAN. Mammifères et oiseaux présentant des variétés de coloration, des cas d'hybridité, ou des anomalies. Bull. Soc. zool. France, xix, pp. 76-85.

- KIRK, T. W. Brief ornithological notes. Tr. N. Zealand Inst. (2) ix, p. 181.
- KLEINSCHMIDT, O. Ein weiterer Beitrag zur Ornithologie des Grossherzogtums Hessen. J. Ornith. 1894, pp. 117-130.
- KNOWLTON, F. H. [See RICHMOND, C. W., & KNOWLTON, F. H.]
- KOSMARK, G. W. The comparative anatomy of the vertebrate skin. J. N. York Micr. Soc. x [birds], pp. 48 & 49, pl. xliii, fig. 3.
- LABROUSSE, CH. Une règle du vol des oiseaux. C.R. Soc. Biol. (x) i, p. 189.
- LAST, J. T. On the bones of the *Æpyornis*, and on the localities and conditions in which they are found. P. Zool. Soc. London, 1894, pp. 123-129.
- LATASTE, F. Liste des oiseaux recueillis par M. le Docteur Federico Delfin dans le détroit de Magellan et environs, et offerts par lui au Musée Zoologique de l'École de médecine de Santiago. Act. Soc. Chili, iii, pp. cxxi-cxxiii.
- . Recherches de zoéthique sur les pigeons. T. c. p. cxxxiii.
- . [See also WAUGH, E., & LATASTE, F.]
- LE SOUËF, D. A trip to North Queensland. Victorian Natural. xi, pp. 3-29.
- . Description of some Australian birds' eggs and nests collected at Bloomfield, near Cooktown, Queensland. P. Soc. Victoria, 1894, pp. 19-24.
- LEWIS, H. Notes on birds observed in Hertfordshire during the year 1893. Tr. Hertfordsh. Soc. viii, pp. 49-56.
- LEVERKÜHN, P. Ueber das Brutgeschäft der Crotophagiden. Unter Benutzung der Reihardt'schen Arbeit. J. Ornith. 1894, pp. 44-80.
- . [See also ARRIGONI DEGLI ODDI & LEVERKÜHN.]
- LIEBE, K. TH. Obituary. C. R. Hennicke, Ornith. Jahrb. v, pp. 175-188.
- LILFORD [LORD]. Notes on the ornithology of Northamptonshire and its neighbourhood for 1893. J. Northampt. Soc. 1894, pp. 53-63 : Zoologist, 1894, pp. 210-221.
- . Coloured figures of the birds of the British Islands. Pts. xxviii & xxix. [Cf. Zool. Rec. xxx, *Aves*, p. 8.]
The species figured are mentioned under their respective families.
- LÖNNBERG, E. Kurze Notizen über die höhere Fauna Floridas. Ofv. Ak. Forh. 1894, Stockh. Vogel, pp. 103-107.
- LOOMIS, I. M. A further review of the avian fauna of Chester County, South Carolina. Auk, xi, pp. 26-38 & 94-117.

- LORENZ, TH. Wiederum einiges über Rackelwild und Hahnenfedrigkeit. J. Ornith. 1894, pp. 416-425.
- . Die Vögel des Moskauer Gouvernements. Bull. Soc. Moscou, 1894, pp. 325-350.
- LOVE, W. P. A list of the birds of the Wet Mountains, Huerfano County, Colorado. Auk, xi, pp. 266-270.
- LUCAS, F. A. Notes on the anatomy and affinities of the *Cærebidae* and other American birds. P. U. S. Mus. xvii, pp. 299-312.
[*Cærebidae*, p. 42; *Drepanidae*, p. 42; *Mniotiltidae*, p. 45; *Turdidae*, p. 50; *Ampelidae*, p. 49.]
- . The tongue of the Cape May Warbler. Auk, xi, pp. 141-144.
- . The bird's foot. Nat. Sci. v, pp. 208-210.
- . Note on the air-sacs and hollow-bones of birds. *Op. cit.* iv, pp. 36 & 37.
- LYDEKKER, R. Los Pajaros misteriosos de la Patagonia. Revist. Mus. La Plata, vi, pp. 103-107.
[*Rheiformes*, p. 21.]
- . [See also NEWTON, A.]
- MCALDOWIE, A. M. The birds of Staffordshire. N. Staffordshire Nat. Field Club, xxvii, part 2, pp. 1-151.
- McGILWRAITH, T. The birds of Ontario. 2nd Edition. Toronto: 1894, 8vo, x & 426 pp.
- MACKAY, G. H. Notes on certain water birds in Massachusetts. Auk, xi, pp. 223-228.
- MACKRURY, J. The birds of the Island of Barra. Ann. Scott. Nat. Hist. iii, pp. 140-145 & 203-211.
- MADARASZ, J. VON. Samuel Fenichel's Ornithologische Ergebnisse aus dem Finisterre Gebirge in Neu-Guinea (1892-93). Aquila, i, pp. 72-106, tab. i.
[*Muscicapidae*, p. 52; *Ploceidae*, p. 41.]
- MARSH, O. C. A gigantic bird from the Eocene of New Jersey. Amer. J. Sci. xlviii, p. 344.
- MARSHALL, W. *Alca impennis*. Zeitschr. Naturw. 1894, pp. 284-287.
- MARTIN, L. A Madár-repülés általános elmélete. (Allgemeine Theorie des Vögelfluges.) Orv. Term. Ert. Erdel. Mus. xvii, pp. 137-152, 315-327, 349-370, & 375-386.
- MATHEW, M. A. The birds of Pembrokeshire and its islands. London: 1894, 8vo, lii, 131 pp.
- MENZBIER, M., [& SEVERTZOW, DR. N. A.]. Ornithologie du Turkestan et des pays adjacents (partie N. O. de Mongolie, steppes Kirghiz, contré Aralo-Caspienne, partie supérieure du bassin d'Oxus, Pamir). Livr. 4. Moscou: 1894, 4to, pls. viii-ixa.
[*Accipitriformes*, p. 31; *Striges*, p. 33.]

- MEYER, A. B. Neue Vogel aus dem Ostindischen Archipel. Abh. Mus. Dresd. 1894-95, No. 2, pp. 1-4, taf.
 [*Eulabetidae*, p. 40; *Psittaci*, p. 38; *Halcyones*, p. 34; *Paradiseidae*, p. 40.]
- . Beschreibung einiger neuer Vögel aus dem Ostindischen Archipel. J. Ornith. 1894, pp. 89-93.
 [*Accipitriformes*, p. 33; *Muscicapidae*, p. 53; *Laniidae*, p. 49; *Dicaeidae*, p. 47; *Columbiformes*, p. 24.]
- MEYER, A. B., & WIGLESWORTH, L. W. Ueber eine erste Sammlung von Vögeln aus den Talaut Inseln. T. c. pp. 237-253.
 [*Loriidae*, p. 37; *Muscicapidae*, p. 53; *Nectariniidae*, p. 46; *Pittidae*, p. 54; *Oriolidae*, p. 41; *Columbiformes*, p. 24.]
- & ——. Beschreibung einiger neuen Vögel der Célébes Region. T. c. pp. 113-116.
 [*Psittacidae*, p. 37; *Zosteropidae*, p. 47; *Pelargiformes*, p. 29; *Procellariiformes*, p. 26.]
- & ——. Neue Vögel von Celebes. Abh. Mus. Dresd. 1894-95, No. 4, pp. 1-3.
 [*Timeliidae*, p. 51; *Laniidae*, p. 48; *Nectariniidae*, p. 46; *Ardeae*, p. 30.]
- MIDDENDORFF, A. TH. VON. Obituary. Ibis, 1894, p. 458. Ornith. Jahrb. v, pp. 221-233.
- MIDDENDORFF, E. VON. [See GHYMES, KARL FORGÁCH VON, & MIDDENDORFF, VON.]
- MILLAIS, J. G. Game birds and shooting sketches: illustrating the habits, modes of capture, stages of plumage, and the hybrids and varieties which occur amongst them. 2nd Edition. London: 1894, 8vo, xiv & 185 pp.
- MILNE-EDWARDS, A. Recherches sur la Faune ornithologique éteinte des Iles Mascareignes et de Madagascar. [Reprint from Ann. Sci. Nat. 1866-73.] Paris: 1894, 4to.
- MITCHELL, P. C. The bird's foot. Nat. Sci. v, pp. 211-213.
 —— [See also BEDDARD, F. E., & MITCHELL, P. C.]
- MORGAN, C. L. Instinct and intelligence in chicks and ducklings. Nat. Sci. iv, pp. 207-213.
- MÜLLENHOFF, K. Ueber das Schweben und Kreisen der Vögel. J. Ornith. 1894, pp. 426-442.
- MUNN, P. W. On the Birds of the Calcutta District. Ibis, 1894, pp. 39-77.
 [*Turnicidae*, p. 24; *Halcyones*, p. 34.]
- NEHRKORN, A. Zur Avifauna Batjan's. J. Ornith. 1894, pp. 156-161.
- NELSON, E. W., & PALMER, T. S. Descriptions of five new birds from Mexico. Auk, xi, pp. 39-45.
 [*Bubonidae*, p. 33; *Fringillidae*, p. 44; *Sittidae*, p. 45.]

- NEWSTEAD, R. The Herons and Heronries of Cheshire and North Wales. Pr. Chester Soc. iv, pp. 226-233.
- NEWTON, A. A Dictionary of birds. Assisted by Hans Gadow; with contributions from R. Lydekker, C. S. Roy, and R. W. Shufeldt. Part III. London: 1894, 8vo, pp. 577-832.
- NICHOLSON, H. A. Text book of Zoology. 5th Edition. Re-written and enlarged. Edinburgh and London: 1894, 8vo, pp. —.
- NUTTING, C. C. Narrative of preliminary report of Bahama expedition. Bull. Lab. Iowa, iii, 250 pp.
- OATES, E. W. On some birds collected on Byingyi mountain, Shan States, Burma. Ibis, 1894, pp. 478-484, pl. xiii.
[*Timeliidae*, p. 51.]
- OGILVIE-GRANT, W. R. On the birds of the Philippine islands. Part I. Mount Arajat, Central Luzon. With field notes by John Whitehead. *T. c.* pp. 406-411.
- Part II. The highlands of North Luzon, 5000 feet. *T. c.* pp. 501-522, pls. xiv & xv.
[*Muscicapidae*, p. 53; *Sylviidae*, p. 49; *Caprimulgi*, p. 35.]
- OLSSON, P. H. Några anmärkningsvärda fogelfynd i Kimito. Medd. Soc. Faun. Fenn. xx, p. 11.
- ORD, G. [A reprint of the] North American Zoology. New Jersey: 1894, 8vo, x & 361 pp.; with an appendix by Samuel S. Rhoads, 90 pp.
- OSMASTON, B. B. Notes on the nidification of certain birds, the nests of which have not been previously recorded, in India. J. Bombay Soc. ix, pp. 190-192.
[*Motacillidae*, p. 45; *Turdidae*, p. 50; *Muscicapidae*, p. 53.]
- OUSTALET, M. E. Catalogue des oiseaux provenant du voyage de M. Bonvalot et du Prince Henri d'Orléans. N. Arch. Mus. Paris (3) vi, 120 pp.
- PALMER, T. S. [See NELSON, E. W., & PALMER, T. S.]
- PARMENTIER, P. Ornithologie de la Franche-Comté. C.R. Ass. Franc. xxii, pt. ii, pp. 601-607.
- PARKER, J. F. Notes on three Moa-skulls, probably referable to the genus *Pachyornis*. Tr. N. Zealand Inst. xxvi, pp. 223-225.
- PEARSON, H. G. Some of the common british birds. Barrow Nat. Field Club, ix, pp. 51-53.
- PEARSON, H. J., & BIDWELL, E. On a birds'-nesting excursion to the North of Norway in 1893. Ibis, 1894, pp. 226-238.
[*Sylviidae*, p. 49.]

- PLAYNE, H. C. Ornithological notes from France. *Zoologist*, 1894, pp. 309-311.
- PLESKE, T. Nauchnue Rezultatui puteschestvii N. M. Przhevalskag o potzentralnoi Aziil (Wissenschaftliche Resultate der von N. M. Przewalski nach Central-asien unternommenden Reisen). St. Petersburg: 1894, 4to, Zoological portion, vol. ii, *Aves*, pp. 145-192, pls. viii & ix. [See *Zool. Rec.* xxviii, *Aves*, p. 21.]
 [*Paridae*, p. 47; *Sittidae*, p. 45.]
- PRAZAK, J. P. Zur Ornithologie Nord-ost-Böhmens. *Ornith. Jahrb.* v, pp. 41-77 & 81-108.
 [*Paridae*, p. 47.]
- PRENTIS, W. Notes on the birds of Rainham, including the district between Chatham and Sittingbourne. London: 1894, 8vo, 92 pp.
- PYCRAFT, W. P. The wing of the *Archæopteryx*. Part 1, *Nat. Sci.* v, pp. 350-360, pls. i-iii; part 2, *t. c.* pp. 437-448, pl. iv.
- RALFE, P. Sea-bird colonies in the Isle of Man. *Zoologist*, 1894, pp. 386-394.
- RAMSAY, E. P. Catalogue of birds in the Australian Museum at Sydney, N. S. W. Part IV. *Halcyones*. Sydney: 1894, 8vo, 24 pp.
- RAWLINGS, F. C. A list of birds observed in the district of Barmouth. *Zoologist*, 1894, pp. 328-335.
- READ, R. H. Ornithological notes and excursions in 1893. *Rep. Ealing Soc.* 1893, pp. 43-47.
- Ornithological records in North-west Staffordshire, with special reference to the Aston district. *Rep. North Staffordshire Club*, xxviii, pp. 45-59.
- REICHENOW, A. Liste der Vögel, in Semon R. Zoologische Forschungsreisen in Australien und dem Malayischen Archipel. *Denk. Ges. Jena*, pp. 147 & 148.
- Die Vögel Deutsch. Ost-Afrikas. Berlin: 1894, 8vo, 251 pp.
 [With coloured figures and woodcuts in text.]
- Zur Vogelfauna von Kamerun. *J. Ornith.* 1894, pp. 29-43.
 [*Laniidae*, p. 48; *Ploceidae*, p. 41.]
- Bruchstücke aus Emin Pascha's letztem Tagebuch. *T. c.* pp. 162-171.
- Bibliographia ornithologiæ æthiopicæ. *T. c.* pp. 172-226.
- Ueber Vögel aus Togoland. *Ornith. Monber.* ii, p. 112.
- Vögel von Togoland. *T. c.* pp. 146 & 147.
- Ueber afrikanische Nashörnvogel. *J. Ornith.* 1894, pp. 94-96.
- Neue Arten aus Kamerun. *T. c.* pp. 125 & 126.
 [*Accipitrinae*, p. 32; *Laniidae*, p. 48; *Sylviidae*, p. 49; *Capitones*, p. 38.]

- REISER, O. Materialien zu einer Ornithologia Balcanica. 1. Bosnien und die Hercegovina. Wissenschaftl. Mitth. 1894, pp. 662-688.
- RHOADS, S. S. [See ORD, G.]
- RICHMOND, C. W., & KNOWLTON, F. H. Birds of South-central Montana. Auk, xi, pp. 298-308.
- RICKETT, C. B. On some birds collected in the vicinity of Foochow. Ibis, 1894, pp. 215-226.
- RIDGWAY, R. Description of some new birds from Aldabra, Assumption, and Gloriosa Islands, collected by Dr. W. L. Abbott. P. U. S. Mus. xvii, pp. —.
[*Zosteropida*, p. 47; *Nectariniida*, p. 46; *Cuculi*, p. 37; *Caprimulgi*, p. 35.]
- . Descriptions of twenty-two new species of birds from the Galapagos Islands. T. c. pp. 357-370.
[*Mimida*, p. 51; *Mniotiltida*, p. 45; *Fringillida*, p. 42; *Tyrannida*, p. 54.]
- RIDLEY, HENRY N. [See KELSALL, H. J., & RIDLEY, N.]
- RIGGIO, G., & DE STEFANI, T. Appunti e note di ornitologia Siciliana. I. Nat. Sicil. xiv, pp. 1-13; II, pp. 29-39.
- RITZEMA, BOS J. Agricultural zoology. With an introduction by Miss E. A. ORMEROD. Translated by J. R. AINSWORTH DAVIS. London: 1894, xx & 256 pp.
- ROBBECKE, E. Ueber Albinismus und Farbenveränderungen der Vögel. Ber. Annaberg Ver. ix, pp. 81-91, cum tab.
- ROEBUCK, W. D. Bibliography of birds. Naturalist, 1894, pp. 177-199.
- ROTHSCHILD, W. First glimpses of the zoology of the Natuna Islands. I. Introduction. Nov. Zool. i, pp. 467-468. [See HARTERT, E., p. 8.]
- . On Albino Swallows and Wheatears. T. c. p. 667.
- ROY, C. S. [See NEWTON, A.]
- RUZSKIĪ, M. Ornithologicheskaya nablyudeniya v Simbirskoi gubernii. (Recherches ornithologiques dans le gouvernement Simbirsk.) Pp. 15. Protok. Kazan. Univ. 1893-94, Suppt., No. 142.
- RZEHA, E. C. F. Einige lokale Seltenheiten der österr.-schles. Ornith. im Troppaner Gymnasial-Museum. Ornith. Jahrb. v, pp. 21-24.
- SAINT-REMY, G. Sur les relations de la corde dorsale et de l'hypophyse chez les oiseaux. C.R. cxviii, pp. 1283-1285.
- SALVADORI, T. Viaggio di Lamberto Loria nella Papuasias orientales. XII. Caratteri di cinque specie nuove di uccelli della Nuova Guinea orientale-meridionale. Ann. Mus. Genova (2) xiv, pp. 150-152.
[*Dicida*, p. 47; *Meliphagida*, p. 46; *Sylviida*, p. 49; *Paradisida*, p. 40; *Phasianida*, p. 23.]

- [SALVADORI, T.] Viaggio del Dr. Elia Modigliani nelle Isole Mentawai.
T. c. pp. 588-601.
 [Cuculi, p. 37; *Campophagidæ*, p. 52; *Dicruridæ*, p. 41.]
- . Uccelli nel Somali raccolti da D. Eugenio dei Principi Ruspoli.
 Mem. Acc. Torino (2) xlv, pp. 547, &c.
 [Capitones, p. 38; *Ploceidæ*, p. 41; *Eulabetidæ*, p. 40.]
- SALVIN, O., & GODMAN, F. D. *Biologia Centrali-Americana*; or, contributions to the knowledge of the Fauna and Flora of Mexico and Central America. London: 1894, 4to, *Aves*, vol. ii, pts. cxviii & cxix, pp. 377-490, pls. lviii, lviii, lviii.
- [*Cypseli*, p. 35; *Caprimulgi*, p. 35.]
- SCHALOW, H. Beiträge zur Oologie der recenten Ratiten. *J. Ornith.* 1894, pp. 1-26.
- . Darf die Erforschung der deutschen Vogelwelt als abgeschlossen betrachtet werden? *T. c.* pp. 270-279.
- . Emin Pascha's Ornithologische Arbeit. *Ornith. Monber.* ii, pp. 69-74.
- SCHMITZ, E. Tagebuchnotizen aus Madeira. *T. c.* pp. 35-39.
- SCHOLLMAYER, —. Beiträge zur Ornithologie Krains. *Ornith. Jahrb.* v, pp. 133-141.
- SCHRENK, L. VON. Obituary. *Ibis*, 1894, p. 459.
- SCHWEDER, G. Die Wirbeltiere der Baltischen Gouvernements. KB. Ver. Riga, xxxvii, Vögel, pp. 6-26.
- SCLATER, P. L. Chairman's Address on opening the third session of the British Ornithologists' Club, 1894. *Bull. B. O. C.* pp. 1-6.
- . Ornithology at Munich, Stuttgart, Darmstadt, Frankfort, and Cassel. *Ibis*, 1894, pp. 106-108.
- . Notes on the birds of Antarctica. *T. c.* pp. 494-501.
- . [See also APLIN, O. V.]
- SEEBOHM, H. On the Chinese species of the genus *Suthora*. *Ibis*, 1894, pp. 338 & 339.
- SEMON, R. [See REICHENOW, A.]
- SEOANE, V. L. *Aves nuevas de Galicia*. 8vo, La Coruña, 1870 [!], pp. 1-9 & 11.
 [*Pici*, p. 38.] Cf. C. D. SHERBORNE, *Ann. & Mag. Nat. Hist.* (6) xiv, pp. 154 & 155.
- . Revision del catalogo de los Aves de Andalucia. 8vo, La Coruña, 1870 [!], 18 pp.
- SHARPE, R. BOWDLER. *A handbook to the birds of Great Britain*. London: 1894, 8vo, xii & 1-342 pp., i-xxxii pls.

- [SHARPE, R. BOWDLER.] Catalogue of the *Fulicariæ* and *Alectorides* in the collection of the British Museum. Catalogue of Birds, xxiii, 1894, 8vo, pp. xiii & 354, pls. i-ix.
- List of birds from Damima Island, East Indian Archipelago. Ann. Nat. Hist. (6) xiv, pp. 56-58.
[*Zosteropidæ*, p. 47.]
- List of the species of Birds of Paradise. Bull. Ornith. Club, No. xxii, pp. xii-xiv.
- On a collection of birds sent by Mr. Alfred H. Everett from the Sulu Archipelago. Ibis, 1894, pp. 238-259, pls. vi & vii.
[*Psittacida*, p. 37; *Dicæidæ*, p. 47.]
- Bornean notes. No. II. [Zool. Rec. xxx, *Aves*, p. 15.] Ibis, 1894, pp. 421 & 422.
- viii. Additional list of birds from Mt. Kälulöng. *Ibid.*
[*Timeliidæ*, p. 51; *Trogones*, p. 36.]
- Bornean notes. No. III. *T. c.* pp. 538-546.
- Further additions to the avifauna of Mt. Kina Balu. *T. c.* pp. 538-540.
[*Galliformes*, p. 23.]
- Notes on birds collected in Northern Borneo, by Mr. A. H. Everett. *T. c.* pp. 540-542.
[*Muscicapidæ*, p. 52.]
- On a collection of birds from Mt. Mulu in Sarawak. *T. c.* pp. 542-544.
- Additions to the avifauna of Mount Dulit. *T. c.* pp. 545 & 546.
[*Falconidæ*, p. 32.]
- SHARPE, R. BOWDLER, & WYATT, C. W. A monograph of the *Hirundinidæ*, or family of Swallows, pts. xviii-xx.
- SHELLEY, G. E. Second list of birds collected by Mr. Alexander Whyte in Nyasaland. [Of. Zool. Rec. xxx, *Aves*, p. 15.] Ibis, 1894, pp. 1-28, pls. i & ii.
[*Phasianidæ*, p. 23; *Indicatores*, p. 38; *Ploceidæ*, p. 41; *Laniidæ*, p. 48; *Sylviidæ*, p. 50; *Pycnonotidæ*, p. 52.]
- Third list of the birds collected by Mr. Alexander Whyte in Nyasaland. *T. c.* pp. 461-478, pl. xii.
[*Psittacidæ*, p. 38.]
- SHERBORN, C. D. The ornithological writings of Victor Lopez Seoane. Ann. Nat. Hist. (6) xiv, pp. 154 & 155.
- *SHORT, E. H. Birds of Western New York, with notes. Chili, New York: 1893, 8vo, 13 pp.
- SHUFELDT, R. W. Scientific taxidermy for museums (based on a study of the U. S. Government collections). Rep. U. S. Mus. 1892, pp. 369-436, pls. xv-xcvi.
1894. [VOL. XXXI.]

- [SHUFELDT, R. W.] Comparative oology of North American birds. Rep. U. S. Mus. 1892, pp. 461-493.
- On the osteology of certain Crakes, Rails, and their allies, with remarks on their affinities. *J. Anat. Physiol.* xxix, pp. 21-34.
- On the affinities of the *Steganopodes*. *P. Zool. Soc. London*, 1894, pp. 160-162, 250, 251, & 608.
- Notes on the *Steganopodes* and on fossil birds' eggs. *Auk*, xi, pp. 337-339.
- Notes on photographing a live specimen of Gambel's Partridge. *T. c.* pp. 128-136.
- Random notes on some of the parasites of birds. *T. c.* pp. 186-189.
- On cases of complete fibulæ in existing birds. *Ibis*, 1894, pp. 361-367.
- On the taxonomy of the Swifts and Humming Birds. A rejoinder. *T. c.* pp. 32-39.
- SHUFELDT, R. W., & AUDUBON, M. R. The last portrait of Audubon, together with a letter to his son. *Auk*, xi, pp. 309-313.
- SLATER, H. H. [See RICKETT, C. B.]
- SPATZ, P. W. H. [See ERLANGER, C. VON, & SPATZ, P. W. H.]
- STEERE, J. B. On the distribution of genera and species of non-migratory land birds in the Philippines. *Ibis*, 1894, pp. 411-419; *Auk*, xi, pp. 231-240.
- STOLZMANN, J. [See BERLEPSCH, H. VON, & STOLZMANN, J.]
- STONE, W. Summer birds of the Pine barrens of New Jersey. *Auk* xi, pp. 133-140.
- A review of the Old World *Rallinæ*. *P. Ac. Philad.* 1894, pp. 130-149.
- A revision of the genus *Anous*. *T. c.* pp. 115-118.
- STUDER, TH. [See FATIO, V., & STUDER, TH.]
- STYAN, F. W. Notes on the ornithology of China. *Ibis*, 1894, pp. 329-338, pl. ix.
[*Pycnonotidæ*, p. 52.]
- TAIT, W. C. *Aves de Portugal*. *Ann. Sci. nat. Porto*, 1894, pp. 21-30, 67-64, 115-122, & 187-192.
- TRISTRAM, H. B. On some birds from Bogotu, Solomon Islands, and Santa Cruz. *Ibis*, 1894, pp. 28-31, pl. iii.
[*Corvidæ*, p. 39; *Zosteropidæ*, p. 47.]
- TROUSSERT, E. Note sur les Acariens parasites des fosses nasales des Oiseaux. *C.R. Soc. Biol. (x)* i, p. 723.

- TSCHUSI ZU SCHMIDHOFFEN, V. Ornithologische Collectaneen. Ornith. Monber. ii, pp. 137-143.
- . Meine bisherige literarische Thätigkeit, 1865-1893. Hallein : 1894, 8vo, 20 pp.
- . Ornithologisches aus Hallein (1891-1893). Ornith. Jahrb. v, pp. 196-202.
- USSHER, R. J. The birds of the County Cork. Cork : 1894, 4to, 23 pp.
- . Report on the breeding-range of birds in Ireland. P. Irish Ac. (3) iii, No. 3, pp. 401-414.
- VIL'KONSKIĬ, F. V. Otchet ob ornitologhicheskikh izslycdovaniyakh Kutaiskoĭ ghub. v 1893 gh. [Account of Ornithological investigations in the Kutais Government in 1893.] Bull. Soc. Moscou, 1893, No. 4, pp. 497-504.
- VOIGT, A. Die schriftliche Darstellung von Vogelstimmen. J. Ornith. 1894, pp. 81-88.
- VORDERMAN, A. G. Over eene collectie Vogels afkomstig van de Lampongs (Zuid-Sumatra). Natuurk. Tijdschr. Neederl. Ind. (8) xii, pp. 201-249.
- [*Timeliidæ*, p. 51.]
- . Java-Vogels. *T. c.* pp. 373-416.
- . Bijdrage tot de kennis der Avifauna van het Eiland Bawean. *T. c.* pp. 417-422.
- WALLACE, A. R. The Palearctic and Nearctic regions compared as regards the families and genera of their mammals and birds. Nat. Sci. iv. [Birds] pp. 438 & 439.
- WATSON, J. Ornithology in relation to agriculture and horticulture. London : 1894, post 8vo, viii & 220 pp.
- WAUGH, E., & LATASTE, F. Quelques jours de chasse à Peñafior durant les mois de janvier et de mars. Act. Soc. Chili, iii, pp. lxxxiii-lxxxix.
- WHITAKER, J. J. S. Notes on some Tunisian birds. Ibis, 1894, pp. 78-100.
- WHITEHEAD, J. [See OGILVIE-GRANT, W. R.]
- WHITLOCK, F. B. Bird notes from the Mid-Trent valley in 1893. Naturalist, 1894, pp. 1-6.
- WIGLESWORTH, L. W. [See MEYER, A. B.]
- [*Cypseli*, p. 35.]
- WICKMANN, H. Die Entstehung der Färbung der Vogelei. Münster : 1893, 93 pp.
- WILSON, S. B., & EVANS, A. H. Aves hawaiienses. The birds of the Sandwich Islands. Part v. 1894 : 4to.
- [*Drepanidæ*, p. 42 ; *Fringillidæ*, p. 43 ; *Ralliformes*, p. 25 ; *Scolopacidæ*, p. 28.]

WINGE, H. Fuglene ved de danske Fyr i 1892. Vid. Medd. 1893, pp. 21-77.

WITHERBY, H. F. Forest birds: their haunts and habits; short studies from nature. London: 1894, 12mo, 98 pp.

WOLVERTON [LORD]. Five months' sport in Somali-land. London: 1894, 8vo, 108 pp.

WORCESTER, D. O. [See BOURNS, F. S., & WORCESTER, D. C.]

WYATT, C. W. British birds: being coloured illustrations of all the species of Passerine birds resident in the British Isles, with some notes in reference to their plumage. London: 1894, folio.

— [See also SHARPE, R. BOWDLER, & WYATT, C. W.]

ZARUDNOÏ, N. Zamyetka o maloiz-vyestnom vîdye shcheghla (*Carduelis minor*, Zaroudnoi). [Observations on a little-known species of Goldfinch (*C. minor*).] Bull. Soc. Moscou, 1893, No. 4, pp. 505-507.

SPECIAL SUBJECTS.

II.—FAUNISTIC.

PALÆARCTIC REGION. See Berezowski, Bianchi, Collett, Dresser, Fatio, Festa, Jentink, Lilford, Menzbier, Pearson, Pleske, Prazak, Reiser, Seeböhm, Seoane, Sharpe, Studer, Tschusi, Wallace, Zaroudnoi.

ETHIOPIAN REGION. See Barboza du Bocage, Bendire, Reichenow, Ridgway, Shelley.

INDIAN REGION. See Baker, Blanford, Bourns, Clarke, Hartert, Munn, Oates, Ogilvie-Grant, Rickett, Rothschild, Salvadori, Seeböhm, Sharpe, Steere, Styan, Vorderman, Worcester.

AUSTRALIAN REGION. See Buller, Büttikofer, Campbell, De Vis, Evans, Le Souëf, Madarasz, Meyer, Ramsay, Salvadori, Sharpe, Tristram, Wigglesworth, Wilson.

NEARCTIC REGION. See Loomis.

Sixth Supplement to the American Ornithologists' Union check-list of North American Birds. Auk, xi, pp. 46-51.

Report on the present state of our knowledge of the Zoology and Botany of the West India Islands, and on taking steps to investigate ascertained deficiencies in the Fauna and Flora. Sixth Report of the Committee, consisting of Dr. P. L. Sclater (Chairman), Mr. George Murray (Secretary), Mr. W. Carruthers, Dr. A. C. L. G. Günther, Dr. D. Sharp, Mr. F. DuCane Godman, Professor A. Newton, and Dr. D. H. Scott. Rep. Brit. Ass. 1893, pp. 524 & 525.

NEOTROPICAL REGION. See Aplin, Berlepsch, Chapman, Cherrie, Godman, Goeldi, Jouy, Lataste, Nelson, Palmer, Richmond, Ridgway, Salvin, Sclater, Tristram.

III.—ANATOMY AND MISCELLANEOUS.

ANATOMY. See Beddard, Bollinger, Fürbringer, Gadow, Helm, Hirota, Howes, Kosmark, Lucas, Mitchell, Shufeldt.

OSTEOLOGY. See Finn, Lucas, Shufeldt.

OLOGY. See Bendire, Bidwell, Campbell, Osmaston, Shufeldt, Wickmann.

PTERYLOGRAPHY. See Goodchild, Gurney, Kempen, Lucas, Martin.

FOSSIL BIRDS. See Andrews, Field, Grandidier, Hamilton, Lydekker, Marsh, Milne-Edwards, Parker.

LITERATURE. See Newton (A.), Roebuck, Sherborn, Shufeldt.

A digest of the observations on the migration of birds at light-houses and light-vessels.—Report of a Committee, consisting of Professor A. Newton (Chairman), Mr. John Cordeaux (Secretary), Messrs. R. M. Barrington, J. A. Harvie-Brown, W. Eagle Clarke, and the Rev. E. P. Knubley. Rep. Brit. Ass. 1893, p. 524.

The Legislative Protection of wild birds' eggs.—Report of the Committee, consisting of Mr. Thomas Henry Thomas, R.C.A. (Chairman), Rev. Canon Tristram, D.D., LL.D., F.R.S., Professor Alfred Newton, F.R.S., Professor Adolph Leipner, F.Z.S., Professor Newton Parker, Ph.D., F.Z.S., and Dr. Charles Tanfield Vachell (Secretary). Rep. Brit. Ass. 1893, pp. 552 & 553.

IV.—SYSTEMATIC.

Subclass SAURURÆ.

Order ARCHÆOPTERYGES.

The wing of the *Archæopteryx*; W. P. PYCRAFT, pt. i, Nat. Sci. v, pp. 350-360, pls. i-iii; pt. ii, pp. 437-448, pl. iv.

Subclass RATITÆ.

Oology of recent *Ratitæ*; H. SCHALOW, J. Ornith. 1894, pp. 1-26.

Order RHEIFORMES.

Rhea nana, n. sp., Patagonia [founded on the egg]; R. LYDEKKER, Revist. Mus. La Plata, vi, pp. 103-107, cum tab.

Order ÆPYORNITHIFORMES.

On some remains of *Æpyornis* in the British Museum; C. ANDREWS, P. Zool. Soc. London, 1894, pp. 108-123, pls. xiv & xv.

On the bones of the *Æpyornis*, and on the localities and conditions in which they are found; J. F. LAST, P. Zool. Soc. London, 1894, pp. 123-129.

Æpyornis titan, n. sp., Madagascar ; C. W. ANDREWS, Geol. Mag. p. 303.
Æ. ingens, *Æ. lentus*, *Æ. muelleri*, n. spp., Madagascar, A. MILNE-EDWARDS & A. GRANDIDIER, C.R. Ac. Paris, cxviii, pp. 122-127.
Mullerornis, n. g., *M. betsilei*, *M. agilis*, *M. rudis*, n. spp., A. MILNE-EDWARDS & A. GRANDIDIER, *ibid.*

Order DINORNITHIFORMES.

Pachyornis: notes on the species from Enfield, near Oamaru ; T. J. PARKER, Tr. N. Zealand Inst. xxvi, pp. 24 & 25.
Anomalopteryx didiformis, sternum figured ; A. HAMILTON, t. c. pl. xxiv, figg. 1-3.

Order CASUARIIFORMES.

Dromæus novæ hollandiæ, an abnormal egg ; F. D. GODMAN, Bull. B. O. C. iii, p. xxiii.

GENUS INCERTÆ SEDIS ?

Barornis regens (fossil), from the Eocene of New Jersey ; O. C. MARSH, Amer. J. Sci. xlviii, p. 344.

Subclass CARINATÆ.

Order CRYPTURIFORMES.

Suborder TINAMI.

Tinamus blasiusi et *T. peruvianus*, notes on the type-specimens ; A. DUBOIS, Mem. Soc. zool. France, vii, p. 404.

Order GALLIFORMES.

Suborder CRACES.

Crua heeki, n. sp., patria ign. ; A. REICHENOW, J. Ornith. 1894, p. 231.

Suborder PHASIANI.

Game-birds and shooting, hybrids, &c., see MILLAIS, J. E.

Family TETRAONIDÆ.

See LORENZ, TH.

Lagopus scoticus, its changes of plumage ; W. R. OGILVIE-GRANT, Ann. Scott. Nat. Hist. iii, pp. 129-140, pls. v & vi : in Fife ; W. BERRY, t. c. pp. 197-203. *L. mutus*, in Lakeland ; H. A. MACPHERSON, Zoologist, 1894, pp. 326 & 327. *L. mutus* × *Bonasia betulina* ; E. ARRIGONI DEGLI ODDI, Atti Soc. Ital. xxxiv, Fasc. 3, pp. 271-280, tab. 4.

- Tetrao urogallus*, figured ; LILFORD, Col. Fig. Br. Birds, pt. xxviii. *T. urogallus thelyides*, figured ; A. B. MEYER, Abh. Mus. Dresden, 1894-95, No. 3, pp. 1-4, cum tab. *T. tetrix*, in Siebenbürgen ; J. VON CZATO, Aquila, i, p. 50.
- Tympanuchus americanus*, in Jackson County, Michigan ; L. W. WATKINS, Amer. Natural. xxviii, p. 934. *T. americanus atwateri*, notes on ; C. E. BENDIRE, Auk, xi, pp. 130-132.
- Bonasa umbellus*, its changes of plumage ; J. H. BOWLES, Science, 1894, p. 16 ; R. W. SHUFELDT, t. c. p. 48.

Family PHASIANIDÆ.

- Cucubis rufa hispanica*, n. subsp., Galicia ; L. V. SEOANE, Mem. Soc. zool. France, vii, p. 93.
- Perdix saxatilis*, var. *melanocephalus*, notes on ; V. FATIO, Bull. Soc. zool. France, xix, p. 74.
- Francolinus johnstoni*, n. sp., Nyasaland ; G. E. SHELLEY, Ibis, 1894, p. 24.
- Perdix cinerea charrola*, n. subsp., Galicia ; L. V. SEOANE, Mem. Soc. zool. France, vii, p. 94, = *P. hispaniensis*, Reichen., 1893. *P. cinerea* in Spain ; H. SAUNDERS, Ibis, 1894, pp. 575-577.
- Sterna cinerea*, with the following varieties, *S. cinerea* var. *robusta*, Moscow (p. 267), var. *sphagnetorum*, East Friesland (p. 268), var. *scanica*, S. Sweden (p. 268), var. *lucida*, East Prussia (p. 268), B. ARTUM, J. Ornith. 1894, pp. 254-269.
- Arboricola erythrophrys*, notes on ; R. B. SHARPE, Ibis, 1894, pp. 539 & 540.
- Hematorhtyx sanguinceps*, ♂ ♀ described and figured ; W. R. OGILVIE-GRANT, Ibis, 1894, pp. 374-378, pl. x.
- Coturnix communis*, in Elginshire ; J. A. HARVIE-BROWN, Ann. Scott. Nat. Hist. iii, p. 55 : breeding in Shetland ; J. FERRIER, t. c. p. 116.
- Synœcus plumbeus*, n. sp., S. E. New Guinea ; T. SALVADORI, Ann. Mus. Genova (2) xiv, p. 152.
- Gallus violaceus*, n. sp., ? Borneo ; H. J. KELSALL, J. Straits Asiat. Soc. xxiv, p. 167 (1891), xxv, p. 173.
- Numida papillosa*, n. sp., Damaraland ; A. REICHENOW, Ornith. Monber. ii, p. 145. *N. reichenowi*, n. sp., E. Africa ; W. R. OGILVIE-GRANT, Ibis, 1894, pp. 535-538. *N. papillosa* and *N. reichenowi*, heads figured ; E. FLECK, J. Ornith. 1894, p. 390.
- Eupsychortyx mocquerysi*, n. sp., Venezuela ; E. HARTERT, Bull. B. O. C. iii, p. xxxvii : figured, *id.*, Nov. Zool. i, pl. xv, fig. 2.
- Colinus virginianus cubanensis* does not occur in Florida ; R. RIDGWAY, Auk, ix, p. 324.
- Oreortyx pictus* and *O. plumiferus*, remarks on ; W. R. OGILVIE-GRANT, Ibis, 1894, pp. 570-572 : geographical v. sexual variation in ; R. RIDGWAY, Auk, xi, pp. 193-197, pl. vi.

Family TURNICIDÆ.

Turnix taigoor, pull. figured ; P. W. MUNN, *Ibis*, 1894, p. 75, fig. 3.

Order COLUMBIFORMES.

Suborder COLUMBÆ.

Family TRERONIDÆ.

- Osmotreron everetti*, n. sp., Sulu Is.; W. ROTHSCHILD, *Nov. Zool.* i, p. 11.
- Phabotreron cinereiceps*, Tawi Tawi, *P. brunneiceps*, Basilan, *P. maculipectus*, Negros, *P. frontalis*, Cebu, n. spp.; F. S. BOURNS & D. C. WORCESTER, *Occ. Pap. Minnes. Acad.* i, pp. 8-10.
- Ptilopus flavirictus orientalis*, n. subsp., S. E. New Guinea; A. B. MEYER, *J. Ornith.* 1894, p. 92. *P. bellus*, n. var. *orientalis*, Mt. Mancao, S. E. New Guinea; C. W. DE VIS, *Rep. Orn. Coll.* 1894, p. 6.
- Carpophaga intermedia*, n. sp., Talaut I.; A. B. MEYER & L. W. WIGLESWORTH, *J. Ornith.* 1894, pp. 249 & 250.
- Columba ænus*, on the extension of its distribution in Scotland; J. A. HARVIE-BROWN, *Ann. Scott. Nat. Hist.* iii, pp. 3-8: in Shetland; *id. t. c.* p. 55: in Forfarshire; T. F. DEWAR, *t. c.* p. 15: in West Ross-shire; E. S. MARSHALL, *t. c.* p. 115. *C. trocaz*, its nesting; E. SCHMITZ, *Ornith. Monber.* ii, pp. 190 & 191.
- Turturæna sharpii* [*Zool. Rec.* xxx, *Aves*, p. 23], figured; W. ROTHSCHILD, *Nov. Zool.* i, pl. iii.
- Ectopistes migratorius*, in Jackson County, Michigan; L. W. WATKINS, *Amer. Natural.* xxviii, p. 935.
- Turtur turtur arenicola*, n. subsp., Persian Gulf; E. HARTERT, *Nov. Zool.* i, p. 42. *T. communis*, figured; LORD LILFORD, *Col. Fig. Br. Birds*, pt. xxviii.
- Phlogoenas menagei*, n. sp., Tawi Tawi; F. S. BOURNS & D. C. WORCESTER, *Occ. Pap. Minnes. Acad.* i, p. 10.

Order RALLIFORMES.

- SHARPE, R. B. *Catalogue of the Fulicariæ (Rallidæ and Heliornithidæ) and Alectorides (Aramidæ, Eurypygidæ, Mesitidæ, Rhinochetidæ, Gruidæ, Psophiidæ, and Otididæ) in the collection of the British Museum (Vol. xxiii of the Catalogue of Birds)*, 8vo, 1894, xiii & 354 pp., 9 pls.
- Osteology.* See SHUFELDT, R. W.
- A review of the Old World *Rallinæ*; WITMER STONE, *P. Ac. Philad.* 1894, pp. 130-149.
- Rallus saturatus*, figured; R. B. SHARPE, *t. c.* pl. i. *R. æquatorialis*, n. sp., Colombia to Peru; *id. t. c.* p. 18, pl. ii, fig. 1. *R. virginianus*, figured; *id. t. c.* pl. ii, fig. 2. *R. semiplumbeus*, figured; *id. t. c.* p. 19, pl. iii.

- Limnopardalus vigilantis*, n. sp., Straits of Magellan ; R. B. SHARPE, *t. c.* p. 31, pl. iv.
- Cabalus dieffenbachii*, juv. figured ; R. B. SHARPE, *t. c.* pl. vi [is *C. modestus*, (Hutton), *id. t. c.* p. 331].
- Rougetius aldabranus*, nest and eggs described ; C. BENDIRE, P. U. S. Mus. xvii, pp. 40 & 41.
- Eulabeornis woodfordi*, figured ; R. B. SHARPE, *t. c.* pl. vii.
- Aramides gutturalis*, n. sp., Lima ? ; R. B. SHARPE, *t. c.* p. 57, pl. v.
- Rallina euryzonoides* (fig. 1) and *R. minahasa* (fig. 2) ; R. B. SHARPE, *t. c.* pl. viii. *R. formosana*, n. sp., Formosa ; H. SEEBOHM, Bull. B. O. C. iv, p. vii.
- Porzana galapagoensis*, n. sp., Galapagos Is. ; R. B. SHARPE, *t. c.* p. 113.
- Pennula ecaudata*, figured ; S. B. WILSON & A. H. EVANS, Av. Haw. pt. v.
- Amaurolimnas concolor*, from W. Peru ; P. L. SCLATER, Bull. B. O. C. iii, p. xxiii.
- Aphanolimnas monasa*, notes on ; O. FINSCH, Ornith. Monschr. Schutze, xviii, pp. 457-463, pl. i (1893).
- Corethrura pulchra*, ♂ ♀ figured ; R. B. SHARPE, Cat. B. xxiii, pl. ix.
- C. reichenowi*, n. subsp., Cameroons ; *id. t. c.* p. 121.
- Amaurornis insularis*, n. subsp., Andamans ; R. B. SHARPE, *t. c.* p. 162.

Order PODICIPEDIDIFORMES.

- Colymbus* v. *Podiceps* ; A. REICHENOW, Ornith. Monber. ii, pp. 154 & 155.
- Podiceps cristatus*, nesting in Fifeshire ; A. BRIGGS, Ann. Scott. Nat. Hist. iii, p. 181 : on the Aberdeenshire Coast ; W. SERLE, *t. c.* p. 116. *P. taczanowskii*, n. sp., C. Peru ; H. VON BERLEPSCH & J. STOLZMANN, Ibis, 1894, pp. 109-112, pl. iv.
- Tachybptes capensis* (ex Bp.) ; Africa, and *T. albipennis*, India, n. spp. ; R. B. SHARPE, Bull. B. O. C. iv, p. iv.

Order COLYMBIFORMES.

- Colymbus adamsi*, in Norway ; R. COLLETT, Ibis, 1894, pp. 269-283, pl. viii ; P. L. SCLATER, P. Zool. Soc. London, 1894, p. 94. *C. glacialis adamsi*, in Austria-Hungary ; V. TSCHUSI ZU SCHMIDHOFFEN, Ornith. Jahrb. v, pp. 145-147.
- Eudytes arcticus*, breeding in West Prussia ; A. NEHRING, Ornith. Monber. ii, pp. 17-22 : in Carinthia ; F. SCHULZ, Ornith. Jahrb. v, p. 37 : in Croatia ; S. BRUSINA, *t. c.* pp. 153 & 154.
- Urinator glacialis*, in Bohemia ; H. HÜTTENBACHER, *t. c.* p. 118.
- U. septentrionalis*, in Carinthia ; F. SCHULZ, *t. c.* p. 37 : in Croatia ; S. BRUSINA, *t. c.* p. 154.

Order SPHENISCIFORMES.

On the Penguins observed during the sealing voyage of the s.s. 'Active,' in the neighbourhood of Erebus and Terror Gulf; C. W. DONALD, P. R. Soc. Edinb. xx, pp. 170-176, and *id.*, P. Phys. Soc. Edinb. xii, pp. 329-335.

Aptenodytes longirostris: its breeding habits; R. G. HAZARD, Auk, xi, pp. 280-282.

Order PROCELLARIIFORMES.

Family DIOMEDEIDÆ.

Diomedea melanophrys, near Peterhead; O. SALVIN, Bull. B. O. C. iv, No. xxii, p. xv: at the Færoe Isles: J. A. HARVIE-BROWN, Zoologist, 1894, pp. 337 & 338.

Family PROCELLARIIDÆ.

Die Puffinen-Jagd auf den Selvagens; P. E. SCHMITZ, Ornith. Jahrb. v, pp. 19 & 20.

Puffinus major, in Co. Mayo; R. WARREN, Zoologist, 1894, p. 22.
P. chlororhynchus, from N. Celebes; A. B. MEYER & L. W. WIGLESWORTH, J. Ornith. 1894, p. 116.

Æstrelata leucophrys, note on; W. L. BULLER, P. Zool. Soc. London, 1894, p. 653. *Æ. mollis*, breeding in Madeira; E. SCHMITZ, Ornith. Monber. ii, p. 195.

Oceanites oceanicus, figured; LORD LILFORD, Col. Fig. Br. Birds, pt. xxix.

Oceanodroma townsendi, off San Diego, Cal. A. W. ANTHONY, Auk, xi, pp. 321 & 322.

Thalassidroma leachii, in Madeira; E. SCHMITZ, Ornith. Jahrb. v, pp. 205 & 206. [? Is *Oceanodroma cryptoleucura*. Cf. OGILVIE-GRANT, Bull. B. O. C. iv, p. xli.]

Procellaria pelagica, figured; LORD LILFORD, Col. Fig. Br. Birds, pt. xxviii.

Order ALCIFORMES.

Alca impennis: note on; W. MARSHALL, Zeitschr. Naturw. 1894, pp. 284-287: notes on eggs; E. BIDWELL, Bull. B. O. C. iii, pp. xxii & xxxv; W. ROTHSCHILD, *t. c.* p. xxxvi: two unrecorded eggs; E. BIDWELL, Ibis, 1894, pp. 423 & 424.

Uria grylle, on the Solway Firth; R. SERVICE, Zoologist, 1894, p. 55: in Dorsetshire; J. C. MANSEL-PLEYDELL, *t. c.* p. 60. *U. lomvia*, near Ottawa; G. R. WHITE, Ottawa Natural. vii, p. 164. *U. brunnichii*, in Austria; E. C. F. RZEHA, Ornith. Monber. ii, p. 55.

Mergulus alle, in Co. Sligo ; R. WARREN, Zoologist, 1894, pp. 20 & 21 : in the Outer Hebrides in summer ; J. A. HARVIE-BROWN & W. E. CLARKE, Ann. Scott. Nat. Hist. iii, p. 55.

Order LARIFORMES.

Family STERCORARIIDÆ.

Stercorarius cutarrhactes, in danger of extinction ; W. E. CLARKE, Ann. Scott. Nat. Hist. iii, pp. 8-12 : in the Outer Hebrides ; T. E. BUCKLEY, *t. c.* p. 116.

Family LARIDÆ.

Larus argentatus and its allies : their geographical distribution ; H. SAUNDERS, Bull. B. O. C. iii, pp. xxiv & xv. *L. leucopterus*, in the Outer Hebrides ; J. MACRURY, Ann. Scott. Nat. Hist. iii, p. 113. *L. melanocephalus*, from Hungary ; H. SAUNDERS, Bull. B. O. C. iii, p. xlvii. *L. philadelphia*, figured ; LORD LILFORD, Col. Fig. Br. Birds, pt. xxix. *L. minutus* : breeding on Karlö Island, near Uleåborg (lat. 65°) ; A. SANDMAN, Medd. Soc. Faun. Fenn., taf. xix, p. 164 : on the Solway Firth ; H. A. MACPHERSON, Zoologist, 1894, p. 115 : in Inverness-shire ; T. E. BUCKLEY, Ann. Scott. Nat. Hist. iii, p. 116 : figured ; LORD LILFORD, Col. Fig. Br. Birds, pt. xxix. *L. eburneus*, in Spitzbergen ; R. COLLETT, Tromso Mus. Aarsh. xiii, pp. 187-196.

Sterna wilsoni : the development of the wing ; V. L. LEIGHTON, Amer. Natural. xxviii, pp. 761-774. *S. macrura*, *S. dougalli*, *S. caspia*, figured ; LORD LILFORD, Col. Fig. Br. Birds, pt. xxviii. *S. minuta*, *S. anglica*, *S. cantiaca*, figured ; *id. op. cit.* pt. xxix.

Hydrochelidon hybrida, *H. nigra*, figured ; LORD LILFORD, Col. Fig. Br. Birds, pt. xxviii. *H. leucoptera*, figured ; *id. op. cit.* pt. xxix. *H. hybrida*, in Solway in May ; R. SERVICE, Ann. Scott. Nat. Hist. iii, pp. 179-181 : in Dumfriesshire ; H. MACKAY, Zoologist, 1894, pp. 268 & 269.

Anous : revision of the genus ; W. STONE, P. Ac. Philad. 1894, pp. 115-118. *A. atrofuscus*, n. sp., Bristow I., New Guinea ; Montevideo ; *id. t. c.* p. 117. *A. stolidus*, figured ; LORD LILFORD, Col. Fig. Br. Birds, pt. xxix.

Order CHARADRIIFORMES.

Suborder CHARADRII.

Family CHARADRIIDÆ.

Eggs of the Australian *Charadriidæ* ; A. J. CAMPBELL, Proc. Austr. Ass. pp. 423-442.

Edicnemus edicnemus saharæ, n. subsp. ; A. REICHENOW, J. Ornith. 1894, p. 102.

- Cursorius gallicus*, in Finland ; J. A. PALMÉN, Medd. Soc. Faun. Fenn. xx, p. 19 : figured ; LORD LILFORD, Col. Fig. Br. Birds, pt. xxviii.
- Glareola pratincola*, figured ; *id. t. c.*
- Vanellus vanellus* : nesting habits ; R. HOWSE, Nat. Hist. Tr. Northumb. xi, pp. 363-366.
- Deflippia burrowsii*, n. sp., Nyasaland ; R. B. SHARPE, Bull. B. O. C. iv, No. xx, p. iv [= *D. leucoptera* (Reichen.) ; *id. t. c.* p. vii].
- Squatarola helvetica*, in Yorkshire in August ; J. PERCIVAL, Zoologist, 1894, p. 429.
- Eudromias morinellus*, in Haddingtonshire in May ; H. F. WITHERBY, *t. c.* p. 266.

Family SCOLOPACIDÆ.

- Numenius phaeopus*, in Buckinghamshire in May ; O. V. APLIN, Zoologist, 1894, p. 266. *N. tenuirostris*, in Hungary ; O. HERMAN, Aquila, i, p. 62 ; L. VON ZSÓTÉR, *t. c.* p. 159. *N. tahitiensis*, figured ; S. B. WILSON & A. H. EVANS, Av. Haw., pt. v.
- Limosa hudsonica*, mechanical flexibility of the bill ; C. C. TROWBRIDGE, Tr. N. York Ac. xi, pp. 30-32, figg. 1 & 2.
- Totanus fuscus*, in Dublin Bay ; E. WILLIAMS, Irish Natural. 1894, p. 224.
- T. ochropus*, in Co. Tipperary in January ; R. PATTERSON, *t. c.* p. 68.
- T. guttiferus*, in Hainan ; F. W. STYAN, Ibis, 1894, p. 337.
- Bartramia longicauda*, figured ; LORD LILFORD, Col. Fig. Br. Birds, pt. xxix.
- Tringa canutus*, in Tiree in winter ; P. ANDERSON, Ann. Scott. Nat. Hist. iii, p. 116.
- Macrorhamphus griseus*, in Ireland ; F. COBURN, Zoologist, 1894, p. 63 ; G. E. N. BARRETT-HAMILTON, Bull. B. O. C. iii, p. xviii : figured, LORD LILFORD, Col. Fig. Br. Birds, pt. xxviii.
- Philohela minor*, its song-flight ; W. BREWSTER, Auk, xi, pp. 291-298.
- Scolopax major*, figured ; LORD LILFORD, Col. Fig. Br. Birds, pt. xxviii.
- Gallinago tristrami* and its allies ; W. ROTHSCHILD, Bull. B. O. C. iii, pp. xvi & xvii, ? = *G. chathamica*, H. O. FORBES, *t. c.* p. xvii. *G. paraguayae*, egg figured ; O. V. APLIN, Ibis, 1894, pl. v, fig. 8.
- Phalaropus fulicarius*, at Inch, Lough Swilly ; D. C. CAMPBELL, Irish Natural. 1894, p. 262. *P. wilsoni*, in the Falkland Is. ; P. L. SCLATER, Bull. B. O. C. iv, No. xxi, p. vi.

Suborder OTIDES.

- See SHARPE, R. B., Catalogue of the birds in the collection of the British Museum, xxiii, 1894, pp. 282-328.
- Houbara macqueenii*, on the North-east coast of Yorkshire ; R. HOWSE, Nat. Hist. Tr. Northumb. xi, pp. 345-350. *H. fuertaventura*, n. sp., Fuertaventura I. ; W. ROTHSCHILD & E. HARTERT, Nov. Zool. i, p. 689.
- Trachelotis barrovii*, its plumage ; J. G. MILLAIS, Bull. B. O. C. iii, p. xlvi.
- Heterotetrax*, nom. emend. pro *Heterotis*, Sharpe (1893, *nec Ehr.*) ; R. B. SHARPE, Cat. B. Brit. Mus. xxiii, p. 296.

Order GRUIFORMES.

Suborder GRUES.

See SHARPE, R. B., Catalogue *ut supra* (pp. 248-277), and SHUFELDT, R. W.
Grus lilfordi, n. sp., N.W. India; R. B. SHARPE, Cat. B. Brit. Mus. xxiii,
 p. 254.

Suborder ARAMI.

See SHARPE, R. B., Catalogue *ut supra* (pp. 236-239), and SHUFELDT, R. W.

Suborder RHINOCHETIDES.

See SHARPE, R. B., Catalogue *ut supra*, pp. 246 & 247.

Suborder MESITIDES.

See SHARPE, R. B., Catalogue *ut supra*, pp. 244 & 245.

Suborder EURYPYGÆ.

See SHARPE, R. B., Catalogue *ut supra*, pp. 240-243.

Suborder PSOPHLÆ.

See SHARPE, R. B., Catalogue *ut supra*, pp. 278-281.

Order PELARGIFORMES.

Suborder ARDEÆ.

Phox manillensis, distinct from *P. purpurea*; SHARPE, Bull. B. O. C. iv,
 p. xxxiii.

Xanthocnus, n. g.; type, *X. flavicollis* (Gm.). *Erythrophox*, n. g.; type,
E. woodfordi (Grant). *Melanophox*, n. g.; type, *M. calceolata* (Du
 Bus). *Mesophox*, n. g.; type, *M. intermedia* (Wagl). *Leucophox*,
 n. g.; type, *L. candidissima* (Gm.). *Erythrocnus*, n. g.; type, *E.*
rufiventris (Sund.). *Id. t. c.* pp. xxxvii-xxxix.

Nycticorax minahassæ, n. sp., N. Celebes; A. B. MEYER & L. W. WIGLES-
 WORTH, J. Ornith, 1894, pp. 115 & 116.

Butorides: notes on the genus; R. B. SHARPE, Bull. B. O. C. iii, pp. xvii
 & xviii. *B. spodiogaster*, n. subsp., Andamans; *id. t. c.* p. xviii.

Ardeinallus nesophilus, n. sp., Duke of York I.; R. B. SHARPE, *t. c.*
 p. xxxii.

Ardetta: notes on the genus; R. B. SHARPE, *t. c.* pp. xxx & xxxi.

Nycticorax: notes on the genus; R. B. SHARPE, *t. c.* pp. xxxi & xxxii.

Ardetta riedeli, n. sp., N. Celebes; A. B. MEYER & L. W. WIGLESWORTH, *Abh. Mus. Dresden*, 1894-95, No. 4, p. 2.

Botaurus minutus, in captivity; A. F. GRIFFITH, *Zoologist*, 1894, pp. 454-456, pl. iii.

Suborder PLATALEÆ.

Family IBIDIDÆ.

Theristicus branickii, n. sp., Central Peru; H. VON BERLEPSCH & J. STOLZMANN, *Ibis*, 1894, pp. 404 & 405.

Order ANSERIFORMES.

Suborder ANSERES.

Family ANATIDÆ.

Subfamily ANSERINÆ.

Anser brachyrhynchus, in Siebenbürgen; J. VON CZATO, *Aquila*, i, p. 51.

Family CYGNINÆ.

Cygnus americanus and *C. buccinator*, remarks on; F. E. BLAAUW, *P. Zool. Soc. London*, 1894, p. 606.

Subfamily ANATINÆ.

Casarca tadornoides: a double moult; F. E. BLAAUW, *Ibis*, 1894, pp. 317 & 318.

Anas boscas × *Tadorna cornuta*; H. A. MACPHERSON, *Zoologist*, 1894, p. 396.

Anas boscas × *Mareca penelope*; E. ARRIGONI DEGLI ODDI, *Atti Soc. Veneto-Trent.* (2) i, Fasc. 2, pp. 404-411.

Anas oustaleti, n. sp., Marianne Is.; T. SALVADORI, *Bull. B. O. C.* iv, No. xx, p. i.

Querquedula angustirostris, in Madeira; W. HARTWIG, *Ornith. Monber.* ii, p. 158.

Marmaronetta marmorata, in Bavaria; R. BLASIUS, *Braunsch. Tagebl.*, March 14, 1894 [*cf.* *Ibis*, 1894, p. 453]; J. V. BESSERER, *Ornith. Jahrb.* v, pp. 215 & 216.

Mareca penelope × *Dafila acuta*; E. ARRIGONI DEGLI ODDI, *Atti Soc. Ital.* xxxiv, Fasc. 3, pp. 281-284, tab. 5.

Camptolæmus labradorus, notes on; W. DUTCHER, *Auk*, xi, pp. 4-12 & 176.

Somateria spectabilis, in Co. Mayo; J. R. SHERIDAN, *Zoologist*, 1894, p. 151.

- Harelda glacialis*, in Co. Wexford; G. E. H. BARRETT-HAMILTON, Irish Natural. 1894, p. 158.
- Edemia nigra*: notes on the beak; J. H. GURNEY, Zoologist, 1894, pp. 292-295. *E. perspicillata*, in Co. Mayo; J. R. SHERIDAN, Zoologist, 1894, p. 151.
- Fuligula cristata*, nesting in Renfrewshire and Wigtownshire; J. PATTERSON, Ann. Scott. Nat. Hist. iii, p. 179. *F. ferina*, in Stirlingshire; J. A. HARVIE-BROWN, *t. c.* p. 115.
- Nyroca innotata*, n. sp., Madagascar; T. SALVADORI, Bull. B. O. C. iv, No. xx, p. ii.
- Salvadorina*, n. g.; type, *S. waigiensis*, n. sp.; W. ROTHSCHILD & E. HARTERT, Nov. Zool. i, p. 683.
- Merganetta garleppi*, n. sp., Bolivia; H. VON BERLEPSCH, Ornith. Monber. ii, pp. 110 & 111.
- Mergus albellus*, in Aberdeenshire; G. SIM, Ann. Scott. Nat. Hist. iii, p. 115.

Suborder PALAMEDEÆ.

- Chauna chavaria*: its aquatic habits; R. LYDEKKER, Ibis, 1894, pp. 268 & 269.
- Palamedea cornuta*, anatomy of; F. E. BEDDARD & P. CHALMERS MITCHELL, P. Zool. Soc. London, 1894, pp. 536-557.

Order PELECANIFORMES.

- On the affinities of the *Steganopodes*; R. W. SHUFELDT, P. Zool. Soc. London, 1894, pp. 160-162, 250, 251, & 608; Auk, xi, pp. 337-339.

Suborder PHALACROCORACES.

- Phalacrocorax dilophus*, in Rhode I.; G. H. MACKAY, Auk, xi, pp. 18-25.
- Pelecanus onocrotalus*, in West Jutland; A. C. CHAPMAN, Ibis, 1894, p. 348. *P. crispus*, in Italy; H. H. GIGLIOLI, *t. c.* p. 453.

Order ACCIPITRIFORMES.

Suborder MIMOGYPES.

- Cathartes papa*, juv. figured; P. L. SCLATER, P. Zool. Soc. London, 1894, pp. 162-164.

Suborder ACCIPITRES.

- Position of legs in flight; E. HARTERT, Ornith. Monber. ii, pp. 5 & 6.
Cf. KENNESSY, *t. c.* pp. 53 & 54.

Family VULTURIDÆ.

- Gyps himalayensis*, figured; M. MENZBIER, Orn. Turkest. Livr. iv, pl. i.

Family FALCONIDÆ.

Subfamily ACCIPITRINÆ.

Circus cyaneus, near Calcutta ; P. J. MUNN, *Ibis*, 1894, p. 62 [? = *C. macrurus* or *C. cineraceus* ; W. T. BLANFORD, *t. c.* p. 321]. *C. cineraceus*, figured ; LORD LILFORD, *Col. Fig. Br. Birds*, pt. xxix : Nesting in the valley of the Avon ; G. B. CORBIN, *Zoologist*, 1894, pp. 341 & 342.

Accipiter atricapillus : notes on habits ; W. E. PRAEGER, *Irish Natural.* 1894, pp. 60-62. *A. cooperi*, with the tarsal scutes fused ; G. H. RAGSDALE, *Auk*, xi, pp. 251 & 252. *A. zenkeri*, n. sp., Cameroons ; A. REICHENOW, *Ornith. Monber.* ii, p. 125.

Subfamily BUTEONINÆ.

Buteo zimmermannæ, remarks on ; H. EHMEKE, *J. Ornith.* 1894, p. 104. *B. ferox*, in the Rhine provinces ; A. REICHENOW, *t. c.* p. 106 : in Hungary ; G. SZIKLA, *Ornith. Jahrb.* v, p. 77 : in Bohemia ; J. PRAZAK, *t. c.* p. 214. *B. lineatus*, habits in Massachusetts ; F. H. KENNARD, *Auk*, xi, pp. 197-210 : its plumages ; *id. t. c.* pp. 270-280.

Subfamily AQUILINÆ.

On the scientific names of certain Eagles ; W. T. BLANFORD, *Ibis*, 1894, pp. 283-289.

Harpagornis assimilis, skull figured ; A. HAMILTON, *Tr. N. Zealand Inst.* xxvi, pl. xxiii, fig. 1 : sternum figured ; *id. t. c.* pl. xxiii, figg. 2 & 3. *H. moorei*, sternum figured ; *id. t. c.* pl. xxiii, fig. 4.

Gypaetus barbatus, notes on ; E. VON CZYNYK, *Aquila*, i, pp. 136-151 : in Siebenbürgen ; V. TSCHUSI ZU SCHMIDHOFFEN, *Ornith. Jahrb.* v, p. 156 : in the Pyrenees ; E. ANFRIE, *Bull. Soc. Rouen* (3) i, pp. 79-84.

Archibuteo lagopus, in Austrian Silesia ; E. C. F. RZEHAK, *Ornith. Jahrb.* v, pp. 148-151.

Aquila orientalis, its eggs ; E. C. F. RZEHAK, *Ann. Hofmus. Wien*, ix, pp. 395-398.

Haliaeetus albicilla, in West Ross-shire ; T. E. BUCKLEY, *Ann. Scott. Nat. Hist.* iii, p. 179. *H. branickii* and *H. pelagicus*, figured ; H. BOLAU, *Zool. Garten*, 1894, pl. i.

Machærhamphus alcinus, in Johor ; H. J. KELSALL, *J. Straits Asiat. Soc.* xxv, p. 171 (1894).

Subfamily FALCONINÆ.

Falco ernesti, n. sp., Mt. Dulit, Sarawak ; R. B. SHARPE, *Ibis*, 1894, pp. 545 & 546. *F. islandus*, in Ireland ; W. E. PRAEGER, *Irish Natural.* 1894, pp. 126 & 127 : figured, LORD LILFORD, *Col. Fig. Br. Birds*, pt. xxix.

Hieracidea novæguineæ, n. sp., Eastern New Guinea; A. B. MEYER, J. f. O. 1894, pp. 89 & 90.

Order STRIGIFORMES.

See CLARKE, H. L.

Notes on synonymy of Indian Owls; W. T. BLANFORD, Bull. B. O. C. iii, p. xlii; Ibis, 1894, pp. 524-531.

See FATIO, V., & STUDER, TH.

Family BUBONIDÆ.

Bubo turcomanus (pl. viiiA) and *B. ignavus sibiricus* (pl. ix), figured; M. MENZBIER, Orn. Turkest., Livr. iv.

Scops longicornis, n. sp., N. Luzon; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. li.

Megascops pinosus, n. sp., Vera Cruz, Mexico, *M. ridgwayi*, n. sp., Patzcuaro, Mexico; E. W. NELSON & T. S. PALMER, Auk, xi, pp. 39-41.

Ninox spilonotus, n. sp., Cebu, Mindanao; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnès. Acad. i, p. 8.

Glaucidium fisheri, n. sp., Puebla, Mexico; E. W. NELSON & T. S. PALMER, Auk, xi, pp. 41-43.

Syrnium aluco, its habits; C. F. DRUITT, P. Bristol Soc. (n.s.) vii, pp. 199-207. *S. biddulphi*, figured; M. MENZBIER, Orn. Turkest. Livr. iv, pl. ixa.

Order CORACIIFORMES.

Suborder PODARGI.

Batrachostomus menagei, n. sp., N. Panay, Philippine Is.; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 11.

Suborder CORACIÆ.

Coracias garrulus, in East Ross-shire; R. P. BELL, Ann. Scott. Nat. Hist. iii, pp. 54 & 55. *C. weigalli*, a second specimen; P. L. SCLATER, Bull. B. O. C. iii, p. xxiii.

Suborder HALCYONES.

Family ALCEDINIDÆ.

Catalogue of the Birds in the Australian Museum at Sydney, N. S. W., pt. iv, *Halcyones*; E. P. RAMSAY, Sydney: 8vo, 1894, pp. 24.

See TRISTRAM, H. B., p. 18.

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Subfamily ALCEDININÆ.

- Pelargopsis gural*, pull. figured ; P. W. MUNN, *Ibis*, 1894, p. 57, fig. 2.
Pelargopsis, sp. ? ; A. B. MEYER, *Abh. Mus. Dresden*, 1894-95, p. 2.
Ceryle torquata, in Texas ; W. STONE, *Auk*, xi, p. 177.
Alcedo ispida, in Mull ; J. PATTERSON, *Ann. Scott. Nat. Hist.* iii, p. 257.
 C. A. M'VEAN, *t. c.* p. 54. *A. ispida*, var. *taprobana*, n. subsp., Ceylon ; O. KLEINSCHMIDT, *Ornith. Monber.* ii, pp. 126 & 127.

Subfamily DACELOININÆ.

- Alcyone lata*, n. sp., Mt. Maneao, S. E. New Guinea ; C. W. DE VIS, *Rep. Orn. spec.* 1894, p. 2.
Ceyx: remarks on Philippine species of the genus ; F. S. BOURNS & D. C. WORCESTER, *Occ. Pap. Minnes. Acad.* i, pp. 45-48. *C. nigrirostris*, n. sp., Panay, Cebu, Negros ; *id. t. c.* p. 13.

Suborder BUCEROTES.

- Ueber Afrikanische Nashornvögel ; A. REICHENOW, *J. Ornith.* 1894, pp. 94-96.
Buceros leucopygus, Giebel (1876), and *B. leucopygius*, Dubois, = *B. sharpii*, which is a subspecies of *B. fistulator*. *B. subcylindricus*, Schl., = *B. subquadratus*, Cab., ♀ ; A. REICHENOW, *J. Ornith.* 1894, pp. 94-96. *B. melanoleucus*, its nest ; A. GÜNTHER, *P. Zool. Soc. London*, 1894, p. 391.
Lophoceros somaliensis, n. sp., Somaliland ; A. REICHENOW, *J. Ornith.* 1894, p. 96. *L. neumanni*, n. sp., Mgera, S. E. Masailand, *id. t. c.* p. 230.

Suborder UPUPÆ.

- Upupa epops*, in West Ross-shire ; E. S. MARSHALL, *Ann. Scott. Nat. Hist.* iii, p. 113.

Suborder MEROPES.

- Nyctiornis amicta*, nest and eggs ; H. J. KELSALL, *J. Straits Asiat. Soc.* xxiv, p. 169 [1891].

Suborder MOMOTI.

- Momotus*: remarks on the genus ; J. A. ALLEN, *Bull. Amer. Mus.* v, pp. 125-129.*

* Mr. Allon, by inadvertence, has attributed the description of the *Momotidæ* in the "Catalogue of Birds" to Mr. Selater, instead of to the undersigned, R. B. S.

Suborder CAPRIMULGI.

See CLARKE, H. L. ; and also SALVIN, O., & GODMAN, F. D.

See FATIO, V., & STUDER, TH.

Caprimulgus salvini (pl. lviii B), *C. yucatanicus* (pl. lviii A), and *C. saturatus* (pl. lviii), figured ; O. SALVIN & F. D. GODMAN, Biol. Centr.-Amer., *Aves*, ii, pp. 386-388. *C. eximius*, from Nubia, notes on ; E. HARTERT, Nov. Zool. i, p. 42. *C. aldabrensis*, n. sp., Aldabra I. ; R. RIDGWAY, P. U. S. Mus. xvii, p. 373. *C. celebensis*, n. sp., Celebès ; W. R. OGILVIE-GRANT, Ibis, 1894, pp. 518 & 519.

Podager nacuunda, egg figured ; O. V. APLIN, *t. c.* pl. v, fig. 7.

Nyctidromus albicollis, note on its breeding habits ; B. RAKE, Trinidad Field Nat. Club, ii, pp. 109 & 110.

Macropsalis kalinowskii, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, Ibis, 1894, pp. 399-401. *M. taczanowskii*, n. sp., Central Peru ; *id. t. c.* pp. 309 & 310.

Suborder CYPSELI.

See FATIO, V., & STUDER, TH. ; and also SALVIN, O., & GODMAN, F. D.

On the Taxonomy of the Swifts and Humming-birds ; R. W. SHUFELDT, Ibis, 1894, pp. 32-39.

Micropus : notes on this generic title ; L. W. WIGLESWORTH, *t. c.* pp. 318-320. *M. subfurcatus*, nest and eggs described ; E. HARTERT, Nov. Zool. i, p. 674. *M. koenigi*, n. sp., Tunis ; A. REICHENOW, Ornith. Monber. ii, pp. 191 & 192.

Chaturra celebensis, from the island of Negros ; W. E. CLARKE, Ibis, 1894, p. 533.

Suborder TROCHILI.

Genera of Humming-birds ; BOUCARD, A., Humming Bird, iv, pp. 107-202.

On a collection of Humming-birds from Ecuador and Mexico ; E. & C. HARTERT, Nov. Zool. i, pp. 43-64, pl. iv.

See SHUFELDT, R. W.

Section A. TROCHILI SERRIROSTRES.

Chlorostilbon wiedi, n. sp., Brazil ; A. BOUCARD, *t. c.* p. 120.

Aithurus taylori, n. sp., Jamaica ; W. ROTHSCHILD, Bull. B. O. C. iii, p. xlvi.

Lawrencius, n. g. ; type *L. cupreiceps* (LAWR.) ; A. BOUCARD, *t. c.* p. 173.

Thalurania boliviana, n. sp., Bolivia; A. BOUCARD, *t. c.* p. 107.

Gmelinius, n. g.; type *G. bicolor* (Gm.); A. BOUCARD, *t. c.* p. 108.

Chalybura intermedia, n. sp., Ecuador; E. & C. HARTERT, *Nov. Zool. i.*, p. 44.

Section B. *TROCHILI INTERMEDII.*

Metallura atrigularis [*Zool. Rec. xxx, Aves*, p. 35], and *M. baroni*, SALVIN, *Bull. B. O. C. i.*, p. 49; figured; E. & C. HARTERT, *Nov. Zool. i.*, pl. iv.

Adelomyia melanogenys and *A. maculata*, tails figured; E. & C. HARTERT, *t. c.* pp. 51 & 55.

Basilinna leucotis, in Southern Arizona; A. K. FISHER, *Auk. xi.*, pp. 325 & 326.

Section C. *TROCHILI LÆVIROSTRES.*

Eutoxeres: notes on the genus; E. & C. HARTERT, *Nov. Zool. i.*, pp. 53 & 54. *E. baroni*, n. sp., Rio Pescado, Ecuador, *id. t. c.* p. 54. Tails of species figured, *id. t. c.* p. 55.

Phaethornis berlepschi, n. sp., W. Ecuador; E. & C. HARTERT, *t. c.* p. 56.

Eriocnemis evelinae, n. sp., Rio Pastasa, Ecuador; E. & C. HARTERT, *t. c.*, p. 59.

Spathura annæ, n. sp., Central Peru; H. VON BERLEPSCH & J. STOLZMANN, *Ibis*, 1894, p. 399.

Order TROGONES.

Harpactes vidua, ♂ ad. described; R. B. SHARPE, *Ibis*, 1894, p. 442.

Order COCCYGES.

Suborder MUSOPHAGI.

Corytheola cristata, nest and eggs; A. REICHENOW, *Ornith. Monber. ii.*, p. 159.

Suborder CUCULI.

On the breeding of *Orotophagide*, with reference to Reinhardt's observations; P. LEVERKUHNS, *J. Ornith.* 1894, pp. 44-80.

Cuculus canorus, notes on [a reply to Herr Walter]; E. REY, *t. c.* pp. 131-135. *C. canorus telephonus*, in Alaska; W. PALMER, *Auk*, xi, p. 325.

Lamprococyx malayanus, nesting habits; J. NORTH, *P. Linn. Soc. N. S. Wales (2) ix.*, pp. 41 & 42.

- Urococcyx aeneicauda*, in Mentawai I., Sumatra ; T. SALVADORI, Ann Mus. Genova (2) xiv, p. 590.
- Saurothera andriæ*, n. sp., Andros I., Bahamas ; G. S. MILLER, Auk, xi, pp. 164 & 165.
- Centropus steerii*, n. sp., Mindoro ; F. S. BOURNS & D. E. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 14. *C. flecki*, figured ; E. FLECK, J. Ornith. 1894, taf. iv. *C. insularis*, n. sp., Aldabra and Assumption Is. ; R. RIDGWAY, P. U. S. Mus. xvii, p. 373.

Order PSITTACIFORMES.

Family LORIIDÆ.

- Eos histrio talautensis*, n. subsp., Talaut Is. ; A. B. MEYER & L. W. WIGLESWORTH, J. Ornith. 1894, pp. 241 & 242.
- Psittuteles weberi*, n. sp., Flores ; J. BÜTTIKOFER in MAX WEBER'S Reis. Nederl. Ost-Indien, p. 290, taf. xvii, fig. 1. *P. euteles*, figured, *id. t. c.* pl. xvii, fig. 2.
- Chalcocephalus duivenbodii*, from German New Guinea ; W. ROTHSCHILD, Nov. Zool. i, p. 677.
- Glossopsittacus porphyrocephalus*, egg described ; A. J. NORTH, Ibis, 1894, p. 261.

Family CACATUIDÆ.

- Microglossus salvadorii*, n. sp., Mt. Arfak ; A. B. MEYER, Bull. B. O. C. iv, No. xxi, p. vi. *M. aterrimus*, juv. described ; J. BÜTTIKOFER, Notes Leyden Mus. xvi, pp. 166 & 167.
- Cacatua gymnops*, note on the habitat ; J. NORTH, P. Linn. Soc. N. S. Wales (2) ix, pp. 37 & 38.

Family PSITTACIDÆ.

- Ara militaris* and *A. ararauna*, eggs ; P. L. SCLATER, Bull. B. O. C. iv, No. xxi, p. vi. *A. auricollis*, from Argentina ; *id. op. cit.* iii, p. xlv.
- Leptosittaca*, n. g. ; type *L. branickii*, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, Ibis, 1894, pp. 402-404, pl. xi.
- Pyrhura chiripepé*, notes on, *P. borellii*, n. sp., Paraguay ; T. SALVADORI, Boll. Mus. Torino, ix, No. 190, pp. 1-4.
- Chrysotis canifrons* [*cf.* Zool. Rec. xxx, *Aves*, p. 36], further notes on ; E. HARTERT, Ibis, 1894, pp. 102-105. *C. tucumana*, from Argentina ; P. L. SCLATER, Bull. B. O. C. iii, p. xlv.
- Pionus lacerus*, from Argentina ; P. L. SCLATER, *ibid.*
- Prioniturus verticalis*, figured ; R. B. SHARPE, Ibis, 1894, pl. vi.
- Tanygnathus muelleri sangirensis*, n. subsp., Great Sanghir ; A. B. MEYER & L. W. WIGLESWORTH, J. Ornith. 1894, p. 113.
- Polytelis melanura* : egg described ; A. J. NORTH, Ibis, 1894, p. 260.
- Agapornis liliane*, n. sp., Nyasaland ; G. E. SHELLEY, *t. c.* p. 466, pl. xii.

- Loriculus*, an n. sp.? A. B. MEYER, *Abh. Mus. Dresden*, 1894-95, No. 2, p. 2.
- Platycercus eximius*: a curious nesting place; C. FRENCH, *Victorian Natural.* xi, p. 132.
- Cyanorhamphus cooki*: notes on the species; A. J. NORTH, *P. Linn. Soc. N. S. Wales* (2) ix, pp. 517-521.
- Neophema splendida*: egg described; *id.*, *Ibis*, 1894, p. 261.

Order SCANSORES.

Suborder CAPITONES.

- Trachyphonus uropygialis*, n. sp., Somaliland; T. SALVADORI, *Mem. Acc. Torino* (2) xlv, pp. 551 & 552.
- Blax*, n. g.; type, *Blax gymnophthalmus*, n. sp., Cameroons; A. REICHENOW, *Ornith. Monber.* ii, p. 126.

Suborder INDICATOIRES.

- Prodotiseus zambesiæ*, n. sp., G. E. SHELLEY, *Ibis*, 1894, p. 8.

Order PICIFORMES.

Suborder PICI.

- Colaptes agricola*: egg figured; O. V. APLIN, *Ibis*, 1894, pl. v, fig. 6.
- Gecinus viridis galliciensis*, n. subsp., Galicia, Spain; V. L. SEOANE, *Aves Nuev. Galicia*, 1870 [!], p. 7 [published in 1894].*
- Campothera permista*, notes on; Y. SJÖSTEDT, *Ornith. Monber.* ii, pp. 33-35, 169 & 170.
- Chrysophlegma xanthoderus*: nesting habits; F. LEWIS, *J. Ceylon Asiat. Soc.* xii, pp. 228 & 229.
- Dendrocopus major*, nesting in Berwickshire; C. STUART, *Ann. Scott. Nat. Hist.* iii, p. 178. *D. leuconotus*, in Bohemia; H. HÜTTENBACHER, *Ornith. Jahrb.* v, p. 78.
- Dryobates scalaris lucasanus*, in San Diego Co., Cal.; G. S. MILLER, *Auk*, xi, p. 178.
- Iyngipicus menagei*, n. sp., Sibuyan; F. S. BOURNS & D. C. WORCESTER, *Occ. Pap. Minnes. Acad.* i, p. 14.
- Dendrobates valdizoni*, n. sp., Central Peru; H. VON BERLEPSCH & J. STOLZMANN, *Ibis*, 1894, pp. 401 & 402.
- Eltopicus*, nom. emend. pro *Dendrobates* (preoccupied); C. W. RICHMOND, *P. U. S. Mus.* xvi, p. 519, note. [Omitted from *Zool. Rec.* xxx.]

* The object of the author has apparently been to try to antedate the name of *Gecinus sharpii*, given in 1871 by Mr. Howard Saunders. No one has even heard of this paper of M. Seoane's before, and that it could not have been published in 1870 is proved by a reference to the Catalogue of Birds, the first volume of which appeared in 1874.

Order PASSERIFORMES.

Section A. OSCINES.

Family CORVIDÆ.

- Corvus florensis*, n. sp., Flores; J. BÜTTIKOFER, in Max Weber's Reis. Nederl. Ind. p. 304.
- Corone cornix*, breeding in Northumberland; A. C. CHAPMAN, Zoologist, 1894, p. 227.
- Macrororax vegetus*, n. sp., Bugotu I.; H. B. TRISTRAM, Ibis, 1894, p. 30.
- Colœus monedula*, in the Outer Hebrides; J. MACKRURY, Ann. Scott. Nat. Hist. iii, p. 56: white variety; L. PETIT, Bull. Soc. zool. France, xix, p. 31.
- Garrulus glandarius*, var. *albus*, figured; E. ROBBECKE, Ber. Annaberg Ver. ix, pp. 81-91, pl.
- Picicorvus* = *Nucifraga*; R. RIDGWAY, Auk, xi, p. 179.
- Nucifraga caryocatactes*, nesting in the Carpathians; J. VON MADARASZ, Aquila, i, pp. 48-50; C. G. DANFORD, t. c. pp. 155 & 156: in Bavaria; A. MIRBACH, Ornith. Jahrb. v, pp. 114 & 115.
- Picathartes gymnocephalus*, breeding in Togoland; E. BAUMANN, Ornith. Monber. ii, p. 194.
- Podoces humilis*: eggs described (white!); E. HARTERT, Nov. Zool. i, p. 673.

Family PARADISEIDÆ.

Monograph of the *Paradisæidæ*, or Birds of Paradise, and *Ptilonorhynchidæ* [q.v.], or Bower Birds. Part III. By R. B. SHARPE. London: 1894, folio. The following species are figured: *Ptilorhis victoriæ*, *Epimachus speciosus*, *Astrarchia stephaniæ*, *Paradisæa augustæ-victoriæ*, *Schlegelia respublica*, *Manucodia comrii*, *Phonygama purpureo-violacea*.

List of the species of Birds of Paradise; R. B. SHARPE, Bull. B. O. C. iv, No. xxii, pp. xii-xiv.

Drepananax, n. g.; type, *D. bruijni* (Oust.); *id.* t. c. p. xv.

Eucorax, n. g.; type, *E. comrii* (Sclater); *id.* t. c. p. xv.

Craspedophora bruijni, n. sp., Arfak Mts., New Guinea; J. BÜTTIKOFER, Notes Leyden Mus. xvi, pp. 161-164 [= *C. mantoui*, Oust.; W. ROTHSCHILD, Bull. B. O. C. iv, No. xxii, p. xi].

Ptilorhis victoriæ: its egg; W. ROTHSCHILD, *op. cit.* iii, p. xxxvi.

Ianthothorax bensbachii, n. g. & sp.; J. BÜTTIKOFER, Notes Leyden Mus. xvi, pp. 163 & 164.

- Lamprothorax*, n. g.; type, *L. wilhelminæ*, n. sp., Arfak Mts., New Guinea; A. B. MEYER, Abh. Mus. Dresden, 1894-95, No. 2, p. 3, cum tab.
- Paradisea mariæ*, n. sp., Finisterre Mts., New Guinea; A. REICHENOW, Ornith. Monber. ii, pp. 22 & 23. *P. intermedia*, n. sp., Kumusi River, N. E. New Guinea; C. W. DE VIS, Rep. Orn. Coll. p. 7.
- Parotia carolæ*, n. sp., Amberno River, New Guinea; A. B. MEYER, Bull. B. O. C. iv, No. xxi, pp. vi & vii.
- Pteridophora alberti*, n. g.; type, *P. alberti*, n. sp., R. Amberno, New Guinea; A. B. MEYER, t. c. No. xxii, pp. xi & xii.
- Diphylloides*: notes on the species; R. B. SHARPE, t. c. p. iii.
- Cnemophilus mariæ*, n. sp., Mt. Maneao, S. E. New Guinea; C. W. DE VIS, Rep. Orn. Coll. 1894, p. 6.
- Loria*, n. g.; type, *L. lorix*, n. sp., S. E. New Guinea; T. SALVADORI, Ann. Mus. Genova (2) xiv, p. 151.

Family PTILONORHYNCHIDÆ.

- Monograph of the *Paradiseidæ* [q.v.], or Birds of Paradise, and *Ptilonorhynchidæ*, or Bower Birds. Part III. By R. B. SHARPE. London: 1894, folio. The following species are figured: *Ælurædus viridis*, *Ohlamydodera occipitalis*, *Amblyornis subalaris*. *Sharpe* ¹⁸⁹³
- Xanthochlamys*, n. g.; type, *X. subalaris* (Sharpe); Bull. B. O. C. iv, No. xxii, p. xv [not distinct from *Amblyornis*, Elliott; A. B. MEYER, Bull. B. O. C. iv, No. xxiii, p. xviii].

Family STURNIDÆ.

- Pastor roseus*: notes on food; E. C. COTES, J. Bombay Soc. ix, pp. 66-68.

Family EULABETIDÆ.

- Gracula sinensis*, note on; A. DUBOIS, Mem. Soc. zool. France, vii, p. 403.
- Lamprotornis viridipectus*, n. sp., Somaliland; T. SALVADORI, Mem. Acc. Torino (2) xliv, p. 560.
- Lamprocolius chalybeus*, notes on; H. GADEAU DE KERVILLE, Ann. Sci. nat. Rouen, No. 3, pp. 25-27, pl. i.
- Basilornis galeatus*, n. sp., S. W. New Guinea; A. B. MEYER, Abh. Mus. Dresden, 1894-95, No. 2, p. 1.
- Heteralocha acutirostris*: on the variation in the form of the bill; ? Abh. Ges. Gotting. Bd. xxxix, pp. 35-43.

Family DICURIDÆ.

- Buchanga periophthalmica*, n. sp., Mentawai I., Sumatra; T. SALVADORI, Ann. Mus. Genova (2) xiv, p. 594. *B. aldabrana*: its nest and eggs described; C. BENDIRE, P. U. S. Mus. xvii, pp. 39 & 40.
- Chibia menagei*, n. sp., Tablas I.; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 15.
- Dicruopsis viridinitens*, n. sp., Mentawai I., Sumatra; T. SALVADORI, Ann. Mus. Genova (2) xiv, p. 593.

Family ORIOLIDÆ.

- Oriolus galbula*, in the Færoe Is.; J. A. HARVIE-BROWN, Zoologist, 1894, p. 337. *O. melanisticus*, n. sp., Talaut I.; Å. B. MEYER & L. W. WIGLESWORTH, J. Ornith. 1894, pp. 247 & 248. *O. cinereogenys* [potius *poliogenys*], n. sp., Tawi Tawi; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 16. *O. nigrostriatus*, n. sp., Negros; *id. ibid.* *O. albiloris*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, Bull. B. O. C. iv, p. xlix. *O. isabellæ*, n. sp., N. Luzon; *id. t. c. p. ii.*

Family PLOCEIDÆ.

- Chlorura brunneiventris*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. 1.
- Lagonosticta somaliensis*, n. sp., Somaliland; T. SALVADORI, Mem. Acc. Torino (2) xlv, p. 557.
- Donacicola sharpii*, n. sp., Finisterre Mts., New Guinea; J. VON MADARASZ, Bull. B. O. C. iii, p. xlvii: figured, *id.*, Aquila, i, tab. i, fig. 1.
- Pyrenestes minor*, n. sp., Nyasaland; G. E. SHELLEY, Ibis, 1894, p. 20.
- Foudia aldabrana*: its nest and eggs described; C. BENDIRE, P. U. S. Mus. xvii, p. 40.
- Ploceus duboisi*, notes on; A. DUBOIS, Mem. Soc. zool. France, vii, pp. 402 & 403.
- Hyphantornis nyassæ*, n. sp., Nyasaland; G. E. SHELLEY, Ibis, 1894, p. 20.
- Malimbus scutopartitus*, n. sp., Cameroons; A. REICHENOW, J. Ornith. 1894, p. 38.
- Dienemellia ruspolii*, n. sp., Somaliland; T. SALVADORI, Mem. Acc. Torino (2) xlv, p. 558.

Family TANAGRIDÆ.

- Foreign Finches in captivity: Parts i & ii, royal 4to, 1894; A. G. BUTLER, viii & 160 pp., i-xii pls.

- Euphonia violacea*, figured ; A. G. BUTLER, Foreign Finches, pl. ii.
Rhamphocelus brasilius, figured ; A. G. BUTLER, *t. c.* pl. iii.
Dubusia stictocephala, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, *Ibis*, 1894, p. 386.
Chlorospingus leotaudi, n. sp., Trinidad ; F. M. CHAPMAN, *Bull. Amer. Mus.* vi, pp. 31 & 32.
Nemosia fuscicapilla, n. sp., Brazil ; A. DUBOIS, *Mem. Soc. zool. France*, vii, p. 403.
Calliste fastuosa and *C. tatao*, figured ; A. G. BUTLER, Foreign Finches, pl. i.

Family CÆREBIDÆ.

- Certhiola* belongs to the *Mniotiltidæ* ; F. A. LUCAS, *P. U. S. Mus.* xvii, pp. 299-312.

Family DREPANIDÆ.

- Drepanidæ*, see LUCAS, F.
Hemignathus lichtensteini and *H. lucidus*, figured ; S. B. WILSON & A. H. EVANS, *Av. Haw.*, pt. v.
Drepanis funerea, figured ; S. B. WILSON & A. H. EVANS, *ibid.*
Acrulocercus bishopi and *A. apicalis*, figured ; S. B. WILSON & A. H. EVANS, *ibid.*
Palmeria dolii is not a Meliphagine Bird ; W. ROTHSCHILD, *Bull. B. O. C.* iii, p. xxv ; H. GADOW in WILSON & EVANS, *Av. Haw.* pt. v.
Pseudonestor xanthophrys belongs to the *Drepanidæ*, and not to the *Fringillidæ* ; W. ROTHSCHILD, *Nov. Zool.* i, p. 692.

Family FRINGILLIDÆ.

Subfamily COCCOTHAUSTINÆ.

- Geospiza assimilis*, n. sp., Indefatigable I., Galapagos, Albemarle I. (?),
G. barringtoni, n. sp., Barrington I., *G. propinqua*, n. sp., Torres I.,
G. baueri, n. sp., James I., *G. albemarlei*, n. sp., Albemarle I., *G. fratercula*, n. sp., Abingdon I., *G. debilirostris*, n. sp., James I., *G. aculirostris*, n. sp., Torres I. ; R. RIDGWAY, *P. U. S. Mus.* xvii, pp. 361-363.
Camarhynchus rostratus, n. sp., James I., Galapagos, *C. productus*, n. sp., Albemarle I., *C. salvini*, n. sp., Chatham I., *C. affinis*, n. sp., Albemarle I. ; R. RIDGWAY, *t. c.* pp. 363-365.
Coccothraustes vulgaris, probably breeding in Midlothian ; W. E. CLARKE, *Ann. Scott. Nat. Hist.* iii, pp. 195-197.

- Ligurinus sinicus*, in Denmark ; K. ANDERSEN, Vid. Medd. 1893, pp. 166-172.
- Spermophila ardesiaca*, n. sp., Brazil ; A. DUBOIS, Mem. Soc. zool. France, vii, pp. 399 & 400, pl. x, fig. 1.
- Drepanorhynchus*, n. g.; type, *D. schistaceus*, n. sp., Brazil ; A. DUBOIS, t. c. p. 400. [Cf. W. ROTHSCHILD, Bull. B. O. C. iv, p. xxxvii.]
- Catamenia inornata*, n. var. *aquatorialis*, Ecuador ; A. DUBOIS, t. c. pp. 401 & 402.
- Oryzoborus torridus*, n. var. *major* ; A. DUBOIS, t. c. p. 402.

Subfamily FRINGILLINÆ.

- Fringilla spodiogenia*, near *Sphax* ; H. SPATZ, J. Ornith. 1894, p. 166.
- Carduelis minor*, Zarudn., notes on ; N. ZARUDNOÏ, Bull. Soc. Moscou, 1893, No. 4, pp. 505-507.
- Chrysomitris icterica*, figured ; A. G. BUTLER, Foreign Finches, pl. ix.
- Spinus olivaceus*, n. sp., Central Peru ; H. VON BERLEPSCH & J. STÖLZMANN, Ibis, 1894, pp. 387-389. *S. psaltria croceus*, n. subsp., Panama, P. L. JOUY, P. U. S. Mus. xvi, p. 780.
- Astragalinus tristis*, in Co. Mayo ; J. R. SHERIDAN, Zoologist, 1894, p. 396.
- Acanthis exilipes*, in Germany ; O. KLENSCHMIDT, Ornith. Monber. ii, p. 189 : in East Yorkshire ; J. CORDEAUX, Naturalist, 1894, p. 84.
- Linota linaria*, in Co. Mayo ; J. R. SHERIDAN, Zoologist, 1894, p. 152.
- Pseudonestor xanthophrys*, referred to the *Drepanidæ* ; W. ROTHSCHILD, Nov. Zool. i, p. 692.
- Rhodacanthis palmeri*, figured ; S. B. WILSON & A. H. EVANS, Av. Haw. pt. v.
- Petronia stulta*, subsp. *puteicola*, Palestine ; E. FESTA, Boll. Mus. Torino, ix, pp. —.
- Passer rufipectus*, notes on ; V. FATIO, Bull. Soc. zool. France, xix, pp. 72-74.
- Alario alario*, figured ; A. G. BUTLER, Foreign Finches, pl. viii, fig. 1.
- Serinus serinus*, its distribution in Southern Germany ; C. PARROT, Ornith. Monber. ii, pp. 104-109. *S. canicollis* and *S. sulphuratus*, figured ; A. G. BUTLER, Foreign Finches, pl. vi. *S. flaviventris* and *S. icterus*, figured ; *id.* t. c. pl. vii. *S. leucopygius*, figured ; *id.* t. c. pl. viii, fig. 2.
- Sycalis flaveola*, breeding in confinement ; A. G. BUTLER, Zoologist, 1894, pp. 460 & 461 : figured ; *id.* Foreign Finches, pl. v.
- Carpodacus purpureus*, its habits ; C. W. VANDENBERG, Science, 1894, p. 20. *C. pulcherrimus* and *C. rubicilloides*, eggs described ; E. HARTERT, Nov. Zool. i, p. 672. *C. trifasciatus*, figured ; M. BEREZOWSKI & B. BIANCHI, Aves Expeditionis Potanini per provinciam Gan-su et confinia, pl. iii, figg. 1 & 2. *C. stoliczkae*, figured ; *id.* t. c. pl. iii, figg. 3 & 4. *C. erythrinus*, figured ; A. G. BUTLER, Foreign Finches, pl. iv.

- Loxia curvirostra*, in Co. Wexford; C. B. MOFFAT, *Irish Natural*, 1894, pp. 207-210: in Co. Cork in November; J. CROSBIE SMITH, *t. c.* p. 47: in Barra in June; J. MACKRURY, *Ann. Scott. Nat. Hist.* iii, p. 211: in Shetland in August and September; F. TRAIL, *t. c.* p. 257: its range in the Ohio Valley; A. W. BUTLER, *Amer. Natural*, xxviii, pp. 136-145. *L. leucoptera*, *id. t. c.* pp. 145 & 146. *L. luzoniensis*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, *Bull. B. O. C.* iii, p. li.
- Pinicola enucleator* × *Carpodocus erythrinus*; E. E. THOMPSON, *Auk*, xi, pp. 1-3, pl. i.

Subfamily EMBERIZINÆ.

- Emberiza schœniclus*, near Calcutta; P. J. MUNN, *Ibis*, 1894, p. 52. ? = *E. fucata*; W. F. BLANFORD, *t. c.* p. 321. *E. hortulana*, in Eastern Prussia; E. HARTERT, *Ornith. Monber.* ii, pp. 39 & 40: in the Elbe Valley; J. MIEBEL, *Ornith. Jahrb.* v, pp. 24-26. *E. leucocephala*, in the Iser Mountains; P. R. KOLLIBAY, *t. c.* pp. 266 & 267.
- Calcarius lapponicus*, at Flamborough in November; J. CORDEAUX, *Zoologist*, 1894, pp. 19 & 20: in Sussex; H. A. MACPHERSON, *t. c.* p. 60: in Lincolnshire; G. H. CATON HAIGH, *t. c.* pp. 61 & 62.
- Cyanospiza ciris*, figured; A. G. BUTLER, *Foreign Finches*, pl. x. *C. cyanea*, figured; *id. t. c.* pl. xi.
- Junco hyemalis pinosus*, figured; L. M. LOOMIS, *Auk*, xi, pp. 265 & 266, pl. vii.
- Aimophila rufescens pallida*, n. subsp., Jalisco, Mexico; E. W. NELSON & T. S. PALMER, *t. c.* pp. 43-45.
- Pipilo orizabæ*, n. sp., Orizaba, Mexico; U. O. COX, *t. c.* pp. 161 & 162.
- Pseudochloris sharpii*, n. sp., Central Peru; H. VON BERLEPSCH & J. STOLZMANN, *Ibis*, 1894, pp. 386 & 387.
- Coryphospingus pileatus* (fig. 1), and *C. cristatus* (figg. 2 & 3), figured; A. G. BUTLER, *Foreign Finches*, pl. xii.
- Paroaria cucullata*, Melanism; A. B. MEYER, *Ornith. Monber.* ii, pp. 25 & 26.

Family ALAUDIDÆ.

- Alauda cristata*, var. *deserticolor*, n. subsp., Palestine; E. FESTA, *Boll. Mus. Torino*, ix, pp. —.

Family MOTACILLIDÆ.

- Motacilla alba*, in Worcestershire ; F. COBURN, Zoologist, 1894, p. 24.
M. campestris, migration ; F. B. WHITLOCK, Naturalist, 1894,
 pp. 77-80, 175, & 176 ; J. CORDEAUX, t. c. pp. 129 & 130. *M.*
melanope, in the Outer Hebrides ; J. MACKRURY, Ann. Scott. Nat.
 Hist. iii, p. 56.
Anthus pratensis, nesting in Tehri-Gürwhal ; B. B. OSMASTON, J. Bombay
 Soc. ix, p. 191. *A. correndera*, egg figured ; O. V. APLIN, Ibis, 1894,
 pl. v, fig. 1. *A. gutturalis*, n. sp., Mt. Maneao, S. E. New Guinea ;
 C. W. DE VIS, Rep. Orn. Coll. 1894, p. 5.
Tmetothylacus tænellus, Cab., J. f. O. 1878, p. 205, in Somaliland ;
 T. SALVADORI, Mem. Acc. Torino (2) xlv, p. 557.

Family MNIOTILTIDÆ.

- The family *Mniotiltidæ* in Baltimore County ; J. H. PLEASANTS, Johns
 Hopkins Univ. Circ. xiii, pp. 62-64.
Dendraca tigrina, its tongue ; F. A. LUCAS, Auk, xi, pp. 141-144.
Certhidea salvini, n. sp., Indefatigable I., Galapagos, *C. bifasciata*, n. sp.,
 Barrington I., *C. mentalis*, n. sp., Tower I., *C. albemarlei*, n. sp.,
 Albemarle I., *C. luteola*, n. sp., Chatham I. ; R. RIDGWAY, P. U. S.
 Mus. xvii, pp. 358-360.
Sylvania mitrata, its plumage ; W. PALMER, Auk, xi, pp. 282-291.
Siurus aurocapillus, first plumage figured ; J. A. ALLEN, Auk, xi,
 pp. 91-93, pl. ii.
Basileuterus vermivorus olivascens, n. subsp., Trinidad ; F. M. CHAPMAN,
 Bull. Amer. Mus. vi, pp. 24 & 25.

Family CERTHIIDÆ.

- Sittella griseiceps*, n. sp., Mt. Maneao, S. E. New Guinea ; C. W. DE VIS,
 Rep. Orn. Coll. 1894, p. 4.

Family SITTIDÆ.

- Sitta cæsia*, its habits ; J. HANCOCK, Nat. Hist. Tr. Northumb. xi, p. 66.
S. europæa, its habits ; C. F. DRUITT, P. Bristol Soc. (n.s.) vii,
 pp. 208-212. *S. carolinensis mexicana*, n. subsp., Puebla, Mexico ;
 E. W. NELSON & T. S. PALMER, Auk, xi, p. 45. *S. cæsia*, var.
amurensis, figured ; TH. PLESKE, Wiss. Result. Przewalski Reisen,
 taf. ix, fig. 3. *S. przewalskii*, figured ; *id. t. c.* fig. 4. [*S. przewalskii*,
 n. sp., Kansu ; M. BEREZOWSKI & B. BIANCHI, Aves Expeditionis
 Potanini per provinciam Gan-su et confinia, p. 119, 1891.]

Dendrophila mesoleuca, n. sp., N. Luzon ; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. xlix.

Family MELIPHAGIDÆ.

- Palmeria dolii*, figured ; S. B. WILSON & A. H. EVANS, Av. Haw., pt. v : not a Meliphagine Bird ; W. ROTHSCHILD, Bull. B. O. C. iii, p. xxv ; H. GADOW in S. B. WILSON & A. H. EVANS, *ibid.*
- Melirrophetes ornatus* and *M. collaris*, n. spp., Mt. Maneao, S. E. New Guinea ; C. W. DE VIS, Rep. Orn. Coll. 1894, pp. 4 & 5.
- Meliornis novæ-hollandiæ*, nesting habits ; J. NORTH, P. Linn. Soc. N. S. Wales (2) ix, pp. 186 & 187.
- Ptilotis plumbea*, n. sp., S. E. New Guinea ; T. SALVADORI, Ann. Mus. Genova (2) xiv, p. 151. *P. guisei*, n. sp., Mt. Maneao, S. E. New Guinea ; C. W. DE VIS, Rep. Orn. Coll. 1894, p. 5. *P. analoga*, nesting habits ; J. NORTH, P. Linn. Soc. N. S. Wales (2) ix, pp. 39-41.

Family NECTARINIIDÆ.

- Nectarinia deckeni*, n. sp., Mt. Kenia ; L. LOZENZ in HÖHNEL, Zum Rudolph-See und Stephanie-See p. 409, = *N. johnstoni* ; P. L. SCLATER, Ibis, 1894, pp. 452 & 453.
- Æthopyga flavipectus*, n. sp., N. Luzon ; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. xlix. *Æ. arolasi*, Tawi Tawi, Sulu, *Æ. bonita*, Negros, Cebu, Masbate, *Æ. minuta*, Mindoro, n. spp. ; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, pp. 17 & 18.
- Eudrepanis jefferyi*, n. sp., N. Luzon ; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. 1.
- Cinnyris aldabrensis* and *C. abbotti*, n. spp., Aldabra and Assumption Is. ; R. RIDGWAY, P. U. S. Mus. xvii, p. 372. *C. stuhlmanni* (s. n. *C. regia*) and *C. purpureiventris*, figured ; A. REICHENOW, J. Ornith. 1894, pl. i, figg. 1 & 2. *C. obscurior* and *C. whiteheadi*, n. spp., N. Luzon ; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, pl. 1 ; the latter figured ; *id.*, Ibis, 1894, pl. xiv, fig. 1. *C. guimārascensis*, in the I. of Negros ; W. E. CLARKE, *t. c.* p. 532.
- Hermotimia talautensis*, n. sp., Talaut I. ; A. B. MEYER & L. W. WIGLESWORTH, J. Ornith. 1894, pp. 244 & 245.
- Arachnothera celebensis*, n. sp., N. Celebes ; A. B. MEYER & L. W. WIGLESWORTH, Abh. Mus. Dresden, 1894-95, No. 4, p. 2.

Family DICEIDÆ.

- Diceum pallidior* [us], Cebu, *D. sibuyanica*, Sibuyan, *D. intermedia* [um], Tablas I., *D. assimilis* [e], Sulu I., n. spp. ; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, pp. 18-20.

- Prinocchilus aeruginosus*, Cebu, *P. bicolor*, Mindanao, n. spp.; F. S. BOURNS & D. C. WORCESTER, *t. c.* p. 20.
- Dicaeum sibuense*, figured; R. B. SHARPE, Ibis, 1894, pl. vii, figg. 1 & 2. *D. hypoleucum*, figured; *id. t. c.* pl. vii, fig. 3. *D. luzoniense* and *D. obscurum*, n. spp., N. Luzon; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. 1. *D. flaviventer*, n. sp., Cebu I., Philippines; A. B. MEYER, J. Ornith. 1894, p. 91.
- Acmorhynchus anaë*, n. sp., Flores; J. BÜTTIKOFER in MAX WEBER'S Reis. Nederl. Ost-Ind. p. 301, taf. xviii, fig. 4.
- Melanocharis striativentris*, n. sp., S. E. New Guinea; T. SALVADORI, Ann. Mus. Genova (2) xiv, p. 150.

Family ZOSTEROPIDÆ.

- Zosterops bassetti*, n. sp., from Damma I.; R. B. SHARPE, Ann. Nat. Hist. (6) xiv, p. 57. *Z. siquijorensis*, n. sp., Siquijor; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 21. *Z. aldabranus*, n. sp., Aldabra I., *Z. madagascariensis gloriosa*, n. subsp., Gloriosa I.; R. RIDGWAY, P. U. S. Mus. xvii, pp. 371 & 372. *Z. metcalfi*, n. sp., Bugotu I., and *Z. sanctæ crucis*, n. sp., Santa Cruz I.; H. B. TRISTRAM, Ibis, 1894, pp. 29 & 31, pl. iii, figg. 1 & 2. *Z. sarsinorum*, n. sp., N. Celebes; A. B. MEYER & L. W. WIGLESWORTH, J. Ornith. 1894, pp. 114 & 115.

Family PARIDÆ.

- Einige Notizen über die Köhl-, Hauben-, und Blaumeisen; J. W. PRAZAK, Ornith. Jahrb. v, pp. 233-253.
- Parus major newtoni*, n. subsp., Great Britain; *id. t. c.* p. 239. *P. major blanfordi*, n. subsp.; *id. t. c.* p. 240. *P. owstoni*, notes on; W. ROTHSCHILD, B. O. C. iii, p. xlvi. *P. holsti*, n. sp., Formosa; H. SEEBOHM, *op. cit.* iv, No. xxi, p. vii. *P. ultramarinus*, near Sphax; H. SPATZ, J. Ornith. 1894, p. 106. *P. venustulus*, figured; M. BEREZOWSKI & B. BIANCHI, Aves Expeditionis Potanini per provinciam Gan-su et confinia, pl. ii, fig. 3.
- Cyanistes berezowskii*, figured; T. PLESKE, Wiss. Result. Przewalski Reisen, taf. vii, figg. 3 & 4.
- Periparus ater*, var. *rufipectus*, figured; T. PLESKE, *op. cit.* taf. ix, fig. 1.
- Melaniparus nehrkorni*, notes on; R. B. SHARPE, Bull. B. O. C. iv, No. xx, p. ii.
- Lophophanes dichruroides*, figured; T. PLESKE, Wiss. Result. Przewalski Reisen, taf. ix, fig. 2. *L. dichrous*, N. W. India; B. B. OSMASTON, J. Bombay Soc. ix, p. 192.
- Pæcile davidi*, n. sp., Kansu; M. BEREZOWSKI & B. BIANCHI, Aves Expeditionis Potanini per provinciam Gan-su et confinia, p. 113,

- pl. ii, fig. 4. *P. songara* and *P. affinis*, figured; T. PLESKE, *Wiss. Result. Przewalski Reisen*, taf. viii, fig. 1 & 2. *P. superciliosa*, figured; *id. t. c.* pl. viii, figg. 3 & 4. *P. hypermelaena*, n. sp., Kansu; M. BEREZOWSKI & B. BIANCHI, *Aves Expeditionis Potanini per provinciam Gan-su et confinia*, p. 112, pl. ii, fig. 2.
- Acredula calva*, figured; T. PLESKE, *Wiss. Result. Przewalski Reisen*, taf. vii, figg. 1 & 2.
- Psaltriparus melanotis iulus*, n. subsp., Jalisco; P. L. JOUY, *P. U. S. Mus.* xvi, p. 776.

Family PANURIDÆ.

- Panurus biarmicus*, field notes on; F. A. CERVA, *Aquila*, i, pp. 55-61.

Family LANIIDÆ.

- Lanius borealis*, its habits; W. BREWSTER, *Auk*, xi, pp. 329 & 330. *L. excubitor*, in the Solway district in February; R. SERVICE, *Ann. Scott. Nat. Hist.* iii, p. 178. *L. minor*, in Hampshire; M. A. MATHEW, *Zoologist*, 1894, p. 345. *L. funereus*, n. sp., Thian Shan Mts.; M. MENZBIER, *Ibis*, 1894, pp. 378-381. *L. mollis*, notes on; *id. t. c.* pp. 381 & 382. *L. dichrourus*, Lake Nor-Zaissan; *id. t. c.* pp. 382 & 383. *L. dichrourus* × *Otomela karelini* [?] = *L. raddei*, Dresser]; *id. t. c.* pp. 383 & 384. *L. raddei*, not a hybrid, but perhaps = *L. karelini*, Boyd; H. E. DRESSER, *t. c.* pp. 384 & 385. *L. validirostris*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, *Bull. B. O. C.* iii, p. xlix.
- Laniarius bertrandi*, n. sp., Nyasaland; G. E. SHELLEY, *Ibis*, 1894, p. 15, pl. ii, fig. 2. *L. perspicillatus*, n. sp., Cameroons; A. REICHENOW, *J. Ornith.* 1894, p. 36. *L. bocagii*, n. sp., Cameroons; *id. Ornith. Monschr. Schutze*, ii, p. 125.
- Malaconotus*: notes on species; G. E. SHELLEY, *Bull. B. O. C.* iii, pp. xlii & xliii. *M. gabonensis*, n. sp.; *id. t. c.* p. xliii.
- Bocagia*, n. g.; type, *B. minuta* (Hartl.); G. E. SHELLEY, *t. c.* p. xliii.
- Dryoscopus major*, and allies; G. E. SHELLEY, *Ibis*, 1894, pp. 16-18.
- Pæoptera kenricki*, n. sp., Usambara Mts.; G. E. SHELLEY, *Bull. B. O. C.* iii, p. xlii.
- Artamia comorensis*, n. sp., Great Comoro I.; G. E. SHELLEY, *t. c.* p. xlii.
- Enneoctonus reichenovi*, n. emend. pro *Lanius affinis*, Reichen. (*nec Legge*): SHELLEY, *t. c.* p. xlii.
- Eulacestoma*, n. g.; type, *E. nigripectus*, n. sp.; C. W. DE VIS, *Rep. Orn. Coll.* 1894, p. 4.
- Pachycephala bourassii*, n. sp., N. Celebes; A. B. MEYER & L. W. WIGLESWORTH, *Abh. Mus. Dresden*, 1894-95, No. 4, p. 5.
- Hyloterpe winchelli*, Panay, *H. major*, Cebu, *H. mindorensis*, Mindoro, n. spp.; F. S. BOURNS & D. C. WORCESTER, *Occ. Pap. Minnes. Acad.* i, pp. 21 & 22. *H. albiventris*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, *Bull. B. O. C.* iii, p. xlix.

Rhectes ferrugineus clurus, n. sp., E. New Guinea; A. B. MEYER, J. Ornith. 1894, p. 91.

Family AMPELIDÆ.

See LUCAS, F.

Ampelis garrula, in Worcestershire; F. COBURN, Zoologist, 1894, p. 24: in Co. Down in February; R. PATTERSON, Irish Natural. p. 92.

A. japonica, notes on; A. REICHENOW, J. Ornith. 1894, p. 102.

Phainopepla nitens, osteology; F. LUCAS, P. U. S. Mus. xvii, p. 312.

Family SYLVIIDÆ.

Sylvia atricapilla, in Co. Meath; J. E. PALMER, Irish Natural. 1894, p. 177: in the Outer Hebrides; J. MACKRURY, Ann. Scott. Nat. Hist. iii, p. 56. *S. hortensis*, in Co. Cork; J. CROSBIE SMITH, Irish Natural. 1894, pp. 46 & 47. *S. subalpina*, in S. Kilda; R. B. SHARPE, Bull. B. O. C. iv, No. xxii, p. ix. *S. nisoria*, in Yorkshire; J. E. HARTING, Zoologist, 1894, p. 58.

Acrocephalus palustris and *A. horticolus*; S. CHERNEL, Aquila, i, pp. 123-129.

Locustella luscinioides, notes on; A. GRÜNACK, Ornith. Monber. ii, pp. 153-155. *L. hondoensis* [Zool. Rec. xxx, Aves, p. 45], = *L. pleskei*, Tacz.; L. STEJNEGER, P. U. S. Mus. xvii, pp. 205 & 206.

Sphenæacus caudatus, n. sp., Snares I.; W. L. BULLER, Ibis, 1894, pp. 522 & 523.

Dumeticola thoracica, eggs described; E. HARTERT, Nov. Zool. i, p. 671.

Celtia seebohmi, n. sp., N. Luzon; W. R. OGILVIE-GRANT, Ibis, 1894, pp. 507 & 508.

Hypolais icterina, breeding within the Arctic Circle; H. J. PEARSON & E. BIDWELL, t. c. p. 229.

Phylloscopus affinis, eggs described; E. HARTERT, Nov. Zool. i, p. 671. *P. superciliosus*, in Italy; G. VALLON, Ornith. Jahrb. v, p. 202. *P. rufus*, in Ireland in December; E. WILLIAMS, Irish Natural. 1894, p. 24. *P. trochilus*, in the Outer Hebrides; J. MACKRURY, Ann. Scott. Nat. Hist. iii, p. 56. *P. æcanthodryas*, notes on the species; W. E. BROOKS, Ibis, 1894, pp. 261-268.

Acanthiza papuensis, n. sp., Mt. Maneao, S. E. New Guinea; C. W. DE VIS, Rep. Orn. Coll. 1894, p. 3.

Sericornis nigro-rufa, n. sp., S. E. New Guinea; T. SALVADORI, Ann. Mus. Genova (2) xiv, p. 151.

Eremomela baumanni, n. sp., Togoland; A. REICHENOW, Ornith. Monber. ii, p. 156.

Camaroptera flavigularis, n. sp., Cameroons; A. REICHENOW, Ornith. Monber. ii, p. 126. *C. axillaris*, figured; *id.* J. Ornith. 1894, p. 102, pl. i, fig. 3.

Sylviella whytii, n. sp., Nyasaland; G. E. SHELLEY, Ibis, 1894, p. 13.

Prinia socialis, figured; E. C. STUART BAKER, J. Bombay Soc. ix, pl. B.

Family TURDIDÆ.

- Geocichla cinerea*, n. sp., Mindoro; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 23.
- Oreocichla dauma*, the record of its occurrence in Europe erroneous; H. SEEBOHM, Bull. B. O. C. iii., p. xxii.
- Turdus pilaris*, in Scotland in September; T. G. LAIDLAW, Ann. Scott. Nat. Hist. iii, p. 54. *T. migratorius*, in Leicestershire; H. M. LANGDALE, Zoologist, 1894, p. 459.
- Merula thomassoni*, n. sp., Luzon, and *M. papuensis*; H. SEEBOHM, Bull. B. O. C. iv, pp. iii-li. *M. canescens*, n. sp., Goodenough I.; C. W. DE VIS, Rep. Orn. Coll. 1894, p. 7.
- Myiadestes* and *Phœornis*, osteology; F. LUCAS, P. U. S. Mus. xvii, pp. 310 & 311.
- Sialia mexicana*, geographical variation in; R. RIDGWAY, Auk, xi, pp. 145-160.
- Catharus melpomene clarus*, n. subsp., Jalisco, P. L. JOUY, P. U. S. Mus. xvi, pp. 773 & 774.
- Cittocinclla superciliaris*, n. sp., Masbate; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 23.
- Ruticilla phœnicurus*, breeding in Co. Tyrone; R. J. USSHER, Irish Natural. 1894, pp. 176 & 177. *R. frontalis*, nesting in Tehri-Gurwhal; B. B. OSMASTON, J. Bombay Soc. ix, p. 191. *R. rufiventris* and *R. frontalis*, eggs described; E. HARTERT, Nov. Zool. i, p. 669.
- Chimarrhornis leucocephala*, eggs described; E. HARTERT, t. c. p. 670. *C. bicolor*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. xlv: figured, *id.*, Ibis, 1894, pl. xv, fig. 2.
- Calliope tschebajewi*, figured; E. O. STUART BAKER, J. Bombay Soc. ix, pl. c.
- Larvivora obscura*, n. sp., Kansu; M. BEREZOWSKI & B. BIANCHI, Aves Expeditionis Potanini per provinciam Gan-su et confinia, p. 97, pl. i, fig. 2.
- Rubecola tytleri*, Jameson, = *Siphia parva*; W. E. CLARKE, P. Phys. Soc. Edinb. xii, pp. 29 & 30.
- Saxicola ananthe*, albino nestlings; W. ROTHSCHILD, Nov. Zool. i, p. 667.

Family CINCLIDÆ.

- Cinclus aquaticus*, notes on; O. FINSCH, Zeitschr. Fischerei, 1894, heft. 4.

Family TROGLODYTIDÆ.

- Heleodytes*: notes on the genus; A. W. ANTHONY, Auk, xi, pp. 210-214.
- H. brunneicapillus bryanti*, n. subsp.; *id.* t. c. p. 212.
- Henicorhina pittieri*, n. sp., Costa Rica; G. K. CHERRIE, An. Mus. Costa Rica, iv, p. 134.

Family MIMIDÆ.

Nesomimus baueri, n. sp., Torres I., Galapagos, *N. bindloei*, n. sp., Bindloe I., *N. adamsi*, n. sp., Chatham I.; R. RIDGWAY, P. U. S. Mus. xvii, pp. 357 & 358.

Family TIMELIIDÆ.

- Suthora suffusa*, Smith, = *S. bulomachus*, Smith, *S. longicauda*, Campb., = *S. webbiana*, Gray, *S. fulvicauda*, Campb., probably also = *S. webbiana*; H. SEEBOHM, Ibis, 1894, pp. 338 & 339. *S. przewalskii*, n. sp., Kansu; M. BEREZOWSKI & B. BIANCHI, Aves Expeditionis Potanini per provinciam Gan-su et confinia, p. 67, pl. ii, fig. 1.
- Trochalopteron sukatschewi*, n. sp., Kansu; M. BEREZOWSKI & B. BIANCHI, t. c. p. 59, pl. i, fig. 1. *T. przewalskii*, distinct from *T. ellioti*; E. HARTERT, Nov. Zool. i, p. 668.
- Garrulax waddelli*, n. sp., Sikkim; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. xxix.
- Malia recondita*, n. sp., N. Celebes; A. B. MEYER & L. W. WIGLESWORTH, Abh. Mus. Dresden, 1894-95, No. 4, p. 1.
- Drymædus brevicauda*, n. sp., Mt. Maneao, S. E. New Guinea; C. W. DE VIS, Rep. Orn. Coll. p. 5.
- Trichostoma buttikoferi*, n. sp., S. Sumatra; A. G. VORDERMAN, Natuurk. Tijdschr. Nederl. Ind. (8) xii, p. 230.
- Malacopteron cinereum bungureense*, n. subsp., Natuna Is.; E. HARTERT, Nov. Zool. i, p. 470.
- Ptilocichla minuta*, n. sp., Samar; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 24.
- Orthocichla whiteheadi*, young described; R. B. SHARPE, Ibis, 1894, pp. 421 & 422.
- Micornis everetti*, n. sp., Natuna Is.; E. HARTERT, Nov. Zool. i, pp. 472 & 473.
- Stachyris natunensis*, n. sp., Natuna Is.; E. HARTERT, t. c. pp. 470-472.
- Zosterornis*, n. g.; type, *Z. whiteheadi*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, p. 1: figured; *id.* Ibis, 1894, pl. xiii, fig. 1. *Z. striatus*, n. sp., N. Luzon; *id.* Bull. B. O. C. iv, No. xx, p. ii.
- Ixulus clarki*, n. sp., Shan States; E. W. OATES, *op. cit.* iii, p. xli: figured; *id.* Ibis, 1894, pl. xiii, fig. 1. *I. humilis*, figured; *id.* t. c. pl. xiii, fig. 2.
- Hemicurus ruficapillus*, nests and eggs; H. J. KELSALL, J. Straits Asiat. Soc. xxiv, p. 170 [1891].

Family PYCNONOTIDÆ.

- Xenocichla milanjensis*, n. sp., Nyasaland; G. E. SHELLEY, *Ibis*, 1894, p. 9, pl. i, fig. 1. *X. fusciceps* [Zool. Rec. xxx, *Aves*, p. 47], figured, *id. t. c. pl. i*, fig. 2.
- Iole cinereiceps*, Tablas I., *I. monticola*, Cebu, n. spp.; F. S. BOURNS & D. C. WORCESTER, *Occ. Pap. Minnes. Acad.* i, p. 25.
- Andropadus zombensis*, n. sp., Nyasaland; G. E. SHELLEY, *Ibis*, 1894, p. 10.
- Phyllostrophus cerviniventris*, n. sp., Nyasaland; G. E. SHELLEY, *t. c.* p. 10, pl. ii, fig. 1.
- Pycnonotus taivanus* [Zool. Rec. xxx, *Aves*, p. 47], figured; F. W. STYAN, *t. c. pl. ix*.
- Iococincta madagascariensis rostrata*, its nest and eggs described; C. BENDIRE, *P. U. S. Mus.* xvii, p. 39.
- Micropus*: on the use of the generic name [see *Cypseli*, p. 35]; R. B. SHARPE, *Ibis*, 1894, p. 422. *M. nehrkorni*, Blas., is a *Melaniparus*; *id.* *Bull. B. O. C.* iv, p. ii.

Family CAMPOPHAGIDÆ.

- Graucalus bungurensis*, n. sp., Natuna Is.; E. HARTERT, *Nov. Zool.* i, p. 477. *G. crissalis*, n. sp., Mentawai I., Sumatra; T. SALVADORI, *Ann. Mus. Genova* (2) xiv, p. 592.
- Symmorphus nigripectus*, n. sp., Mt. Maneao, S. E. New Guinea; C. W. DE VIS, *Rep. Orn. Coll.* p. 4.

Family MUSCICAPIDÆ.

- Die Fliegenschnäpper (*Muscicapidæ*) in Siebenbürgen; E. V. CZYNK, *Ornith. Jahrb.* v, pp. 13-19.
- Hemichelidon cinereiceps* = *H. ferruginea*; R. B. SHARPE, *Ibis*, 1894, p. 541.
- Alseonax latirostris*, its nesting; B. A. G. SHELLEY, *J. Bombay Soc.* ix, p. 223.
- Bradyornis sharpii*, n. sp., Angola; J. V. BARBOZA DU BOCAGE, *Bull. B. O. C.* iii, p. xliii.
- Muscicapa parva*, in the Outer Hebrides; J. A. HARVIE-BROWN & W. E. CLARKE, *Ann. Scott. Nat. Hist.* iii, pp. 2 & 3.
- Miro dannefordi*, n. sp., Snares I.; W. ROTHSCILD, *Nov. Zool.* i, p. 688.
- Monachella viridis*, n. sp., Mt. Maneao, S. E. New Guinea; C. W. DE VIS, *Rep. Orn. Coll.* 1894, p. 3.
- Pœcilodryas hermani*, n. sp., Finisterre Mts., New Guinea; J. VON MADARASZ, *Bull. B. O. C.* iii, p. xlvii: figured, *Aquila*, i, tab. i, fig. 2. *P. armii* and *P. modesta*, n. spp., Mt. Maneao, S. E. New Guinea; C. W. DE VIS, *Rep. Orn. spec.* 1894, p. 3.

- Micræca griseiceps* and *M. punctata*, n. spp., Mt. Maneao, S. E. New Guinea; C. W. DE VIS, *t. c.* p. 3.
- Rhinomyias albigularis*, Negros, *R. ocularis*, Sulu, n. spp.; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, pp. 27 & 28.
- Muscicapula luzoniensis*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, Ibis, 1894, pp. 505 & 506. *M. samarensis*, n. sp., Samar; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 26.
- Stoparola nigrimentalis*, n. sp., N. Luzon; W. R. OGILVIE-GRANT, Bull. B. O. C. iii, pl. 1: figured; *id.* Ibis, 1894, pl. xiv, fig. 2.
- Cryptolopha flavigularis*, n. sp., Cebu; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 23.
- Terpsiphone floris*, n. sp., Floreo; J. BÜTTIKOFER in MAX WEBER'S Reis. Nederl. Ind. p. 293, taf. xviii, figg. 1-3. *T. sumbaensis*, n. sp., Sumba I.; A. B. MEYER, J. Ornith. 1894, p. 90. *T. floris*, notes on; *id.* *t. c.* p. 93.
- Zeocephus talautensis*, n. sp., Talaut I.; A. B. MEYER & L. W. WIGLESWORTH, J. Ornith. 1894, p. 213.
- Rhipidura fuliginosa* × *R. flabellifera*; J. C. MCLEAN, Ibis, 1894, pp. 100-102. *R. maneaoensis*, n. sp., Mt. Maneao, S. E. New Guinea; C. W. DE VIS, Rep. Orn. Coll. 1894, p. 2. *R. sauli*, n. sp., Tablas I.; F. S. BOURNS & D. C. WORCESTER, Occ. Pap. Minnes. Acad. i, p. 26.
- Philentoma dubium*, n. sp., Natuna Is.; E. HARTERT, Nov. Zool. i, pp. 477 & 478.
- Arses fenichelii*, n. sp., Finisterre Mts., New Guinea; J. VON MADARASZ, Aquila, i, pp. 92 & 93. *A. terræ-reginæ*, n. sp., Queensland; A. J. CAMPBELL, P. Soc. Victoria, 1894, pp. 25 & 26.
- Siphia strophciata*, nesting in Tehri-Gurwhal; B. B. OSMASTON, J. Bombay Soc. ix, p. 190.
- Rubecola tyleri*, Jameson, = *Siphia parva*; W. E. CLARKE, P. Phys. Soc. Edinb. xii, pp. 29 & 30.

Family HIRUNDINIDÆ.

- A monograph of the *Hirundinidæ*, or family of Swallows [Zool. Rec. xxx, *Aves*, p. 48]; R. B. SHARPE & C. W. WYATT, pts. xviii-xx. Completes the work: *Psaldoprogne orientalis* figured.
- See FATIO, V., & STUDER, TH.
- Hirundo rustica*, statistics of the spring migration; O. HERMAN, Aquila, i, pp. 1-28: albino nestlings; W. ROTHSCHILD, Nov. Zool. i, p. 667.
- H. rustica savignii*, in Bohemia; V. TSCHUSI ZU SCHMIDHOFFEN, Ornith. Jahrb. v, pp. 213 & 214. *H. gutturalis*, supposed occurrence at Brighton; J. H. GURNEY, Ibis, 1894, p. 452 [Is *H. rustica*, cf. SHARPE & WYATT, Monogr. Hirund. Intr., p. lxvii.]
- Allicora fucata*, egg figured; O. V. APLIN, Ibis, 1894, pl. v, fig. 2.

Section B. *OLIGOMYODÆ.*

Family TYRANNIDÆ.

- Tenioptera nengeta*, eggs figured ; O. V. APLIN, *Ibis*, 1894, pl. v, figg. 3 & 4.
- Tyrannus dominicensis*, in South Carolina ; A. T. WAYNE, *Auk*, xi, pp. 178 & 179.
- Tyranniscus frontalis*, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, *Ibis*, 1894, p. 390.
- Mitrephanes olivaceus*, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, *t. c.* pp. 391 & 392.
- Orchilus albiventris*, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, *t. c.* p. 389.
- Pyrocephalus carolensis*, n. sp., Charles I., Galapagos, *P. intercedens*, n. sp., Indefatigable I., *P. abingdoni*, n. sp., Abingdon I., *P. dubius* ; remarks on ; R. RIDGWAY, *P. U. S. Mus.* xvii, pp. 365-370.
- Empidochanes cabanisi canescens*, n. subsp., Trinidad ; F. M. CHAPMAN, *Bull. Amer. Mus.* vi, p. 42.

Family PIPRIDÆ.

- Pipra comata*, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, *Ibis*, 1894, p. 392.

Family COTINGIDÆ.

- Phibalura flavirostris*, its eggs ; P. L. SCLATER, *Bull. B. O. C.* iii, p. xli : its nesting habits ; E. A. GOELDI, *Ibis*, 1894, pp. 484-490.

Family PITIDÆ.

- A monograph of the *Pittidæ*, or family of Ant-Thrushes. Pts. ii (1893), iii, & iv, 1894 ; D. G. ELLIOT. The following species are figured : *Eucichla ellioti*, *E. guaiana*, *E. boschi*, *Pitta cærulea*, *P. rufiventris*, *P. coronata*, *P. iris*, *P. ussheri*, *P. megarhyncha*, *P. cucullata*, *P. lorice*, *P. steerii*, *P. concinna*, *P. rubriniucha*, *P. nepalensis*, *P. kochi*, *P. celebensis*, *P. granatina*, *P. g. borneensis*, *P. mefoorana*, *P. cæruleitorques*, *P. atricapilla*, *P. cyanea*, *P. brachyura*, *P. baudi*, *P. erythrogastra*, *Anthocincla phayrii*.
- Pitta inspeculata*, n. sp., Talaut I. ; A. B. MEYER & L. W. WIGLESWORTH, *J. Ornith.* 1894, pp. 245 & 246, taf. iii.

Family XENISCIDÆ.

- Traversia*, n. g. ; type *T. lyalli*, n. sp., Stephens' I., New Zealand ; W. ROTHSCILD, *Bull. B. O. C.* iv, No. xxii, pp. x & xi.

Section C. *TRACHEOPHONÆ*.

Family FORMICARIIDÆ.

Dysithamnus tucuyensis, n. sp., Venezuela ; E. HARTERT, Nov. Zool. i, p. 672. *D. dubius*, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, Ibis, 1894, pp. 393 & 394.

Myrmotherula longicauda and *M. sororia*, n. spp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, t. c. p. 396.

Myrmeciza spodiogastra, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, t. c. p. 397.

Family DENDROCOLAPTIDÆ.

Lochmias nematura, its nesting habits ; E. A. GOELDI, Ibis, 1894, pp. 490-494.

Siptornis taczanowskii, n. sp., Central Peru ; H. VON BERLEPSCH & J. STOLZMANN, t. c. p. 393.

IV. REPTILIA AND BATRACHIA.

BY

G. A. BOULENGER, F.R.S.

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I.—TITLES.*

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- ANDERSON, J. On two new species of Agamoid Lizards from the Hadramut, South-eastern Arabia. *Ann. Nat. Hist.* (6) xiv, 1894, pp. 376-378.
- ANDREWS, C. W. On the development of the Shoulder-girdle of a Plesiosaur (*Cryptoclidus oxoniensis*, Phillips) from the Oxford Clay. *Op. cit.* xv, 1895, pp. 333-346, figg.
- Note on a specimen of *Keruterpelum galvani*, Huxley, from Staffordshire. *Geol. Mag.*, Dec. iv, ii, 1895, pp. 81-84, fig.
- ARNOLD, G. A. The anterior cranial Nerves of *Pipa americana*. *Bull. Essex Inst.* xxv, 1894, pp. 126-134, 1 pl.
- ARRIGONI DEGLI ODDI, E. Materiali per la Fauna Padovana dei Vertebrati. I. Mammiferi, Rettili, Anfibi e Pesci. *Atti Soc. Veneto-Trent.* (2) ii, 1895, pp. 1-81.
- ASSHETON, R. On the phenomenon of the fusion of the epiblastic Layers in the Rabbit and in the Frog. *Quart. J. Micr. Sci.* xxxvii, 1894, pp. 165-171, pl. xviii.
- On the growth in length of the Frog Embryo. *T. c.* pp. 223-243, pls. xxiii & xxiv.
- BARFÜRTH, D. Die experimentelle Regeneration überschüssiger Gliedmassentheile (Polydaktylie) bei den Amphibien. *Arch. Entwickl.-mech.* i, 1894, pp. 91-116, pl. v.
- Sind die Extremitäten der Frösche regenerationsfähig? *T. c.* pp. 117-123, pl. vi.
- BARTLETT, A. D. On a singular case of one Snake swallowing another in the Society's Reptile House. *P. Zool. Soc. London*, 1894, pp. 669 & 670 (1895).
- BARTLETT, E. Notes on the Chelonians, Tortoises, and Turtles, found in Borneo and the adjacent Islands. *Sarawak Gazette*, Nov. 1, 1894, and Feb. 1, 1895.
- Notes on the Batrachians, or Frogs and Toads, of Borneo and the adjacent Islands. *Op. cit.* Dec. 1, 1894.
- BAUR, G. The Relationship of the Lacertilian genus *Anniella*, Gray. *P. U. S. Mus.* xvii, 1894, pp. 345-351.
- Bemerkungen über die Osteologie der Schläfengegend der höheren Wirbelthiere. *Anat. Anz.* x, 1894, pp. 315-330.
- Ueber den Proatlas einer Schildkröte (*Platypeltis spinifer*). *T. c.* 1895, pp. 349-354, figg.

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

- [BAUR, G.] Die Palatingegend der Ichthyosauria. Anat. Anz. x, 1894, pp. 456-459, fig.
- BAYER, F. Studie z osteologie Lacertid. SB. Bohmisch. Ges. 1893, No. 7, 23 pp., 1 pl. (1894).
- BEDDARD, F. E. Notes upon the Tadpole of *Xenopus laevis* (*Dactylethra capensis*). P. Zool. Soc. London, 1894, pp. 101-107, pl. xiii.
- BEDRIAGA, J. v. Bemerkungen zu F. Werner "Ueber *Algiroides moreoticus* aus Kephallenia." Zool. Anz. xvii, 1894, pp. 455-457.
- BENHAM, W. B. Notes on a particularly abnormal vertebral column of the Bull-Frog; and on certain other variations in the Anuran column. P. Zool. Soc. London, 1894, pp. 477-481, pl. xxxiii.
- BETHE, A. Die Nervenendigungen im Gaumen und in der Zunge des Frosches. Arch. mikr. Anat. xlv, 1894, pp. 185-206, pls. xii & xiii.
- BISOGNI, C. Nota preliminare sulla esistenza e struttura d'una nuova glandula nell'astuccio linguale della *Vipera redii*. Int. J. Anat. Phys. xi, 1894, pp. 123-126, pl. vi.
- . Sur la correspondance anatomique du groupe glandulaire sous-lingual avec les plaques jugulaires dans les serpents non vénéimeux. *Op. cit.* xii, 1895, pp. 187-190, pl. ix.
- BOAS, J. E. V. Zur Morphologie der Wirbelthierkralle. Morphol. Jahrb. xxi, 1894, pp. 281-311, figg., pls. x & xi.
- BÖTTGER, O. Lurche (*Batrachia*), Schlangen. In SEMON, Zool. Forsch. Austral. u. Mal. Arch. (Jen. Denkschr. viii), v, 1894, pp. 107-126, pl. v.
- . Beitrag zur herpetologischen Kenntniss der Calamianen, Philippinische Inseln. Abh. Mus. Dresden, 1894-95, No. 7, 5 pp. (1895).
- . Dr. Eduard Fleck's Reiseausbeute aus Südwest-Africa.—Aufzählung der Arten. Ber. Senckenberg. Ges. 1894, pp. 88-93.
- . Materialien zur herpetologischen Fauna von China, III. *T. c.* pp. 129-152, pl. iii.
- . Reptilien und Batrachier aus Bolivien. Zweite Mittheilung. Zool. Anz. xvii, 1894, pp. 118 & 119.
- . Diagnosen eines Geckos und eines Chamäleons aus Süd-Madagascar. *T. c.* pp. 137-140.
- . Eine neue *Brookesia* (*Chamaeleontidae*) aus Nossi Bé. *T. c.* pp. 182-185.
- . Zwei neue Reptilien vom Sambesi. *Op. cit.* xviii, 1895, pp. 62 & 63.
- . Liste der Reptilien und Batrachier der Insel Halmahera nach den Sammlungen Prof. Dr. W. Kükenthal's. *T. c.* pp. 116-121 & 129-138.

- BOHLS, J. Bemerkungen zur Eintheilung der *Chelydidae*. *T. c.* pp. 51-53, fig.
- BORGOGNO, C. Note sur la capture d'une Tortue caouane, *Chelonia caouana*, sur les côtes de la Vendée. Bull. Soc. Ouest France, iv, 1894, pp. 73-75, pl. ii.
- BOULENGER, G. A. Catalogue of the Snakes in the British Museum (Natural History). Vol. ii, containing the conclusion of the *Colubridæ aglyphæ*. London: 1894, 8vo, xi, 382 pp., woodcuts, 20 pls.
- On a Gecko from South Africa. P. Zool. Soc. London, 1894, p. 608 (1895).
- Third report on additions to the Batrachian collection in the Natural History Museum. *T. c.* pp. 640-646, pls. xxxix & xl.
- Second report on additions to the Lizard collection in the Natural History Museum. *T. c.* pp. 722-736, pls. xlvii-xlix.
- A list of the Reptiles and Batrachians collected by Dr. E. Modigliani on Sereinu (Sipora), Mentawai Islands. Ann. Mus. Genova (2) xiv, 1894, pp. 614-618.
- Esplorazione del Giuba e dei suoi affluenti compiuta dal Cap. V. Bottego durante gli anni 1892-93, sotto gli auspicii della Società Geographica Italiana.—Rettili e Batraci. *Op. cit.* xv, 1895, pp. 9-18, pls. i-iv
- On a new *Typhlops* previously confounded with *Typhlops unguirostris*, Peters. P. Linn. Soc. N. S. Wales, ix, 1895, pp. 718 & 719.
- Description of a new Snake found in Travancore by Mr. S. Dighton, Pirmaad. J. Bombay Soc. viii, 1894, p. 528, pl. —.
- An addition to the Ophidian fauna of India (*Tarbophis rhinopoma*, Blanf.). *Op. cit.* ix, 1895, p. 325.
- J. Walker's visit to Damma Island, East Indian Archipelago.—Reptiles. Ann. Nat. Hist. (6) xiv, 1894, pp. 58 & 59.
- On the herpetological fauna of Palawan and Balabac. *T. c.* pp. 81-90.
- On the genus *Phryniscus* of Wiegmann. *T. c.* pp. 374 & 375.
- Description of a new *Anolis* from Antigua, West Indies. *T. c.* pp. 375 & 376.
- Descriptions of a new Lizard and a new Fish obtained in Formosa by Mr. Holst. *T. c.* pp. 462 & 463.
- Note on a West-African apodal Batrachian hitherto confounded with *Cecilia seraphini* of Aug. Duméril. *Op. cit.* xv, 1895, pp. 328 & 329.
- Description of a new Snake from Borneo. *T. c.* p. 329.
- On the American Box-Tortoises. *T. c.* pp. 330 & 331.

- [BOULENGER, G. A.] On the variations of the Viper (*Vipera berus*) in Denmark. *Zoologist* (2) xix, 1895, pp. 60-62.
- BRIMLEY, C. S. List of Snakes observed at Raleigh, N. C. *Amer. Natural.* xxix, 1895, pp. 56 & 57.
- BRIMLEY, H. H., & C. S. The habitat of the Salamander *Linguelapsus annulatus*, Cope. *T. c.* p. 168.
- BRINDLEY, H. H. On a specimen of *Hemidactylus gleadowii*, Murray, with a bifid renewed Tail. *J. Bombay Soc.* ix, 1894, pp. 30-33, 2 pls.
- BROOK-FOX, F. G. The Russell's Viper. *Op. cit.* viii, 1894, p. 565.
- BROWNE, M. On some Vertebrate remains not hitherto recorded from the Rhætic Beds of Britain. *Rep. Brit. Ass.* 1893, pp. 748 & 749 (1894).
- BUREAU, L. Le Lézard vivipare, *Lacerta vivipara*, Jacquin, dans la Loire-Inférieure. *Bull. Soc. Ouest France*, iii, 1893, pp. 59-62, pl. i.
- . Note sur la capture d'une Tortue Luth, *Sphargis coriacea*, dans la baie d'Audiernie (Finistère). *T. c.* pp. 223-228, pl. iv.
- CAMBRIDGE, O. P. Reptiles of Dorset. *P. Dorset Club*, xv, 1894, pp. 90-102, pl. —.
- CAMERANO, L. Ricerche anatomo-fisiologiche intorno ai Salamandridi normalmente apneumoni. *Atti Acc. Torino*, xxix, 1894, pp. 705-724, figg.—Abstracts in *Boll. Mus. Torino*, ix, 1894, No. 178, 8 pp.; and in *Anat. Anz.* ix, 1894, pp. 676-678.
- CARUCCIO, A. Sulla *Vipera berus*, subsp. *V. aspis*, e sulle sue varietà raccolta in un decennio nella Prov. di Roma. *Boll. Soc. Rom. Zool.* iii, 1894, pp. 77-92.
- CHALANDE, J. Contribution à l'histoire des Reptiles. Faune de la région sous-pyrénéenne. *Bull. Soc. Aude*, v, 1894, pp. 96-143.
- CHAPMAN, H. C. Homologies of the Alisphenoid and Petromastoid bones in Vertebrates. *P. Ac. Philad.* 1894, pp. 32-51, figg.
- CHOMIAKOFF, M. Die Entwicklung des Tarsus bei *Pelobates fuscus*. *Bull. Soc. Moscou*, 1894, pp. 351-357, pl. viii.
- COPE, E. D. Second addition to a knowledge of the Batrachia and Reptilia of Costa Rica. *P. Amer. Phil. Soc.* xxxi, 1894, pp. 333-347.
- . Third addition to a knowledge of the Batrachia and Reptilia of Costa Rica. *P. Ac. Philad.* 1894, pp. 194-206.
- . On a collection of Batrachia and Reptilia from the Island of Hainan. *T. c.* pp. 423-428 (1895).
- . The Batrachia and Reptilia of the University of Pennsylvania West Indian Expedition of 1890 and 1891. *T. c.* pp. 429-441, pls. x-xii (1895).

- [COPE, E. D.] On the Structure of the Skull in the Plesiosaurian Reptilia, and on two new species from the Upper Oretaceous. P. Amer. Phil. Soc. xxxiii, 1894, pp. 109-113, fig., pl. x.
- On the Lungs of the Ophidia. *T. c.* pp. 217-224, pls. xi-xvi.
- On the Iguanian genus *Uma*, Baird. Amer. Natural. xxviii, 1894, pp. 434 & 435, figg.
- On the genera and species of *Euchirotidæ*. *T. c.* pp. 436 & 437, figg.
- On the species of *Himantodes*, D. & B. *T. c.* pp. 612-614.
- The classification of Snakes. *T. c.* pp. 831-844, pls. xxvii & xxviii.
- CRAGIN, F. W. Herpetological Notes from Kansas and Texas. Colorado College Studies, v, 1894, pp. 37-39.
- Vertebrata from the Neocomian of Kansas. *T. c.* pp. 69-73, pls. i & ii.
- DAMES, W. Die Chelonier der Norddeutschen Tertiärformation. Pal. Abh. (2) ii, 1894, pp. 197-220, figg., pls. xxvi-xxix.
- DOUGLAS-OGILBY, J. Description of a new Australian Snake. P. Linn. Soc. N. S. Wales (2) ix, 1894, pp. 261 & 262.
- DOUGLASS, G. N. On the Herpetology of the Grand Duchy of Baden. Reprinted from "The Zoologist," 1891, with corrections, &c. London: 1894, 8vo, 62 pp.
- DRASCH, O. Der Bau der Giftdrüsen des gefleckten Salamanders. Arch. Anat. 1894, pp. 225-268, pls. xii-xv.
- DUGÈS, A. Lista de algunos reptiles y batracios de Tabasco y Chiapas. Naturaleza (2) ii, 1894, pp. 375-377.
- *Hemichirotes tridactylus*. *T. c.* pp. 411 & 412, pl. xx.
- °EBNER, V. VON. Die äussere Furchung des Triton-Eies und ihre Beziehung zu den Hauptrichtungen des Embryo. Jena: 1894, 4to, 26 pp., 2 pls.
- EMERY, C. Osservazioni sui pori cutanei dei Coccodrilli. Rend. Acc. Bologna, 1893-94, pp. 119 & 120.
- °— Studi sulla morfologia dei membri degli Anfibi e sulla filogenia del Chiropterygio. Ric. Labor. Anat. norm. Roma, iv, 1894, pp. 1-35, 2 pls.
- EVANS, W. The Reptiles and Batrachians of the Edinburgh district. P. Phys. Soc. Edinb. xii, 1894, pp. 490-526.
- EYCLESHYMER, A. C. The early development of *Amblystoma*, with observations on some other Vertebrates. J. Morphol. x, 1895, pp. 343-418, pls. xviii-xxii.
- FERREIRA, J. B. Remarques sur la Vipère commune. J. Sci. Lisb. (2) iii, 1894, pp. 167-170.

- FIELD, H. H. Sur la développement des organes excréteurs chez l'*Amphiuma*. C.R. Ac. Sci. cxviii, 1894, pp. 1221-1224.
- . Quelques mots sur la circulation dans la tête chez l'Axolotl. Anat. Anz. ix, 1894, pp. 471 & 472.
- . Die Vornierenkapsel, ventrale Musculatur und Extremitätenanlagen bei den Amphibien. T. c. pp. 713-724, figg.
- . Die Entwicklung der Harnblase bei den Cæcilien. Eine Nachschrift. T. c. pp. 764-766.
- FISH, P. A. The central nervous system of *Desmognathus fusca*. J. Morphol. x, 1895, pp. 231-286, pls. xiii-xvi.
- . The form and relations of the nerve cells and fibres in *Desmognathus fusca*. Preliminary notice. Anat. Anz. ix, 1894, pp. 754-758, figg.
- FLECK, E. Dr. Eduard Fleck's Reiseausbeute aus Südwest-Africa.— Vorkommen und Lebensweise der Reptilien und Batrachier. Ber. Senckenberg. Ges. 1894, pp. 83-87.
- FLETCHER, J. J. Description of a new Cystignathoid Frog from New South Wales. P. Linn. Soc. N. S. Wales (2) viii, 1894, pp. 522 & 523.
- . Contributions to a more exact knowledge of the Geographical Distribution of Australian Batrachia. No. iv. T. c. pp. 524-533.
- FRAAS, E. Die Hautbedeckung von *Ichthyosaurus*. Jahresh. Ver. Württemb. I, 1894, pp. 493-498, pl. v.
- FRITSCH, K. v. Beitrag zur Kenntnis der Saurier des Halle'schen unteren Muschelkalkes. Abh. Ges. Halle, xx, 1894, pp. 271-302, fig., pls. xvi-xviii.
- FRITZE, A. Die Fauna der Liu-Kiu Insel Okinawa. Zool. Jahrb. Syst. vii, 1894, pp. 852-926.
- FÜLLEBORN, F. Bericht über eine zur Untersuchung der Entwicklung von *Amia*, *Lepidosteus*, und *Necturus* unternommene Reise nach Nord-America. SB. Ak. Berlin, 1894, pp. 465-478.
- GADEAU DE KERVILLE, H. Recherches sur les Faunes marine et maritime de la Normandie. 1^{er} voyage. Région de Granville et îles Chaufey. Bull. Soc. Rouen, 1894, pp. 55-126, figg., pls. i-vi.
- GADOW, H. Sur les restes de quelques Tortues terrestres gigantesques et d'un Lizard éteint récemment découverts à l'île Maurice. Ann. Sci. Nat. (7) xviii, 1894, pp. 247-266. [Translation.]
- GAINES, A. List of Ophidia found near Vincennes, Indiana. Amer. Natural. xxviii, 1894, pp. 958 & 959.
- . Batrachia of Vincennes, Indiana. *Op. cit.* xxix, 1895, pp. 53-56.
- GAUBERT, — . Nature du Venin des Serpents. Naturaliste (2) viii, 1894, pp. 279 & 280.

- GAUPP, E. Beiträge zur Morphologie des Schädels. II. Das Hyobranchial Skelet der Anuren und seine Umwandlung. Morphol. Arbeit. iii, 1894, pp. 399-438, fig., 2 pls.
- GARMAN, H. A preliminary list of the Vertebrate animals of Kentucky. Bull. Essex Inst. xxvi, 1894, pp. 1-63.
- *GERHARDT, W. Ueber die Bastardierung von *Rana esculenta* mit *Rana arvalis*. Ein weiterer Beitrag zur Bastardierung zwischen den einheimischen Anuren-Arten. Inaug. Diss. Breslau, 1894, 8vo, 66 pp., 1 pl.
- GIACOMINI, E. Sur l'oviducte des Sauropsides. Arch. ital. Biol. xxi, 1894, pp. 147-151. [Translation of paper in Monit. Zool. ital. 1893.]
- . Nouvelle contribution à la connaissance plus parfaite des annexes fœtales chez les reptiles. Réception du sac vitellin et de l'allantoïde dans la cavité abdominale. T. c. pp. 151-154. [Ditto.]
- GLEADOW, F. *Psammophis longifrons*. J. Bombay Soc. viii, 1894, p. 553.
- GOETTE, A. Ueber die Zusammensetzung der Wirbel bei den Reptilien. Zool. Anz. xvii, 1894, pp. 359-363.
- GÖPPERT, E. Die Kehlkopfmuskulatur der Amphibien. Eine vergleichend-anatomische Untersuchung. Morphol. Jahrb. xxii, 1894, pp. 1-78, figg., pls. i & ii.
- GRABHAM, O. The palmated Newt near Scarborough. Naturalist, 1894, p. 158.
- GREVÉ, C. Eine Amerikanische Schlange in Moskau. Zool. Garten, xxxv, 1894, pp. 179 & 180.
- GRIFFITHS, A. B. Sur la composition du pigment rouge du *Diemyctylus viridescens*, Rafinesque. C.R. Ac. Sci. cxix, 1894, pp. 912 & 913.
- GRÖNBERG, G., & KLINCKOWSTRÖM, A. v. Zur Anatomie der *Pipa americana*. Zool. Jahrb. Anat. vii, 1894, pp. 609-665, figg., pls. xxxv-xxxix.
- GÜNTHER, A. Biologia Centrali-Americana. Reptilia. Pp. 129-144, pls. xliii-xlvi, issued in 1894, pp. 145-168, pls. xlix & l, in 1895.
- . Report on the Collection of Reptiles and Fishes made by Dr. J. W. Gregory during his Expedition to Mount Kenia. P. Zool. Soc. London, 1894, pp. 84-91, pls. viii-xi.
- HALLIBURTON, W. D. Snake Poison. Sci. Progr. ii, 1894, pp. 1-9.
- HARTING, J. E. English records of *Coronella austriaca*. Zoologist (2) xviii, 1894, pp. 229 & 230.
- HERTWIG, O. Ueber den Einfluss äusserer Bedingungen auf die Entwicklung des Froscheies. SB. Ak. Berlin, 1894, pp. 111-117.
- . Beiträge zur experimentellen Morphologie und Entwicklungsgeschichte. I. Die Entwicklung des Froscheies unter dem Einfluss schwächerer und stärkerer Kochsalzlösungen. Arch. mikr. Anat. xlv, 1895, pp. 285-344, pls. xx-xxii.

- HINXMAN, L. W., & CLARKE, W. E. A contribution to the Vertebraté fauna of West Ross-shire. P. Phys. Soc. Edinb. xii, 1894, pp. 377-415.
- HOERNES, R. Neue Schildkrötenreste aus steierischen Tertiärablagerungen. Verh. geol. Reichsanst. 1892, pp. 242-246.
- HURTER, J. Catalogue of Réptiles and Batrachians found in the vicinity of St. Louis, Mo. Tr. Ac. St. Louis, vi, 1893, pp. 251-261.
- HUTTON, F. W. On a new Plesiosaur from the Waipara River. Tr. N. Zealand Inst. xxvi, 1894, pp. 354-358, pl. xlii.
- IWANZOFF, N. Zur Anatomie der Knöchelchen des mittleren Ohres bei Amphibien und Reptilien. Anat. Anz. ix, 1894, pp. 578-584.
- JAEKEL, O. Ueber sog. Faltenzähne und complicirtere Zahnbildungen überhaupt. SB. Ges. naturf. Berlin, 1894, pp. 146-153.
- JEFFS, O. W. On a series of Saurian footprints from the Cheshire Trias, with a note on *Cheirotherium*. Geol. Mag., Dec. iv, i, 1894, pp. 451-454.
- JOHNSON, C. W. Trionyches in the Delaware drainage. Amer. Natural. xxviii, 1894, p. 889.
- JOURDAIN, S. Transformation des arcs aortiques chez la grenouille. C.R. Ac. Sci. xix, 1894, pp. 98-100. [Translation in Ann. Nat. Hist. (6) xiv, 1894, pp. 234-236.]
- KATHARINER, L. Anatomie und Mechanismus der Zunge der Vermilinguier. Jena. Zeitschr. (2) xxii, 1894, pp. 247-270, figg., pl. iii.
- KINGSBURY, B. F. The Histological Structure of the Enteron of *Necturus maculatus*. P. Amer. Soc. Micr. xvi, 1894, pp. 19-64, 8 pls.
- KNAUTH, K. Leistenmolch (*Triton helveticus*) und Geburtshelferkröte (*Alytes obstetricans*) am Zobten eingeführt. Zool. Gart. xxxv, 1894, p. 286.
- LATASTE, F. Adhérence et progression des Ophidiens contre des parois verticales lisses. Act. Soc. Chili, iv, 1894, P.V. pp. cxxvi & cxxvii.
- LENDENFELD, R. v. Laubfrosch und Wetter. Zweite Mittheilung. Zool. Anz. xvii, 1894, pp. 387-390.
- . Bemerkungen über die Farben von *Lacerta agilis*. T. c. pp. 397 & 398.
- LENZ, H. *Clemmys borneoensis* (Schleg. u. Müll.). Mt. Geogr. Ges. Lubeck (2) v, 1893, pp. 93 & 94.
- LIDTH DE JUUDE, T. W. VAN. Reptiles from Timor and the neighbouring Islands. Notes Leyden Mus. xvi, 1895, pp. 119-127.
- . *Thalassochelys caretta* on the Dutch coast. T. c. pp. 211 & 212.
- . On a collection of Reptiles from Transvaal. T. c. pp. 227 & 228.
- *LIEBERT, J. Die Metamorphose des Froschmundes. Inaug. Diss. Leipzig, 1894, 8vo, 50 pp., 2 pls.

- LOENNBORG, E. Notes on Reptiles and Batrachians collected in Florida in 1892 & 1893. P. U. S. Mus. xvii, 1894, pp. 317-339.
- LOEWENTHAL, N. Ueber eigenthümliche Zellengebilde im Sympatheticus des Frosches. Int. J. Anat. Phys. xi, 1894, pp. 423-425, pl. xix.
- LUNDBORG, H. Die Entwicklung der Hypophysis und des Saccus vasculosus bei Knochenfischen und Amphibien. Zool. Jahrb. Anat. vii, 1894, pp. 667-687, figg., pls. xl & xli.
- LÜTKEN, C. F. Lidt om "Hasselsnogen" (*Coluber æsculapii*) i Danmark. Vid. Medd. 1894, pp. 72-77.
- LWOFF, B. Die Bildung der primären Keimblätter und die Entstehung der Chorda und des Mesoderms bei den Wirbelthieren. Bull. Soc. Moscou, 1894, pp. 56-137, & 160-256, 6 pls.
- MARCACCI, A. Les rapports des organes de la respiration et de la natation chez les pulmonés aquatiques. Arch. ital. Biol. xxii, 1894, pp. 196-203.
- MARSH, O. C. Footprints of Vertebrates in the Coal-measures of Kansas. Amer. J. Sci. (3) xlvi, 1894, pp. 81-84, pls. ii & iii, and Geol. Mag., Dec. iv, i, 1894, pp. 193-195, pl. vi.
- . The typical *Ornithopoda* of the American Jurassic. Amer. J. Sci. (3) xlvi, 1894, pp. 85-90, pls. iv-vii.
- . Restoration of *Camptosaurus*. Geol. Mag., Dec. iv, i, 1894, pp. 193-195, pl. vi. [Reprint.]
- MARTIN, R., & ROLLINAT, R. Vertébrés sauvages du département de l'Indre. Paris: 1894, 8vo, 455 pp.
- MASSIE, J. H. Glands and Nerve-endings in the skin of the Tadpole. J. Comp. Neurol. iv, 1894, pp. 7-11, 1 pl.
- MAURER, F. Die Elemente der Rumpfmuskulatur bei Cyclostomen und höheren Wirbelthieren. Morphol. Jahrb. xxi, 1894, pp. 473-619, pls. xiii-xvi.
- . Die ventrale Rumpfmuskulatur der anuren Amphibien. *Op. cit.* xxii, 1894, pp. 225-262, pls. vi & vii.
- MÉHELÏ, L. v. *Lacerta praticola*, Eversm., in Ungarn. Math. naturw. Ber. Ungarn, xii, 1895, pp. 255 & 256.
- MEHNERT, E. Ueber Entwicklung, Bau und Function des Amnion und Amnionganges nach Untersuchungen an *Emys lutaria taurica*. Morphol. Arbeit. iv, 1894, pp. 207-274, 4 pls.
- MERRIAM, J. C. Ueber die Pythonomorphen der Kansas-Kreide. Palæontogr. xli, 1894, pp. 1-39, fig., pls. i-iv.
- MEVES, F. Ueber eine Metamorphose der Attractionssphäre in den Spermatogonien von *Salamandra maculosa*. Arch. mikr. Anat. xlv, 1894, pp. 119-184, pls. vii-xi.

- MINGAZZINI, P. Sulla degenerazione sperimentale delle ova di *Rana esculenta*. Atti Acc. Lincei (5) ccxci, 1894, Rend. pp. 459-467.
- MITROPHANOW, P. Sur un cas d'hermaphroditisme chez la grenouille. [Russian Text.] Protok. Obsch. Varshav. v, 1894, Nos. 3 & 4, pp. 1-7, fig.
- MOCQUARD, F. Reptiles nouveaux ou insuffisamment connus de Madagascar. C.R. Soc. Philom. 1894, No. 17, pp. 3-10.
- MOLE, R. R., & URICH, F. W. Biological notes upon some of the Ophidia of Trinidad, B. W. I., with a preliminary list of the species recorded from the Island. P. Zool. Soc. London, 1894, pp. 499-518.
- . & —— . A Preliminary List of the Reptiles and Batrachians of the Island of Trinidad. J. Trinidad Club, ii, 1894, pp. 77-99.
- MONIEZ, R. *Salamandra maculosa*. Rev. biol. Nord France, vi, 1894, p. 483.
- MOORE, J. P. Note on the Occurrence of *Hyla andersonii* in New Jersey. Amer. Natural. xxviii, 1894, pp. 1045 & 1046.
- MORGAN, T. H. The formation of the embryo of the Frog. Anat. Anz. ix, 1894, pp. 697-705, figg.
- MÜLLER, F. Reptilien und Amphibien aus Celebes. Verh. Ges. Basel, x, 1894, pp. 825-843, figg., & pp. 862-869.
- NEWTON, E. T. Reptiles from the Elgin Sandstone.—Description of two new genera. Phil. Trans. clxxxv, 1894, pp. 573-607, pls. liii-lvi.
- . The Vertebrate fauna collected by Mr. Lewis Abbott from the fissure near Ightham, Kent. Quart. J. Geol. Soc. I, 1894, pp. 188-211, pls. x-xii.
- . On the Reptilia of the British Trias. Rep. Brit. Ass. 1893, pp. 752 & 753 (1894).
- NOBRE, A. Nota acerca do habitat da *Vipera berus* em Portugal. J. Sci. Lisb. (2) iii, 1894, pp. 123 & 124.
- NUSBAUM, J. Zur Entwicklungsgeschichte der embryonalen Gefäßendothelien und der Blutkörperchen bei den Anuren (*Rana temporaria*). Bull. Ac. Cracovie, 1894, pp. 230-234.
- OLIVIER, É. Herpétologie algérienne, ou catalogue raisonné des Reptiles et des Batraciens observés jusqu'à ce jour en Algérie. Mem. Soc. zool. France, vii, 1894, pp. 98-131.
- OUDEMANS, J. T. Eidechsen und Schildkröten. In SEMON, Zool. Forsch. Austral. u. Mal. Arch. (Jen. Denkschr. viii) v, 1894, pp. 127-146, figg.
- PALACKY, J. Ueber neue Resultate der Verbreitung der Reptilien. Verh. Ges. deutsch. Naturf. lxxv, 1894, pp. 129-133.

- PARÂTRE, R. Notes sur *Salamandra maculosa* ; sa présence aux environs immédiats de Paris ; remarques sur sa reproduction ; époque de sa parturition ; développement de la larve. Mem. Soc. zool. France, vii, 1894, pp. 132-176.
- PERACCA, M. G. Descrizione di una nuova specie del genere *Pantodactylus*. Boll. Mus. Torino, ix, 1894, No. 176, 3 pp.
- . Viaggio del dott. Alfredo Borelli nella Repubblica Argentina e nel Paraguay. Rettili ed Anfibi. *Op. cit.* x, 1895, No. 195, 32 pp.
- . Nuova specie di *Lepidosternum* del Museo Zoologico di Torino. *T. c.* No. 200, 2 pp., fig.
- PÉREZ, J. Notes zoologiques. Observations sur un Stellion. Act. Soc. Bordeaux (5) vii, 1894, pp. 264-270.
- PERRIN, A. Remarques sur les muscles et les os du membre postérieur de l'*Hatteria punctata*. C.R. Ac. Sci. cxix, 1894, pp. 1278 & 1279.
- . Remarques sur les muscles du membre postérieur de quelques Sauriens. Bull. Soc. Philom. (8) vi, 1894, pp. 94 & 95.
- PETER, K. Die Wirbelsäule der Gymnophionen. Ber. Ges. Freiburg, ix, 1894, pp. 35-58, figg.
- PHILIPPI, R. A. *Phrynisus*, Bibron, ist nicht *Phrynisus*, Wiegmann. Arch. Naturg. lx, 1894, pp. 214-216.
- PHISALIX, C., & BERTRAND, G. Sur les effets de l'ablation des glandes à venin chez la Vipère (*Vipera aspis*, L.). C.R. Soc. Biol. (10) i, 1894, pp. 747-749.
- PHISALIX, C., & CONTEJEAN, C. Sur les propriétés antitoxiques du sang de Salamandre terrestre (*Salamandra maculosa*) vis-à-vis du Curare. C.R. Ac. Sci. xix, 1894, pp. 434-436.
- *PIANA, G. P. Ricerche sulla polidactilia acquisita determinata sperimentalmente sui Tritoni e sulle code soprannumerarie nelle Lacertole. Ric. Labor. Anat. norm. Roma, iv, 1894, pp. 65-71, 1 pl.
- PLATT, J. B. Ontogenetische Differenzirung des Ektoderms in *Necturus*. Arch. mikr. Anat. xliii, 1894, pp. 911-966, pls. xxxvii-xlii.
- PLENINGER, F. *Campylognathus zitteli*, ein neuer Flugsaurier aus dem Oberen Lias Schwabens. Palæontogr. xli, 1895, pp. 193-222, pl. xix.
- POMEL, A. Découverte de Champsosauriens dans les gisements de phosphorite du suessonien de l'Algérie. C.R. Ac. Sci. cxviii, 1894, pp. 1309 & 1310.
- . Sur le *Dyrosaurus thevestensis*. *T. c.* p. 1396.
- POTTER, M. C. Frogs and Tadpoles. Nat. Hist. Tr. Northumb. xi, 1894, pp. 263-269.
- PRENANT, A. Sur deux sortes de cellules granuleuses chez les Reptiles. Int. J. Anat. Phys. xi, 1894, pp. 405-422, pl. xviii.

- *[PRENANT, A.] Les yeux pariétaux accessoires d'*Anguis fragilis* sous le rapport de leur situation, de leur nombre et de leur fréquence. Nancy & Paris: 1895, 8vo, 7 pp.
- PUGLIESE, A. Sur l'action méthémoglobinogène du venin de Crapaud. Arch. ital. Biol. xxii, 1894, pp. 79-88. [French *résumé* of paper published in Arch. di farmacologia e terapeutica, ii, 1894, and Atti Acc. fisiocrit. Siena (4) vi, 1894, p. 291.]
- RABL-RÜCKHARD, H. Einiges über das Gehirn der Riesenschlange. Zeitchr. wiss. Zool. lviii, 1894, pp. 694-717, pl. xli.
- . Untersuchungen an einem Exemplar des Gehirns von der Riesenschlange (*Python molurus*). SB. Ges. naturf. Berlin, 1894, pp. 45 & 46.
- . Ueber die Herkunft des Pigments in der Haut der Larven der urodelen Amphibien. Anat. Anz. x, 1894, pp. 12-17, fig.
- RANVIER, L. Morphologie du système lymphatique. De l'origine des lymphatiques dans la peau de la Grenouille. C.R. Ac. Sci. cxx, 1895, pp. 132-136.
- RAWITZ, B. Centrosoma und Attraktionssphäre in der ruhenden Zelle des Salamanderhodens. Arch. mikr. Anat. xlv, 1895, pp. 555-578, pl. xxxiii.
- RETZIUS, G. Die embryonale Entwicklung der Rückenmarkselemente bei den Ophidiern. Biol. Unters. (2) vi, 1894, pp. 41-45, pls. xxi & xxii.
- . Die Endigungsweise der Gehörnerven bei den Reptilien. T. c. pp. 46 & 47, pl. xxiii, figg. 1-7.
- . Die Riechzellen der Ophidier in der Riechschleimhaut und im Jacobson'schen Organ. T. c. pp. 48-51, pl. xxiii, fig. 8.
- RIDLEY, H. N. On the habits of *Macropisthodon rhodomelas*. Zoologist (2) xix, 1895, p. 112.
- RITTER, W. E. On the presence of a parapineal organ in *Phrynosoma coronata*. Anat. Anz. ix, 1894, pp. 766-772, fig.
- ROLLINAT, R. Note sur les mœurs de *Salamandra maculosa*. Bull. Soc. zool. France, vii, 1894, pp. 108-114.
- . Sur l'hibernation du *Lacerta muralis* et du *Lacerta viridis*. Op. cit. xx, 1895, pp. 58 & 59.
- . Sur la prolongation de l'état larvaire chez un *Triton palmatus albinus*. T. c. pp. 60 & 61.
- RÖSE, C. Ueber die Zahnentwicklung der Kreuzotter (*Vipera berus*, L.). Anat. Anz. ix, 1894, pp. 439-451, figg.
- ROTHSCHILD, W. On giant land Tortoises. Nov. Zool. i, 1894, pp. 676 & 677, pl. xi.

- [ROTHSCHILD, W.] Remarks and corrections relating to the living giant Tortoise of Mauritius. *Nov. Zool.* i, 1894, p. 690.
- ROUX, W. Ueber den "Cytotropismus" der Furchungszellen des Grasfrosches (*Rana fusca*). *Arch. Entwicklunqsmech.* i, 1894, pp. 43-68, & 161-202, pls. i-iii.
- RUZSKY, M. Note préliminaire sur les Amphibiens et les Reptiles du Gouv. Kazan et des endroits voisins. *Protok. Kazan. Univ.* 1893-94, No. 139, 8 pp.
- SACCO, F. Trionici di M. Bolca. *Atti Acc. Torino*, xxix, 1894, pp. 654-662, pl. —.
- SARAUW, G. F. L. Haslingen, Æsculapslangen og Grønøglen. *Natur. og Minnesk.* xii, 1894, pp. 258-274.
- . Haslingen eller Glatsnogen. *T. c.* pp. 379-392.
- SCHÉPILOFF, C. Recherches sur les Nerfs de la VIII^e paire crânienne et sur les fonctions du cerveau et de la moelle chez les Grenouilles, avec un aperçu comparatif des fonctions du système nerveux central dans la classe des Batraciens. *Arch. Sci. Nat.* (3) xxxii, 1894, pp. 174-182, pl. ii.
- SCHULTZE, O. Ueber die Einwirkung niederer Temperatur auf die Entwicklung des Frosches. *Anat. Anz.* x, 1894, pp. 291-294.
- . Die künstliche Erzeugung von Doppelbildungen bei Froschlarven mit Hilfe abnormer gravitationswirkung. *Arch. Entwicklunqsmech.* i, 1894, pp. 269-305, pls. xi & xii.
- SCHULZE, F. E. Ueber die Abwärtsbiegung des Schwanztheiles der Wirbelsäule bei Ichthyosauren. *SB. Ak. Berlin*, 1894, pp. 513 & 514, figg.
- SCHWEDER, G. Die Wirbelthiere der Baltischen Gouvernements, mit Angabe der in den Sammlungen des Rigaer Naturforscher-Vereins vorhandenen Exemplare. *KB. Ver. Riga*, xxxvii, 1894, pp. 1-33.
- SEELEY, H. G. Researches on the structure, organisation, and classification of the fossil Reptilia. VIII. Further evidences of the skeleton in *Deuterosaurus* and *Rhopalodon*, from the Permian rocks of Russia. *Phil. Trans.* clxxxv, 1894, pp. 663-717, pls. lx-lxiii.
- . IX. Section 1. On the Therosuchia. Section 2. The reported Mammals from the Karroo formation of Cape Colony. Section 3. On *Diademodon*. *T. c.* pp. 987-1041, pls. lxxxviii & lxxxix.
- . IX. Section 4. On the Gomphodontia. Section 5. On the skeleton in new Cynodontia from the Karroo rocks. Section 6. Associated remains of two small skeletons from Klipfontein, Fraserburg. *Op. cit.* clxxxvi, 1895, pp. 51-162, pls. i & ii. [Abstract, *P. R. Soc. London*, lvi, 1894, pp. 288-295.]

- [SEELEY, H. G.] On *Euskelosaurus brownii* (Huxley). Ann. Nat. Hist. (6) xiv, 1894, pp. 317-340, figg.
- On *Hortalotarsus skirtopodus*, a new Saurischian Fossil from Barkly East, Cape Colony. T. c. pp. 411-419, figg.
- On the Type of the genus *Massospondylus*, and on some Vertebrae and Limb-bones of *M. (?) brownii*. Op. cit. xv, 1895, pp. 102-125, figg.
- On *Thecodontosaurus* and *Palæosaurus*. T. c. pp. 144-163, figg.
- Note on the skeleton of *Pareiasaurus bairdi*. Geol. Mag., Dec. iv, ii, 1895, pp. 1-3, pl. i.
- SEQUEIRA, E. Liste des Amphibiens et Reptiles du Portugal. C.R. Ass. Franc. xxii, pp. 611-615 (1894).
- SIEBENROCK, F. Das Skelet der *Lacerta simonyi*, Steind., und der Lacertidenfamilie überhaupt. SB. Ak. Wien, ciii, 1894, pp. 205-292, pls. i-iii.
- STORRIE, J. Notes on the tooth of a species of *Mastodonsaurus*, found with some other bones near Lavernock. Rep. Cardiff Soc. xxvi, 1895, pp. 105 & 106, pl. —.
- STRONG, O. S. The Cranial Nerves of Amphibia. J. Morphol. x, 1895, pp. 101-230, pls. vii-xii.
- STUDNIČKA, —. Prispěvky k morfologii parietálních orgánů craniotů. SB. Bohmisch. Ges. 1893, No. 50, 12 pp., pl. xix (1894).
- SUMNER, F. B. Hermaphroditism in *Rana virescens*. Anat. Anz. ix, 1894, pp. 694 & 695, fig.
- TAYLOR, W. E. Preliminary notes on the Osteology of the North American *Crotalida*. Amer. Natural. xxix, 1895, pp. 281-285.
- VAILLANT, L. Sur le *Rhinatrema bivittatum*, Cuvier, de l'ordre des Batraciens Péromèles. C.R. Ac. Sci. cxx, 1895, pp. 460-462.
- Essai sur la classification générale des Chéloniens. Ann. Sci. Nat. (7) xvi, 1894, pp. 331-345.
- Note sur un cas de mélanisme chez la grenouille verte (*Rana esculenta*, Linné). Bull. Soc. zool. France, xx, 1895, pp. 29 & 30.
- Nouvelle espèce du genre *Geoemyda* trouvée au Tonkin par S. A. le Prince Henri d'Orléans. Bull. Soc. Philom. (8) vi, 1894, pp. 68 & 69.
- VAN DENBURGH, J. Descriptions of three new Lizards from California and Lower California, with a note on *Phrynosoma blainvillii*. P. Calif. Ac. (2) iv, 1894, pp. 296-301.
- Notes on *Crotalus mitchellii* and *Crotalus pyrrhus*. T. c. pp. 450-455.
- *Phrynosoma solaris*, with a note on its distribution. T. c. p. 456.

- [VAN DENBURGH, J.] Annotated list of Reptiles and Batrachians. Report of the Commissioner of Fish and Fisheries on investigations in the Columbia River Basin in regard to the Salmon fisheries. (Washington: 1894). Pp. 56 & 57.
- VIRCHOW, H. Embryologische und angiologische Erfahrungen über nordamerikanische Wirbelthiere. SB. Ges. naturf. Berlin, 1894, pp. 33-44.
- WAITE, E. R. Notes on Australian *Typhlopidae*. P. Linn. Soc. N. S. Wales (2) ix, 1894, pp. 9-14, pl. i.
- . Redescription of *Aspidites ramsayi*, Macleay. *T. c.* 1895, pp. 715-717, pl. 1.
- WARENZOW, P. A. Observations on Vertebrate animals of the Transcaspian District. [Russian.] *Izv. Obshch. Moskov.* lxxxvi, 1894, pp. 23-27.
- WERNER, F. Zweiter Beitrag zur Herpetologie von Ost-Algerien. *Verh. Ges. Wien*, xlv, 1894, pp. 75-87.
- . Die Reptilien- und Batrachierfauna der ionischen Inseln. *T. c.* pp. 225-237.
- . Ueber eine Sammlung von Reptilien aus Persien, Mesopotamien und Arabien. *Op. cit.* xlv, 1895, pp. 13-20, pl. iii.
- . Zwei neue australische *Lygosoma*-Arten. *T. c.* pp. 21 & 22.
- . Bemerkungen über die Nord-amerikanischen *Rana*-Arten. *Jahresber. Ver. Magdeburg*, 1894, pp. 123-136.
- . Ueber einige Novitäten der herpetologischen Sammlung des Wiener zoolog. vergl. anatom. Instituts. *Zool. Anz.* xvii, 1894, pp. 155-157.
- . Ueber *Algiroides moreoticus* aus Kephallenia. *T. c.* pp. 256-259.
- . Herpetologische nova. Fortsetzung. *T. c.* pp. 410-415.
- . Erwiderung. *Op. cit.* xviii, 1895, pp. 104 & 105.
- . Ueber sekundäre Geschlechtsunterschiede bei Reptilien. *Biol. Centralbl.* xv, 1895, pp. 125-140.
- . Beiträge zur Reptilien-Psychologie. *Zool. Garten*, xxxv, 1894, pp. 174-179, 207-213, 237-241, & 266-270.
- WESTHOFF, F. Geschlechtsreife Molchlarven. *Jahresber. Westfal. Ver.* 1893-94, pp. 76-81, figg.
- WILL, L. Die neuesten Arbeiten über die Keimblattbildung der Amnioten. *Zool. Centralbl.* i, 1894, pp. 129-139, 297-304, & 337-340, figg.
- WILSON, G. The development of the Müllerian Ducts in Axolotl. *Anat. Anz.* ix, 1894, pp. 736-745, figg.

- WOODWARD, A. S. Note on Megalosaurian teeth discovered by Mr. J. Alstone in the Portlandian of Aylesbury. P. Geol. Ass. xiv, 1895, pp. 31 & 32.
- ZENNECK, J. Die Anlage der Zeichnung und deren physiologische Ursachen bei Ringelnatterembryonen. Zeitschr. wiss. Zool. lviii, 1894, pp. 364-393, pl. xxiii.
- °ZUR MÜHLEN, A. VON. Untersuchungen über den Urogenitalapparat der Urodelen. Inaug. Diss., Jurjew, 1894, 8vo, 63 pp., 1 pl.

II.—FAUNÆ.

EUROPE.

Great Britain. List of the Reptiles and Batrachians of West Ross-shire; HINXMAN & EAGLE CLARKE, P. Phys. Soc. Edinb. xii, 1894, p. 415.—On the Reptiles and Batrachians of the Edinburgh District; W. EVANS, *t. c.* pp. 490-526.—Notes on the Reptiles and Batrachians of Dorsetshire; O. P. CAMBRIDGE, P. Dorset Club, xv, 1894, pp. 90-102.

France. On the Reptiles and Batrachians of the Dep. Indre, with copious notes on the life-history; MARTIN & ROLLINAT, *Vertébrés sauvages du département de l'Indre* (Paris: 1894, 8vo), pp. 265-395.—On the Reptiles of the sub-Pyrenean region; CHALANDE, *Bull. Soc. Aude*, v, 1894, pp. 96-143.

Germany. G. N. DOUGLASS publishes a reprint, with corrections and additions, of his article on the Herpetology of Bâden, published in *Zoologist*, 1891. London: 1894, 8vo, 62 pp.

Russia. On the Reptiles and Batrachians of the Baltic Province; SCHWEDER, KB. Ver. Riga, xxxvii, 1894, pp. 26-29: of the Gov. Kazan and neighbouring districts; RUZSKY, *Protok. Kasan. Univ.* 1893-94, No. 139, 8 pp.

Portugal. List of the Reptiles and Batrachians: SEQUEIRA, C.R. *Ass. Franc.* xxii, pp. 611-615 (1894).

Italy. A list of the Reptiles and Batrachians of the Province Padua; ARRIGONI DEGLI ODDI, *Atti Soc. Veneto-Trent.* (2) ii, 1895, pp. 30-34.

Istria and Dalmatia. Supplementary notes by WERNER, *Verh. Ges.* Wien, xlv, 1894, p. 237.

Ionian Islands. On the Reptiles and Batrachians; WERNER, *t. c.* pp. 225-236.

ASIA.

Transcaspia. Notes on some Reptiles, by P. A. WARENZOW, *Izv. Obsch. Moskov*, lxxxvi, 1894, pp. 26 & 27.

Persia, Mesopotamia, and Arabia. On a collection of Reptiles; WERNER, *Verh. Ges. Wien*, xlv, 1895, pp. 13-20, pl. iii.

China. Third contribution to the herpetological fauna ; BÆTTGER, Ber. Senckenberg. Ges. 1894, pp. 129-152, pl. iii.—On some Reptiles and Batrachians from Hainan ; COPE, P. Ac. Philad. 1894, pp. 423-428 (1895).

Loo Choo Islands. On the Reptiles and Batrachians of Okinawa ; A. FRITZE, Zool. Jahrb. Syst. vii, 1894, pp. 859-866.

Malay Archipelago. On the Reptiles and Batrachians collected by Dr. Semon ; BÆTTGER & OUDEMANS, in SEMON, Zool. Forsch. v, 1894, pp. 107-146, pl. v.

Mentawai Islands. List of the Reptiles and Batrachians collected by Dr. E. Modigliani on Sereinu ; BOULENGER, Ann. Mus. Genova (2) xiv, 1894, pp. 613-618.

Borneo. E. BARTLETT has notes on the Chelonians and Batrachians of Borneo and the adjacent Islands ; Sarawak Gazette, Nov. 1, Dec. 1, 1894, and Feb. 1, 1895.

Palawan and Balabac. On the Herpetological Fauna ; BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, pp. 81-90.

Calamianes, Philippine Islands On the Herpetology ; BÆTTGER, Abh. Mus. Dresden, 1894-95, No. 7, 5 pp. (1895).

Damma Island. On the Reptiles ; BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, pp. 58 & 59.

Celebes. On a collection of Reptiles and Batrachians ; F. MÜLLER, Verh. Ges. Basel, x, 1894, pp. 825-843, figg., & pp. 862-869.

Halmaheira. List of Reptiles and Batrachians ; BÆTTGER, Zool. Anz. xviii, 1895, pp. 116-121 & 129-138.

Timor Group of Islands. On some Reptiles ; VAN LIDTH DE JEUDE Notes Leyden Mus. xvi, 1895, pp. 119-127.

AFRICA.

Algeria. Catalogue of the Reptiles and Batrachians ; OLIVIER, Mem. Soc. zool. France, vii, 1894, pp. 98-131.—Notes on Reptiles and Batrachians from Eastern Algeria by WERNER, Verh. Ges. Wien, xlv, 1894, pp. 75-87.

East Africa. On a collection of Reptiles and Batrachians from Somaliland and Gallaland ; BOULENGER, Ann. Mus. Genova (2) xv, 1895, pp. 9-18, pls. i-iv.—On the Reptiles and Batrachians collected by Dr. J. W. Gregory during his expedition to Mount Kenia ; GÜNTHER, P. Zool. Soc. London, 1894, pp. 84-88, pl. viii.

Transvaal. On a collection of Reptiles ; VAN LIDTH DE JEUDE, Notes Leyden Mus. xvi, 1895, pp. 227 & 228.

Damaraland and Kalahari. Notes on Reptiles and Batrachians by BÆTTGER, Ber. Senckenberg. Ges. 1894, pp. 88-93, with remarks on their habits by E. FLECK, *t. c.* pp. 83-87.

Madagascar. Descriptions of new or imperfectly known Reptiles by MOCQUARD, C.R. Soc. Philom. 1894, No. 17, pp. 3-10.

AMERICA.

Columbia River Basin. Annotated List of Reptiles and Batrachians by J. VAN DENBURGH, Rep. Comm. Fish & Fisher. Columb. Riv. Basin, 1891, pp. 56 & 57.

Indiana. Lists of the Snakes and Batrachians found near Vincennes; A. GAINES, Amer. Natural. xxviii, 1894, pp. 958 & 959, and xxix, 1895, pp. 53-56.

Missouri. List of the Reptiles and Batrachians found in the vicinity of St. Louis, by J. HURTER, Tr. Ac. St. Louis, vi, 1893, pp. 251-261.

Kentucky. List of the Reptiles and Batrachians by H. GARMAN, Bull. Essex Inst. xxvi, 1894, pp. 34-39.

North Carolina. List of Snakes observed at Raleigh; C. S. BRIMLEY, Amer. Natural. xxix, 1895, pp. 56 & 57.

Florida. On the Reptiles and Batrachians; LOENBERG, P. U. S. Mus. xvii, 1894, pp. 317-339.

Kansas and Texas. On some Reptiles; CRAGIN, Colorado College Studies, v, 1894.

Mexico and Central America. GÜNTHER continues his revision of the Snakes in Biol. Centr.-Amer., Rept., pp. 129-168, pl. xliii-l.—List of some Reptiles and Batrachians from Tabasco and Chiapas, by A. DUGÈS, Naturaleza (2) ii, 1894, pp. 375-377.—On Reptiles and Batrachians from Costa Rica; COPE, P. Amer. Phil. Soc. xxxi, 1894, pp. 333-347, and P. Ac. Philad. 1894, pp. 194-206.

West Indies. On collections from various islands; COPE, P. Ac. Philad. 1894, pp. 429-491, pls. x-xii (1895).

Trinidad. List of Reptiles and Batrachians by R. R. MOLE & F. W. URICH, J. Trinidad Club, ii, 1894, pp. 77-79. [With descriptions of two new species by O. BÆTTGER.]—On the Snakes; MOLE & URICH, P. Zool. Soc. London, 1894, pp. 499-518.

Bolivia. List of Reptiles and Batrachians by BÆTTGER, Zool. Anz. xvii, 1894, pp. 118 & 119.

Paraguay and Argentina. On a collection of Reptiles and Batrachians; PERACCA, Boll. Mus. Torino, x, 1895, No. 195.

PAPUASIA AND AUSTRALIA.

Papua and Queensland. On the Reptiles and Batrachians collected by Dr. Semon; BÆTTGER & OUDEMANS, in SEMON, Zool. Forsch. v, 1894, pp. 107-146, pl. v.

New South Wales. Further notes on the distribution of the Batrachians; J. J. FLETCHER, P. Linn. Soc. N. S. Wales. (2) viii, 1894, pp. 524-533.

FOSSIL FAUNÆ.

On some Pleistocene Batrachian and Reptilian remains from Ightham, Kent; E. T. NEWTON, Quart. J. Geol. Soc. l, 1894, pp. 189 & 190, pl. x.

E. T. NEWTON shortly reviews our knowledge of the Reptiles of the British Trias. Rep. Brit. Ass. 1893, pp. 752 & 753 (1894).

On the Chelonians of the Tertiary of North Germany ; DAMES, Pal. Abh. (2) ii, 1894, pp. 197-220, figg., pls. xxvi-xxix.

On some Reptilian remains from the Neocomian of Kansas ; CRAGIN, Colorado College Studies, v, 1894, pp. 69-71, pls. i & ii.

III.—REFERENCES, ARRANGED SYSTEMATICALLY.

REPTILIA AND BATRACHIA.

On the ossicles of the middle-ear ; N. IWANZOFF, Anat. Anz. ix, 1894, pp. 578-584.

On the elements of the trunk-musculature ; MAURER, Morphol. Jahrb. xxi, 1894, pp. 570-588, pl. xvi.

On the correlation between the organs of breathing and swimming in pulmonate aquatic animals ; MARCACCI, Arch. ital. Biol. xxii, 1894, pp. 196-203.

On the formation of the germinal layers and the origin of the chorda and mesoderm ; B. LWOFF, Bull. Soc. Moscou, 1894, pp. 166-137 & 160-256, 6 pls.

REPTILIA.

On the temporal arches of Reptiles ; G. BAUR, Anat. Anz. x, 1894, pp. 315-330.

On the homologies of the alisphenoid and petromastoid bones ; CHAPMAN, P. Ac. Philad. 1894, pp. 32-51, figg.

On the morphology of the claw ; BOAS, Morphol. Jahrb. xxi, 1894, pp. 281-311, pls. x & xi.

On the termination of the auditory nerves ; RETZIUS, Biol. Unters. (2) vi, 1894, pp. 46 & 47, pl. xxiii, figg. 1-7.

RABL-RÜCKHARD, SB. Ges. naturf. Berlin, 1894, pp. 45 & 46, remarks on the general structure of the brain in Reptiles.

On the morphology of the parietal organs in Lizards and Snakes ; STUDNICKA, SB. Bohmisch. Ges. 1893, No. 50, 12 pp., pl. xix (1894).

A. PRENANT publishes a pamphlet on the accessory parietal eyes of *Anguis fragilis*. Nancy & Paris: 1895, 8vo, 7 pp.

On the presence of a parapineal organ in *Phrynosoma coronatum* ; W. E. RITTER, Anat. Anz. ix, 1894, pp. 766-772, fig.

On two kinds of granular cells in Reptiles ; PRENANT, Int. J. Anat. Phys. xi, 1894, pp. 405-422, pl. xviii.

On the oviduct and foetal membranes in Reptiles [French translation] ; GIACOMINI, Arch. ital. Biol. xxi, 1894, pp. 147-154.

On the formation of vertebræ in Reptiles ; GOETTE, Zool. Anz. xvii, 1894, pp. 359-363.

- L. WILL, Zool. Centralbl. i, 1894, pp. 129-139, 297-304, & 337-340, figg., reviews recent researches on gastrulation.
- On secondary sexual characters in Reptiles; WERNER, Biol. Centralbl. xv, 1895, pp. 125-140.
- Contributions to Reptilian psychology; WERNER, Zool. Gart. xxxv, 1894, pp. 174-179, 207-213, 237-241, & 266-270.
- Remarks on the geographical distribution of Reptiles, by PALACKY, Verh. Ges. deutsch. Naturf. lxxv, 1894, pp. 129-133.

SQUAMATA.

LACERTILIA.

- G. A. BOULENGER, P. Zool. Soc. London, 1894, pp. 722-736 (1895), gives a list of the Lizards added to the British Museum Collection since February, 1890, a number of which are described as new.
- PERRIN, Bull. Soc. Philom. (8) vi, 1894, p. 94, remarks on the muscles of the hind-limb in certain Lacertilia (*Agama*, *Polychrus*, *Mabuia*).
- On bifid reproduced tails in Lizards; BRINDLEY, J. Bomb. Soc. ix, 1894, p. 30, 2 pls.; PIANA, Ric. Lab. Anat. norm. Roma, iv, 1894, p. 65; GADEAU DE KERVILLE, Bull. Soc. Rouen, 1894, p. 121, pl. vi.

GECKONIDÆ.

- Gymnodactylus fumosus*, n. sp., F. MÜLLER, Verh. Ges. Basel, x, 1894, p. 833, fig., Celebes.
- Gonatodes oxycephalus*, n. sp., WERNER, Zool. Anz. xvii, 1894, p. 413, Ecuador.
- Heteronota derbiana*, Gray: note by OUDEMANS, in SEMON, Zool. Forsch. v, 1894, p. 132.
- Edura tryoni*, De Vis: note by OUDEMANS, t. c. p. 133. *Æ. nivaria*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, pp. 608 & 726, pl. xlvii, fig. 1 (1895), Drakensberg, Natal.
- Phyllodactylus elisæ*, n. sp., WERNER, Verh. Ges. Wien, xlv, 1895, p. 14, pl. iii, fig. 1, Ruins of Nineveh.
- Hemidactylus borrmuelleri*, n. sp., WERNER, t. c. p. 14, pl. iii, fig. 3, Bagdad [= *H. persicus*, And.—REC.]. *H. jubensis*, n. sp., BOULENGER, Ann. Mus. Genova (2) xv, 1895, p. 10, pl. iii, fig. 1, Upper Ganale, E. Africa.
- Bunocnemis*, n. g., allied to *Hemidactylus*, but with the dorsal scales imbricate, and the subdigital lamellæ mostly undivided, for *B. modestus*, n. sp.; GÜNTHER, P. Zool. Soc. London, 1894, p. 85, pl. viii, Ngatana, E. Africa.
- Phyllopezus goyazensis*, Peters: redescribed by PERACCA, Boll. Mus. Torino, x, 1895, No. 195, p. 2.

- Gehyra marginata*, Blgr. : note by OUDEMANS, in SEMON, Zool. Forsch. v, 1894, p. 134. *G. interstitialis*, n. sp., *id. ibid.*, figg., New Guinea. *G. marginata*, n. sp., BÖTTGER, Zool. Anz. xviii, 1895, p. 116, Halmaheira [= *G. marginata*, Blgr.].
- Dactylichikion*, Thomin., = *Rhoptropus*, Peters ; BOULENGER, P. Zool. Soc. London, 1894, p. 726 (1895).
- Elasmodactylus*, n. g., allied to *Rhoptropus*. Digits strongly dilated, free, with transverse undivided lamellæ below ; all digits with a minute claw fitting in a notch of the distal lamella ; body covered with unequal-sized juxtaposed tubercles ; pupil vertical ; BOULENGER, *t. c.* p. 726. *E. tuberculosus*, n. sp., *id. ibid.*, p. 727, pl. xlvii, fig. 2, Lower Congo.
- Phelsuma breviceps*, n. sp., BÖTTGER, Zool. Anz. xvii, 1894, p. 137, Madagascar.
- Sphærodactylus molei*, n. sp., BÖTTGER, in MOLE & URICH, J. Trinidad Club, ii, 1894, p. 80, Trinidad. *S. goniorhynchus*, n. sp., COPE, P. Ac. Philad. 1894, p. 440 (1895), Jamaica.

AGAMIDE.

- Draco timorensis*, Kuhl : note by VAN LIDTH DE JEUDE, Notes Leyden Mus. xvi, 1895, p. 122. *D. noroillii*, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiv, 1895, p. 14, pl. iii, Upper Assam.
- Gonyocephalus boydii*, Macleay, redescribed and head figured by OUDEMANS, in SEMON, Zool. Forsch. v, 1894, p. 135, fig.
- Agama tournevillii*, Lataste : notes by WERNER, Verh. Ges. Wien, xlv, 1894, p. 78. *A. stellio*, L. : on its habits in confinement ; J. PÉREZ, Act. Soc. Bordeaux (5) vii, 1894, p. 264. *A. gregorii*, n. sp., GÜNTHER, P. Zool. Soc. London, 1894, p. 86, Mkonumbi, E. Africa. *A. microtypanum*, n. sp., WERNER, Verh. Ges. Wien, xlv, 1895, p. 15, pl. iii, fig. 2, Persia. *A. vaillanti*, n. sp., BOULENGER, Ann. Mus. Genova (2) xv, 1895, p. 12, pl. iii, fig. 2, Somaliland.
- Phrynocephalus arabicus*, n. sp., ANDERSON, Ann. Nat. Hist. (6) xiv, 1894, p. 377, S. Arabia.
- Aporoscelis benti*, n. sp., ANDERSON, *t. c.* p. 376, S. Arabia.

IGUANIDÆ.

- Anolis principalis brunneus*, n. subsp., COPE, P. Ac. Philad. 1894, p. 432, pl. x, fig. 3 (1895), Crooked I., W. I. *A. longipes*, n. sp., *id.*, P. Amer. Phil. Soc. xxxi, 1894, p. 343, Costa Rica. *A. æquatorialis*, n. sp., WERNER, Zool. Anz. xvii, 1894, p. 157, Ecuador. *A. wattsii*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 376, Antigua, W. I. *A. oligaspis*, p. 430, pl. xi, fig. 5, New Providence I., Bahamas, *moorei*, p. 433, pl. xi, fig. 4, Great Inagua, W. I., *cinnamomeus*, p. 435, pl. xii, fig. 6, Great Inagua, and *flabellatus*, p. 439, pl. xii, fig. 7,

- Jamaica, n. spp., COPE, *t. c.* *A. rixi*, p. 727, pl. xlviij, fig. 1, and *rhombofer*, p. 728, pl. xlviij, fig. 2, n. spp., BOULENGER, P. Zool. Soc. London, 1894 (1895), Nicaragua.
- Urocentrum guentheri*, n. sp., BOULENGER, *t. c.* p. 729, pl. xlviij, fig. 3, Yquitos, Peru.
- Uma scoparia*, n. sp., COPE, Amer. Natural. xxviii, 1894, p. 435, fig., Arizona.
- Uta microscutata*, n. sp., VAN DENBURGH, P. Calif. Ac. (2) iv, 1894, p. 298, Lower California.
- Sceloporus melanorhinus*, Bocourt, redescribed by BOULENGER, P. Zool. Soc. London, 1894, p. 730 (1895). *S. bulleri*, p. 729, pl. xlviij, fig. 3, and *heterolepis*, p. 731, pl. xlviij, fig. 4, n. spp., *id. ibid.*, Jalisco, Mexico.
- Phrynosoma blainvillii*, Gray : note by VAN DENBURGH, P. Calif. Ac. (2) iv, 1894, p. 296. *P. solaris*, Gray, = *P. coronatum*, Gir. ; *id. ibid.*, p. 456. *P. frontalis*, n. sp., *id. ibid.*, p. 296, California.

ZONURIDÆ.

- Zonurus jonesii*, Blgr. : note by VAN LIDTH DE JEUDE, Notes Leyden Mus. xvi, 1895, p. 228.
- Chamaesaura*, Schn. : synopsis of the species, by BOULENGER, P. Zool. Soc. London, 1894, p. 732 (1895). *S. miopropus*, n. sp, *id. ibid.*, British Central Africa.

ANGUIDÆ.

- Diploglossus bivittatus*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 732, pl. xlviij, fig. 5 (1895), Nicaragua.
- Celestus cyanochloris*, n. sp., COPE, P. Ac. Philad. 1894, p. 200, Costa Rica.
- Anguis fragilis*, L., n. var. *cephallonica*, WERNER, Verh. Ges. Wien, xlv, 1894, p. 232, Zante, Ionian Is.

ANNIELLIDÆ.

- On the osteological characters and relationship ; BAUR, P. U. S. Mus. xvii, 1894, pp. 345-351.

TEIIDÆ.

- Ameiva quadrilineata*, Hallow., is a valid species ; COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 341. *A. leptophrys*, n. sp., *id. ibid.*, Costa Rica.
- A. leucomelas*, n. sp., *id.*, P. Ac. Philad. 1894, p. 436, pl. xii, fig. 8 (1895), Great Inagua, W. I.
- Cnemidophorus stejnegeri*, n. sp., VAN DENBURGH, P. Calif. Ac. (2) iv, 1894, p. 300, California. *C. amivoides*, p. 198, and *alfaronis*, p. 199, n. spp., COPE, P. Ac. Philad., 1894, Costa Rica.

- Pantodactylus borellii*, n. sp., PERACCA, Boll. Mus. Torino, ix, 1894, No. 176, Paraguay.
Perodactylus modestus, R. & L., redescribed by PERACCA, *op. cit.* x, 1895, No. 195, p. 6.

AMPHISBÆNIDÆ.

- COPE, Amer. Natural. xxviii, 1894, p. 436, proposes the name *Euchirotide* for the group comprising the limbed Amphisbænians, of which he distinguishes three genera. The name *Bipes*, Lacép., should, according to him, replace the later *Chirotes*, Cuv.
Euchirotes, n. g., distinguished from *Chirotes* by the absence of a claw to the pollex, for *E. biporus*, COPE, *t. c.* fig., Lower California.
Hemichirotes, n. g., distinguished from *Chirotes* and *Euchirotes* in having only three fingers, for *H. tridactylus*, n. sp. (DUGÈS), COPE, *t. c.* p. 436, fig., Guerrero, Mexico. Described and figured by DUGÈS, *Naturaleza* (2) ii, 1894, p. 411, pl. xx, fig. 1.
Amphisbæna vermicularis, Wagl., and *darwinii*, D. & B.: notes by PERACCA, Boll. Mus. Torino, x, 1895, No. 195, p. 9.
Monopeltis pistillum, n. sp., BÆTTGER, Zool. Anz. xviii, 1895, p. 62, Zambesi.
Lepidosternum borellii, p. 10, Argentine Chaco, and *camerani*, p. 12, Paraguay, n. spp., PERACCA, *t. c.* No. 195, figg. *L. sinuosum*, n. sp., *id. t. c.* No. 200, fig., Brazil.

LACERTIDÆ.

- On the skeleton; SIEBENROCK, SB. Ak. Wien, ciii, 1894, pp. 205-292, pls. i-iii.
 On the osteology of *Lacerta vivipara*, Jacq.; F. BAYER, SB. Bohmisch. Ges. 1893, No. 7, 23 pp., 1 pl. (1894).
Tachydromus formosanus, n. sp., BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 462, Formosa. *T. holsti*, n. sp., *id.*, P. Zool. Soc. London, 1894, p. 733, pl. xlix, fig. 1 (1895), Shimabara, Japan.
Lacerta, L.: on the hibernation of *L. muralis* and *L. viridis*; ROLLINAT, Bull. Soc. zool. France, xx, 1895, p. 58. *L. pater*, Lataste: notes by WERNER, Verh. Ges. Wien, xlv, 1894, p. 79. *L. viridis*, Laur.: on its occurrence in Denmark; SARAUW, Natur. og Mennesk. xii, 1894, p. 269. *L. agilis*, L.: on the changes of colour; LENDENFELD, Zool. Anz. xvii, 1894, p. 397. *L. vivipara*, Jacq.: on its distribution in Brittany, with a figure; BUREAU, Bull. Soc. Ouest France, iii, 1893, p. 59, pl. i. *L. praticola*, Eversm.: notes on Hungarian specimens; MÉHELÿ, Math. naturw. Ber. Ungarn, xii, 1895, p. 255. *L. peloponnesiaca*, Bibr.: notes by WERNER, Verh. Ges. Wien, xlv, 1894, p. 78.
Algiroides nigropunctatus, D. & B., and *moreoticus*, Bibr.: notes by WERNER, Verh. Ges. Wien, xlv, 1894, pp. 230 & 231. *A. moreoticus*, Bibr., redescribed by WERNER, Zool. Anz. xvii, 1894, p. 256; remarks by BEDRIAGA, *t. c.* p. 455; reply by WERNER, *op. cit.* xviii, 1895, p. 104.

SCINCIDÆ.

- Tiliqua gigas*, Schn., n. var. *keyensis*; OUDEMANS, in SEMON, Zool. Forsch. v, 1894, p. 135, Kei Is.
- Hemisphæriodon gerrardii*, Gray: notes by OUDEMANS, t. c. p. 136.
- Macrosцинus coctæi*, D. & B.: notes on the anatomy; ORLANDI, Atti Soc. Liguistica, v, 1894, p. 175, pls. xix & xx.
- Mabuia rudis*, Blgr.: note by BOULENGER, Ann. Mus. Genova (2) xiv, 1894, p. 614.
- Lygosoma striolatum*, M. Web.: note on specimens from Damma I.; BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 59. *L. florense*, M. Web.: note by VAN LIDTH DE JEUDE, Notes Leyden Mus. xvi, 1895, p. 122. *L. sanctum*, D. & B.: note by OUDEMANS, in SEMON, Zool. Forsch. v, 1894, p. 141. *L. acutirostre*, p. 141, figg., Saleyer, S. of Celebes, *semoni*, p. 142, New Guinea, and *leve*, p. 144, Queensland, n. spp., OUDEMANS, t. c. *L. emigrans*, n. sp., VAN LIDTH DE JEUDE, t. c. p. 125, Soemba, near Timor. *L. amabile*, p. 835, *celebense*, p. 836, fig., *inconspicuum*, p. 837, and *textum*, p. 838, n. spp., F. MÜLLER, Verh. Ges. Basel, x, 1894, Celebes. *L. perspicillatum*, Gilbert Is., and *micans*, New Zealand, n. spp., WERNER, Verh. Ges. Wien, xlv, 1895, p. 21. *L. modiglianii*, p. 614, and *vittigerum*, p. 615, n. spp., BOULENGER, Ann. Mus. Genova (2) xiv, 1894, Sereinu, Mentawai Is. *L. luzonense*, p. 733, pl. xlix, fig. 2, and *decipiens*, p. 734, pl. xlix, fig. 3, n. spp., BOULENGER, P. Zool. Soc. London, 1894 (1895), Luzon, Philippines. *L. kueken-thali*, p. 117, *sorex*, p. 118, *mentovarium*, p. 119, and *brevipes*, p. 121, n. spp., BËTTGER, Zool. Anz. xviii, 1895, Halmaheira.
- Mococa cherriei*, n. sp., COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 340, Costa Rica.
- Ablepharus boutonii*, var. *furcata*, M. Web.: note on specimens from Damma I.; BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 59.
- A. burnettii*, n. sp., OUDEMANS, t. c. p. 145, Queensland. *A. carsonii*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 735, pl. xlix, fig. 4 (1895), British Central Africa.
- Tropidophorus mocquardii*, n. sp., BOULENGER, t. c. p. 735 (1895), Mt. Kina Baloo, N. Borneo.
- Scelotes bellyi*, n. sp., MOCQUARD, C.R. Soc. Philom. 1894, No. 17, p. 3, Madagascar.
- Pygomeles braconnièri*, Grand., is referred to *Chalcidès* by MOCQUARD, t. c. p. 4.
- Paracontias*, n. g., allied to *Acontias*, Cuv., and *Pseudacontias*, Bocage, for *P. brochii*, n. sp., MOCQUARD, t. c. p. 5, Madagascar.
- Grandidierina*, n. g., allied to the preceding, for *Acontias rubrocaudatus*, Grand., and *Scelotes fierinensis*, Grand., which are redescribed; MOCQUARD, t. c. p. 6.

RHIPTOGLOSSA.

- On the anatomy and mechanism of the tongue ; L. KATHARINER, Jena. Zeitschr. (2) xxii, 1894, pp. 247-270, figg., pl. iii.
- Chameleon semicristatus*, n. sp., BÆTTGER, Zool. Anz. xvii, 1894, p. 138, Madagascar.
- Brookesia stumpffii*, n. sp., BÆTTGER, *t. c.* p. 182, Nossi Bé, Madagascar.
- B. tuberculata*, n. sp., MOCQUARD, C.R. Soc. Philom. 1894, No. 17, p. 3, Madagascar.

PYTHONOMORPHA.

- J. C. MERRIAM, Palæontogr. xli, 1894, pp. 1-39, fig., pl. i-iv, has a monograph of the Mosasaurs of the Cretaceous of Kansas, belonging to the genera *Tylosaurus*, Marsh, *Platecarpus*, Cope, *Clidastes*, Cope, and *Baptosaurus*, Marsh.
- Platecarpus clidastoides* and *oxyrhinus*, n. spp., MERRIAM, *t. c.*, Cretaceous of Kansas.
- Clidastes medius*, p. 34, and *liodontus*, p. 35, n. spp., MERRIAM, *t. c.*, Cretaceous of Kansas.
- Baptosaurus onchognathus*, n. sp., MERRIAM, *t. c.* p. 37, Cretaceous of Kansas.

OPHIDIA.

- BOULENGER'S second volume of the Catalogue of Snakes in the British Museum, containing the conclusion of the Aglyphodont *Colubridæ*, was published in 1894.
- COPE further discusses the Classification of Snakes especially with reference to the condition of the lungs and the structure of the copulatory organs, Amer. Natural. xxviii, 1894, pp. 831-844, pls. xxvii & xxviii. The same author writes on the lungs in the Ophidia, P. Amer. Phil. Soc. xxxiii, 1894, pp. 217-224, pls. xi-xvi.
- On the cells in the olfactory organ and in the Jacobson's organ in Snakes ; RETZIUS, Biol. Unters. (2) vi, 1894, pp. 48-51, pl. xxiii, fig. 8.
- On the sublingual glands of non-poisonous Snakes, and on the presence and structure of a peculiar gland in the lingual sheath of *Vipera berus* and *V. aspis* ; C. BISOGNI, Int. J. Anat. Physiol. xi, 1894, pp. 123-126, pls. vi & xii, 1895, pp. 187-190, pl. ix.
- On the embryonary development of the elements of the spinal cord in Snakes ; RETZIUS, Biol. Unters. (2) vi, 1894, pp. 41-45, pls. xxi & xxii.
- On the development of the teeth in *Vipera berus* ; C. RÖSE, Anat. Anz. ix, 1894, pp. 439-451, figg.
- On the development of the markings in the embryo of *Tropidonotus natrix* and their physiological significance ; J. ZENNECK, Zeitschr. wiss. Zool. lviii, 1894, pp. 364-393, pl. xxiii.

- On the mode of progression of Snakes on a smooth vertical surface ;
LATASTE, Act. Soc. Chili, iv, 1894, P.V. pp. cxxvi & cxxvii.
- On the nature of Snake-poison ; GAUBERT, Naturaliste (2) viii, 1894,
p. 279 ; HALLIBURTON, Sci. Progr. ii, 1894, pp. 1-9.

TYPHLOPIDÆ.

- Typhlops unguirostris*, Peters, and *polygrammicus*, Schleg. : notes by
WAITE, P. Linn. Soc. N. S. Wales (2) ix, 1894, pp. 11 & 13, *T. wiedii*,
Peters : head figured, *id. ibid.* pl. i, figg. 7-9. *T. batillus*, p. 9, pl. i,
figg. 1-3, New South Wales, and *diversus*, p. 10, pl. i, figg. 4-6,
Queensland, n. spp., *id. ibid.* *T. waitii*, n. sp., BOULENGER, t. c. 1895,
p. 718, Queensland.

BOIDÆ.

- On the brain of *Python molurus* ; RABL-RÜCKHARDT, Zeitschr. wiss.
Zool. lviii, 1894, pp. 694-717, pl. xli.
- Aspidites melanocephalus*, Krefft, note by BÆTTGER, in SEMON, Zool.
Forsch. v, 1894, p. 119. *A. ramsayi*, Macleay, redescribed and head
figured by WAITE, P. Linn. Soc. N. S. Wales, ix, 1895, p. 715, pl. 1.
- Chondropython viridis*, Schleg., note and figure by BÆTTGER, t. c. p. 120,
pl. v, fig. 3.
- Ungalia hatiana*, Cope, is distinct from *U. maculata*, Gray ; COPE, P. Ac.
Philad. 1894, p. 436 (1895).
- On a *Boa constrictor* swallowing his companion, of but slightly smaller
size, in the London Zoological Gardens ; BARTLETT, P. Zool. Soc.
London, 1894, p. 669 (1895).

COLUBRIDÆ.

Aglyphæ.

- Polyodontophis bivittatus*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xiv,
1894, p. 82, Palawan.
- Henicognathus venustissimus*, n. sp., GÜNTHER, Biol. Centr.-Amer., Rept.,
p. 144 (1894), Nicaragua.
- Tropidonotus nativæ*, L., on a curious colour-variety from Dorsetshire ;
O. P. CAMBRIDGE, P. Dorset Club, xv, 1894, p. 95, pl. *T. pygæus*.
Cope, *compressicauda*, Kenn., *fasciatus*, L., *cyclopion*, D. & B., and
taxispilota, Holbr., notes by LOENNEBERG, P. U. S. Mus. xvii, 1894,
pp. 323, 330-332. *T. callistus*, Gthr., notes by F. MÜLLER, Verh.
Ges. Basel, x, 1894, p. 831. *T. godmani*, n. sp., GÜNTHER, Biol.
Centr.-Amer., Rept., p. 133 (1894), Guerrero, Mexico. *T. puncti-*
ventris, p. 129, and *halmahericus*, p. 130, n. spp., BÆTTGER, Zool.
Anz. xviii, 1895, Halmaheira.
- Trimerodytes*, n. g., like *Tropidonotus*, but præfrontals fused, for *T. ball-*
eatus, n. sp. ; COPE, P. Ac. Philad. 1894, p. 426 (1895), Hainan.

- Compsophis*, n. g., apparently allied to *Tropidonotus*, for *C. albiventris*, n. sp.; MOCQUARD, C.R. Soc. Philom. 1894, No. 17, p. 8, Madagascar.
- Macropisthodon rhodomelas*, D. & B., on its habits; H. N. RIDLEY, Zoologist (2) .xix, 1895, p. 112.
- Styporhynchus truncatus*, Ptrs., note by BÆTTGER, Zool. Anz. xviii, 1895, p. 131.
- Storeria dekayi*, Holbr., and *occipitamaculata*, Storer, notes by LOENNBURG, t. c. pp. 332 & 333.
- Micropisthodon*, n. g., apparently allied to *Lamprophis*; MOCQUARD, C.R. Soc. Philom. 1894, No. 17, p. 17. *M. ochraceus*, n. sp., *id. ibid.*, p. 8, Nossi Bé.
- Zamenis microlepis*, Jan, redescribed and figured by WERNER, Verh. Ges. Wien, xlv, 1895, p. 18, pl. iii, fig. 4. *Z. brevis*, n. sp., BOULENGER, Ann. Mus. Genova (2) xv, 1895, p. 13, pl. iii, fig. 3, Somaliland.
- Drymobius rhombifer*, Gthr., figured by GÜNTHER, Biol. Centr.-Amer., Rept., xlv (1894). *D. paucicarinatus*, n. sp., COPE, P. Ac. Philad. 1894, p. 202, Costa Rica, [= *D. dendrophis*, Schleg.—REC.]. *D. percarinatus*, n. sp., *id.*, P. Amer. Phil. Soc. xxxi, 1894, p. 344, Costa Rica, [= *D. dendrophis*, Schleg.—REC.].
- Cacocalyx*, n. g., for *Drymobius percarinatus*, Cope; COPE, P. Ac. Philad. 1894, p. 427 (1895).
- Phrynonax poecilonotus*, Gthr., and *argus*, Gthr. (*nec* Bocourt), figured by GÜNTHER, Biol. Centr.-Amer., Rept., pls. xliii & xlv (1894). *P. guentheri*, p. 20, Mexico, and *eutropis*, p. 22, pl. i, fig. 1, habitat?, n. spp., BOULENGER, Cat. ii. The latter species recorded from Trinidad by BÆTTGER, Bull. Trin. Club, ii, 1894, p. 85.
- Spilotes megalolepis*, Gthr, figured by BOULENGER, t. c. pl. ii.
- Callopettis guttatus*, L., notes by LOENNBURG, P. U. S. Mus. xvii, 1894, p. 327.
- Coluber longissimus*, Laur., on its occurrence in Denmark; LÜTKEN, Vid. Medd. 1894, p. 72; SARAuw, Natur. og Mennesk. xii, 1894, p. 258. *C. janseni*, Blkr., redescribed by F. MÜLLER, Verh. Ges. Basel, x, 1894, p. 829. *C. lineaticollis*, Cope, figured by GÜNTHER, t. c. pl. xlvii. *C. janseni*, Blkr., pl. i, fig. 2, and *frenatus*, Gray, pl. iii, fig. 1, figured by BOULENGER, Cat. ii. *C. arizonæ*, n. n. for *Arizona elegans*, Kenn.; *id. ibid.*, p. 66.
- Synchalinus*, n. g., near *Coluber*, for *S. corallioides*, n. sp., COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 345, Costa Rica.
- Dendrophis bifrenalis*, Blgr., fig. 1, and *grandoculis*, Blgr., fig. 2, figured by BOULENGER, Cat. ii. *D. gastrostictus*, n. sp., *id. ibid.*, p. 86, pl. iv, fig. 3, New Guinea.
- Dendrelaphis modestus*, n. sp., BOULENGER, t. c. p. 91, pl. iv, fig. 4, Ternate.
- Chlorophis emini*, Gthr., fig. 1, *hoplogaster*, Gthr., fig. 2, and *heterolepidotus*, Gthr., fig. 3, figured by BOULENGER, t. c. pl. v.
- Philothamius nitidus*, Gthr., figured by BOULENGER, t. c. pl. v, fig. 4.

- Leptophis modestus*, Gthr., figured by GÜNTHER, Biol. Centr.-Amer., Rept., pl. xlviii (1894). *L. occidentalis*, Gthr., fig. 2, and *nigromarginatus*, Gthr., fig. 3, figured by BOULENGER, t. c. pl. iii. *L. ultramarinus*, n. sp., COPE, P. Ac. Philad. 1894, p. 203, Costa Rica.
- Hypsirhynchus ferox*, Gthr., figured by BOULENGER, t. c. pl. vi, fig. 1.
- Monobothris*, n. g., for *Dromicus chamissonis*, Wiegman; COPE, Amer. Natural. xxviii, 1894, p. 841, [= *Orophis*, Garm.—REC.].
- Iiophis callilæmus*, Gosse, figured by BOULENGER, Cat. ii, pl. vi, fig. 3. *L. fraseri*, n. sp., *id. ibid.*, p. 131, pl. vi, fig. 2, Ecuador.
- Xenodon guentheri*, n. sp., BOULENGER, t. c. p. 147, pl. vii, fig. 1, Sta Catharina, Brazil.
- Aporophis dilepis*, Cope, re-described by PERACCA, Boll. Mus. Torino, x, 1895, No. 195, p. 15. *A. coralliventris*, Blgr., figured by BOULENGER, Cat. ii, pl. vii, fig. 2.
- Echinanthera*, n. g., for *Aporophis cyanopleurus*, Cope; COPE, Amer. Natural. xxviii; 1884, p. 841.
- Rhadinxæ jægerti*, Gthr., figured by BOULENGER, t. c. pl. vii, fig. 3.
- Trimetopon pliolepis*, n. sp., COPE, P. Ac. Philad. 1894, p. 201, Costa Rica.
- Coronella austriaca*, Laur.: on English records; J. E. HARTING, Zoologist (2) xviii, 1894, p. 229. On its occurrence in Denmark; SARAUW, Natur. og Mennesk. xii, 1894, pp. 258 & 379.
- Oscocla clausoidea*, Holbr., notes by LOENNINGER, P. U. S. Mus. xvii, 1894, p. 325.
- Cemophora coccinea*, Blum., notes by LOENNINGER, t. c. p. 321.
- Hypsiglena discolor*, Gthr., figured by GÜNTHER, Biol. Centr.-Amer., Rept., pl. xlix, fig. A (1894). *H. latifusciata*, n. sp., *id. ibid.*, p. 138, pl. xlix, fig. B, S. Mexico. *H. affinis*, n. sp., BOULENGER, Cat. ii, p. 210, pl. viii, fig. 1, Mexico.
- Simotes purpurascens*, Schleg., note by BOULENGER, Ann. Mus. Genova (2) xiv, 1894, p. 616. *S. formosanus*, Gthr., pl. viii, fig. 2, *annulifer*, Blgr., pl. viii, fig. 3, *chinensis*, Gthr., pl. ix, fig. 1, *beddomii*, Blgr., pl. ix, fig. 2, *theobaldi*, Gthr., pl. ix, fig. 3, and *cruentatus*, Gthr., pl. x, fig. 1, figured by BOULENGER, Cat. ii. *S. hainanensis*, n. sp., BÆTTGER, Ber. Senckenberg. Ges. 1894, p. 133, pl. iii, fig. 2, Hainan, [= *S. formosanus*, Gthr.—REC.].
- Holarchus dolleyanus*, n. sp., COPE, P. Ac. Philad. 1894, p. 423, pl. x, fig. 1 (1895) Hainan, [= *Simotes swinhonis*, Gthr.—REC.].
- Oligodon travancoricus*, Bedd., pl. x, fig. 2, *modestus*, Gthr., pl. x, fig. 3, *everetti*, Blgr., pl. xi, fig. 1, *vertebralis*, Gthr., pl. xi, fig. 2, and *waandersii*, Blkr., pl. xi, fig. 3, figured by BOULENGER, t. c. *O. tenuirus*, n. sp., F. MÜLLER, Verh. Ges. Basel, x, 1894, p. 826, Celebes. *O. schadenbergi*, n. sp., BÆTTGER, Abh. Mus. Dresden, 1894-95, No. 7, p. 4 (1895), Busuanga, Philippine Is.
- Leptocalamus torquatus*, Gthr., is referred to *Emilius*, Cope, by COPE, P. Ac. Philad. 1894, p. 205. *L. sclateri*, n. sp., BOULENGER, Cat. ii, p. 251, pl. xii, fig. 1, S. America.

- Arrhyton teniatum*, Gthr., figured by BOULENGER, *t. c.* pl. xii, fig. 2.
Contia angusticeps, p. 262, Baluchistan, and *taylori*, p. 265, Texas and Mexico, n. spp., BOULENGER, *t. c.*
Homalosoma shiranum, p. 276, pl. xiii, fig. 1, Nyassaland, and *abyssinicum*, p. 276, pl. xiii, fig. 2, Abyssinia, n. spp., BOULENGER, *t. c.*
Entechinus, n. g., for *Cyclophis major*, Gthr.; COPE, P. Ac. Philad. 1894, p. 427 (1895),
Grayia smythii, Leach, figured by BOULENGER, Cat. ii, pl. xiii, fig. 3.
Tropidodipsas dumerili, Jan, and *fasciata*, Gthr., figured by GÜNTHER, Biol. Centr.-Amer., Rept., pl. 1 (1895). *T. fischeri*, n. n. for *Virginia fasciata*, Fisch.; BOULENGER, Cat. ii, p. 296. *T. annulifera*, n. sp., *id. ibid.*, p. 297, pl. xiv, fig. 1, Hab. ?
Dirosema, n. g., for *Geophis bicolor*, Gthr., and allies; BOULENGER, *t. c.* p. 298. *D. bicolor*, Gthr., figured; *id. ibid.*, pl. xiv, fig. 2.
Atractus maculatus, Gthr., pl. xiv, fig. 3, and *reticulatus*, Blgr., pl. xv, fig. 3, figured by BOULENGER, Cat. ii. *A. modestus*, p. 304, pl. xv, fig. 1, Ecuador, and *vittatus*, p. 304, pl. xv, fig. 2, Venezuela, n. spp., *id. ibid.*
Geophis sallvi, p. 318, pl. xvi, fig. 1, Mexico, *petersii*, p. 321, pl. xvi, fig. 2, Mexico, *championi*, p. 321, pl. xvi, fig. 3, Panama, and *godmani*, p. 322, pl. xvi, fig. 4, Costa Rica, n. spp., BOULENGER, *t. c.*
Agrophis, n. g., allied to *Geophis*, Wagl., for *A. sarasinorum*, n. sp.; F. MÜLLER, Verh. Ges. Basel, x, 1894, p. 827, fig., Celebes.
Stilosoma extenuatum, Brown: notes by LOENNEBERG, P. U. S. Mus. xvii, 1894, p. 323, figg.
Rhabdophidium, n. n. for *Rabdion*, D. & B., *nec* Wallr.; BOULENGER, Cat. ii, p. 328.
Calamaria modesta, D. & B., var. *bogorensis*, Jeude: note by BÆTTGER, in SEMON, Zool. Forsch. v, 1894, p. 125. *C. baluensis*, Blgr., pl. xvii, fig. 1, *margaritifera*, Blkr., pl. xvii, fig. 2, *everetti*, Blgr., pl. xviii, figg. 1 & 2, *rebentischii*, Blkr., pl. xviii, fig. 3, *borneensis*, Blkr., pl. xix, fig. 1, *javanica*, Blgr., pl. xix, fig. 2, *septentrionalis*, Blgr., pl. xx, fig. 1, and *lovii*, pl. xx, fig. 2, figured by BOULENGER, *t. c.* *C. brevis*, n. sp., *id. ibid.*, p. 348, pl. xix, fig. 3, Hab. ? *C. brookii*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xv, 1895, p. 329, Borneo.
Typhlogeophis brevis, Gthr., figured by BOULENGER, Cat. ii., pl. xx, fig. 3.

Opisthoglyphæ.

- Tarbophis rhinopoma*, Blanf., recorded from Sind, and redescribed by BOULENGER, J. Bombay Soc. ix, 1895, p. 325.
Alluaudina, n. g., apparently allied to *Eteirodipsas*, for *A. bellyi*, n. sp.; MOCQUARD, C.R. Soc. Philom. 1894, No. 17, p. 9, Madagascar.
Dipsas dightoni, n. sp., BOULENGER, J. Bombay Soc. viii, 1894, p. 523, pl. —, Travancore.
Liohallus, n. g., for *Dipsas fusca*, Gray; COPE, P. Ac. Philad. 1894, p. 427 (1895).

- Himantodes*, D. & B.: synopsis of the species by COPE, Amer. Natural. xxviii, 1894, p. 613. *H. lentiferus*, p. 613, Peru and Ecuador, *semi-fasciatus*, p. 614, Costa Rica, and *anisolepis*, p. 614, Costa Rica, n. spp., *id. ibid.*
- Leptodira annulata*, D. & B.: on a specimen accidentally imported to Moscow; GREVÉ, Zool. Gart. xxxv, 1894, p. 179.
- Sibon septentrionale*, n. subsp. *rubricatum*; COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 347, Costa Rica.
- Tachymenis decipiens*, n. sp., GÜNTHER, Biol. Centr.-Amer., Rept., p. 163, pl. liii, fig. A (1895), Costa Rica.
- Psammophis punctulatus*, D. & B., redescribed and figured by BOULENGER, Ann. Mus. Genova (2) xv, 1895, p. 14, pl. iv, fig. 1. *P. longifrons*, Blgr.: note by GLEADOW, J. Bombay Soc. viii, 1894, p. 553.
- Homalocranium atriceps*, p. 146, N. Leon, Mexico, *juni*, p. 148, Guatemala and Nicaragua, *boulengeri*, p. 148, Vera Cruz, *bocourti*, p. 149, Guanajuato, and *breve*, p. 150, British Honduras, n. spp., GÜNTHER, Biol. Centr.-Amer., Rept. (1895).
- Pogonaspis*, n. g., allied to *Tuntilla*, B. & G., for *P. ruficeps*, n. sp.; COPE, P. Ac. Philad. 1894, p. 204, Costa Rica.

Proteroglyphæ.

- Hoplocephalus waitii*, n. sp., DOUGLAS-OGILBY, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 261, New South Wales.
- Diemenia muelleri*, Schleg.: note by BËTTGER, in SEMON, Zool. Forsch. v, 1894, p. 121.
- Elapsoidea boulengeri*, n. sp., BËTTGER, Zool. Anz. xviii, 1895, p. 62, Zambesi.
- Elaps pyrrhocryptus*, Cope, redescribed by PERACCA, Boll. Mus. Torino, x, No. 195, p. 19.
- Callophis bœttgeri*, n. sp., FRITZE, Zool. Jahrb. Syst. vii, 1894, p. 861, Loo Choo Is., [= *C. japonicus*, Gthr.—REC.].
- Adeniphis bilineatus*, Peters, redescribed by BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 84: notes by BËTTGER, Abh. Mus. Dresden, 1894-95, No. 7, p. 5 (1895).

AMBLYCEPHALIDÆ.

- Leptognathus annulatus*, Gthr., figured by GÜNTHER, Biol. Centr.-Amer., Rept., pl. xlix, fig. C (1894).
- Pareas moellendorffi*, Bttgr.: note by COPE, P. Ac. Philad. 1894, p. 424 (1895).

VIPERIDÆ.

- W. E. TAYLOR, Amer. Natural. xxix, 1895, pp. 281-285, has notes upon the osteology of the North American Crotalines.
- On the effects of ablation of the poison-glands in *Vipera aspis*; PHISALIX & BERTRAND, C.R. Soc. Biol. (6) i, 1894, pp. 747-749.

- Atractaspis leucomelas*, n. sp., BOULENGER, Ann. Mus. Genova (2) xv, 1895, p. 16, pl. iv, fig. 2, Somaliland.
- Vipera berus*, L.: on its variations in Denmark; BOULENGER, Zoologist (2) xix, 1895, p. 60: on its occurrence in Portugal; NOBRE, Ann. Sci. Nat. Porto, i, 1894, p. 123. *V. ursinii*, Bp., recorded from Veglia I., Istria; WERNER, Verh. Ges. Wien, xlv, 1894, p. 237. *V. aspis*, L.: on its variations in the Province of Rome; CARUCCIO, Boll. Soc. Rom. Zool. iii, 1894, p. 77. *V. latastii*, Boseá: remarks by J. B. FERREIRA, J. Sci. Lisb. (2) iii, 1894, p. 167. *V. elegans*, Daud.: on a very large specimen; BROOK-FOX, J. Bombay Soc. viii, 1894, p. 565.
- Crotalus pyrrhus*, Cope, = *C. mitchellii*, Cope; VAN DENBURGH, P. Calif. Ac. (2) iv, 1894, p. 450.

ORNITHOSAURIA.

- Campylognathus*, n. g., for *S. zitteli*, n. sp.; P. PLIENINGER, Palæontogr. xli, 1895, p. 193, figg., pl. xix, Upper Lias of Souabia.

DINOSAURIA.

- O. C. MARSH, Amer. J. Sci. (3) xlvi, 1894, pp. 88-90, reviewing the characters of the American genera of *Ornithopoda* (*Camptosaurus*, *Dryosaurus*, *Laosaurus*, *Nanosaurus*) proposes to group together the suborders *Ornithopoda*, *Stegosauria*, and *Ceratopsia* in one order, to be named *Predentata*, regarded as of equal rank with the *Sauropoda*, *Theropoda*, and perhaps also the *Hallopoda*.
- Camptosaurus*, Marsh: notes and figures by MARSH, Amer. J. Sci. (3) xlvi, 1894, p. 85, pls. iv, v, & vii.
- Dryosaurus*, n. g., for *Laosaurus altus*, Marsh; MARSH, t. c. p. 86. Pubis figured, pl. vii, fig. 2.
- Laosaurus consors*, n. sp., MARSH, t. c. p. 87, pls. v-vii, *Atlantosaurus* beds of Wyoming.
- Nanosaurus agilis*, Marsh: note by MARSH, t. c. p. 87.
- Massospondylus carinatus*, Ow.: on the type specimen; SEELEY, Ann. Nat. Hist. (6) xv, 1895, p. 102, figg. *M. (?) browni*, n. sp., *id. ibid.*, p. 118, fig., Telle River, Cape Colony.
- Hortulotarsus*, n. g., for *H. skirtopodus*, n. sp., a Saurischian referred to the *Euskelesauridae*; SEELEY, t. c. p. 411, figg., Barkly East, Cape Colony.
- Euskelosaurus brownii*, Huxley: an account of various parts of the skeleton, by SEELEY, Ann. Nat. Hist. (6) xiv, 1894, p. 317, figg.
- Thecodontosaurus*, Ow., and *Palæosaurus* are regarded as generically distinct from each other, and various remains are described and figured by SEELEY, *op. cit.* (6) xv, 1895, p. 144, figg.

- Pantosaurus*, n. n. for *Parasaurus*, Marsh, preoccupied ; MARSII, C.R. Congr. Geol. Intern. 1891, p. 159 (1893).
 On Megalosaurian teeth from the Portlandian of Aylesbury ; A. S. WOODWARD, P. Geol. Ass. xiv, 1895, p. 31.

EMYDOSAURIA.

- On the cutaneous pores of Crocodiles ; EMERY, Rend. Acc. Bologna, 1893-94, pp. 119 & 120.
Alligator sinensis, Fauvel : note by BÆTTGER, Ber. Senckenberg. Ges. 1894, p. 142.

CHELONIA.

- L. VAILLANT, Ann. Sci. nat. (7) xvi, 1894, pp. 331-345, expresses his views on the classification of the Chelonians, which he would group in the following manner :—

Subord. I. CRASPEDOTA.

Tribe I. EUCHELONINA.

Subtribe 1. CRYPTODERINEA.

Fams. *Testudinidæ*, *Emydidæ*, *Platysternidæ*.

Subtribe 2. PHANERODERINEA.

Fams. *Emysauridæ*, *Dermatemydidæ*, ? *Carettochelydidæ*, *Chelonidæ*, *Sphargidæ*.

Tribe II. CHELYDINA (PLEURODERINEA).

Fams. *Pelomedusidæ*, *Chelydidæ*.

Subord. II. MECRASPEDOTA (TRIONYCHINA, OPHIODERINEA).

Fam. *Trionychidæ*.

- W. DAMES, Pal. Abh. (2) ii, 1894, pp. 22-25, figg., endorses BAUR'S view that the *Athecæ* are forms modified from the *Chelonidæ*. *Psephoderma* is pronounced, on histological evidence, to be not a Chelonian at all.
 On the development, structure, and function of the amnion in *Emys orbicularis* ; MEHNERT, Morphol. Arbeit. iv, 1894, pp. 207-274, 4 pls.
 On the presence of the proatlas in a specimen of *Trionyx spinifer* ; G. BAUR, Anat. Anz. x, 1895, pp. 349-354, figg.
Trionyx, Geoffr. : on the presence of a turtle of this genus in the Delaware system ; C. W. JOHNSON, Amer. Natural. xxviii, 1894, p. 889.
T. pecki, n. sp., E. BARTLET, Sarawak Gazette, Feb. 1, 1895, Sarawak. On the fossil remains from Monte Bolca ; SACCO, Atti Acc. Torino, xxix, 1894, p. 654, pl. *T. hilberii*, n. sp. (foss.), HOERNES, Verh. geol. Reichsanst. 1892, p. 242, Tertiary, Styria.
Sternotherus botlegi, n. sp., BOULENGER, Ann. Mus. Genova (2) xv, 1895, p. 9, pls. i & ii, Somaliland.
 1894. [VOL. XXXI.]

- Hydraspis boulengeri*, n. sp., BOHLS, Zool. Anz. xviii, 1895, p. 53, Paraguay.
- Chelodina novæ-guinææ*, Blgr.: notes on specimens from Rotti, near Timor; VAN LIDTH DE JEUDE, Notes Leyden Mus. xvi, 1895, p. 120.
- Plesiochelys belviderensis*, n. sp. (foss.), CRAGIN, Colorado College Studies, v, 1894, p. 71, pl. ii, figg. 1-8, Neocomian of Kansas.
- Chelyopsis holsaticus*, n. sp. (foss.), DAMES, Pal. Abh. (2) ii, 1894, p. 200, pls. xxvii-xxix, Oligocene, Itzehoe, Germany.
- Testudo emys*, Schleg. & Müll., recorded from Borneo by E. BARTLETT, Sarawak Gazette, Nov. 1, 1894. *T. sumeirei*, Sauzier: on a living specimen; ROTHSCHILD, Nov. Zool. i, 1894, pp. 676 & 690, pl. xi. *T. riedli*, n. sp. (foss.), HOERNES, Verh. geol. Reichsanst. 1892, p. 243, Tertiary, Styria.
- Geoemyda latinuchalis*, n. sp., VAILLANT, Bull. Soc. Philom. (8) vi, 1894, p. 68, Black R., Tonkin.
- Cistudo*, Flem.: synopsis of the species by BOULENGER, Ann. Nat. Hist. (6) xv, 1895, p. 330. *C. yucatanæ*, n. sp., *id. ibid.*, Yucatan. On the forms found in Kansas and Texas; CRAGIN, Colorado College Studies, v, 1894, p. 37. *C. ornata*, Ag., n. var. *cimarronensis*; CRAGIN, *t. c.*, Kansas.
- Clemmys schmackeri*, n. sp., BËTTGER, Ber. Senckenberg. Ges. 1894, p. 129, pl. iii, fig. 1, Hainan.
- Kachuga*, Gray: *Emys borneensis*, Schl. & Müll., redescribed by H. LENZ, Mt. Geogr. Ges. Lubeck (2) v, 1893, p. 93. *K. brookii*, n. sp., E. BARTLETT, Sarawak Gazette, Feb. 1, 1895, Sarawak [= *Callagur picta*, Gray.—REC.].
- Cinosternum baurii*, Garm., recorded from Florida by LOENNBURG, P. U. S. Mus. xvii, 1894, p. 319.
- Thalassochelys caretta*, L.: on the capture of a specimen on the coast of Vendée in June, 1893; BORGONO, Bull. Soc. Ouest France, iv, 1894, p. 73, pl. ii. On the Dutch Coast; VAN LIDTH DE JEUDE, Notes Leyden Mus. xvi, 1895, p. 211.
- Pseudosphargis*, n. g., for *Chelone ingens*, Koenen (foss.); DAMES, Pal. Abh. (2) ii, 1894, p. 207, pls. xxvi-xxviii.
- Dermochelys coriacea*, L.: on the capture of a specimen on the coast of Brittany in April, 1893; BUREAU, Bull. Soc. Ouest France, iii, 1893, p. 223, pl. iv.

ICHTHYOSAURIA.

- On the structure of the palate; G. BAUR, Anat. Anz. x, 1895, pp. 456-459, fig.
- On the downward bend of the end of the caudal vertebral column of *Ichthyosaurus*; F. E. SCHULZE, SB. Ak. Berlin, 1894, p. 513, figg.
- Ichthyosaurus quadriscissus*, Qu., figured by E. FRAAS, with remarks on the external characters, Jahresh. Ver. Wurttemb. I, 1894, p. 493, pl. v.

PLESIOSAURIA.

- Remarks on the structure of the skull ; COPE, P. Amer. Phil. Soc. xxxiii, 1894, pp. 109 & 110, fig., pl. x.
- C. W. ANDREWS gives an account of the modifications which the shoulder-girdle of *Cryptoclidus oxoniensis*, Phillips, undergoes with age, and discusses the morphology of this part of the Plesiosaurian skeleton, Ann. Nat. Hist. (6) xv, 1895, pp. 333-346, figg.
- Plesiosaurus rostratus*, Ow., recorded from the Rhætic of England, M. BROWNE, Rep. Brit. Ass. 1893, p. 748 (1894). *P. mudgei*, n. sp., CRAGIN, Colorado College Studies, v, 1894, p. 69, pl. i, figg. 1-3, Neocomian of Kansas.
- Embaphias*, n. g., allied to *Pliosaurus*, for *E. circulosus*, n. sp., COPE, P. Amer. Phil. Soc. xxxiii, 1894, p. 111, Upper Cretaceous, South Dakota.
- Elasmosaurus intermedius*, n. sp., COPE, *t. c.* p. 112, Upper Cretaceous, South Dakota.
- Cimoliosaurus caudalis*, n. sp., HUTTON, Tr. N. Zealand Inst. xxvi, 1894, p. 354, pl. xlii, Cretaceous of Waipara, New Zealand.
- On the Nothosaurians of the Lower Muschelkalk of Halle; K. v. FRITSCH, Abh. Ges. Halle, xx, 1894, pp. 271-302, fig., pls. xvi-xviii.
- Oligolycus*, n. subg., for *Nothosaurus hecki*, n. sp., K. v. FRITSCH, *t. c.* p. 277, pl. xvi, fig. 3, Lower Muschelkalk of Halle.
- Cymatosaurus*, n. g., allied to *Nothosaurus*, for *C. fridericianus*, n. sp., K. v. FRITSCH, *t. c.* p. 280, pls. xvi-xviii, Lower Muschelkalk of Halle.

THECODONTIA.

- Erpetosuchus granti*, E. T. Newt., described and figured by E. T. NEWTON, Phil. Trans. clxxxv, 1894, p. 574, pl. liii.
- Ornithosuchus woodwardi*, E. T. Newt., described and figured, *t. c.* p. 586, pls. liv-lvi.

RHYNCHOCEPHALIA.

- A. PERRIN, C.R. Ac. Sci. xix, 1894, pp. 1278 & 1279, and Bull. Soc. Philom. (8) vi, 1894, p. 94, remarks on the myology and osteology of the hind limb of *Sphenodon punctatus*.
- Dyrosaurus*, n. g., allied to *Champsosaurus*, Cope, for *D. thevestensis*, n. sp. (foss.), POMEL, C.R. Ac. Sci. cxviii, 1894, p. 1309, Suessonian of Tebesa, Algeria. This fossil being regarded as identical with *Crocodylus phosphaticus*, P. Thomas, is renamed *Dyrosaurus phosphaticus*, POMEL, *t. c.* p. 1396.

ANOMODONTIA.

The following Classification is proposed by SEELEY, Phil. Trans. clxxxv, 1895, p. 1013 :—

I. THEROSUCHIA.

Suborders : PARIASAURIA, GORGONOPSIA, DINOCEPHALIA,
DEUTEROSAURIA, THERIODONTIA, ENDOTHIODONTIA,
THEROMORA.

II. THEROCHELONIA.

Suborders : DICYNODONTIA, KISTECEPHALIA.

The *Mesosauria*, *Nothosauria*, and *Protorosauria* are provisionally grouped under the Anomodonts.

The same author, *t. c.* pp. 987–1001, also gives detailed definitions of the *Theriodontia* and *Endothiodontia*, and describes and figures, pp. 989–994, pl. lxxxviii, figg. 1 & 2, the skull and dentition of *Galeosaurus*, Ow., *Aelurosaurus*, Ow., and *Lycosaurus*, Ow.

Pristerognathus, n. g., for *P. polyodon*, n. sp., founded on the extremity of the snout of a Theriodont, SEELEY, *t. c.* p. 994, pl. lxxxviii, fig. 3, Cape Colony.

Cryptocynodon, n. g., for *C. simus*, n. sp., for a portion of skull allied to *Esoterodon*, Ow., SEELEY, *t. c.* p. 1002, pl. lxxxviii, figg. 4 & 5, Cape Colony.

Pariasaurus baini, Seeley : noticed and figured by SEELEY, Geol. Mag., Dec. iv, ii, 1895, p. 1, pl. i.

Theriodesmus, Seeley : further notes by SEELEY, who now refers the genus to the vicinity of *Pariasaurus*, Phil. Trans. clxxxv, 1895, p. 1019, figg.

Theromus, n. g., for *T. leptonotus*, n. sp., SEELEY, *op. cit.* clxxxvi, 1895, p. 150, figg., Klipfontein, Cape Colony.

Herpetochirus, n. g., for *H. brachycnemus*, n. sp., SEELEY, *t. c.* p. 155, figg., Klipfontein, Cape Colony.

SEELEY, Phil. Trans. clxxxvi, 1895, p. 1, discusses the characters of the *Gomphodontia*, a group of *Theriodontia*, and describes the following new genera which are referred to this division :—

Gomphognathus, n. g., p. 3, for *G. kannemeyeri*, n. sp., p. 4, figg., Cape Colony.

Microgomphodon, n. g., p. 31, for *M. oligocynus*, n. sp., p. 31, pl. i, figg. 1–4, and *M. eumerus*, n. sp., p. 35, Cape Colony.

Trirachodon, n. g., p. 48, for *T. kannemeyeri*, n. sp., p. 48, pl. ii, and *T. berryi*, n. sp., p. 53, pl. ii, fig. 9, Cape Colony.

SEELEY, *t. c.* p. 59, defines the *Cynodontia* as a group of *Theriodontia*, and describes the following new genus :—

Cynognathus, n. g., p. 60, for *C. crateronotus*, n. sp., p. 60, figg., *C. berryi*, n. sp., p. 121, figg., *C. platyceps*, n. sp., p. 132, figg., and *C. ? leptorhinus*, n. sp., p. 140, figg., Cape Colony.

- SEELEY describes and figures various parts of the skeleton of *Deuterosaurus*, Eichw., and *Rhopalodon*, Fischer; Phil. Trans. clxxxv, 1894, pp. 663-717, pls. lx-lxiii.
- Tritylodon longevus*, Ow.: skull described by SEELEY, Phil. Trans. clxxxv, 1894, p. 1025, pl. lxxxix, fig. 15.
- Diademodon*, n. g., for *D. tetragonus*, n. sp., SEELEY, t. c. p. 1030, and *D. mastacus*, n. sp., p. 1035, and *D. browni*, n. sp., p. 1037, pl. lxxxix, figg. 1-14, Cape Colony.

BATRACHIA.

- BOULENGER publishes a third report on the Batrachian Collection in the British Museum, giving a list of the species of which examples have been added to the collection since the last Report in 1890. P. Zool. Soc. London, 1894, pp. 640-646, pls. xxxix & xl (1895).
- On the morphology of the limbs; EMERY, Ric. Labor. Anat. norm. Roma, iv, 1894, pp. 1-35, 2 pls.
- On the hyoid musculature; E. GÖPFERT, Morphol. Jahrb. xxii, 1894, pp. 1-78, figg., pls. i & ii.
- On the development of the hypophysis and saccus vasculosus; LUNDBORG, Zool. Jahrb. Anat. vii, 1894, pp. 667-687, figg., pls. xl & xli.
- O. S. STRONG, J. Morphol. x, 1895, pp. 101-230, pls. vii-xii, describes the cranial nerves, and discusses their comparative morphology.
- On the eighth cranial nerve and the functions of the brain and spinal cord in frogs, with remarks on the functions of the central nervous system; CATHERINE SCHÉPILOFF, Arch. Sci. Nat. (3) xxxii, 1894, pp. 174-182, pl. ii.
- EYCLESHYMER, in his paper on the development of *Amblystoma*, deals with the optic vesicles and olfactory and oral grooves in *Rana* and *Necturus*; J. Morphol. x, 1895, pp. 394-398.

ECAUDATA.

- On abnormalities in the vertebral column; BENHAM, P. Zool. Soc. London, 1894, pp. 477-481, pl. xxxiii.
- On the myology of the abdominal region; F. MAURER, Morphol. Jahrb. xxii, 1894, pp. 225-262, pls. vi & vii.
- On peculiar cells in the sympathetic of the Frog; LOEWENTHAL, Int. J. Anat. Phys. xi, 1894, pp. 423-425, pl. xix.
- On nerve-terminations in the palate and tongue of the Frog; BETHE, Arch. mikr. Anat. xlv, 1894, pp. 185-206, pls. xii & xiii.
- On glands and nerve-endings in the skin of the Tadpole; J. H. MASSIE, J. Comp. Neurol. iv, 1894, pp. 7-11, 1 pl.
- On the origin of the lymphatic system in the skin of the Frog; RANVIER, C.R. Ac. Sci. cxx, 1895, pp. 132-136.

- M. C. POTTER publishes a digest of a popular lecture on the metamorphoses of the Frog; *Nat. Hist. Tr. Northumb.* xi, 1894, pp. 263-269.
- On the metamorphosis of the Frog's mouth; J. LIEBERT, *Inaug. Diss.*, Leipzig, 1894, 8vo.
- On regeneration of the limbs in larvæ; BARFURTH, *Arch. Entwicklungsmech.* i, 1894, pp. 117-123, pl. vi.
- On the artificial production of double parts in larvæ; O. SCHULTZE, *t. c.* pp. 269-305, pls. xi & xii.
- On the development of the tarsus in *Pelobates fuscus*; CHOMIAKOFF, *Bull. Soc. Moscou*, 1894, pp. 351-357, pl. viii.
- On the hyo-branchial skeleton and its transformations; E. GAUPP, *Morphol. Arbeit.* iv, 1894, pp. 399-438, fig., 2 pls.
- On the transformation of the aortic arches in the Frog; M. S. JOURDAIN, *C.R. Ac. Sci.* cxix, 1894, pp. 98-100, and *Ann. Nat. Hist.* (6) xiv, 1894, pp. 234-236.
- On the development of the endothelium of the blood-vessels and blood-corpuses of the Frog; NUSBAUM, *Bull. Ac. Cracovie*, 1894, pp. 230-234.
- On the formation of the embryo of the Frog; T. H. MORGAN, *Anat. Anz.* ix, 1894, pp. 697-705, figg.
- R. ASSHETON writes on the phenomenon of the fusion in the epiblastic layers, and on the growth in length of the embryo of the Frog; *Q. J. Micr. Sci.* xxxvii, 1894, pp. 165-171 & 223-243, pls. xviii, xxiii, & xxiv.
- "Cytotropism" in early stages of the Frog-ovum; W. ROUX, *Arch. Entwicklungsmech.* i, 1894, pp. 43-68 & 161-202, pls. i-iii.
- On degenerescence of the ova in *Rana esculenta*; MINGAZZINI, *Atti Acc. Lincei* (5) ccxci, 1894, *Rend.*, pp. 459-467.
- On the influence of external conditions on the development of the Frog-ovum; O. HERTWIG, *SB. Ak. Berlin*, 1894, pp. 111-117.
- On the influence of a low temperature on the development of the Frog-ovum; O. SCHULTZE, *Anat. Anz.* x, 1894, pp. 291-294.
- Experiments on the development of Frog-ova in salt water; O. HERTWIG, *Arch. mikr. Anat.* xlv, 1895, pp. 285-344, pls. xx-xxii.
- Physiological experiments on the action of Toad-poison on the blood and its colouring matter; PUGLIESE, *Arch. ital. Biol.* xxii, 1894, pp. 79-88.

PHANEROGLOSSA.

RANIDÆ.

- Rana*, L., remarks on the North American species; WERNER, *Jahresber. Ver. Magdeburg*, 1894, pp. 123-136. *R. esculenta*, L., on a hermaphrodite specimen; MITROPHANOW, *Protok. Obshch. Varshav.* y, 1894, Nos. 3 & 4, p. 1, fig.: on a case of melanism; VAILLANT, *Bull. Soc. zool. France*, xx, 1895, p. 29. On hybridization of *R. esculenta* with *R. arvalis*; W. GEBHARDT, *Inaug. Diss.*, Breslau, 1894,

- 8vo. *R. virescens*, Kalm, on a hermaphrodite specimen; F. B. SUMNER, Anat. Anz. ix, 1894, p. 694, fig. *R. arvalis*, Nilss., recorded from Fiume, Istria, by WERNER, Verh. Ges. Wien, xlv, 1894, p. 237. *R. agilis*, Thomas, recorded from Silesia, by KNAUTHE, Zool. Gart. xxxv, 1894, p. 286. *R. amurensis*, Blgr., and *martensii*, Blgr., notes by BËTTGER, Ber. Senckenberg. Ges. 1894, pp. 146 & 147. *R. microdisca*, Bttgr., recorded from Celebes by F. MÜLLER, Verh. Ges. Basel. x, 1894, p. 839: figured by BËTTGER, in SEMON, Zool. Forsch. v, 1894, pl. v, fig. 2. *R. modesta*, Blgr., notes by F. MÜLLER, t. c. p. 867. *R. queckettii*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 643, pl. xxxix, fig. 1 (1895), Natal. *R. palawanensis*, p. 85, and *varians*, p. 86, n. spp., BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, Palawan; the latter recorded from Celebes by F. MÜLLER, t. c. p. 868. *R. novæbritanniæ*, n. sp., WERNER, Zool. Anz. xvii, 1894, p. 155, New Britain.
- Levirana*, n. g., like *Ranula*, but without vomerine teeth, for *L. vibicaria*, n. sp.; COPE, P. Ac. Philad. 1894, p. 197, Costa Rica.
- Phrynobatrachus ranoides*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 644, pl. xxxix, fig. 2 (1895), Natal.
- Arthroplepis bottegi*, n. sp., BOULENGER, Ann. Mus. Genova (2) xv, 1895, p. 16, pl. iv, fig. 3, Auata, E. Africa.
- Rhacophorus exiguus*, n. sp., BËTTGER, Ber. Senckenberg. Ges. 1894, p. 148, pl. iii, fig. 3, Ningpo. *R. everetti*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 87, Palawan. *R. edentulus*, n. sp., F. MÜLLER, Verh. Ges. Basel, x, 1894, p. 840, Celebes.
- Ixalus longicrus*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 88, Palawan. *I. bisrigatus*, n. sp., WERNER, Zool. Anz. xvii, 1894, p. 156, India (?), [= *Phrynobatrachus plicatus*, Gthr.—REC.].
- Hylambates millsoni*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 644, pl. xxxix, fig. 4 (1895), Nîger.
- Cassina obscura*, n. sp., BOULENGER, t. c. p. 644, pl. xxxix, fig. 3 (1895), Shoa.

DENDROBATIDÆ.

- Dendrobates tinctorius*, n. subsp. *vittatus*, COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 340, Costa Rica.

ENGYSTOMATIDÆ.

- Atelopus*, D. & B., should replace *Phryniscus*, Bibr., nec Wieg., and *Phryniscus nigricans*, D. & B., nec Wieg., should be named *Atelopus stelzneri*, Weyenb.; BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 374.
- Phrynixalus*, n. g., for *P. montanus*, n. sp.; BËTTGER, Zool. Anz. xvii, 1895, p. 133, Halmabeira.
- Xenorhina dubia*, n. sp., BËTTGER, t. c. p. 134, Halmabeira.

- Oreophryne*, n. g., for *O. senckenbergiana*, n. sp.; BÆTTGER, *t. c.* 1895, p. 136, Halmahera.
- Sphenophryne celebensis*, n. sp., F. MÜLLER, Verh. Ges. Basel, x, 1894, p. 841, fig., Celebes.
- Hypopachus*, Kef., *Engystoma muelleri*, Bttgr., is referred to this genus by PERACCA, Boll. Mus. Torino, x, 1895, No. 195, p. 23.

CYSTIGNATHIDÆ.

- Hylodes stejnegerianus*, n. sp., COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 338, Costa Rica. *H. urichi*, n. sp., BÆTTGER, in MOLE & URICH, J. Trinidad Club, ii, 1894, p. 88, Trinidad. *H. appendiculatus*, n. sp., WERNER, Zool. Anz. xvii, 1894, p. 410, Ecuador. *H. discoidalis*, n. sp., PERACCA, Boll. Mus. Torino, x, 1895, No. 195, p. 24, Tucuman.
- Liohyla ranoides*, Cope : notes by COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 335.
- Lithodytes rhodopsis*, Cope : on its probable synonyms ; COPE, *t. c.* p. 337. *L. florulentus*, n. sp., *id. ibid.*, p. 336, Costa Rica. *L. euryglossus*, n. sp., *id.* P. Ac. Philad. 1894, p. 196, Costa Rica.
- Paludicola borellii*, n. sp., PERACCA, *t. c.*, p. 26, Tucuman.
- Rana octoplicata*, Werner, = *Leptodactylus ocellatus* L.; WERNER, Jahresber. Ver. Magdeburg, 1894, p. 125.
- Leptodactylus prognathus*, Blgr., and *bufonius*, Blgr. : notes by PERACCA, Boll. Mus. Torino, x, 1895, No. 195, p. 28. *L. quadrivittatus*, n. sp., COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 339, Costa Rica.
- Crinia haswelli*, n. sp., FLETCHER, P. Linn. Soc. N. S. Wales (2) viii, 1894, p. 522, New South Wales.
- Hylopsis*, n. g., connecting the *Cystignathidæ* with the *Dendrophryniscidæ*, for *H. platycephalus*, n. sp., WERNER, Zool. Anz. xvii, 1894, p. 156, S. America.

BUFONIDÆ.

- Phryniscus*, Wieg. : PHILIPPI, Arch. Naturg. lx, 1894, p. 214, points out that the toad so named by Wiegmann is generically distinct from the Engystomatoid since referred to it. Further remarks by BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 374, who states that *Nannophryne*, Gthr., is a synonym of *Phryniscus*.
- Nectophryne signata*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 645, pl. xl, fig. 1 (1895), Borneo.
- Bufo philippinicus*, Blgr. : further notes by BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 88. *B. viridis*, n. var. *orientalis*; WERNER, Verh. Ges. Wien, xlv, 1895, p. 20, Muscat [= *B. andersonii*, Blgr.—REC.]. *B. lateralis*, n. sp., WERNER, Zool. Anz. xvii, 1894, p. 156, Tehuantepec [= ? *B. canaliferus*, Cope.—REC.]. *B. schneideri*, n. sp., *id. ibid.*, p. 411, Paraguay [non *B. schneideri*, Merr.—REC.].

HYLIDÆ.

- Hyla arborea*, L. : further notes on the Tree-frog as a barometer ; LENDENFELD, Zool. Anz. xvii, 1894, p. 387 : note on specimens from Hainan ; COPE, P. Ac. Philad. 1894, p. 423 (1895). *H. arborea*, var. *immaculata*, Bttgr. : note by BÆTTGER, Ber. Senckenberg. Ges. 1894, p. 140. *H. dolichopsis*, Cope, n. var. *tenuigranulata* ; BÆTTGER, Zool. Anz. xviii, 1895, p. 136, Halmadeira. *H. andersonii*, Cope, recorded from New Jersey by J. P. MOORE, Amer. Natural. xxviii, 1894, p. 1045. *H. appendiculata*, Blgr. : notes by WERNER, Zool. Anz. xvii, 1894, p. 412. *H. angustifrons*, Werner (= *nigromaculata*, Tsch.) : further notes ; *id. ibid.*, p. 414. *H. congenita*, Ptrs. & Dor. : notes by BÆTTGER, in SEMON, Zool. Forsch. v, 1894, p. 111. *H. semoni*, n. sp., BÆTTGER, *t. c.* p. 112, pl. v, fig. 1, New Guinea. *H. cherrei*, n. sp., COPE, P. Ac. Philad. 1894, p. 195, Costa Rica. *H. pygmaea*, p. 411, and *vittigera*, p. 412, n. spp., WERNER, Zool. Anz. xvii, 1894, Sta Catharina, Brazil. *H. goeldii*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 645, pl. xl, fig. 2 (1895), Theresopolis, Brazil. *H. rueppelli*, n. sp., BÆTTGER, Zool. Anz. xviii, 1895, p. 137, Halmadeira.
- Hylella chrysops*, n. sp., COPE, P. Ac. Philad. 1894, p. 196, Costa Rica, [= *H. fleischmanni*, Bttgr.—REC.]. *H. parvula*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 646, pl. xl, fig. 3 (1895), S. Brazil.

PELOBATIDÆ.

- Leptobrachium monticola*, Gthr. : on a specimen from China ; BÆTTGER, Ber. Senckenberg. Ges. 1894, p. 141.

DISCOGLOSSIDÆ.

- Alytes obstetricans*, Laur. : on its introduction in Silesia ; KNAUTHE, Zool. Garten, xxxv, 1894, p. 286.

AGLOSSA.

- On the anatomy of *Pipa americana* ; GRÖNBERG & KLINCKOWSTRÖM, Zool. Jahrb. Anat. vii, 1894, pp. 609–665, figg., pls. xxxv–xxxix.
- On the anterior cranial nerves of *Pipa* ; G. A. ARNOLD, Bull. Essex Inst. xxv, 1894, pp. 126–134, 1 pl.
- Xenopus lewis*, Daud. : larval stages described and figured by BEDDARD, P. Zool. Soc. London, 1894, p. 101, pl. xiii.

CAUDATA.

- L. CAMERANO confirms Wilder's discovery of the total absence of lungs, trachæa, and larynx in *Spelerpes*, his observations being based upon the European *S. fuscus*, Gené. In *Salamandrina perspicillata*, Savi, he finds the pulmonary apparatus to be in a rudimentary condition. *Atti Acc. Torino*, xxix, 1894, pp. 705-724, figg.; *Boll. Mus. Torino*, ix, 1894, No. 178, 8 pp., and *Anat. Anz.* ix, 1894, pp. 676-678.
- H. H. FIELD, *Anat. Anz.* ix, 1894, p. 471, makes a correction to his previous communication on the circulation in the head of the Axolotl.
- P. A. FISH, *J. Morphol.* x, 1895, pp. 231-286, pls. xiii-xvi, describes the central nervous system of *Desmognathus fuscus*.
- On the form and relations of the nerve cells and fibres in *Desmognathus fuscus*; P. A. FISH, *Anat. Anz.* ix, 1894, pp. 754-758, figg.
- O. DRASCH, *Arch. Anat.* 1894, pp. 225-268, pls. xii-xv, describes the structure of the poison-glands of *Salamandra maculosa*.
- On the blood of *Salamandra maculosa* and its antitoxic properties towards curare; PHISALIX & CONTEJEAN, *C.R. Ac. Sci.* xix, 1894, pp. 434-436.
- A. B. GRIFFITHS, *C.R. Ac. Sci.* xix, 1894, p. 912, investigates the red pigment of *Molge (Diemyctylus) viridescens*, Raf., which he pronounces as probably of excretory nature and for which the name "Diemyctylene" is proposed.
- On supernumerary digits in the reproduced limbs of Newts; PIANA, *Ric. Labr. Anat. norm. Roma*, iv, 1894, p. 65.—BARFURTH, *Arch. Entwicklungsmech.* i, 1894, pp. 91-116, pl. v.
- EYCLESYMER, *J. Morphol.* x, 1895, pp. 343-418, pls. xviii-xxii, investigates the early development of *Amblystoma*.
- On the development of the urogenital apparatus of Urodeles; A. v. ZUR MÜHLEN, *Inaug. Diss., Jurjew*: 1894, 8vo, 63 pp., 1 pl.
- On the development of the excretory organs in *Amphiuma*; H. H. FIELD, *C.R. Ac. Sci.* cxviii, 1894, pp. 1221-1224.
- On the development of the Müllerian ducts in the Axolotl; G. WILSON, *Anat. Anz.* ix, 1894, pp. 736-745, figg.
- On the histological structure of the enteron of *Necturus maculatus*; KINGSBURY, *P. Amer. Soc. Micr.* xvi, 1894, pp. 19-64, 8 pls.
- On the development of the ectoderm in *Necturus*; JULIA B. PLATT, *Arch. mikr. Anat.* xliii, 1894, pp. 911-966, pls. xxxvii-xlii.
- On the origin of pigment in the skin of the larvæ of tailed Batrachians; H. RABL, *Anat. Anz.* x, 1894, pp. 12-17, fig.
- On cleavage and orientation of the Newt's egg; V. v. EBNER, *Jena*: 1894, 4to, 26 pp., 2 pls.
- On spermatogenesis in *Salamandra*; MEVES, *Arch. mikr. Anat.* xliv, 1894, pp. 119-184, pls. vii-xi; RAVITZ, *t. c.* 1895, pp. 555-578, pl. xxxiii.

- Salamandra maculosa*, Laur.: biological notes by PARÂTRE, Mem. Soc. zool. France, vii, 1894, p. 177, and ROLLINAT, Bull. Soc. zool. France, xix, 1894, p. 108. On its occurrence in the Dép. Nord, France; MONIEZ, Rev. biol. Nord France, vi, 1894, p. 483.
- Molge vulgaris*, L.; F. WESTHOFF, Jahresber. Westfal. Ver. 1893-94, p. 76, describes and figures a larva with fully developed ova. *M. vulgaris*, L., var. *meridionalis*, Blgr.: notes on specimens from Corfu; WERNER, Verh. Ges. Wien, xliiv, 1894, p. 235. *M. palmata*, Schn.: recorded from Scarborough, Yorkshire, by O. GRABHAM, Naturalist, 1894, p. 158. On its introduction in Silesia; KNAUTHE, Zool. Garten, xxxv, 1894, p. 286. On the prolongation of the larval state in an albino; ROLLINAT, Bull. Soc. zool. France, xx, 1895, p. 60.
- Amblystoma punctatum*, L.: on the eggs and larvæ; H. VIRCHOW, SB. Ges. naturf. Berlin, 1894, p. 35.
- Linguelapsus annulatus*, Cope: note on a specimen from Hot Springs, Arkansas; H. H. & C. S. BRIMLEY, Amer. Natural. xxix, 1895, p. 168.
- Haptoglossa*, n. g., allied to *Thorius*, Cope, but tongue adherent in front, for *H. pressicauda*, n. sp., COPE, P. Amer. Phil. Soc. xxxi, 1894, p. 334, Costa Rica.
- Edipus robustus*, n. sp., COPE, P. Ac. Philad. 1894, p. 194, Costa Rica.
- Necturus maculatus*, Raf.: notes on habits and development; FÜLLEBORN, SB. Ak. Berlin, 1894, p. 475; H. VIRCHOW, SB. Ges. naturf. Berlin, 1894, p. 37.

APODA.

- On the vertebral column; K. PETER, Ber. Ges. Freiburg, ix, 1894, pp. 35-58, figg.
- On the development of the bladder; H. H. FIELD, Anat. Anz. ix, 1894, pp. 764-766.
- Epicrionops*, Blgr., = *Rhinatrema*, D. & B., which is distinct from *Ichthyophis*, Fitz., with which it has been erroneously identified by Peters; VAILLANT, C.R. Ac. Sci. cxx, 1895, p. 460.
- Geotrypetes*, Ptrs., recharacterized by BOULENGER, Ann. Nat. Hist. (6) xv, 1895, p. 329. *G. petersii*, n. n. for *Hypogeophis seraphini*, Ptrs., nec A. Dum., *id. ibid.*
- Ureotyphlus africanus*, Blgr., = *Cecilia seraphini*, A. Dum.; BOULENGER, t. c. p. 328.
- Dermophis gregorii*, n. sp., BOULENGER, P. Zool. Soc. London, 1894, p. 646, pl. xl, fig. 4 (1895), Ngatana, E. Africa.

STEGOCEPHALA.

- O. JÄEKEL remarks on the structure of the Labyrinthodont teeth, in connection with Credner's recent investigations. *SB. Ges. naturf. Berlin*, 1894, pp. 146-153.
- Ceraterpetum galvani*, Huxley, note on a specimen from Staffordshire ; ANDREWS, *Geol. Mag.*, Dec. iv, ii, 1895, p. 81, fig.
- Trematosaurus crocodilinus*, Quenst., recorded from the Rhætic of England ; M. BROWNE, *Rep. Brit. Ass.* 1893, p. 749 (1894).
- Mastodonsaurus*, Ow., on a tooth from Lavernock, Wales ; STORRIE, *Rep. Cardiff Soc.* xxvi, 1895, p. 105, pl.

INCERTÆ SEDIS.

- Chirotherium*, Kaup, note by O. W. JEFFS, *Geol. Mag.*, Dec. iv, i, 1894, p. 451.
- Nanopus caulatus*, *Limnopus vagus*, *Dromoplus agilis*, *Allopus littoralis*, and *Baropus lentus*, n. nn. for footprints from the Coal-measures of Kansas ; MARSH, *Amer. J. Sci.* (3) xlviii, 1894, pp. 82 & 83, pl. vi, and *Geol. Mag.*, Dec. iv, i, 1894, pp. 337-339, pl. xi.
- Oalabosca*, n. n. for *Ascalabos*, Münster, preoccupied ; FAIRMAIRE, *Ann. Soc. ent. Belgique*, xxxviii, 1894, p. 395.

V. PISCES.

BY

G. A. BOULENGER, F.R.S.

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TITLES.*

- AHLBORN, F. Der Flug der Fische. Realgymnasium des Johanneums, Hamburg : 1895, 4to, 57 pp., 1 pl.
- ALCOCK, A. Illustrations of the Zoology of the Royal Indian Marine Surveying Steamer 'Investigator.' Fishes, part II. Calcutta : 1894, 4to, 6 pls.
- Natural history notes from H. M. Indian Marine Survey Steamer 'Investigator.' Series II, No. 11. An account of a recent collection of Bathybial Fishes from the Bay of Bengal and from the Laccadive Sea. J. Asiat. Soc. Bengal, lxiii, 1894, pp. 115-137, pls. vi & vii.
- ANDRÆ, A. Beiträge zur Kenntniss der fossilen Fische des Mainzer Beckens. Abh. Senckenb. Ges. 1894, pp. 351-364, 1 pl.
- ANDREWS, E. A. An *Amphioxus* from Japan. Zool. Anz. xviii, 1895, pp. 57-60.

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

- *APSTEIN, C. Junge Schollen (*Pleuronectes platessa*) kommen nicht in der Ostsee vor. Mitth. Sect. f. Küsten- u. Hochseefisch. 1894, pp. 103-107.
- ARRIGONI DEGLI ODDI, E. Materiali per la fauna Padovana dei Vertebrati. I. Mammiferi, Rettili, Anfibi e Pesci. Atti Soc. Veneto-Trent. (2) ii, 1895, pp. 1-81.
- BARRAS DE ARAGON, F. DE LAS. Peces de agua dulce de la parte occidental de la región bético-extremeña. An. Soc. Espan. (2) ii, 1894, Act. pp. 129-132.
- BATESON, W. On specimens of the common Pilchard (*Clupea pilchardus*) showing variation in the number and size of the scales. P. Zool. Soc. London, 1894, p. 164.
- . On two cases of colour-variation in Flat-fishes, illustrating principles of symmetry. *T. c.* pp. 246-249, pl. xvii.
- BEAN, B. A. Notes on Williamson's White-fish in breeding colors, from Little Spokane River, Washington, and remarks on the distribution of the species. Report of the Commissioner of Fish and Fisheries on investigations in the Columbia River Basin in regard to the Salmon Fisheries (Washington, 1894). Pp. 55 & 56.
- *BEAN, T. H. The Fishes of Pennsylvania. Harrisburg, Pa.: 1893, 8vo, 139 pp., 35 pls.
- BEARD, J. The development and probable function of the Thymus. *Anat. Anz.* ix, 1894, pp. 476-486.
- . The Pronephros of *Lepidosteus osseus*. *Op. cit.* x, 1894, pp. 198-201.
- BEAUREGARD, H. Contribution à l'Étude de *Orthogoriscus truncatus* (Flem.). *Bull. Soc. Ouest France*, iii, 1893, pp. 229-246, pl. v.
- BECKER, H. Zur Kenntniss der ostsibirischen Jurafische. *Mt. Ver. Vorpomm.* xxvi, 1895, pp. 173-180.
- BEER, T. Die Accomodation des Fischeauges. *Arch. ges. Phys.* lviii, 1894, pp. 523-650, figg., pl. iii.
- BICKFORD, E. E. The Hypophysis of *Calamoichthys calabaricus* (Smith). *Anat. Anz.* x, 1895, pp. 465-470, figg.
- BIÉTRIX, E. Sur la pression du sang dans le cœur des Poissons. *C.R. Soc. Philom.* 1894, No. 5, pp. 16 & 17.
- . Quelques considérations sur les notions de *Lacune* et d'*Endothelium* en anatomie générale, à propos du réseau vasculaire branchial des poissons. *Op. cit.* 1895, No. 8, pp. 26 & 27, and No. 9, p. 30.
- BOULENGER, G. A. Catalogue of the Fishes in the British Museum. Second edition. Catalogue of the Perciform Fishes. Vol. I. London: 1895, 8vo, xix & 394 pp., figg., 15 pls.

- ✓ [BOULENGER, G. A.] Les Perches des eaux douces du Chili. Act. Soc. Chili, iv, 1894, Mém. pp. 9-17.
- ✓ —. Viaggio del dottor Alfredo Borelli nella Repubblica Argentina e nel Paraguay. XII. Poissons. Boll. Mus. Torino, x, 1895, No. 196, 3 pp.
- . Description of a new Siluroid Fish from Burma. Ann. Nat. Hist. (6) xiv, 1894, p. 196.
- . Descriptions of a new Lizard and a new Fish obtained in Formosa by Mr. Holst. T. c. pp. 462 & 463.
- . Description of a new Eagle-Ray from Muscat. Op. cit. xv, 1895, p. 141.
- . List of the Freshwater fishes collected by Mr. A. Everett on Palawan and Balabac. T. c. pp. 185-187.
- . Descriptions of two new fishes obtained by Mr. C. Hose in Sarawak. T. c. p. 247.
- BRIDGE, T. W., & HADDON, A. C. Note on the production of sounds by the Air-bladder of certain Siluroid fishes. P. R. Soc. London, lv, 1894, pp. 439-441.
- BROWNE, M. On some Vertebrate remains not hitherto recorded from the Rhætic Beds of Britain. Rep. Brit. Ass. 1893, pp. 748 & 749 (1894).
- BUGNION, E. Développement des Sélaciens. Bull. Soc. Vaudoise, xxx, 1894, P.V. pp. xxxi-xxxiv.
- BURCKHARDT, R. Bemerkungen zu K. F. Studnička's Mitteilung über das Fischgehirn. Anat. Anz. ix, 1894, pp. 468 & 469.
- . Schlussbemerkung zu K. F. Studnička's Mitteilungen über das Fischgehirn. Op. cit. x, 1894, pp. 207 & 208.
- BURNE, R. H. On the Aortic Arch of *Saccobranchnus fossilis*. J. Linn. Soc. xxv, 1894, pp. 48-55, fig., pl. iii.
- CARLSSON, A. Ueber die Zahnentwicklung bei einigen Knochenfischen. Zool. Jahrb. Anat. viii, 1894, pp. 217-244, figg., pls. xii & xiii.
- CHEVREL, R. Recherches anatomiques sur le Système nerveux grand sympathique de l'Esturgeon (*Acipenser sturio*). Arch. Zool. exp. (3) ii, 1894, pp. 401-444, pl. xvii.
- CLARKE, W. E. Some fishes new to or rare in the Firth of Forth. Ann. Scott. Nat. Hist. 1895, pp. 23-28.
- CLAYPOLE, E. W. *Cladodus ? magnificus*, a new Selachian. Amer. Geol. xiv, 1894, pp. 137-140, pl. v.
- . On a new Placoderm, *Brontichthys clarki*, from the Cleveland Shale. T. c. pp. 379 & 380, pl. xii.
- . On a new specimen of *Cladodus clarki*. Op. cit. xv, 1895, pp. 1-7, pls. i & ii.

- COGGI, A. Alcuni fatti che riguardano la cresta neurale cefalica dei Selaci. *Atti Acc. Lincei* (5) ccxci, 1895, *Rend.* pp. 265-269.
- COLLETT, R. On a new Agonoid Fish (*Agonus gilberti*) from Kamtschatka. *P. Zool. Soc. London*, 1894, pp. 670-675, pl. xlv (1895).
- COLLINGE, W. E. The sensory Canal system of Fishes. Part I: *Ganoidei*. *Q. J. Micr. Sci.* xxxvi, 1894, pp. 499-537, pls. xxxix & xl. Abstract in *Rep. Brit. Ass.* 1893, pp. 810 & 811 (1894).
- CORNING, H. K. Ueber die ventralen Urwirbelknospen in der Brustflosse der Teleostier. *Morphol. Jahrb.* xxii, 1894, pp. 79-98, pls. iii & iv.
- CRAGIN, F. W. Vertebrata from the Neocomian of Kansas. *Colorado College Studies*, v, 1894, pp. 69-73, pls. i & ii.
- CRAMER, F. Description of a little-known Agonoid Fish, *Hippocephalus japonicus*. *P. Calif. Ac.* (2) iv, 1894, pp. 147-153, pl. x.
- CUÉNOT, L. De l'adaptation au manque d'eau et à la vie terrestre.—Poissons. *Naturaliste* (2) ix, 1895, pp. 11-14 & 20-22, figg.
- CUNNINGHAM, J. T. Young stages of *Zeugopterus punctatus*. *J. Mar. Biol. Ass.* (2) iii, 1894, pp. 202-205.
- . Experiments on the Rearing of Fish Larvæ in the season of 1894. *T. c.* pp. 206 & 207.
- . Experiments and observations made at the Plymouth Laboratory. *T. c.* 1895, pp. 247-277.
- . The larva of the Eel. *T. c.* pp. 278-287, fig.
- . The migration of the Anchovy. *T. c.* pp. 300-303.
- . The origin of species among Flat-fishes. *Nat. Sci.* vi, 1895, pp. 169-177 & 233-239.
- DAVIS, J. W. On the fossil Fish-remains of the Coal measures of the British Islands. Part II. *Acanthodide*. *Tr. Dublin Soc.* v, 1894, pp. 249-258, pls. xxvii-xxix.
- DICKSON, H. N. The distribution of Food-fishes in relation to their physical surroundings. *Nat. Sci.* vi, 1895, pp. 30-37, fig.
- DOUGLAS-OGILBY, J. Description of five new fishes from the Australian Region. *P. Linn. Soc. N. S. Wales* (2) ix, 1894, pp. 367-374.
- . Description of a new Australian Eel. *T. c.* 1895, pp. 720 & 721.
- . Fresh-water fishes of New South Wales. *Nat. Sci.* vi, 1895, pp. 71 & 72.
- °DUCRET, E. Contributions à l'étude du développement des membres pairs et impairs des poissons téléostéens, typ. *Trutta lacustris*. *Dissert. Lausanne*: 1894, 8vo, 29 pp, 2 pls.
- DUNCKER, G. Variation und Verwandtschaft von *Pleuronectes fesus*, L., und *P. platessa*, L. *Zool. Anz.* xviii, 1895, pp. 53-56.

- DUNN, M. On the food, migrations, growth, and other habits of the Mackerel. Rep. Cornwall Soc. lxi, 1893, pp. 98-112.
- EASTMAN, C. R. Beiträge zur Kenntniss der Gattung *Oxyrhina*, mit besonderer Berücksichtigung von *Oxyrhina mantelli*, Agassiz. Palæontogr. xli, 1895, pp. 149-192, pls. xvi-xviii.
- EHLERS, E. Ueber *Lepidosiren*. Verh. deutsch. Zool. Ges. iv, 1894, pp. 32-34.
- . On *Lepidosiren paradoxa*, Fitzinger, and *Lepidosiren articulata*, n. sp., from Paraguay. Ann. Nat. Hist. (6) xiv, 1894, pp. 1-8.
Translation of paper recorded in the preceding volume.
- EHRENBAUM, E. Beiträge zur Naturgeschichte einiger Elbfische (*Osmerus eperlanus*, L., *Clupea futa*, Cuv., *Acerina cernua*, L., *Acipenser sturio*, L.). Wiss. Meeresunt. Kiel & Helgol. (2) i, 1894, pp. 37-79, pls. i-iii.
- EIGENMANN, C. H. Results of explorations in Western Canada and the North-western United States. Bull. U. S. Fish Comm. xii, 1894, pp. 101-132, pl. vi.
- . On the Viviparous fishes of the Pacific coast of North America. T. c. pp. 381-478, pls. xcii-cxviii.
- . *Leuciscus balteatus* (Richardson), a study in variation. Amer. Nat. xxix, 1895, pp. 10-25, pls. i-iv.
- EIGENMANN, C. H. & R. S. A catalogue of the fishes of the Pacific coast of America, north of Cerros Island. Ann. N. York Ac. vi, 1892, pp. 349-358.
- EIGENMANN, C. H., & BEESON, C. H. A revision of the fishes of the subfamily *Sebastinae* of the Pacific coast of America. P. U. S. Mus. xvii, 1894, pp. 375-407.
- & ———. The fishes of Indiana. P. Ind. Ac. 1893, pp. 76-108 (1894).
- EIGENMANN, C. H., & ULREY, A. B. A review of the *Embiotocidae*. Bull. U. S. Fish Comm. xii, 1894, pp. 382-399, pl. xcii.
- EISMOND, J. Zur Ontogenie des *Amphioxus lanceolatus*. Biol. Centralbl. xiv, 1894, pp. 353-360, fig.
- EYCLESYMER, A. C. The early development of *Amblystoma*, with observations on some other vertebrates. J. Morphol. x, 1895, pp. 343-418, pls. xviii-xxii.
- FACCIOLÀ, L. Le metamorfosi del *Conger balearicus*. Natural. Sicil. xiii, 1894, pp. 125-130, 173-177, 219-228, and *op. cit.* xiv, 1894, pp. 39-50.
- . La prima forma larvata dell' *Anguilla vulgaris*. *Op. cit.* xiii, pp. 133-135.
- . Cattura di un *Carcharodon rondeletii*, M. H., nel Mare di Messina. T. c. pp. 182-184.

- FEDDERSEN, A. Les Anguilles mâles en eau douce. *Rev. Sci. nat. appl.* xli, 1894, pp. 297-307.
- FRITSCH, A. Fauna der Gaskohle und der Kalksteine der Permformation Böhmens. III, 3. *Palaeoniscide*, 1. Prague: 1894, 4to, pp. 81-104, pls. cxiii-cxxi.
- Der Elbelachs. Eine biologisch-anatomische Studie. Prague: 1894, 8vo, 116 pp., figg., 1 pl.
- FRITSCH, A., & VÁVRA, V. Ueber Nahrung des Karpfens. *Arch. Landesdf. Bohmen*, ix, No. 2, 1894, pp. 120-123, fig.
- FULLARTON, J. On the development of the Plaice (*Pleuronectes platessa*). *Rep. Fish. Board Scotland*, xi, 1893, pp. 274-283, pls. xiii-xvi.
- FÜLLEBORN, F. Bericht über eine zur Untersuchung der Entwicklung von *Amia*, *Lepidosteus* und *Necturus* unternommene Reise nach Nord-America. *SB. Ak. Berlin*, 1894, pp. 465-478.
- FULTON, T. W. Observations on the reproduction, maturity, and sexual relations of the Food fishes. *Rep. Fish. Board Scotland*, x, 1892, pp. 232-243, pl. vi.
- An experimental investigation on the migrations and rate of growth of the Food fishes. *Op. cit.* xi, 1893, pp. 176-196.
- GADEAU DE KERVILLE, H. Recherches sur les Faunes marine et maritime de la Normandie. 1^{er} Voyage. Région de Granville et îles Chausey. *Bull. Soc. Rouen*, 1894, pp. 55-126, figg., pls. i-vi.
- Jeunes poissons se protégeant par des Méduses. *Naturaliste* (2) viii, 1894, pp. 267 & 268.
- GADOW, H., & ABBOTT, E. C. On the evolution of the vertebral column of fishes. *Phil. Trans.* clxxxvi, 1895, pp. 163-221, figg. Abstract, *P. R. Soc. London*, lvi, 1894, pp. 296-299.
- GARMAN, H. A preliminary list of the vertebrate animals of Kentucky. *Bull. Essex Inst.* xxvi, 1894, pp. 1-63.
- GEGENBAUR, C. Das Flossenskelet der Crossopterygier und das Archipterygium der Fische. *Morphol. Jahrb.* xxii, 1894, pp. 119-160, figg.
- GIACOMINI, E. Sulla regressione del sacco vitellino nei Selaci. *P.V. Acc. Fisiocritti Siena*, cciii, 1894, No. 6. Abstract, *Monit. Zool. ital.* vi, 1895, pp. 24 & 25.
- GILBERT, C. F. The breeding of the Gourami. *J. Bomb. Soc.* viii, 1894, pp. 435-438.
- GILBERT, C. H., & EVERMANN, B. A report upon investigations in the Columbia river basin, with descriptions of four new species of fishes. Report of the Commissioner of fish and fisheries on investigations in the Columbia river basin in regard to the Salmon fisheries. Washington: 1894, pp. 19-54.

- GILL, T. The nomenclature of the *Myliobatidæ*, or *Aëtobatidæ*. P. U. S. Mus. xvii, 1894, pp. 111-114.
- . On the nomenclature and characteristics of the Lampreys. *T. c.* pp. 107-110.
- . The nomenclature of the family *Poeciliidæ* or *Cyprinodontidæ*. *T. c.* pp. 115 & 116.
- . The differential characters of the *Salmonidæ* and *Thymallidæ*. *T. c.* pp. 117-122.
- . On the relations and nomenclature of *Stizostedion* or *Lucioperca*. *T. c.* pp. 123-128.
- . Lepidosirenids and Bdellostomids. Amer. Nat. xxviii, 1894, pp. 581-584.
- . The genus *Leptophidium*. *Op. cit.* xxix, 1895, pp. 167 & 168.
- *GOLYNETZ, W. On the Fish-fauna of the Government of Perm. J. Fisher. Industr. St. Petersburg. (Russian) ix, 1894, pp. 515-526.
- GOODE, G. B., & BEAN, T. H. On *Cetomimidæ* and *Rondeletiidæ*, two new families of Bathybial fishes from the North-western Atlantic. P. U. S. Mus. xvii, 1894, pp. 451-454, pl. xvii.
- . A revision of the order *Heteromi*, deep-sea fishes, with a description of the new generic types *Macdonaldia* and *Lipogenys*. *T. c.* pp. 455-470, pl. xviii.
- . On *Harriotta*, a new type of Chimæroid Fish from the deeper waters of the North-western Atlantic: *T. c.* pp. 471-473, pl. xix.
- GÜNTHER, A. Report on the collection of reptiles and fishes made by Dr. J. W. Gregory, during his expedition to Mount Kenia. P. Zool. Soc. London, 1894, pp. 84-91, pls. viii-xi.
- . Exhibition of specimens of *Lepidosiren paradoxa*. *T. c.* p. 316.
- HARRISON, R. G. On the development of the fins of Teleosts. Johns Hopkins Univ. Circ. No. 111, 1894, pp. 59-61, and Ann. Nat. Hist. (6) xiv, 1894, pp. 34-42.
- . Ectodermal or mesodermal origin of the bones of Teleosts. *Anat. Anz.* x, 1894, pp. 138-143, figg.
- HILGENDORF, F. Neue Characinidengattung, *Petersius*, aus dem Kingani-Flusse in Deutsch-Ostafrika. SB. Ges. naturf. Berlin, 1894, pp. 172 & 173.
- HIS, W. Sonderung und Charakteristik der Entwicklungsstufen junger Selachierembryonen. *Arch. Anat.* 1894, pp. 337-354, pl. xxi.
- HOFFMANN, C. K. Zur Entwicklungsgeschichte des Selachierkopfes. *Anat. Anz.* ix, 1894, pp. 638-653, figg.
- HOLBROOK, A. T. The origin of the Endocardium in bony fishes. *Bull. Mus. Harvard*, xxv, 1894, pp. 79-97, pls. i-v.

- HOLM, J. F. The development of the olfactory organ in the Teleostei. *Morphol. Jahrb.* xxi, 1894, pp. 620-624, fig., pl. xvii.
- . Some notes on the early development of the olfactory organ of *Torpedo*. *Anat. Anz.* x, 1894, pp. 201-207, figg.
- HOLT, E. W. L. Studies in Teleostean morphology from the Marine laboratory at Cleethorpes. *P. Zool. Soc. London*, 1894, pp. 413-446, pls. xxviii-xxx.
- . North Sea investigations (continued). *J. Mar. Biol. Ass.* (2) iii, 1894, pp. 169-201, and 1895, pp. 288-291.
- . Note on some supposed hybrids between the Turbot and the Brill. *T. c.* 1895, pp. 292-299, figg.
- HOWSE, R. Additions to the catalogue of the fishes of the rivers and coasts of Northumberland and the adjacent sea. *Nat. Hist. Tr. Northumb.* xi, 1894, pp. 350-356.
- . *Scorpena dactyloptera* and *Sebastes viviparus* off the coast of Northumberland. *Naturalist*, 1894, p. 174.
- HUBBARD, J. W. The yolk nucleus in *Cymatogaster aggregatus*, Gibbons. *P. Amer. Phil. Soc.* xxxiii, 1894, pp. 74-83, pls. i-iii.
- IMHOF, O. E. Ueber das Vorkommen von Fischen in den Alpenseen der Schweiz. Seen von 473-2460 Meter ü. M. *Biol. Centralbl.* xiv, 1894, pp. 294-298.
- IWANZOFF, N. Der mikroskopische Bau des elektrischen Organs von *Torpedo*. *Bull. Soc. Moseou*, 1894, pp. 358-399 & 407-489, pls. ix-xi.
- JAEKEL, O. Die eocänen Selachier vom Monte Bolca. Ein Beitrag zur Morphogenie der Wirbelthiere. Berlin: 1894, 8vo, 176 pp., figg., 8 pls.
- JAQUET, M. Recherches sur la vessie natatoire des Loches d'Europe. *Rev. Suisse Zool.* ii, 1894, pp. 431-442, pl. xviii.
- JORDAN, D. S. Description of a new subspecies of Trout from McCloud River, California. *P. Ac. Philad.* 1894, p. 60.
- . Salmon and Trout of the Pacific coast. 13th Bienn. Rep. Fish. Comm. State of Calif. 1894, pp. 125-141, 7 pls.
- . Descriptions of new varieties of Trout. *Op. cit.* pp. 142 & 143, 3 pls.
- JORDAN, D. S., & GILBERT, C. H. Description of a new species of Ribbon fish, *Trachypterus rex-salmonorum*, from San Francisco. *P. Calif. Ac.* (2) iv, 1894, pp. 144-146, pl. ix.
- JUNGERSEN, H. F. E. Die Embryonalniere von *Amia calva*. *Zool. Anz.* xvii, 1894, pp. 246-252, figg.
- KIRKALDY, J. W. A revision of the genera and species of the *Branchiostomida*. *Quart. J. Micr. Sci.* xxxvii, 1895, pp. 303-323, pls. xxxiv & xxxv.

- KLAATSCH, H. Ueber die Herkunft der Scleroblasten. Ein Beitrag zur Lehre von der Osteogenese. *Morphol. Jahrb.* xxi, 1894, pp. 153-240, figg., pls. v-ix.
- KOPSCII, F. Oberflächenbilder des sich entwickelnden Forellenkeimes. *Verh. Anat. Ges.* 1894, pp. 60-66, fig.
- °KUZNEZOW, J. On the spring migration of *Clupea caspica*. *Journ. Fish. Industr. St. Petersburg. (Russian)* ix, 1894, pp. 147-165.
- LAMBERT, E. A. Note sur une nouvelle station de la Gremille, *Acerina cernua*, Cuvier; son apparition dans la rivière de la Mayenne, suivie d'une liste des poissons signalés jusqu'à ce jour dans le département de la Mayenne. *Bull. Soc. Ouest France*, iv, 1894, pp. 13-16.
- °LA MOTTE, F. Ueber die Durchforschung des Meeres nach den Aallaichplätzen. *Mitth. Sect. f. Küsten- u. Hochseefisch.* 1893, pp. 113-135, and 1894, pp. 173-180.
- LANDOIS, H. Die Familie *Megistopodes*, Riesenbauchflosser. *N. Jahrb. Min.* 1894, ii, pp. 228-235, pl. v.
- LANKESTER, E. R. The limbs of *Lepidosiren paradoxa*. *Nature*, xlix, 1894, p. 555, figg.
- LEBEDINSKY, J. Ueber die Embryonalniere von *Calamoichthys calabaricus* (Smith). *Arch. Mikr. Anat.* xlv, 1894, pp. 216-228, pl. xv.
- LEYDIG, F. Integument und Hautsinnesorgane der Knochenfische. *Zool. Jahrb. Anat.* viii, 1894, pp. 1-152, pls. i-vii.
- LINDSTRÖM, G. Om fynd af *Cyathaspis* i Gotlands silurformation. *Ofv. Ak. Forh.* 1894, pp. 515-518 (1895). Translation in *Geol. Mag.*, Dec. iv, ii, 1895, pp. 170-172.
- LOCY, W. A. Metameric segmentation in the medullary folds and embryonic rim. Preliminary communication. *Anat. Anz.* ix, 1894, pp. 393-415, figg.
- LÖNNBERG, E. List of fishes observed and collected in South Florida. *Ofv. Ak. Forh.* 1894, pp. 109-131.
- Observations on certain Flat fishes. *T. c.* pp. 571-588 (1895).
- LUNDBORG, H. Die Entwicklung der Hypophysis und des Saccus vasculosus bei Knochenfischen und Amphibien. *Zool. Jahrb. Anat.* vii, 1894, pp. 667-687, figg., pls. xl & xli.
- LÜTKEN, C. F. En Bemærkning i Anledning af Fangsten af en *Himantolophus reinhardi* i Havet Vest for Portugal. *Vid. Medd.* 1894, pp. 78-81.
- LWOFF, B. Die Bildung der primären Keimblätter und die Entstehung der Chorda und des Mesoderms bei den Wirbelthieren. *Bull. Soc. Moscou*, 1894, pp. 56-137 & 160-256, 6 pls.
- MARCK, W. VON DER. Vierter Nachtrag zu die fossilen Fische der westfälischen Kreide. *Paläontogr.* xli, 1894, pp. 41-47, pl. v.

- MARGÓ, T. Adatok az ausztráliai *Ceratodus* pontosabb ismeretéhez. Math. term. Ertes. Magyar Ak. xii, 1894, pp. 156-163. Translation in German in Math. naturw. Ber. Ungarn, xii, 1894, p. 195.
- MARTIN, R., & ROLLINAT, R. Vertébrés sauvages du Département de l'Indre. Paris : 1894, 8vo, 455 pp.
- MASTERMAN, A. T. General report on the Pelagic eggs, larval, and young fishes procured by the 'Garland' in 1892 and 1893. Rep. Fish. Board Scotland, x, 1893, pp. 250-264.
- MAURER, F. Die Elemente der Rumpfmuskulatur bei Cyclostomen und höheren Wirbeltbieren. Morphol. Jahrb. xxi, 1894, pp. 473-619, pls. xiii-xvi.
- MAYER, P. Ueber die vermeintliche Schwimmblase der Selachier. Mt. Stat. Neapel, xi, 1894, pp. 475-478, fig.
- MAZZA, A., & PERUGIA, A. Sulla glandola digitiforme (Leydig) nella *Chimera monstrosa*, Linn. Atti Soc. Ligustica, v, 1894, pp. 283-292, pls. xxv & xxvi.
- MCINTOSH, W. C. Contributions to the life-histories and development of the Food and other fishes. Rep. Fish. Board Scotland, x, 1892, pp. 273-322, pls. xiv-xvii, and xi, 1893, pp. 221-238, pl. viii-xii.
- . Notes from the St. Andrew's Marine Laboratory. No. xiv. Ann. Nat. Hist. (6) xiv, 1894, pp. 189-196; No. xv, *op. cit.* xv, 1895, pp. 90-101.
- . On the artificial hatching of marine Food fishes. Sci. Progr. ii, 1894, pp. 249-264.
- MEEK, S. E. A new *Etheostoma* from Arkansas. Amer. Natural. xxviii, 1894, p. 957.
- MICHAEL, R. Ueber eine neue Lepidosteiden-Gattung aus dem oberen Keuper Oberschlesiens. Zeitschr. deutsch. geol. Ges. xlv, 1894, pp. 710-729, pls. xxxiii & xxxiv., and Jahresber. Schlesisch. Ges. lxxi, 1894, pp. 71-74.
- . Ueber Fischzähne aus den turonen Kalksteinen von Oppeln. Jahresber. Schlesisch. Ges. lxxi, 1894, pp. 70 & 71.
- MITROPHANOW, P. Contributions à la division cellulaire indirecte chez les Sélaciens. Int. J. Anat. Physiol. xl, 1894, pp. 333-359, pl. xvi.
- MÖBIUS, K. Ueber Eiernester pelagischer Fische aus dem mittelatlantischen Ocean. SB. Ak. Berlin, 1894, pp. 1203-1210, figg.
- MOENKHAUS, W. J. Variation of North American fishes. I. The variation of *Etheostoma caprodes*, Rafinesque. Amer. Natural. xxviii, 1894, pp. 641-660, pls. xviii-xx.
- MONACO, ALBERT DE. Sur les premières campagnes scientifiques de la "Princesse Alice." C.R. Ac. Sci. cxx, 1895, pp. 20-24.

- MOORE, J. E. S. On the germinal blastema and the nature of the so-called "Reduction division" in the cartilaginous fishes. *Anat. Anz.* ix, 1894, pp. 547-552, figg.
- MOORE, H. F. List of fishes collected at Sea Isle city, New Jersey, during the summer of 1892. *Bull. U. S. Fish Comm.* xii, 1894, pp. 357-364.
- MORGAN, T. H. The formation of the Fish embryo. *J. Morphol.* x, 1895, pp. 419-472, pls. xxiii-xxv.
- MORTON, A. Description of a new species of Shark. *P. Soc. Tasmania*, f. 1893, pp. 211-213 (1894).
- NEUMAYER, L. Histologische Untersuchungen über den feineren Bau des Centralnervensystems von *Esox lucius* mit Berücksichtigung vergleichend-anatomischer und physiologischer Verhältnisse. *Arch. mikr. Anat.* xliv, 1895, pp. 345-365, pl. xxiii.
- NOË, J., & DISSARD, A. Déterminisme de l'homochromie chez les poissons. *C.R. Soc. Biol.* (9) vi, 1894, pp. 101 & 102.
- . Résistance des poissons aux substances toxiques. *T. c.* pp. 140 & 141.
- . Sédentarité des poissons électriques. *T. c.* p. 190.
- OSORIO, B. Estudos ichthyologicos ácerca da fauna dos dominios portuguezes da Africa. *J. Sci. Lisb.* (2) iii, 1893, pp. 128-140, and 1894, pp. 173-184.
- . D'algumas especies a juntar ao Catalogo dos peixes de Portugal de Capello. *T. c.* pp. 186-188.
- PACKARD, A. S. On the origin of the subterranean fauna of North America. *Amer. Natural.* xxviii, 1894, pp. 727-751, pl. xxiii.
- PARÂTRE, R. Remarques sur la dissémination des poissons par les animaux aquatiques; introduction d'un Vairon (*Phoxinus phoxinus*) dans un réservoir d'eau pluviale. *Mem. Soc. zool. France*, vii, 1894, pp. 177-184.
- PARKER, T. J. Note on the occurrence of *Lophotes* in New Zealand waters. *Tr. N. Zealand Inst.* xxvi, 1894, p. 223.
- PAVESI, P. Curioso metamorfismo in Anguilla. *Rend. Acc. Lomb.* (2) xxvii, 1894, pp. 688-692, pl. x.
- PECK, J. I. On the food of the Menhaden. *Bull. U. S. Fish Comm.* xiii, 1894, pp. 113-126.
- PERUGIA, A. Viaggio di Lamberto Loria nella Papuasias orientale. Pesci d'acqua dolce. *Ann. Mus. Genova* (2) xiv, 1894, pp. 546-553.
- PETERSEN, C. G. J. On the biology of our Flat fishes and on the decrease of our Flat-fish fisheries. *Rep. Dan. Biol. Stat.* iv, 1894, pp. 1-147, 2 pls.
- PHILIPPÍ, R. A. Abbildung und Beschreibung einiger Chilenischer Fische. Leipzig: 1893, 4to, 20 pp., 6 pls.

- PICAGLIA, L. Pesci del Mar Rosso pescati nella campagna idrografica della Regia nave Scilla nel 1891-92; coll'aggiunta delle specie del Mar Rosso e del Golfo di Aden, donate all'Istituto zoologico della R. Università di Modena dal Medico di 1^a Classe nella R. Marina Dott. Vincenzo Ragazzi e dal Tenente di Vascello Paolo Parenti negli anni 1883-94. *Atti Soc. Modena* (3) xiii, 1894, pp. 22-40.
- PINKUS, F. Die Hirnnerven von *Protopterus annectens*. *Morphol. Arbeit.* iv, 1894, pp. 275-346, 7 pls.
- Ueber einen noch nicht beschriebenen Hirnnerven des *Protopterus annectens*. Vorläufige Mitteilung. *Anat. Anz.* ix, 1894, pp. 562-566, figg.
- POLLARD, H. B. The suspension of the jaws in fish. *Op. cit.* x, 1894, pp. 17-25, figg.
- RABL-RÜCKHARDT, H. Das Vorderhirn der Cranioten. Eine Antwort an Herrn F. K. Studnička. *Anat. Anz.* ix, 1894, pp. 536-547, figg.
- Noch ein Wort an Herrn Studnička. *Op. cit.* x, 1894, p. 240.
- RAFFAELE, F. Uova di *Scombrus*, di *Exocoetus* e di *Crystallogobius*. *Boll. Soc. Napoli*, viii, 1895, pp. 127-130
- REIS, O. M. Ueber Phosphoritisirung der Cutis der Testikel und des Rückenmarks bei fossilen Fischen. *Arch. mikr. Anat.* xlv, 1894, pp. 87-118, pl. vi.
- Palæohistologische Beiträge zur Stammesgeschichte der Teleostier. *N. Jahrb. Min.* 1895, i, pp. 162-182.
- REUVENS, C. L. Remarks on the genus *Orthogoriscus*. *Notes Leyden Mus.* xvi, 1895, pp. 128-132, pl. v.
- A new *Novacula*-spec. from the Balabalongan or Little Pater-noster Isles. *T. c.* pp. 131 & 132.
- Fresh and brackish water fishes from Sumba, Flores, Groot-Bastaard, Timor, Samaoe, and Rotti. *T. c.* pp. 145-156.
- Fishes from the Brantas River, Java. *T. c.* pp. 173-178.
- RIDEWOOD, W. G. On the hyoid arch of *Ceratodus*. *P. Zool. Soc. London*, 1894, pp. 632-640, figg. (1895).
- RIGGIO, G. Cattura di *Carcharodon rondeletii* nelle acque di Capo Gallo e di Isola delle femine. *Natural. Sicil.* xiii, 1894, pp. 130-133.
- Supra un caso di notevole ramificazione dei ciechi pilorici di *Centrolophus pompilus*, Cuv. e Val. *T. c.* pp. 206-211, figg.
- ROCHÉ, G. Note sur les conditions du développement de la Sardine. *Ann. Sci. Nat.* (7) xvi, 1894, pp. 328-330.
- RÖSE, C. Ueber die Zahnentwicklung von *Chlamydoselachus anguineus*, Garm. *Morphol. Arbeit.* iv, 1894, pp. 193-206, figg.
- Ueber die Zahnentwicklung der Fische. *Anat. Anz.* ix, 1894, pp. 653-662, figg.

- ROUDNEFF, W. Note sur le développement du canal central dans le système nerveux des poissons osseux. [Russian text.] Protok. Obshch. Varshav. v, 1894, No. 2, pp. 15-21.
- Sur le corps intermédiaire de Flemming dans les blastomères chez les poissons osseux. [Russian text.] *T. c.* Nos. 6 & 7, pp. 8-15.
- RUZSKY, M. Ueber einen Brachsen aus dem Wolga-Flusse. [Russian text.] Protok. Kazan. Univ. 1893-94, No. 146, 3 pp., fig.
- SABATIER, A. Sur quelques points de la spermatogenèse chez les Sélaciens. C.R. Ac. Sci. cxx, 1895, pp. 205-208.
- SACCHI, M. Sur les fines différences entre les organes homotypiques des Pleuronectes. Arch. ital. Biol. xxi, 1894, pp. 168-170. [Translation of paper published 1893.]
- SANDERS, A. Researches in the nervous system of *Myxine glutinosa*. London: 1894, 4to, 44 pp., 8 pls.
- SAUVAGE, H. E. Note sur quelques poissons du Calcaire bitumineux d'Orbagnoux (Ain). Bull. Soc. Autun, vi, 1893, pp. 427-443, pls. viii & ix.
- SCHAPER, A. Die morphologische und histologische Entwicklung des Kleinhirns der Teleostier. Morphol. Jahrb. xxi, 1894, pp. 625-708, fig., pls. xviii-xxi. Abstract, Anat. Anz. ix, 1894, pp. 489-501, figg.
- SCHLÆCK, M. DE. La question de l'Anguille. Rev. Sci. nat. appl. xli, 1894, pp. 61-66.
- SCHENKLING-PRÉVÔT, —. Farbenwechselnde Fische des Berliner Aquariums. Zool. Garten, xxxv, 1894, pp. 292-297.
- SCHNEIDER, G. Ueber die Entwicklung der Ausführungsgänge der Geschlechtsorgane bei *Cobitis tania* and *Phoxinus phoxinus*. Vorläufige Mittheilung. Zool. Anz. xvii, 1894, pp. 121 & 122.
- SCHWEDER, G. Die Wirbelthiere der Baltischen Gouvernements, mit Angabe der in den Sammlungen des Rigaer Naturforscher-Vereins vorhandenen Exemplare. K.B. Ver. Riga, xxxvii, 1894, pp. 1-33.
- SEDGWICK, A. On the inadequacy of the cellular theory of development, and on the early development of nerves, particularly of the third nerve and of the sympathetic in *Elasmobranchii*. Quart. J. Micr. Sci. xxxvii, 1894, pp. 87-101.
- *SELIGO, —. Zur Vermehrung des Ostseeschnepfels (*Coregonus lavaretus*) im Kurischen Haff. Mitth. Sect. f. Küsten- u. Hochseefisch. 1894, pp. 107-111.
- SEMON, R. Vermeintliche "äussere" Kiemen bei Ceratodusembryonen. Anat. Anz. x, 1894, pp. 332 & 333.
- SMITH, H. M. Economic and natural-history notes on fishes of the Northern coast of New Jersey. Bull. U. S. Fish Comm. xii, 1894, pp. 365-380.

- SMITH, W. A. On protective resemblance in the Lumpsucker. Rep. Fish. Board Scotland, xi, 1893, pp. 390 & 391, fig.
- SMITH, W. R. On the food of fishes. *Op. cit.* x, 1892, pp. 211-231.
- SOBOTTA, J. Die Entwicklung der Vorniere der Salmoniden. Anat. Anz. x, 1894, pp. 333-336, fig.
- . Ueber Mesoderm-, Herz-, Gefäss- und Blutbildung bei Salmoniden. Verh. Anat. Ges. 1894, pp. 77-84.
- SÖRENSEN, W. Are the extrinsic muscles of the Air-bladder in some Siluroidæ and the "Elastic Spring" apparatus of others subordinate to the voluntary productions of sounds? What is, according to our present knowledge, the function of the Weberian ossicles? A contribution to the Biology of fishes. J. Anat. Physiol. norm. path. (2) ix, 1894, pp. 109-139, and 1895, pp. 205-229 & 399-423, figg.
- STEINDACHNER, F. Ichthyologische Beiträge. xvii. SB. Ak. Wien, ciii, 1894, pp. 443-464, pls. i-v.
- . Die Fische Liberia's. Notes Leyden Mus. xvi, 1894, pp. 1-96, pls. i-iv.
- STENHOUSE, A. On the Anatomy of the Pig-fish (*Agriopus leucopceilus*). Tr. N. Zealand Inst. xxvi, 1894, pp. 111-120, pls. x-xiii.
- STEPHENSON, T. Flying-fish off Whitby. Naturalist, 1894, p. 283.
- STORMS, R. Troisième Note sur les poissons du terrain Rupélien. Mem. Soc. Belge Geol. viii, 1894, pp. 67-82, pl. vi.
- STRONG, O. S. The cranial nerves of Amphibia. J. Morphol. x, 1895, pp. 101-230, pls. vii-xii.
- STUDNIČKA, F. C. Sur les organes pariétaux de *Petromyzon planeri*. SB. Bohmisch. Ges. 1893, No. 1, 50 pp., figg., 3 pls. (1894).
- . Eine Antwort auf die Bemerkungen R. Burckhardt's zu meiner vorläufigen Mitteilung über das Vorderhirn der Cranioten. Anat. Anz. ix, 1894, pp. 691-693.
- . Bemerkungen zu dem Aufsatz: "Das Vorderhirn der Cranioten" von Rabl-Rückhard. *Op. cit.* x, 1894, pp. 130-137.
- TAGLIANI, G. Ricerche anatomiche intorno alla midolla spinale dell'*Orthogoriscus mola*. Monit. Zool. ital. v, 1894, pp. 248-258.
- THERESE VON BAIERN. Vorläufige Mittheilung über einige neue Fischarten aus den Seen von Mexico. Anz. Ak. Wien, 1894, pp. 147-149.
- TRAQUAIR, R. H. A still further contribution to our knowledge of *Palæospondylus gunni*, Traquair. P. Phys. Soc. Edinb. xii, 1894, pp. 312-321, pl. ix.
- . Notes on Palæozoic fishes. No. 1. Ann. Nat. Hist. (6) xiv, 1894, pp. 368-374, pl. ix.

- [TRAQUAIR, R. H.] On a new species of *Diplacanthus*, with remarks on the Acanthodian shoulder-girdle. *Geol. Mag.*, Dec. iv, i, 1894, pp. 254-257.
- On *Psammosteus taylori*, a new fossil Fish from the Upper Old Red Sandstone of Morayshire. *Ann. Scott. Nat. Hist.* 1894, pp. 225 & 226, fig.
- TREUENFELS, P. Die Zähne von *Myliobatis aquila*. Vorläufige Mittheilung. *Zool. Anz.* xviii, 1895, pp. 115 & 116.
- ✓ ULREY, A. B. The South American *Characinidae* collected by Charles Frederic Hartt. *Ann. N. York Ac.* viii, 1895, pp. 258-300.
- ✓ — Preliminary descriptions of some new South American *Characinidae*. *Amer. Natural.* xxviii, 1894, pp. 610-612.
- VAILLANT, L. Liste des poissons recueillis par la Manche dans l'Océan glacial arctique. Voyage de "La Manche" à l'I. Jan-Mayen et au Spitzberg, (Paris: 1894, 8vo) p. 218.
- Sur une collection de poissons recueillie en Basse-Californie et dans le Golfe par M. Léon Diguët. *Bull. Soc. Philom.* (8) vi, 1894, pp. 69-75.
- Note sur les poissons de la famille des Siluridées appartenant à la Faune Madécasse et description d'une espèce nouvelle. *T. c.* pp. 75-80.
- VAN BENEDEN, E. Rapport. *Bull. Ac. Belgique* (3) xxvii, 1894, pp. 870-873.
- VEJDOVSKÝ, F. O třené mihule (*Petromyzon planeri*). *SB. Bohmisch. Ges.* 1893, No. 49, 4 pp.; pl. xviii (1894).
- VIEIRA, L. Contribution à l'étude de l'Ichthyologie maritime. *Ann. Sci. Nat. Porto*, i, 1894, pp. 137-139, pl. vii.
- Note sur le *Lepidopus argenteus*, Bonat., vel *caudatus*, Günth. *T. c.* pp. 165-167, pl. ix.
- Le maintien de jeunes *Petromyzon marinus* dans un aquarium d'eau douce. *Op. cit.* ii, 1895, pp. 14-16.
- VINCIGUERRA, D. Esplorazione del Giuba e dei suoi affluenti compiuta dal Cap. V. Bottego durante gli anni 1892-93 sotto gli auspicii della Società geographica Italiana. *Pesci. Ann. Mus. Genova* (2) xv, 1895, pp. 21-60, pl. v.
- I Coregoni e la loro introduzione in Italia. *Eco dei Campi e dei Boschi*, ii, No. 2, 1895. [Quoted from a separate copy.]
- VIRCHOW, H. Ueber das Dottersyncytium und den Keimhautrand der Salmoniden. *Verh. Anat. Ges.* 1894, pp. 66-77, figg.
- Embryologische und angiologische Erfahrungen über nord-amerikanische Wirbelthiere. *SB. Ges. naturf. Berlin*, 1894, pp. 33-44.

- WAITE, E. R. New or rare fishes from Maroubra, N. S. W. P. Linn. Soc. N. S. Wales (2) ix, 1894, pp. 215-227, pl. xvii.
- WALTER, H. E. Concerning rudimentary teeth in *Coregonus wartmanni*. Anat. Anz. ix, 1894, p. 470.
- WEBER, M. Die Süßwasser-Fische des Indischen Archipels, nebst Bemerkungen über den Ursprung der Fauna von Celebes. Zool. Ergebn. Reise Niederl. Ost-Ind. iii, 1894, pp. 405-476.
- WILLEY, A. *Amphioxus* and the ancestry of the vertebrates. Columbia University Biological Series, ii, xiv & 316 pp., figg., 1 pl.
- WILLIAMSON, H. C. On the rate of growth of certain marine Food-fishes. Rep. Fish. Board Scotland, xi, 1893, pp. 265-273.
- WILSON, G. Notes on how Fish find food. Rep. Brit. Ass. 1893, pp. 548-551 (1894).
- WOODWARD, A. S. A description of the so-called Salmonoid fishes of the English Chalk. P. Zool. Soc. London, 1894, pp. 655-664, pls. xlii & xliii (1895).
- . On the affinities of the Cretaceous Fish *Protosphyraena*. Ann. Nat. Hist. (6) xiii, 1894, pp. 510-512.
- . On some Fish-remains of the genera *Portheus* and *Cladocyclus*, from the Rolling Downs formation (Lower Cretaceous) of Queensland. *Op. cit.* xiv, 1894, pp. 444-447, pl. x.
- . On two deep-bodied species of the Clupeoid genus *Diplomystus*. *Op. cit.* xv, pp. 1-3, pl. i.
- . Note on a supposed tooth of *Galeocerdo*, from the English Chalk. *T. c.* pp. 4 & 5, pl. i, figg. 5-7.
- . On a second British species of the Jurassic Fish *Eurycormus*. Geol. Mag., Dec. iv, i, 1894, pp. 214-216.
- . A contribution to the knowledge of the fossil Fish-fauna of the English Purbeck beds. *Op. cit.* ii, 1895, pp. 145-152, pl. vii.
- . The problem of primæval Sharks. Nat. Sci. vi, 1895, pp. 38-43, figg.
- WRIGHT, A. A. The ventral armour of *Dinichthys*. Amer. Geol. xiv, 1894, pp. 313-320, figg., pl. ix.
- WYHE, — VAN. Over de herzenzenuwen der Cranioten bij *Amphioxus*. Verh. Ak. Amsterdam, 1894, pp. 108-115.
- ZIEGENHAGEN, — . Ueber das Gefässsystem bei Salmonidenembryonen. Verh. Anat. Ges. 1894, pp. 84-89.

II.—GENERAL SUBJECT.

G. A. BOULENGER, in the first volume of the second edition of the British Museum Catalogue of fishes (London: 1895), monographs the families *Centrarchidæ*, *Percidæ*, and part of the *Serranidæ*.

On the evolution of the vertebral column of fishes; H. GADOW & E. C. ABBOTT, Phil. Trans. clxxxvi, 1895, pp. 163-221, figg., and abstract, P. R. Soc. London, lvi, 1894, pp. 296-299.

On the suspension of the jaws in fishes; H. B. POLLARD, Anat. Anz. x, 1894, pp. 17-25, figg.

On the skeleton of the fins of Crossopterygians, and on the Archipterygium of Fishes; GEGENBAUR, Morphol. Jahrb. xxii, 1894, pp. 119-160, figg.

On the vascular system of the gills of fishes; BIÉTRIX, C.R. Soc. Philom. 1895, No. 8, pp. 26 & 27, and No. 9, p. 30.

W. E. COLLINGE, Quart. J. Micr. Sci. xxxvi, 1894, pp. 499-537, pls. xxxix & xl, investigates the sensory canal system of fishes, dealing specially with *Acipenser* and *Polyodon*. Abstract in Rep. Brit. Ass. 1893, p. 811 (1894).

R. BURCKHARDT, Anat. Anz. ix, 1894, pp. 468 & 469, and H. RABL-RÜCKHARD, t. c. pp. 536-547, figg., and *op. cit.* x, p. 240, remark on Studnička's communication on the brain of fishes. Reply by STUDNIČKA, *op. cit.* ix. pp. 691-693, and *op. cit.* x, 1894, pp. 130-137. Rejoinder by BURCKHARDT, t. c. pp. 207 & 208.

O. S. STRONG, J. Morphol. x, 1895, pp. 101-230, pls. vii-xii, compares the cranial nerves of Batrachians with those of fishes.

On the morphology of the parietal organs in fishes; STUDNIČKA, SB. Bohmisch. Ges. 1893, No. 50, 12 pp., pl. xix (1894).

On the development and probable function of the Thymus in fishes; J. BEARD, Anat. Anz. ix, 1894, pp. 476-486.

On the pression of the blood in the heart of fishes; BIÉTRIX, C.R. Soc. Philom. 1894, No. 5, pp. 16 & 17.

On the development of the teeth in fishes; C. RÖSE, Anat. Anz. ix, 1894, pp. 653-662, figg.

On the development of bone and scales in fishes; H. KLAATSCH, Morphol. Jahrb. xxi, 1894, pp. 153-240, figg., pls. v-ix.

On the elements of the trunk-musculature in fishes; MAURER, t. c. pp. 473-570, pls. xiii-xv.

On the formation of the germinal layers, and the origin of the chorda and mesoderm; B. LWOFF, Bull. Soc. Moscou, 1894, pp. 56-137 & 160-256, 6 pls.

EYCLESHYMER, J. Morphol. x, 1895, pp. 384-386, remarks on the mesoblast in fishes.

Contributions to the life-histories and development of Scottish fishes; MCINTOSH, Rep. Fish. Board Scotland, x, 1892, pp. 273-322, pls. xiv-xvii, and xi, 1893, pp. 221-238, pls. viii-xii; MASTERMAN, *op. cit.* xi, 1893, pp. 253-264.

On the migrations and rate of growth of the Food-fishes of the Scottish coast ; T. W. FULTON, Rep. Fish. Board Scotland, xi, 1893, pp. 176-196 ; H. C. WILLIAMSON, *t. c.* pp. 265-273.

On the growth and distribution of young Food-fishes at Plymouth ; J. T. CUNNINGHAM, J. Mar. Biol. Ass. (2) iii, 1895, pp. 272-274.

Experiments on the rearing of Fish-larvæ at Plymouth by J. T. CUNNINGHAM, *op. cit.* 1894, pp. 206 & 207.

On the artificial hatching of marine Food-fishes ; W. C. MCINTOSH, Sci. Progr. ii, 1894, pp. 249-264.

On the distribution of Food-fishes in relation to their physical surroundings ; H. N. DICKSON, Nat. Sci. vi, 1895, pp. 30-37, fig.

On the physiology of the eye of fishes ; T. BEER, Arch. ges. Physiol. lviii, 1894, pp. 523-650, figg., pl. iii.

Remarks upon the blind fishes of North America ; PACKARD, Amer. Natural. xxviii, 1894, pp. 732-738, pl. xxiii.

On adaptations to temporary sojourn out of water ; a summary of known facts by L. CUÉNOT, Naturaliste, ix, 1895, pp. 11-14 & 20-22, figg.

NOÉ & DISSARD, C.R. Soc. Biol. (9) vi, 1894, p. 190, draw attention to the fact that all electric fishes, so far as we know, are sedentary.

On the dissemination of freshwater fishes by the agency of aquatic animals ; PARÂTRE, Mem. Soc. zool. France, vii, 1894, p. 177.

On the food of fishes ; W. R. SMITH, Rep. Fish. Board Scotland, x, 1892, pp. 211-231.

Notes on how fish find food, they being divided into sight-feeders and smell-feeders ; G. WILSON, Rep. Brit. Ass. 1893, pp. 548-551 (1894).

On variations in colour in relation to the surroundings ; NOÉ & DISSARD, C.R. Soc. Biol. (9) vi, 1894, p. 100.

On changes of colour in fishes ; SCHENKLING-PRÉVÔT, Zool. Garten, xxxv, 1894, pp. 292-297.

On partial albinism in fishes ; PAVESI, Rend. Acc. Lomb. (2) xxvii, 1894, pp. 688-692.

On the effects of toxic substances on fishes ; NOÉ & DISSARD, C.R. Soc. Biol. (9) vi, 1894, p. 140.

III.—FAUNÆ.

ARCTIC OCEAN.

A list of a few fishes collected by the 'Manche' ; VAILLANT, Voy. "La Manche," à l'I. Jan-Mayen (Paris : 1894), p. 218.

EUROPE.

ALBERT DE MONACO enumerates some of the fishes dredged at great depths in 1892-94 in the Mediterranean and neighbouring parts of the Atlantic. C.R. Ac. Sci. cxx, 1895, pp. 21-23.

Scotland : On some fishes new to or rare in the Firth of Forth ; W. EAGLE CLARKE, *Ann. Scott. Nat. Hist.* 1895, pp. 23-28.

Northumberland and Durham : Additions to the catalogue of the fishes by R. HOWSE, *Nat. Hist. Tr. Northumb.* xi, 1894, pp. 350-356.

Belgium : E. VAN BENEDEN, *Bull. Ac. Belgique* (3) xxvii, 1894, pp. 870-872, remarks on some North Sea fishes occasionally brought to the Ostend market.

France : On fishes collected near Granville, Normandy ; GADEAU DE KERVILLE, *Bull. Soc. Rouen*, 1894, pp. 113-120, pls. iv & v. List of the fishes of the Dep. Mayenne, by E. A. LAMBERT, *Bull. Soc. Ouest France*, iv, 1894, pp. 13-16. On the fishes of the Dep. Indre ; MARTIN & ROLLINAT, *Vertébrés sauvages du Département de l'Indre* (Paris : 1894, 8vo), pp. 397-437.

Alps of Switzerland : On the fishes living in the lakes between 1500 and 8000 feet ; IMHOF, *Biol. Centralbl.* xiv, 1894, pp. 294-298.

Russia : List of the fishes of the Baltic Province ; SCHWEDER, KB. *Ver. Riga*, xxxvii, 1894, pp. 29-33. On the fishes of the Gov. Perm ; GOLYNETZ, *Journ. Fisher. Industr. St. Petersb.* (Russian), ix, 1894, pp. 515-526.

Spain : Lists of fishes from the Guadalquivir and Guadiana ; F. DE LAS BARRAS DU ARAGON, *An. Soc. Espan.* (2) ii, 1894, Act., pp. 129-132.

Portugal : Additions to the catalogue of fishes of Portugal by OSORIO, *J. Sci. Lisb.* (2) iii, 1894, pp. 186-188.

Italy : A list of the fishes of the province Padua ; ARRIGONI DEGLI ODDI, *Atti Soc. Veneto-Trent.* (2) ii, 1895, pp. 34-43.

ASIA.

Bay of Bengal : On a further collection of Bathybial fishes ; ALCOCK, *J. Asiat. Soc. Bengal*, lxxiii, 1894, pp. 115-137, pls. vi & vii.

Malay Archipelago : M. WEBER discusses the dispersal of the fresh-water fishes in the Malay Archipelago, and tabulates the distribution of the species in the various islands. *Zool. Ergebn. Reise Niederl. Ost-Ind.* iii, 1894, pp. 405-476.

Palawan and Balabac : List of the freshwater fishes ; BOULENGER, *Ann. Nat. Hist.* (6) xv, 1895, pp. 185-187.

Java : On some fishes from the Brantas River ; REUVENS, *Notes Leyden Mus.* xvi, 1895, pp. 173-178.

Timor Group : On some fresh- and brackish-water fishes ; REUVENS, *t. c.* pp. 145-156.

AFRICA.

Red Sea : On collections of fishes ; PICAGLIA, *Atti Soc. Modena* (3) xiii, 1894, pp. 22-40.

East Africa : On the fishes collected by Dr. J. W. Gregory during his

expedition to Mount Kenia ; GÜNTHER, P. Zool. Soc. London, 1894, pp. 89-91, pls. ix-xi. On a collection of fishes from Somaliland and the Galla Country ; VINCIGUERRA, Ann. Mus. Genova (2) xv, 1895, pp. 21-60, pl. v.

West Africa : On marine Fishes from the Portuguese possessions (Angola, Guinea) ; OSORIO, J. Sci. Lisb. (2) iii, 1893, pp. 128-140, and 1894, pp. 173-184. On a collection of fishes from Liberia ; STEINDACHNER, Notes Leyden Mus. xvi, 1894, pp. 1-96, pls. i-iv.

AMERICA.

N. America : On a collection from Western Canada and the North-western United States ; EIGENMANN, Bull. U. S. Fish Comm. f. 1892, pp. 101-132, pl. vi (1894).

Columbia River Basin : On the fishes ; GILBERT & EVERMANN, Rep. Comm. Fish and Fisher. Columb. Riv. Basin, 1894, pp. 19-54.

Pacific Coast : List of the fishes of the Pacific coast north of Cerros Island ; C. H. & R. S. EIGENMANN, Ann. N. York Ac. 1892, pp. 349-358.

Indiana : List of the fishes, by EIGENMANN & BEESON, P. Indiana Ac. 1893, pp. 76-108 (1894).

New Jersey : List of fishes from Sea Isle city ; H. F. MOORE, Bull. U. S. Fish Comm. xii, 1894, pp. 357-364. Notes on fishes from the Northern coast ; H. M. SMITH, *t. c.* pp. 365-380.

Kentucky : List of the fishes, by H. GARMAN, Bull. Essex Inst. xxvi, 1894, pp. 39-58.

Pennsylvania : T. H. BEAN publishes a book on the fishes of Pennsylvania (Harrisburg, Pa. : 1893, 8vo, 139 pp., 35 pls.).

Florida : List of fishes collected in South Florida ; LÖNNBERG, Ofv. Ak. Forh. 1894, pp. 109-131.

Lower California and Gulf of California : On a collection of fishes ; VAILLANT, Bull. Soc. Philom. (8) vi, 1894, pp. 69-75.

Brazil : On the *Characinidae* collected by C. F. Hartt ; ULREY, Ann. N. York Ac. viii, 1895, pp. 258-300.

Paraguay and Argentina : List of the freshwater fishes collected by Dr. A. Borelli ; BOULENGER, Boll. Mus. Torino, x, 1895, No. 196, 3 pp.

Chili : R. A. PHILIPPI publishes descriptions and coloured figures of the Skates, *Chimera* and *Orthogoriscus*, of the Chilian coast. (Leipzig : 1893, 4to.)

AUSTRALIA and PAPUASIA.

Papuasias : On some freshwater fishes from Eastern Papuasias ; PERUGIA, Ann. Mus. Genova (2) xiv, 1894, pp. 546-553.

New South Wales : On new or rare fishes ; WAITE, P. Linn. Soc. N. S. Wales (2) ix, 1894, pp. 215-227, pl. xvii.

PALÆONTOLOGY.

On the fossilisation of the cutis of the testicle, and spinal cord in fishes ; O. M. REIS, Arch. mikr. Anat. xlv, 1894, pp. 119-184, pls. vii-xi.

On the Acanthodians of the Coal-measures of the British Islands ; J. W. DAVIS, Tr. Dublin Soc. v, 1894, pp. 249-258, pls. xxvii-xxix.

English Purbeck : On remains from the Vale of Wardour, Wiltshire, and Swanage, Dorsetshire ; A. S. WOODWARD, Geol. Mag., Dec. iv, ii, 1895, pp. 145-152, pl. vii.

R. STORMS publishes a third article on the fishes of the Rupelian of Belgium. Mem. Soc. Belge Geol. viii, 1894, pp. 67-82, pl. vi.

Kimmeridgian of Orbagnoux, Ain, France : On some fishes ; SAUVAGE, Bull. Soc. Autun, vi, 1893, pp. 427-443, pls. viii & ix.

W. VON DER MARCK brings out a fourth supplement on the fossil fishes of the Cretaceous of Westphalia. Palæontogr. xli, 1894, pp. 41-47, pl. v.

On Ganoid remains from the Lower Miocene of Messel, near Darmstadt ; ANDRÉE, Abh. Senckenb. Ges. xviii, 1894, pp. 351-364, 1 pl.

Bohemia : The third fascicle of the third volume of A. FRITSCH'S "Fauna der Gaskohle," published 1894, deals with the *Palæoniscidæ*.

Jurassic of E. Siberia : Critical remarks on the fishes described by Rohon ; H. BECKER, Mt. Ver. Vorpomm. xxvi, 1895, pp. 173-180.

Eocene of Italy : On the Selachians of Monte Bolca ; JAEKEL, Eocänen Selachier von Monte Bolca. Berlin : 1894, 8vo, 176 pp., figg., 8 pls.

Neocomian of Kansas : On some Fish-remains ; CRAGIN, Colorado College Studies, v, 1894, pp. 72 & 73, pl. ii.

IV.—SYSTEMATIC.

TELEOSTOMI.

TELEOSTEI.

O. REIS, N. Jahrb. Min. 1895, i, pp. 162-182, discusses the relationship of the various groups of Teleosteans from the point of view of the microscopical structure of the bone in fossil fishes.

On the function of the Weberian ossicles ; SÖRENSEN, J. Anat. Physiol. norm. path. (2) ix, 1894, pp. 109-139, and 1895, pp. 205-229 & 399-423, figg.

M. JACQUET investigates the swim-bladder in the European Loaches, and concludes that the *Cobitidæ* do not belong to the *Physostomi* as at present defined ; Rev. Suisse Zool. ii, 1894, pp. 431-442, pl. xviii.

On the origin of the bones of Teleosteans ; R. G. HARRISON, Anat. Anz. x, 1894, pp. 138-143, figg.

- On the histology of the skin and its sensory organs in Teleosteans ; LEYDIG, Zool. Jahrb. Anat. viii, 1894, pp. 1-152, pls. i-vii.
- On the embryology of the Trout ; KOPSCH, Verh. Anat. Ges. 1894, pp. 60-66, fig. ; VIRCHOW, *t. c.* pp. 66-77, figg. ; SOBOTTA, *t. c.* pp. 77-84 ; ZIEGENHAGEN, *t. c.* pp. 84-89 ; SOBOTTA, Anat. Anz. x, 1894, pp. 333-336, fig.
- T. H. MORGAN, J. Morphol. x, 1895, pp. 419-472, pls. xxiii-xxv, describes the formation of the Teleosteous embryo, his researches being based on *Ctenolabrus* and *Fundulus*.
- On the development of the fins ; R. G. HARRISON, Johns Hopkins Univ. Circ. No. 111, 1894, pp. 59-61, and Ann. Nat. Hist. (6) xiv, 1894, pp. 34-42.
- On the early development of the pectoral fin of Teleosteans ; H. K. CORNING, Morphol. Jahrb. xxii, 1894, pp. 79-98, pls. iii & iv.
- On the development of the limbs of the Trout ; DUCRET, Dissert. Lausanne, 1894, 8vo.
- On the development of the teeth in some Teleosteans ; CARLSSON, Zool. Jahrb. Anat. viii, 1894, pp. 217-244, figg., pls. xii & xiii.
- On the development of the central canal in the nervous system of Teleosteans ; ROUDNEFF, Protok. Obshch. Varshav. v, 1894, No. 2, pp. 15-21.
- On the microscopical structure of the central nervous system of *Esox lucius* ; L. NEUMAYER, Arch. mikr. Anat. xlv, 1895, pp. 345-365, pl. xxiii.
- On the development of the olfactory organ in Teleosteans ; J. F. HOLM, Morphol. Jahrb. xxi, 1894, pp. 620-624, fig., pl. xvii.
- On the development of the cerebellum in Teleosteans ; A. SCHAPER, Anat. Anz. ix, 1894, pp. 489-501, figg., and Morphol. Jahrb. xxi, 1894, pp. 625-708, fig., pls. xviii-xxi.
- On the development of the hypophysis and saccus vasculosus in Teleosteans ; LUNDBORG, Zool. Jahrb. Anat. vii, 1894, pp. 667-687, figg., pls. xl & xli.
- On the origin of the endocardium in Teleosteans ; A. T. HOLBROOK, Bull. Mus. Harvard, xxv, 1894, pp. 79-97, pls. i-v.
- On the development of the oviducts and vasa deferentia in *Cobitis* and *Phoxinus* ; G. SCHNEIDER, Zool. Anz. xvii, 1894, pp. 121 & 122.
- On the development of the egg of Pleuronectoids and *Syngnathus* ; J. T. CUNNINGHAM, J. Mar. Biol. Ass. (2) iii, 1895, pp. 258-270, figg.
- EYCOLESHEYMER, J. Morphol. x, 1895, pp. 381-384, remarks on the gastrulation and fate of the germ-ring in *Amiurus* and *Lophius*.
- On cell-division in Teleosteans ; ROUDNEFF, Protok. Obshch. Varshav. v, 1894, Nos. 6 & 7, pp. 8-15.
- On the egg-nests of some pelagic fishes from the Atlantic ; MÖBIUS, SB. Ak. Berlin, 1894, pp. 1203-1210, figg.
- On the flight of fishes ; AHLBORN, Flug der Fische (Hamburg : 1895, 4to).

ACANTHOPTERYGII.

CENTRARCHIDÆ.

The family is revised by BOULENGER, Cat. Fish. Brit. Mus. 2nd ed., i (1895).

Elassoma evergladei, Jord. : notes by LÖNNBERG, Ofv. Ak. Forh. 1894, p. 122.

Kuhlia marginata, C. & V. : notes on the synonymy ; REUVENS, Notes Leyden Mus. xvi, 1895, p. 149. *K. argentea*, Benn., recorded from New South Wales by WAITE, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 217. *K. urvillii*, n. sp., BOULENGER, t. c. p. 38, South Pacific.

PERCIDÆ.

BOULENGER deals with this family in the first volume of the second edition of the Catalogue of Fishes in the British Museum (1895).

T. GILL, P. U. S. Mus. xvii, 1894, pp. 124-126, remarks on the affinities of the old-world genera of this family.

Lucioperca, Cuv. : this name should be cancelled in favour of *Stizostedion*, Raf. ; GILL, t. c. p. 123.

Percina caprodes, Raf. : on its variations ; MOENKHAUS, Amer. Natural, xxviii, 1894, p. 641, pls. xviii-xx.

Etheostoma pagei, n. sp., MEEK, t. c. p. 597, Arkansas.

SERRANIDÆ.

BOULENGER, in the first volume of the second edition of the Catalogue of Fishes in the British Museum (1895), deals with the subfamilies *Serraninæ*, *Grammistinæ*, *Priacanthinæ*, and *Centropominæ*.

Percichthys, Gir., and *Percilia*, Gir. : the Chilian species described by BOULENGER, Act. Soc. Chili, iv, 1894, pp. 9-17.

Macquaria australasica, C. & V. : on its distribution in New South Wales ; DOUGLAS-OGILBY, Nat. Sci. vi, 1895, p. 71.

Pseudalphestes, n. subg., for *Acanthistius pictus*, Tsch. ; BOULENGER, Cat. i, p. 139.

Acanthistius cinctus, Gthr., figured by BOULENGER, t. c. pl. i.

Trachypoma macracanthus, Gthr., figured BOULENGER, t. c. pl. ii.

Pomodon, n. n., for *Hemilutjanus*, Blkr. ; BOULENGER t. c. p. 144.

Dinoperca, n. g., for *Hapalogenys petersii*, Day ; BOULENGER, t. c. p. 153.

Epinephelus nigri, Gthr., pl. iii, fig. A, *spiniger*, Gthr., pl. iv, fig. B, *flavoceruleus*, Lacép., pl. iv, fig. A, *præopercularis*, Blgr., pl. v, *australis*, Cast., pl. vi, *dæmelii*, Gthr., pl. vii, *niveatus*, C. & V., pl. iii, fig. B, and *jayakari*, Blgr., pl. viii, figured by BOULENGER, t. c. *E. dermatolepis*, n. n., for *Dermatolepis punctatus*, Gill ; *id. ibid.* p. 256. *E. albopunctulatus*, n. sp. ; *id. ibid.* p. 234, pl. ix, Marquesas Is.

- Serranus armatus*, n. sp., OSORIO, J. Sci. Lisb. (2) iii, 1894, p. 174, Gulf of Guinea [= *Epinephelus afer*, Bl.—REC.].
- Serranus bulleri*, p. 288, pl. x, Pacific coast of Mexico, and *sanctæ-helenæ*, p. 289, pl. xi, St. Helena, n. spp., BOULENGER, *t. c.*
- Chelidoperca*, n. g., for *Centropristis hirundinaceus*, C. & V.; BOULENGER, *t. c.* p. 304.
- Centropristis investigatoris*, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. x, fig. i (1894).
- Caprodon longimanus*, Gthr., figured by BOULENGER, *t. c.* pl. xii.
- Anthias asperilinguis*, Gthr., pl. xiii, and *formosus*, Blgr., pl. xiv, figured by BOULENGER, *t. c.*
- Callanthias allporti*, Gthr., figured by BOULENGER, *t. c.* pl. xv.
- Parascombrops pellucidus*, Alc., = *Acropoma philippinense*, Gthr.; ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 116.

PRISTIPOMATIDÆ.

- Hæmulon macrophthalmum*, n. sp., OSORIO, J. Sci. Lisb. (2) iii, 1894, p. 174, Gulf of Guinea.
- Diagramma cavifrons*, C. & V. ? : notes by OSORIO, *t. c.* p. 175.

SPARIDÆ.

- Pagellus lippii*, n. sp., STEINDACHNER, SB. Ak. Wien, ciii, 1894, p. 443, pl. i, Fernando Po.

CIRRHITIDÆ.

- Cirrhites atlanticus*, n. sp., OSORIO, J. Sci. Lisb. (2) iii, 1893, p. 138, Gulf of Guinea.

SCORPÆNIDÆ.

- A revision of the genera and species of *Sebastinae* of the Pacific coast of North America, by EIGENMANN & BEESON, P. U. S. Mus. xvii, 1894, pp. 375-407.
- Scorpaena dactyloptera*, Delaroché, and *Sebastes viviparus*, Kröy., recorded from off the coast of Northumberland, by R. HOWSE, Naturalist, 1894, p. 174.
- Lioscorpius longiceps*, var. *longimanus*, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. x, fig. 3 (1894).
- Agriopus leucopæcilus*, Rich., external characters and anatomy described by A. STENHOUSE, Tr. N. Zealand Inst. xxvi, 1894, p. 111, pls. x-xiii.

ENBIOTOCIDÆ.

- A review of the genera and species by C. H. EIGENMANN & A. B. ULREY, Bull. U. S. Fish Comm. xii, 1894, pp. 382-399, pl. xcii.

TRICHIURIDÆ.

- Lepidopus argenteus*, Bonat. : remarks on Portuguese specimens ; L. VIEIRA, Ann. Sci. nat. Porto, v, 1894, p. 165, pl. ix.
Thyrsites bengalensis, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 117, pl. vi, fig. 1, Bay of Bengal, 145-250 faths.

ACRONURIDÆ.

- Acanthurus triostegus*, L., recorded from New South Wales by WAITE, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 217.

CARANGIDÆ.

- Caranx trachurus*, L. : on its reproduction ; HOLT, J. Mar. Biol. Ass. (2) iii, 1894, p. 190, figg. : young specimens seeking refuge in Medusæ described and figured by GADEAU DE KERVILLE, Naturaliste (2) viii, 1894, p. 267.

STROMATEIDÆ.

- Centrolophus pompilus*, C. & V. : on the pyloric appendages ; RIGGIO, Natural. Sicil. xiii, 1894, p. 206, figg.

NOMEIDÆ.

- Nomeus gronovii*, Gm., recorded from New South Wales by WAITE, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 219.
Psenes whiteleggii, n. sp., WAITE, l. c. p. 218, pl. xvii, fig. 1, Maroubra, New South Wales.

SCOMBRIDÆ.

- Scomber scombrus*, L. : biological notes by M. DUNN, Rep. Cornwall Soc. lxi, 1893, p. 98.
Echeneis lineata, Menz. : note by REUVENS, Notes Leyden Mus. xvi, 1895, p. 156.

TRACHINIDÆ. X

- Bathypercis*, Alc., = *Bembrops*, Stdr. ; ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 118.
Uranoscopus crassiceps, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. x, fig. 4 (1894).

PEDICULATI.

- Lophius mutilus*, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. x, fig. 2 (1894). *A. lugubris*, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 118, off Colombo, Ceylon, 142-400 faths.

Trachinus *Bombus*. *Ninkles Album de Balu*

- Himantolophus reinhardti*, Lütke. : note by LÜTKEN, Vid. Medd. 1894, p. 78.
Halieutæa, C. & V. : synopsis of the Indian species by ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 120. *H. fumosa*, n. sp., *id. ibid.* p. 119, Bay of Bengal, 145-250 faths.

COTTIDÆ.

- Cottus perplexus*, p. 52, pl. viii, fig. 1, Washington Terr., and *leipomus*, p. 53, pl. viii, fig. 2, Idaho, n. spp., GILBERT & EVERMANN, Rep. Comm. Fish & Fisher. Columb. Riv. Basin, 1894.
Triglops murrayi, Gthr. : on a specimen from the Firth of Forth ; W. E. CLARKE, Ann. Scott. Nat. Hist. 1895, p. 23.

CATAPHRACII.

- Agonus gilberti*, n. sp., COLLETT, P. Zool. Soc. London, 1894, p. 670, pl. xlv (1895), Kamtschatka.
Peristethus rivers-andersoni, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxxviii, 1894, p. 121, pl. vi, fig. 2, off Colombo, Ceylon, 142-400 faths.
Hippocephalus japonicus, Pall., redescribed and figured by F. CRAMER, P. Calif. Ac. (2) iv, 1894, p. 147, pl. x.

GOBIIDÆ.

- Gobius giurii*, Ham. Buch. : note on this species and some doubtful synonyms ; REUVENS, Notes Leyden Mus. xvi, 1895, p. 150. *G. bicirrhosus*, n. sp., M. WEBER, Zool. Ergebn. iii, 1894, p. 412, Celebes. *G. grossholzii*, n. sp., STEINDACHNER, SB. Ak. Wien, ciii, 1894, p. 447, pl. ii, fig. 1, Constantinople.
Crystallagobius nilssonii : on the eggs ; RAFFAELE, Boll. Soc. Napoli, viii, 1895, p. 129.
Gillichthys australis, n. sp., DOUGLAS-OGILBY, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 367, New South Wales.
Sicydium wichmanni, n. sp., M. WEBER, *t. c.* p. 413, Flores.
Eleotris huttoni, n. sp., DOUGLAS-OGILBY, *t. c.* p. 369, New Zealand.
E. (Culius) büttikoferi, n. sp., STEINDACHNER, Notes Leyden Mus. xvi, 1894, p. 27, pl. ii, fig. 2, Liberia.
Asteropteryx modestus, Blkr. : notes by PERUGIA, Ann. Mus. Genova (2) xiv, 1894, p. 548. *A. everetti*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xv, 1895, p. 186, Palawan.
Aristeus goldiei, Macl., redescribed by PERUGIA, Ann. Mus. Genova (2) xiv, 1894, p. 548. *A. lorixæ*, n. sp., *id. t. c.* p. 549, Inawi, E. New Guinea.

MEGISTOPODES.

Megistopus, n. g., allied to *Chirothrix*, Pict. & Humb., for *Megapus guest-falticus*, Schlüter (foss.); LANDOIS, N. Jahrb. Min. 1894, ii, p. 228, pl. v. The name *Megistopodes* is proposed for a family to include *Megistopus* and *Chirothrix*.

BLENNIDÆ.

- Clinus whiteleggii*, n. sp., DOUGLAS-OGILBY, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 371, New South Wales.
- Atopoclinus*, n. g., allied to *Blennius* and *Chasmodes*; VAILLANT, Bull. Soc. Philom. (8) vi, 1894, p. 73. *A. ringens*, n. sp., *id. t. c.* p. 74, Gulf of California.
- Ophioclinus*, Casteln.: genus recharacterised by DOUGLAS-OGILBY, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 372. *O. devisi*, n. sp., *id. t. c.* p. 373, Queensland.
- Petroscirtes icelii*, n. sp., DOUGLAS-OGILBY, *t. c.* p. 370, Lord Howe I.
- Lumpenus lampetæformis*, Walb.: notes by MCINTOSH, Ann. Nat. Hist. (6) xv, 1895, p. 97.

ATHERINIDÆ.

- Labidesthes sicculus*, Cope: note by LÖNNBERG, Ofv. Ak. Forh. 1894, p. 120.
- Atherinichthys albus*, p. 148, L. Patzcuaro, Mexico, *grandoculis*, p. 149, L. Patzcuaro, and *brevis*, p. 149, L. Cuitzco, Mexico, n. spp., THERESE VON BAIERN, Anz. Ak. Wien, 1894.

MUGILIDÆ.

- Neomugil*, n. g., allied to *Mugil*, with wide mouth, the maxillary extending beyond the vertical of the anterior border of the eye; teeth in jaws minute, conical, pluriserial; VAILLANT, Bull. Soc. Philom. (8) vi, 1894, p. 72. *N. digueti*, n. sp., *id. t. c.* p. 73, Lower California.

GOBIESCIDÆ.

- Olycnopterus lumpus*, L.: on protective resemblance in the young; W. A. SMITH, Rep. Fish. Board Scotland, xi, 1893, p. 390, fig.) Cye

LABYRINTHICI.

- Anabas microcephalus*, Blkr., = *A. scandens*, Dald.; REUVENS, Notes Leyden Mus. xvi, 1895, p. 147. *A. elongatus*, n. sp., *id. ibid.*, Sumba, Malay Archipelago.
- Osphromenus olfax*: on its breeding habits; C. F. GILBERT, J. Bombay Soc. viii, 1894, p. 435.

LOPHOTIDÆ.

Lophotes cepedianus, Giorna, recorded from New Zealand by T. J. PARKER, Tr. N. Zealand Inst. xxvi, 1894, p. 223.

Trachypterus rex-salmonorum, n. sp., JORDAN & GILBERT, P. Calif. Ac. (2) iv, 1894, p. 144, pl. ix, San Francisco.

NOTACANTHI.

A revision of the genera and species; GOODE & BEAN, P. U. S. Mus. xvii, 1894, pp. 455-470.

Gigliolia, n. g., GOODE & BEAN, t. c. p. 464, for *G. moseleyi*, n. sp., *ibid.* t. c. p. 465, pl. xviii, fig. 1, S.W. coast of S. America, 400 faths.

Macdonaldia, n. g., GOODE & BEAN, t. c., for *Notacanthus rostratus*, Collett, p. 467, pl. xviii, fig. 2.

LYPOGENIIDÆ.

A new family, allied to the preceding, but distinguished by a roundish, inferior, suctorial mouth, and a very short dorsal fin; GOODE & BEAN, t. c. p. 469.

Lypogenys, n. g., for *L. gillii*, n. sp., *ibid.* t. c. p. 469, pl. xviii, fig. 3, N.W. Atlantic, 865 faths.

ACANTHOPTERYGII PHARYNGOGNATHI.

POMACENTRIDÆ.

Glyphidodon brownriggii, Benn., recorded from New South Wales by WAITE, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 219.

LABRIDÆ.

Novacula stockumii, n. sp., REUVENS, Notes Leyden Mus. xvi, 1895, p. 131, Strait of Macassar.

Cossyphus unimaculatus, Gthr., redescribed by STEINDACHNER, SB. Ak. Wien, ciii, 1894, p. 445.

EMBIOTOCIDÆ.

The Fishes of this family are reviewed, and the anatomy, embryology, and life-history described, by EIGENMANN, Bull. U. S. Fish Comm. 1892, pp. 381-478, pls. xcii-xcviii (1894).

Damalichthys argyrosomus, Gir., figured; EIGENMANN, *ibid.* pl. xcii, fig. 1.

Rhacochilus toxotes, Ag., figured; EIGENMANN, *ibid.* fig. 2.

Cymatogaster aggregatus, Gibb., figured; EIGENMANN, *ibid.* fig. 3.

On the yolk nucleus in *Cymatogaster aggregatus*; HUBBARD, P. Amer. Phil. Soc. xxxiii, 1894, pp. 74-83, pls. i-iii.

CHROMIDES.

- Chromis niloticus*, Hasselq. : notes by VINCIGUERRA, Ann. Mus. Genova (2) xv, 1895, p. 28. *C. spilurus*, n. sp., GÜNTHER, P. Zool. Soc. London, 1894, p. 89, pl. x, fig. A, Mwangaden R., E. Africa.
- Oreochromis niger*, n. sp., GÜNTHER, t. c. p. 89, pl. ix, Kibwezi River, E. Africa.
- Pelmatochromis*, n. subg., for *Paratilapia hüttikoferi*, n. sp., STEINDACHNER, Notes Leyden Mus. xvi, 1894, p. 40. *P. jentinkii*, n. sp., id. t. c. p. 43, pl. ii, fig. 1, Liberia.

ANACANTHINI.

GADIDÆ.

- Gadus virens*, L. : on the ova and larvæ ; McINTOSH, Ann. Nat. Hist. (6) xv, 1895, p. 90.
- Physiculus roseus*, Alc., figured by ALCOCK, Ill. Investig., Fish, pl. xi, fig. 2 (1894). *P. argyropastus*, Alc. : note by ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 121.
- Brosmius brosmæ*, Müll. : on the ova and larvæ ; McINTOSH, Ann. Nat. Hist. (6) xiv, 1894, p. 193.
- Molva abyssorum*, Nilss., described, with notes on the anatomy, by HOLT, P. Zool. Soc. London, 1894, p. 413, pls. xxviii & xxix : on some specimens from Iceland and Faroe ; HOLT, J. Mar. Biol. Ass. (2) iii, 1894, p. 200.

OPHIDIIDÆ.

- Paradicrolene multijilis*, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. xi, fig. 1 (1894).
- Monomitopus nigripinnis*, Alc., figured by ALCOCK, t. c. pl. xi, fig. 3 (1894).
- Neobythites pterotus*, Alc., figured by ALCOCK, t. c. pl. xi, fig. 4 (1894).
- Glyptophidium macropus*, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 122, pl. vi, fig. 3, Bay of Bengal, 145-250 faths.
- Pycnocraspedum*, Alc., = *Neobythites*, G. & B.; ALCOCK, t. c. p. 123.
- Leptophidium*, n. n. for *Leptophidium*, Gill, nec Hallow.; GILL, Amer. Natural. xxix, 1895, p. 167.

MACRURIDÆ.

- Macrurus*, Bl., synopsis of the Indian species, by ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, pp. 126 & 127. *M. hoskynii*, Alc., pl. ix, fig. 4, *macrolophus*, Alc., pl. xii, fig. 1, *semiquincunciatus*, Alc., pl. xii, fig. 2, *hectii*, Alc., pl. xii, fig. 3, *wood-masoni*, Alc., pl. xiii, fig. 1, *hispidus*, Alc., pl. xiii, fig. 2, and *brevirostris*, Alc., pl. xiii, fig. 3, figured by ALCOCK, Ill. Investig., Fish. (1894). *M. flabellispinis*, p. 123, and *pumiliceps*, p. 125, n. spp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, Laccadive Sea, 719 faths.

Bathygadus furvescens, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 128, off the Maldives, 719 faths.

PLEURONECTIDÆ.

- On the diagnostic characters of the *Pleuronectide* of the Plymouth district; J. T. CUNNINGHAM, J. Mar. Biol. Ass. (2) iii, 1895, pp. 247-258; on the development of the egg; J. T. CUNNINGHAM, *t. c.* pp. 258-267.
- On the origin of species among Flat fishes; J. T. CUNNINGHAM, Nat. Sci. vi, 1895, pp. 169-177 & 233-239.
- E. LÖNNBERG, Ofv. Ak. Forh. 1894, pp. 571-588 (1895), records his observations on the variations of certain Scandinavian Flat fishes.
- C. G. J. PETERSEN has biological notes on the Pleuronectoids of the Danish coast. Rep. Dan. Biol. Stat. iv, 1894, pp. 1-47, 2 pls.
- On the Recessus orbitalis, an accessory visual organ in Pleuronectoids; HOLT, P. Zool. Soc. London, 1894, pp. 422-446, pl. xxx, and J. Mar. Biol. Ass. (2) iii, 1894, pp. 185-188.
- French translation of SACCHI's paper on minute differences in the asymmetrical parts of Pleuronectoids. Arch. ital. Biol. xxi, 1894, pp. 168-170.
- On ambicoloration; E. W. L. HOLT, J. Mar. Biol. Ass. (2) iii, 1894, pp. 188-190.
- W. BATESON, P. Zool. Soc. London, 1894, p. 246, records two cases of colour-variation (*Rhombus levis* and *Pleuronectes platessa*) illustrating principles of symmetry.
- On the development of *Pleuronectes platessa*; FULLARTON, Rep. Fish. Board Scotland, xi, 1893, pp. 274-283, pls. xiii-xvi.
- Hippoglossus vulgaris*, Flem., on the ova and young; MCINTOSH, Ann. Nat. Hist. (6) xiv, 1894, p. 189.
- Pleuronectes flesus*, L., and *P. platessa*, L., on their variations and close affinity; DUNCKER, Zool. Anz. xviii, 1895, p. 53. *P. platessa*, L., on the absence of young specimens in the Baltic; APSTEIN, Mitth. Sect. f. Küsten- u. Hochseefisch. 1894, p. 103; on a dwarf variety; HOLT, J. Mar. Biol. Ass. (2) iii, 1894, p. 194; on a piebald specimen; J. T. CUNNINGHAM, *t. c.* 1895, p. 271.
- Rhombus*, Cuv., on hybrids between *R. maximus*, L., and *R. levis*, L.; HOLT, *t. c.* p. 292, figg. *R. maximus*, L., on the ova and larvæ; MCINTOSH, Ann. Nat. Hist. (6) xv, 1895, p. 94. *R. (Zeugopterus) norvegicus*, Gthr., notes by MCINTOSH, *t. c.* p. 99.
- Zeugopterus punctatus*, Bl., on young stages; J. T. CUNNINGHAM, J. Mar. Biol. Ass. (2) iii, 1894, p. 202.
- Hemirhombus stampflii*, n. sp., STEINDACHNER, Notes Leyden Mus. xvi, 1894, p. 52, pl. iii, fig. 3, Liberia.
- Arnoglossus megastoma*, Don., on the ova and larvæ; MCINTOSH, Ann. Nat. Hist. (6) xiv, 1894, p. 195, and xv, 1895, p. 95.

- Solea vulgaris*, Cuv., on a specimen with symmetrical eyes; HOLT, J. Mar. Biol. Ass. (2) iii, 1894, p. 188. *S. umbratilis*, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 131, pl. vii, fig. 3, Bay of Bengal, 91-107 faths.
- Aphoristia trifasciata*, n. sp., ALCOCK, *t. c.* p. 132, pl. vii, fig. 4, Bay of Bengal, 145-250 faths.
- Poecilopsetta maculosa*, p. 130, pl. vii, fig. 1, Bay of Bengal, 145-250 faths., and *prolonga*, p. 130, pl. vii, fig. 2, off Colombo, Ceylon, 142-400 faths., n. spp., ALCOCK, *t. c.*
- Chascanopsetta*, n. g.; ALCOCK, *t. c.* p. 128, for *C. lugubris*, n. sp., *id. t. c.* p. 129, pl. vi, fig. 4. Bay of Bengal, 145-250 faths.

PHYSOSTOMI.

SILURIDÆ.

- On the air-bladder of Siluroids as a sound-producing organ; SÖRENSEN, J. Anat. Physiol. norm. path. (2) ix, 1894, pp. 109-139, and 1895, pp. 205-229 & 399-423, figg.
- T. W. BRIDGE & A. C. HADDON, P. R. Soc. London, lv, 1894, pp. 439-441, make additions and rectifications to their memoir on the production of sounds by the air-bladder in Siluroids.
- On the aortic arch of *Saccobranchus fossilis*; BURNE, J. Linn. Soc. xxv, 1894, pp. 48-55, fig., pl. iii.
- L. VAILLANT remarks on the Siluroids hitherto recorded from Madagascar. Bull. Soc. Philom. (8) vi, 1894, p. 75.
- Clarias robecchii*, Vincig., further notes by VINCIGUERRA, Ann. Mus. Genova (2) xv, 1895, p. 30, figg. *C. büttikoferi*, p. 53, *liberiensis*, p. 54, pl. iii, fig. 2, and *bulumæ*, p. 55, n. spp., STEINDACHNER, Notes Leyden Mus. xvi, 1894, Liberia.
- Plotosus abbreviatus*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xv, 1895, p. 247, Borneo.
- Eutropius depressirostris*, Ptris., note by VINCIGUERRA, Ann. Mus. Genova (2) xv, 1895, p. 34. *E. altipinnis*, n. sp., STEINDACHNER, *t. c.* p. 57, pl. i, fig. 1, Liberia.
- Chrysichthys büttikoferi*, n. sp., STEINDACHNER, *t. c.* p. 60, pl. iii, fig. 1, Liberia.
- Lambertia*, n. g., allied to *Eumeda*, Casteln.; PERUGIA, *op. cit.* xiv, 1894, p. 550. *L. ara*, n. sp., *id. t. c.* p. 551, Inawi, E. New Guinea.
- Eumeda elongata*, Cast. (?), redescribed by PERUGIA, *t. c.* p. 552.
- Bagrus urostigma*, n. sp., VINCIGUERRA, *op. cit.* xv, 1895, p. 36, Somaliland.
- Clarotes laticeps*, Rüpp., notes by VINCIGUERRA, *t. c.* p. 39.
- Macrones peguensis*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 196, Pegu.

Arius madagascariensis, n. sp., VAILLANT, Bull. Soc. Philom. (8) vi, 1894, p. 77, Madagascar.

Synodontis zanzibaricus, Ptrs. (?), notes by VINCIGUERRA, *t. c.* p. 45.

SCOPELIDÆ.

Scopelus pterotus, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. ix, fig. 3 (1894).

Chlorophthalmus corniger, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 133, pl. vi, fig. 5, Bay of Bengal, 145-250 faths.

SAURODONTIDÆ.

Portheus australis, n. sp. (foss.); A. S. WOODWARD, Ann. Nat. Hist. (6) xiv, 1894, p. 444, pl. x, fig. 1, Lower Cretaceous, Rolling Downs Formation, Queensland.

Cladocyclus sweeti, n. sp., for detached scales from the Lower Cretaceous of Queensland, A. S. WOODWARD, *t. c.* p. 445, pl. x, figg. 2-6.

CYPRINIDÆ.

Catostomus pocatello, n. sp., GILBERT & EVERMANN, Rep. Comm. Fish and Fisher. Columb. Riv. Basin, 1894, p. 39, pl. ix, fig. 1, Pocatello, Idaho.

Cyprinus carpio, L.: on its food.; A. FRITSCH & V. VÁVRA, Arch. Landesdf. Bohmen, ix, No. 2, 1894, p. 120, fig.

Labeo gregorii, n. sp., GÜNTHER, P. Zool. Soc. London, 1894, p. 90, pl. x, fig. b, Tana R., E. Africa. *L. rosæ*, p. 457, pl. v, fig. 1, Transvaal, and *tenuirostris*, p. 459, pl. v, fig. 2, Limpopo River, n. spp., STEINDACHNER, SB. Ak. Wien, ciii, 1894.

Tylognathus cantinii, Sauv. (?), redescribed by VINCIGUERRA, *t. c.* p. 50.

Abrostomus capensis, Smith, redescribed and figured by STEINDACHNER, *t. c.* p. 454, pl. iv, fig. 1.

Barbus trimaculatus, Ptrs., notes by STEINDACHNER, *t. c.* p. 452. *B. campanthanthus*, Blkr., n. var., *liberiensis*, STEINDACHNER, Notes Leyden Mus. xvi, 1894, p. 80, Liberia. *B. tanensis*, p. 90, pl. x, and *taitensis*, p. 91, n. spp., GÜNTHER, P. Zool. Soc. London, 1894, E. Africa. *B. gananensis*, n. sp., VINCIGUERRA, *t. c.* p. 53, pl. v, fig. 2, Somaliland. *B. holubi*, p. 449, pl. iii, fig. 1, Orange River, *rapax*, p. 451, pl. iv, fig. 2, Transvaal, and *motebensis*, p. 453, pl. ii, fig. 2, Marico, S. Africa, n. spp., STEINDACHNER, SB. Ak. Wien, ciii, 1894. *B. palavanensis*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xv, 1895, p. 186, Palawan.

Agosia falcata, Eigm., figured by EIGENMANN, Bull. U. S. Fish Comm. f. 1892, pl. vi (1894). *A. umatilla*, n. sp., GILBERT & EVERMANN, Rep. Comm. Fish and Fisher. Columb. Riv. Basin, 1894, p. 42, pl. ix, fig. 2, Payette, Idaho.

- Rasbora everetti*, p. 187, Palawan, and *hosii*, p. 247, Sarawak, n. spp., BOULENGER, Ann. Nat. Hist. (6) xv, 1895.
- Richardsonia*, Gir., cannot be separated from *Leuciscus*; EIGENMANN, Bull. U. S. Fish Comm. f. 1892, p. 112 (1894).
- Leuciscus balteatus*, Rich.: on the variations, especially with regard to the number of anal rays; EIGENMANN, Bull. U. S. Fish Comm. f. 1892, pp. 112 & 129 (1894), and Amer. Natural. xxix, 1895, p. 10, pls. i-iv, and GILBERT & EVERMANN, Rep. Comm. Fish and Fisher. Columb. Riv. Basin, 1894, p. 46.
- Notropis jordani*, n. n., for *N. alboolus*, Eigm. nec Jord.; EIGENMANN, Bull. U. S. Fish Comm. f. 1892, p. 109 (1894).
- Ncobola*, n. g., allied to *Bola*, Gthr.; VINCIGUERRA, t. c. p. 56. *N. bottegoi*, n. sp., id. t. c. p. 57, pl. v, fig. 1, Somaliland.
- Abramis brama*, L., on a specimen from the Volga, RUZSKY, Protok. Kazan. Univ. 1893-94, No. 146, fig.
- Alburnus alexandrinus*, Stdr., = *Barilius niloticus*, Joan; STEINDACHNER, SB. Ak. Wien, ciii, 1894, p. 461.
- Homaloptera formosana*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xiv, 1894, p. 463, Formosa.

CHARACINIDÆ.

- On a collection from Brazil, with notes and synonymy; ULREY, Ann. N. York Ac. viii, 1895, pp. 258-300.
- Mesops taniatus*, Gthr., note by BOULENGER, Boll. Mus. Torino, x, 1895, No. 196, p. 1.
- Nanostomus*, Gthr.: synopsis of the species by BOULENGER, t. c. p. 2. *N. lateralis*, n. sp. id. *ibid.*, Paraguay.
- Nanognathus*, n. g., allied to *Nanostomus*, Gthr.; BOULENGER, t. c. *N. borellii*, n. sp., id. t. c. p. 3, Tucuman.
- Alestes imberi*, Ptrs., notes by VINCIGUERRA, Ann. Mus. Genova (2) xv, 1895, p. 48. *A. affinis*, n. sp., GÜNTHER, P. Zool. Soc. London, 1894, p. 90, Tana R., E. Africa.
- Petersius*, n. g., between *Alestes* and *Tetragonopterus*; HILGENDORF, SB. Ges. naturf. Berlin, 1894, p. 172. *P. conserialis*, n. sp., id. t. c. p. 173, German East Africa.
- Tetragonopterus*, Cuv.: synopsis of the species by ULREY, Ann. N. York Ac. viii, 1895, p. 262. *T. astictus*, p. 276, Brazil, *santaremensis*, p. 283, Santarem, *paucidens*, p. 283, Itaituba, and *heterorhabdus*, p. 286, Para, n. spp., HILGENDORF, t. c. *T. heterorhabdus*, p. 610, *paucidens*, p. 611, *santaremensis*, p. 611, and *astictus*, p. 611, n. spp., ULREY, Amer. Natural. xxviii, 1894, Brazil.
- Mylesinus macropterus*, n. sp., ULREY, t. c. p. 612, Brazil.
- Chirodon*, Gir.: synopsis of the species by ULREY, Ann. N. York Ac. viii, 1895, p. 288.
- Aphyocara*, Gthr.: synopsis of the species by ULREY, t. c. p. 291. *A. maxillaris* and *heteresthes*, n. spp., id. t. c. p. 293, and Amer. Natural. xxviii, 1894, p. 611, Brazil.

Characodon luitpoldii, n. sp., THERESE VON BAIERN, Anz. Ak. Wien, 1894, p. 147, L. Patzcuaro, Mexico.

Mylesinus macropterus, n. sp., ULREY, Ann. N. York Ac. viii, 1895, p. 296, Brazil.

CYPRINODONTIDÆ.

This family should be called *Poeciliidæ*; GILL, P. U. S. Mus. xvii, 1894, p. 115.

Haplochilus celebensis, n. sp., M. WEBER, Zool. Ergebn. iii, 1894, p. 426, Celebes.

Fundulus lima, n. sp., VAILLANT, Bull. Soc. Philom. (8) vi, 1894, p. 71, Lower California.

Rivulus punctatus, n. sp., BOULENGER, Boll. Mus. Torino, x, 1895, No. 196, p. 3, Paraguay.

Neolebias, n. g., for *N. unifasciatus*, n. sp., STEINDACHNER, Notes Leyden Mus. xvi, 1894, p. 78, pl. iv, fig. 3, Liberia.

SCOMBRESOCIDÆ.

On the eggs of *Scombrosox* and *Exocætus*; RAFFAELE, Boll. Soc. Napoli, viii, 1895, p. 127.

Hemirhamphus orientalis, n. sp., M. WEBER, Zool. Ergebn. iii, 1894, p. 427, Celebes.

Exocætus exiliens, Bl.: on a specimen captured off Whitby, Yorkshire coast; T. STEPHENSON, Naturalist, 1894, p. 283.

GALAXIIDÆ.

Galaxias capensis, n. sp., STEINDACHNER, SB. Ak. Wien, ciii, 1894, p. 460, Somerset West, S. Africa.

MORMYRIDÆ.

Mormyrops breviceps, n. sp., STEINDACHNER, Notes Leyden Mus. xvi, 1894, p. 66, pl. i, fig. 2, Liberia.

Mormyrus liberiensis, p. 67, and *tenuicauda*, p. 69, pl. iv, fig. i, n. spp., STEINDACHNER, t. c., Liberia.

CETOMIMIDÆ.

A new family of the group *Injomi* of Gill, somewhat closely allied to the *Synodontidæ*, but lacking scales and the adipose dorsal fin, and having granular teeth arranged in bands; GOODE & BEAN, P. U. S. Mus. xvii, 1894, p. 451.

Cetomimus, n. g., GOODE & BEAN, t. c. p. 452, for *C. gillii*, p. 452, pl. xvii, fig. 2, and *C. storeri*, p. 453, pl. xvii, fig. 3, n. spp., N. W. Atlantic, 1043-1535 faths.

RONDELETIIDÆ.

Another new family, distinguished from the preceding by the presence of ventral fins and the incompleteness of the opercular apparatus ;
GOODE & BEAN, P. U. S. Mus. xvii, 1894, p. 454.

Rondeletia, n. g., GOODE & BEAN, *t. c.*, for *R. bicolor*, n. sp., pl. xvii, fig. 1,
N. W. Atlantic, 1641 faths.

PERCOPSIDÆ.

Percopsis guttata, Ag., figured by EIGENMANN, Bull. U. S. Fish Comm.
f. 1892, pl. vi (1894).

Columbia transmontana, Eigm., figured by EIGENMANN, *t. c.*

SALMONIDÆ.

T. GILL, P. U. S. Mus. xvii, 1894, p. 117, proposes to separate *Thymallus*
as a family (*Thymallidæ*) from the *Salmonidæ*, which should include
Coregonus. The *Salmonidæ* are divided into 3 subfamilies, viz.,
Salmoninæ, *Coregoninæ*, and *Stenodontinæ*.

On the *Salmonidæ* of the Pacific Coast of North America ; JORDAN, 13th
Bienn. Rep. Fish Comm. State of Calif. 1894, pp. 125-141, 7 pls.

Salmo salar, L. : on the Salmon of the Elbe ; A. FRITSCH, Der Elbelachs
(Prague : 1894, 8vo). *S. irideus stonei*, p. 142, pl., *S. gairdneri*
shasta, p. 142, pl., and *S. gairdneri gilberti*, p. 143, pl., n. varr.,
JORDAN, *t. c.*, California. *S. gairdneri stonei*, n. subsp., *id.* P. Ac.
Philad. 1894, p. 60, McCloud River, California.

On the introduction of *Coregonus* in the Italian Lakes ; VINCIGUERRA,
Eco dei Campi e dei Boschi, ii, No. 2, 1895.

Coregonus wartmanni, Bl. : on rudimentary teeth in the young ; H. E.
WALTER, Anat. Anz. ix, 1894, p. 470. *C. lavaretus*, Bl. : on its habits
in the Baltic ; SELIGO, Mitth. Sect. f. Küsten- u. Hochseefisch. 1894,
p. 107. *C. coulteri*, Eigm., figured by EIGENMANN, Bull. U. S. Fish
Comm. f. 1892, pl. vi (1894). *C. williamsonii*, Gir. : notes by BEAN,
Rep. Comm. Fish & Fisher. Columb. Riv. Basin, 1894, p. 55.

Osmerus eperlanus, L. : notes on development and growth ; EHRENBAUM,
Wiss. Meeresunt. Kiel & Helgol. (2) i, 1894, p. 39.

CLUPEIDÆ.

Clupea pilchardus, Walb. : on specimens with abnormal scaling ; BATE-
SON, P. Zool. Soc. London, 1894, p. 164. On the growth of the
Sardine ; G. ROCHÉ, Ann. Sci. nat. (7) xvi, 1894, p. 328. *C. alosa*,
L. : note on young specimens ; J. T. CUNNINGHAM, J. Mar. Biol. Ass.
(2) iii, 1895, p. 274. *C. finta*, Cuv. : on oviposition and development ;
EHRENBAUM, Wiss. Meeresunt. Kiel & Helgol. (2) i, 1894, p. 54. *C.*
caspia, Eichw. : on the spring migration ; KUZNEZOW, Journ. Fisher.
Industr. St. Petersburg. (Russian), ix, 1894, p. 147.

- Brevoortia tyrannus*, Stor.: on its food; J. J. PECK, Bull. U. S. Fish Comm. xiii, 1894, p. 113.
- Engraulis encrasicolus*, L.: on its migration in the English Channel; J. T. CUNNINGHAM, J. Mar. Biol. Ass. (2) iii, 1895, p. 300.
- Diplomystus longicostatus*, Cope (foss.): note by A. S. WOODWARD, Ann. Nat. Hist. (6) xv, 1895, p. 2, pl. i, fig. 1. *D. birdi*, n. sp. (foss.); *id. t. c.* p. 3, pl. i, figg. 2-4, Upper Cretaceous, Mount Lebanon.
- Spaniodon lepturus*, n. sp. (foss.), W. VON DER MARAK, Palæontogr. xli, 1894, p. 46, pl. v, fig. 5, Cretaceous of Westphalia.
- The fossil genera *Osmeroides*, Ag., and *Aulolepis*, Ag., are referred to the *Clupeide*, in the neighbourhood of *Elops* and *Megalops*, by A. S. WOODWARD, P. Zool. Soc. London, 1894, p. 662 (1895). *Osmeroides lewesiensis*, Ag., p. 656, pl. xlii, *Elopopsis crassus*, Dixon, p. 659, pl. xliii, fig. 1, and *Aulolepis typus*, Ag., redescribed and figured; *id. ibid.*

LEPTOLEPIDÆ.

- Leptolepis brodiei*, Egert. (foss.): notes and figures by A. S. WOODWARD, Geol. Mag., Dec. iv, ii, 1895, p. 150, pl. vii, figg. 5 & 6.

ALEPOCEPHALIDÆ.

- Alepocephalus blanfordi*, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. ix, fig. 1 (1894).

MURÆNIDÆ.

- J. T. CUNNINGHAM, J. Mar. Biol. Ass. (2) iii, 1895, pp. 278-287, fig., comments on the state of our knowledge of the larval forms of European Murænoids.
- Nemichthys acanthonotus*, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 136, Bay of Bengal, 475 faths.
- Anguilla vulgaris*, Turt.: on the reproduction; DE SHÆCK, Rev. Sci. nat. appl. xli, 1894, p. 61: on the breeding localities; F. LA MOTTE, Mitth. Sect. f. Küsten- u. Hochseefisch. 1893, p. 113, and 1894, p. 173: on the larva; FACCIOLÀ, Natural. Sicil. xiii, 1894, p. 133: on migrations; A. FEDDERSEN, Rev. Sci. nat. appl. xli, 1894, p. 297: on a partial albino; PAVESI, Rend. Acc. Lombardo (2) xxvii, 1894, p. 688, pl. x.
- Conger balearicus*, Delaroché: on its metamorphoses; FACCIOLÀ, Natural. Sicil. xiii, 1894, pp. 125, 173, 219, and xiv, 1894, p. 39.
- Congromuræna nasica*, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. ix, fig. 2 (1894). *C. musteliceps*, n. sp., ALCOCK, J. Asiat. Soc. Bengal, lxiii, 1894, p. 133, pl. vii, fig. 5, Bay of Bengal, 165-250 faths.
- Xenomystax trucidans*, n. sp., ALCOCK, *t. c.* p. 134, Laccadive Sea, 719 faths.

- Ophichthys (Sphagebranchus) büttikoferi*, n. sp., STEINDACHNER, Notes Leyden Mus. xvi, 1894, p. 88, pl. iv, fig. 2, Liberia. *O. (Sphagebranchus) guineensis*, n. sp., OSORIO, J. Sci. Lisb. (2) iii, 1894, p. 179, Gulf of Guinea.
- Muraena ocellata*, Ag.: notes on a specimen referred with doubt to this species by VAILLANT, Bull. Soc. Philom. (8) vi, 1894, p. 70.
- Gymnothorax prionodon*, n. sp., DOUGLAS-OGILBY, P. Linn. Soc. N. S. Wales (2) ix, 1895, p. 720, Port Jackson.

LOPHOBRANCHII.

- Solenognathus hardwickii*, Gray, *spinosissimus*, Gthr., and *fasciatus*, Gthr.: notes and figures by WAITE, *op. cit.* 1894, pp. 221, 222, & 227, pl. xvii, figg. 2-9.

PLECTOGNATHI.

- On the spinal cord of *Orthogoriscus mola*; G. TAGLIANI, *Monit. Zool. ital.* v, 1894, pp. 248-258.
- Orthogoriscus*, Bl. Schn.: notes, and figure of a young specimen; REUVENS, Notes Leyden Mus. xvi, 1895, p. 128, pl. v: on Chilean specimens; PHILIPPI, *Chilen. Fische*, p. 14, pl. vi (1893). *O. eurypterus*, n. sp., *id. t. c.* p. 15, pl. vi, fig. 1, Coast of Chili. *O. truncatus*, Flem.: a description of its external characters and anatomy; BEAUREGARD, *Bull. Soc. Ouest France*, iii, 1893, p. 229, pl. v.
- Monacanthus filicauda*, Gthr., recorded from New South Wales by WAITE, P. Linn. Soc. N. S. Wales (2) ix, 1894, p. 224. *M. nitens*, Holland, redescribed; *id. ibid.*
- Triacanthodes ethiops*, n. sp., ALCOCK, J. *Asiat. Soc. Bengal*, lxxiii, 1894, p. 137, pl. vii, fig. 6, Bay of Bengal, 145-250 faths.

GANOIDEI.

- On the sympathetic nervous system of the Sturgeon; R. CHEVREL, *Arch. Zool. exp.* (3) ii, 1894, pp. 401-444, pl. xvii.
- On the development of the excretory organs in *Amia calva*; JUNGENSEN, *Zool. Anz.* xvii, 1894, pp. 246-252, figg.
- On the pronephros of *Lepidosteus osseus*; J. BEARD, *Anat. Anz.* x, 1894, pp. 198-201.
- Amia calva*, L.: notes on habits and development; FÜLLEBORN, *SB. Ak. Berlin*, 1894, p. 466. *A. kehleri*, Andreæ (foss.): notes and figures by ANDREÆ, *Abh. Senckenb. Ges.* xviii, 1894, p. 359, pl., figg. 8-23.
- Notogonus inimontis*, Thiol. (foss.), redescribed by SAUVAGE, *Bull. Soc. Autun*, vi, 1893, p. 428.
- Aspidorhynchus sphaekodes*, n. sp. (foss.), SAUVAGE, *t. c.* p. 431, pl. viii, fig. 1, Kimmeridgian of Orbagnoux, France.
1894. [VOL. XXXI.]

- Calopterus obesus*, n. sp. (foss.), SAUVAGE, Bull. Soc. Autun, vi, 1893, p. 433, pl. ix, fig. 1, Kimmeridgian of Orbagnoux, France.
- Thrissops rochei*, n. sp. (foss.), SAUVAGE, t. c. p. 436, pl. viii, fig. 2, Kimmeridgian of Orbagnoux, France.
- Æonoscopus* sp.: on a maxilla from the Purbeck of Swanage; A. S. WOODWARD, Geol. Mag., Dec. iv, ii, 1895, p. 151, pl. vii, fig. 9.
- Protosphyraena*, Leidy (foss.): note on the characters and affinities of this genus, which should be placed in the same group as *Hyposcormus*; A. S. WOODWARD, Ann. Nat. Hist. (6) xiii, 1894, p. 510.
- Macrosemius andrewsi*, n. sp. (foss.), A. S. WOODWARD, Geol. Mag., Dec. iv, ii, 1895, p. 148, pl. vii, fig. 3, Purbeck, Wiltshire.
- Macropoma egertoni*, Ag. (foss.), is referred to *Eurycormus* by A. S. WOODWARD, *op. cit.* i, 1894, p. 214.
- Caturus tenuidens*, n. sp. (foss.), A. S. WOODWARD, *op. cit.* ii, 1895, p. 151, pl. vii, figg. 7 & 8, Purbeck, Swanage, Dorsetshire.
- Lepidosteus osseus*, L.: notes on habits and development; FÜLLEBORN, SB. Ak. Berlin, 1894, p. 470; H. VIRCHOW, SB. Ges. naturf. Berlin, 1894, p. 38. *L. strausi*, Kink. (foss.): notes and figures by ANDREÆ, Abh. Senckenb. Ges. xviii, 1894, p. 355, pl. figg. 1-7.
- Prolepidotus*, n. g., allied to *Lepidotus*, for *P. gallineki*, n. sp. (foss.); R. MICHAEL, Jahresber. Schlesisch. Ges. lxxi, 1894, p. 71, and Zeitschr. deutsch. Geol. Ges. xlv, 1894, p. 710, pls. xxxiii & xxxiv, Upper Keuper, Silesia.
- Gyrodus frontatus*, Ag. (foss.), redescribed by SAUVAGE, Bull. Soc. Autun, vi, 1893, p. 440.
- Mesodon macropterus*, Ag. (foss.), n. var. *parvus*; A. S. WOODWARD, Geol. Mag., Dec. iv, ii, 1895, p. 147, pl. vii, fig. 2, Purbeck, Wiltshire. *M. abrasus*, n. sp. (foss.), CRAGIN, Colorado College Studies, v, 1894, p. 72, pl. ii, figg. 18 & 20, Neocomian of Kansas.
- Acipenser sturio*, L.: on its development and growth; EHRENBAUM, Wiss. Meeresunt. Kiel & Helgol. (2) i, 1894, p. 67.
- Coccolepis andrewsi*, A. S. Woodw. (foss.), redescribed and figured by A. S. WOODWARD, Geol. Mag., Dec. iv, ii, 1895, p. 145, pl. vii, fig. 1.
- Acentrophorus dispersus*, n. sp. (foss.), A. FRITSCH, Faun. d. Gaskohle, iii, p. 81, fig., Carboniferous, Kounova, Bohemia.
- Pyritocephalus*, n. g., for *Palæoniscus sculptus*, Fritsch (foss.); A. FRITSCH, t. c. p. 86, fig., pl. cxv.
- Sceletophorus*, n. g., allied to *Palæoniscus*, for *S. biserialis*, n. sp. (foss.); FRITSCH, t. c. p. 83, figg., pls. cxvi & cxvii, Carboniferous, Tremosna, Bohemia.
- Phaneroosteon pauper*, n. sp. (foss.), FRITSCH, t. c. p. 93, fig., pl. cxvii, figg. 1-4, Carboniferous, Bohemia.
- Amblypterus verrucosus*, n. sp. (foss.), FRITSCH, t. c. p. 96, fig., pl. cxx, Carboniferous, Bohemia.
- Eurylepis anglica*, n. sp. (foss.), TRAQUAIR, Ann. Nat. Hist. (6) xiv, 1894, p. 373, pl. ix, fig. 9, Upper Carboniferous, Longton, Staffordshire.

CROSSOPTERYGII.

- On the hypophysis of *Calamoichthys*; E. E. BICKFORD, *Anat. Anz.* x, 1895, pp. 465-470, figg.
 On the development of the excretory system in *Calamoichthys*; LEBEDINSKY, *Arch. mikr. Anat.* xliv, 1894, pp. 216-228, pl. xv.
Polypterus büttikoferi, Stdr., = *P. palmis*, Ayres; STEINDACHNER, *Notes Leyden Mus.* xvi, 1894, p. 92.

DIPNOI.

SIRENOIDEI.

- W. G. RIDWOOD, *P. Zool. Soc. London*, 1894, pp. 632-640, figg. (1895), writes on the hyoid arch of *Ceratodus forsteri*.
 On the absence of external gills in the embryo of *Ceratodus*; R. SEMON, *Anat. Anz.* x, 1894, pp. 332 & 333.
 On the cerebral nerves of *Protopterus*; F. PINKUS, *Morphol. Arbeit.* iv, 1894, pp. 275-346, 7 pls., and *Anat. Anz.* ix, 1894, pp. 562-566, figg.
Ceratodus, Ag., on some remains from the Rhætic of England; M. BROWNE, *Rep. Brit. Ass.* 1893, p. 749 (1894). *C. forsteri*, Krefft, remarks by T. MARGÓ, *Math. term. Ertes. Magyar Ak.* xii, 1894, p. 156, and *Math. naturw. Ber. Ungarn*, xii, 1894, p. 195.
Lepidosiren paradoxa, Fitz., translation of EHLER'S paper [*Zool. Rec.* xxx, *Pisc.* p. 35] in *Ann. Nat. Hist.* (6) xiv, 1894, p. 1: remarks by EHLERS, *Verh. deutsch. Zool. Ges.* iv, 1894, p. 32: note by GÜNTHER, *P. Zool. Soc. London*, 1894, p. 316, who regards *L. articulata*, Ehlers, as not specifically distinguishable: remarks on Ayer's views on this fish; GILL, *Amer. Natural.* xxviii, 1894, p. 581: on the limbs; LANKESTER, *Nature*, xlix, 1894, p. 555, figg.; HOWES, *t. c.* p. 576.

ARTHRODIRA.

- On the ventral armour of *Dinichthys*; A. A. WRIGHT, *Amer. Geol.* xiv, 1894, p. 313, figg., pl. ix.
Brontichthys, n. g., allied to *Titanichthys*, for *B. clarki*, n. sp.; CLAYPOLE, *t. c.* p. 379, pl. xii, Cleveland Shale, Devonian of Ohio.
Phlyctenaspis anglica, Traq., further notes by TRAQUAIR, *Ann. Nat. Hist.* (6) xiv, 1894, p. 369, fig.
Acanthaspis prümensis, n. sp., TRAQUAIR, *t. c.* p. 370, pl. ix, fig. 1, Lower Devonian of Prüm, Eifel.

OSTRACODERMI.

On the discovery of remains of a Fish allied to *Cyathospis* in the Silurian formation of Gotland, these remains representing the oldest Vertebrate on record; LINDSTRÖM, Ofv. Ak. Forh. 1894, p. 515 (1895), and Geol. Mag., Dec. iv, ii, 1895, p. 170.

HOLOCEPHALI.

On the structure of the Appendix digitiformis or supra-anal gland of *Chimæra monstrosa*; MAZZA & PERUGIA, Atti Soc. Ligustica, v, 1894, pp. 283-292, pls. xxv & xxvi.

Chimæra rupeliensis, n. sp. (foss.), STORMS, Mem. Soc. Belge Geol. viii, 1894, p. 67, pl. vi, figg. 3-5 & 8-10, Rupelian of Belgium.

Callorhynchus anturcticus, Cuv., redescribed and figured by PHILIPPI, Chilen. Fische, p. 10, pl. iv, and pl. v, fig. 2 (1893). *C. argenteus*, n. sp., *id. t. c.* p. 12, pl. v, fig. 1, Coast of Chili.

Harriotta, n. g., with exceedingly elongate snout; GOODE & BEAN, P. U. S. Mus. xvii, 1894, p. 471. For *H. raleighana*, n. sp., *id. t. c.* p. 472, pl. xix, N. W. Atlantic, 1081 faths.

Amylodon, n. g., for Chimæroid teeth, *A. delheidi*, n. sp. (foss.); STORMS, *t. c.* p. 71, pl. vi, figg. 11 & 12, Rupelian of Belgium.

R. H. TRAQUAIR regards *Harpacanthus* as probably representing median appendages on the head of Chimæroid Fishes. Ann. Nat. Hist. (6) xiv, 1894, p. 373.

Harpacanthus major, n. sp., TRAQUAIR, *t. c.* p. 372, pl. ix, fig. 8, Lower Carboniferous, Edinburgh District.

ELASMOBRANCHII.

O. JAEKEL in his work "Eocänen Selachier vom Monte Bolca" (Berlin, 1894) prefaces the description of the remains from Monte Bolca by a discussion of the morphology and systematic position of the Selachians.

A. S. WOODWARD, Nat. Sci. vi, 1895, pp. 38-43, figg., remarks on recent discoveries of Palæozoic Elasmobranchs.

On the supposed swim-bladder of Selachians; P. MAYER, Mt. Stat. Neapel, xi, 1894, pp. 475-478, fig.

On the cephalic ganglia of Selachians; COGGI, Atti Acc. Lincei (5) ccxci, 1895, Rend. pp. 265-269.

On the development of the teeth of *Ohlamydoselache*; C. RÖSE, Morphol. Arbeit. iv, 1894, pp. 193-206, figg.

- E. BUGNION, Bull. Soc. Vaudoise, xxx; 1894, P.V. pp. xxxi-xxxiv, has notes on the oviposition and development of some Plagiostomes on the coast of Brittany (*Scyllium canicula*, *Acanthias vulgaris*, *Raia alba* and *clavata*).
- On the regression of the vitelline sac in Selachians; GIACOMINI, P.V. Acc. Fisioeritti Siena, cciii, 1894, No. 6, and Monit. Zool. ital. vi, 1895, pp. 24 & 25.
- On the development stages in young Selachian embryos; W. HIS, Arch. Anat. 1894, pp. 337-354, pl. xxi.
- On the development of the head in Selachians; C. K. HOFFMANN, Anat. Anz. ix, 1894, pp. 638-653, figg.
- A. SEDGWICK remarks on the early development of the third nerve and of the sympathetic in Elasmobranchs, Q. J. Micr. Soc. xxxvii, 1894, pp. 87-101.
- On the early development of the olfactory organs of *Torpedo*; J. F. HOLM, Anat. Anz. x, 1894, pp. 201-207, figg.
- On metameric segmentation in the medullary folds and embryonic rim in *Acanthias*; W. A. LACY, *op. cit.* ix, 1894, pp. 393-415, figg.
- On the germinal blastema in *Scyllium*; J. E. S. MOORE, *t. c.* pp. 547-552, figg.
- On indirect cellular division in Selachians; MITROPHANOW, Int. J. Anat. Physiol. xi, 1894, pp. 333-359, pl. xvi.
- On spermatogenesis in the Selachians; SABATIER, C.R. Ac. Sci. cxx, 1895, pp. 205-208.

ACANTHODII.

- On the shoulder-girdle of *Acanthodes* and allies; TRAQUAIR, Geol. Mag., Dec. iv, i, 1894, p. 255.
- Acanthodes wardii*, Egert., described and figured by J. W. DAVIS, Tr. Dublin Soc. v, 1894, p. 252, pls. xxvii-xxix. *A. major*, n. sp., *id.* *t. c.* p. 257, pl. xxix, figg. 5 & 6, Coal-measures of Staffordshire and Yorkshire.
- Acanthodopsis microdon*, n. sp., TRAQUAIR, Ann. Nat. Hist. (6) xiv, 1894, p. 372, pl. ix, fig. 7, Upper Carboniferous, Cheadle Coal-field.
- Diplacanthus tenuistriatus*, n. sp., TRAQUAIR, Geol. Mag., Dec. iv, i, 1894, p. 254, Old Red Sandstone, Cromarty and Gamrie, Scotland.
- Parexus recurvus*, Ag.: on a spine from the Old Red Sandstone of Cradley, Herefordshire; TRAQUAIR, Ann. Nat. Hist. (6) xiv, 1894, p. 368.

SELACHII.

ASTEROSPONDYLI.

- Protogaleus latus*, n. sp. (foss.); STORMS, Mem. Soc. Belge Geol. viii, 1894, p. 78, pl. vi, fig. 17, Rupelian of Belgium.

- Galeocерdo acutus*, n. sp. (foss.); STORMS, *t. c.* p. 81, pl. iv, fig. 18, Rupel of Belgium. *G. jaekeli*, n. sp. (foss.): for a tooth from the Chalk of Kent; A. S. WOODWARD, *Ann. Nat. Hist.* (6) xv, 1895, p. 4, pl. i, figg. 5-7.
- Galeus cuvieri*, n. sp. (foss.); JAEKEL, *Eoc. Selach. v. Monte Bolca*, p. 172, fig., Eocene of Monte Bolca.
- Lamna*, Cuv.: on the fossil species of *Oxyrhina*; EASTMAN, *Palæontogr.* xli, 1895, pp. 149-192, pls. xvi-xviii. *L. (?) quinquelateralis*, n. sp. (foss.); CRAGIN, *Colorado College Studies*, v, 1894, p. 72, pl. ii, figg. 9 & 10, Neocomian of Kansas.
- Carcharodon rondeletii*, M. & H.: on the capture of specimens in the Mediterranean; RIGGIO, *Natural. Sicil.* xiii, 1894, p. 130; FACCIOLÀ, *t. c.* p. 182.
- Selache maxima*, M. & H.: note on a young specimen; L. VIEIRA, *Ann. Sci. nat. Porto*, v, 1894, p. 137, pl. vii.
- Pseudogaleus*, n. g., occupying a position intermediate between *Carchariidae* and *Sylliidae*, for *P. voltai*, n. sp. (foss.); JAEKEL, *Eoc. Selach. v. Monte Bolca*, p. 170, pl. vii, Eocene of Monte Bolca.
- Scyllium hispidum*, Alc., figured by ALCOCK, *Ill. Investig., Fish.* pl. viii, fig. 3 (1894).
- Hybodus clarkensis*, n. sp. (foss.); CRAGIN, *Colorado College Studies*, v, 1894, p. 72, pl. ii, figg. 11-14, Neocomian of Kansas.
- Euphyacanthus*, n. g., resembling *Tristychius*, Ag., save in the position of the denticles of the dorsal spines, which are within and not on the limiting margins of the posterior area. *E. semistriatus*, n. sp., TRAQUAIR, *Ann. Nat. Hist.* (6) xiv, 1894, p. 371, pl. ix, figg. 2-6, Lower Carboniferous, Edinburgh district.

TECTOSPONDYLI.

- In describing the Selachians of Monte Bolca, JAEKEL (*Eoc. Selach. v. Monte Bolca*, 1894) discusses the phylogeny of the Rays or Skates, which he proposes to divide into two great groups, viz.:—*Rhinoraji* (*Torpedinidae*, *Pristidae*, *Rhinobatidae*, *Raiidae*), and *Centrobatidae* (*Trygoninae*, *Myliobatinae*).
- On the microscopical structure of the electric organ in *Torpedo*; IWANZOFF, *Bull. Soc. Moscou*, 1894, pp. 358-399 & 407-489, pls. ix-xi.
- Paracentroscyllium ornatum*, Alc., figured by ALCOCK, *Ill. Investig., Fish.* pl. viii, fig. 2 (1894).
- Centrina bruniensis*, n. sp., MORTON, *P. Soc. Tasmania* f. 1893, p. 211 (1894), Tasmania.
- Squatina angeloides*, Van Beneden (foss.): notes by STORMS, *Mem. Soc. Belge Geol.* viii, 1894, p. 74, pl. iv, figg. 13-16.
- Rhinobatus tessellatus*, n. sp. (foss.); W. VON DER MARCK, *Palæontogr.* xli, 1894, p. 42, pl. v, figg. 1-4, Cretaceous of Westphalia.

- Raia*, L.: on the Chilian species; PHILIPPI, Chilen. Fische, p. 1 (1893).
R. lima, Poep., figured, *id. t. c.* pl. i, fig. 2. *R. scobina*, p. 2, pl. i, fig. 1, *flavirostris*, p. 4, pl. i, fig. 2, and *oxyptera*, p. 5, pl. ii, fig. 1, n. spp., *id. t. c.*, Coast of Chili. *R. batis*, L.: the Skate from the Belgian coast, usually referred to this species, is probably distinct; E. VAN BENEDEEN, Bull. Ac. Belgique (3) xxvii, 1894, p. 872. *R. mamillidens*, Alc., figured by ALCOCK, Ill. Investig., Fish. pl. viii, fig. 1 (1894). *R. blanda*, n. sp., HOLT, J. Mar. Biol. Ass. (2) iii, 1894, p. 181, North Sea [previously confounded with *R. maculata*, Montagu].
- Narcine molini*, n. sp. (foss.), JAEKEL, Eoc. Selach. v. Monte Bolca, p. 111, pl. iii (1894), Eocene of Monte Bolca.
- T. GILL, P. U. S. Mus. xvii, 1894, p. 111, remarks on the nomenclature of the *Myliobatidae*.
- Myliobatis aquila*, Cuv.: remarks on a fresh specimen; J. T. CUNNINGHAM, J. Mar. Biol. Ass. (2) iii, 1895, p. 276; on its dentition; TREUENFELS, Zool. Anz. xviii, 1825, p. 115. *M. chilensis*, n. sp., PHILIPPI, *t. c.* p. 7, pl. iii, fig. 1, Coast of Chili.
- Promyliobatis*, n. g., for *Myliobatis gazolæ*, Zigno (foss.); JAEKEL, Eoc. Selach. v. Monte Bolca, p. 152, pl. vi (1894).
- Rhinoptera jayakari*, n. sp., BOULENGER, Ann. Nat. Hist. (6) xv, 1895, p. 141, Muscat.
- Cephaloptera tarapacana*, n. sp., PHILIPPI, *t. c.* p. 9, pl. iii, fig. 2, Coast of Chili.
- Ptychodus*, Ag.: on teeth from the Turonian of Oppeln, Silesia; R. MICHAEL, Jahresber. Schlesisch. Ges. lxxi, 1894, p. 70.
- Urolophus marmoratus*, n. sp., PHILIPPI, *t. c.* p. 6, pl. ii, figg. 2 & 3, Coast of Chili.

ICHTHYOTOMI.

- Cladodus clarki*, Clayp.: description of a new specimen by CLAYPOLE, Amer. Geol. xv, 1895, p. 1, pls. i & ii. *C. ? magnificus*, n. sp., *id. op. cit.* xiv, 1894, p. 137, pl. v, Devonian of Ohio.

INCERTÆ SEDIS.

- Psammosteus taylori*, n. sp. (foss.), TRAQUAIR, Ann. Scott. Nat. Hist. 1894, p. 225, fig., Upper Old Red Sandstone, Morayshire.

CYCLOSTOMI.

- T. GILL, P. U. S. Mus. xvii, 1894, p. 107, remarks on the nomenclature and characteristics of the *Mordaciidae* and *Petromyzontidae*.

- T. GILL, Amer. Natural. xxviii, 1894, p. 582, refutes some statements recently made by AYERS on the variation in the number of gills in *Bdellostoma dombeyi*, Lacép.
- Researches in the nervous system of *Myxine glutinosa*, by A. SANDERS. (London : 1894, 4to, 44 pp., 8 pls.)
- On the parietal organs of *Petromyzon planeri* ; STUDNIČKA, SB. Bohmisch. Ges. 1893, No. 1, 50 pp., figg., 3 pls. (1894).
- EYCLESHYMER, in his paper on the development of *Amblystoma*, devotes a chapter to the epiblast and mesoblast in *Petromyzon* ; J. Morphol. x, 1895, pp. 378-381.
- Petromyzon marinus*, L. : on young specimens kept in a freshwater aquarium ; L. VIEIRA, Ann. Sci. nat. Porto, ii, 1895, p. 14. *P. planeri*, L. : on its oviposition ; VEJDOVSKÝ, SB. Bohmisch. Ges. 1893, No. 49, 4 pp., pl. xviii (1894).
- Palæospondylus gunni*, Traq. : further notes and figures by TRAQUAIR, P. Phys. Soc. Edinb. xii, 1894, p. 312, pl. ix.

LEPTOCARDII.

- Miss J. W. KIRKALDY revises the genera and species of *Branchiostomidae* ; Quart. J. Micr. Sci. xxxvii, 1895, pp. 303-323, pls. xxxiv & xxxv.
- A. WILLEÝ brings out a general treatise on the Lancelet, "*Amphioxus* and the Ancestry of the Vertebrates," issued as vol. ii of Columbia University Biological Series. D
- On the ontology of *Amphioxus* ; J. EISMOND, Biol. Centralbl. xiv, 1894, pp. 353-360, fig.
- On the heart sinuses ; VAN WYHE, Verh. Ak. Amsterdam, 1894, pp. 108-115.
- Branchiostoma belcheri*, Gray (?) : on specimens from Japan ; E. A. ANDREWS, Zool. Anz. xviii, 1895, p. 57.
- Heteropleuron*, n. subg., for *Branchiostoma bassanum*, Gthr., and allies ; KIRKALDY, t. c. p. 314. *H. cingalense*, n. sp., *id. t. c.* p. 315, Ceylon.

VI. TUNICATA.

BY

PROFESSOR W. A. HERDMAN, D.Sc., F.R.S.

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INTRODUCTION.

One of the most important contributions to the literature of the subject in this and the previous year is Seeliger's new account of the *Tunicata* for Bronn's well-known work. As yet we have only the history of our knowledge of the group, and the commencement of the section on the Larvacea, but these parts promise well for the importance and thoroughness of the complete work.

Three investigators (Lefevre, Rankin, and Seeliger) have independently arrived at the conclusion, during the past year, that the supposed segmentation or "vertebration" of the tail in the Appendiculariidae is an artifact, and does not indicate true metameric segmentation.

Korotneff and Salensky have very valuable papers dealing with many points in the embryology and morphology both of *Salpa* and of Compound Ascidians.

I.—LIST OF PUBLICATIONS.*

- APSTEIN, CARL. (1) Die Salpen der Berliner Zoologischen Sammlung.
Arch. Naturg. ix, i Bd., 1 Heft, pp. 41-54, taf. v.
- (2) Die *Thaliacea* der Plankton-Exped. B. Vertheilung der Salpen.
Ergeb. d. Plankton-Exp. Bd. ii, E. a. B. pp. 1-68, taf. ii-iv.

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

- *BOGOJABLENSKY, N. W. On the budding of *Salpa* (in Russian). Tagebl. Zool. Abth. Ges. Fr. Naturw. Moskau, Protokolle t. ii, Nos. 1 & 2, pp. 35 & 36.
- BORGERT, A. Die *Thaliaceae* der Plankton-Exped. C. Vertheilung der Doliolen. Ergeb. d. Plankton-Exp. Bd. ii, E. a. C., pp. 1-68, taf. v-viii.
- CALMAN, W. T. On *Julinia*; a new genus of compound Ascidians from the Antarctic Ocean. Quart. J. Micr. Sci. xxxvii, pp. 1-17, pls. i-iii.
- CASTLE, W. E. On the cell lineage of the Ascidian egg. P. Amer. Ac. xxx, pp. 200-216, pls. i & ii.
- CAULLERY, M. (1) Sur la dégénérescence des produits génitaux chez les Polyclinidés. C.R. Ac. Sci. cxviii, No. 12, pp. 666-668.
- . (2) Sur les Ascidies Composées du genre *Distaplia*. T. c. No. 11, pp. 598-600.
- . (3) Sur le bourgeonnement des *Diplosomidæ* et des *Didemnidæ*. *Op. cit.* cxix, pp. 437-439.
- GOTTSCHALDT, ROBT. Die Synascidien der Bremer Expedition nach Spitzbergen im Jahre 1889. Inaug. diss. Jena, 1894, pp. 1-29, taf. i & ii; also Jena. Zeitschr. xxviii, pp. 343-369.
- GARSTANG, W. (1) On some modifications of the Tunicate pharynx induced by the violent ejection of water. J. Oxford Univ. Club, Nov. 1894, 3 pp.
- . (2) Preliminary note on a new theory of the phylogeny of the *Chordata*. Zool. Anz. 444, pp. 122-125.
- *HEIDER, K. Beiträge zur Embryologie von *Salpa fusiformis*, Cuv. Abh. Senckenb. Ges. xviii Bd., 4 Ht., pp. 367-446, &c., 6 pls.
- HERDMAN, W. A. [Association of *Lamellaria* with *Leptoclinum*] in Seventh Annual Report of L. M. B. C., &c. Tr. Liverp. biol. Soc. viii, p. 34.
- HJORT, JOHAN. Beitrag zur Keimblätterlehre und Entwicklungsmechanik der Ascidiennospung. Anat. Anz. x, No. 7, pp. 215-229.
- KOROTNEFF, A. (1) Tunicatenstudien. Mt. Stat. Neapel, xi, iii, pp. 325-367, 3 pls.
- . (2) Embryonale Entwicklung der *Salpa democratica*. Biol. Centralbl. xiv, No. 23, pp. 841-846.
- LEFEVRE, G. The Vertebration of the tail of *Appendicularie*. Johns Hopkins Univ. Circ. xiii, No. 111, pp. 57 & 58, April, 1894.
- LOEB, JACQUES. On some facts and principles of physiol. morph. in Biol. lects. at Woods Holl, &c., p. 42. Boston: Ginn & Co., 1894.
- PIZON, ANT. Évolution des éléments sexuels chez les Ascidies Composées. C.R. Ac. Sci. cxix, No. 14, pp. 569-572.

- RANKIN, JAMES. On the supposed Vertebration of the tail in *Appendicularia*. Zool. Jahrb. Anat. viii, pp. 289-299, pl. i.
- RITTER, W. E. On a new *Balanoglossus* larva from the coast of California, and its possession of an endostyle. Zool. Anz. 438, pp. 24-30.
- SALENSKY, W. Beitr. z. entw. d. Synasc. I. Ueber d. Entw. v. *Diplosoma listeri*. Mt. Stat. Neapel, xi, iii, pp. 368-474, taf. iv.
- SAMASSA, PAUL. Zur Kenntniss der Furchung bei den Ascidien. Arch. mikr. Anat. xlv, 1 Heft, pp. 1-15, taf. ii.
- SCOTT, T. On occurrence of *Salpa* in Moray Frith. Ann. Scott. Nat. Hist. July, 1894, p. 183.
- SEELIGER, O. (1) Die Bedeutung der "Segmentation" des Ruderschwanzes der Appendicularien. Zool. Anz. xvii, No. 446, pp. 162-165.
- (2) *Tunicata*, in Bronn's Klassen und Ordnungen des Thierreichs. Bd. iii, Supp., Lief 2 & 3. Leipzig.
- TRAUSTEDT, M., & WELTNER, W. Bericht über die von Hrn. Dr. Sander gesammelten Tunicaten. Arch. Naturg. lx, i Bd., 1 Heft, pp: 10-13, taf. i.
- WILEY, A. (1) On the evolution of the præoral lobe. Anat. Anz. ix, pp. 329-332.
- (2) *Amphioxus* and the ancestry of the vertebrates. Columbia University Biological Series, ii. Macmillan, 1894.

II.—ANATOMY, EMBRYOLOGY, PHYSIOLOGY, AND GENERAL.

A.—GENERAL.

GARSTANG (1) considers that the possession of pharyngo-cloacal slits in Ascidians is due to the pressure of the water in the branchial sac, and that the modification of the branchial sac seen in *Salpa* is a case of the inheritance of an acquired character.

HERDMAN gives the details of the "mimicry" of *Leptoclinum maculatum* by *Lamellaria perspicua*, and describes the occurrence of *Polycarpa glomerata* and some other Ascidians at the South end of the Isle of Man.

RITTER describes a *Tornaria* which he found off the South coast of California, and which possesses a band of high epithelium extending along the floor of the œsophagus which may be considered functionally at least as an endostyle.

GARSTANG (2) follows up Ritter's paper by enunciating the view that the *Echinoderma*, the *Enteropneusta*, and the *Chordata* were derived from a common auricularia-like ancestor. The *Chordata* derived from this primitive form retained the bilateral symmetry. The circumoral

ciliated ridges of the two sides approximated dorsally and became the medullary folds. The ad-oral ciliated band became the peripharyngeal bands and the lateral ciliated bands of the endostyle in *Tunicata*.

SEELIGER (2) in his new "Bronn" continues the history of the *Tunicata*, and brings the account from the beginning of this century down to the present time. This is followed by a bibliography (not complete) of the group, and then the *Appendiculariida* are taken up for detailed treatment. In the present instalment we have merely the general structure of the Appendicularian body, and an account of the remarkable "Haus" or test. It is illustrated by 4 plates, and some cuts giving new figures of Appendicularian structure.

WILLEY, in his book on *Amphioxus* and the ancestry of the *Vertebrata*, gives a general account of the structure of the *Tunicata*, and institutes a comparison between *Amphioxus* and an Ascidian both adult and larval. He discusses the development of the Ascidian, the formation of the myelonic eye, which he considers as the homologue of the pineal eye of *Vertebrata*, the præoral lobe, the fixation of the larva, the metamorphosis, the change of axis, the formation of additional stigmata, and other adult characteristics. He inclines to the view that *Appendicularia* is not primitive, but has been secondarily adapted to a pelagic life. He later on compares the Ascidian larva and *Amphioxus* larvæ with *Balanoglossus*. He concludes that "the proximate ancestor of the Vertebrates was a free-swimming animal, intermediate in organisation between an Ascidian tadpole and *Amphioxus*, possessing the dorsal mouth, hypophysis, and restricted notochord of the former, and the myotomes, cœlomic epithelium, and straight alimentary canal of the latter. The ultimate or primordial ancestor of the Vertebrates would, on the contrary, be a worm-like animal whose organisation was approximately on a level with that of the bilateral ancestors of the Echinoderms."

B.—ANATOMY, &c.

SEELIGER discusses the supposed segmentation of the tail in the *Appendiculariida* (*Fritillaria furcata* and *Oikopleura cophocerca*). He says that each of the muscle-segments is really a large muscle cell, and that parallel lamellæ of fibrils extend along the inner side of the cells continuously the whole length of the tail. The ganglia in the tail do not correspond with the supposed segmentation.

LEFEVRE has, also, investigated the tail of some species of *Oikopleura* from the Gulf Stream. He considers that any interruption in the tail muscles is artificial, and does not represent a true metamerism. At most there is a tendency of the muscle fibres to break at definite intervals, which may be, perhaps, the first step towards vertebration.

RANKIN also treats of the same subject, and agrees with the previous investigators in regarding the "segmentation" as the result of artificial fractures.

CAULLERY (2), in investigating the degeneration in colonies of *Distaplia*, finds that in *D. magnilarva* the colonies are unisexual. He supports, in the main, Salensky's account of the process of degeneration by phagocytosis, but considers that the testa-cells are derived from the follicular epithelium.

CALMAN gives a description of the general anatomy of *Julinia australis*, proposed as a new genus of the *Distomida*.

APSTEIN, in his account of the *Salpa* of the Plankton Expedition, gives a description of the structure of a few of the less known forms, including *S. virgula*, *S. fusiformis* var. *echinata*, and *S. rostrata*, and the new species.

BORGERT gives an account of the general structure and of the life-history of *Doliolum* in his Plankton Expedition report.

C.—EMBRYOLOGY.

SAMASSA finds, in *Ciona* and *Clavellina*, just as Davidoff found in *Distaplia*, that the four dorsally placed blastomeres form the endoderm, and the four ventral the ectoderm.

WILEY in support of his view, that the anterior extremity of the Ascidian larva is a præoral lobe, suggests that in Protochordates and Vertebrates it has become completely freed from the nervous system, so that in Vertebrates the nervous elements of the invertebrate præoral lobe are completely wanting, while the mesoderm element has given rise to the pre-mandibular head cavities.

CAULLERY (1) supports Kowalevsky's view that in the *Polyclinida* the reproductive organs of the bud arise directly from those of the parent. He examined *Circinulum concrescens* and *Polyclinum luteum*, and found in the buds, in all cases, a continuous genital tube which could be traced to the genital epithelium of the parent.

PIZON finds practically the same continuity in the *Didemnida* and *Diplosomida*, and considers that the generalisation may be extended to all compound Ascidians.

CAULLERY (3) finds that in the *Diplosomida* the epicardial tubes persist in the adult and play a leading part in the formation of the buds. They chiefly form the thoracic and abdominal buds which fuse to constitute the new individual.

CASTLE has studied the early stages in the development of *Ciona intestinalis*, and he explains the fact that Seeliger's statements conflict with those of Van Beneden and Julin by declaring that he has detected fundamental errors in the work of each of these authors, Seeliger having reversed the anterior and posterior ends in all his figures of early stages, and Van Beneden and Julin having confused the dorsal and ventralsides. He also differs entirely from Samassa in regard to the cell-lineage. On correcting the orientation Castle finds that it is the four larger, not the four smaller cells, which give rise to the greater portion, perhaps all, of the ectoderm. He finds that the polar bodies form in what afterwards becomes the centre of the dorsal or endodermal half of the egg.

SAMASSA, like Castle, discusses the cell-lineage of the earliest stages of Ascidian embryology, and differs in his orientation from other authors, such as Van Beneden and Julin on the one hand and Seeliger on the other.

KOROTNEFF, in two important papers (1, 2), discusses various points in connection with *Salpa*, the structure of the stolon, the budding, and the development. He finds remarkable phagocytosis in the elæoblast and the placenta. He considers that kalimmocytes are not of so much importance as formative elements as was supposed. He finds that the blastomeres give rise to "histogens" which produce the tissues. As to the metagenesis he considers that there is a reproductive division of labour, the one generation (gonogen) simply producing germ cells, while the other (gonotroph) forms no germ plasm, and is simply a nurse.

SALENSKY gives a very complete account of the embryonic development and organogenesis of *Diplosoma*, including the formation of the paired ascidiozooids. He finds that the test is produced from kalimmocytes.

HJORT discusses the remarkable fact that in the Botryllidæ the bud is practically derived entirely from ectoderm. He now finds that in the Polycluid *Glossophorum* the bud is practically endodermal alone. He asks whether we are to suppose that these cells (ectodermal and endodermal) are in the young bud still undifferentiated into germ-layers.

D.—PHYSIOLOGY.

LOEB found, as the result of experiments, that incisions in living specimens of *Ciona intestinalis* resulted in the formation of eye-spots at both sides of the incision.

III.—GEOGRAPHICAL DISTRIBUTION.

Cape Town : TRAUSTEDT & WELTNER describe two new Cynthiidæ from Japan, and a new *Phallusia*.

Spitzbergen : GOTTSCHALDT records half-a-dozen new simple and compound Ascidiæ from this neighbourhood.

SCOTT has described the occurrence of the chain-form of *Salpa runcinata-fusiformis* in the Moray Firth last summer.

Antarctic Ocean : CALMAN records a new compound Ascidian.

APSTEIN'S report on the distribution of the *Salpæ* of the Plankton Expedition is supplementary to the report by Traustedt. He discusses fully the distribution, both horizontally and vertically, of the very rich material brought back by the Plankton Expedition, and also that previously published from the "Challenger," and other expeditions; and also describes two new species that had been missed by Traustedt. Most species of *Salpa* seem to be cosmopolitan. The only regions that can be recognised in the Atlantic from the occurrence of *Salpæ*, are the cold north and the warmer part. *Salpæ* are to be regarded as a typical high sea group, which is found everywhere in warmer waters. Moreover

they are surface animals, and are only very exceptionally found in depths under 400 m.

BORGERT has also a supplementary report on the distribution of the *Doliolidae* of the Plankton Expedition, in which he disagrees with Traustedt as to the identification of some of the species, and discusses fully the synonymy of the species and their horizontal, vertical, and seasonal distribution.

IV.—SYSTEMATIC.

ARSTEIN (1) reports that the *Salpæ* in the Berlin Museum represent 12 species and 2 varieties, none of which are new. He considers, from his examination of a large number (about 850) of specimens, that *S. bicaudata*, Q. & G., ought to come under *S. scutigera-confederata*, and that *S. quadrata*, Herdm., is probably its solitary form, that Herdman's *S. runcinata-fusifformis* var. *echinata* is *S. aspera*, Cham., that the solitary form of *S. africana-maxima* is Meyen's *S. antarctica*, and that possibly *S. cærulea*, Q. & G., is *S. cylindrica*, Cuv.

SEELIGER (2) in his history of the *Tunicata* gives the various more important classifications which have been proposed, and discusses the more recent, such as those of Herdman and Lahille.

BORGERT gives a systematic account of the *Doliolidae*.

ASCIDIACEA.

ASCIDIÆ SIMPLICES.

Fam. CYNTHIIDÆ.

Cynthia sanderi, n. sp., TRAUSTEDT & WELTNER.

Styela longitubis, n. sp., TRAUSTEDT & WELTNER.

Fam. ASCIDIIDÆ.

Phallusia princeps, n. sp., TRAUSTEDT & WELTNER.

ASCIDIÆ COMPOSITÆ.

Fam. DISTOMIDÆ.

Julinia, n. g., CALMAN, p. 13.

J. australis, n. sp., CALMAN, p. 14.

Colella kükenthali, n. sp., GOTTSCHALDT, p. 23.

Fam. BOTRYLLIDÆ.

Botrylloides rugosum, n. sp., GOTTSCHALDT, p. 4.

Fam. POLYCLINOPSIDÆ.

Polyclinopsis, n. g.; GOTTSCHALDT, p. 17. (This is described as an isolated genus not falling into any of the hitherto known families.)

A new family, *Polyclinopsidæ*, is mentioned but not defined.)

P. haeckeli, n. sp., GOTTSCHALDT, p. 13.

Fam. DIDEMNIDÆ.

Leptoclinum structum, n. sp., GOTTSCHALDT, p. 17.

Fam. POLYSTYELIDÆ.

Goodsiria borealis, n. sp., GOTTSCHALDT, p. 21.

THALIACEA.

Fam. SALPIDÆ.

Salpa floridana, n. sp., APSTEIN, p. 9.

S. verrucosa, n. sp., APSTEIN, p. 12.

S. magalhanica, n. sp., APSTEIN, p. 20.

Fam. DOLIOLIDÆ.

BORGERT proposes to break up the genus *Doliolum* into the following two subgenera :—

Doliolina, n. subg., BORGERT, p. 14.

Dolioletta, n. subg., BORGERT, p. 19.

VII. MOLLUSCA.

BY

B. B. WOODWARD, F.L.S., F.G.S., ETC.

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THE same course has been followed with regard to Palæontological papers as in previous years, viz., new generic and sectional names have been recorded in the Systematic part, but new species have not always been noted. References to all important Palæontological papers will be found under the heading "Geological," in Sect. III.

I.—TITLES.*

1. ABERCROMBIE, A. The Common Marine Shells of the Bombay shore. J. Bombay Soc. viii, pp. 212-222 & 335-345.
2. ADAMS, L. E. *Hydrobia (Paludestrina) jenkinsi* at Lewes. J. Conch. vii, p. 390.

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

3. ALDRICH, T. H. New Tertiary fossils from Red Bluff, Mississippi. *Nautilus*, vii, pp. 97-99, 1 pl.
4. AMALITZKI, V. P. O priesnovodnuikh plastinchatozhabernuikh iz Kamennoughol'nuikh otlozhenii Donetzkagho basseina. [Fresh-water Pelecypoda from the Carboniferous beds of the basin of the Donetz.] *Trudui Obshch. Varshav.*, Ann. v, Sect. Biol. pp. 4-8, 1 pl.; also in *ibid.*, Sect. Phys. and Chimie, same pages.
5. ANCEY, C. F. Résultat des recherches malacologiques de Mgr. Lechaptois sur les bords du Lac Nyassa et de la rivière Shiré. *Mem. Soc. zool. France*, vii, pp. 217-234, figg.
6. —. Sur quelques espèces de Mollusques et sur un genre nouveau du Lac Tanganika. *Bull. Soc. zool. France*, xix, pp. 28 & 29.
7. —. Sur quelques coquilles du Kilimandjaro. *Naturaliste*, 1894, p. 283.
8. ANDRÉ, E. Recherches sur la glande pédiéuse des Pulmonés. *Rev. Suisse Zool.* ii, pp. 291-348, 2 pls. Abstr. in *J. R. Micr. Soc.* 1895, p. 44.
9. APPELLÖF, A. Die Schalen von *Sepia*, *Spirula*, and *Nautilus*. Studien über den Bau und das Wachsthum. *Svenska Ak. Handl.* xxv, No. 7, 105 pp., 12 pls. Abstr. in *J. R. Micr. Soc.* 1894, pp. 553 & 554.
10. BABOR, J. F. Note on *Arion citrinus*, Westerlund. *J. Malac.* iii, pp. 45-47, 1 pl.
11. —. Ueber den cyclus der Geschlechtsentwicklung der Stylomatophoren. *Verh. deutsch. Zool. Ges.* pp. 55-61, figg.
12. —. Doplňky k známostem o Českých Slimácích. [On some Bohemian Slugs.] *SB. Bohmisch. Ges.* 1894, No. xlv, 22 pp., 2 pls. Advance copy.
13. BABOR, J. F., & KOŠTÁL, J. Note sur une espèce nouvelle d'*Arion* [*A. vejdvovskyi*]. *SB. Bohmisch. Ges.* 1893 (1894), No. 3, 4 pp., 1 pl.
14. — & —. Příspěvky ku poznání poměrů pohlavních u Některých Limacidař. *T. c.* No. li, 7 pp., 1 pl.
Apparently on the genitalia of some *Limacida*.
15. — & —. O nové České Campylaei. [On a new Bohemian *Campylaea*—*Helix ichthyomma*.] *T. c.* No. xxxv, 10 pp., 1 pl.
All three advance copies.
16. BACHMANN, O., & GREDLER, V. Zur Conchylienfauna von China. *Ann. Hofmus. Wien.* ix, pp. 415-429, figg.
The descriptions of the new species are by GREDLER.
17. BAKER, F. C. Further notes on the Embryonic Whorls of the *Muricida*. *P. Ac. Philad.* 1894, pp. 223 & 224, figg.

18. BATHER, F. A. Cephalopod beginnings. Nat. Sci. v, pp. 422-436, figg.
 See also CLARKE (53), on whose paper this is founded.
 BEDDOME, R. [See GODWIN-AUSTEN & BEDDOME (128).]
19. BEDNALL, W. T. On a new Land Shell [*Hadra adcockiana*] from Central Australia. Tr. R. Soc. S. Austral. xviii, p. 190, figg.
20. BERGH, R. Reports on the dredging operations off the West [East] coast of Central America to the Galapagos . . . and in the Gulf of California . . . XIII. Die Opisthobranchien. Bull. Mus. Harvard, xxv, pp. 123-233, 12 pls.
 Including 1 new species from Alaska, 2 from the E. coast of America, and 4 species marked new, which were described last year.
21. —. Eine neue Gattung von Polyceraden (*Greilada*). Arch. Naturg. lx, pp. 1-6, 1 pl.
22. BIGOT, A. Revue des Pélécy-podes décrits par DeFrance dans le Dictionnaire des Sciences naturelles, d'après les types conservés dans la collection de cet auteur—Genre *Gryphée*. Bull. Lab. Geol. Caen, i (1891), pp. 76-86 & 131-133, 1 pl.
23. BITTNER, A. Zur Kenntniss der Nuculiden und Arciden der Fauna von Sct. Cassian. Verh. geol. Reichsanst. 1894, pp. 186-191.
24. BËTTGER, O. Die Binnenschnecken der griechischen Inseln Cerigo und Cerigotto. Nachrbl. deutsch. malak. Ges. 1894, pp. 1-12.
25. —. Ein neuer *Amphidromus* [*A. martensi*] aus Borneo. T. c. pp. 66 & 67.
26. —. H. A. Pilsbry und die Verwandtschaftsbeziehungen der Helices im Tertiär Europas. T. c. pp. 107-112.
27. BËTTGER, O., & SCHMACKER, B. Descriptions of new Chinese *Clausilia*. P. Malac. Soc. London, i, pp. 100-117, 2 pls.
 — & —. [See also SCHMACKER & BËTTGER (330).]
28. BOWELL, E. W. W. Distribution of extra-Marine *Mollusca*. J. Oxford Univ. Club, i, pp. 192-194.
29. BRAZIER, J. On a new *Murex* [*M. polypleurus*] from South Australia. P. Linn. Soc. N. S. Wales, viii, pp. 179 & 180, figg.
30. —. Distribution of little-known *Mollusca* from Polynesia and Australia, with their synonyms. T. c. pp. 430-435.
31. —. On a *Patella* said to have been found on the Kermadec Islands. Op. cit. ix, pp. 183 & 184.
 [Cf. PILSBRY (287, 288), and TAYLOR (410).]
 —. [See also HENN (161).]

32. BRONN'S Klassen und Ordnungen des Thier-Reichs . . . ; Bd. III. *Mollusca* . . . Bearbeitet von H. SIMROTH. Lief. 10-17 [*Polyplacophora* completed—Part of *Scaphopoda*], pp. 241-400, pls. ix-xvii.
33. BROU, A. On some new species of *Melania* from Palawan and the neighbourhood. P. Malac. Soc. London, i, pp. 175-177, figg.
— . [See also MARTENS (217).]
34. BRUSINA, S. Frammenti di Malacologia terziaria Serba. Ann. Geol. Balkan, iv, pp. 25-74, 1 pl.
- 34A. — . Note préliminaire sur le groupe des *Aphanotylus*, etc. Glasnik Naravosl. druzt. vi, pp. 241-248.
A reprint of paper in J. Conchyl. See Zool. Rec. 1893, *Moll.* p. 4, No. 48.
35. BUCKMAN, S. S. A Monograph on the Inferior Oolite Ammonites of the British Islands. (Pal. Soc. Mon.) Pt. ix, pp. 377-456, pls. xciii-ciii. [*Sominia*.]
36. — . Jurassic Ammonites : Notes on a pamphlet by Dr. E. Haug. Geol. Mag. 1894, pp. 170-172.
For Haug's paper see Zool. Rec. xxx, *Moll.* p. 11.
37. — . Notes on a pamphlet by Prof. G. Bonarelli. *T. c.* pp. 298-300.
For Bonarelli's paper see under III. DISTRIBUTION, Geological, No. 3.
38. — . On the genus *Cymbites* (Neumayr). *T. c.* pp. 357-363. [With a few notes on *Agassicerus*.]
39. BUKOWSKI, G. VON. Die Levantinische Mollusken-fauna der Insel Rhodus. Thl. I. Denk. Ak. Wien, lx, pp. 265-306, 6 pls.
Preliminary note in Anz. Ak. Wien, 1892, pp. 247-250.
40. CALL, R. E. On the geographic and hypsometric distribution of North American *Viviparidae*. Amer. J. Sci. xlviii, pp. 132-141, 1 map.
41. — . A contribution to a knowledge of Indiana *Mollusca*. P. Indiana Ac. iii, pp. 140-156.
42. CARRINGTON, J. T. Hibernation of *Helix pomatia*. Sci. Gossip, 1894, p. 50.
43. — . Four abnormal shells. *T. c.* p. 64, figg.
44. *CARUANA-GATTO, A. The Slugs of the Maltese Islands. Malta : 1893, 8vo, 12 pp., figg.
45. CATTANEO, G. Gli amebociti dei Cefalopodi e loro confronto con quelli d'altri invertebrati. Atti Univ. Genova [xi], 1892, pp. 1-50, 4 pls.
46. CAZIOT, — . Catalogue des Mollusques vivants des environs d'Avignon [conclusion]. Mem. Ac. Vaucluse, xiii, pp. 25-62.
47. CHAILLOU, F. Note sur les mœurs des Testacelles. Bull. Soc. Ouest France, iii, 1893, pp. 95-99.

48. CHAPER, —. Note sur quelques *Unionidæ* de Grèce. Mem. Soc. zool. France, vii, pp. 372-374, 2 pls.
Description of *Unio pamisinus*, by DROUET.
49. CHASTER, G. W., & HEATHCOTE, W. H. A contribution towards a list of the Marine *Mollusca* . . . of the neighbourhood of Oban. J. Conch. vii, pp. 289-312.
50. CHATIN, A., & MUNTZ, A. Étude chimique sur la nature et les causes du verdissement des Huîtres. C.R. Ac. Sci. cxviii, pp. 17-23.
51. —. Conclusions relatives au parage des claires et aux causes du verdissement des Huîtres. T. c. pp. 56-58.
52. CHATIN, J. Contributions à l'étude de la cellule conjonctive chez les Mollusques gastéropodes. C.R. Ac. Sci. cxix, pp. 922-924. Abstr. in J. R. Micr. Sci. 1895, p. 167.
53. CLARKE, J. M. *Nanno*, a new cephalopodau type. Amer. Geol. xiv, pp. 205-208, 1 pl.
Review by Crick, Geol. Mag. 1894, p. 561. Cf. BATHER (18).
54. CLESSIN, S. Beschreibung neuer Arten aus der Umgebung des Issykkul-See's. Nachrbl. deutsch. malak. Ges. 1894, pp. 64-66.
55. COCKERELL, T. D. A. [Additions and amendments to Cockerell's Slug List. (Zool. Rec. xxx, *Moll.* p. 6, No. 66).] J. Malac. iii, pp. 6, 7 & 30-34. Cf. SYKES (399).
56. —. A list of the . . . *Pelecypoda*, *Pteropoda*, and *Nudibranchiata* of Jamaica, living and fossil. Nautilus, vii, pp. 103-107 & 113-118.
57. —. The Virginia Colony of *Helix nemoralis*. Nautilus, viii, pp. 92-95.
58. —. The band-variation of *Helix nemoralis* and *H. hortensis* in the British Isles. Brit. Natural. 1894, pp. 155-157.
— [See also HEDLEY (145).]
59. COCKERELL, T. D. A., & LARKIN, R. R. On the Jamaican species of *Veronicella*. J. Malac. iii, pp. 23-30.
60. COLLINGE, W. E. Description of a new species of Slug of the genus *Janella* [*J. maculata*]. P. Zool. Soc. London, 1894, pp. 526-530, figg.
61. —. The myology of some Pulmonate *Mollusca* considered as a distinctive feature in the discrimination of genera, &c. P. Malac. Soc. London, i, pp. 52-54.
62. —. Notes on *Veronicella birmanica*, Theobald. J. Malac. iii, pp. 1-3.
63. —. On the validity of *Arion occidentalis*, Ckll., a supposed new species. T. c. pp. 5 & 6.
64. —. Note on a species of *Limax* [*L. hedleyi*, description deferred] from Ireland. T. c. pp. 51 & 52.

65. [COLLINGS, W. E.] On the generative anatomy of *Amalia marginata*, Drap., and some remarks upon the genus. *J. Malac.* iii, pp. 70-73, fig.
66. —. The anatomy and description of a new species of *Arion* [*A. elongatus*]. *Ann. Nat. Hist.* xiii, pp. 66 & 67, 1 pl.
67. COOKE, A. H. On a suggested case of mimicry in the *Mollusca*. *P. Cambridge Soc.* viii, p. 141.
68. COOPER, J. G. On Land and Freshwater *Mollusca* of Lower California. *P. Calif. Ac.* iv, pp. 130-143, 1½ pls.
69. —. On some Pliocene Freshwater Fossils of California. *T. c.* pp. 166-172.
70. COSSMANN, M. Révision sommaire de la faune du terrain oligocène marin aux environs d'Étampes [continuation]. *J. Conchyl.* xli, pp. 297-363, 1 pl.
71. COUTAGNE, G. Les Cyclostomes de la Faune Française. *Feuille Natural.* xxiv, pp. 170-172.
72. COX, J. C. Notes on the occurrence of a species of *Plecotrema* [*P. octanfracta*] and of other species of *Mollusca* in Port Jackson. *P. Linn. Soc. N. S. Wales*, viii, pp. 422-429, fig.
73. CRAMPTON, H. E. Reversal of Cleavage in a Sinistral Gasteropod. *Ann. N. York Ac.* viii, pp. 167-170, 1 pl. *Abstr. in J. R. Micr. Soc.* 1894, pp. 669 & 670.
74. CRICK, G. C. On a collection of Jurassic Cephalopoda from Western Australia. *Geol. Mag.* 1894, pp. 385-393 & 433-441, 2 pls.
— [See also CLARKE (53), & FOORD & CRICK (111, 112).]
75. CROSSE, H. Note préliminaire sur la faune malacologique terrestre et fluviatile de la Nouvelle Zélande et sur ses affinités. *J. Conchyl.* xli, pp. 209-219.
76. CROSSE, H., & FISCHER, P. Diagnoses molluscorum novorum, reipublicæ Mexicanæ incolarum. *T. c.* pp. 293-297.
— [See also FISCHER & CROSSE (109).]
77. CROWTHER, H. Biology [or rather, bionomics] of *Sphaerium corneum*. *Op. cit.* vii, pp. 417-421.
78. CUÉNOT, L. Sur la fonctionnement du rein des *Helix*. *C.R. Ac. Sci.* cxix, pp. 539 & 540.
79. DALL, W. H. Monograph of the genus *Gnathodon*, Gray (*Rangia*, Desmoulins). *P. U. S. Mus.* xvi, pp. 89-106, 1 pl.
80. —. Cruise of the steam yacht "Wild Duck" in the Bahamas . . . 1893 . . . II. Notes on the shells collected. *Bull. Mus. Harvard*, xxv, pp. 113-124, 1 pl.
81. —. On the species of *Mactra* from California. *Nautilus*, vii, pp. 136-138, 1 pl.

82. [DALL, W. H.] On some species of *Mulinia* from the Pacific Coast. *Nautilus*, viii, pp. 5 & 6, 1 pl.
83. —. Synopsis of the *Mastridae* of North America. [I. Eastern coast of the United States.] *T. c.* pp. 25-28.
84. —. Synopsis of the *Mastridae* of North-west America, south to Panama. *T. c.* pp. 39-43.
85. —. Description of a new species of *Doridium* [*D. adellæ*] from Puget Sound. *T. c.* p. 73.
86. —. A new *Chiton* from California. *T. c.* pp. 90 & 91.
87. —. The mechanical cause of folds in the aperture of the shell of Gasteropoda. *Amer. Natural.* 1894, pp. 909-914, figg.
Adapted from Tr. Wagner. *Inst.* iii, 1890, p. 58. *Abstr. in J. R. Micr. Soc.* 1895, p. 167, and *Nat. Sci.* vi, p. 16.
- 87A. DANIEL, A. T. Slugs and Snails. *Rep. North Staffordsh. Club;* xxviii, pp. 90-93.
A popular paper.
- 87B. —. Discovery of *Hydrobia jenkinsi* in Staffordshire. *T. c.* p. 94.
88. DANIEL, F. E. Slugs, Snails, and their Shells. *Rep. Barrow Club,* ix, pp. 56-58.
An abstract of a popular lecture.
89. DAUTZENBERG, P. Mollusques marins de Saint-Jean-de-Luz. *Mem. Soc. zool. France*, vii, pp. 235 & 236.
90. —. Description d'un Hélicéen nouveau [*Helix renati*] provenant de la côte occidentale du Maroc. *Op. cit.* xix, pp. 17 & 18, figg.
91. —. Liste des Mollusques terrestres et fluviatiles recueillis par M. T. Barrois en Palestine et en Syrie. *Rev. biol. Nord France*, vi, pp. 329-353, figg.; also separately, 25 pp.
92. —. Mollusques recueillis à Saint-Jean-de-Luz et à Guétharry. *Feuille Natural.* xxv, pp. 27-30.
93. DAWSON, SIR J. W. Note on the genus *Naiadites*, as occurring in the Coal-formation of Nova Scotia . . . With an appendix by W. Hind. *Quart. J. Geol. Soc.* i, pp. 435-442, 1 pl.
94. —. Notes on the Bivalve Shells of the Coal-formation of Nova Scotia. (Appendix.) *Canad. Rec.* vi, pp. 117-134 & 167, figg.
95. DOUVILLÉ, —. Études sur les Rudistes.—Révision des principales espèces d'*Hippurites* [concluded]. *Mem. Soc. geol. France*, Pal. iv, pp. 95-135, 5 pls.
96. DROUET, H. *Unionidae* de l'Espagne. *Mem. Ac. Dijon*, iv, pp. 142-227, 2 doub. pls.
— [Sée also CHAPER (48).]

97. DUMAS, L'ABBÉ. Conchyliologie Bourbonnaise. Les Mollusques de l'Allier, 40 pp., 7 pls. [Issued as a supplement to the Rev. Sci. Bourbonnais.]
98. DUPUY, G. *Diomphalus* de la Nouvelle Calédonie. Feuille Natural. xxiv, pp. 137-139, figg.
99. ENGEL, —. Ueber Kranke Ammoniten-formen in schwäbischen Jura. Acta Ac. German. lxi, pp. 327-384, 3 pls.
100. ERLANGER, R. VON. Zur Bildung des Mesoderms bei der *Paludina vivipara*. Morphol. Jahrb. xxi, pp. 113-118, 1 pl.
101. ——. Bemerkungen zur Embryologie der Gasteropoden, ii. Biol. Centralbl. xiv, pp. 491-494.
102. ETHERIDGE, R. [JUN.]. On the occurrence of a *Pteronites* (*P. pittmani*, n. sp.) in the Spirifer Sandstone of Warrawang, or Mt. Lambie, near Rydal. Rec. Geol. Survey N. S. Wales, iv, pp. 28 & 29, 1 pl.
103. FAGOT, P. Faune malacologique terrestre, des eaux douces et saumâtres de l'Aude. Pt. I. Bull. Soc. Aude, v, pp. 166-175.
104. FARRER, W. J. The *Mollusca* of the Lake District. Sci. Gossip, 1894, pp. 58-60.
105. FAUSSEK, V. Ueber den sogenannten "Weissen Körper" so wie über die embryonale Entwicklung desselben, der Cerebralganglien und des Knorpels bei Cephalopoden. Mem. Ac. St. Petersb. xli, No. 9, 27 pp., 3 pls.
106. FERRANT, V. *Xerophila striata*, Müller, und *Xerophila candidula*, Studer. Fauna, 1891, p. 44.
107. ——. Beiträge zur Molluskenfauna des Grossherzogthums Luxemburg. T. c. pp. 58-63; *op. cit.* 1892, pp. 5-8 & 21-26.
108. FISCHER, H. Note sur le bras hectocotylisé de l'*Octopus vulgaris*, Lamk. J. Conchyl. xlii, pp. 13-19, fig.
FISCHER, P. [See CROSSE & FISCHER (76) and FISCHER & CROSSE (109).]
109. FISCHER, P., & CROSSE, H. Études sur les Mollusques terrestres et fluviatiles. Miss. Scient. Mexique et Amer. Cent. pt. VII, tom. ii, pp. 489-656, pls. lix-lxvi.
110. FLECK, E. Notiz zu *Helix* (*Dorcasia*) *alexandri*, Gray. Ber. Senckenberg. Ges. 1894, pp. 94 & 95, fig.
111. FOORD, A. H., & CRICK, G. C. On the identity of *Ellipsolites compressus*, J. Sowerby, with *Ammonites henslowi*, J. Sowerby. Geol. Mag. 1894, pp. 11-17, 1 pl.
The name by which these two forms will in future be known is *Prolecanites compressus*.
112. — & —. On *Temnocheilus coronatus*, McCoy, from the Carboniferous Limestone of Strebden Hill, near Cracoe, Yorkshire. Geol. Mag. 1894, pp. 295-298, figg.

113. FRENZEL, J. Mikrographie der Mitteldarmdrüse (Leber) der Mollusken. Thl. II, Hft. 1. Specielle Morphologie des Drüsenepithels der Lamellibranchiaten, Prosobranchiaten und Opisthobranchiaten. Acta Ac. German. lx, pp. 321-404, 4 pls.
- 113A. FRITZE, A. Die Fauna der Liu-Kiu Insel, Okinawa. Zool. Jahrb. Syst. vii, *Moll.* p. 867.
114. FUCINI, A. Nuovi fossili della Oolite inferiore del Capo S. Vigilio sul Lago di Garda. Bull. Soc. malac. Ital. xviii, pp. 118-137, 1 pl.
115. FUTTERER, K. Beiträge zur Kenntniss des Jura in Ost-Afrika. Zeitschr. deutsch. geol. Ges. xlvi, pp. 1-49, 6 pls.
116. GARDNER, A. H. Rémarks on *Astyris gouldiana*. Nautilus, vii, pp. 141 & 142.
117. —. *Polygyra (Stenotrema) hirsuta* on Long Island. *Op. cit.* viii, pp. 75-78.
118. GÄLLENSTEIN, T. VON. Studien aus der Najadenfauna des Isonzgebietes. Görz: 1894, 8vo, 49 pp.
119. GEYER, —. Ueber die Verbreitung der Mollusken in Württemberg. Jahresh. Ver. Württemb. I, pp. 66-141.
120. GIARD, A. Sur une affection parasitaire de l'huître (*Ostrea edulis*, L.) connue sous le nom de *maladie du pied*. C.R. Soc. Biol. 1894, pp. 401-403.
121. GILCHRIST, J. D. F. Beiträge zur Kenntnis der Anordnung Correlation und Funktion der Mantelorgane der Tectibranchiata. Jena. Zeitschr. xxviii, pp. 408-459, figg. Abstr. in J. R. Micr. Sci. 1894, p. 669.
122. GIRARD, A. A. Les Céphalopodes des îles Açores et de l'île de Madère. J. Sci. Lisb. ii, pp. 210-220.
123. —. Description de deux *Ennea* nouveaux de l'île Fernando Pó. *T. c.* pp. 242-244.
124. —. Note sur le *Cœlixaxis layardi*. *T. c.* pp. 245-247, figg.
125. —. Révision de la Faune malacologique des îles St. Thomé et du Prince. *Op. cit.* iii, pp. 28-42 & 95-114, 1 pl.
126. —. Mollusques terrestres et fluviatiles de l'île d'Anno-Bom (Golfe de Guinée). *T. c.* pp. 198-208.
127. GIROD, P. Observations physiologiques sur le rein de l'Escargot (*Helix pomatia*, L.). C.R. Ac. Sci. cxviii, pp. 294-296.
128. GODWIN-AUSTEN, H. H., & BEDDOME, R. New species of *Cyclophorus* and a *Spiraculum* from the Khasi and Naga Hills, Assam. Ann. Nat. Hist. xiii, pp. 506-509.
129. GOLDFUSS, O. Beiträge zur Molluskenfauna der Mansfelder Seen und deren nächster Umgebung. Nachrbt. deutsch. malak. Ges. 1894, pp. 43-64.

130. GRECO, B. Il Lias Inferiore nel circondario di Rossano Calabro. *Atti Soc. Toscana*, xiii [*Moll.*] pp. 128-171, 2 pls.
131. *GREDLER, V. Neues Verzeichniss der Conchylien von Tirol und Vorarlberg, mit Anmerkungen. Bozen : 1894, 8vo, 35 pp.
— . [See also BACHMANN & GREDLER (16).]
132. GROBBEN, K. Zur Kenntniss der Morphologie, der Verwandtschaftsverhältnisse und des Systems der Mollusken. *SB. Ak. Wien*, ciii, Abth. i, pp. 61-86.
133. *GROSSOUVRE, A. DE. Les Ammonites de la Craie supérieure de la France. Paris : Mem. Explic. Carte geol. det. 1894, 4to, 286 pp., 39 pls., text figg.
134. GUDE, G. K. Oviposition of some Helices. *Sci. Gossip*, 1894, p. 11.
135. GUPPY, R. J. L. Notes on the *Molluska* [sic] used as food in Trinidad. *Proc. Vict. Inst. Trinidad*, i, pp. 27-31.
GURLEY, W. F. E. [See MILLER & GURLEY (236).]
136. HALLER, B. Studien über Docoglosse und Rhipidoglosse Prosobranchier nebst Bemerkungen über die phyletischen Beziehungen der Mollusken Untereinander. Leipzig : 4to, 173 pp., 12 pls., text figg. Abstr. in *Nat. Sci.* v, p. 304.
137. — . Beiträge zur Kenntniss der Placophoren. *Morphol. Jahrb.* xxi, pp. 28-39, 1 pl.
For review, see SIMROTH (347).
138. — . Betrachtungen über die Nieren von *Oncidium celticum*, Cuvier. *Verh. Ver. Heidelb.* v, pp. 301-310.
139. HAMONVILLE, BARON D'. Les Moules perlières de Billiers. *Bull. Soc. zool. France*, xix, pp. 140-142, map.
140. HANHAM, A. W. Brief Notes on the Land and Freshwater Shells of this district, &c. *J. Hamilton Assoc.* v (1889) pp. 80-91.
141. — . List of the Land and Freshwater Shells of the Hamilton district to the end of . . . 1889. *Op. cit.* vi (1890) pp. 111-120.
142. HARRIS, G. F. On the discovery of a Pteropod in British Eocene Strata, with the description of a new species. *P. Malac. Soc. London*, i, pp. 61-62, figg.
— . [See also NEWTON & HARRIS (250-252).]
143. HAUG, E. Les Ammonites du Permien et du Trias. Remarques sur leur classification. *Bull. Soc. geol. France*, xxii, pp. 385-412.
— . [See also BUCKMAN (36).]
HEATHCOTE, W. H. [See CHASTER & HEATHCOTE (49).]
144. HEDLEY, C. On the Value of *Ancylastrum*. *P. Malac. Soc. London*, i, p. 118.

145. [HEDLEY, C.] Additions and amendments to the Slug list [COCKE-RELL, Zool. Rec. xxx, *Moll.*, p. 6, No. 66]. *J. Malac.* iii, pp. 6, 7 & 30-32.
146. —. Note on the relation of the Land-Mollusca of Tasmania and of New Zealand. *Ann. Nat. Hist.* xiii, pp. 442 & 443.
147. —. Description of *Cæcum amputatum*, an undescribed Mollusc from Sydney Harbour. *P. Linn. Soc. N. S. Wales*, viii, p. 504, fig.
148. —. On the Australasian *Gundlachia*. *T. c.* pp. 505-514, 1 pl.
149. —. Description of *Calliostoma purpureocinctum*, a new Marine Australian Shell. *Op. cit.* ix, pp. 35 & 36, fig.
150. —. [Note on the destruction of young Oysters by *Ricinula marginatâ*, Blainv.]. *T. c.* p. 185.
151. —. On some naked Australian Marine Mollusca. Pt. I. [*Oscanius hilli*, n. sp.]. *T. c.* pp. 126-128, 1 pl.
152. —. The Land Molluscan Fauna of British New Guinea (Second Supplement, &c.). *T. c.* pp. 384-392, 2 pls.
153. —. [Shells from Northern Queensland. Appendix to paper by Le Souëf.] *Victorian Natural.* xi, pp. 30 & 31, figg.
154. —. A new *Papuina* [*P. cerea*]. *Nautilus*, vii, p. 136, fig.
155. —. A shell hunt forty feet under the sea. *Op. cit.* viii, pp. 85-88
— [See also SUTER (389 & 393).]
156. HEINCKE, F. Die Mollusken Helgolands. *Ber. Komm. deutsch. Meere*, N.F. i, pp. 121-153.
157. HEMPHILL, H. A new species of *Bulimulus* [*Eulimella occidentalis*]. *Zoe*, iv, pp. 395 & 396.
158. HENDERSON, J. B. List of [non-marine] Shells collected in Jamaica. *Nautilus*, viii, pp. 1-5, 19-24, & 31-33.
159. HENKING, H. Ueber die Ernährung von *Glandina algira*, L. *Zool. Jahrb. Syst.* viii, pp. 85-90, figg.
160. —. Beiträge zur Kenntniss von *Hydrobia ulva*, Penn., und deren Brutpflege. *Ber. Ges. Freiburg.* viii, pp. 89-110, 1 pl.
161. HENN, A. U. List of Mollusca found at Green Point, Watson's Bay, Sydney. . . With a few remarks upon some of the most interesting species and descriptions of the new species by J. Brazier. *P. Linn. Soc. N. S. Wales*, ix, pp. 165-182, 1 pl.
162. HERDMAN, W. A. Report upon the Methods of Oyster and Mussel Culture in use on the West Coast of France. *P. Liverp. biol. Soc.* viii, pp. 97-134, 3 pls.
163. HIND, W. A monograph on *Carbonicola*, *Anthracomya*, and *Natadites*. (Pal. Soc. Mon.) Pt. I, *Carbonicola*, 80 pp., 11 pls.

- 163A. [HIND, W.] Additions to the Palæontology of North Staffordshire. Rep. North Staffordsh. Club, xxvii (1893) pp. 108-115, 4 pls.
Coalmeasure *Mollusca*. Plates are from Quart J. Geol. Soc. xlix.
— [See also DAWSON (93).]
164. HORST, R., & SCHEFMAN, M. M. Catalogue systématique des Mollusques. Pt. I. Rev. Mus. Pays-bas, xiii, pp. 1-176.
165. HOYLE, W. E. On the luminous organs of *Cephalopoda*. Rep. Brit. Ass. 1893 (1894), pp. 802 & 803.
166. HUDLESTON, W. H. A monograph of the British Jurassic *Gastropoda*. (Pal. Soc. Mon.) No. 7, pp. 325-390, pls. xxvii-xxxii.
- 166A. HYATT, A. Phylogeny of an acquired characteristic [in the shells of *Cephalopoda*, and chiefly the *Nautiloidea*]. P. Amer. Phil. Soc. xxxii, 1894 [1895], pp. 349-647, 16 pls., figg. Abstr. in Amer. Natural. 1893, pp. 865-877, 1 pl., figg.
167. JAHN, J. J. *Duslia*, eine neue Chitonidengattung aus dem Böhmischem Untersilur, nebst einigen Bemerkungen über die Gattung *Triopus*, Barr. SB. Ak. Wien, cii, Abth. i, pp. 591-603, 1 pl.
168. JHERING, H. VON. Ueber Binnen-Conchylien der Küstenzone von Rio Grande do Sul. Arch. Naturg. lx, pp. 37-40.
169. —. Die Süßwasser-Bivalven Japans. Abh. Senckenb. Ges. xviii, pp. 145-166, 1 pl.
170. JOUBIN, L. Note préliminaire sur les céphalopodes provenant des campagnes du yacht l'Hirondelle. Mem. Soc. zool. France, vii, pp. 211-216.
171. —. Note sur les Céphalopodes recueillis dans l'estomac d'un Dauphin de la Méditerranée. Bull. Soc. zool. France, xix, pp. 61-68, fig.
172. —. Sur la répartition des Céphalopodes sur les côtes de France. C.R. Ass. France, 1893 (1894), ii, pp. 628-632.
173. —. Céphalopodes d'Amboine. Rev. Suisse Zool. ii, pp. 23-64, 4 pls.
174. —. Notice sur la récolte et la préparation des Céphalopodes. Bull. Soc. Ouest France, iii, 1893, pp. 63-66.
175. JOUSSEAUME, F. Mollusques recueillis à Ceylan par M. E. Simon, et revision générale des espèces terrestres et fluviolacustres de cette île. Mem. Soc. zool. France, vii, pp. 264-330, 1 pl.
Contains some strange notions of classification.
176. —. Diagnose des coquilles de nouveaux Mollusques. Bull. Soc. Philom. vi, pp. 98-105.

It is difficult to treat this paper seriously, or to understand how a Society of repute could have been induced to publish such a communication from an author who has done some good work. To name a shell "*Extra extra*" is trifling with his fellow-workers. The new genera are imperfectly defined.

177. [JOUSSEAUME, F.] Descriptions de Mollusques nouveaux. Naturaliste, 1894, pp. 131 & 132, fig.
178. —. *T. c.* pp. 167 & 168, fig.
179. —. *T. c.* pp. 228 & 229.
180. —. Description d'une coquille nouvelle, *Bulimus* du groupe *Cochlostyla*, *Phengus groulti*. *T. c.* pp. 136 & 202, fig.
181. —. Description d'une coquille nouvelle *Axina beloni*. *T. c.* p. 136, fig.
182. —. Description de coquilles nouvelles. *T. c.* p. 201, figg.
183. KIMAKOWICZ, M. VON. Prodomus zu einer Monographie des *Clausilia*—Subgenus *Alopi*a, H. & A. Adams. Beitrag zur Mollusken-Fauna Siebenbürgens, III. Nachtrag. Verh. Siebenb. Ver. xliii, pp. 19–58.
184. KISHINOUE, K. Note on the Eyes of *Cardium muticum*, Rve. J. Coll. Japan, vi, pp. 279–285, 1 pl. Abstr. in J. R. Micr. Soc. 1894, p. 671.
185. KITTL, E. Die Gastropoden der Schichten von St. Cassian der südalpiner Trias [concluded]. Ann. Hofmus. Wien, ix, pp. 143–277, 9 pls.
186. —. Die triadischen Gastropoden der Marmolata und verwandter Fundstellen in den weissen Riffkalken Südtirols. Jahrb. geol. Reichsanst. xlv, pp. 99–182, 6 pls.
187. KLIKA, B., & SIMROTH, H. Beiträge zur Kenntniss der kaukasisch-armenischen Molluskenfauna. SB. Böhmisch. Ges. 1893 (1894), No. xlv, 23 pp., 1 pl.
- 187A. KNIGHT, G. A. F. Remarks on some of the Land and Freshwater *Mollusca* of Palestine. Tr. Soc. Glasgow, iv, pp. 9–15, 1 pl.
188. KNOLL, P. Ueber die Blutkörperchen bei wirbellosen Thieren. SB. Ak. Wien, cii, Abth. iii, pp. [Moll.] 444–454, figg. Abstr. in J. R. Micr. Soc. 1895, p. 166.
189. KNOWER, H. MCE. Pteropods [*Cavolina longirostris*] with two separate sexual openings. Johns Hopkins Univ. Circ. xiii, pp. 61 & 62. Abstr. in J. R. Micr. Soc. 1894, p. 555.
190. KOBELT, W. Zweiter Nachtrag zur Fauna der Nassauischen Mollusken. Jahrb. Nassau. Ver. pp. 83–89, 1 pl.
- [See also MARTINI & CHEMNITZ (225), & ROSSMAESSLER (317).]
191. KOENEN, A. VON. Das Norddeutsche Unter-Oligocän und seine Mollusken-Fauna . . . Lief. vi. *Pelecypoda* [concluded] . . . Revision des Mollusken-Fauna des Samländischen Tertiärs. Abh. geol. Spezialkarte Preussen, x, pp. 1249–1338 & 1366–1388, pls. lxxxvii–xcv.

192. KOFOID, C. A. On some laws of cleavage in *Limax*. P. Amer. Ac. xxix, pp. 180-202, 2 pls., figg. Abstr. in J. R. Micr. Soc. 1894, p. 555.
193. KORSCHULT, E. Ueber den Laich und die Embryonen von *Eledone*. SB. Ges. naturf. Berlin, 1893 (1894), pp. 68-73, figg. Abstr. in J. R. Micr. Soc. 1894, p. 555.
194. KOŠTÁL, J. Příspěvek ku poznání kopulačního apparatusu u *Limacopsis caeruleans*, Simroth (Bielz). [On the genitalia of *L. caeruleans*.] SB. Bohmisch. Ges. 1894, No. xlvi, 15 pp., 4 pls.
Advance copy.
— [See also BABOR & KOŠTÁL (13-15).]
195. KRAUSE, A. Ueber nackte Landschnecken von Tenerifa. SB. Ges. naturf. Berlin, 1894, pp. 30-32.
196. LACAZE-DUTHIERS, —. Sur les organes de la reproduction de *Anacylus fluviatilis*. C.R. Ac. Sci. cxviii, pp. 560-566. Abstr. in J. R. Micr. Soc. 1894, p. 668.
LARKIN, R. R. [See COCKERELL & LARKIN (59).]
197. LARRAZET, —. Notes stratigraphiques et paléontologiques sur la province de Burgos. II. Espèces et variétés nouvelles de *Potamides* du terrain aquitainien (province de Burgos). Bull. Soc. geol. France, xxii, pp. 372-379, 1 pl.
198. LAYARD, E. L. Mimicry in *Mollusca*. J. Conch. vii, pp. 336-338.
199. LEFORT, —. Quelques fossiles inédits des conches sédimentaires du Nivernais. Rev. Sci. Bourbonnais, vii, pp. 11-18, figg.
200. LEHMANN, F. Die Lamellibranchiaten des Miocäns von Dingden. Thl. II. Verh. Ver. Rheinland, I, pp. 273-294.
201. LENHOSSÉK, M. VON. Zur Kenntniss der Netzhaut der Cephalopoden. [Preliminary Note.] SB. Ges. Würzburg, 1894, pp. 110-114.
202. —. Zur Kenntniss der Netzhaut der Cephalopoden. Zeitschr. wiss. Zool. lviii, pp. 636-660, fig.
203. LOCARD, A. Les coquilles terrestres de France, &c. Paris: 1894, 8vo, 370 pp., figg.
204. —. Description des Mollusques quaternaires nouveaux recueillis aux environs de Crémien (Isère). Ann. Soc. Linn. Lyon, xli, pp. 201-220, figg.
205. —. Les *Bythinia* du système Européen revision des espèces appartenant à ce genre d'après la collection Bourguignat. Rev. Suisse Zool. ii, pp. 65-134, 2 pls.
206. —. Description de quelques *Unionidae* nouveaux pour la Faune Française. Bull. Soc. Elbeuf, xii, pp. 49-62.
207. —. Description de deux nouvelles espèces de *Pseudanodonta*. Rev. Sci. Bourbonnais, vii, pp. 64-68, figg.

208. [LOCARD, A.] Description de deux Succinées nouvelles. *Echange*, x, pp. 90 & 91.
209. —. Description de deux Coquilles marine nouvelles. *T. c.* pp. 131 & 132.
210. LOENS, H. Funde aus dem Hannoverschen Oberharz. *Nachrbl. deutsch. malak. Ges.* 1894, pp. 177-179.
211. —. Die Mollusken-Fauna Westfalens. *Jahresber. Westfal. Ver.* xxii, pp. 81-98.
212. LÖRENTHEY, I. Adatok szilágymegye és az erdélyi részek alsó Pontusi lerakódásainak ismeretéhez. (Beiträge zur Kenntniss der unterpontischen Bildungen des Szilágyer Comitatus und Siebenbürgens.) *Ert. Erdel. Muz. Egylet*, xviii, 1893, pp. 194-230.
(Review [in German] pp. 289-322), 1 pl.
213. —. Kurd Tolna Megyei helység Pontusi Faunája ([also in German] Die Pontische Fauna von Kurd im Comitate Tolna) *Foldtani Kozl.* xxiv, pp. 2-17 & 116-123 (Germ., pp. 73-88 & 148-161), 2 pls.
214. M'INTOSH, —. Notes from St. Andrew's Marine Laboratory . . . No. xiv . . . 5 on a Hermaphrodite example of *Mytilus modiolus*. *Ann. Nat. Hist.* xiv, p. 196.
215. MARSHALL, J. T. Additions to "British Conchology" Addenda. *J. Conch.* vii, pp. 379-385.
216. MARTENS, E. VON. Conchologische Mittheilungen als Fortsetzung der *Novitates conchologicae*. Bd. iii, Hft. 3. 1. Afrikanische Binnenmollusken; 2. Aus Südamerika; 3. Landschnecken aus Neu-Guinea und den umliegenden Inseln, 16 pp., pls. xliii & xlv.
217. —. Mollusken. From SEMON'S "Zoologische Forschungsreisen in Australien und dem Malayischen Archipel," pp. 83-96, 1 pl. [With description of *Pseudopotamis*, n. g., by BROT.]
218. —. Ueber einige den nördlichen und südlichen Kalkalpen gemeinsame Landschnecken, welche aber den dazwischen liegenden Centralalpen fehlen. *SB. Ges. naturf. Berlin*, 1894, pp. 47-56.
219. —. Ueber die von Dr. Bohls in Paraguay gesammelten Mollusken, insbesondere einige Varietäten von *Odontostomus striatus*. *T. c.* pp. 163-170.
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221. —. Die Schulppe und Kiefer eines grossen Tintenfisches *Ommastrephes gigas*, Orb. *T. c.* pp. 234 & 235.
222. —. Diagnosen neuer Arten [from Japan]. *Nachrbl. deutsch. malak. Ges.* 1894, pp. 135 & 136.
223. —. On *Dreissensia polymorpha*, Pallas. *J. Conch.* vii, pp. 415 & 416.

224. MARTIN, D. Faune malacologique quaternaire de la craie lacustre des Hautes-Alpes. C.R. Ass. Franc. 1893 (1894), ii, pp. 366-376.
225. MARTINI & CHEMNITZ. Systematisches Conchylien-Cabinet, Lief 406-410: *Achatinidae*, by W. Kobelt, pp. 57-104, pls. xviii-xxix. *Helix*, by W. Kobelt, pp. 651-730, pls. clxxxix-ccvi. — *Gastrochænacea*, by W. Kobelt, pp. 1-24, pls. iv-ix.
226. MASON, P. B. Variation in the Shells of the *Mollusca*. J. Conch. vii, pp. 328-346.
MAYFIELD, A. [See PEARCE & MAYFIELD (268).]
- 226A. MAYNARD, C. J. Monograph of the genus *Strophia*. [In his] Contributions to Science, i (1889) pp. 1-29, 68-79, 125-135, (1890) 188-197, 4 pls., figg., ii (1894) pp. 107-182, figg.
227. MAZZARELLI, G. Ricerche sulle *Peltidae* del Golfo di Napoli. Atti Acc. Napoli, vi, No. 4, 18 pp., 1 pl.
228. —. Intorno al rene dei Tectibranchi. Monit. Zool. ital. v, pp. 174-177.
229. —. Ricerche sulla morfologia delle *Ocynœidae*. Mem. Soc. ital. ix (1893) No. 1, 33 pp., 3 pls.
230. —. Monografia delle *Aplysiidae* del Golfo di Napoli (sistemática, biologia, anatomia, fisiologia, ed embriologia). T. c. No. 4, 222 pp., 13 pls.
231. MAZZARELLI, G., & ZUCCARDI, R. Sulle *Aplysiidae* raccolte dal . . . G. Chierchia, nel viaggio della Vettor-Pisani (1882-1885). Mem. Soc. ital. viii (1892) No. 2, 21 pp., 2 pls.
232. MELI, R. Sulla presenza dell' *Iberus* (subsect. *Murella*) *signatus*, Fér. (*Helicogena*) nei monti Ernici e nei dintorni di Terracina nella provincia di Roma. Riv. ital. Sci. Nat. xiv, pp. 33-35, 43-47, & 57-62.
233. MELVILL, J. C. Description of a New Species of *Engina* [*E. zatricium*] from the Loyalty Islands. P. Malac. Soc. London, i, p. 51, fig.
234. —. Description of a New Species of *Engina* [*E. epidromidea*] from Bombay. T. c. p. 162, fig.
235. MELVILL, J. C., & PONSONBY, J. H. Descriptions of Fifteen New Species of South-African Terrestrial *Mollusca*. Ann. Nat. Hist. xiv, pp. 90-95, 1 pl.
Including one from East Central Africa.
- 235A. MERKEL, E. Molluskenfauna von Schlesien. Breslau: 1894, 8vo, 293 pp.
236. MILLER, S. A., & GURLEY, W. F. E. Description of some New Species of Invertebrates from the Palæozoic Rocks of Illinois and adjacent States. Bull. Illinois Mus. No. 3 [*Moll.*], pp. 73-75, figg.

237. MILNE, J. G., & OLDHAM, C. The Molluscan Fauna of the Bowdon District of Cheshire. *J. Conch.* vii, pp. 313-325.
238. MOBERG, J. C. Ueber Schwedische Kreidebelemniten. *N. Jahrb. Min.* 1894, ii, pp. 69-78.
239. MOELLENDORFF, O. F. VON. On a collection of Land Shells from the Samui Islands, Gulf of Siam. *P. Zool. Soc. London*, 1894, pp. 146-156, 1 pl.
240. ——. Zur Molluskenfauna der Sulu-Inseln. *Nachrbl. deutsch. malak. Ges.* 1894, pp. 205-215.
- . [See also QUADRAS & MOELLENDORFF (307, 308).]
241. MOERICKE, W. Versteinerungen des Lias und Unteroolith von Chile. *N. Jahrb. Min., Beilage, B. i.* ix [*Moll.*], pp. 9-58, 5 pls.
242. MONTEROSATO, MARCHESE DI. Conchiglie terrestri viventi e fossili di Monte Pellegrino. *Natural. Sicil.* xiii, pp. 165-173.
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244. NABIAS, B. DE. Recherches histologiques et organologiques sur les centres nerveux des Gastéropodes [*Pulmonata*]. *Act. Soc. Bordeaux*, xlvii, pp. 11-202, 5 (double) pls.
245. NAEGELE, G. Einiges aus dem östlichen Kleinasien. *Nachrbl. deutsch. malak. Ges.* 1894, pp. 104-107.
246. NAGEL, W. A. Beobachtungen über den Lichtsinn augenloser Muscheln. *Biol. Centralbl.* xiv, pp. 385-390. *Abstr. in J. R. Micr. Soc.* 1894, p. 441.
247. NECHAEV, A. Die Fauna der permischen Ablagerungen des östlichen Theils des Europäischen Russlands [Russian]. *Trudui Kazan. Univ.* xxvii, pt. 4, 503 pp., 12 pls.
Mollusca, pp. 188-371.
248. NEWTON, R. B. Note on some Molluscan remains lately discovered in the English Keuper. *Rep. Brit. Ass.* 1893 (1894), p. 770.
249. ——. Note on some Molluscan remains lately discovered in the English Keuper. *J. Conch.* vii, pp. 408-413, figg.
250. NEWTON, R. B., & HARRIS, G. F. A revision of the British Eocene *Scaphopoda*, with descriptions of some new species. *P. Malac. Soc. London*, i, pp. 63-69, figg.
251. — & —. Descriptions of some New or Little-known Shells of Pulmonate *Mollusca* from the Oligocene and Eocene formations of England. *T. c.* pp. 70-77, 1 pl., and fig.
252. — & —. A revision of the British Eocene *Cephalopoda*. *T. c.* pp. 119-131, 1 pl., figg.

253. NICOLAS, —. Faune malacologique du Danien, fossiles de Saint-Remy et des Baux, étude complémentaire. C.R. Ass. Franc. 1893 (1894), ii, pp. 388-402, figg.
254. NOBRE, A. Observações sobre o systema nervoso e afinidades zoológicas de alguns Pulmonados terrestres. Ann. Sci. Nat. Porto, i, pp. 17-20, 75-78, & 197-201, 1 pl.
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260. *OEMLER, A. The Past, Present, and Future of the Oyster Culture of Georgia. Bull. U. S. Fish Comm. 1894, 10 pp.
 OLDHAM, C. [See MILNE & OLDHAM (237).]
261. OSTROUMOFF, A. Supplément au Catalogue des Mollusques de la Mer Noir et d'Azow, observés jusqu'à ce jour à l'état vivant. Zool. Anz. 1894, pp. 9 & 10.
262. —. Die Vertheilung der Mollusken vom Azowschen Meere bis zum Archipelagus. *T. c.* pp. 173-176.
263. PACE, S. Notes on the Anatomy of *Bulimulus auris-sciuri*, Guppy. P. Malac. Soc. London, i, pp. 151 & 152, figg.
264. PAESSLER, W. Zur Verbreitung der *Pupa ronneybyensis*, Westerl. in Norddeutschland. Nachrbl. deutsch. malak. Ges. 1894, p. 216.
265. PARAVICINI, G. Viaggio del dottor A. Borelli nella Repubblica Argentina e nel Paraguay. . . . Molluschi. Boll. Mus. Torino, ix, No. 181, 10 pp.
266. PARENT, H. Sur une nouvelle espèce d'Ammonite [*Hoplites janeli*] du Gault. Ann. Soc. geol. Nord, xxi, pp. 265-270, 1 pl.
267. PARONA, C. L'Autotomia e la rigenerazione delle appendici dorsali (*Phœnicurus*) nella *Tethys leporina*. Atti Univ. Genova [xi] 1892, pp. 95-111, 1 pl.
268. PEARCE, S. S., & MAYFIELD, A. The Land and Freshwater Mollusca of East Norfolk. J. Conch. vii, pp. 391-404.
269. PELSENER, P. Introduction à l'étude des Mollusques. [See Zool. Rec. xxx, *Moll.* p. 18 (270).]
270. —. Hermaphroditism in *Mollusca*. Quart. J. Micr. Sci. xxxvii, pp. 19-46, 2 pls. Abstr. in J. R. Micr. Soc. 1895, pp. 43 & 44.

271. [PELSENEER, P.] Pulmonés à branchie. C.R. Acad. Sci. cxix, pp. 354 & 355 ; also, in advance from Bull. Soc. malac. Belgique, xxix, 2 pp. Abstr. in J. R. Micr. Soc. p. 670.
272. PERRIER, E., & ROCHEBRUNE, A. T. DE. Sur un *Octopus* nouveau [*O. digueti*] de la basse Californie, habitant les coquilles des Mollusques bivalves. C.R. Ac. Sci. cxviii, pp. 770-773.
273. PFEFFER, G. Fische, Mollusken und Echinodermen von Spitzbergen, gesammelt von . . . Prof. W. Kükenthal im Jahre 1886. Zool. Jahrb. Syst. viii [*Moll.*], pp. 91-98,
274. PFEIFFER, C. Kleine Reiseergebnisse. Nachrbl. deutsch. malak. Ges. 1894, pp. 68-71.
275. PHISALIX, C. Sur la nature du mouvement des chromatophores des Céphalopodes: causes et mécanisme de ce mouvement. C.R. Ass. Franc. 1893 (1894), ii, pp. 652-655.
276. PICAGLIA, L. Aggiunte al Catalogo dei Molluschi terrestri e fluviali viventi nelle provincie di Modena e Reggio. Bull. Soc. malac. Ital. xviii, pp. 113-117.
277. —. Contributo alla fauna malacologica dell' Appennino Emiliano. Molluschi viventi nel territorio del Frignano. Atti Soc. Modena, xii, pp. 174-187.
278. —. Molluschi dei dintorni di Ginevra. *T. c.* pp. 188-192.
279. PICQUENARD, C. *L'Helix quimperiana* (Férusac) est-il indigène dans le Finistère. Bull. Soc. Ouest France, iii (1893), pp. 271 & 272.
280. PILSBRY, H. A. Critical list of Mollusks collected in the Potomac Valley. P. Ac. Philad. 1894, pp. 11-31, 1 pl.
281. —. List of Port Jackson Chitons collected by Dr. J. C. Cox, with a revision of Australian *Acanthochitidæ*. *T. c.* pp. 69-89, 3 pls.
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283. —. Notices of new *Chitons*, II. *T. c.* pp. 119 & 120.
284. —. Notices of new *Chitons*, III. *T. c.* pp. 138 & 139.
285. —. Notices of new *Chitons*, IV. *Op. cit.* viii, pp. 8 & 9.
286. —. Notices of new *Chitons*, V. *T. c.* pp. 53-56.
287. —. A new species of *Patella* [*P. kermadecensis*.] *Op. cit.* vii, p. 109.
288. —. *Patella kermadecensis*. P. Ac. Philad. 1894, pp. 208-212, 2 pls.
Corrects BRAZIER (31), cf. TAYLOR (410).
289. —. Descriptive notes on certain forms of *Polygyra*. *Nautilus*, vii, pp. 139-141.
290. —. Notices of new Japanese Mollusks. *T. c.* pp. 143 & 144, viii, pp. 9, 10, 16, 29-31, 47, & 48.

291. [PILSBRY, H. A.] *Perostylus*, a new genus of Fusoid Gastropod. *Nautilus*, viii, pp. 17 & 18, figg.
292. —. *Perostylus* the embryo of *Megalatractus*. *T. c.* pp. 67-69.
Cf. TATE (408).
293. —. Note on *Liparus*. *T. c.* pp. 35 & 36.
294. —. On the *Orthalicus* of Florida. *T. c.* pp. 37-39, fig.
295. —. On *Chiton hartwegii*, Cpr., and its allies. *T. c.* pp. 45-47.
296. —. Remarks on the status of species and subspecies. *T. c.* pp. 49-52.
297. —. The American species of *Carychium*. *T. c.* pp. 61-63, figg.
298. —. New forms of Western *Helices*. *T. c.* pp. 81 & 82.
— [See also BÆTTGER (26), and TRYON (424, 425).]
299. PLATE, L. Mittheilungen über zoologische Studien an der Chilenischen Küste. III. Weitere Bemerkungen über die Nieren- und Circulationsorgane der Chitonen. IV. *Oncidiella coquimbensis*, n. sp. V. *Phidiana inca*, Orb. VI. Einige Bemerkungen über die Anatomie der *Siphonaria concinna*, Sow. VII. Ueber den Darmkanal und die Niere einer Trophonspecies. SB. Ak. Berlin, 1894, pp. 217-225.
300. —. —. IX. Ueber *Crepidula adolphei*, Less., und *Crucibulum ferrugineum*, Reeve. X. Die Niere von *Chiton granosus*, Fremb. *T. c.* pp. 1071-1083.
301. —. —. XI. Ueber *Chilina dombeyana*, Orb. *T. c.* pp. 1267-1276.
302. POMPECKJ, J. F. Ueber Ammonoideen mit "anormaler Wohnkammer." Jahresh. Ver. Wurttemb. I, pp. 220-290, 1 pl.
303. PONSONBY, J. H. On a new species of *Helix* [*Nanina episema*] from the Khasi Hills. P. Malac. Soc. London, i, p. 56, figg.
— [See also MELVILL & PONSONBY (235).]
304. PONSONBY, J. H., & SYKES, E. R. Two new Land Shells from Tenerife. P. Malac. Soc. London, i, p. 55, figg.
305. PRETE, R. DEL. Sulla sistemazione d'una raccolta conchigliologica. Riv. ital. Sci. Nat. xiv, pp. 48-50, & 87-89.
306. PRIME, H. Catalogue of Land Shells of Long Island, N. Y. *Nautilus*, viii, pp. 69 & 70.
307. QUADRAS, J. F., & MOELLENDORFF, F. O. VON. Diagnoses specierum novarum a J. F. Quadras in Insulis Mariannis collectarum. Nachrbl. deutsch. malak. Ges. 1894, pp. 13-22, & 33-42.
308. — & —. Diagnoses specierum novarum ex insulis Philippines. *T. c.* pp. 81-104, & 113-130.
309. RACOVITZA, E. G. Sur l'accouplement de quelques Céphalopodes *Sepiola rondeletii* (Leach), *Rossia macrosoma* (D. Ch.), et *Octopus vulgaris* (Lam.). C.R. Ac. Sci. cxviii, pp. 722-724. Abstr. in J. R. Micr. Soc. 1894, p. 554.

310. [RACOVITZA, E. G.] Notes de Biologie. i. Accouplement et fécondation chez l'*Octopus vulgaris*, Lam. Arch. Zool. exp. ii, pp. 23-49, figg.
311. —. III. Mœurs et reproduction de la *Rossia macrosoma* (D. Ch.). T. c. pp. 491-539, figg. & 3 pls.
312. RAYMOND, W. J. The Californian species of the genus *Nuttallina*. Nautilus, vii, pp. 133 & 134.
313. REISEN, F. Die Nacktschnecken [of Luxemburg]. Fauna, iv, pp. 71-76.
ROCHEBRUNE, A. T. DE. [See PERRIER & ROCHEBRUNE (272).]
314. ROEBUCK, W. D. Additions to the authenticated comital census of the Land and Freshwater *Mollusca* of Scotland. Ann. Scott. Nat. Hist. 1894, pp. 154-158.
315. ROGERS, R. Snails . . . (Some notes on Folk-lore and local traditions respecting Snails, &c.). J. Northampton Soc. viii, pp. 97-102.
316. ROLLE, H. Diagnosen neuer orientalischer Arten. Nachrbl. deutsch. malak. Ges. 1894, pp. 136-139.
317. ROSSMAESSLER'S Iconographie der Europäischen Land- und Süswasser-Mollusken. Fortgesetzt von Dr. W. Kobelt. Neue Folge, Bd. vii, pp. 1-56, pls. clxxxi-cc.
318. ROTHPLETZ, A. Die Perm-, Trias- und Jura-Formation auf Timor und Rotti im Indischen Archipel. Jaarb. Mij. Ned. Oost-Ind. xxiii [Moll.], pp. 54-62, 65-75, & 78-93, 5 pls.
319. SACCO, F. I Molluschi dei terreni terziarii del Piemonte e della Liguria. Pt. xv (*Cypræidæ* ed *Amphiperasidæ*), 74 pp., 3 pls.
Pt. XIII, fasc. 1, recorded for 1893, also appears in Mem. Acc. Torino, xlv (1894).
320. —. Le variazioni dei Molluschi. Bull. Soc. malac. Ital. xviii, pp. 139-160, 1 pl. [of *Aporrhais*].
321. SAINT-HILAIRE, C. K voprosu o funktsii pecheni u Rakov i Mollyuskov. (Sur la fonction de foie des Crustacés et des Mollusques). Russian, with French *résumé*. Vvest. est. S. Peterb. 1893, pp. 93-117.
322. SAMASSA, P. Ueber die Nerven des augentragenden Fühlers von *Helix pomatia*. Zool. Jahrb. Anat. vii, pp. 593-608, 2 pls., text fig. Abstr. in J. R. Micr. Soc. 1894, p. 440.
323. SAMPSON, F. A. Southern Shells in Missouri. Nautilus, viii, pp. 18 & 19.
324. SAMPSON, L. V. Die Muskulatur von *Chiton*. Jena. Zeitschr. xxviii, pp. 460-468, figg.

325. SARGENT, H. E. Shell collecting in Northern Alabama. *Nautilus*, vii, pp. 121 & 122.
326. SCHARFF, R. F. Einige Bemerkungen über eine Reise in Corsica. Ber. Senckenberg. Ges. 1894 [*Moll.*], pp. 160-162.
327. SCHEPMAN, M. M. A new *Potamides* [*P. tenerrimus*]. Notes Leyden Mus. xvi, pp. 133-135, 1 pl.
328. —. On the habitat of *Nanina inquinata*, V. D. Busch. *T. c.* p. 136.
— [See also HORST & SCHEPMAN (164).]
329. SCHLUETER, C. Ueber den ersten Belemniten im jüngsten Plänen mit *Inoceramus cuvieri*. Zeitschr. deutsch. geol. Ges. xlvi, pp. 281-288.
330. SCHMACKER, B., & BËTTGER, O. Descriptions of some Chinese Land Shells. P. Malac. Soc. London, i, pp. 169-174, figg.
— [See also BËTTGER & SCHMACKER (27).]
331. *SCHMELTZ, J. D. E. Schnecken und Muscheln im Leben der Völker Indonesiens und Oceaniens. Leiden : 1894, 8vo, 45 pp., 1 tab.
332. SCHMIDT, F. Die Furchung und Keimblätterbildung der Stylomatophoren. Zool. Jahrb. Anat. vii, pp. 688-717, 1 pl. Abstr. in J. R. Micr. Soc. 1894, p. 668.
333. SCHNEIDER, J. S. Nogle bemærkninger om hysens (*Gadus aeglefinus*, Lin.) næringsforholde tillige et bidrag til kundskaben om Vardø-havets skaldækte Mollusker. Tromsø Mus. Aarh. xvi, pp. 1-16.
334. SCHWARZ, E. H. L. The *Aptychus*. Geol. Mag. 1894, pp. 454-459, figg.
335. —. The descent of the *Octopoda*, a contribution to a more natural classification. J. Mar. Zool. i, pp. 87-92.
336. SIEMIRADZKI, J. VON. Neue Beiträge zur Kenntniss der Ammoniten-Fauna der polnischen Eisenoolithe. Zeitschr. deutsch. geol. Ges. xlvi, pp. 501-536, 5 pls.
337. SIMPSON, C. T. On some fossil Unios and other Freshwater Shells from the drift at Toronto, Canada : with a review of the distribution of the *Unionidae* of North-eastern North America. P. U. S. Mus. xvi, pp. 591-595.
338. —. Distribution of the Land and Freshwater Mollusks of the West-Indian region, and their evidence with regard to past changes of Land and Sea. *Op. cit.* xvii, pp. 423-450, 1 pl.
339. —. Notes on collecting Shells in Jamaica. *Nautilus*, vii, pp. 110-113.
340. —. Types of *Anodonta dejecta* rediscovered. *Op. cit.* viii, pp. 52 & 53.
341. —. *Patella (Helcioniscus) nigrisquamata*, Reeve. *T. c.* pp. 91 & 92.

342. SIMROTH, H. Ueber einige Ætherien aus den Kongofällen. Abh. Senckenb. Ges. xviii, pp. 273-218, 1 pl. col.
343. —. Beiträge zur Kenntniss der Portugiesischen und der Ostafrikanischen Nacktschnecken-Fauna. *T. c.* pp. 289-307, 2 pls. col.
344. —. Ueber einige von Herrn. Dr. Sturany auf der Balkanhalbinsel erbeutete Nacktschnecken. Ann. Hofmus. Wien, ix, pp. 391 & 392, figg.
345. —. Nachträge zu dem Aufsätze von F. Neumann: Die Molluskenfauna des Königreiches Sachsen. Nachrbl. deutsch. malak. Ges. 1894, pp. 130-133.
346. —. Die Hautanpassung eines Placophoren an die Luft. Ber. Ges. Leipzig, 1893-94, pp. 104-106.
347. —. Ueber die neuesten Untersuchungen an dem Placophoren oder Chitoniden. *T. c.* pp. 114 & 115:
Notice of a paper by HALLER.
348. —. Spermatophore von *Arion hortensis*. *T. c.* pp. 115 & 116.
349. —. Ueber zwei neue *Echinospira*-Arten. *T. c.* pp. 116 & 117.
350. —. Ueber einen Züchtungsversuch, angestellt an *Amalia gagates*. *T. c.* pp. 119-121.
— [See also BRONN (32) & KLIKA & SIMROTH (187).]
351. SINEL, J. On the locomotion of the *Mollusca*. J. Mar. Zool. i, pp. 31 & 32.
352. SMITH, E. A. On some new species of Shells from New Zealand and Australia, and remarks upon some Atlantic forms occurring in deep water off Sydney. P. Malac. Soc. London, i, pp. 57-60.
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357. —. A list of the Land and Freshwater *Mollusca* collected by Dr. J. W. Gregory in East Africa during his expedition to Mount Kenia, with descriptions of a few new species. *T. c.* pp. 163-168, figg.
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359. —. On the Land Shells of the Natuna Islands. *T. c.* pp. 453-465, 1 pl.
360. —. A list of the Bornean species of *Opisthostoma*, and descriptions of four new species. *Op. cit.* xiv, pp. 269-273.

361. [SMITH, E. A.] Report upon some *Mollusca* dredged in the Bay of Bengal and the Arabian Sea. *Ann. Nat. Hist.* xiv, pp. 157-174 & 366-368, 3 pls.
362. —. Note on the genus *Balea*. *J. Conch.* vii, p. 389.
363. —. Notes on the species of *Paludomus* inhabiting Borneo. *J. Malac.* iii, pp. 49-51, fig.
364. —. A list of the recent species of the genus *Pirula*, Lamarck, with notes respecting the synonymy. *T. c.* pp. 64-69.
365. —. On the *Opisthostomæ* of Borneo. *Sci. Gossip*, 1894, pp. 5 & 6, figg.
- 365A. SMITH, J. *Pholas crispata*, Linn., as a Borer. *Tr. Soc. Glasgow*, iv, pp. 37-39.
366. SOWERBY, G. B. On a specimen of *Xenophora pallidula*, Reeve, taken off Port Blair (Andamans) at a depth of 188 fathoms, with attachments of *Pleurotomidæ*, including a new form. *P. Malac. Soc. London*, i, p. 38.
367. —. On three new species of Shells from deep-sea dredgings in the Indian Ocean. *T. c.* pp. 39, 40 & 82, figg.
368. —. Descriptions of twelve new species, chiefly from Mauritius. *T. c.* pp. 41-44, figg.
369. —. New Shells from Mauritius. *T. c.* pp. 45-47, figg.
370. —. Description of three new species of *Ampularia*. *T. c.* p. 48, figg.
371. —. Note on *Voluta bednalti*, Brazier. *T. c.* p. 49, figg. col.
372. —. Descriptions of new species of Marine Shells from Hongkong. *T. c.* pp. 153-159, 1 pl.
373. —. Descriptions of four new Shells from the Persian Gulf and Bay of Zaila. *T. c.* pp. 160 & 161, figg.
374. —. Marine Shells of South Africa. *J. Conch.* vii, pp. 368-378.
375. SQUYER, H. List of Shells from the vicinity of Mingsville, Montana. *Nautilus*, viii, pp. 63-65.
376. STEARNS, R. E. C. Notes on recent collections of North American Land, Freshwater, and Marine Shells received from the U. S. Department of Agriculture. *P. U. S. Mus.* xvi, pp. 743-755.
377. —. The Shells of the Tres Marias and other localities along the shores of Lower California and the Gulf of California. *Op. cit.* xvii, pp. 139-204.
378. —. *Triodopsis* + *Mesodon*.—Distribution, &c. *Nautilus*, viii, pp. 6-8.
379. —. *Urosalpinx cinereus* in San Francisco Bay. *T. c.* pp. 13 & 14.
380. —. *Helix (Arionta) coloradoensis*—a new locality. *T. c.* p. 29.

381. STEP, E. The egg-laying of *Helix pomatia*. Sci. Gossip, 1894, p. 99.
382. STERKI, V. Eine merkwürdige Form von *Pupa pagodula*, Desm. Nachrbl. deutsch. malak. Ges. 1894, pp. 133 & 134.
383. —. *Vertigo morsei*, n. sp. Nautilus, viii, pp. 89 & 90.
384. —. The Land and Freshwater *Mollusca* in the vicinity of New Philadelphia, &c. New Philadelphia, Ohio: 1894, 8vo, 14 pp.
385. STEVENSON, C. H. The Oyster Industry of Maryland. Bull. U. S. Fish Comm. 1894, 95 pp., 21 pls.
386. STUPAKOFF, S. H. Land and Freshwater Shells of Allegheny County, Pa. Nautilus, vii, pp. 135 & 136.
387. STURANY, R. Zur Molluskenfauna der Europäischen Türkei. Ann. Hofmus. Wien, ix, pp. 369-390, 3 pls.
388. —. Ueber die Molluskenfauna Centralafrikas. In BAUMANN'S "Durch Massailand," pp. 297-322, 2 pls.
389. SUTER, H. Additions and emendations to the reference list of the Land and Freshwater *Mollusca* of New Zealand. P. Linn. Soc. N. S. Wales, viii, pp. 484-503, 2 pls.
Including a note by C. Hedley.
390. —. Further contributions to the knowledge of the Molluscan Fauna of New Zealand, with descriptions of eight new species. Tr. N. Zealand Inst. xxvi, pp. 121-138, 8 pls.
391. —. Check-list of the New Zealand Land and Freshwater *Mollusca*. T. c. pp. 139-154.
392. —. On the Dentition of *Pella burnupi*, Melvill & Ponsonby. Ann. Nat. Hist. xiii, pp. 60 & 61.
393. —. Preliminary notes on the relation between the *Helicidae* of New Zealand, Tasmania, and South Africa. T. c. pp. 61-65.
Criticised by HEDLEY (146).
394. —. Notes on some New Zealand Land and Freshwater Mollusks. Nautilus, vii, pp. 122-125.
395. —. Liste synonymique et bibliographique des Mollusques terrestres et fluviatiles de la Nouvelle-Zélande. J. Conch. xli, pp. 220-293, 1 pl.
396. SWANTON, E. W. The Shells of Wychling. Natural. J. ii, pp. 109-112.
397. —. Notes on the variation and distribution of British Slugs. T. c. pp. 164-167 & 177-180, figg.
398. —. A list of the British *Pisidii* [sic]. Op. cit. iii, pp. 55, 56, 109, 110, & 139, figg.
1894. [VOL. XXXI.]

399. SYKES, E. R. Note on two varieties of *Arion rufus*, L. J. Malac. iii, pp. 4 & 5.
400. —. Note on *Limnæa auricularia*. *T. c.* pp. 34-36, figg.
401. —. On two *Clausilia* from Sangir and Sumbawa. *T. c.* pp. 48 & 49, figg.
402. —. Notes on the British Chitons. P. Malac. Soc. London, i, pp. 35-37, 1 pl.
403. —. On the South African *Polyplucophora*. *T. c.* pp. 132-136.
— [See also PONSONBY & SYKES (304).]
404. TATE, R. On the occurrence of the Fissurellid genus *Zidora* in Australian waters. Tr. R. Soc. S. Austral. xviii, pp. 118 & 119.
405. —. Brief diagnoses of *Mollusca* from Central Australia. *T. c.* pp. 191-194.
406. —. Notes on the organic remains of the osseous clays at Lake Callabonna. *T. c.* pp. 195 & 196.
407. —. Unrecorded genera of the older Tertiary Fauna of Australia, &c. J. R. Soc. N. S. W. xxvii [*Moll.*], pp. 169-191, 3 pls.
408. —. Note on *Colina brazieri*, Tryon. P. Linn. Soc. N. S. Wales, viii, p. 244.
Cf. PILSBRY (292).
409. TAYLOR, G. W. Notes of a collecting trip to Departure Bay, Vancouver Island. *Nautilus*, vii, pp. 100-102.
410. —. Note on *Patella kermadecensis*, Pilsbry. *T. c.* pp. 142 & 143.
Cf. PILSBRY (287, 288) and BRAZIER (31).
411. —. Note on *Helcioniscus nigrisquamatus*, Reeve, sp. *Op. cit.* viii, pp. 66 & 67.
412. —. Preliminary check-list of the Land and Freshwater *Mollusca* of Canada. *Ottawa Natural.* vi (1892) pp. 33-37.
413. —. A *Planorbis* [*P. nautilus*] new to the Ottawa List. *Op. cit.* vii, p. 161.
414. TAYLOR, J. W. A monograph of the Land and Freshwater *Mollusca* of the British Isles. Leeds: 1894, 8vo, Part i, 64 pp., 1 pl., figg.
Introductory portion only.
415. —. *Clausilia bidentata*, var. *cravenensis*. J. Conch. vii, p. 422.
416. THIELE, J. Beiträge zur vergleichenden Anatomie der Amphineuren. I. Ueber einiger Neapler Solenogastres. *Zeitschr. wiss. Zool.* lviii, pp. 222-302, 5 pls., text figg. Abstr. in J. R. Micr. Soc. 1895, p. 45.

417. [THIELE, J.] Ueber die Zungen einiger Landdeckelschnecken. Nachrbl. deutsch. malak. Ges. 1894, pp. 23-25.
418. THURSTON, E. Pearl and Chank Fisheries of the Gulf of Manaar. Madras Govt. Museum Bull. No. 1, 62 pp., 5 pls., 2 diags.
419. TORNQUIST, A. Proplanuliten aus dem westeuropäischen Jura. Zeitschr. deutsch. geol. Ges. xlvi, pp. 547-579, 3 pls.
420. TOURENG, —. Sur le système nerveux du *Dreissensia polymorpha*. C.R. Ac. Sci. cxviii, p. 544. Abstr. in J. R. Micr. Soc. 1894, p. 328.
421. —. Sur l'appareil circulatoire du *Dreissensia polymorpha*. T. c. pp. 929 & 930.
422. TRINCHESE, S. Nuove osservazioni sulla *Placida viridis*. Mem. Acc. Bologna, iii, 1893 (1894), pp. 237-245, 1 pl.
423. —. Nervi motori e sensitivi del *Phyllobranchus borgninii*, Th. Rend. Acc. Napoli, 1894, pp. 190 & 191.
424. TRYON'S Manual of Conchology . . . Continuation by H. A. Pilsbry. Vol. xv (pts. 58, 59), pp. 65-180, pls. xi-xlii. *Polyplocophora* (concluded), *Opisthobranchiata* (*Acteonidae*).
425. — ———. Second series, *Pulmonata*. Vol. ix (pts. 34, 35), pp. 49-160, pls. xv-xl. (*Helicidae*, vol. vii.)
426. TYE, G. S. On a case of protective resemblance among Slugs. J. Malac. iii, pp. 21 & 22.
427. *ULICNY, J. Mekkysi Cesti (Mollusca Bohemiæ). III. *Succinidae*, *Auriculidae*, *Limnæidae*, *Truncatellidae*, *Paludinidae*, *Valvatidae*. Praze: 1894, 8vo, pp. 99-142, figg.
In Bohemian.
428. ULRICH, A. Beiträge zur Mollusken-Fauna der Kantone Appenzell und St. Gallen. Ber. St. Gall. Ges. 1892-3 (1894), pp. 301-326.
429. VARIGNY, H. DE. Recherches sur le nanisme expérimental; contribution à l'étude de l'influence du milieu sur les organismes. J. Anat. Physiol. xxx, pp. 147-188, figg. Abstr. in Nat. Sci. v, pp. 167-
The experiments were conducted with *Limnæidae*.
430. VAYSSIÈRE, A. Étude zoologique de la *Scissurella costata*, var. *levigata*. J. Conchyl. xlii, pp. 19-29, 1 pl.
431. WALKER, B. Shells of the Saginaw Valley, Michigan. Nautilus, vii, pp. 125-129.
432. WEBB, H. M. Pleistocene non-Marine *Mollusca* from Walton-on-the-Naze. Essex Natural. viii, pp. 160-162.
433. WEISS, A. Die Conchylienfauna der altpleistocænen Travertine des Weimarisch-Taubacher Kalktuffbeckens und vergleich der Fauna mit æquivalenten Pleistocænablagerungen. Nachrbl. deutsch. malak. Ges. 1894, pp. 145-163 & 185-190.

434. WETHERLY, A. G. A few notes on *Helix appressa*. *Nautilus*, viii, pp. 14-16.
435. —. A few notes on *Helix tridentata*. *T. c.* pp. 43-45.
436. WESTERLUND, C. A. Specilegium Malacologicum. Neue Binnen-Conchylien aus der Paläarktischen Region. *Nachrbl. deutsch. malak. Ges.* 1894, pp. 163-177 & 190-205.
437. WHITE, C. A. Notes on the invertebrate fauna of the Dakota formation, with descriptions of new Molluscan forms. *P. U. S. Mus.* xvi, pp. 131-138, 1 pl.
438. WHITE, F. A. *Melongena corona*, Gmel. *Nautilus*, viii, p. 11.
439. WILLCOX, J. The habits of Florida littoral Mollusks. *Nature*, viii, pp. 79 & 80.
440. WILLIAMSON, MRS. M. B. Abalone or *Haliotis* Shells of the Californian Coast. *Amer. Natural.* xxviii, pp. 849-858.
441. WINKLEY, H. W. Eastport notes. *Nautilus*, viii, pp. 78 & 79.
442. WIRÉN, A. Studien über die Solenogastren. II. *Chatoderma productum* [n. sp.], *Neomenia*, *Proneomenia acuminata* [n. sp.] *Svenska Ak. Handl.* xxv, No. 6, 100 pp., 10 pls.
443. WOEHIRMANN, S. VON. Die Raibler Schichten. *Jahrb. geol. Reichsanst.* xliii [*Moll.*], pp. 650-688, figg.
444. WOODWARD, M. F. On the anatomy of *Pterocera*, with some notes on the Crystalline style. *P. Malac. Soc. London*, i, pp. 143-150, 1 pl.
445. WOTTON, F. W. Varieties of *Isocardia cor.* *Sci. Gossip*, 1894, pp. 122 & 123, figg.
- ZUCCARDI, R. [See MAZZARELLI & ZUCCARDI (231).]

II.—ANATOMY, PHYSIOLOGY, &c.

1. GENERAL.

Anatomy of *Chiroteuthis picteti* and *Loligo picteti*, n. spp.; JOUBIN (173).—Anatomy of *Limæ primitivus*; KLIKA & SIMROTH (187).—Anatomy of *Geomalacus grandis*, *Arion hessei*, n. spp., *Agrilolimax immaculatus*, Srth., var., *Urocyclus rufescens*, *Phaneroporus unicolor*, n. spp.; SIMROTH (342).—Anatomy of *Arion citrinus*, Westerlund; BABOR (10).—Anatomy of *Arion elongatus*, n. sp.; COLLINGE (66).—Anatomy of *Arion vej dovskyi*, n. sp.; BABOR & KOŠŤÁL (13).—Anatomy of *Helix (Dorcasia) alexandri*, Gray; FLECK (110).—Anatomy of *Bulimulus auris-sciuri*, Guppy; PACE (263).—Anatomy of *Strophia*; MAYNARD (226A).—Anatomy of *Janella maculata*, n. sp.; COLLINGE (60).—Anatomy of

Jamaican species of *Veronicella*; COCKERELL & LARKIN (59).—Anatomy of *Oncidiella coquimbensis*, n. sp., *Phidiana inca*, Orb., *Siphonaria concinna*, Sow., and of *Trophon* sp.; PLATE (299).—Anatomy of *Chilina dombeyana*, Orb.; PLATE (301).—Anatomy of *Placida viridis*; TRINCHESE (422).—Anatomy of *Pella capreensis*, n. sp.; MAZZARELLI (227).—Anatomy of *Greilada elegans*, n. g. & sp.; BERGH (21).—Arrangement, correlation, and functions of the mantle organs of *Tectibranchiata*; GILCHRIST (121).—Anatomy of some *Aplysiidæ*, including *Aplysia chierchiana*, n. sp.; MAZZARELLI & ZUCCARDI (231).—Anatomy of *Aplysiidæ*; MAZZARELLI (230).—Anatomy and morphology of the *Oxynceidæ*; MAZZARELLI (229).—Anatomy of *Pterocera*, with notes on the crystalline style; WOODWARD (444).—Anatomy of *Crepidula adolpheï* and *Crucibulum ferrugineum*; PLATE (300).—Anatomy of *Hydrobia ulvæ*; HENKING (160).—Comparative anatomy of some *Aplacophora* of Naples; THIELE (416).—Anatomy of *Chætoderma productum*, n. sp., *Neomenia*, and *Proneomenia acuminata*, n. sp.; WIRÉN (442).—Notes on the anatomy of some species of *Chiton*, especially *C. magnificus*; HALLER (137).

2. SHELL AND INTEGUMENT.

On the protoconch in the *Cephalopoda*; BATHER (18).—On the structure and growth of the shell in *Sepia*, *Spirula*, and *Nautilus*; APPELLÖF (9).—Notes on the Aptychus of *Ammonites*; SCHWARTZ (334).—Mechanical cause of folds in the aperture of the shell of *Gastropoda*; DALL (87).—Notes on embryonic whorls of shells of *Muricidæ*; BAKER (17).—Remarks on the shell of *Ætheria*; SIMROTH (342).—The movement of the chromatophores of *Cephalopoda* is effected by the radial fibres, and is consequently muscular; PHISALIX (275).—Anatomy and regeneration of the dorsal appendages (*Phenicurus*) of *Telhys leporina*; PARONA (267).—The muscle fibres in the fins of *Cavolina longirostris* are distinctly striated; KNOWER (189).—Adaptation of the skin of a *Chiton* to aerial life; SIMROTH (346).

3. MUSCULAR SYSTEM, &c.

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4. DIGESTIVE SYSTEM.

Jaw and radula of *Pella burnupi*; SUTER (392).—Radulæ of *Rolleia*, *Crosse*, and *Pseudocyclotus*, n. g.; THIELE (417).

5. CIRCULATORY SYSTEM.

Blood corpuscles of *Mollusca*; KNOLL (188).—On the amœboid cells of *Cephalopoda*, and their comparison with those of other Invertebrata; CATTANEO (45).—The heart of *Cavolina longirostris* is on the left side; KNOWER (189).—Circulatory system of *Dreissensia polymorpha*; TOURENG (421).

6. RESPIRATORY SYSTEM.

A pulmonate from Madagascar, *Pulmobranchia* (n. g.) *lamellata*, has developed an external gill to the left of the anus; PELSENER (271).

7. EXCRETORY AND SECRETORY SYSTEM.

Function of the liver of *Mollusca*; SAINT-HILAIRE (321).—Morphology of the epithelium of the liver in *Pelecypoda*, *Prosobranchiata*, and *Opisthobranchiata*; FRENZEL (113).—Functional action of the kidney in *Helix*; CUÉNOT (78).—Physiological observations on the kidney of *Helix pomatia*; GIROD (127).—On the renal organs of Tectibranchs; MAZZARELLI (228).—On the kidney of *Oncidium celticum*, Cuv.; HALLER (138).—Notes on the kidney of *Chiton*, and of *Trophon* sp.; PLATE (299).—On the kidney of *Chiton granosus*, Fremb.; PLATE (299).—Researches on the pedal gland of *Pulmonata*; ANDRÉ (8).—Note on the luminous organs of *Cephalopoda*; HOYLE (165).

8. NERVOUS SYSTEM.

On the cerebral ganglion of *Cephalopoda*; FAUSSEK (105).—Notes on the nervous system of some *Pulmonata*; NOBRE (254).—Histology and organology of the nervous centres of *Gastropoda* [*Pulmonata*]; NABIAS (244).—On the nerves of the ocular tentacles of *Helix pomatia*; SAMASSA (322).—Note on the motor and sensory nerves of *Phyllobranchus borgnini*; TRINCHESE (423).—Nervous system of *Dreissensia polymorpha*; TOURENG (420).

9. SENSORY SYSTEM.

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10. GENERATIVE ORGANS.

Hermaphroditism in *Mollusca* secondary to a unisexual condition, and grafted on the female; PELSENER (270).—Copulation in *Sepioloa rondeletii*, *Rossia macrosoma*, and *Octopus vulgaris*; RACOVITZA (309).—

Copulation and fecundation in *Octopus vulgaris*, Lam.; RACOVITZA (310).—Reproduction in *Rossia macrosoma*, D. Ch.; RACOVITZA (311).—Note on the hectocotyliised arm of *Octopus vulgaris*; FISCHER (108).—On the cycle of development of the organs of generation in *Stylommatophora*; BABOR (11).—Genitalia of some *Limacidae*; BABOR & KOŠŤÁL (14).—Genitalia of some Bohemian Slugs; BABOR (12).—Genitalia of *Limacopsis carulans*, Simroth; KOŠŤÁL (194).—Genitalia of *Helix ichthyomma*, Held.; BABOR & KOŠŤÁL (15).—Notes on the generative anatomy of *Amalia marginata*, Drap.; COLLINGE (65).—Spermatophore of *Arion hortensis*; SIMROTH (348).—Organs of reproduction of *Ancylus fluviatilis*; LACAZE-DUTHIERS (196).—*Cavolina longirostris* has two distinct and separate sexual openings; KNOWER (189).—Hermaphrodite example of *Mytilus modiolus*; M'INTOSH (214).

11. EMBRYOLOGY.

Notes on the spawn and embryos of a species of *Eledone* [? *E. moschata*]; KORSCHOLT (193).—Embryology of *Gastropoda*; ERLANGER (101).—On the segmentation and formation of the germinal layer in *Stylommatophora*; SCHMIDT (332).—Laws of cleavage in the ovum of *Limax*; KOFOID (192).—Oviposition of some *Helices*; GUDE (134).—Oviposition of *Helix pomatia*; STEP (381).—Cleavage in *Physa heterostropha* is typically spiral but totally reversed; CRAMPTON (73).—Embryology of *Aplysiidae*; MAZZARELLI (230).—Formation of the mesoderm in *Paludina vivipara*; ERLANGER (100).—Embryology and development of *Hydrobia ulva*; HENKING (160).

12. PHYLOGENY AND CLASSIFICATION.

HALLER (136) gives a phylogenetic tree for the principal divisions of *Mollusca*.

GROBEN (132) treats of the phylogeny of the *Mollusca* and classifies as under:—

Type—MOLLUSCA.

- I. Subtype *Amphineura*.
- II. " *Conchifera*.
 - I. Class *Prorhipidoglossomorpha*.
 - 1. Subcl. *Gasteropoda*.
 - 2. " *Solenocoenchæ*.
 - 3. " *Lamellibranchiata*.
 - II. Class *Cephalopoda*.

SCHWARZ (335) proposes to divide *Cephalopoda* into ENDOCOCHLIA:—*Belemnitidae*, *Sepiidae*, *Teuthidae*, and *Spiralidae*; and ECTOCOCHLIA:—*Nautiloidea*, *Ammonoidea*, and *Octopoda*.

HYATT (166A) gives the following phylogenetic arrangement of *Nautiloidea* [and part of the *Ammonoidea*?] :—

NAUTILOIDEA.

TARPHYCERATIDÆ.

Tarphyceras, n. g., p. 433; *Eurystomites*; *Planctoceras*; *Aphetoceras*, n. g., p. 447; *Deltoceras*, n. g., p. 449; *Barrandeoceras*; *Pycnoceras*, n. g., p. 454; *Falcilituites*; *Trocholitidæ*; *Schræderoceras*; *Litoceras*; *Trocholitoceras*, n. g., p. 480; *Trocholites*.

HERCOCERATIDÆ.

Ptenoceras, n. g., p. 491; *Hercoceras*; *Anomaloceras*; *Temnocheilus*; *Metacoceras*; *Tainoceras*; *Centroceras*; *Cælogastroceras*.

DISCOCERATIDÆ.

Plectoceras; *Peismoceras*, n. g., p. 500; *Discoceras*; *Systrophoceras*, n. g., p. 502; *Trochoceras*.

LITUITIDÆ.

Cyclolituities; *Lituities*; *Angelinoceras*, n. g., p. 508; *Ancistroceras*; *Rhynchorthoceras*; *Holmiceras*, n. g., p. 512.

OPHIDIOCERATIDÆ.

Ophidioceras.

RUTCOCERATIDÆ.

Adelphoceras; *Triplooceras*.

MELONOCERATIDÆ.

Estonioceras; *Remeleceras*, n. g., p. 525; *Nædyceras*; *Cranoceras*.

NEPHRITIDÆ.

Rhadinoceras, n. g., p. 530; *Nephriticeras*.

EUDOCERATIDÆ.

Edaphoceras; *Endolobus*; *Lophoceras*; *Potoceras*; *Ephippioceras*.

TRIGONOCERATIDÆ.

Cælonautilus; *Stroboceras*; *Apheleceras*; *Subclymenia*; *Diorugoceras*.

TRIBOLOCCERATIDÆ.

Thoracoceras; *Vestinautilus*; *Coloceras*.

RINECERATIDÆ.

Rinoceras; *Iispoceras*; ? *Pselioceras*; *Thrinoceras*.

KONINCKIOCERATIDÆ.

Koninckioceras; *Domatoceras*.

SOLENOCHEILIDÆ.

Apioceras; *Asymptoceras*; *Solenocheilus*; ? *Peripetoceras*, n. g., p. 545;
Syringoceras, n. g., p. 546; ? *Pleuromutilus*.

NAUTILIDÆ.

Digonioceras, n. g., p. 548; *Cenoceras*; *Cymatoceras*; *Eutrepheceras*,
n. g., p. 555; *Nautilus*.

ATURIDÆ.

Aturia.

[AMMONOIDEA ?].

Scaphites.

HELICANCYLIDÆ.

Helicancylus.

NOSTOCERATIDÆ.

Lindigia; *Nostoceras*, n. g., p. 569; *Didymoceras*, n. g., p. 573;
Emperoceras, n. g., p. 575; *Exiteloceras*, n. g., p. 576.

PTYCHOCERATIDÆ.

Sciponoceras; *Ptyhoceras*; *Diptycoceras*.

JOUSSEAUME (175) employs an eccentric classification for non-marine
Mollusca. The *Pulmonata* are divided into Fam. *Oculimetricæ*
[= *Stylommatophora*]. Fam. *Limnophilidæ* [= *Basommatophora*].
Fam. *Ectophthalmidæ* [= *Cyclophoridæ* + *Cyclostomidæ*]. Fam. *Opis-*
thophthalmidæ [= *Truncatellidæ*]. All other freshwater *Gastropoda*
(except *Limnæidæ*), including *Neritidæ*, are placed in *Prosobranchiata*.
Fam. *Ampullaridæ*. e/

A classification of the New Zealand Helices on PILSBRY'S lines is pro-
posed by SUTER (393).

Phylogeny of the *Aplysiidæ*; MAZZARELLI (230).

Phylogenetic development of the *Aplacophora*; WIRÉN (442).

13. STRAY NOTES.

Notes on an experiment in breeding *Amalia gagates*, Sow.; SIMROTH
(350).—Habits of Florida littoral *Mollusca*; WILLCOX (439).—Habits of
Rossia macrosoma, D. Ch.; RACOVITZA (311).—Voracity of Cuttlefish;
HOWSE, Nat. Hist. Tr. Northumb. xi, p. 195.—Habits of *Testacella*;
CHAILLOU (47).—Mode of feeding of *Glandina algira*, L.; HENKING
(159).—Habits of *Schizoglossa novoseelandica*, Pfr.; MURDOCH (243).—
Young oysters destroyed by *Ricinula marginatra*, Blainv.; HEDLEY
(150).—Habits, &c., of *Sphærium corneum*; CROWTHER (77).—*Pholas*
crispata bores by means of sand fixed to the foot by a mucous secretion;
SMITH (365A).—On the greening of Oysters; CHATIN & MUNTZ (50, 51).

—Variation in the shells of the *Mollusca*; MASON (226).—Variation in *Mollusca*, with plate of figures of forms of *Aporrhais*; SACCO (320).—Experiments on dwarfing were conducted with *Limnaeidae* by VARIGNY (429), who found that the animals were small in proportion as they had less room in which to move about.—Malformations in Ammonites; ENGEL (99).—Ammonoidea with abnormal body-chamber; POMPECKJ (302).—Monstrosities of British non-marine shells; S. L. M., Natural. J. iii, p. 137.—Four abnormal shells; CARRINGTON (43).—Abnormal specimens of *Limnaea auricularia*, Linn.; SYKES (400).—Monstrosities of †*Planorbis euomphalus*, J. SOW.; NEWTON & HARRIS (251).—Mimicry in *Mollusca*; LAYARD (198).—Protective resemblance of two slugs to the bloom-sheath of the black poplar; TYE (426).—COOKE (67) suggests that the resemblance of the form of the shell in two species of *Strombus* to that of *Conus* may be protective.—Locomotion of the *Mollusca*; SINEL (351).—Distribution of non-marine *Mollusca*; BOWELL (28).—Hibernation of *Helix pomatia*; CARRINGTON (42).—*Mollusca* forming the food of *Gadus*; SCHNEIDER (333).—A worm of the genus *Aspidosiphon* commensal with *Kellia deshayesi*; BOUVIER, C.R. Ac. Sci. cxix, p. 96.—On a disease in the oyster caused by a parasite; GIRARD (120).—Notes on shell-boring *Alge*; JOHNSON, Nat. Sci. v, pp. 17–20.—A purely mechanical action enables *Clionia* to perforate oyster shells; LETELLIER, C.R. Ac. Sci. cxviii, pp. 986–989.—Folk-lore and local traditions respecting Snails; ROGERS (315).—Remarks on the status of species and subspecies; PILSBRY (296).

14. ECONOMICS.

Shells and *Mollusca* in connection with the lives of the Indians and Polynesians; SCHMELTZ (331).—*Mollusca* used for food in Trinidad; GUPPY (135).—*Mollusca* used in the production of purple; GILBERT, Rev. Sci. Bourbonnais, vii, pp. 173–175.—Pearl-bearing *Mytilus* of Billiers; HAMMONVILLE (139).—Pearl and Chank Fisheries of the Gulf of Manaar, Ceylon; THURSTON (418).—Methods of Oyster and Mussel culture on the West Coast of France; HERDMAN (162).—Oyster culture in Georgia; OEMLER (260).—Oyster culture in Maryland; STEVENSON (385).

15. COLLECTION, MUSEUMS, &c.

Shell hunting forty feet under the sea; HEDLEY (155).—Collection and preservation of *Cephalopoda*; JOUBIN (174).—How to arrange a collection of shells; PRETE (305).—Catalogue of *Mollusca* in the Rijksmuseum van Natuurlijke Historie at Leyden; HORST & SCHEPMAN (164).—Appendix to list of figured specimens in the Museum of the Yorkshire Philosophical Society; Rep. Yorksh. Soc. 1893 (1894) pp. 47–52.

III.—DISTRIBUTION.

GEOGRAPHICAL.

NON-MARINE MOLLUSCA.

a. PALÆARCTIC ZONE.

1. *Septentrional Region.*

The species of *Bythinia* of the European system, with many alleged new species; LOCARD (205).

British Isles: Monograph of British non-marine *Mollusca*, Pt. I; TAYLOR (414).—*Mollusca* of the Lake District; FARRER (104).—Variation and distribution of Slugs; SWANTON (397).—Band variation in *H. nemoralis* and *hortensis*; COCKERELL (58).—List of *Pisidii* [sic]; SWANTON (398).

England:—Cheshire: Molluscan fauna of the Bowdon District; MILNE & OLDHAM (237).—Kent: shells of Wychling; SWANTON (396).—Middlesex: *Helix britannica*, n. sp. [?]; WESTERLUND (436).—Norfolk; non-marine *Mollusca* of East Norfolk; PEARCE & MAYFIELD (268).—Somersetshire: *Arion elongatus*, n. sp.; COLLINGE (66).—Staffordshire: *Hydrobia jenkinsi* found in North Staffordshire; DANIEL (87B).—Sussex: *Hydrobia jenkinsi* at Lewes; ADAMS (2).

Scotland: additions to comital census; ROEBUCK (314).—*Mollusca* from Barra and N. Uist Is.; SCOTT, Ann. Scott. Nat. Hist. 1894, p. 258.

Ireland: note on a species of *Limax* [*L. hedleyi*, n. sp.]; COLLINGE (64).

Sweden: *Pupa celata*, n. sp.; WESTERLUND (436).

Finnland: *Planorbis leptostoma*, *Valvata halopea*, n. spp.; WESTERLUND (436).

France: Terrestrial *Mollusca*, monograph, with an enormous number of alleged new species; LOCARD (203).—Is *Helix quinperliana*, Fér., indigenous in Finisterre? PICQUENARD (279).—*Cyclostomæ* of the French fauna; COUTAGNE (71).—*Unio*, 5 alleged new species from the Seine at Elbeuf; LOCARD (206).—*Anodonta ervica*, n. sp. [?], from the Loire; KOBELT in ROSSMAESSLER (317).—*Pseudanodonta dumasi*, *berryacensis*, alleged new species from Allier; LOCARD (207).

Luxemburg: contributions to the Molluscan fauna; FERRANT (107).—Slugs (only 9 species); REISEN (313).

Switzerland: Molluscan fauna of the Cantons of Appenzell and St. Gallen; ULRICH (428).—Land shells common to the Northern and Southern, but wanting in the Central Alps; MARTENS (218).

Germany: Distribution of *Pupa ronnebyensis* in North Germany; PAESSLER (264).—"Finds" in the Hanoverian Oberharz; LOENS (210).—Molluscan fauna of Westphalia; LOENS (211).—Second supplement to the Molluscan fauna of Nassau, with *Unio battonensis* [alleged new

species]; KOBELT (190).—*Unio battonensis*, n. sp. [?], from Battenberg; KOBELT in ROSSMAESSLER (317).—Supplement to Naumann's fauna of Saxony; SIMROTH (345).—Fauna of the Mansfelder Lakes and their immediate vicinity; GOLDFUSS (129).—Distribution of *Mollusca* in Wurttemberg; GEYER (119).—Molluscan fauna of Silesia; MERKEL (235A).

Austro-Hungary: *Mollusca* of the Tirol and Vorarlberg; GREGLER (131).—Bohemia: *Succinide*, *Auriculide*, *Limneide*, *Truncatellide*, *Paludinide*, and *Valvatide*; ULICNY (427).

2. Circum-Mediterranean Region.

Portugal: *Mollusca* in the rivers of Northern Portugal; NOBRE, Ann. Sci. nat. Porto, i, pp. 154-157.—*Geomalacus grandis*, *Arion hessei*, n. spp.; SIMROTH (343).—*Succinea*, 2 alleged new species; LOCARD (208).

Spain: *Pupa fagoti*, n. sp.; WESTERLUND (436).—*Ferussacia vasconica*, n. sp., from Orduna; KOBELT in ROSSMAESSLER (317).—*Anodonta*, 9 alleged new species, *Unio*, 9 alleged new species; DROUET (96).

France: Terrestrial *Mollusca*, monograph, with an enormous number of alleged new species; LOCARD (203).—*Cyclostomæ* of the French fauna; COUTAGNE (71).—Molluscan fauna of Avignon [concluded]; CAZIOT (46).—Malacological fauna of Aude; FAGOT (103).

Corsica: List of *Mollusca*; SCHARFF (326).

Italy: Land shells common to the Northern and Southern, but wanting in the Central Alps; MARTENS (218).—Notes on *Mollusca* collected near Lakes Como and Lugano, with *Amalia nigra* and *Planorbis supracarinatus*, alleged new species; PFEIFFER (274).—Catalogue of non-marine *Mollusca* of Modena and Reggio; PICAGLIA (276).—Molluscan fauna of the district of Frignano; PICAGLIA (277).—Molluscan fauna of Ginevra; PICAGLIA (278).—*Mollusca* around Mte. Pellegrino; MONTEROSATO (242).—[*Helicæ*] *Iberus signatus*, Fer., in the Province of Roma; MELI (232).—*Acme elegantissima*, n. sp., near Modena; KOBELT in ROSSMAESSLER (317).

Maltese Is.: Slugs; CARUANA-GATTO (44).

Austro-Hungary: *Unionide* of the Isonzo, Trieste; GALLENSTEIN (118).—Monograph of subgenus *Alopiæ* of *Clausilia*, with 3 alleged new species and many "vars." from Transylvania; KIMAKOWICZ (183).

Greece: 20 species, alleged to be new, belonging to the genera *Helicæ*, *Buliminus*, *Pupa*, *Clausilia*, *Planorbis*, *Pomatias*; WESTERLUND (436).—Notes on some *Unionide*, with *Unio pamisius*, n. sp. [?]; DROUET in CHAPER (48).—Corfu: *Hyalinia corcyrensis*, n. sp.; WESTERLUND (436).—Cerigo Is.: *Clausilia cytheræ*, n. sp.; Cerigotto Is.: *Helicæ cerigottana*, *pæcilodonta*, *Clausilia cerigottana*, n. spp.; BERTGER (24).

Turkey: Molluscan fauna, with *Clausilia distincta*, *lophauchena*, *Planorbis*, 3 new species, *Valvata rhabdota*, *Emmericia munda*, n. spp.; STURANY (387).—*Agriolimax*, 3 new species; SIMROTH (344).

Asia Minor: *Mollusca* from Tokat, with *Buliminus eudoxinus* and

Lithoglyphus parvulus, n. spp.; NAEGELE (245).—Caucaso-Armenian Moll. fauna, with *Limax primitivus*, n. sp.; KLIKA & SIMROTH (187).—*Helix maculari*, n. sp., Lycia; ROLLE (316).—Cyprus: *Helix*, 3 new species; ROLLE (316).—Meis I.: *Zonites megistua*, n. sp.; ROLLE (316).

Syria and Palestine: *Planorbis homsensis*, *Pyrgula barroisi*, *Bithinella contempta*, *palmyrae*, n. spp.; DAUTZENBERG (91).—Remarks on some Mollusca from Palestine; KNIGHT (187A).

Egypt: *Helix (Xerophila) psanmita*, n. sp.; WESTERLUND (436).

Algiers: *Hyalinia subplana*, n. sp., Oran; WESTERLUND (436).

Morocco: *Helix renati*, n. sp.; DAUTZENBERG (90).

3. Central Asiatic Region.

Turkestan: *Buliminus retroplicatus*, n. sp.; WESTERLUND (436).—*Buliminus costatus*, *Macrochlamys schmidtii*, *Caspia issykkulensis*, n. spp., from near Lako Issyk-Kul; CLESSEN (54).

4. Chinese Region.

China: notes on the fauna, with *Helix adaquata*, *Clausilia recens*, *Limnaea subperegra*, *Cyclophorus cicatricosus*, *Ptychopoma*, 2 species, all new; BACHMANN & GREDLER (16): land shells, with *Clausilia microthyra*, *Helix*, 4 new species, and *Caelopoma barcheti*, n. spp.; SCHMACKER & BËTTGER (330): on some *Clausiliae*, with 12 new species; BËTTGER & SCHMACKER (27).—Corea: *Melania*, 9 new species, *Unio*, 4 new species; MARTENS (220).

5. Japanese Region.

Japan: *Helix plicosa*, n. sp.; MARTENS (222).—*Helix subnimbosa*, n. sp.; KOBELT in MARTINI & CHEMNITZ (225).—*Helix yaeyamensis*, *Clausilia stearnsii*, n. spp.; PILSBRY (290).—*Unionidae* with *Anodonta*, 2 new species, and *Unio*, 2 new species; JHERING (169).—Fauna of Okinawa, Liu-Kiu; FRITZE (113A).

6. Atlantidean Region.

Tenerife: note on some Slugs; KRAUSE (195).—*Helix parryi* and *Pupa pyramidula*, n. spp.; PONSONBY & SYKES (304).

b. PALÆOTROPICAL AFRICAN ZONE.

7. Central African Region.

Mollusca from Africa; MARTENS (216).—British East Africa: *Succinea baumanni*, *Spatha baumanni*, *martensi*, n. spp.; STURANY (388): list of specimens from Kenia, with *Vitrina baringoensis*, *Zingis gregorii*, *Streptaxis kibweziensis*, *Limnaea elmeteitensis*, n. spp.; SMITH (357).—

German East Africa : on some shells from Kilimandjaro ; ANCEY (7).—East Central Africa : *Achatina lechaptouisi, mariei, Unio borelli, lechaptouisi, Spathella kirki, anceyi, Mutela simpsoni*, n. spp. ; ANCEY (5) : *Mollusca* from Tanganika, *Lechaptouisia*, n. n. for *Horea*, Smith ; ANCEY (6) : *Nanina morrumbalensis*, n. sp., Mt. Morrumbala ; MELVILL & PONSONBY (235) : *Achatina nitida*, n. sp. from Usambara ; MARTENS (216) : *Urocyclus rufescens, Phaneroporus unicolor*, n. spp., Usambara SIMROTH (343).

8. West African Region.

Limicolaria togoënsis, unicolor, n. spp. ; KOBELT in MARTINI & CHEMNITZ (225).—*Ætheria heteromorpha*, n. sp., Congo Falls ; SIMROTH (342). Gulf of Guinea : Revision of the fauna of St. Thomas and Prince Is., with *Bocageia*, n. g., *Subulina*, 2 new species, *Opeas*, 2 new species, *Thomea newtoni*, n. g. & sp., and *Pupa nobrei*, n. sp. ; GIRARD (125).—Fauna of the I. of Anno-Bom, with *Ennea*, 3 new species, and *Pupa annobonensis*, n. sp. ; GIRARD (126).—Fernando Po I. : *Ennea newtoni*, n. sp. ; GIRARD (123).—St. Thomas I. : notes on the fauna with *Nanina molleri*, n. sp. ; NOBRE (255).—Angola : *Vaginula simrothi*, n. sp. ; NOBRE (258).

9. South African Region.

Natalina, 2 species, *Helix inhluzana, Buliminus nuptialis, Achatina* 2 species, *Pupa*, 7 species, *Ennea nonotiensis*, n. spp. ; MELVILL & PONSONBY (235).—Relation of the Helices of New Zealand and Tasmania to those of S. Africa ; SUTER (393).

10. Malagasy Region.

[None.]

11. Afro-Arabic Region.

Arabia : notes on some non-marine shells from Oman with *Buliminus* 2 new species and *Limnea arabia*, n. sp. ; SMITH (356). *Bulimus deflersi*, n. sp. ; JOUSSEAUME (176).

c. PALEOTROPICAL ORIENTAL ZONE.

12. Indian Region.

India : *Cyclophorus*, 4 new species, and *Spiraculum nagaense*, n. sp. ; GODWIN-AUSTEN & BEDDOME (128).—Ceylon : *Mollusca* collected by E. Simon with *Vitrea tratanensis, Trichia halyi, Microcystis suavis, Eupleotella trimeni, Plectopylis eugenii, lamcabensis, Hemiplecta simoni, Hygromia radleyi, Opeas marie, Glessula simoni, Buliminus simoni*, and *Cyathopoma marie*, n. spp. ; JOUSSEAUME (175).

13. *Indo-Chinese Region.*

Assam : *Nanina episema*, Khasi Hills ; PONSONBY (303).—Samui Is., Gulf of Siam : collection of shells with 18 new species ; MOELLENDORFF (239).

14. *Indo-Malay Region.*

Natuna Is.: Land Molluscan fauna, with *Microcystis bunguranensis*, *Trochonanina*, 3 species, *Sitala sirhassensis*, *Patula persculpta*, *Tornatellina natuensis*, *Leptopoma natuensis*, *Lagochilus*, 4 species, *Cyathopoma tricarinaratum*, *Cyclotus*, 2 species, *Pupina everetti*, *Diplommatina*, 2 species, all new ; SMITH (359).—Borneo : *Helix*, 2 new species ; KOBELT in MARTINI & CHEMNITZ (225) : *Amphidromus martensi*, n. sp. ; BÆTTGER (25) : *Melania sadongiensis*, *fultoni*, n. spp. ; BROT (33) : notes on species of *Paludomus* with *P. everetti*, n. sp. ; SMITH (363) : *Opisthostomæ* ; SMITH (365) : List of *Opisthostoma*, with 4 new species ; SMITH (360).—Java : non-marine *Mollusca* ; MARTENS (217) : *Nanina inquinata*, V. D. Busch, is probably not an inhabitant of Java but comes from the Banda Is. ; SCHEPMAN (328).—Sumbawa I. : *Clausilia recondita*, n. sp. ; SYKES (401).—Roti I. : *Potamides tenuerrimus*, n. sp. ; SCHEPMAN (327).

15. *Philippine Region.*

Philippines : *Ennea*, 8 species, *Vitrinopsis quadrasi*, *Vitrinocoelus goniomphalus*, *Tennentia*, 2 species, *Helicarion quadrasi*, *Macrochlamys*, 6 species, *Euplecta*, 5 species, *Sitala*, 3 species, *Kaliella dentifera*, *Glyptococcus mirus*, n. g. & sp., *Lamprocystis*, 7 species, *Hemitrichia*, 2 species, *Bensonia*, 2 species, *Obbina*, 3 species, *Aulacospira porrecta*, *Chloritis subsulcata*, *Cochlostyla*, 9 species, *Hypselostoma*, 3 species, *Pteroglyphus mindanavicus*, n. g. & sp., *Trochomorpha*, 7 species, *Plectopylis coarctata*, *Satsuma pæcilotrochus*, *Plectotropis luzonica*, *Camæna stolidota*, *Prosopæas rhodineæforme*, *Melampus brachyspirus*, *Plecotrema mucronatum*, *Cyclotus*, 2 species, *Cyclophorus*, 2 species, *Lagochillus*, 2 species, *Leptopoma*, 4 species, *Helicomorpha*, 2 species, *Avinia*, 4 species, *Diplommatina*, 10 species, *Pupina*, 6 species, *Moulinia*, 4 species, *Omphalotropis denselirata*, *Helicina pseudomphala*, *Georissa*, 3 species, *Paludomus quadrasi*, all new species ; QUADRAS & MOELLENDORFF (308) : *Phengus groulti*, n. sp. ; JOUSSEAUME (180) : *Axina beloni*, n. sp. ; JOUSSEAUME (181) : *Melania*, 4 new species from Palawan ; BROT (33).—Sulu Is. : Notes on the fauna with [*Helix*] *Chloritis suluana*, *Amphidromus roeseleri*, *Clausilia suluana*, *Ditropis diminuta*, and *Lagochilus compressum*, n. spp. ; MOELLENDORFF (240) : *Mollusca* from the Sulu Archipelago with *Trochonanina bougavensis*, *Helix (Chloritis) sibuensis*, *Cyclotus suluanus*, *bougavensis*, n. sp. ; SMITH (358).

d. AUSTRALIAN ZONE.

16. *Austro-Malay Region.*

Moluccas: *Helix brunonis*, n. sp., from Halmahera; KOBELT in MARTINI & CHEMNITZ (225).—Amboina I.: non-marine *Mollusca*; MARTENS (217).—Banda Is.: *Nanina inquinata*, V. D. Busch, inhabits these Is. and probably not Java; SCHIEPMAN (328).—New Guinea: non-marine *Mollusca*; MARTENS (217): *Helix*, 5 new species from Djmna I.; KOBELT in MARTINI & CHEMNITZ (225): New Guinea? *Cochlostyla*? *finschi*, n. sp.; MARTENS (216): notes on some land *Mollusca* from British New Guinea, with *Sitala anthropophagorum*, *Papuina secans*, *Otopoma mactegoriae*, n. spp.; HEDLEY (152).—Solomon Is.: *Helix wiegmanni*, n. sp., MARTENS (216): *Helix oscarensis* and *derbyi* were wrongly recorded in Zool. Rec., 1892, from the Solomon Is.: they should have been placed under W. Australia.

17. *Australian Region.*

Australasian species of *Gundlachia*; HEDLEY (148).—Western Australia: list of the land shells, with *Lamprocystis lissa*, *Helix*, 12 new species, *Bulimus leeuwinensis*, *Pupa*, 3 new species, *Helicina walkeri*, n. spp., and *Coziella*, n. g.; SMITH (353): add to fauna *Helix oscarensis* and *derbyi* wrongly quoted in Zool. Rec., 1892, as from Solomon Is.—Torres Straits: non-marine *Mollusca* from, with *Pseudopotamis*, n. g., for *P. finschi* and *semoni*, n. spp.; BROU & MARTENS (217).—Queensland: non-marine *Mollusca* from, with *Helicarion semoni*, n. sp.; MARTENS (217): shells from North Queensland with *Papuina cerea*, n. sp.; HEDLEY (153): *Papuina cerea*, n. sp.; HEDLEY (154).—Central Australia: *Succinea interioris*, *Stenogyra interioris*, *Pupa*, 4 species, *Liparus spenceri*, *Planispira hemiclausa*, *Charopa*, 2 species, *Hadra*, 13 species, all new; TATE (405): *Hadra adcockiana*, n. sp.; BEDNALL (19).—South Australia: *Blandfordia stirlingi*, n. sp., quaternary, Lake Callabonna [? also living]; TATE (406).—Tasmania: relation of the *Helices* to those of S. Africa; SUTER (393).

18. *Austro-Polynesian Region.*

New Caledonia: *Diomphalus jeanneneyi*, *gravei*, and *Helix commanglei*, n. spp.; DUPUY (98).

19. *Polynesian Region.*

Polynesia?: *Cochlostyla*? *finschi*, n. sp.; MARTENS (216).—Marianne (Ladrone) Is.: *Lamprocystis denticulata*, *Patula*, 3 species, *Endodonta*, 2 species, *Partula quadrasi*, *Tornatellina*, 3 species, *Vertigo quadrasi*, *Succinea*, 2 species, *Melampus quadrasi*, *Palaina*, 2 species, *Omphalotropis*, 14 species, with *Chalicopoma*, n. subg., *Heteropoma*, n. g., with 6 species, *Quadrasiella*, n. g., with 2 species, *Truncatella*, 6 species, *Georisea*, 3 species, all new; QUADRAS & MOELLENDORFF (307).

20. *Neozelanian Region.*

New Zealand : preliminary note on the fauna and its affinities ; CROSSE (75) : synonymic and bibliographic list of the fauna ; SUTER (395) : check-list of species ; SUTER (391) : additions to fauna with *Lagochilus fasciatum*, *Flammulina pilsbryi*, *Pyrrha subincarnata*, *Allodiscus smithi*, *rusticus*, *Laoma ciliata*, *Phrixognathus murchisoni*, *cheesmani*, n. spp. ; SUTER (390) : additions and corrections to faunal list with *Lagochilus hedleyi*, *torquillum*, *Allodiscus wairoensis*, *urquharti*, *Laoma pirongiaensis*, *ptychodon*, *hunnensis*, *Charopa pseudocoma*, *segregata*, n. spp. ; SUTER (389) : notes on some New Zealand *Mollusca* ; SUTER (394) : relation of the *Helices* to those of S. Africa ; SUTER (393) : *Janella maculata*, n. sp., North I. ; COLLINGE (60).

e. NEANTARCTIC ZONE.

21. *Patagonian Region.*

Argentine Republic and Paraguay : species collected by A. Borelli, with *Helix pollonere*, *borellii*, and *Planorbis tancredii*, n. spp. ; PARAVICINI (265).—Paraguay : notes on *Mollusca* from, especially varieties of *Odontostomus striatus* ; MARTENS (219).

22. *Chilian Region.*

Chili : *Oncidiella coquimbensis*, n. sp. ; PLATE (299).

f. NEOTROPICAL ZONE.

23. *Peruvian Region.*

Peru : *Helix hettneriana*, n. sp. ; MARTENS (216).

24. *Columbian Region.*

Bogota : *Ampullaria castelloi*, n. sp. ; SOWERBY (370).—Cayenne : *Ampullaria granulosa*, n. sp. ; SOWERBY (370).

25. *Brazilian Region.*

Brazil : *Mollusca* of the coast-belt of Rio Grande do Sul ; JHERING (168).

26. *Mexican Region.*

Mexico and Central America : *Pelecypoda* ; FISCHER & CROSSE (109).—Mexico : *Unio*, 6 new species ; CROSSE & FISCHER (76).—Lower California. [VOL. XXXI.]

ifornia : notes on some *Mollusca* with *Melaniella tastensis*, n. sp. ; COOPER (68) : *Epiphragmophora ellipsostoma*, n. sp. ; PILSBRY (298) : notes on some North American land and freshwater shells ; STEARNS (376).

27. *Caribbean Region.*

West Indies : distribution of Molluscan fauna ; SIMPSON (338).—Monograph of genus *Strophia*, with 10 new species from Little Cayman, 4 new species from Cayman Brac, and 25 new species from the Bahamas ; MAYNARD (226A).—Jamaica ; list of shells collected ; HENDERSON (158) : notes on collecting in Jamaica ; SIMPSON (339) : notes on the species of *Veronicella* ; COCKERELL & LARKIN (59) : *Sagda maxima*, n. sp. ; SIMPSON (338).—Bahamas : some *Mollusca* collected, with *Condropoma waltingense* and †*Cerion agassizii*, n. spp. ; DALL (80).—Trinidad : *Mollusca* used for food ; GUPPY (135).

g. NEARCTIC ZONE.

Geographical and hypsometrical distribution of North American *Viviparidæ* ; CALL (40).

28. *American Region.*

Notes on some North American land and freshwater shells ; STEARNS (376).—*Mollusca* of the Potomac Valley, with *Philomycus pennsylvanicus*, n. sp. ; PILSBRY (280).—American species of *Carychium* ; PILSBRY (297).—Note on the distribution of *Unionidæ* ; SIMPSON (337).—Alabama : shell collecting in Northern Alabama ; SARGENT (325).—Florida : notes on the *Orthalicus* ; PILSBRY (294).—Indiana : list of *Mollusca* ; CALL (41).—Michigan : shells from the Saginaw Valley ; WALKER (431) : *Vertigo morsei*, n. sp. ; STERKI (383).—Missouri : occurrence of southern shells ; SAMPSON (323).—Montana : list of shells from the vicinity of Mingsville ; SQUYER (375).—New York : catalogue of shells of Long I. ; PRIME (306) : *Polygyra hirsuta* on Long I. ; GARDNER (117).—Ohio : *Mollusca* of New Philadelphia ; STERKI (384).—Pennsylvania : non-marine shells of Alleghany County ; STUPAKOFF (386).—Virginia : *Helix nemoralis* colony ; COCKERELL (57).

29. *Californian Region.*

American species of *Carychium* with *C. occidentalis*, n. sp., Oregon ; PILSBRY (279).—California : *Eulimella occidentalis*, n. sp., San Diego ; HEMPHILL (157).

30. *Canadian Region.*

Note on the distribution of *Unionidæ* in N. E. North America ; SIMPSON (337).—Canada : preliminary list of *Mollusca*, 1892 ; TAYLOR (412) : *Planorbis nautilicus*, new to Ottawa ; TAYLOR (413) : *Mollusca* of the Hamilton district, Ontario, 1889-90 ; HANHAM (140, 141).

MARINE MOLLUSCA.

1. Arctic Province.

Norway : on the *Mollusca* of Vardø ; SCHNEIDER (333).—Spitzbergen : *Mollusca* collected 1886 ; PFEFFER (273).—Kara Sea : *Chatoderma productum*, n. sp. ; WIRÉN (442).

2. Boreal Province.

[None.]

3. Celtic Province.

British Islands : additions to British Conchology (Addenda) ; MARSHALL (215) : notes on the British *Chitons* ; SYKES (402).—Plymouth : faunistic notes, chiefly on Nudibranchs ; GARSTANG, J. Mar. Biol. Ass. iii, pp. 219–221.—Scotland : list of *Mollusca* from near Oban ; CHASTER & HEATHCOTE (49) : *Doris inconspicua* new to Firth of Clyde ; ROBERTSON, Tr. Soc. Glasgow, iv, p. 142.—Heligoland : list of *Mollusca* ; HEINCKE (156).

4. Lusitanian Province.

Cephalopoda of the Azores and Madeira ; GIRARD (122).—Madeira : notes on the fauna ; NOBRE (255).—Portugal : *Patella paulinoi*, alleged new species ; LOCARD (209).—France : distribution of *Cephalopoda* on the coasts of France ; JOUBIN (172) : *Mollusca* of Saint-Jean-de-Luz and Guétharry ; DAUTZENBERG (89, 92) : *Trivia mollerati*, alleged new species ; LOCARD (209) : fauna of Bandol (Var.) ; COUTAGNE, Feuille Natural. 1894, p. 124 ; CAZIOT, t. c. p. 140.—*Cephalopoda* from the stomach of a Dolphin caught in the Mediterranean with *Chtenopteryx cyprinoïdes*, n. sp. ; JOUBIN (171).—Italy : *Pelta capreensis*, n. sp., Gulf of Naples ; MAZZARELLI (227) : comparative anatomy of some *Aplacophora* with *Rhopalomenia eisigi*, n. spp. ; THIELE (416).—Adriatic Sea : *Greilada elegans*, n. g. & sp. ; BERGH (21).—Black Sea and Sea of Azov : supplement to list of living *Mollusca* ; OSTROUMOFF (261).—Distribution of *Mollusca* from the Azov Sea to the Archipelago ; OSTROUMOFF (262).

5. Aralo-Caspian Province.

[None.]

6. West African Province.

St. Thomas I. : on the fauna, with *Tellina*, 2 new species ; NOBRE (255).—Cape Verde Is. : notes on the fauna ; NOBRE (256).

7. *South African Province.*

S. Africa: *Bullia pustulosa*, *Latirus abnormis*, *Marginella perminima*, *Columbella kitchingi*, *pyramidalis*, *Natica quekettii*, *Scalaria simplex*, *Aclis unilineata*, *Gibbula incincta*, *Volvatella laguncula*, *Basterotia obtusa*, *Pandora dissimilis*, *Psammobia burnupi*, *Tellina candidata*, *Strigilla trotteriana*, *Mactra aquisulcata*, *Donax burnupi*, *Cardium turtoni*, n. spp.; SOWERBY (374): *Patella kermadecensis*, Pilsb., came from the Cape and not the Kermadec Is.; BRAZIER (31), who proposes to rename it *P. pilsbryi* [For further notes see *infra* 9, Australo-Zelandic Province]: notes on the *Polyplacophora*; SYKES (403): *Ischnochiton elizabethensis*, n. sp.; PILSBRY (285).⁴

8. *Indo-Pacific Province.*

Zanzibar: *Mactra zellwegeri*, n. sp.; JOUSSEAUME (177).—Mauritius: *Murex crouchi*, *obtusus*, *Fusus barclayi*, *Coralliophila latiaxidea*, *curta*, *Scalaria robillardi*, *Terebra cernica*, *Natica robillardi*, *Dosinia parva*, n. spp.; SOWERBY (368): *Mangilia*, 3 new species, *Cythara articulata*, *Columbella robillardi*, *Sistrum angulatum*, *Amphiperas smithi*, *Cardium robillardi*, n. spp.; SOWERBY (369).—Réunion I.: *Bullina deshayesii*, n. sp.; PILSBRY in TRYON (424).—Red Sea and Gulf of Aden: description of 27 new species with *Kyrina*, *Agagus*, *Eetra*, *Djeddilia*, *Stolida*, *Psammospherita*, alleged n. g.; JOUSSEAUME (176).—Red Sea: *Dosinia spaldingi*, n. sp.; JOUSSEAUME (177).—Aden: *Cancilla innesi*, *beyerlei*, n. spp.; JOUSSEAUME (178): *Dactylus tripartitus*, *Scalptia macconkeyi*, n. spp.; JOUSSEAUME (182).—Gulf of Aden: *Ancilla unidentata* and *Nassa zailensis*, n. spp., Bay of Zaila; SOWERBY (373).—Persian Gulf: *Cancellaria paucicostata* and *Donax townsendi*, n. spp.; SOWERBY (373).—India: shells dredged off the coasts of, with *Conus coromandelicus*, n. sp., *Pleurotoma*, 2 new species, *Murex malabaricus*, *Nassaria coromandelica*, *Latirus andamanicus*, *Pirula investigatoris*, *Lacuna indica*, *Sigaretus tener*, *Capulus lissus*, *Turbo indicus*, *Scaphander andamanicus*, *Lepidopleurus similis*, n. spp., *Dentalium*, 3 new species, *Cythera pudicissima*, n. sp., *Cuspidaria*, 2 new species, *Lucina bengalensis*, *Limopsis indica*, n. spp., *Amussium*, 3 new species; SMITH (361): common marine shells of the Bombay coast; ABERCROMBIE (1): *Engina epidromidea*, n. sp., Bombay; MELVILL (234): *Syndesma maxima*, *Glaucanome sculpta*, n. spp., Bay of Bengal; SOWERBY (368).—Ceylon: Pearl and Chank Fisheries of the Gulf of Manaar; THURSTON (418).—Andaman Is.: specimen of *Xenophora pallidula*, Reeve, taken off Port Blair in 188 faths, with attachments of *Pleurotomidae* including *P. rugidentata*, n. sp.; SOWERBY (366): *Verticordia optima*, proposed as n. sp. but withdrawn as synonym of *V. eburnea*, Wood-Mason & Alcock; SOWERBY (367).—Hong-kong: *Puncturella sinensis*, n. sp.; SOWERBY (372): *Columbella*, 5 new species, *Cerithiopsis multilirata*, *Couthouya acuta*, *Alaba hungerfordi*, *Rissoina illustris*, *Rissoia subcancellata*, *Plesiothyreus*

newtoni, *Adeorbis patula*, *Eulima producta*, *Turbonilla sinensis*, *tenuistriata*, *Cingulina trisulcata*, *Odostomia subcarinata*, *Eulimella tenuis*, *Minolia strigata*, *Schizodentalium plurifissuratum*, n. g. & sp., *Psammobia simplex*, *Tellina hungerfordi*, n. spp.; SOWERBY (372).—Philippines: *Tritonidea neglecta*, n. sp.; SOWERBY (368).—Amboina: *Mollusca* from, with *Teredo furcifera*, n. sp.; MARTENS (217): *Cephalopoda* from, with *Chiroteuthis picteti*, and *Loligo picteti*, n. spp.; JOUBIN (173).—Torres Straits: *Mollusca* from; MARTENS (217).—Australia: revision of *Acanthochitidae*; PILSBRY (281).—Australia and Polynesia: distribution of little-known species; BRAZIER (30).—Loyalty Is.: *Engina zabricium*, n. sp.; MELVILL (233).

9. Australo-Zelandic Province.

Distribution of little-known species; BRAZIER (30).—Australia: revision of the *Acanthochitidae*; PILSBRY (281).—South Australia: *Murex polypleurus*, n. sp.; BRAZIER (29): *Zidora legrandi*, n. sp., Spencer Gulf; TATE (404): *Acanthochites matthewsi*, n. sp.; PILSBRY (283): *Ischnochiton ptychius*, *Chiton tricostalis*, n. spp.; PILSBRY (286).—New South Wales: list of *Mollusca* at Green Point with *Peristernia rudolphi*, *Margiella nymphe*, *Pleurotoma edvini*, *Vanikoro gracilis*, *Turbonilla scalaria*, *Eulimella pulchra*, *Odostomia*, 2 new species, *Bittium variegatum*, *Triforis graniferus*, *Rissoia*, 2 new species, *Homalogyra pulcherrima*, *Glyphis watsoni*, *Puncturella henniana*, n. spp.; HENN (161), n. spp. by BRAZIER: *Plecotrema octanfracta*, *Jonas*, and other *Mollusca* in Port Jackson; COX (72): *Oscanius hilli*, n. sp., Port Jackson; HEDLEY (151): *Cecum amputatum*, n. sp., Sydney Harbour; HEDLEY (147): *Calliostoma purpureocinctum*, n. sp., Port Stephens; HEDLEY (149): *Lepeta* (?) *alta*, n. sp., off Sydney, with note on occurrence of Atlantic forms in deep water there; SMITH (352): Port Jackson *Chitons*, with *Chiton coxi*, n. sp.; PILSBRY (281): *Acanthochites retrojectus*, n. sp.; PILSBRY (282): *Chiton coxi*, *Acanthochites granostriatus*, *coxi*, n. spp.; PILSBRY (283).—New Zealand: *Scissurella lytteltonensis*, *Photimula suteri*, *Acmaea helmsi*, n. spp.; SMITH (352): *Planiphora suteri*, n. sp.; PILSBRY (285).—Kermadec Is.: *Patella kermadecensis*, n. sp.; PILSBRY (287): note on it; TAYLOR (410): did not come from these Is., but from S. Africa; BRAZIER (31), who proposes to rename it *P. pilsbryi*: does come from Kermadec; PILSBRY (288).

10. Japonic Province.

Japan: *Sepia hercules*, *Siphonaria sirius*, *acmæoides*, *Siphonalia stearnsii*, *Macroschisma lischkei*, *Cyrena luchuana*, *yaeyamensis*, *fissidens*, n. spp.; PILSBRY (290): *Lippistes rollei*, n. sp.; MARTENS (222): *Malvufundus irregularis*, *Pinna epica*, n. spp.; JOUSSEAUME (179).

11. *Alleutian Province.*

Alaska : *Himatella trophina* and *Tritonia diomedea*, n. spp. ; BERGH (20).—British Columbia : occurrence of *Trachydermon raymondi* ; Nautilus, viii, p. 57.—Vancouver I. : notes on a collecting trip to Departure Bay ; TAYLOR (409).

12. *Californian Province.*

Washington : *Doridium uellei*, n. sp., Puget Sound ; DALL (85).—California : *Tritonia diomedea*, *Æolidia herculea*, n. spp. ; BERGH (20) : *Urosalpinx cinereus* in San Francisco Bay ; STEARNS (379) : species of *Haliotis* ; WILLIAMSON (440) : *Lepidopleurus percrassus*, n. sp. ; DALL (86) : notes on the Californian species of *Nuttallina* ; RAYMOND (312) : *Trachydermon raymondi*, n. sp. ; PILSBRY (295) : *Maetridae*, synopsis ; DALL (84) : species of *Maetra* with *M. henphillii*, n. sp. ; DALL (81).—Lower California : *Octopus digueti*, n. sp. ; PERRIER & ROCHEBRUNE (272) : shells of Lower California ; STEARNS (377).

13. *Panamic Province.*

Maetridae, synopsis ; DALL (84).—Lower California : *Octopus digueti*, n. sp. ; PERRIER & ROCHEBRUNE (272).—Shells of the Tres Marias Is. and the Gulf of California ; STEARNS (377).—Gulf of California : *Tridachia ? diomedea*, n. sp. ; BERGH (20) : *Mulinia modesta, coloradensis*, n. spp. ; DALL (82).—Gulf of Panama : *Chromodoris agassizii*, n. sp. ; BERGH (20) : *Mulinia bradleyi*, n. sp. ; DALL (82).

14. *Peruvian Province.*

Peru : *Aplysia chierchiana*, n. sp. ; MAZZARELLI & ZUCCARDI (231).

15. *Antarctic Province.*

[None.]

16. *Patagonian Province.*

[None.]

17. *Caribbean Province.*

Maetridae, synopsis, with *Maetra richmondi*, n. sp., Nicaragua ; DALL (83).—Rio Janeiro : *Thordissa ? dubia*, n. sp. ; BERGH (20).—Gulf of Mexico : notes on some shells from ; STEARNS (376) : *Geitodoris immunda*, n. g. & sp. ; BERGH (20).—W. Atlantic, off Cape Delgarda : *Gargamella immaculata*, n. g. & sp. ; BERGH (20).—West Indies : *Pro-nemomenia acuminata*, n. sp. ; WIRÉN (442).—Trinidad : *Mollusca* used for

food; GUPPY (135).—Jamaica: list of *Pelecypoda*, *Pteropoda*, and *Nudibranchiata*; COCKERELL (56).—Bahamas: some *Mollusca* collected, with *Venus leptalea*, *Tornatina parviplica*, n. spp.; DALL (80).—Florida: habits of littoral *Mollusca*; WILLCOX (439).

18. Transatlantic Province.

Mastridae, synopsis; DALL (83).—Florida: habits of littoral *Mollusca*; WILLCOX (439): occurrence of *Melongena corona*, Gmel., in brackish water, Banana Riv.; WHITE (438).—Maine: notes on some Eastport shells; WINKLEY (441).

GEOLOGICAL.

List, including fossil forms, of *Mollusca* from Jamaica; COCKERELL (56).

1. POST-TERTIARY.

British Isles: Pleistocene non-marine *Mollusca* from Twickenham; LEESON & LAFFAN, Quart. J. Geol. Soc. 1, p. 458: Pleistocene non-marine *Mollusca* from the Ightham fissures; ABBOTT, Quart. J. Geol. Soc. 1, p. 182: Pleistocene non-marine *Mollusca* from Walton-on-the-Naze (Coll. J. Brown: in Chelmsford Mus.); WEBB (432): *Mollusca* of the Glacial Drift of the I. of Man; KENDALL, Lioar Mannin. i, pp. 415–421, 1 pl.—France: alleged new species of *Mollusca* from the Quaternary beds near Crémien (Isère); LOCARD (204): Molluscan fauna of the freshwater tuffs of the Hautes Alpes; MARTIN (224).—Russia: Quaternary *Mollusca* near Moscow; ZICKENDRATH, Bull. Soc. Moscou, 1894, pp. 275 & 276.—Canada: *Unionida* and other freshwater shells from the Drift at Toronto; SIMPSON (337).—West Indies: Quaternary fossils from the Bahamas with *Cerion agassizii*, n. sp.; DALL (80).—Quaternary fossils from Lake Callabonna, with *Blandfordia stirlingi*, n. sp.; TATE (406).

2. TERTIARY.

Relationships of Tertiary Helices discussed by BÆTTGER (26) in reply to Pilsbry: Tertiary *Cypræidæ* and *Amphiperasidæ* from Piedmont and Liguria; SACCO (319): Tertiary fossils of Venetia, several new species; GREGORIO, Ann. Geol. Pal. pp. 13 & 14, figg.: Tertiary *Mollusca* from Serbia, with new species of *Ancylus*, *Caspia*, *Limnæa*, *Limnocardium*, *Lithoglyphus*, *Melanopsis*, *Neritodonta*, *Orygoceras*, *Planorbis*, and *Prososthenia*; BRUSINA (34): Tertiary *Mollusca* of Australia with many new species and *Phragmorisma*, *Poroleda*, *Triploca*, *Calyptropis*, *Ataxocerithium*, n. g., and *Tectifusus*, n. subg.; TATE (407).

Pliocene: Molluscan fauna of the older Pliocene travertine of the Weimar-Taubach Kalktuff; WEISS (433): *Mollusca* of the Levantine

beds in Rhodes I. with *Corymbina*, n. g.; BUKOWSKI (39): marine Pliocene of Syria, few new species; BLANCKENHORN, SB. Soc. Erlangen, xxiv (1892) pp. 1-53, 2 pls.: Pliocene freshwater fossils of California, with *Margaritana subangulata*, n. sp., and figg. of *Limnæa contracosta*, *Planorbis pabloanus*, and *Amnicola yatesiana*; COOPER (69).

Miocene: *Pelecypoda* from Dingden; LEHMANN (200): Miocene fossils from Krapina and Radoboj; FUCHS, Mt. Ungar. geol. Anstalt, x, pp. 163-175: Pontic fauna from Kurd, Tolna, Hungary, with many new species; LÖRENTHEY (213): Lower Pontic *Mollusca*, many new species; LÖRENTHEY (212): *Nucula shaleri* and *Macoma lyelli*, n. sp., Miocene, Gay Head, Mass.; DALL, Amer. J. Sci. xlviii, p. 298.—Jamaica: Miocene non-marine *Mollusca*, with *Neocyclotus bakeri*, *Lucidella costata*, *Pleurodonte boudeniana*, n. spp.; SIMPSON (338).

Oligocene: France: revision of the Oligocene fauna of Étampes, with *Diastomide*, n. fam., and *Sandbergia trimargarita* and *Scaphander mediocris*, n. spp.; COSSMANN (70): *Potamides* from Aquitanian beds of Burgos with 2 new species; LARRAZET (197).—Germany: revision of the Molluscan fauna of the Samlandian Tertiaries, few new species; KOENEN (191): Lower Oligocene *Mollusca* [*Pelecypoda*] of North Germany, many new species; KOENEN (191).—United States: new Oligocene fossils from Red Bluff, Mississippi; ALDRICH (3).

Eocene: British Is.: Eocene *Pulmonata*, new species and little-known forms; NEWTON & HARRIS (251): revision of British Eocene *Cephalopoda*; NEWTON & HARRIS (252): Eocene Pteropod from Bracklesham, *Euchilotheca elegans*, n. sp.; HARRIS (142): revision of British Eocene *Scaphopoda*, with 2 new species, and *Entaliopsis*, n. n.; NEWTON & HARRIS (250).—Italy: Eocene fauna of Mt. Pulli, near Valdagno, Venetia, with many new species; OPPENHEIM, Zeitschr. deutsch. geol. Ges. xlvi, pp. 309-445, 9 pls.—United States: Eocene fossils of Alabama; ALDRICH, Rept. Geol. Surv. Alabama, 1894, pp. 232-239: fossils of the Clayton Tertiaries, Alabama, new species; ALDRICH, t. c. pp. 240-248, 4 pls.

3. SECONDARY.

Mesozoic *Invertebrata* of N. America, Cat. & Bibliog.; BOYLE, Bull. U. S. Geol. Surv. No. 102, pp. 315.—New fossils from the secondary rocks of Nivernais, with figg.; LEFORT (199).—Jurassic and Cretaceous fossils of Campora, near Como, with *Aptychus mariani* and *Rhynchoteuthis campora*, n. spp.; CORTI, Rend. Ist. Lombardo, xxvii, pp. 378-384.—Cretaceous and Jurassic *Mollusca* from the Argentine Andes, Lists; BODENBENDER, Bol. Ac. Cordoba, xiii, pp. 32-44.

Cretaceous: France: *Ammonites janneli*, n. sp., from the Gault; PARENT (266).—Ammonites from the Barrémien, near Châtillon-en-Diois; SAYN & LORY, C.R. Ac. Sci. cxix, pp. 381-383: Molluscan fauna of the Danien at Saint-Remy and Baux, n. spp.; NICOLAS (253).—Germany: on the Belemnites of the Upper Pläner with *Inoceramus*

cuvieri; SCHLUETER (329).—Sweden: note on Cretaceous Belemnites; MOBERG (238).—Japan: Cretaceous fauna of Hokkaidō, many new species; JIMBŌ, Pal. Abh. vi, Hft. 3, pp. 23-44, figg.—United States: Invertebrate fauna of the Colorado formation, many new species; STANTON, Bull. U. S. Geol. Surv. No. 106, *Moll.*, pp. 54-189: new species of *Moll.* from the Dakota beds of Nebraska; WHITE (437).

Jurassic: British Isles: Jurassic Ammonites; BUCKMAN (36-38): Inferior Oolite Ammonites of British Is., *Sonninia*, concluded; BUCKMAN (35): British Jurassic Gastropoda (*Onustus*, *Neritidae*, *Neritopsidae*, *Turbinidae*), many new species; HUDLESTON (166).—Western Europe: *Proplanulites*, notes on species, with 3 new, from the Jurassic beds; TORNIQUIST (419).—Germany: Malformations in Ammonites of the Schwabian Jura; ENGEL (99).—Austro-Hungary: fauna of the Lower Zones of the Lower Lias in the N. E. Alps, with many new species and *Psuedotropites*, n. g. [*Cephalopoda*]; WAEHNER, Beitr. Pal. Oesterr.-Ung. ix, pp. 1-54, figg.—Italy: Inferior Oolite fossils from the province of Treviso, *Aucella precarinata*, n. sp.: BOTTO-MICCA, Boll. Soc. geol. Ital. xii (*Moll.*), pp. 159-177, figg.: Lower Oolite fossils from Lake Garda, few new species; FUCINI (114): on the Toarcian of Aleniano and the Central Appennines, few new species; BONARELLI, Boll. Soc. geol. Ital. xii, pp. 195-254: Lower Lias fossils from Rossano, Calabria, with new species; GRECO (130).—Poland: Ammonite fauna of the ferruginous Oolites of Poland, many new species; SIEMIRADZKI (336).—Russia: Jurassic *Mollusca* with new species from the Caucasus; REDLICH, Beitr. Pal. Oesterr.-Ung. ix, pp. 65-81, fig.—East Indian Archipelago: Jurassic *Mollusca* from Timor and Rotti Is., with new species; ROTHPLETZ (318).—Africa: Jurassic fossils from E. Africa, with new species of *Ammonites*, *Belemnites*, and *Pecten*; FUTTERER (115).—United States: Jurassic fossils of Western States, U. S. A., few new species; HYATT, Bull. Geol. Soc. Amer. v, pp. 395-434.—Chile: Liassic and Lower Oolitic fossils from Chile, several new species; MOERICKE (241).—Western Australia: Jurassic *Cephalopoda* with new species of *Nautilus* and *Ammonites*; CRICK (74).

Trias: Ammonites of the Trias and their classification; HAUG (143): *Pelecypoda* from British Keuper beds, 3 new species, doubtfully referred to *Thracia*, *Pholadomya*, and *Nucula*; NEWTON (249): Triassic *Gastropoda* of the S. Tirol with *Cryptonerita*, *Protonerita*, *Trachynerita*, n. g., and *Fedaiella* and *Marmolatella*, n. subg., and very many new species; KITTL (186): *Gastropoda* of the St. Cassian beds of the Southern Alps with many new genera, subgenera, and species; KITTL (185): *Nuculidae* and *Arcidae* of the St. Cassian beds, with *Phanodesmia* [*Nuculidae*], *Pichleria*, and *Hoferia* [*Arcidae*], n. g.; BITTNER (23): fauna of the Raibler beds, few new species, with *Diplochilus* [*Trochidae*], and *Physocardia* [*Cyprinidae*], n. g.; WOEHRMANN (443): Triassic *Mollusca* from Timor and Rotti Is., with new species; ROTHPLETZ (318).

4. PRIMARY.

Palæozoic fossils from Illinois, with *Conularia*, 3 new species; MILLER & GURLEY (236).

Permian: Permian *Mollusca*, very many new species, *Modiolodon*, n. subg., and *Crassiconcha*, n. g.; NECHAEV (247): Permian *Mollusca* from Timor and Rotti Is., with new species; ROTHPLETZ (318).

Carboniferous: *Mollusca* from British Coal-measures; HIND (163, 163A): notes on *Temnocheilus coronatus*, McCoy, from the Carboniferous of Yorkshire; FOORD & CRICK (112): Freshwater *Pelecypoda* from the Carboniferous beds of the basin of the Donetz; AMALÏTZKI (4): notes on the bivalve shells of the Coal-formation, with *Naiadites longus*, *mytiloides*, n. spp.; DAWSON (93, 94).

Devonian: Fauna of the Eastern Alps, many new species, and *Triangulavaria*, n. g.; FRECH, Zeitschr. deutsch. geol. Ges. xlvii, pp. 446-479, 7 pls.: Fauna of St. John's Group, with *Cyrtolithes atlantoides* and *Hyalolithes decipiens*, n. spp.; MATTHEW, Tr. R. Soc. Canada, xi, pp. 93-96: *Pteronites pittmani*, n. sp., Spirifer Sandstone, New South Wales; ETHERIDGE (102).

Silurian: *Duslia insignis*, n. g. & sp., Lower Silurian of Bohemia, with remarks on *Triopus*, Barr.; JAHN (167).

Ordovician: *Nanno*, n. g. and type? of Cephalopod from Trenton Shales; CLARKE (53).

IV.—SYSTEMATIC.†

I. CEPHALOPODA.

Phylogeny of *Cephalopoda*, chiefly *Nautiloidea*, HYATT, P. Amer. Phil. Soc. xxxii, pp. 349-647, with some new genera (for which see *ante*, pp. 32 & 33) and new species.

Collection and preservation of *Cephalopoda*; JOUBIN (174).

Preliminary notice of the *Cephalopoda* of the "Hirondelle"; JOUBIN, Mem. Soc. zool. France, vii, pp. 211-216.

Distribution on the coasts of France; JOUBIN, C.R. Ass. Franc. 1893 (1894) ii, pp. 628-632.

Cephalopoda from the stomach of a dolphin caught in the Mediterranean; JOUBIN, Bull. Soc. zool. France, xix, pp. 61-68, fig.

Cephalopoda of the Azores and Madeira; GIRARD, J. Sci. Lisb. ii, pp. 210-220.

On the protoconch in the *Cephalopoda*; BATHER, Nat. Sci. v, pp. 422-436, figg.

The movement of the Chromatophores is produced by the radial fibres; PHISALIX, C.R. Ass. Franc. 1893 (1894) ii, pp. 652-655.

† This sign is prefixed to references relating to fossil forms.

- On the amœboid cells of *Cephalopoda*, and their comparison with those of other *Invertebrata*; CATANELO, Atti Univ. Genova [xi], 1892, pp. 1-50, 4 pls.
- On the so-called "white bodies," and their development in the embryo and on the cerebral ganglia and cephalic cartilage of *Cephalopoda*; FAUSSEK, Mem. Ac. St. Petersb. xli, 27 pp., 3 pls.
- Preliminary note on the retina; LENHOSSÉK, SB. Ges. Wurzburg, 1894, pp. 110-114: note on the retina; LENHOSSÉK, Zeitschr. wiss. Zool. lviii, pp. 636-660.
- Note on the luminous organs; HOYLE, Rep. Brit. Ass. 1893 (1894), pp. 802 & 803.
- † A revision of British Eocene *Cephalopoda*; NEWTON & HARRIS, P. Malac. Soc. London, i, pp. 119-131, figg.

DIBRANCHIATA.

OCTOPODA.

- The descent of the *Octopoda* [with proposed new classification of *Cephalopoda*, for which see *ante*, p. 31]; SCHWARZ, J. Mar. Zool. i, pp. 87-92.
- Eledone*: notes on the spawn and embryos of a species of *Eledone*, possibly *E. moschata*; KORSCHULT, SB. Ges. naturf. Berlin, 1893 (1894), pp. 68-73, figg.
- Octopus vulgaris*, Lamk.: note on the hectocotylised arm; FISCHER, J. Conchyl. xlii, pp. 13-19, fig.: copulation; RACOVITZA, C.R. Ac. Sci. cxviii, p. 722: notes on copulation and fecundation; RACOVITZA, Arch. Zool. exp. ii, pp. 23-49, figg.
- O. digueti*, Lower California, PERRIER & ROCHEBRUNE, C.R. Ac. Sci. cxviii, p. 770, n. sp.

DECAPODA.

- † *Belemnites*: note on the Cretaceous *Belemnites* of Sweden; MOBERG, N. Jahrb. Min. 1894, ii, pp. 69-78: † *Belemnites* with *Inoceramus cuvieri* in the Upper Pläner; SCHLUETER, Zeitschr. deutsch. geol. Ges. xlvi, pp. 281-288.
- † *Belemnosis*, Edwards, founded on a rolled specimen of *Spirulirostra*; NEWTON & HARRIS, P. Malac. Soc. London, i, p. 124.
- Chtenopteryx cyprinoïdes*, Mediterranean, JOUBIN, Bull. Soc. zool. France, xix, p. 64, fig., n. sp.
- Chiroteuthis picteti*, Amboina, and its anatomy, JOUBIN, Rev. Suisse Zool. ii, p. 40, figg., n. sp.
- Loligo picteti*, Amboina, and its anatomy; JOUBIN, Rev. Suisse Zool. ii, p. 60, figg., n. sp.

- Ommastrephes gigas*, Orb., notes on ; MARTENS, SB. Ges. naturf. Berlin, 1894, pp. 234 & 235.
- Rossia macrosoma*, D. CH., copulation ; RACOVITZA, C.R. Ac. Sci. cviii, p. 722 : bionomics and reproduction ; RACOVITZA, Arch. Zool. exp ii. pp. 491-539, figg., 3 pls.
- Sepia* : structure and growth of the shell ; APPELLÖF, Svenska Ak. Handl. xxv, No. 7, pp. 4-53, figg.
- S. hercules*, Japan, PILSBRY, Nautilus, vii, p. 144, n. sp.
- Sepiola rondeletii*, Leach, copulation ; RACOVITZA, C.R. Ac. Sci. cxviii, p. 722.
- Spirula* : structure and growth of the shell ; APPELLÖF, Svenska Ak. Handl. xxv, No. 7, pp. 54-69, figg.
- †*Spirulirostra curta*, Eocene, Australia, TATE, J. R. Soc. N. S. W. xxvii, p. 170, figg., n. sp.

† AMMONEA.

- Notes on Jurassic Ammonites ; BUCKMAN (35-38) : † Ammonite fauna of the ferruginous Oolite of Poland, many new species ; SIEMIRADZKI, Zeitschr. deutsch. geol. Ges. xlvi, pp. 501-536, 5 pls : Ammonites from the Schwabian Jura showing malformation ; ENGEL, Acta Ac. German. lxi, pp. 327-384, 3 pls. : *Ammonoidea* with abnormal body-chamber ; POMPECKJ, Jahresh. Ver. Württemb. I, pp. 220-290, 1 pl.
- †*Agassiceras* : notes on, by BUCKMAN, Geol. Mag. 1894, pp. 361 & 362.
- †*Ammonites heuslowi*, J. Sow., is identical with *Ellipsolites compressus*, J. Sow., and the name is a synonym for *Prolecanites compressus* ; FOORD & CRICK, Geol. Mag. 1894, pp. 11-17, 1 pl.
- †*A. (Dorsetensia) clarkei*, p. 388, (*Stephanoceras australe*, p. 391, (*Sphero-ceras) woodwardi*, p. 433, *semioratus*, p. 434, (*Perisphinctes) championensis*, p. 436, *robiginosus*, p. 438, Jurassic, Western Australia : CRICK, Geol. Mag. 1894, figg., n. spp.
- †*Aptychus* of Ammonites ; SCHWARZ, Geol. Mag. 1894, pp. 454-459, figg.
- †*Crioceras* : notes on the species of the group *C. duvali*, with *C. picteti*, p. 192, *baleari*, p. 193, n. spp., NOLAN, Bull. Soc. geol. France, xxii, pp. 183-196, 1 pl.
- †*Cymbites*, Neumayr : notes on the genus ; BUCKMAN, Geol. Mag. 1894, pp. 357-363.
- †*Ellipsolites compressus*, J. Sow., is identical with *Ammonites heuslowi*, J. Sow., and the name is a synonym for *Prolecanites compressus* ; FOORD & CRICK, Geol. Mag. 1894, pp. 11-17, 1 pl.
- †*Hoplites janneli*, Gault, PARENT, Ann. Soc. geol. Nord, xxi, p. 266, figg., n. sp.
- †*Proplanulites* : notes on species from the Jurassic beds of Western Europe with *P. cracoviensis*, p. 558, *teisseyræi*, p. 562, *pourcaudiensis*, p. 565, n. spp., TORNQUIST, Zeitschr. deutsch. geol. Ges. xlvi, pp. 547-579, 3 pls.

- † *Pseudotropites*, n. g., type *Tropites ultratriassicus*, Canavari; WAEHNER, Beitr. Pal. Osterr.-Ung. ix, p. 24, fig.
 † *Sommina*: conclusion of monograph of Inferior Oolite species; BUCKMAN (35).

TETRABRANCHIATA.

- Phylogeny of *Nautiloidea* with new genera (for which see *ante*, pp. 32 & 33) and new species; HYATT, P. Amer. Phil. Soc. xxxii, pp. 349-647.
Nautilus: structure and growth of the shell; APPELLÖF, Svenska Ak. Handl. xxv, No. 7, pp. 69-100, figg.
 † *N. perornatus*, Jurassic, Western Australia, CRICK, Geol. Mag. 1894, p. 386, fig., n. sp.
Nanno, n. g., for *N. aulema*, n. sp., and supposed new Cephalopod type; CLARKE, Amer. Geol. xiv, pp. 205-208, 1 pl. [*Cf.* CRICK, Geol. Mag. 1894, p. 561, and BATHER (18).]
 † *Temnocheilus coronatus*, McCoy, notes on; FOORD & CRICK, Geol. Mag. 1894, pp. 295-298, figg.

II. GASTROPODA.

- Mechanical cause of folds in the aperture of the shell of *Gastropoda*, DALL, Amer. Natural. 1894, pp. 909-914.
 Contribution to the study of the conjunctive cell in *Gastropoda*; CHATIN, C.R. Ac. Sci. cxix, pp. 922-924.
 Notes on the Embryology of *Gastropoda*; ERLANGER, Biol. Centralbl. xiv, pp. 491-494.

PULMONATA.

- Slugs of the Maltese Is.; CARUANO-GATTO (44).
 The myology of some *Pulmonata* considered as a feature in the discrimination of genera, &c.; COLLINGE, P. Malac. Soc. London, i, pp. 52-54.
 Histology and organology of the nervous centres of *Gastropoda* [*Pulmonata*]; NABIAS, Act. Soc. Bordeaux, xlvii, pp. 11-202, figg. Notes on the nervous system of some *Pulmonata*; NØBRE (254).
 Researches on the pedal gland of *Pulmonata*; ANDRÉ, Rev. Suisse Zool. ii, pp. 291-348, 2 pls.

STYLOMMATOPHORA.

- Oculimetridae*, n. fam., = *Stylommatophora*; JOUSSEAUME, Mem. Soc. zool. France, vii, p. 268.
 BABOR (11) treats of the cycle of development of the organs of generation in *Stylommatophora*, and concludes that their hermaphrodite condition is secondary.
 On the segmentation and formation of the germinal layer in *Stylommatophora*; SCHMIDT, Zool. Jahrb. Anat. vii, pp. 688-717, 1 pl.

TESTACELLIDÆ.

- Bocageia*, n. g., type *Bulinus* [*i.e.*, *Streptostele*] *lotophagus*, Morelet ; GIRARD, J. Sci. Lisb. iii, p. 100, fig. of radula.
- Ennea nonotiensis*, Natal, MELVILL & PONSONBY, Ann. Nat. Hist. xiv, p. 95, fig. ; *E. (Huttonella) nitidula*, p. 81, *cardiostoma*, *otostoma*, (*Diaphora*) *macrostoma*, p. 82, *tortu*, *strangulata*, p. 83, *unicristata*, *bicristata*, p. 84, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894 ; *E. hidalgoi*, p. 204, *bocagei*, and *E. ? anno-bonensis*, p. 206, Anno-Bom I, Gulf of Guinea, GIRARD, J. Sci. Lisb. iii, figg. ; *E. (Enneastrum) newtoni*, from Fernando Po, GIRARD, J. Sci. Lisb. ii, p. 243 : n. spp.
- Glandina algira*, Alb., notes on mode of feeding ; HENKING, Zool. Jahrb. Syst. viii, pp. 85-90, figg.
- Natalina coerneyensis*, *chaplini*, near Port Elizabeth, MELVILL & PONSONBY, Ann. Nat. Hist. xiv, p. 91, figg., n. spp.
- Schizoglossa novoseelandica*, Pfr., notes on its variation and habits ; MURDOCH, P. Malac. Soc. London, i, p. 138.
- Streptaxis kibweziensis*, Kibwezi, E. Africa, SMITH, P. Malac. Soc. London, i, p. 165, fig. ; *S. mirificus*, *roebeleni*, p. 147, *strangulatus*, p. 148, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, figg. : n. spp.
- Testacella* : notes on the habits of ; CHAILLOU, Bull. Soc. Ouest France, iii, 1893, pp. 95-99.
- Zingis gregorii*, Kenia, E. Africa, SMITH, P. Malac. Soc. London, i, p. 164, fig., n. sp.

SELENITIDÆ.

- Plutoniinæ*, n. subfam. for *Plutonia*, COCKERELL, Conchologist, ii (1893), p. 204.
- Vitriplutonia*, *Vitriplutoniinæ*, nn. n. for *Plutonia*, Stabile, and *Plutoniinæ*, Ckll. ; COLLINGE, Conchologist, ii (1893), p. 204, note. [Since however *Plutonia* stands these become synonyms.]

LIMACIDÆ and PHILOMYCIDÆ.

- Agriolimax simrothi*, n. n. for "*A. drymonius*, Bourg.," Simroth, Acta Ac. German. lvi, p. 288 ; COCKERELL, Conchologist, ii (1893), p. 202.
- A. turcicus*, p. 392, *sturanyi*, *murinus*, p. 393, European Turkey, SIMROTH, Ann. Hofmus. Wien, ix, figg., n. spp.
- Amalia gagates*, Sow. : notes on an experiment in breeding : SIMROTH, Ber. Ges. Leipzig, 1893-4, pp. 119-121. *A. marginata*, Drap. : notes on the generative anatomy ; COLLINGE, J. Malac. iii, pp. 70-73, fig.
- A. nigra*, n. sp. ? Mt. Generoso, Alps, PFEIFFER, Nachrbl. deutsch. malak. Ges. 1894, p. 68.
- Bensonia (Glyptobensonia) exasperata*, p. 53, *euglypta*, p. 94, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, n. spp.

- Elisolimax*, n. n. for *Elisa*, Heyn. (*non* Reichenbach); COCKERELL, *Conchologist*, ii (1893), p. 205.
- Euplecta* (*Coneuplecta*) *convexospira*, p. 87, *catanduanica*, *costulata*, *roebeleni*, p. 88, *crystallus*, p. 89, Philippines, QUADRAS & MOELLEN-DORFF, *Nachrbl. deutsch. malak. Ges.* 1894, n. spp.
- Euplectella* [misprint for *Euplecta*?] *trimeni*, Ceylon, JOUSSEAUME, *Mem. Soc. zool. France*, vii, p. 276, fig., n. sp.
- Glyptoconus*, n. g., for *G. mirus*, n. sp., Philippines; QUADRAS & MOEL-LENDORFF, *Nachrbl. deutsch. malak. Ges.* 1894, p. 90.
- Helicarion semoni*, Queensland, MARTENS (217), p. 87; *II. quadrasi*, Philippines, QUADRAS & MOELLEN-DORFF, *Nachrbl. deutsch. malak. Ges.* 1894, p. 85 : n. spp.
- Hemiplecta simoni*, Ceylon, JOUSSEAUME, *Mem. Soc. zool. France*, vii, p. 282, fig., n. sp.
- Hemitrichia consimilis*, p. 93, *depressa*, p. 93, Philippines, QUADRAS & MOELLEN-DORFF, *Nachrbl. deutsch. malak. Ges.* 1894, n. spp.
- Hyalinia intermissa*, p. 41, *recta*, p. 45, *barbozana*, p. 40, *subfarinciana*, p. 41, *magonensis*, p. 42, *amblyopa*, p. 48, *apothecia*, *sabaudina*, p. 50, *ollioulensis*, *servaini*, p. 51, *dracica*, *colliourensis*, p. 52, *stilpna*, *demiranda*, p. 54, *lenaploa*, *cuzyensis*, p. 55, *bourgetica*, *atonolena*, p. 56, *chauveliiana*, p. 57, *lenarvosta*, p. 59, *macralsobia*, p. 60, *alderi*, p. 62, *radina*, *caequata*, p. 63, *othonia*, *vapineanensis*, p. 66, *tarda*, p. 70, France, LOCARD (203), alleged new species, for the most part wrongfully attributed to various authorities in whose MS. the names appear on the tablets in Bourguignat's Collection; *H. (Polita) subplana*, Oran, Algiers, *corcyrensis*, Corfu, WESTERLUND, *Nachrbl. deutsch. malak. Ges.* 1894, p. 164 : n. spp.
- Kaliella dentifera*, Philippines, QUADRAS & MOELLEN-DORFF, *Nachrbl. deutsch. malak. Ges.* 1894, p. 90; *K. subsculpta*, Samui Is., MOELLEN-DORFF, *P. Zool. Soc. London*, 1894, p. 149, fig. : n. spp.
- Limacida* : notes apparently dealing with the genitalia of some *Lima-cida* (written in Bohemian); BABOR & KOŠŤÁL (14).
- Limacopsis carulans*, Simroth, notes on the genitalia; KOŠŤÁL, SB. *Bohmisch. Ges.* 1894, No. xlvi, 15 pp., 4 pls.
- Limax* : laws of cleavage in the ovum; KOFOID, *P. Amer. Ac.* xxix, pp. 180-202, figg.
- L. hedleyi*, Ireland, COLLINGE, *J. Malac.* iii, pp. 51 & 52 [description deferred]; *L. (Heynemannia) primitivus*, Armaenia, SIMROTH, SB. *Bohmisch. Ges.* 1893 (1894), No. xlv, p. 8, figg. : n. spp.
- Lamprocystis lissa*, N. W. Australia, SMITH, *P. Malac. Soc. London*, i, p. 86, fig.; *L. discoidea*, *calamianica*, *arctispira*, *leucodiscus*, p. 91, *candida*, *mindoroana*, p. 92, *planorbis*, p. 101, Philippines, QUADRAS & MOELLEN-DORFF, *Nachrbl. deutsch. malak. Ges.* 1894; *L. (Micro-cystina) denticulata*, Marianne Is., QUADRAS & MOELLEN-DORFF, *t. c.* p. 13 : n. spp.

- Macrochlamys schmidtii*, Issyk-Kul Lake, Turkestan ; CLESSIN, Nachrbl. deutsch. malak. Ges. 1894, p. 66 ; *M. (Pseudohelicarion) latitans, compacta, virescens*, p. 86, *perforata*, *M. sanchezi*, (*Macroceras*) *radiata*, p. 87, Philippines, QUADRAS & MOELLENDORFF, t. c. ; *M. limbata*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 148, fig. : n. spp.
- Microcystis bunguranensis*, Natuna Is., SMITH, Ann. Nat. Hist. xiii, p. 454, fig. ; *M. suavis*, Ceylon, JOUSSEAUME, Mem. Soc. zool. France, vii, p. 273, fig. : n. spp.
- Nanina inquinata*, V. D. Busch, is an inhabitant of the Banda Is., and probably not of Java ; SCHEPMAN, Notes Leyden Mus. xvi, p. 136.
- N. (Sessara) episema*, Khasi Hills, PONSONBY, P. Malac. Soc. London, i, p. 56, figg. ; *N. murrumbalensis*, Mt. Murrumbala, E. Central Africa, MELVILL & PONSONBY, Ann. Nat. Hist. xiv, p. 90, fig. ; *N. mollieri*, St. Thomas I., Gulf of Guinea, NOBRE, Ann. Sci. nat. Porto, i, p. 93 : n. spp.
- Otoconchine*, n. subfam. of *Limacidae* ; COCKERELL, Conchologist, ii (1893), p. 205.
- Phaneroporus unicolor*, Usambara, E. Cent. Africa, SIMROTH, Abh. Senckenb. Ges. xviii, p. 306, fig. and anatomy, n. sp.
- Philomycus pennsylvanicus*, Pennsylvania, PILSBRY, P. Ac. Philad. 1894, p. 22, n. sp.
- Sitala sirhassensis*, Natuna Is., SMITH, Ann. Nat. Hist. xiii, p. 456, fig. ; *S. anthropophagorum*, Brit. New Guinea, HEDLEY, P. Lin. Soc. N. S. Wales, ix, 385 pp., figg. ; *S. insularis*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 149, fig. ; *S. oxyconus, fimbriosa*, p. 89, *ditropis*, p. 101, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894 : n. spp.
- Tennentia carinata, quadrasi*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 85 : n. spp.
- Trochonanina bougaensis*, Sulu Archip., SMITH, Ann. Nat. Hist. xiii, p. 52, fig. ; *T. affinis, bunguranensis, natunensis*, Natuna Is., SMITH, t. c. p. 455, figg. : n. spp.
- Urocyclus rufescens*, Usambara, E. Central Africa, SIMROTH, Abh. Senckenb. Ges. xviii, p. 298, fig. and anatomy, n. sp.
- Vitrea tratanensis*, Ceylon, JOUSSEAUME, Mem. Soc. zool. France, vii, p. 270, fig. ; † *V. leia*, Oligocene, Headon Hill, NEWTON & HARRIS, P. Malac. Soc. London, i, p. 71, fig. : n. spp.
- Vitrina bourguignati*, p. 24, *maceana*, p. 24, alleged n. spp., France, LOCARD (203) ; *V. baringoensis*, Kenia, E. Africa, SMITH, P. Malac. Soc. London, i, p. 163, fig., n. sp.
- Vitrinoconus goniomphalus*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 85, n. sp.
- Vitrinopsis quadrasi*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 84, n. sp.
- Zonites megistus*, Meis I., Asia Minor, ROLLE, Nachrbl. deutsch. malak. Ges. 1894, p. 138, n. sp.

ARIONIDÆ.

- Arion citrinus*, Westerlund, note on its anatomy, &c.; BABOR, J. Malac. iii, pp. 45-47, figg. *A. hortensis*, note on the spermatophore; SIMROTH, Ber. Ges. Leipzig, 1893-4, p. 115. *A. occidentalis*, Ckll.; only a var. of *A. hortensis*, Fer.; COLLINGE, J. Malac. iii, pp. 5 & 6. *A. rufus*, Linn., note on two varieties; SYKES, t. c. pp. 4 & 5.
- A. elongatus*, Wainsgrove, Somersetshire, with anatomy, COLLINGE, Ann. Nat. Hist. xiii, p. 66, figg.; *A. hessei*, Coimbra, Portugal, SIMROTH, Abh. Senckenb. Ges. xviii, p. 295, fig. and anatomy; *A. vejdosvskyi*, with anatomy, Bohemia, BABOR & KOŠTÁL, SB. Bohmisch. Ges. 1893 (1894), No. 3, figg. : n. spp.
- Geomalacus grandis*, Serra Estrella, Portugal, SIMROTH, Abh. Senckenb. Ges. xviii, p. 291, fig. and anatomy, n. sp.

ENDODONTIDÆ.

- Allodiscus wairoaensis*, p. 488, *urquharti*, p. 489, New Zealand, SUTER, P. Linn. Soc. N. S. Wales, viii, figg.; *A. smithi*, p. 134, *rusticus*, p. 135, New Zealand, SUTER, Tr. N. Zealand Inst. xxvi, figg. : n. spp.
- Endodonta mariannarum*, p. 14, *heptptychia*, p. 15, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, n. spp.
- Flammulina (Calyma) pilsbryi*, North Is., New Zealand, SUTER, Tr. N. Zealand Inst. xxvi, p. 133, figg., n. sp.
- Laoma ciliata*, New Zealand, SUTER, Tr. N. Zealand Inst. xxvi, p. 136, figg.; *L. pirongiaensis*, New Zealand, SUTER, P. Linn. Soc. N. S. Wales, viii, p. 491, figg. : n. spp.
- Patula* yields priority to *Pyramidula*, Fitz.; PILSBRY in TRYON, Man. Conch. 2nd series, ix, p. 50.
- P. fusca*, *rotula*, p. 13, *quadrasi*, p. 14, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894; *P. persculpta*, Natuna Is., SMITH, Ann. Nat. Hist. xiii, p. 457, fig. : n. spp.
- Phriagnathus murdochi*, p. 136, *cheesemani*, p. 137, North Is., New Zealand, SUTER, Tr. N. Zealand Inst. xxvi, figg., n. spp.
- Ptychodon hunnaensis*, New Zealand, SUTER, P. Linn. Soc. N. S. Wales, viii, p. 494, figg., n. sp.
- Pyramidula*; PILSBRY in TRYON, Man. Conch. 2nd series, ix, p. 50, points out that *Pyramidula*, Fitz., has priority over *Patula*.
- Pyrrha subincarnata*, North Is., New Zealand, SUTER, Tr. N. Zealand Inst. xxvi, p. 133, figg., n. sp.
- Thalassia traversi*, E. A. Smith, belongs to *Therasia*; SUTER, P. Linn. Soc. N. S. Wales, viii, p. 490.

HELICIDÆ.

- Monograph continued by PILSBRY in TRYON'S *Man. Conch.* 2nd series, vol. ix.
- Classification of the New Zealand Helices on Pilsbry's lines, is proposed by SUTER, *Ann. Nat. Hist.* xiii, pp. 60-63.
- Monograph of the genus *Helix*, continued by KOBELT in MARTINI & CHEMNITZ (225).
- Notes on the relation between the *Helicidæ* of New Zealand, Tasmania, and South Africa; SUTER, *Ann. Nat. Hist.* xiii, pp. 61-65. Criticised by HEDLEY, *t. c.* pp. 442 & 443.
- Functional action of the kidney in *Helix*; CUÉNOT, *C.R. Ac. Sci.* cxix, pp. 539 & 540.
- Oviposition of some Helices; GUDE, *Sci. Gossip*, 1894, p. 11.
- Dendrotrochus*, n. sect. of *Papuina*, type *P. helicinoïdes*, Hombr. & Jacq.; PILSBRY in TRYON'S *Man. Conch.* 2nd series, ix, p. 143.
- Pyrochilus*, n. n. for *Phania*, Albers (*non* Meigen), subg. of *Acavus*; PILSBRY, *P. Ac. Philad.* 1892, p. 391.
- Polygyra*, notes on certain forms; PILSBRY, *Nautilus*, vii, pp. 139-141.
- Zaphysemæ*, n. g., (= *Cysticopsis* pars.), type *Helix tenerrima*, C. B. Ad.; PILSBRY in TRYON'S *Man. Conch.* 2nd series, ix, p. 65, fig.

(PALÆARCTIC SPECIES.)

- Helix pomatia*, Linn., on the nerves of the ocular tentacles; SAMASSA, *Zool. Jahrb. Anat.* vii, pp. 593-608, 2 pls., text fig. Physiological observations on the kidney; GIROD, *C.R. Ac. Sci.* cxviii, pp. 294-296. Note on hibernation; CARRINGTON, *Sci. Gossip*, 1894, p. 50. Oviposition; STEP, *t. c.* p. 99. *H. nemoralis* and *hortensis*: notes on band variation in the British Is.; COCKERELL, *Brit. Natural.* 1894, pp. 155-157. *H. quimperiana*, Fér., is it indigenous in Finistère? PICQUENARD, *Bull. Soc. Ouest France*, iii (1893), pp. 271 & 272. [*H.*] *Xerophila striata*, Müll., and *candidula*, Stud., notes on; FERRANT, *Fauna*, 1891, p. 44. *H. (Eucampylæa) ichthyomma*, Held, note on a new var.; BABOR & KOŠŤÁL, *SB. Bohmisch. Ges.* 1894, No. xxxv, 10 pp., 1 pl. [*H.*] *Iberus signatus*, Fér., in the province of Roma; MELI, *Riv. ital. Sci. Nat.* xiv, pp. 33-35, & 57-62.
- Helix (Trichia) britannica*, London, p. 164, (*Campylæa hæterea*, Greece, p. 165, (*Xerophila*) *psamma*, Egypt, *emigrata*, p. 166, *allophyla*, *vicaria*, p. 168, Greece [alleged new species], WESTERLUND, *Nachrbl. deutsch. malak. Ges.* 1894; *H. (Cressa) cerigottana*, p. 6, (*Xerophila*) *pæcilodoma*, p. 7, Cerigotto Is., BÆTTGER, *t. c.*; *H. (Levantina) lapithoënsis*, p. 136, *gertrudis*, *chrysostomi*, p. 137, Cyprus, (*Macularia*) *callirhoë*, p. 138, Lycia, ROLLE, *t. c.*; *H. (Gonostoma) parryi*, Tenerife, PONSONBY & SYKES, *P. Malac. Soc. London*, i, p. 55, figg.; *H. edmondi*, p. 76, *fieni*, p. 126, *nivernica*, p. 127, *lychnucha*, p. 137, *ollisiana*, p. 142, *queyrasiana*, p. 144, *crymophila*, p. 148, *gentilis*, *conspersa*, p. 164, *invicta*, p. 165, *novio-*

dunensis, p. 189, *trepidula*, p. 191, *luteolina*, p. 195, *glebula*, p. 200, *sanarisensis*, p. 201, *vardonensis*, p. 202, *subpampeloneensis*, p. 203, *labida*, *terraria*, p. 209, *leviculina*, p. 210, *calculina*, *bullina*, p. 211, *acomptiella*, p. 212, *mendranopsis*, p. 215, *aveyronensis*, p. 217, *plenaria*, p. 219, *leonis*, p. 220, *lentipes*, *petrophila*, p. 221, *cazioti*, p. 228, *pilula*, *peregrina*, p. 229, *migrata*, p. 230, *urnina*, p. 231, *fedatina*, *malecasta*, p. 232, *edax*, p. 233 [alleged new species, with fancy priority dates], France, LOCARD (203); *H. stagnina*, p. 108, *guerboisi*, p. 111, *autumnalis*, p. 117, *alixæ*, p. 120, *drunas*, p. 121, *barcelonnetensis*, p. 125, *pictavica*, p. 127, *rufescentella*, p. 128, *salinæ*, p. 131, *subpyrenaica*, p. 141, *esterlei*, p. 151, *acmella*, p. 170, *saxæa*, p. 172, *pæphaga*, p. 175, *taillandieri*, p. 177, *gavarnica*, p. 178, *ericetorella* [sic], p. 185, *arvernorum*, p. 190, *misarella*, p. 191, *eupalotina*, p. 193, *sublersiana*, *phila*, p. 194, *tarbellu*, p. 195, *oswaldi*, p. 197, *hauryi*, p. 200, *chardoni*, p. 203, *bradypora*, p. 204, *apista*, p. 208, *kalona*, p. 214, *nemausensis*, p. 216, *guideloni*, p. 217, *privatifformis*, p. 221, *azami*, p. 223, *uigricans*, *enthalassina*, p. 224, *mucinea*, p. 227, *scicyca*, p. 230, *trapanica*, p. 234, France, LOCARD (203), alleged new species, all wrongfully attributed to various authorities, in whose MS. the names appear on the tablets in Bourguignat's collection; *H. (Jacosta) renati*, Marocco, DAUTZENBERG, Bull. Soc. zool. France, xix, p. 17, figg.; *H. (Fruticicola) adæquata*, China, GREGLER, Ann. Hofmus. Wien, ix, p. 422; *H. (Armandia) calymma*, p. 171, (*Euhadra*) *hemiclita*, p. 172, (*Traumatophora*) *triscalpta*, (MOELLEN-DORFF) *erdmanni*, p. 173, China, SCHMACKER & BÖTTGER, P. Malac. Soc. London, i, figg.; *H. (Euhadra) yaeyamensis*, Japan, PILSBRY, Nautilus, viii, p. 10; *H. (Camæna) subnimbose*, Japan, KOBELT in MARTINI & CHEMNITZ, Syst. Conch. Cab., *Helix*, p. 672, fig.; *H. (Acusta) plicosa*, Japan, MARTENS, Nachrbl. deutsch. malak. Ges. 1894, p. 135 : n. spp.

(PALÆOTROPICAL AFRICAN SPECIES.)

Helix (Dorcasia) alexandri, Gray, notes on its anatomy; FLECK, Ber. Senckenberg. Ges. 1894, pp. 94 & 95, fig. [*H.*] *Pella burnupi*, MELV. & PONS., notes on jaw and radula; SUTER, Ann. Nat. Hist. xiii, pp. 60 & 61.

Helix (Dorcasia) inhluzana, Drakenberg Range, MELVILL & PONSONBY, Ann. Nat. Hist. xiv, p. 91, fig., n. sp.

(PALÆOTROPICAL ORIENTAL SPECIES.)

[*Helix*] *Trichia halyi*, p. 271, *Plectopylis eugenii*, p. 277, *lamcabensis*, p. 278, *Hygromia radleyi*, p. 284, Ceylon, JOUSSEAUME, Mem. Soc. zool. France, vii, figg.; *Chloritis platytropis*, Samui Is., MOELLEN-DORFF, P. Zool. Soc. London, 1894, p. 150, fig.; [*H.*] *Obbina viridiflava*, *subhorizontalis*, p. 94, *flavopicta*, p. 95, *Aulacospira (Micrope-tasus) porrecta*, p. 95, *Chloritis subsulcata*, p. 95, *Trochomorpha (Videna) morongensis*, *alticola*, *schmackeri*, p. 102, *intermedia*, *gracilis*,

p. 103, *suturalis*, *heptagyra*, p. 104, *Plectopylis coarctata*, p. 113, *Plectotropis luzonica*, p. 114, *Satsuma pæcilotrochus*, p. 114, *Camæna stolidota*, p. 114, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894; *H. (Chloritis) suluana*, Sulu Is., MOELLENDORFF, t. c. p. 209; *H. (Chloritis) sibuensis*, Sulu Archip., SMITH, Ann. Nat. Hist. xiii, p. 53, fig.; *H. (Chloritis?) latecostata*, Mount Kina-balû, Borneo, p. 700, *kinibalensis* [?] *kinabaluensis*], p. 706, KOBELT in MARTINI & CHEMNITZ, *Helix*, figg. : n. spp.

(AUSTRALIAN AND POLYNESIAN SPECIES.)

[*Helix*] *Papuina secans*, British New Guinea, HEDLEY, P. Linn. Soc. N. S. Wales, ix, p. 389, figg.; *H. (Philina?) brunonis*, Halmahera, Moluccas, p. 681, (*Sphaerospira*) *djannensis*, p. 699, (*Papuina*) *linschuanæ*, p. 701, *divaricata*, p. 702, (*Planispira*) *parthenia*, p. 703, (*Eulota?*) *ariontiformis*, p. 707, Djamna I., Humboldt Straits, New Guinea, KOBELT in MARTINI & CHEMNITZ, Syst. Conch. Cab., *Helix*, figg.; *H. (Chloritis) millepunctata*, *rectilabrum*, p. 88, (*Rhagada*) *inconvicta*, (*Hadra*) *obliquirugosa*, p. 90, *prudhoensis*, *burnerensis*, *montalivetensis*, p. 91, *sykesi*, *imitata*, (*Trachia*) *derbyana*, p. 92, *bathurstensis*, *gascoynensis*, p. 93, N. W. Australia, SMITH, P. Malac. Soc. London, i, figg.; *Planispira hemiclausa*, *Charopa æmula*, *retinodes*, *Hadra wattii*, *sublevata*, p. 192, *squamulosa*, *grandi*, *tuberculata*, *clondonigera*, *arcigerens*, *wilpeneensis*, *oligopleura*, p. 193, *setigera*, *euzyga*, *winneckeana*, *papillosa*, Central Australia, TATE, Tr. R. Soc. S. Austral. xviii; *H. ulcockiana*, Central Australia, BEDNALL, t. c. p. 190, figg.; *Papuina cerea*, N. Queensland, HEDLEY, Nautilus, vii, p. 136, fig. and Victorian Natural. xi, p. 30, figg.; *Charopa pseudocoma*, p. 495 *segregata*, p. 496, New Zealand, SUTER, P. Linn. Soc. N. S. Wales, viii, figg.; *Diomphalus jeanneneyi*, *gravei*, New Caledonia, DUPUY, Feuille Natural. xxiv, p. 138, figg.; *Helix connanglei*, New Caledonia, DUPUY, t. c. p. 139, figg.; *H. (Geotrochus) wiegmanni*, Solomon Is., MARTENS (216), p. 10, figg. : n. spp.

(NEANTARCTIC SPECIES.)

Helix (Lysinoe) polloneræ, *borellii*, Argentine, PARAVICINI, Boll. Mus. Torino, ix, No. 181, p. 3, n. spp.

(NEOTROPICAL SPECIES.)

Helix hettneriana, Peru, MARTENS (216) p. 10, figg.; *Sagda maxima*, Jamaica, SIMPSON, P. U. S. Mus. xvii, p. 448, figg.; *Epiphragmophora ellipsostoma*, San Juan del Norte (Lower California?), PILSBRY, Nautilus, viii, p. 81 : n. spp.

(NEARCTIC SPECIES.)

Helix tridentata, notes on varieties; WETHERLY, Nautilus, viii, pp. 43-45
H. nemoralis, colony in Virginia; COCKERELL, t. c. pp. 92-95. *H.*

appressa, notes on varieties; WETHERLY, *t. c.* pp. 14-16. *Triodopsis* + *Mesodon*, distribution, &c.; STEARNS, *t. c.* pp. 6-8. *H. (Arionta) coloradoensis*, new locality; STEARNS, *t. c.* p. 29. *Polygyra (Stenotrema) hirsuta*, on Long I., N. Y.; GARDNER, *t. c.* pp. 75-78.

(FOSSIL SPECIES.)

BÆTTGER (26) controverts Pilsbry's dictum that the European fossil *Helicidæ* belong exclusively to *Helix*, s.s.

†[*H.*] *Pleurodonte bowdeniana*, Miocene, Jamaica, SIMPSON, P. U. S. Mus. xvii, p. 450, figg., n. sp.

COCHLOSTYLIDÆ.

Axina beloni, Philippines, JOUSSEAUME, Naturaliste, 1894, p. 186, fig., n. sp.

Cochlostyla ? *fnschi*, Polynesia or New Guinea, MARTENS (216) p. 12, fig.; *C. (Corasia) globosula*, (*Callicochlias*) *hidalgoi*, p. 96, *trisculpta*, (*Orustia*) *strigata*, p. 97, *versicolor*, (*Helicostyla*) *raebeleni*, p. 98, (*Hypselostyla*) *accedens*, (*Prochilus*) *calamianica*, p. 99, (*Corasia*) *loheri*, p. 115, Philippines, QUADRAS & MOELLENDOFF, Nachrbl. deutsch. malak. Ges. 1894: n. spp.

Phengus groulti, Philippines, JOUSSEAUME, Naturaliste, 1894, pp. 136 & 202, figg.; *P. simoni*, JOUSSEAUME, Mem. Soc. zool. France, vii, p. 296, fig. : n. spp.

BULIMIDÆ.

Bulimus oblongus, Müll., note on its variation and distribution; SMITH, P. Malac. Soc. London, i, p. 137.

B. deflersi, S. Arabia, JOUSSEAUME, Bull. Soc. Philom. vi, p. 100, n. sp.

ORTHALICIDÆ, BULIMULIDÆ, and CYLINDRELLIDÆ.

Amphidromus ræseleri, Sulu Is., MOELLENDOFF, Nachrbl. deutsch. malak. Ges. 1894, p. 210; *A. martensi*, Borneo, BÆTTGER, *t. c.* p. 66 : n. spp.

Bulimulus auris-sciuri, Guppy, notes on its anatomy; PACE, P. Malac. Soc. London, i, pp. 151 & 152, figg.

Orthalicus of Florida, notes; PILSBRY, Nautilus, viii, pp. 37-39, fig.

Partula quadrasi, Marianne Is., QUADRAS & MOELLENDOFF, Nachrbl. deutsch. malak. Ges. 1894, p. 15, n. sp.

Vendryesia, n. n. for *Lia* or *Leia*, Albers, preoccupied; SIMPSON, P. U. S. Mus. xvii, p. 430 [concealed in a foot-note].

BULIMINIDÆ and PUPIDÆ.

Balea : note on its ovoviviparity; SMITH, J. Conch. vii, p. 389.

Bothriembryon, n. n. for *Liparus*, Albers, non Olivier; PILSBRY, Nautilus, viii, p. 35.

Bulim[in]us perezilis, *centralis*, p. 242, (*Chondrus*) *obesus*, p. 244 [alleged new species], France, LOCARD (203); *Buliminus* (*Chondrulopsis*) *retroplacatus*, p. 169, Turkestan, (*Chondrus*) *mygdonicus*, *munitus*, *pindicus*, p. 170, Greece, [alleged new species], WESTERLUND, Nachrbl. deutsch. malak. Ges. 1894; *B.* (*Amphiscopus*) *eudoxinus*, Tokat, Asia Minor, NAEGELE, *t. c.* p. 105; *B.* (*Chondrulopsis*) *costatus*, Issyk-Kul Lake, Turkestan, CLESSIN, *t. c.* p. 64; *B. omanensis*, p. 141, *jousseumei*, p. 142, Oman, Arabia, SMITH, P. Malac. Soc. London, i, figg.; *B. nuptialis*, Somerset East, South Africa, MELVILL & PONSONBY, Ann. Nat. Hist. xiv, p. 92, fig.; [*B.*] *Liparus spenceri*, Central Australia, TATE, Tr. R. Soc. S. Austral. xviii, p. 192; (*Liparus*) *leeuwinensis*, S. W. Australia, SMITH, P. Malac. Soc. London, i, p. 94, fig. : n. spp.

Cerion is divided by DALL into the following subgenera:—*Cerion*, s.s.; *Strophlops*, n. n.; *Maynardia*, nov.; *Diacerion*, nov.; *Eostrophia*, nov.; Bull. Mus. Harvard, xxv, pp. 121 & 122.

†*C.* (*Maynardia*) *agassizii*, Quaternary, Bahamas, DALL, Bull. Mus. Harvard, xxv, p. 120, figg., n. sp.

Clausilia: on Chinese species; BÆTTGER & SCHMACKER, P. Malac. Soc. London, i, pp. 100–117, 2 pls.

[*C.*] *Nenia milne-edwardsi*, p. 258, *atlantica*, p. 259 [alleged new species], France, LOCARD (203); *C.* (*Alopi*) *binodis*, p. 26, *jickellii*, p. 47, *nefasta*, p. 51, alleged new species, also numerous "varieties," from Transylvania, KIMAKOWICZ, Verh. Siebenb. Ver. xliii; *C.* (*Albinaria*) *cephalonica*, p. 173, *levisculpta*, *refuga*, p. 174, *argolina*, *orina*, p. 175, *heterochroa*, p. 176, *cathara*, p. 190, *violascens*, p. 194, (*Papillifera*) *livadica*, Greece, (*Delima*) *allyphanta*, p. 192, Hab. ? [alleged new species], WESTERLUND, Nachrbl. deutsch. malak. Ges. 1894; *C.* (*Albinaria*) *cythera*, Cerigo Is., p. 4, *cerigottina*, Cerigotto Is., p. 9, BÆTTGER, Nachrbl. deutsch. malak. Ges. 1894; *C.* (*Alinda*) *distincta*, p. 373, (*Papillifera*) *lophauchena*, p. 374, Turkey in Europe, STURANY, Ann. Hofmus. Wien, ix, figg.; *C.* (*Euphadusa*) *tetsui*, p. 102, *faberi*, p. 103, *longurio*, *latilumellaris*, p. 104, *belemnites*, p. 105, *broderseni*, p. 106, (*Pseudonenia*) *recedens*, p. 107, *pseudobensoni*, p. 108, (*Hemiphadusa*) *basilissa*, *imperatrix*, p. 113, *elamellata*, p. 114, *frankei*, p. 115, China, BÆTTGER & SCHMACKER, P. Malac. Soc. London, i, figg.; *C.* (*Euphadusa*) *microthyra*, China, SCHMACKER & BÆTTGER, *t. c.* p. 170, fig.; *C. recens*, China, GREDLER, Ann. Hofmus. Wien, ix, p. 422, figg.; *C.* (*Stereophadusa*) *stearnsii*, Japan, PILSBRY, Nautilus, viii, p. 47; *C.* (*Pseudonenia*) *suluana*, Sulu Is., MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 211; *C.* (*Pseudonenia*) *recondita*, Sumbawa, SYKES, J. Malac. iii, p. 48, figg. : n. spp.

Cœliaxis layardi, Ad. & Ang., the type of a new genus, *Sphalerostoma* [*q.v.*].

Destroformosana, n. subsect. of *Clausilia* (*Phadusa*), type *C. antilopina*, Heude; BÆTTGER & SCHMACKER, P. Malac. Soc. London, i, p. 111.

- Diacerion*, n. subgen. of *Cerion*, type *C. dalli*, Mayn.; DALL, Bull. U. S. Mus. xxv, p. 122.
- †*Eostrophia*, n. subg. of *Cerion*, type *C. anodonta*, Dall; DALL, Bull. Mus. Harvard, xxv, p. 122.
- Hypselostoma transitans*, p. 151, *striolatum*, p. 152, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, figg.; *H. ræbeleni*, *pusillum*, *edentulum*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 100 : n. spp.
- †*Isthmia dubia*, Oligocene, Headon Hill, NEWTON & HARRIS, P. Malac. Soc. London, i, p. 72, fig., n. sp.
- Maynardia*, n. subg. of *Cerion*, type *C. neglecta*, Mayn.; DALL, Bull. Mus. Harvard, xxv, p. 122.
- †*Megaspira cylindrica*, London Clay, Finchley, p. 73, *monodonta*, Oligocene, Headon Hill, p. 74, NEWTON & HARRIS, P. Malac. Soc. London, i, figg. : n. spp.
- Pupa ronneyensis*, Westerl., in North Germany; PAESSLER, Nachrbl. deutsch. malak. Ges. 1894, p. 216. *P. pagodula*, Desm., note on a remarkable form; STERKI, t. c. pp. 133 & 134.
- P. pyramidula*, Tenerife, PONSONBY & SYKES, P. Malac. Soc. London, i, p. 55, fig.; *P. (Lauria) fagoti*, Spain, (*Orcula*) *transversalis*, p. 171, (*Torquilla*) *krueperi*, p. 172, Greece, (*Alca*) *celata*, Sweden, p. 173 [alleged new species], WESTERLUND, Nachrbl. deutsch. malak. Ges. 1894. *P. olivetorum*, p. 295, *maritima*, *aureacensis*, p. 298, *ovulina*, p. 301, *delphinensis*, p. 303, *rhodanica*, p. 304, *oryzana*, p. 306, *columnella*, p. 317, (*Orcula*) *corrugata*, p. 321, (*Coryna*) *curta*, p. 326 [alleged new species, with fancy priority dates], France, LOCARD (203). *P. plagionica*, p. 296, *spelunca*, p. 297, *baregiensis*, p. 299, *ischurostoma*, p. 301, *ebrodunensis*, *arctespira*, p. 302, *plagiostoma*, p. 303, *rustica*, p. 304, *crimoda*, *mea*, *nova*, p. 305, *costata*, p. 307, *fagorum*, *lasallei*, p. 308, *ameliae*, p. 310, *oparea*, p. 317, *olearum*, *magdalene*, *rusticula*, *valcourtiana*, p. 318, (*Orcula*) *cylindrifformis*, p. 321, *alpium*, *sublaevis*, *macei*, p. 323, *bourguignati*, *mactriodon*, p. 324, (*Pupilla*) *saliniensis*, p. 329, *tardyana*, p. 330, France, LOCARD (203) alleged new species, all wrongfully attributed to various authorities in whose MS. the names appear on the tablets in Bourguignant's collection. *P. nobrei*, St. Thomas I., Gulf of Guinea, GIRARD, J. Sci. Lisb. iii, p. 111, fig.; *P. anno-bonensis*, Anno-Bom I., Gulf of Guinea, GIRARD, t. c. p. 207, fig.; *P. psychion*, *custodita*, *iota*, *omicronaria*, p. 93, *keræa*, Pretoria, *charybdica*, *frustillum*, p. 94, Port Elizabeth, MELVILL & PONSONBY, Ann. Nat. Hist. xiv, figg.; *P. contraria*, p. 96, *wallabyensis*, *mooreana*, p. 97, Western Australia, SMITH, P. Malac. Soc. London, i, figg.; *P. ficulnea*, *beltiana*, *ischna*, *eremicola*, Central Australia, TATE, Tr. R. Soc. S. Austral. xviii, p. 191; †*P. multi-spirata*, Oligocene, Headon Hill, NEWTON & HARRIS, P. Malac. Soc. London, i, p. 72, fig. : n. spp.
- Sphalerostoma*, n. g. for *Cæliaxis layardi*, Ad. & Ang.; GIRARD, J. Sci. Lisb. ii, p. 247, figg.

- Strophia*: monograph of the genus, with 39 new species from Little Cayman, Cayman Brac and the Bahamas; MAYNARD (226A).
Strophiope, n. n. for *Strophia*, Albers, preocc.; DALL, Bull. Mus. Harvard, xxv, p. 121.
Vertigo (Ptychochilus) quadrasi, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 17; *V. morsei*, Michigan, STERKI, Nautilus, viii, p. 89 : n. spp.

STENOGYRIDÆ and HELICTERIDÆ.

- Achatina nitida*, E. Africa, MARTENS (216) p. 7, fig.; *A. lechaptosi*, p. 220, *mariei*, p. 221, fig., p. 222, East Central Africa, ANCEY, Mem. Soc. zool. France, vii; *A. cinnamomea*, Standerton, Transvaal, *ædigyra*, Somerset East, Cape Colony, MELVILL & PONSONBY, Ann. Nat. Hist. xiv, p. 92, figg. : n. spp.
Achatinidæ: monograph continued by KOBELT in MARTINI & CHEMNITZ (225).
† *Cochlicopa headonensis*, Oligocene, Headon Hill, NEWTON & HARRIS, P. Malac. Soc. London, i, p. 74, fig., n. sp.
Ferussacia (Hypnophila?) vasconica, Orduna, Basque Provinces, Spain, KOBELT in ROSSMAESSLER'S Iconog. vii, p. 37, fig.; *F. cazioti*, France, LOCARD (203), p. 254 : alleged new species.
Glessula simoni, Ceylon, JOUSSEAUME, Mem. Soc. zool. France, vii, p. 293, fig., n. sp.
Limicolaria togoënsis, p. 70, *unicolor*, p. 73, West Africa, KOBELT in MARTINI & CHEMNITZ, Syst. Conch. Cab., *Achatinidæ*, figg., n. spp.
Opeas crossi, *dohrni*, p. 105, *greeffi*, p. 106, Prince I., Gulf of Guinea, GIRARD, J. Sci. Lisb. iii, figg.; *O. marie*, Ceylon, JOUSSEAUME, Mem. Soc. zool. France, vii, p. 290, fig.; *O. filiforme*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 151, fig. : n. spp.
Prosopeas rhodineforme, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 115, n. sp.
Stenogyra interioris, Central Australia, TATE, T. R. Soc. S. Austral. xviii, p. 191, n. sp.
Subulina newtoni, *moreleti*, Prince I., Gulf of Guinea, GIRARD, J. Sci. Lisb. iii, p. 104, figg., n. spp.
Thomea, n. g., for *T. newtoni*, n. sp., St. Thomas I., Gulf of Guinea; GIRARD, J. Sci. Lisb. iii, pp. 106 & 107, figg.
Tornatellina quadrasi (Lamellina) microstoma, subcylindrica, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 16; *T. natunensis*, Natuna Is., SMITH, Ann. Nat. Hist. xiii, p. 458, fig. : n. spp.

SUCCINEIDÆ and ATHORACOPHORIDÆ.

- Janella maculata*, N. Is., New Zealand; COLLINGE, P. Zool. Soc. London, 1894, p. 527, figs. of anatomy.

- Succinea castroi, silvai*, Oporto, LOCARD, Echange, x, p. 90, [alleged new species]; *S. mimatensis*, p. 27, *malafossi*, p. 29, *vitreola*, p. 35, [alleged new species], France, LOCARD (203); *S. baumanni*, British E. Africa, STURANY (388) p. 313, figg.; *S. (Neritostoma) quadrasi*, p. 17, (*Amphibina*) *piratarum*, p. 18, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894; *S. interioris*, Central Australia, TATE, Tr. R. Soc. S. Austral. xviii, p. 191 : n. spp.
Succinida of Bohemia; ULICNY (427).

VAGINULIDÆ and ONCIDIIDÆ.

- Oncidiella coquimbensis*, Chili; PLATE, SB. Ak. Berlin, 1894, p. 218.
Oncidium celticum, Cuvier, note on the kidney; HALLER, Verh. Ver. Heidelb. v, pp. 301-310.
Vaginula simrothi, Angola, NOBRE, Ann. Sci. Nat. Porto, i, p. 160, figg., n. sp.
Veronicella: notes, with anatomy of Jamaican species, *V. virgata*, Ckll., a var. of *V. sloanii*, Cuv.; COCKERELL & LARKIN, J. Malac. iii, pp. 23-30. *V. birmanica*, Theobald, notes on; COLLINGE, t. c. pp. 1-3.

BASOMMATOPHORA.

- Limnophilidæ*, n. fam., = *Basommatophora*; JOUSSEAUME, Mem. Soc. zool. France, vii, p. 297.

AURICULIDÆ.

- Auriculidæ* of Bohemia; ULICNY (427).
Carychium occidentale, Oregon, PILSBRY, Nautilus, viii, p. 63, n. sp.
Melampus (Signia) quadrasi, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 18; *M. brachyspirus*, Philippines, QUADRAS & MOELLENDORFF, t. c. p. 115 : n. spp.
Microtralia, n. sect., for *Auricula*? *minuscule*, Dall; DALL, Bull. Mus. Harvard, xxv, p. 117, fig.
Plecotrema mucronatum, Philippines, QUADRAS & MOELLENDORFF Nachrbl. deutsch. malak. Ges. 1894, p. 116, n. sp.

LIMNÆIDÆ and PHYSIDÆ.

- Ancylastrum*: on its generic value; HEDLEY, P. Malac. Soc. London, i, p. 118
Ancylus fluviatilis, note on the organs of reproduction; LACAZE-DUTHIERS, C.R. Ac. Sci. cxviii, pp. 560-566.
Chilina dombeyana, Orb., its anatomy; PLATE, SB. Ak. Berlin, 1894, pp. 1267-1276.

- †*Corymbina*, n. g., with 2 n. spp., Levantine Beds, Rhodes I.; BUKOWSKI [Preliminary description, Anz. Ak. Wien, 1892, p. 249], Denk. Ak. Wien, lx, p. 295.
- Gundlachia*: notes on the Australasian species; HEDLEY, P. Linn. Soc. N. S. Wales, viii, pp. 505-514, 1 pl.
- Limnæa auricularia*, Linn., note on abnormal specimens; SYKES, J. Malac. iii, pp. 34-36, figg.
- Limnæa elmeteitensis*, Lake Elmeteit, E. Africa, SMITH, P. Malac. Soc. London, i, p. 167, fig.; *L. arabica*, Oman, Arabia, SMITH, t. c. p. 142, fig.; *L. subperegra*, China, GREDLER, Ann. Hofmus. Wien, ix, p. 423; †*L. headonensis*, Oligocene, Headon Hill, NEWTON & HARRIS, P. Malac. Soc. London, i, p. 74, fig.: n. spp.
- Limnæidæ* of Bohemia; ULICNY (427).
- Physa heterostropha*, cleavage is reversed; CRAMPTON, Ann. N. York Ac. viii, pp. 167-170, 1 pl.
- Planorbis* (*Gyraulus*) *leptostoma*, p. 193, Finland, (*Armiger*) *dilectus*, p. 194, Greece [alleged new species]; WESTERLUND, Nachrbl. deutsch. malak. Ges. 1894. *P. supracarinatus*, n. sp.? Lake Como, PFEIFFER, Nachrbl. deutsch. malak. Ges. 1894, p. 70; *P. tancredii*, Paraguay, PARAVICINI, Boll. Mus. Torino, ix, No. 181, p. 8; *P. (Gyrorbis) macedonicus*, p. 379, *P. presbensis*, *paradoxus*, p. 380, European Turkey, STURANY, Ann. Hofmus. Wien, ix, figg.: *P. homsensis*, Lake Homs, Syria, DAUTZENBERG, Rev. biol. Nord France, vi, p. 337, figg.; †*P. incertus*, Eocene, Peckham, NEWTON & HARRIS, P. Malac. Soc. London, i, p. 76, fig.: n. spp.
- Pulmobranchia*, n. g., for *Physa lamellata*, Madagascar, which has developed an external gill to the left of the anus; PELSENER, C.R. Ac. Sci. cxix, pp. 354 & 355; also Bull. Soc. malac. Belgique, xix.

SIPHONARIIDÆ.

- Siphonaria concinna*, Sow., notes on its anatomy, PLATE, SB. Ak. Berlin, 1894, pp. 222-224; *S. sirius*, p. 9, *acmæoides*, p. 16, Japan, PILSBRY, Nautilus, viii: n. spp.

OPISTHOBRANCHIATA.

- Morphology of the epithelium of the liver of Opisthobranchs; FRENZEL (113).

NUDIBRANCHIATA.

- Æolidia herculea*, St. Barbara Is., California, BERGH, Bull. Mus. Harvard, xxv, p. 128, figg., n. sp.
- Chromodoris agassizii*, Gulf of Panama, BERGH, Bull. Mus. Harvard, xxv, p. 182, figg., n. sp.

- Garyamella*, n. g., for *G. immaculata*, n. sp., Western Atlantic, off Cape "Delgado"; BERGH, Bull. Mus. Harvard, xxv, p. 175, figg.
- Geitodoris*, n. g., type *Doris complanata*, Verrill, p. 162, *G. immunda*, n. sp., Gulf of Mexico, p. 167; BERGH, Bull. Mus. Harvard, xxv, figg.
- Greilada*, n. g., for *G. elegans*, Adriatic Sea; BERGH, Arch. Naturg. ix, pp. 1-6, figg.
- Himatella trophina*, Port Althorp, Alaska, BERGH, Bull. Mus. Harvard, xxv, p. 134, figg., n. sp.
- Phidiana inca*, Orb., notes on its anatomy; PLATE, SB. Ak. Berlin, 1894, pp. 219-222.
- Phyllobranchus borgninii*, Tr., note on the motor and sensory nerves; TRINCHESE, Rend. Acc. Napoli, 1894, pp. 190 & 191.
- Placida viridis*, notes on, with anatomy; TRINCHESE, Mem. Acc. Bologna, iii, 1893 (1894), pp. 237-245, 1 pl.
- Tethys leporina*, on the autonomy and regeneration of the dorsal appendages (*Phœnicurus*); PARONA, Atti Univ. Genova [xi], 1892, pp. 95-111, 1 pl.
- Thordissa* ? *dubia*, off Rio Janeiro, BERGH, Bull. Mus. Harvard, xxv, p. 178, fig., n. sp.
- Tridachia* ? *diomedea*, Gulf of California, BERGH, Bull. Mus. Harvard, xxv, p. 194, figg., n. sp.
- Tritonia diomedea*, Alaska to California, p. 146, *exultans*, California, p. 150, BERGH, Bull. Mus. Harvard, xxv, figg., n. sp.

TECTIBRANCHIATA.

- Monograph begun by PILSBRY in TRYON'S Man. Conch. xv, p. 134.
Group is divided, as in Fischer, into I. *Cephalaspidea*, II. *Anaspidea*, III. *Notaspidea*.
- Arrangement, correlation, and functions of the mantle organs; GILCHRIST, Jena. Zeitschr. xxviii, pp. 408-459, figg.
- Notes on the renal organs; MAZZARELLI, Monit. Zool. ital. v, pp. 174-177.
- Aplysia chierchiana*, S. Lorenzo, Peru, MAZZARELLI & ZUCCARDI, Mem. Soc. ital. viii (1892), p. 13, figg., n. sp.
- Aplysiidae*: monograph of the species in the Gulf of Naples, with anatomy and embryology, &c.; MAZZARELLI, Mem. Soc. ital. ix (1893), No. 4, 222 pp., 13 pls.
- Bullina deshayesii*, Reunion Is., PILSBRY in TRYON'S Man. Conch. xv, p. 178 [= *Bulla vitrea*, Pease, of Deshayes], n. sp.
- Cavolina longirostris*, notes on the anatomy; KNOWER, Johns Hopkins Univ. Circ. xiii, pp. 61 & 62, who states that there are two distinct and separate sexual openings, that the heart is on the left side, and the muscle fibres of the fins are striated.
- † *Conularia blairi*, p. 73, Chouteau Limestone, Sedalia, *gratiosa*, *spergenensis*, p. 74, St. Louis Group, Spergen Hill, Indiana, MILLER & GURLEY, Bull. Illinois Mus. No. 3, figg., n. spp.

- Dactylus tripartitus*, Aden, JOUSSEAUME, Naturaliste, 1894, p. 201, n. sp.
Doridium adellæ, Puget Sound, DALL, Nautilus, viii, p. 73, n. sp.
 † *Euchilotheca elegans*, Eocene, at Bracklesham, HARRIS, P. Malac. Soc. London, i, p. 61, fig., n. sp.
Notarchidæ, n. subfam. of *Aplysiidæ*; MAZZARELLI, Mem. Soc. ital. ix (1893), No. 4, p. 39.
Oscanius hilli, Port Jackson, HEDLEY, P. Linn. Soc. N. S. Wales, ix, p. 127, figg., n. sp.
Oxynoeidæ: researches into its morphology; MAZZARELLI, Mem. Soc. ital. ix (1893), 33 pp., 3 pls.
Pelta capreensis, Gulf of Naples, with notes on its anatomy, MAZZARELLI, Atti Acc. Napoli, vi, No. 4, p. 3, figg., n. sp.
Scaphander andamanicus, Andaman Sea, SMITH, Ann. Nat. Hist. xiv, p. 167, fig.; † *S. mediocris*, Oligocene of Étampes, COSSMANN, J. Conchyl. xli, p. 359, fig. : n. spp.
Tornatina parviflora, Bahamas, DALL, Bull. Mus. Harvard, xxv, p. 115, fig., n. sp.
 † *Triploca*, n. g., for *T. ligata*, n. sp., Eocene, Australia; TATE, J. R. Soc. N. S. Wales, xxvii, p. 186, fig., n. sp.
Volvatella laguncula, Port Elizabeth, SOWERBY, J. Conch. vii, p. 337, n. sp.

PROSOBRANCHIATA.

Morphology of the epithelium of the liver of Prosobranchs; FRENZEL (113).

PECTINIBRANCHIATA.

TOXOGLOSSA.

- Cancellaria paucicostata*, Persian Gulf, SOWERBY, P. Malac. Soc. London, i, p. 160, fig., n. sp.
Conus milne-edwardsi, phæbeus, Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 99; *C. coromandelicus*, Coromandel coast, SMITH, Ann. Nat. Hist. xiv, p. 159, figg. : n. spp.
Cythara articulata, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 46, fig., n. sp.
 † *Genotia fontinalis, decomposita, pritchardi, angustifrons*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 175, figg., n. spp.
Mangilia fintera, victor, louisensis, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 45, figg., n. sp.
Pleurotoma congener, p. 160, Bay of Bengal, (*Surcula*) *subcorpulenta*, off Colombo, p. 161, SMITH, Ann. Nat. Hist. xiv, figg.; *P. (Clathurella?) rugidentata*, off Port Blair, Andamans, attached to *Xenophora*, SOWERBY, P. Malac. Soc. London, i, p. 38; *P. (Clathurella) edwini*,

- Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 168, fig. ; †*P. clarkeana*, Oligocene, Red Bluff, Mississippi, ALDRICH, Nautilus, vii, p. 98, fig. : n. spp.
- Scalptia macconkeyi*, Aden, JOUSSEAUME, Naturaliste, 1894, p. 201, n. sp.
- Terebra cernica*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 43, fig., n. sp.

RHACHIGLOSSA.

OLIVIDÆ, HARPIDÆ, MARGINELLIDÆ, VOLUTIDÆ, and MITRIDÆ.

- Ancilla (Monoptygma) unidentata*, Bay of Zaila, SOWERBY, P. Malac. Soc. London, i, p. 160, fig., n. sp.
- Ancillaria djiboutina*, Gulf of Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 104, n. sp.
- Cancilla innesi*, Aden, p. 167, *beyerlei*, Andaman Is., p. 168, JOUSSEAUME, Naturaliste, 1894, fig., n. spp.
- †*Eburnopsis tessellatus*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 174, fig., n. sp.
- Extra*, n. g., not defined, for *E. extra*, n. sp., Perim I.; JOUSSEAUME, Bull. Soc. Philom. vi, p. 101.
- †*Harpa pachycheila*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 173, fig.
- Marginella perminima*, S. Africa, SOWERBY, J. Conch. vii, p. 370; *M. (Persicula) nymphe*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 168, fig. : n. spp.
- †*Mitra lintoidea*, Oligocene, Red Bluff, Mississippi, ALDRICH, Nautilus, vii, p. 97, figg., n. sp.
- Voluta bednalli*, Brazier, note on; SOWERBY, P. Malac. Soc. London, i, p. 49, figg.

FASCIOLARIIDÆ and TURBINELLIDÆ.

- Fusus barelayi*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 41, fig., n. sp.
- Latirus abnormis*, Natal, SOWERBY, J. Conch. vii, p. 369; *L. andamanicus*, off Andaman Is., SMITH, Ann. Nat. Hist. xiv, p. 164, fig.; †*L. indistinctus*, Oligocene, Red Bluff, Mississippi, ALDRICH, Nautilus, vii, p. 99, fig. : n. spp.
- Melongena corona*, Gmel., in brackish water, Banana River, Florida; WHITE, Nautilus, viii, p. 11.
- †*Palæotriton*, n. g., type *Scalaria venusta*, Münst.; KITTL, Ann. Hofmus. Wien, ix, p. 236.
- Peristernia rudolphi*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 166, fig., n. sp.
- Perostylus*, proposed as n. g. for *Cerithium (Colina) brazieri*, Tryon, and *P. fordianus*, n. sp., Hab. ?; PILSBRY, Nautilus, viii, p. 17. Withdrawn as embryo of *Semifusus (Megalatractus) probosciferus*, *ib.* t. c. p. 67. [Cf. also TATE, P. Linn. Soc. N. S. Wales, viii, p. 244.]

- † *Siphonophyla*, n. g., type *Fasciolaria desori*, Klipst.; KITTL, Ann. Hofmus. Wien, ix, p. 235.
 † *Spirocyclina*, n. g., for *Turritella eucycla*, Laube; KITTL, Ann. Hofmus. Wien, ix, p. 240.
 † *Tectifusus*, n. subg of *Fusus*, type *F. tholoides*, Tate; TATE, J. R. Soc. N. S. Wales, xxvii, p. 171.
 † *Trachoeccus*, n. g., for *T. gemmellaroi*, n. sp., St. Cassian beds, Southern Alps; KITTL, Ann. Hofmus. Wien, ix, p. 240.

BUCCINIDÆ, NASSIDÆ, and COLUMBELLIDÆ.

- Astyris gouldiana*, remarks on; GARDNER, Nautilus, vii, p. 141.
Bullia pustulosa, Natal, SOWERBY, J. Conch. vii, p. 368, n. sp.
Buccinum undatum, Linn., note on habits; ROBERTSON, Tr. Soc. Glasgow, iv, pp. 81 & 82.
Columbella kitchingi, Cape of Good Hope, (*Mitrella*) *pyramidalis*, Port Elizabeth, SOWERBY, J. Conch. vii, p. 370; *C. robillardi*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 46, fig.; *C. (Amycla) planaxiformis*, (*Mitrella*) *venulata*, (*M. ?*) *pupa*, p. 153, (*M.*) *semipicta*, (*Anachis*) *sinensis*, p. 154, Hong-kong, SOWERBY, P. Malac. Soc. London, i, figg. : n. spp.
Engina epidromidea, Bombay, MELVILL, P. Malac. Soc. London, i, p. 162, fig.; *E. zatricium*, Loyalty Is., MELVILL, t. c. p. 51, fig. : n. spp.
Nassa zailensis, Bay of Zaila, SOWERBY, P. Malac. Soc. London, i, p. 160, fig., n. sp.
Niotha voluptabilis, Red Sea, JOUSSEAUME, Bull. Soc. Philom. vi, p. 101, n. sp.
Siphonalia stearnsii, Japan, PILSBRY, Nautilus, viii, p. 31, n. sp.
Tritonidea neglecta, Philippines, SOWERBY, P. Malac. Soc. London, i, p. 42, fig., n. sp.

MURICIDÆ and CORALLIOPHILIDÆ.

- † *Concholepas antiquata*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 171, fig., n. sp.
Coralliophila latiauridea, *curta*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 42, figg., n. spp.
Murex (Ocinebra) erouchi, *obtusus*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 41, figg.; *M. malabaricus*, off Malabar Coast, SMITH, Ann. Nat. Hist. xiv, p. 162, figg.; *M. (Pseudomurex) polypleurus*, South Australia, BRAZIER, P. Linn. Soc. N. S. Wales, viii, p. 179, figg.; † *M. (Pteronotus) burnsii*, Oligocene, Red Bluff, Mississippi, ALDRICH, Nautilus, vii, p. 98, figg. : n. spp.
Muricidæ: further notes on the embryonic whorls; BAKER, P. Ac. Philad. 1894, pp. 223 & 224, figg.
Ricimula marginutra, Blainv., destroying young oysters; HEDLEY, P. Linn. Soc. N. S. Wales, ix, p. 185.

- Sistrum angulatum*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 46, fig., n. sp.
Trophon sp.: notes on its alimentary canal and kidney; PLATE, SB. Ak. Berlin, 1894, pp. 224 & 225.
Urosalpinx cinereus, in San Francisco Bay; STEARNS, Nautilus, viii, pp. 13 & 14.

TÆNIOGLOSSA.

TRITONIDÆ, DOLIIDÆ, CYPRÆIDÆ, and STROMBIDÆ.

- Amphiperas smithi*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 46, fig., n. sp.
Amphiperasida, from the Tertiaries of Piedmont and Liguria, endless new varieties; SACCO (319).
Aspella gothica, Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 100, n. sp.
†*Cypræa dalli*, Oligocene, Red Bluff, Mississippi, ALDRICH, Nautilus, vii, p. 98, figg., n. sp.
Cypræide, from the Tertiaries of Piedmont and Liguria, endless new varieties; SACCO (319).
†*Distortio interposita*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 172, fig., n. sp.
†*Dolium biornatum*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 173, fig., n. sp.
Lampas bardeyi, Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 100, n. sp.
Nassaria coromandelica, off Coromandel Coast, SMITH, Ann. Nat. Hist. xiv, p. 163, fig., n. sp.
Pirula: notes on recent species, with synonymy; SMITH, J. Malac. iii, pp. 64-69.
P. investigatoris, Ganjam Coast, Bay of Bengal, SMITH, Ann. Nat. Hist. xiv, p. 367, n. sp.
Pterocera: description of the anatomy, with notes on the crystalline style; WOODWARD, P. Malac. Soc. London, i, pp. 143-150, fig.
Stolida avalitensis, Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 103, n. sp.
Strombus mauritianus and *luhuanus*, in the form of their shell, resemble *Conus*; COOKE, P. Cambridge Soc. viii, p. 141, suggests this may be protective.
Trivia mollerati [alleged new species], Bay of St. Raphael (Var); LOCARD, Echange, x, p. 131, n. sp.

CERITHIIDÆ and CÆCIDÆ.

- †*Ataxocerithium*, n. g., type *Cerithium serotinum*, A. Ad., with *A. concatenatum*, n. sp., Eocene, Australia; TATE, J. R. Soc. N. S. Wales, xxvii, p. 179, fig.

- Bittium variegatum*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 172, fig., n. sp.
- Cæcum amputatum*, Sydney, HEDLEY, P. Linn. Soc. N. S. Wales, viii, p. 504, fig., n. sp.
- † *Cerithium serratoïdes*, Oligocene, Red Bluff, Mississippi, ALDRICH, *Nautilus*, vii, p. 99, fig., n. sp. .
- Cerithiopsis (Seila) multilirata*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 154, fig., n. sp.
- Colina brazieri*, Tryon, is probably the embryo of *Fusus probosciferous*; TATE, P. Linn. Soc. N. S. Wales, xviii, p. 244. [Admitted by PILSBRY, *Nautilus*, viii, p. 17.]
- † *C. apicilirata, fenestralis*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 80, figg., n. spp.
- † *Diastoma provisi*, Tertiary, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 177, fig., n. sp.
- † *Diastomidae*, n. fam., for *Diastoma, Sandbergeria, Cryptaulax, Exelissa, Teliostoma, Aurelianella*; COSSMANN, J. Conchyl. xli, p. 322.
- Potamides (Terebralia) tenerrimus*, Roti I., SCHEPMAN, Notes Leyden Mus. xvi, p. 133, figg.; † *Potamides* from the Aquitanian beds of Burgos, with *P. gaudryi, munieri*, p. 376, LARRAZET, Bull. Soc. geol. France, xxii, p. 372-379, 1 pl. : n. spp.
- † *Sandbergeria trimargarita*, Oligocene of Étampes, COSSMANN, J. Conchyl. xli, p. 325, fig., n. sp.
- † *Semivertagus subcalvatus, capillatus*, Tertiary, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 178, figg., n. spp.
- Triforis graniferus*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 173, fig., n. sp.

PSEUDOMELANIIDÆ, MELANIIDÆ, and PLEUROCERIDÆ.

- † *Allostrophia*, n. subg. of *Loxonema*, type *Melania perversa*, Müntst.; KITTL, Ann. Hofmus. Wien, ix, p. 158.
- † *Cælochrysalis*, n. subg. of *Euchrysalis*; KITTL, Ann. Hofmus. Wien, ix, p. 205.
- † *Cælostylina*, n. g., type *Melania conica*, Müntst.; KITTL, Ann. Hofmus. Wien, ix, p. 179.
- † *Eustylus*, n. g., type *E. militaris*, n. sp., St. Cassian beds of the Southern Alps; KITTL, Ann. Hofmus. Wien, ix, p. 192.
- † *Goniobasis jeffersonensis*, Dakota beds, Nebraska, WHITE, P. U. S. Mus. xvi, p. 134, fig., n. sp.
- † *Goniogyra*, n. g., type *Turritella armata*, Müntst.; KITTL, Ann. Hofmus. Wien, ix, p. 167.
- Lechaptoisia*, n. n. for *Horea*, Smith, non Bourguignat, belongs to *Melaniidae*, and not to *Rissoiidae*; ANCEY, Bull. Soc. zool. France, xix, p. 29.
- Melania nodiperda*, p. 207, *graniperda, quinaria*, p. 210, *tegulata*, p. 211, *multicincta, succincta, cænsa*, p. 212, *paucicincta*, p. 213, *ovulum*,

- p. 214, Corea, MARTENS, SB. Ges. naturf. Berlin, 1894; *M. (Acrostoma) sadongiensis*, Sarawak, (*Striatella*) *fultoni*, Mengalum I., Labuan, p. 175, *exserta*, *pyramidella*, *palawanica*, p. 176, *subplicatula*, p. 177, Palawan, BROTH, P. Malac. Soc. London, i, figg. : n. spp.
- Melaniella tustensis*, Lower California, COOPER, P. Calif. Ac. iv, p. 141, figg., n. sp.
- † *Microcheilus*, n. g., type *Cochlearia brauni*, Klipst.; KITTL, Ann. Hofmus. Wien, ix, p. 212.
- † *Orthostylus*, n. g., type *Turritella fuchsii*, Klipst.; KITTL, Ann. Hofmus. Wien, ix, p. 199.
- Paludomus* : notes on Bornean species; SMITH, J. Malac. iii, pp. 49–51, fig. *P. (Philopotamis) quadrasi*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 130; *P. everetti*, Borneo, SMITH, J. Malac. iii, p. 51, fig. : n. spp.
- † *Protorcula*, n. subg. of *Undularia*, type *Turritella subpunctata*, Münst.; KITTL, Ann. Hofmus. Wien, ix, p. 169.
- † *Pseudochrysalis*, n. subg. of *Cœlostylina*, type *Melania subovata*, Münst.; KITTL, Ann. Hofmus. Wien, ix, p. 188.
- Pseudopotamis*, n. g., for *P. finschi*, Prince of Wales I., Torres Straits; BROTH in SEMON'S "Zoologische Forschungsreisen in Australia," pp. 86 & 87, fig. *P. semoni*, Hammond I., Torres Straits; MARTENS, t. c. p. 86, fig.
- † *Pyrgulifera meckii*, Dakota beds, Nebraska, WHITE, P. U. S. Mus. xvi, p. 135, fig., n. sp.
- † *Spirochrysalis*, n. g., type *Melania nymphe*, Münst.; KITTL, Ann. Hofmus. Wien, ix, p. 190.
- † *Spirostylus*, n. g., for *S. beneckeii*, Kittl; KITTL, Ann. Hofmus. Wien, ix, p. 197.
- † *Telleria*, n. g., for *T. umbilicata*, n. sp., St. Cassian beds, Southern Alps; KITTL, Ann. Hofmus. Wien, ix, p. 207, fig.

LITTORINIDÆ, FOSSARIIDÆ, and HOMALOGYRIDÆ.

- Couthouya acuta*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 155, fig., n. sp.
- Homalogyra pulcherrima*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 175, fig., n. sp.
- † *Isapis eothinos*, p. 182, *elatus*, p. 183, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, figg., n. spp.
- Lacuna indica*, off Madras coast, SMITH, Ann. Nat. Hist. xiv, p. 165, fig. n. sp.
- † *Risella alta*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 184, fig., n. sp.

LITIOPIDÆ and RISSOIDÆ.

- Alaba hungerfordi*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 155, fig., n. sp.
- Lechaptosisia*, n. n. for *Horca*, Smith, non Bourguignat, belongs to *Melaniidæ*, not to *Rissoiidæ*; ANCEY, Bull. Soc. zool. France, xix, p. 29.

- † *Litiopa punctulifera*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 183, fig., n. sp.
Rissoia (*Alvania*) *subcancellata*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 155, fig.; *R.* (*Apicularia*) *strangei*, p. 173, (*Alvinia*) *ochroleuca*, p. 174, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, figg. : n. spp.
Rissoina savignyi, p. 101, *bouvieri*, p. 102, Red Sea, JOUSSEAUME, Bull. Soc. Philom. vi; *R. illustris*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 155, fig. : n. spp.

HYDROBIIDÆ, PALUDINIDÆ, VALVATIDÆ, and AMPULLARIIDÆ.

- Ampullaria castelloi*, Bogota, *pertusa*, Hab. ?, p. 48, *granulosa*, Cayenne, p. 49, SOWERBY, P. Malac. Soc. London, i, figg. : n. spp.
Bithynella contempta, Palestine, *palmyrae*, Palmyra, Syria, DAUTZENBERG, Rev. biol. Nord France, vi, p. 348, figg., n. spp.
Bythina: the species of the European system, with figures and descriptions of a very large number of alleged new species wrongfully attributed to various authors; LOCARD, Rev. Suisse Zool. ii, pp. 65-134, 2 pls.
Caspia issykkulensis, Issyk-Kul Lake, Turkestan, CLESSIN, Nachrbl. deutsch. malak. Ges. 1894, p. 66, n. sp.
Emmericia munda, European Turkey, STURANY, Ann. Hofmus. Wien, ix, p. 383, fig., n. sp.
Hydrobia ulvæ, Penn, anatomy, embryology, and development; HENKING, Ber. Ges. Freiburg, viii, pp. 89-110, 1 pl. — *H. jenkinsi*, found in North Staffordshire, DANIEL, Rep. North Staffordsh. Club, xxviii, p. 94; at Lewes, ADAMS, J. Conch. vii, p. 390. [For other notes on this species see *t. c.* pp. 325 & 414.]
Lithoglyphus parvulus, Tokat, Asia Minor; NÆGELE, Nachrbl. deutsch. malak. Ges. 1894, p. 106.
Paludina vivipara, formation of the mesoderm; ERLANGER, Morphol. Jahrb. xxi, pp. 113-118, 1 pl.
Paludinidæ of Bohemia; ULICNY (427).
Pteroglyphus, n. g., for *P. mindanavicus*, Philippines; QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 101.
Pyrgula barroisi, Lake of Tiberias, DAUTZENBERG, Rev. biol. Nord France, vi, p. 345, figg., n. sp.
Valvata (*Cincinna*) *halopea*, Finnland, WESTERLUND, Nachrbl. deutsch. malak. Ges. 1894, p. 199; *V. rhabdota*, European Turkey, STURANY, Ann. Hofmus. Wien, ix, p. 381, fig. : n. spp.
Valvatidæ of Bohemia; ULICNY (427).
Viviparidæ: geographical and hypsometrical distribution of North American forms; CALL, Amer. J. Sci. xlvi, pp. 132-141, 1 map.
† *Viviparus hicksii*, Dakota beds, Nebraska, WHITE, P. U. S. Mus. xvi, p. 135, figg., n. sp.

CYCLOPHORIDÆ.

- Alycaeus rebelemi, canaliculatus*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 154, figg., n. spp.
- Arinia cuspidata*, p. 120, (*Leucarinia*) *minutior, sinulabris, plagiostoma*, p. 121, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, n. spp.
- Cælopoma barcheti*, China, SCHMACKER & BÖTTGER, P. Malac. Soc. London, i, p. 174, fig., n. sp.
- Cyathopoma marie*, Ceylon, JOUSSEAUME, Mem. Soc. zool. France, vii, p. 307, fig.; *C. tricarinatum*, Natuna Is., SMITH, Ann. Nat. Hist. xiii, p. 461, fig. : n. spp.
- Cyclophorus muspratti*, p. 506, *nagaensis, pæciloneurus*, p. 507, *fultoni*, p. 508, Assam, GODWIN-AUSTEN & BEDDOME, Ann. Nat. Hist. xiii ; *C. diplochilus*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 153, fig.; *C. cicatricosus*, China, GREDLER, Ann. Hofmus. Wien, ix, p. 424, figg.; *C. batanicus, sericinus*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 117 : n. spp.
- Cyclotus suluanus*, p. 56, *bongaoensis*, p. 57, Sulu Archip., SMITH, Ann. Nat. Hist. xiii, figg.; *C. natunensis*, p. 461, *minor*, p. 462, Natuna Is., SMITH, t. c., figg.; *C. (Platyraphe) eurystoma*, p. 116, *gradatus*, p. 117, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894 : n. spp.
- Diplommalina (Sinica) samuiana*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 155, fig.; *D. strubelli*, p. 463, *congener*, p. 464, Natuna Is., SMITH, Ann. Nat. Hist. xiii, figg.; *D. turritella, aculus, prostoma, gonostoma*, p. 122, *rubella, subcalcarata (Sinica), oligogyra*, p. 123, *megaloptyx, concavospira, oostoma*, p. 124, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894 : n. spp.
- Ditropis diminuta*, Sulu Is., MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 213, n. sp.
- Helicomorpha conella, costulata*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 120, n. spp.
- Lagochilus liratulus*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 154, fig.; *L. bunguranensis*, p. 459, *sirhasseneensis, natunensis, exiguus*, p. 460, Natuna Is., SMITH, Ann. Nat. Hist. xiii, figg.; *L. gradatum, solidulum*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 118 ; *L. compressum*, Sulu Is., MOELLENDORFF, t. c. p. 213 ; *L. fasciatum*, N. Island, New Zealand, SUTER, Tr. N. Zealand Inst. xxvi, p. 132, figg.; *L. hedleyi*, p. 484, *torquillum*, p. 485, New Zealand, SUTER, P. Linn. Soc. N. S. Wales, viii, figg. : n. spp.
- Leptopoma natunense*, Natuna Is., SMITH, Ann. Nat. Hist. xiii, p. 459, fig.; *L. roseum*, p. 118, *polillanum, pulchellum*, p. 119, *euconus*, p. 120, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894 : n. spp.

- Moulinisia peraciguua*, *streptaxis*, p. 127, *semiscissa*, *perobliqua*, p. 128, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, n. spp.
- †*Neocyclotus (Ptychocochlis) bakeri*, Miocene, Jamaica, SIMPSON, P. U. S. Mus. xvii, p. 449, figg., n. sp.
- Opisthoporus setosus*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 152, fig., n. sp.
- Opisthostoma*, Bornean species; SMITH, Ann. Nat. Hist. xiv, pp. 269-273, and SMITH, Sci. Gossip, 1894, pp. 5 & 6, figg.
- O. cooki*, p. 271, *depauperatum*, *austeni*, p. 272, *pumilio*, p. 273, Borneo, SMITH, Ann. Nat. Hist. xiv, n. spp.
- Palaina teniolata*, p. 18, *hyalina*, p. 19, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, n. spp.
- Pomatias daralli*, p. 344, *angustus*, p. 345, *valcourtianus*, p. 350, *nevilli*, p. 352 [alleged new species], France, LOCARD (203); *P. (Auritus)*, *diplestes*, Greece, WESTERLUND, Nachrbl. deutsch. malak. Ges. 1894, p. 197 : n. spp.
- Ptychocochlis*, n. n. for *Platystoma*, Klein; SIMPSON, P. U. S. Mus. xvii, p. 431. [Concealed in a note.]
- Ptychopoma humillimum*, p. 424, *juvenile*, p. 425, figg., GREDLER, Ann. Hofmus. Wien, ix, n. spp.
- Pupina pallens*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 155, fig.; *P. everetti*, Natuna Is., SMITH, Ann. Nat. Hist. xiii, p. 462, fig.; *P. josephi*, *spectabilis*, *calamianica*, p. 125, *hyptiostoma*, *striatella*, p. 126, *quadrasi*, p. 127, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894 : n. spp.
- Rhiostoma asiphon*, Samui Is., MOELLENDORFF, P. Zool. Soc. London, 1894, p. 152, fig., n. sp.
- Rolleia*, Crosse, is shown by the radula to be a subgenus of *Choanopoma*, and must be removed to *Cyclostomatidae*; THIELE, Nachrbl. deutsch. malak. Ges. 1894, p. 23.
- Spiraculum nagaense*, Assam, GODWIN-AUSTEN & BEDDOME, Ann. Nat. Hist. xiii, p. 509, n. sp.

CYCLOSTOMATIDÆ.

- †*Basilissa cossmanni*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 185, fig., n. sp.
- Chalicopoma*, n. sect. of *Omphalotropis* [*q. v.*], type *O. semicostulata*.
- Chondropoma watlingense*, Bahamas, DALL, Bull. Mus. Harvard, xxv, p. 118, fig., n. sp.
- Cyclostoma*: note on French species; COUTAGNE, Feuille Natural. xxiv, pp. 170-172 : note on *C. asteum*, ALLIX, *op. cit.* xxv, p. 14.
- Heteropoma*, n. g., for *H. quadrasi*, *pyramis*, p. 36, *tuberculatum*, *turritum*, p. 37, *fulvum*, *glabratum*, p. 38, Marianne Is.; QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894.
- Omphalotropis denselirata*, Philippines, QUADRAS & MOELLENDORFF,

- Nachrbl. deutsch. malak. Ges. 1894, p. 128; *O. elongatula*, p. 19, *picta*, *ochthogyra*, *laticosta*, p. 20, *latilabris*, *quadrasi*, p. 21, *elegans*, *suturalis*, p. 22, *submaritima*, p. 33, (*Solenomphala*) *conica*, (*Chalicopoma*, n. sect.), *semicostulata*, p. 34, *laevigata*, (*Scalinella*) *gracilis*, *pilosa*, p. 35, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894 : n. spp.
- Otopoma macgregoriae*, British New Guinea, HEDLEY, P. Linn. Soc. N. S. Wales, ix, p. 385, fig., n. sp.
- Pseudocyclotus*, n. g., for *Cyclostoma novæ-hiberniæ*, Quoy & Gaim.; THIELE, Nachrbl. deutsch. malak. Ges. 1894, p. 23. [Preoccupied by *Adelomorpha*, Tapp-Can., vide MOELLENDORFF, P. Malac. Soc. London, i, p. 239.]
- Quadrasiella*, n. g., for *Q. mucronata*, p. 38, *clathrata*, p. 39, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894.
- Rolleia*, Crosse, proves by the radula to be a subgenus of *Choanopoma*; THIELE, Nachrbl. deutsch. malak. Ges. 1894, p. 23.

ACICULIDÆ and TRUNCATELLIDÆ.

- Ame locardi* [alleged new species], France, LOCARD (203) p. 355; *A. elegantissima*, Modena, KOBELT in ROSSMAESSLER'S Iconog. vii, p. 17, fig., n. spp.
- †*Blandfordia stirlingi*, Quaternary, Lake Callabonna, S. Australia, (? also living), TATE, Tr. R. Soc. S. Austral. xviii, p. 196, n. sp.
- Coxiella*, n. g., type *Truncatella striatula*, Menke, SMITH, P. Malac. Soc. London, i, p. 98.
- Truncatella mariannarum*, p. 39, *subauriculata*, *expansilabris*, p. 40, (*Takeitia*) *parvula*, *lamellicosta*, *alata*, p. 41, Marianne Is., QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, n. spp.
- Truncatellidæ* of Bohemia; ULICNY (427).

CAPULIDÆ and XENOPHORIDÆ.

- †*Calyptropis*, n. g., type *Trochita turbinata*, Ten.-Woods; TATE, J. R. Soc. N. S. Wales, xxvii, p. 181.
- Cupulus pulcherrimus*, Gulf of Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 104; *C. lissus*, Bay of Bengal, SMITH, Ann. Nat. Hist. xiv, p. 166, figg. : n. spp.
- Crepidula adolphei*, Less., notes on its anatomy; PLATE, SB. Ak. Berlin, 1894, pp. 1072-1081.
- Crucibulum ferrugineum*, Reeve, notes on its anatomy; PLATE, SB. Ak. Berlin, 1894, pp. 1081 & 1082.
- Plesiothyreus cosmani* [sic], Gulf of Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 102; *P. newtoni*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 156, fig. : n. spp.
- Xenophora pallidula*, Reeve, note on a specimen from off Port Blair, Andamans; SOWERBY, P. Malac. Soc. London, i, p. 38.

NARICIDÆ, NATICIDÆ, and ADEORBIDÆ.

- Adeorbis patula*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 156, fig., n. sp.
Natica quekettii, Natal, SOWERBY, J. Conch. vii, p. 371; *N. robillardi*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 43, fig.; *N. tad-jourensis*, Gulf of Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 100 : n. spp.
Sigaretus (Eunaticina) tener, Bay of Bengal, SMITH, Ann. Nat. Hist. xiv, p. 165, fig., n. sp.
Vanikoro gracilis, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 169, fig., n. sp.

PTENOGLOSSA.

- Aclis unilineata*, Port Elizabeth, SOWERBY, J. Conch. vii, p. 371, n. sp.
Crisposcala bouryi, Aden, *audouini*, Suez, JOUSSEAUME, Bull. Soc. Philom. vi, p. 103, n. spp.
Hyaloscala amica, Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 104, n. sp.
Nodiscala bouryi, Red Sea, JOUSSEAUME, Bull. Soc. Philom. vi, p. 104, n. sp.
Scalariæ simplex, Natal, SOWERBY, J. Conch. vii, p. 371; *S. robillardi*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 42, fig.; *S. mal-hensis*, Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 103 : n. spp.

GYMNOGLOSSA.

- † *Actæopyramis olivellaformis*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 181, fig., n. sp.
Cingulina trisulcata, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 157, fig., n. sp.
Eulima producta, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 156, fig., n. sp.
Eulimella tenuis, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 157, fig.; *E. pulchra*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 170, fig.; *E. occidentalis*, San Diego, California, HEMPHILL, Zoe, iv, p. 395 : n. spp.
† *Lissochilina*, n. g., for *L. picta*, n. sp., St. Cassian beds, Southern Alps; KITTL, Ann. Hofmus. Wien, ix, p. 214, fig.
Odostomia subcarinata, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 157, fig.; *O. indistincta*, (*Pyrgulina*) *henni*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 171, fig. : n. spp.
Turbonilla sinensis, *tenuistriata*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 157, figg.; *T. scalarina*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 170, fig. : n. spp.

SCUTIBRANCHIATA.

RHIPIDOGLOSSA.

Studies among the *Rhipidoglossa*; HALLER (136).

HELICINIDÆ and HYDROCENIDÆ.

- Georissa denselirata, elongatula, styloptycta*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 129; *G. elegans, biangulata, lœvigata*, Marianne Is., QUADRAS & MOELLENDORFF, t. c. : n. spp.
- Helicina (Geophorus) pseudomphala*, Philippines, QUADRAS & MOELLENDORFF, Nachrbl. deutsch. malak. Ges. 1894, p. 128; *H. walkeri*, N. W. Australia, SMITH, P. Malac. Soc. London, i, p. 99, fig. : n. spp.
- † *Lucidella costata*, Miocene, Jamaica, SIMPSON, P. U. S. Mus. xvii, p. 449, fig., n. sp.

NERITIDÆ and NERITOPSIDÆ.

- † *Cryptonerita*, n. g., for *C. elliptica*, n. sp., Trias, S. Tirol; KITTL, Jahrb. geol. Reichsanst. xlv, p. 126, fig.
- † *Fedaiella*, n. subg. of *Naticopsis*, type *N. cuccensis*, Mojs.; KITTL, Jahrb. geol. Anst. xlv, p. 139, fig.
- † *Marmolatella*, n. subg. of *Naticopsis*, type *N. applanata*, Kittl; KITTL, Jahrb. geol. Reichsanst. xlv, p. 142, fig.
- † *Protonerita*, n. g., for *P. calcitica*, n. sp., Trias, S. Tirol; KITTL, Jahrb. geol. Reichsanst. xlv, pp. 127 & 129, figg.
- † *Trachynerita*, n. g., for *T. fornoënsis*, n. sp., Trias, S. Tirol, Jahrb. geol. Reichsanst. xlv, pp. 133 & 134, figg.

TURBINIDÆ, TROCHIDÆ, and CYCLOSTREMATIDÆ.

- Calliostoma purpureocinctum*, Port Stephens, New South Wales, HEDLEY, P. Linn. Soc. N. S. Wales, ix, p. 35, figg., n. sp.
- † *Diplochilus*, n. g. for *D. gracilis*, n. sp., Raibler beds, Tirol; WOEHRMANN, Jahrb. geol. Reichsanst. xliii, pp. 681 & 682, figg.
- Gibbula incincta*, Port Elizabeth, SOWERBY, J. Conch. vii, p. 372, n. sp.
- Lippistes rollei*, Japan, MARTENS, Nachrbl. deutsch. malak. Ges. 1894, p. 135, n. sp.
- Minolia (Conotrochus) strigata*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 158, fig., n. sp.
- Monilea rotundata*, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 158, fig., n. sp.
- Photinula suteri*, New Zealand, SMITH, P. Malac. Soc. London, i, p. 58, fig., n. sp.

- Trochus schlueteri*, Hab.?, SOWERBY, P. Malac. Soc. London, i, p. 43, fig., n. sp.
Turbo (Cantrainea) indicus, off Colombo, SMITH, Ann. Nat. Hist. xiv, p. 166, figg., n. sp.

HALIOTIDÆ, PLEUROTOMARIIDÆ, and FISSURELLIDÆ.

- Glyphis watsoni*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 177, fig., n. sp.
Haliotis: species of the Californian Coast; WILLIAMSON, Amer. Natural. xxviii, pp. 849-858.
Macroschisma lischkei, Japan, PILSBRY, Nautilus, viii, p. 29, n. sp.
Puncturella sinensis, Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 43, fig.; *P. henniana*, Sydney, BRAZIER in HENN, P. Linn. Soc. N. S. Wales, ix, p. 177, fig.: n. spp.
Scissurella costata, var. *levigata*, description of the animal and of its radula; VAYSSIÈRE, J. Conchyl. xlii, pp. 19-29, figg.
S. lytteltonensis, New Zealand, SMITH, P. Malac. Soc. London, i, p. 57, figg., n. sp.
†*Triangularia*, n. g., for *T. paradoxa*, Devonian, E. Alps; FRECH, Zeitschr. deutsch. geol. Ges. xlvi, p. 459, fig.
Zidora legrandi, South Australia, TATE, Tr. R. Soc. S. Austral. xviii, p. 118, n. sp. [The author thinks it may = *Legrandia tasmanica*, Beddome.]

DOCOGLOSSA.

- Studies among the *Docoglossa*; HALLER (136).
Acmaea helmsi, New Zealand; SMITH, P. Malac. Soc. London, i, p. 58, figg., n. sp.
Helcioniscus nigrisquamatus, Reeve species, note on; TAYLOR, Nautilus, viii, pp. 66 & 67. Note on; SIMPSON, t. c. pp. 91 & 92.
Lepeta (?) alta, off Sydney, SMITH, P. Malac. Soc. London, i, p. 59, figg., n. sp.
Patella paulinoi [alleged new species], Portugal, LOCARD, Echange, x, p. 131, n. sp.
P. kermadecensis, n. sp., Kermadec Is.; PILSBRY, Nautilus, vii, p. 109. Note on; TAYLOR, t. c. p. 142. *P. (Scutellastra) pilsbryi*, n. n. for *P. kermadecensis*, Pilsbry, the true habitat being S. Africa and not the Kermadec Is.; BRAZIER, P. Linn. Soc. N. S. Wales, ix, pp. 183 & 184. *P. kermadecensis* does come from Kermadec Is.; PILSBRY, P. Ac. Philad. 1894, pp. 208-212, 2 pls.

INCERTÆ SEDIS.

- Agagus*, n. g. [?] not defined, for *A. agagus*, n. sp., Gulf of Aden; JOUSSEAUME, Bull. Soc. Philom. vi, p. 99.

- Djeddilia*, n. g., for *D. djeddilia*, n. sp., Red Sea ; JOUSSEAUME, Bull. Soc. Philom, vi, p. 101.
Echinospira : two new forms ; SIMROTH, Ber. Ges. Leipzig, 1893-1894, pp. 116 & 117.

III. SCAPHOPODA.

- See SIMROTH in BRONN (32).
 †Revision of the British Eocene *Scaphopoda* ; NEWTON & HARRIS, P. Malac. Soc. London, i, pp. 63-69, figg.
Dentalium shoplandi, p. 102, *laugieri*, p. 103, Gulf of Aden, JOUSSEAUME, Bull. Soc. Philom. vi ; *D. profundorum*, p. 167, *usitatum*, off Colombo, *insolitum*, Bay of Bengal, p. 168, SMITH, Ann. Nat. Hist. xiv, figg. ;
 †*D. constrictum*, London Clay, Hampshire, NEWTON & HARRIS, P. Malac. Soc. London, i, p. 64, fig. : n. spp.
 †*Entaliopsis*, n. n. for *Entalis*, Gray, non DeFrance, nec G. B. Sowerby, p. 66, with *E. annulata*, n. sp., p. 67, fig., London Clay, S. E. England ; NEWTON & HARRIS, P. Malac. Soc. London, i.
Schizodentalium, n. g., for *S. plurifissuratum*, n. sp., Hong-kong ; SOWERBY, P. Malac. Soc. London, i, p. 158, figg.

IV. PELECYPODA.

- Morphology of the epithelium of the liver of *Pelecypoda* ; FRENZEL (113).
 Miocene *Pelecypoda* from Dingden ; LEHMANN, Verh. Ver. Rheinland, I, pp. 273-294.

SEPTIBRANCHIATA.

- Cuspidaria (Myonera) caduca*, Andaman Sea, (*Cardiomya*) *alcocki*, Bay of Bengal, SMITH, Ann. Nat. Hist. xiv, p. 170, figg., n. spp.

EULAMELLIBRANCHIATA.

ANATINACEA.

- †*Anatina dolabraeformis*, Eocene, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 188, fig., n. sp.
Pandora dissimilis, Cape Town, SOWERBY, J. Conch. vii, p. 374, n. sp.
 †*Pholadomya (?) richardsi*, Keuper, Shrewley, Warwickshire, NEWTON, J. Conch. vii, p. 411, figg., n. sp.
Phragmorisma, n. g., type *Thracia watsoni*, Smith, with †*P. anatinæformis*, n. sp., Eocene, Australia ; TATE, J. R. Soc. N. S. Wales, xxvii, p. 189, fig.

- † *Thracia* (?) *brodiei*, Keuper, Shrewley, Warwickshire, NEWTON, J. Conch. vii, p. 409, fig., n. sp.
Verticordia optima, off Port Blair, Andaman Is., proposed as new species; SOWERBY, P. Malac. Soc. London, i, p. 39, fig.: withdrawn as synonym of *V. eburnea*, Wood-Mason & Alcock; *ib. t. c.* p. 82.

PHOLADACEA.

- † *Crassiconcha*, n. g., for *C. stuckenbergi*, n. sp., Permian, Russia; NECHAEV, Trudi Kazan. Univ. xxvii, No. 4, p. 316, fig.
Gastrochænacea: monograph begun by KOBELT in MARTINI & CHEMNITZ (225).
Pholas crispata, Linn., bores by means of sand fixed to its foot by a mucous secretion; SMITH, Tr. Soc. Glasgow, iv, pp. 37-39.
Teredo furcifera, Amboina, MARTENS (217), p. 95, fig., n. sp.

MYACEA.

- † *Corbula hicksii*, Dakota beds, Nebraska, WHITE, P. U. S. Mus. xvi, p. 134, figg., n. sp.

CARDIACEA.

- Cardium muticum*, Rve., note on the eyes; KISHINOUE, J. Coll. Japan, vi, pp. 279-285, 1 pl.
C. turtoni, Port Elizabeth, SOWERBY, J. Conch. vii, p. 377; *C. robillardi*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 47, fig.: n. spp.
 † *Myochama plana*, *rugata*, Tertiary, Australia, TATE, J. R. Soc. N. S. Wales, xxvii, p. 190, fig., n. spp.
Rudistes [and *Hippurites*, conclusion of memoir, with new species; DOUVILLÉ, Mem. Soc. geol. France, Pal., iv, figg.

VENERACEA.

- Cyrena luchuana*, *yaeyamensis*, *fissidens*, Japan, PILSBRY, Nautilus, viii, p. 30, n. spp.
Cytherea (*Caryatis*) *puclicissima*, off Ganjam Coast, Bay of Bengal, SMITH, Ann. Nat. Hist. xiv, p. 169, fig., n. sp.
Dosinia spaldingi, Red Sea, JOUSSEAUME, Naturaliste, 1894, p. 131; *D. parva*, Mauritius, SOWERBY, P. Malac. Soc. London, i, p. 44, fig.: n. spp.
Glaucanome sculpta, Bay of Bengal, SOWERBY, P. Malac. Soc. London, i, p. 40, fig., n. sp.
Gnathodon: monograph of the genus; DALL, P. U. S. Mus. xvi, pp. 89-106, 1 pl.
Isocardia cor, varieties of; WOTTON, Sci. Gossip, 1894, pp. 122 & 123.

- † *Physocardia*, n. g., for *P. ogilviæ*, n. sp., Raibler beds near Cortina ;
 WOEHRMANN, Jahrb. geol. Reichsanst. xliii, p. 671 & 672,
 figg.
- Pisidium* : list of British species ; SWANTON, Naturl. J. iii, pp. 55, 56,
 109, 110, & 139, figg.
- Psammobia burnupi*, Natal, SOWERBY, J. Conch. vii, p. 375 ; *P. simplex*,
 Hong-kong, SOWERBY, P. Malac. Soc. London, i, p. 159, fig. : n. spp.
- Psammosphærita*, n. g., not defined, for *P. psammosphærita*, n. sp., Aden ;
 JOUSSEAUME, Bull. Soc. Philom. vi, p. 104.
- Sphærium corneum*, Linn., habits, &c. ; CROWTHER, J. Conch. vii, pp. 417-
 421.
- Venus djiboutiensis*, Gulf of Aden, JOUSSEAUME, Bull. Soc. Philom. vi,
 p. 105 ; *V. (Anomalocardia) leptalea*, Bahamas, DALL, Bull. Mus.
 Harvard, xxv, p. 114, fig. : n. spp.

TELLINACEA.

- Donax burnupi*, Natal, SOWERBY, J. Conch. vii, p. 377 ; *D. townsendi*,
 Persian Gulf, SOWERBY, P. Malac. Soc. London, i, p. 161, fig. : n. spp.
- Mactra* : notes on the Californian species ; DALL, Nautilus, vii, pp. 136-
 138, 1 pl.
- M. crista*, Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 105 ; *M. zellwe-*
geri, Zanzibar, JOUSSEAUME, Naturaliste, 1894, p. 131, figg. ; *M.*
æquisulcata, Natal, SOWERBY, J. Conch. vii, p. 376 ; *M. hemphillii*,
 California, DALL, Nautilus, vii, p. 137, fig. ; *M. richmondi*, Nicaragua,
 DALL, Nautilus, viii, p. 28 : n. spp.
- Mactridæ* : synopsis of the *Mactridæ* of North America ; DALL, Nautilus,
 viii, pp. 25-28 & 39-43.
- Mactrotoma*, n. subg. of *Mactra*, type *Mactra fragilis*, Gmel. ; DALL,
 Nautilus, viii, p. 26, with *Micromactra* and *Simomactra*, n. sectt.,
 DALL, t. c. p. 40.
- Metis coxa*, Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 105, n. sp.
- Micromactra*, n. sect. of *Mactrotoma* [q.v.] ; DALL, Nautilus, viii, p. 40.
- Mulinia modesta*, p. 5, *coloradöensis*, Gulf of California, *bradleyi*, p. 6,
 Panama, DALL, Nautilus, viii, figg., n. spp.
- Simomactra*, n. sect. of *Mactrotoma* [q.v.] ; DALL, Nautilus, viii, p. 40.
- Strigillia trotteriana*, Natal, SOWERBY, J. Conch. vii, p. 376, n. sp.
- Symmorphomactra*, n. subg. of *Spisula*, type *S. falcata*, Gould ; DALL,
 Nautilus, viii, p. 41.
- Syndesma maxima*, Bay of Bengal, SOWERBY, P. Malac. Soc. London,
 i, p. 40, fig., n. sp.
- Tellina maria*, *dautzenbergi*, St. Thomas I., Gulf of Guinea, NOBRE, Ann.
 Sci. Nat. Porto, i, p. 92, figg. ; *T. (Macoma) candidata*, Natal,
 SOWERBY, J. Conch. vii, p. 375 ; *T. hungerfordi*, Hong-kong,
 SOWERBY, P. Malac. Soc. London, i, p. 159, fig., n. spp.

SUBMYTILACEA.

(Marine Forms.)

- Ætheria*: remarks on the shell; SIMROTH, Abh. Senckenb. Ges. xviii, pp. 275-287.
- Æ. heteromorpha*, Congo Falls, SIMROTH, Abh. Senckenb. Ges. xviii, p. 287, figg., n. sp.
- † *Carbonicola*: monograph on British species, with 5 new species; HIND, Pal. Soc. Mon. 1894.
- Lucina bengalensis*, off delta of Godaveri, SMITH, Ann. Nat. Hist. xiv, p. 171, fig., n. sp.
- † *Modiolodon*, n. subg. of *Modiolopsis*, type *Clidophorus oblongus*, Golowk; NECHAEV, Trudui Kazan. Univ. xxvii, No. 4, p. 239.

(Freshwater Forms.)

- Anodonta dejecta*, types rediscovered; SIMPSON, Nautilus, viii, pp. 52 & 53. *A. mearnsiana* is a synonym.
- A. latirostris*, p. 207, *mollis*, p. 208, *adusta*, p. 213, *glaucina*, p. 216, *prasina*, p. 217, *nobilis*, p. 218, *bicolor*, p. 219, *valentina*, p. 222, *emacerata*, p. 223, Spain, DROUET, Mem. Ac. Dijon, iv, figg. [alleged new species]. *A. ervica*, Loire, KOBELT in ROSSMÄSSLER'S Iconog. vii, p. 45, fig., n. sp. [?]. *A. kobelti*, p. 152, *haconensis*, p. 153, Japan, JHERING, Abh. Senckenb. Ges. xviii, figg., n. spp.
- Dreissensia polymorpha*, note on the nervous system; TOURENG, C.R. Ac. Sci. cxviii, p. 544. Note on the circulatory system; TOURENG, *t. c.* pp. 929 & 930. Note on its nomenclature; MARTENS, J. Conch. vii, pp. 415 & 416.
- † *Margaritana subangulata*, Pliocene, California, COOPER, P. Calif. Ac. iv, p. 166, figg., n. sp.
- Mutela simpsoni*, Shiré Riv., E. Africa, ANCEY, Mem. Soc. zool. France, vii, p. 233, fig., n. sp.
- † *Naiadites*: notes on the genus; DAWSON & HIND, Quart. J. Geol. Soc. l, pp. 435-442, 1 pl.
- Pseudanodonta dumasi*, p. 64, *berryacensis*, p. 66 [alleged new species], Dept. of Allier; LOCARD, Rey. Sci. Bourbonnais, vii, figg.
- Spatha baumannii*, *martensi*, Victoria Nyanza, STURANY (388), p. 308, figg., n. spp.
- Spathella kirki*, p. 229, Shiré Riv., E. Africa, *anceyi*, p. 231, Karouga, E. Africa, ANCEY, Mem. Soc. zool. France, vii, figg., n. spp.
- Unio circinatus*, p. 171, *rhysoptygus*, p. 175, *cameratus*, p. 183, *limosellus*, p. 181, *decurtatus*, p. 185, *gruvatus*, p. 187, *almenarensis*, p. 200, *callipygus*, p. 203, *turdetanus*, p. 204, Spain, DROUET, Mem. Ac. Dijon, iv, figg. [alleged new species]; *U. lancelevei*, p. 49, *elboriensis*, p. 52, *levoiturieri*, p. 55, *catinulus*, p. 58, *lacrymiformis*, p. 60, Seine, at Elbeuf, LOCARD, Bull. Soc. Elbeuf, xii [alleged new species];

- U. battonensis* [alleged new species], Nassau, KOBELT, Jahrb. Nassau. Ver. xvii, p. 88, fig., also in ROSSMAESSLER's Iconog. vii, p. 43, fig.; *U. pamisinus* [alleged new species], Greece, DROUET in CHAPER, Mem. Soc. zool. France, vii, p. 373, figg.; *U. borelli*, p. 226, *lechaptosi*, p. 228, Shiré Riv., E. Africa, ANCEY, t. c. figg.; *U. acrorrhynchus*, p. 214, *gottschei*, p. 215, *verrucifer*, *pliculosus*, p. 216, Corea, MARTENS, SB. Ges. naturf. Berlin, 1894; *U. jokohamensis*, p. 158, *haconensis*, p. 161, Japan, JHERING, Abh. Senckenb. Ges. xviii, figg.; *U. pigerrimus*, p. 293, *alienigenus*, p. 294, *opacatus*, *computatus*, p. 295, *sphenorhynchus*, *tehuantepecensis*, p. 296, Mexico, CROSSE & FISCHER, J. Conchyl. xli; †*U. barbouri*, Dakota beds, Nebraska, WHITE, P. U. S. Mus. xvi, p. 133, figg. : n. spp.
- Unionida* of the Isonzo, Trieste; GALLENSTEIN (118). Note on the distribution of *Unionida* in N. E. North America; SIMPSON, P. U. S. Mus. xvi, pp. 591-595.

PSEUDOLAMELLIBRANCHIATA.

- Amussium alcocki*, Laccadive Sea, *andamanicum*, Andaman Sea, p. 172, *solitarium*, Bay of Bengal, p. 173, SMITH, Ann. Nat. Hist. xiv, figg., n. spp.
- †*Gryphæa*, review of DeFrance's fossil types; BIGOT, Bull. Lab. geol. Caen, i (1891), pp. 76-86 & 131-133, 1 pl.
- Malvufundus irregularis*, Japan, JOUSSEAUME, Naturaliste, 1894, p. 228, n. sp.
- Ostrea*: on a parasitic disease of the Oyster; GIARD, C.R. Soc. Biol. Paris, 1894, pp. 401-403. On the causes of the greening of Oysters; CHATIN & MUNTZ, C.R. Ac. Sci. cxviii, pp. 17-23 & 56-58.
- Pinna epica*, Japan, JOUSSEAUME, Naturaliste, 1894, p. 229, n. sp.
- †*Pteronites pittmani*, Spirifer Sandstone, near Rydal, New South Wales, ETHERIDGE, Rec. Geol. Survey N. S. Wales, iv, p. 29, figg., n. sp.

FILIBRANCHIATA.

- Basterotia obtusa*, Natal, SOWERBY, J. Conch. vii, p. 374, n. sp.
- †*Hoferia*, n. g., type *Lucira duplicata*, Münst.; BITTNER, Verh. geol. Reichsanst. 1894, p. 190.
- Limopsis indica*, Colombo, SMITH, Ann. Nat. Hist. xiv, p. 171, figg., n. sp.
- Mytilus edulis*, on pearl-bearing examples at Billiers, Morbihan; HAMONVILLE, Bull. Soc. zool. France, xix, pp. 140-142.
- M. modiolus*: note on a hermaphrodite example; M'INTOSH, Ann. Nat. Hist. xiv, p. 196.
- †*Pichleria*, n. g., type *Cucullæa auingeri*, Laube; BITTNER, Verh. geol. Reichsanst. 1894, p. 189.

PROTOBRANCHIATA.

- †*Nucula* (?) *keuperina*, Keuper, Shrewley, Warwickshire, NEWTON, J. Conch. vii, p. 412, figg., n. sp.
 †*Phanodesmia*, n. g., for 4 new species named but not described ; BITTNER, Verh. geol. Reichsanst. 1894, p. 188.
 †*Poroleda*, n. g., for *P. lanceolata*, n. sp., Eocene, Australia ; TATE, J. R. Soc. N. S. Wales, xxvii, p. 186, fig.

INCERTA SEDES.

- Kyrina*, n. g. [?], not defined, for *K. kyrina*, n. sp. [?], Aden ; JOUSSEAUME, Bull. Soc. Philom. vi, p. 99.

V. AMPHINEURA.

APLACOPHORA.

- Comparative anatomy of some *Aplacophora* of Naples ; THIELE, Zeitschr. wiss. Zool. lviii, pp. 222-305, 5 pls., text figg.
Chaetoderma productum, n. sp., with its structure and anatomy, Kara Sea, WIRÉN, Svenska Ak. Handl. xxv, No. 6, pp. 8-12, figg., n. sp.
Neomenia, structure and anatomy ; WIRÉN, Svenska Ak. Handl. xxv, No. 6, pp. 13-67.
N. grandis, Naples, with its anatomy, THIELE, Zeitschr. wiss. Zool. lviii, p. 223, figg., n. sp.
Proneomenia acuminata, West Indies, with its structure and anatomy, WIRÉN, Svenska Ak. Handl. xxv, No. 6, pp. 68-82, figg., n. sp.
Rhopalomenia eisigi, Naples, with its anatomy, THIELE, Zeitschr. wiss. Zool. lviii, p. 269, figg., n. sp.

POLYPLACOPHORA.

- Monograph completed by PILSBRY in TRYON'S Man. Conch. xv.
 See SIMROTH in BRONN (32).
 Notes on *Polyplacophora* ; HALLER, Morphol. Jahrb. xxi, pp. 28-39, 1 pl., principally on *Chiton magnificus*, which he regards as a primitive species.
 Notes on the British *Chitons* ; SYKES, P. Malac. Soc. London, i, pp. 35-37, 1 pl.
 Notes on S. African *Polyplacophora* ; SYKES, P. Malac. Soc. London, i, pp. 132-136.
Acanthochites (*Meturoplax*, n. subg.) *retrojectus*, Port Jackson, p. 107, *A. granostriatus*, *coxi*, New South Wales, p. 119, *matthewsi*, South Australia, p. 120, PILSBRY, Nautilus, vii, n. spp.

- Acanthochitidae*: revision of the Australian species; PILSBRY, P. Ac. Philad. 1894, pp. 74-85, figg.
- Chiton*: adaptation of the skin of a *Chiton* to aerial life; SIMROTH, Ber. Ges. Leipzig, 1893-4, pp. 104-106. On the muscular system of *Chiton*; SAMPSON, Jena Zeitschr. xxviii, pp. 460-468, figg. *C. granosus*, Fremb., notes on its kidney; PLATE, SB. Ak. Berlin, 1894, p. 1083. Further notes on the renal and circulatory organs of *Chiton*; PLATE, t. c. pp. 217 & 218.
- C. coxi*, Port Jackson, PILSBRY, P. Ac. Philad. 1894, p. 85, also *Nautilus*, vii, p. 119; *tricastalis*, Gulf of St. Vincent, South Australia, PILSBRY, op. cit. viii, p. 54 : n. spp.
- Choriplax*, n. n. for *Microplax*, Ad. & Ang., non Fieber; PILSBRY, *Nautilus*, vii, p. 139.
- Cyanoplax* is a subgenus of *Trachydermon*; PILSBRY, *Nautilus*, viii, p. 45.
- †*Duslia*, n. g., for *D. insignis*, n. sp., Lower Silurian of Bohemia; JAHN, SB. Ak. Wien, cii, Abth. I, pp. 591-599, figg.
- Haploplax*, n. sect. of *Ischnochiton*, type *I. smaragdinus*; PILSBRY, P. Ac. Philad. 1894, p. 71.
- Ischnochiton elizabethensis*, S. Africa, p. 9, *ptychius*, St. Vincent Gulf, S. Australia, p. 53, PILSBRY, *Nautilus*, viii, n. spp.
- Lepidopleurus rochebruni*, Gulf of Aden, JOUSSEAUME, Bull. Soc. Philom. vi, p. 102; *L. similis*, off Colombo, SMITH, Ann. Nat. Hist. xiv, p. 167, fig.; *L. percrassus*, San Pedro, California, DALL, *Nautilus*, viii, p. 90 : n. spp.
- Loricella*, proposed originally as a section of *Lorica* to rank as a genus; PILSBRY, P. Ac. Philad. 1894, p. 86.
- Meturoplax*, n. subg. of *Acanthochites* [q.v.], type *A. retrojectus*.
- Nuttallina*: notes on the Californian species; RAYMOND, *Nautilus*, vii, pp. 133 & 134.
- Oldroydia*, n. sect. of *Lepidopleurus*, type *L. percrassus*; DALL, *Nautilus*, viii, p. 90.
- Phacellozona*, n. n. for *Angasia*, Cpr., non White; PILSBRY, *Nautilus*, vii, p. 139.
- Plaxiphora suteri*, New Zealand, PILSBRY, *Nautilus*, viii, p. 8, n. sp.
- Spongioradsia*, n. subg. of *Trachydermon*, type *T. aleutica*, Dall; PILSBRY in TRYON, Man. Conch. xv, p. 65.
- Trachydermon (Cyanoplax) raymondi*, California, PILSBRY, *Nautilus*, viii, p. 46, also found in British Columbia, t. c. p. 57, n. sp.

VIII. BRACHIOPODA.

BY

B. B. WOODWARD, F.L.S., F.G.S., &c.

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VERY little has been done in the past year in this group, except perhaps by HALL & CLARKE. Their work, however, of which a second part appeared in the year, is still unknown to us save through a review. It is not to be obtained in the market; nevertheless we do not doubt its authors will claim priority for their new names on the score that these parts have been issued to a few favoured ones. This is surely not fair treatment to mete out to their co-workers.

I.—TITLES.*

1. ANDRÉ, A. Die Brachiopoden des Rhät von Malsch. MT. Badisch. Geol. Landesanst. iii, pp. 11-17.
2. BIGOT, A. Sur quelques Brachiopodes fossiles de Normandie. Bull. geol. Caen, ii (1893), v, pp. 113-120, 1 pl.
3. BOESE, E. Monographie des Genus *Rhynchonellina*, Gemm. Palæontogr. xli, pp. 49-80, 2 pls.
4. COCKERELL, T. D. A. A list of the *Brachiopoda* . . . of Jamaica, living and fossil. Nautilus, vii, p. 104.
5. CRANE, A. [MISS]. The evolution of the *Brachiopoda*. Rep. Brighton Soc. 1894, pp. 13-17.
Abstract of a popular lecture.

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

6. EKMAN, T. *Cistella cistellula*, S. Wood, en för Sverige ny Brachiopod.
7. GOSSELET, —. Sur les variations du *Spirifer verneuili*. C.R. Ac. Sci. cxix, pp. 357 & 358.
8. GRECO, B. Il Lias inferiore nel circondario di Rossano Calabro. Atti Soc. Toscana, xiii [*Brach.*], pp. 80-128, 5 pls.
9. HALL, J., & CLARKE, J. M. An introduction to the study of the *Brachiopoda*, &c. 11th Ann. Rep. State Geologist, New York, for 1891. Albany: 1892, 4to [issued 1894], pp. 135-300, 22 pls., figg. in text.
This is the original and complete edition, that recorded Zool. Rec. xxx, *Brach.*, p. 2, being a reprint of the text only. Reviews by CRANE, Geol. Mag, 1894, pp. 279-281; BATHER, Nat. Sci. v, pp. 140-142.
10. * — & —. An introduction to the study of the genera of the Palæozoic *Brachiopoda*. Palæont. New York, viii, pt. 2, fasc. 2.
[Fide MISS CRANE, who reviews it: no copy has been sent to the Zool. Rec., nor can it be purchased.]
11. JOUBIN, L. Les Brachiopodes, leur structure et leur parenté. Rev. gen. Sci. 1890, pp. 767-770, figg.
12. KOENEN, A. VON. Das Norddeutsche Unter-Oligocän und seine Mollusken-Fauna . . . Lief 6 . . . *Brachiopoda*, &c. Abh. geol. Specialkarte Preussen, x, pp. 1339-1365, pls. xcvi-xcix.
13. MILLER, S. A., & GURLEY, W. F. E. Description of some new species of Invertebrates from the Palæozoic rocks of Illinois and adjacent States. Bull. Illinois Mus. No. 3 [*Brach.*], pp. 69-72.
14. MOERICKE, W. Versteinerungen des Lias und Unteroolith von Chile. N. Jahrb. Min., Beilage, Bd. ix [*Brach.*], pp. 58-67, pls.
15. ROTHPLETZ, A. Die Perm-, Trias- und Jura-Formation auf Timor und Rotti im Indischen Archipel. Jaarb. Mij. Ned. Oost.-Ind. xxiii [Perm. *Brach.*], pp. 37-54, figg.
16. SCHUCHERT, C. A revised classification of the spire-bearing *Brachiopoda*. Amer. Geol. xiii, pp. 102-107.
17. WILLIAMS, H. S. On the brachial apparatus of hinged *Brachiopoda*, and on their phylogeny. P. Rochester Ac. ii, 1893, pp. 113-118. Abstract in J. R. Micr. Soc. 1893, p. 733.

II.—STRUCTURE AND CLASSIFICATION.

Brachial apparatus of hinged *Brachiopoda*; WILLIAMS (17).

Phylogeny of hinged *Brachiopoda*, from a study of the brachial apparatus; WILLIAMS (17).

SCHUCHERT (16) revises his classification of the previous year (Zool. Rec. xxx, *Brach.* pp. 2 & 3), so far as the spire-bearing forms are concerned, and that portion now stands as follows:—

Subord. HELICOPEGMATA.

Fam. *Atrypidæ*.

Subfam. *Zygospirinae*.

Subfam. *Dayinae*.

Subfam. *Atrypinae*.

Fam. *Spiriferidæ*.

Subfam. *Suessinae*.

Subfam. *Uncitinae*.

Subfam. *Trigonotretinae*.

Fam. *Athyridæ*.

Subfam. *Rhynchospirinae*, n.

Subfam. *Hindellinae*, n.

Subfam. *Athyrinae*.

Subfam. *Diplospirinae*, n.

Subfam. *Koninckininae*.

Subfam. *Meristellinae*.

III.—DISTRIBUTION.

GEOGRAPHICAL.

Scotland : 2 species of *Brachiopoda* dredged near Oban ; CHASTER & HEATHCOTE, J. Conch. vii, p. 312.

Sweden : Occurrence of *Cistella cistellula* ; EKMAN (6).

Jamaica : list of species ; COCKERELL (4).

GEOLOGICAL.

List, including fossil species, of *Brachiopoda* from Jamaica ; COCKERELL (4).

Lower Oligocene : *Brachiopoda* of N. Germany, many new species ; KOENEN (12).

Crania quadrangularis, n. sp., Eocene, Australia ; TATE, J. R. Soc. N. S. Wales xxvii, p. 191, fig.

Secondary : Monograph of *Rhynchonellina*, with 4 n. spp. ; BOESE (3). *Brachiopoda* from the Argentine Andes, lists ; BODENBENDER, Bol. Ac. Cordoba, xiii, pp. 32-44.

Jurassic : *Brachiopoda* from the Caucasus, n. spp. ; REDLICH, Beitr. Pal. Oesterr.-Ung. ix, pp. 58-64, figg. : *Crania mamertensis*, *Terebratula bucailli*, *Trigonostoma gervillei*, n. spp., Normandy, 1893 ; BIGOT (2) : Inferior Oolite *Brachiopoda* from the Province of Treviso, Italy, few new species ; BOTTO-MICCA, Boll. Soc. geol. Ital. xii (*Brach.*), pp. 177-192, figg. : Liassic and Lower Oolite *Brachiopoda* from Chile, n. spp. ; MOERICKE (14) : Lower Lias fossils, with n. spp. ; GRECO (8) : Rhætic *Brachiopoda*, 2 spp. (1 new) ; ANDRÆ (1).

Trias : *Brachiopoda* of the Raibler beds ; WOEHRMANN, Jahrb. geol. Reichsanst. xliii, pp. 643-650.

Palæozoic fossils from Illinois, with n. spp. of *Lingula*, *Discina*, and *Eatonia*; MILLER & GURLEY (13).

Permian: *Brachiopoda*, with n. spp.; NECHAEV, Trudui Kazan. Univ. xxvii, No. 4, pp. 137-188; *Brachiopoda* from Timor and Rotti Is., with many new species; ROTHPLETZ (15).

Carboniferous: *Brachiopoda* from the Carboniferous Limestone formation of the Ægypto-Arabian desert with *Enteles ægyptiacus*, n. sp.; SCHELLWIEN, Zeitschr. deutsch. geol. Ges. xli, pp. 70-75, figg.

Devonian: Fauna of the St. John group, with n. spp.; MATTHEW, Tr. R. Soc. Canada, xi, pp. 87-93.

IV.—SYSTEMATIC.

An introduction to the study of the *Brachiopoda*; HALL & CLARKE, Ann. Rep. State Geologist, New York, xi, pp. 135-300, 22 pls., figg. in text, 1892 [1894].

Structure and affinities of the *Brachiopoda*. [Popular.] JOUBIN, Rev. gen. Sci. 1890, pp. 767-770, figg.

— *Cistella cistellula*, S. Wood, found in Sweden; EKMAN, Ofv. Ak. Forh. 1894, pp. 489 & 490.

† *Orania quadrangularis*, Eocene, Australia, TATE, J. R. Soc. N. S. W. xxvii, p. 191, fig., n. sp.

† *Orania mamertensis*, Callovian of Normandy, BIGOT, Bull. Lab. geol. Caen, ii (1893), p. 115, n. sp.

Diplospirinae, n. subfam. of *Athyridae*; SCHUCHERT, Amer. Geol. xiii, p. 106.

† *Discina* (? *Orbiculoidea*) *rhetica*, Rhætic near Malsch, ANDRÆ, MT. Badisch. Geol. Landesanst. iii, p. 13, fig., n. sp.

† *Discina illinoisensis*, p. 70, *munda*, p. 71, Upper Coal measures, Kansas City, MILLER & GURLEY, Bull. Illinois Mus., No. 3, figg., n. spp.

† *Eatonia coulteri*, Oriskany group, Jackson County, Illinois, MILLER & GURLEY, t. c. p. 72, fig., n. sp.

Hindellinae, n. subfam. of *Athyridae*; SCHUCHERT, Amer. Geol. xiii, p. 106.

† *Lingula indianensis*, Keokuk group, Indiana, MILLER & GURLEY, Bull. Illinois Mus., No. 3, p. 69, fig., n. sp.

† *Rhynchonellina*; monograph of the genus, with *R. bittneri*, *paronai*, *zitteli*, *finkelsteini*, n. spp., and *R. rothpletzi*, n. n. for *orthusiformis*, Rothp.; BOESE, Palæontogr. xli, pp. 49-80, 2 pls.

† *Rhynchospirinae*, n. n. for *Retziinae*, Waagen; SCHUCHERT, Amer. Geol. xiii, p. 105.

† *Spirifer verneuili*: note on the variations; GOSSELET, C.R. Ac. Sci. cxix, pp. 357 & 358.

† *Terebratula bucailli*, Cenomanian of Normandy, BIGOT, Bull. Lab. geol. Caen, ii (1893), p. 116, n. sp.

† *Trigonosemus gervillei*, Jurassic of Normandy, BIGOT, t. c. p. 119, n. sp.

IX. BRYOZOA.

BY

B. B. WOODWARD, F.L.S., F.G.S., &c.

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I.—TITLES.

1. BLEICHER, —. Contribution à l'étude des Bryozoaires et des Spongiaires de l'Oolithe inférieure . . . de Meurthe-et-Moselle. Bull. Soc. Nancy, xiii, pp. 89-102, 3 pls.
2. BRYAN, E. F. J. A freshwater Polyzoon. Sci. Gossip, 1894, pp. 105 & 106, figg.
3. DÜRDEN, J. E. Hydroids and *Polyzoa* collected between Laytown and the mouth of the Boyne. Irish Natural. iii, pp. 169 & 170.
4. GREGORY, J. W. On some Jurassic species of *Cheilostomata*. Geol. Mag. 1894, pp. 61-64, figg.
5. —. Catalogue of the Jurassic *Bryozoa* in the York Museum. Rep. Yorksh. Soc. 1893 (1894) pp. 58-61, figg.
6. HÉJJÁS, I. Adatok erdély Tertiär *Bryozoa*-Faunájához. (Beiträge zur Kenntniss der Tertiären Briozoenfauna Siebenbürgens). Ert. Erdel. Muz. Egylet, xix, pp. 113-152, & 217-260 (Résumé, pp. 201-216), 3 pls.
7. HENNIG, A. Ueber *Neuropora conuligera*, eine neue Bryozoen-Art aus der Schwedischen Kreide. Bih. Svenska Ak. xix, Afd 4, No. 1, 11 pp., 1 pl.
8. NAMIAS, I. Su alcune forme Briozoiarie del Mar Rosso. Atti Soc. Modena, xiii, pp. 93-96.

9. NEVIANI, A. Seconda contribuzione alla conoscenza dei Briozoi fossili Italiani—La collezione dei Briozoi pliocenici di Castrocaro, &c. *Boll. Soc. geol. Ital.* xii, pp. 109–136.
10. —. Terza Contribuzione . . . Di alcuni Briozoi pliocenici del Rio Landa illustrati da F. Bassi nel 1757. *T. c.* pp. 659–668.
11. NORMAN, A. M. A month on the Trondhjem Fiord. [Continued. *Bryozoa.*] *Ann. Nat. Hist.* xiii, pp. 112–133, 2 pls.
12. ORTMANN, A. Beiträge zur Fauna der südöstlichen und östlichen Nordsee . . . *Bryozoen.* *Ber. Komm. deutsch. Meere, N.F.* i, pp. 347–362.
13. PERGENS, E. Nouveaux Bryozoaires du crétacé du Limbourg. *Bull. Soc. Belge Geol.* vii, pp. 172–189, 4 pls.
14. POČTA, P. Bryozoaires, &c. [from the Silurian of Bohemia]. *Syst. Sil. du Centre de la Bohême par J. Barraude*, viii, t. 1, pp. 1–132, 17 pls. Prague: 1894, 4to.
15. PROCHÁZKA, V. J. Miocæn Kralický u Náměstě na Moravě (Resumé. Das Miocæn von Kralic nächst Náměst in Mähren). *SB. Bohmisch. Ges.* 1893 (1894) No. xvi [*Bryozoa*], pp. 47–55 (65–69), pls.
16. ТЕРЛОВ, А. ГИ. Spiskī i opisanie predmetov, nakhodyashchikhsya v Zoologhicheskom Muzeje imperatorskom Moskovskom Universiteta. [The *Bryozoa* of the Zoological Collection of the Moscow University Museum.] *Izv. Obshch. Moskov.* lxvii, 1891, 19 pp.
17. VÁNGEL, E. Daten zur Bryozoen-Fauna Ungarns. *Zool. Anz.* 1894, pp. 153–155.
18. VÁNGEL, J. Az édesvízi mohállatok. [On Freshwater *Bryozoa.*] *Potfuz. Termes. Kozl.* 1894, pp. 69–85.
19. WALFORD, E. On some *Bryozoa* from the Inferior Oolite of Shipton Gorge, Dorset. *Quart. J. Geol. Soc.* 1, pp. 72–78, 3 pls.
20. —. On Cheilostomatous *Bryozoa* from the Middle Lias. *T. c.* pp. 79–84, 3 pls.

II.—MISCELLANEOUS.

Appendix to list of figured specimens in the museum of the Yorkshire Philosophical Society; *Rep. Yorksh. Soc.* 1893 (1894), p. 47.

York Museum, Jurassic *Bryozoa* in the; GREGORY (5).

Moscow University Museum, *Bryozoa* of the; ТЕРЛОВ (16).

III.—DISTRIBUTION.

GEOGRAPHICAL.

Ireland: *Bryozoa* collected between Laytown and the mouth of the Boyne; DUERDEN (3).

- North Sea *Bryozoa*; ORTMANN (12).
 Norway: *Bryozoa* from Trondhjem Fiord; NORMAN (11).
 Spitzbergen: *Smithia arctica*, n. sp.; NORMAN (11).
 Hungary: Data towards the *Bryozoan* fauna; VÁNGEL (17).
 Red Sea: Note on some forms; NAMIAS (8).

GEOLOGICAL.

Tertiary: *Bryozoa* of the Siebenburgen, with new species, and *Batoporella* and *Odontoporella*, n. g.; HÉJJAS (6).—Pliocene *Bryozoa* in Italy; NEVIANI (9, 10).—Miocene fossils of Mähren, with 10 new species of *Bryozoa*; PROCHÁZKA (15).

Cretaceous: *Bryozoa* from Limbourg, 24 new species, and *Biflabellaria*, and *Ceidmonea*, n. g.; PERGENS (13).—*Neuropora conuligera*, n. sp., Cretaceous of Sweden; HENNIG (7).

Jurassic: *Bryozoa* in the York Museum; GREGORY (5).—Jurassic species of *Bryozoa*, with *Membranipora jurassica* and *Onychocella bathonica*, n. spp., from Normandy; GREGORY (4).—*Fergenia*, n. g., with 7 new species, from the Inferior Oolite, Shipton Gorge, Dorset; WALFORD (19).—*Bryozoa* of the Lower Oolite of Meurthe-et-Moselle; BLEICHER (1).—*Cisternifera*, n. g., with 2 new species, Middle Lias, King's Sutton, Northamptonshire; WALFORD (20).

Permian: *Bryozoa* with new species; NECHAEV, Trudui Kazan. Univ. xxvii, No. 4, pp. 120–137. [Russian.]

Devonian: Species found at Graz with *Zeapora gracilis*, n. g. et sp.; PENECKE, Jahrb. geol. Reichsanst. xliii, p. 610.

Silurian: *Bryozoa* from Bohemia, with many new species, and *Utropora* and *Seriopora*, n. subg.; POČTA (14).

IV.—SYSTEMATIC.†

ENTOPROCTA.

[None.]

ECTOPROCTA.

GYMNOLÆMATA.

CYCLOSTOMATA.

†*Apsendesia harmeri*, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, p. 176, fig. n. sp.

†*Biflabellaria*, n. g., for *B. apathyi*, n. sp., Cretaceous of Limbourg; PERGENS, t. c. p. 172, fig.

† is prefixed to fossil forms.

- †*Camerapora levinsseni*, Cretaceous, Limbourg, PERGENS, *t. c.* p. 178, fig., n. sp.
- †*Ceidmonea*, n. g., for *C. macgillivrayi*, n. sp., Cretaceous, Limbourg; PERGENS, *t. c.* p. 179, figg.
- †*Ceramopora*, with 2 new species, Silurian of Bohemia; POČTA (14), pp. 112–115, figg.
- †*Ceriopora kraepelina*, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, p. 177, fig., n. sp.
- †*Conotubigera hennigi*, Cretaceous, Limbourg, PERGENS, *t. c.* p. 175, fig., n. sp.
- †*Crisia elliptica*, Miocene, Siebenburgen, HÉJJAS, Ert. Erdel. Muz. Egylet, xix, p. 129 (& 203), fig., n. sp.
- †*Defrancia orbignyana*, Miocene, Mähren, PROCHÁZKA, SB. Bohmisch. Ges. 1893 (1894), No. xvi, pp. 47 & 65, fig., n. sp.
- †*Diapora bujturica*, Miocene, Siebenburgen, HÉJJAS, Ert. Erdel. Muz. Egylet, xix, p. 130 (& 203), fig., n. sp.
- †*Fasciculipora compressa*, Eocene, Siebenburgen, HÉJJAS, *t. c.* p. 148 (& 207), fig. †*F. (?) hincksi*, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, p. 175, fig. : n. spp.
- †*Fenestella*, with 17 new species, from the Silurian of Bohemia; POČTA (14), figg.
- †*Filicea marssoni*, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, p. 179, fig., n. sp.
- †*Filisparsa moravica*, Miocene, Mähren, PROCHÁZKA, SB. Bohmisch. Ges. 1893 (1894), No. xvi, pp. 48 & 65, fig., n. sp.
- †*Filites*, with 2 new species, Silurian of Bohemia; POČTA (14), pp. 108–112, figg.
- †*Hemitrypa*, with 1 new species, Silurian of Bohemia; POČTA (14) pp. 92–102, figg.
- †*Heteropora dollfusi*, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, p. 174, fig., n. sp.
- †*Hornera curvirostra*, p. 138 (& 205), *circumsulcata*, p. 139 (& 205), Eocene, Siebenburgen, HÉJJAS, Ert. Erdel. Muz. Egylet, xix, figg., n. spp.
- †*Lemmatopora*, with 4 new species, Silurian of Bohemia; POČTA (14), pp. 102–108, figg.
- Neuropora conuligera*, Cretaceous, Sweden, HENNIG, Bih. Svenska Ak. xix, Afd 4, No. 1, 11 pp., 1 pl., n. sp.
- †*Osculipora houzeaui*, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, p. 174, fig., n. sp.
- †*Polypora*, with 2 new species, Silurian of Bohemia; POČTA (14), pp. 84–91, figg.
- †*Reteporina*, with 2 new species, Silurian of Bohemia; POČTA (14), pp. 80–83, figg.
- †*Seriopora*, n. subg. of *Fenestella*, for *S. petala*, *transiens*, n. spp., Silurian of Bohemia; POČTA (14), pp. 78 & 79, figg.

- †*Truncatula jellya*, p. 176; *kirkpatricki*, p. 177, Cretaceous, Limbourg, PERGENS, Bull. Soc. belge Geol. vii, figg., n. spp.
 †*Utropora*, n. subg. of *Fenestella*, type *F. nobilis*, Barr., Silurian of Bohemia; POČTA (14), p. 75, figg.
Zapora, n. g., for *Z. gracilis*, n. sp., Devonian, Graz; PENECKE, Jahrb. geol. Reichsanst. xliii, p. 610, figg.

CHILOSTOMATA.

- †*Batopora aviculata*, Eocene, Siebenburgen, HÉJJAS, Ert. Erdel. Muz. Egylet, xix, p. 251 (& 214), fig., n. sp.
 †*Batoporella*, n. g., for *B. edcavnica*, n. sp., Eocène, Siebenburgen, HÉJJAS, t. c. pp. 252 & 253 (& 215), fig., n. sp.
 †*Biflustra kralicensis*, Miocene, Mähren, PROCHÁZKA, SB. Bohmisch. Ges. 1893 (1894), No. xvi, pp. 52 & 67, fig., n. sp.
 †*Cellaria bipapillata, coleoptera*, p. 219 (& 208 & 209), *pergensis*, p. 220 (& 209), Eocene, Siebenburgen, HÉJJAS, Ert. Erdel. Muz. Egylet, xix, figg., n. spp.
 †*Cisternifera*, n. g., for *C. inconstans*, p. 80, *clausa*, p. 82, n. spp., Middle Lias, King's Sutton, Northamptonshire; WALFORD, Quart. J. Geol. Soc. 1, figg.
 †*Cribrilina paucicostata*, Eocene, Siebenburgen, HÉJJAS, Ert. Erdel. Muz. Egylet, xix, p. 231 (& 211), fig.; †*C. walfordi*, p. 187, *falcoburgensis*, p. 188, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, figg., n. spp.
 †*Eschara sulcatoporosa*, Miocene, Siebenburgen; HÉJJAS, Ert. Erdel. Muz. Egylet, xix, p. 246 (& 213). †*E. triordinata, spinosa*, Miocene, Mähren, PROCHÁZKA, SB. Bohmisch. Ges. 1893 (1894), No. xvi, pp. 51 & 67, figg.; *E. (Membranipora) vandenbroeckii*, p. 183, *vigeliusi*, p. 185, *vinei*, p. 186, *waageni*, p. 187, (*Schizoporella*) *watersi*, p. 189, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, figg. : n. spp.
Hemicyclopora, n. g., for *Leprealia polita*, Hincks; NORMAN, Ann. Nat. Hist. xiii, p. 124.
 †*Kionidella moravicensis*, Miocene, Mähren, PROCHÁZKA, SB. Bohmisch. Ges. 1893 (1894), No. xvi, pp. 54 & 68, figg., n. sp.
 †*Leprealia meunieri*, p. 180, (*Mucronella*) *neumayri, normani*, p. 181, *russelli*, p. 182, *ulrichi*, p. 183, Cretaceous, Limbourg, PERGENS, Bull. Soc. Belge Geol. vii, figg.; †*L. elegantissima*, Miocene, Mähren, PROCHÁZKA, SB. Bohmisch. Ges. 1893 (1894), No. xvi, pp. 49 & 65, fig. : n. spp.
 †*Membranipora impressa, variabilis*, Miocene, Mähren, PROCHÁZKA, t. c. pp. 49, 50, & 66, fig.; †*M. jurassica*, Bathonian of Normandy, GREGORY, Geol. Mag. 1894, p. 62, fig. : n. spp.
 †*Odontoporella*, n. g., for *O. adpressa*, n. sp., Miocene, Siebenburgen; HÉJJAS, Ert. Erdel. Muz. Egylet, xix, p. 235 (& 212), fig.

- † *Onychocella bathonica*, Bathonian, Normandy, GREGORY, Geol. Mag. 1894, p. 63, fig., n. sp.
- † *Pergensia*, n. g., for *P. nidulata*, p. 73, *major*, *minima*, p. 74, *porifera*, *amphoralis*, p. 75, *jugata*, *galeata*, p. 76, n. spp., Inferior Oolite of Sipton Gorge, Dorset; WALFORD, Quart. J. Geol. Soc. 1, figg.
- Ramphonotus* [sic], n. g., for *Membranipora minax*, Hincks; NORMAN, Ann. Nat. Hist. xiii, p. 122.
- Smithia arctica*, Spitsbergen, NORMAN, t. c. p. 128, n. sp.
- † *Stichoporina stolickai*, Miocene, Mähren, PROCHÁZKA, SB. Böhmisches. Ges. 1893 (1894), No. xvi, pp. 53 & 68, figg., n. sp.

PHYLACTOLÆMATA.

- Cristatella mucedo*, popular note on; BRYAN, Sci. Gossip, 1894, pp. 105 & 106, figg.

X. CRUSTACEA.

(Including GIGANTOSTRACA AND PANTOPODA.)

[VACANT.]

It is intended to publish the record of the literature of 1894 in combination with that of 1895, in Volume xxxii.

XI. ARACHNIDA.

[VACANT.]

It is intended to publish the record of the literature of 1894 in combination with that of 1895, in Volume XXXII.

XII. MYRIOPODA AND PROTOTRACHEATA.

[VACANT.]

It is intended to publish the record of the literature of 1894 in combination with that of 1895, in Volume xxxii.

XIII. INSECTA.

BY D. SHARP.

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INTRODUCTION.

THE amount of entomological work recorded in the present volume is apparently greater than that of any previous year, the titles numbering 1173 against 1069 last year. We have, however, to record but little extensive systematic work on any group of Insects. HANDLIRSCH'S (405) monograph of the Hymenopterous genus *Bembex* being, perhaps, the most important work dealing with Insects of all the world. BRAUER & BERGENSTAMM'S tables of some divisions of Calyptrate *Muscida* have been completed. A large number of new species have been described in faunistic works; GODMAN & SALVIN'S (377) great work on Central-America continues to occupy a predominant position in this respect. BERTHOUMIEU has commenced a work (76) on the *Ichneumonidae* of Europe, a subject that has been treated hitherto in a very piece-meal style. Three volumes of DALLA TORRE'S Catalogue of *Hymenoptera* (217) have appeared; as well as a second volume of the general Catalogue of *Hemiptera* (639). We are glad to find that M. Severin announces his intention of continuing this work, notwithstanding the lamented decease of his co-labourer M. Lethierry. A great deal of work has been expended on HAMILTON'S Catalogue (398) of the *Coleoptera* common to Europe, Northern Asia and North America: it is accompanied by tables intended to elucidate the origin of these widely distributed forms, and will be of considerable assistance to those studying geographical distribution in the region it deals with. LEECH'S work (633) on the butterflies of China and Japan has been completed.

The series of papers by FOX, UHLER, ASHMEAD, PERGANDE & HORN—that of the latter being a memoir of considerable extent (412)—make a very large addition to our knowledge of the entomology of Lower California, a region that has been heretofore much neglected by entomologists, though of considerable importance. The series of faunistic papers resulting from the work of the W. India Committee has received a remarkable addition in the memoir of RILEY, ASHMEAD & HOWARD (926), in which no less than 340 species of parasitic *Hymenoptera* are recorded from the Island of St. Vincent. Large as it may appear, this is far from being the total number to be found there, as certain of the sub-families still remain to be worked out. It is remarkable that only 6 new genera have been proposed, although 299 new species are described in the paper. In *Lepidoptera*, on the other hand, the number of new generic names is very large, 170 having been proposed in one paper, by WARREN (1124).

HUBBARD'S sketch (460) of the Insects inhabiting the burrows of a tortoise, points out a new field of observation; WACHTL'S (1113) paper on the larva of "the nun," suggests an important function discharged by some of the hairs; while BLANC (97) has given an elaborate study of the head of a lepidopterous larva, conveying much anatomical and physiological information. This paper was published in 1891, in a periodical devoted to technical rather than to scientific matters, and has only

recently come to the Recorder's notice. HANSEN'S paper on *Hemimerus* (406) shows that enigmatical insect in quite a new aspect, and introduces us to what appears to be a mode of viviparous reproduction previously unknown in Insects. BINET'S memoir (91) on the structure of the ventral chain of nerve ganglia, is accompanied by experimental observations. C. JANET has given excellent descriptions and figures (485, 486) of the stridulatory organs in one of our common ants. GONIN'S lubrication (379) on the metamorphosis of *Lepidoptera*, and the formation of their wings, is interesting, and touches some very important and difficult points.

Considerable attention has been devoted to the anatomy and morphology of the terminal segments of the abdomen, and their sexual modifications, by VERHOEFF (1099, 1104, 1106, 1107), ESCHERICH (275), and PEYTOUREAU (808). This last memoir includes a summary of the subject, with criticisms and suggestions.

NASSONOW has been able to elucidate, to some extent, the very obscure question of the development of *Strepsiptera* (741); and NAGEL'S paper (740) makes a valuable addition to the subject of the senses and sense-organs of Insects. LOWNE'S comprehensive work on the blow-fly, designed by the author as a *résumé* of the principles of anatomy, physiology, and morphology as applied to Insects, has been completed (653).

BATESON'S work on variation (49) includes several entomological sections, and will be found valuable even by those who are not prepared to become disciples of "discontinuity," until that term shall have received a more definite application.

PLATEAU (852) has contributed some sensible remarks on the subject of the "protection" of *Abra-cas grossulariata*. REDTENBACHER'S paper on the different kinds of migratory locusts gives information that will be of interest in many parts of the world; it is to be regretted that it should have appeared in an almost inaccessible publication (869). WASMANN'S Catalogue of Myrmecophilous and Termitophilous Arthropods (1127) is a very useful work, that has involved an enormous amount of labour.

BRONGNIART'S work on early fossil Insects (136) is certainly one of the most valuable of its kind that has ever appeared, if only in consequence of the number and excellence of the illustrations; one of these represents, of the natural size, an insect of over two feet in expanse of wing. The text of this work is in large part devoted to a review of the question as to the origin of wings, and the nomenclature of their nervures. This discussion, however, does not deal with the chief difficulty of the subject, viz., our insufficient knowledge of the histology and development of wings. SCUDDER'S work on fossil *Tipulidæ* appears to be one of the best monographs that has yet been produced on a special family of fossil Insects.

Last year the Recorder called attention to the insufficient way in which new species and genera are frequently indicated to be such, and he takes this opportunity of alluding to a practice of the opposite kind that appears to be rapidly extending, viz., the publication of descriptions as "new species," or "gen. nov." although diagnoses or descriptions have

previously appeared in some other work. In these cases it is not infrequent that all reference to so important a fact is suppressed. The Recorder would venture to suggest that Societies and Editors should endeavour to render such a proceeding less feasible than it appears to be at present.

I.—TITLES.*

1. ABEILLE, DE PERRIN E. Genre nouveau et quatre especès nouvelles de Coléoptères français. Bull. Soc. ent. France, 1894, pp. xxv-xxvii.
2. —. Observations sur divers *Buprestides* et description de deux especès nouvelles d'Algérie. *T. c.* pp. lxiii-lxv. [*Coleoptera.*]
3. —. Description d'un Coléoptère saharien nouveau. *T. c.* p. cxxxiii.
4. —. Description de deux genres et d'une espèce française de Coléoptères. *T. c.* pp. cclxxi & cclxxii.
5. —. Diagnose d'un *Buprestide* nouveau d'Algérie. Echange, 1894, p. 67. [*Coleoptera.*]
6. —. Diagnoses de Coléoptères réputés nouveaux. *T. c.* pp. 91-94.
 "Nota : leurs descriptions complètes paraîtront dans la Revue d'Entomologie."
- ADLER, H. [See STRATON (1052).]
7. AITKEN, E. H. The larva and pupa of *Spalgis epius*, Westw. J. Bombay Soc. viii, pp. 485-487, pls. A & B. [*Lepidoptera.*]
8. ALBERS, —. Beiträge zur Kenntniss der *Lucaniden*. Deutsche ent. Zeitschr. 1894, pp. 161-167. [*Coleoptera.*]
9. ALDRICH, J. M. Courtship among the Flies. Amer. Natural. 1894, pp. 35-37. [*Diptera.*]
10. ALLARD, —. Diagnoses de Coléoptères nouveaux de l'Inde. Naturaliste, 1894, p. 104.
11. —. Descriptions de Coléoptères nouveaux. *T. c.* pp. 116, 153, 162, 189, 275, 285.
12. —. Diagnoses de Coléoptères américains. *T. c.* p. 259.
13. ALPHÉRAKY, S. Notes lépidopterologiques. Deutsche ent. Zeitschr. Lep. vii, pp. 303-313.
14. ANDEREGG, E. Generationswechsel bei Insekten. Mt. Ges. Bern. 1892, pp. 1-69.
 Summary, J. R. Micr. Soc. 1894, p. 558.
15. ANDERSON, E., & SPRY, F. P. Victorian Butterflies, and how to collect them. Pp. 1-132, cuts.

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

16. ANDRÉ, E. Contribution à la connaissance des *Mutiles* de l'Inde. J. Bombay Soc. viii, pp. 462-484. [*Hymenoptera*.]
17. —. Description d'une nouvelle espèce d'*Ampulex*. Bull. Soc. ent. France, 1894, p. cclvii. [*Hymenoptera*.]
18. ANGELL, G. W. J. Notes on *Macrops* and *Anthonomus*. J. N. York Ent. Soc. i, pp. 12-15. [*Coleoptera*.]
19. APFELBECK, V. Fauna insectorum balcanica. Beiträge zur Kenntniss der Balkanfauna. in Hoernes Wiss. Mt. Bosn. Hercegov. ii, pp. 511-542. [*Coleoptera*.]
According to REITTER, Deutsche ent. Zeitschr. 1889, p. 294, some of these descriptions appeared in 1889, although the volume is dated 1894.
20. —. Bericht über die im Jahre 1892 ausgeführte entomologische Expedition nach Bulgarien und Ostrumelien. T. c. pp. 543-552.
21. ARNOLD, N. *Apum mohileviensium* species novæ, parum cognitæ, vel imperfecte descriptæ. III. Horæ Soc. ent. Ross. xxviii, pp. 161-178, pls. i-iii. [*Hymenoptera*.]
22. ARRIBÁLZAGA, F. L. Dipterologia argentina (*Chironomida*.) Bol. Ac. Cordoba, xiii, pp. 211-258.
23. ASHMEAD, W. H. Descriptions of new parasitic *Hymenoptera*. Paper No. 1. Tr. Amer. ent. Soc. xxi, pp. 318-344.
24. —. The habits of the Aculeate *Hymenoptera*. Psyche, vii, pp. 19-26, 39-46, 59-66, & 75-79.
25. —. Some parasitic *Hymenoptera* from Lower California. P. Calif. Ac. iv, pp. 122-129.
26. —. Notes on the genus *Centrodora*. P. ent. Soc. Washington, iii, pp. 9 & 10. [*Hymenoptera*.]
27. —. A synopsis of the *Spalanginae* of North America. T. c. pp. 27-37. [*Hymenoptera*.]
28. —. Synopsis of the North American species of *Toxoneura*, Say. T. c. pp. 47-53. [*Hymenoptera*.]
29. —. Notes on the family *Pachylommatoidea*. T. c. pp. 55-60. [*Hymenoptera*.]
30. —. A new spider parasite. Insect Life, vi, pp. 259 & 260. [*Hymenoptera*.]
31. —. Notes on cotton insects found in Mississippi. *Op. cit.* vii, pp. 25-29 & 240-247.
32. —. Descriptions of two new Hymenopterous parasites from water beetles. Canad. Ent. 1894, pp. 24-26.
— [Report on parasitic *Hymenoptera* of St. Vincent, see RILEY, ASHMEAD, & HOWARD (926).]

33. AURIVILLIUS, C. Die palæarktischen Gattungen der Lasiocampiden, Striphnopterygiden und Megalopygiden. Deutsche ent. Zeitschr. Lep. vii, pp. 121-192, pls. iii & iv. [*Lepidoptera.*]
34. —. Beiträge zur Kenntniss der Insektenfauna von Kamerun. 2. Tagfalter. Ent. Tidskr. xv, pp. 273-314, pls. iv-vi. [*Lepidoptera.*]
35. —. Neue Spinner aus Asien. T. c. pp. 169-177. [*Lepidoptera.*]
36. —. Eine neue *Lasiocampide* aus Afrika. T. c. pp. 177 & 178. [*Lepidoptera.*]
37. AUSTAUT, J. L. *Lépidoptères inédits d'Algérie et du Maroc.* Naturaliste, 1894, pp. 55 & 56.
38. *BADENOCH, L. N. Romance of the Insect World. London: 1893. [Cf. Nature, xlix, p. 314.]
39. BAILY, W. E. The *Lepidoptera* of Cornwall and the islands of Sicily. Rep. Peuzance Soc. 1893-94, pp. 107-146.
- BAKER, G. T. BETHUNE-. [See BETHUNE-BAKER.]
40. BAKER, W. F. *Hydrobius fuscipes*: notes on its life-history, larval anatomy, &c. Naturalist, 1894, pp. 327-333. [*Coleoptera.*]
41. BALDINI, U. Contribuzione allo studio degli Imenotteri del Modenese. Sfecidi—Vespidi. Atti Soc. Modena (3) xiii, pp. 45-86, pl. iii. [*Hymenoptera.*]
42. BALL, W. P. Neuter insects and Lamarckism. Nat. Sci. iv, pp. 91-97. [Cf. CUNNINGHAM (216).]
43. BALLOWITZ, E. Bemerkungen zu der Arbeit von Dr. phil. Karl Ballowitz über die Samenkörper der Arthropoden, &c. Int. Monatsschr. Anat. Physiol., xi, Heft. 5, pp. 1-36 (sep. pag.), pls. xii & xiii. [A few remarks on insects.]
44. BALLOWITZ, K. Zur Kenntniss der Samenkörper der Arthropoden. T. c. pp. 1-28 (sep. pag.), pls. x & xi.
45. BANKS, N. Some *Psychodide* from Long Island, N. Y. Canad. Ent. 1894, pp. 329-333. [*Diptera.*]
46. BANKES, E. R. *Lita instabilella*, Dgl., and its nearest British allies. Ent. Mag. 1894, pp. 80-83, 125-128, & 188-194. [*Lepidoptera.*]
47. BARRETT, C. G. The British species of the genus *Psyche* and its allies. T. c. pp. 217-219, 249-251, & 265-269. [*Lepidoptera.*]
48. —. *Lepidoptera* of the British islands. Parts xiv-xx.
Extends to *Liparidæ*.
49. BATESON, W. Materials for the study of variation, treated with especial regard to discontinuity in the origin of species. London: 1894, 8vo, xv & 598 pp.

Various parts of this work are occupied with *Insecta*, most of the orders being dealt with. Reviews: Entomologist, 1894, pp. 162-164; Nat. Sci. iv, pp. 371-376; by WELDON, Nature, i, p. 25; Biol. Centralbl. xiv, pp. 866-876; Arch. Entwicklunsmech. i, p. 436; Sci. Gossip, i, p. 38.

50. BATH, W. H. On the vertical distribution of the British *Lepidoptera*. *Entomologist*, 1894, pp. 2-6 & 37-40.
51. BAUDI, F. Viaggio del Dr. E. Festa in Palestina, nel Libano e regioni vicine. *Coleotteri*. *Boll. Mus. Torino*, ix, No. 173, 13 pp.
52. BAUMANN, O. Usambara und seine Nachbargebiete. Berlin: 1891, 8vo, x & 375 pp.
Includes list of *Lepidoptera* by ROGENHOFER, pp. 321-332.
53. —. Durch Massailand zur Nilquelle. Reisen und Forschungen der Massai-Expedition des deutschen antisklaverei-Komite in den Jahren 1891-1893. Berlin: 1894.
Insekten aus Deutsch-Ostafrika, pp. 323-350. The most important part of this list is that by REBEL & ROGENHOFER, *Lepidoptera*, pp. 323-341.
- BEAUMONT, J. [See DUDLEY, P. H. (246, 247).]
54. BECKER, A. Einige Widerlegungen naturgeschichtlicher Angaben; Beschreibungen und Berichtigungen einiger Insekten; neue Käfer Entdeckungen bei Sarepta und botanische Mittheilungen. *Bull. Soc. Moscou*, 1894, pp. 277-283.
55. BECKER, S. Revision der Gattung *Chilosia*, Meigen. *Acta Ac. German.* lxii, pp. 195-522, pls. xi-xxiii. [*Diptera*.]
56. —. Dipterologische Studien. I. *Scatomyzidae*. Berlin. ent. Zeitschr. xxxix, pp. 77-196, pls. iv-ix.
57. BECQUEREL, H., & BRONGNIART, C. La matière verte chez les Phyllies, Orthoptères de la famille des Phasmides. *C.R. Ac. Sci.* cxviii, p. 1299.
58. BEDEL, L. Notes sur les *Cétonides* vrais et remarques sur leur synonymie. *Abeille*, xxviii, pp. 139-146. [*Coleoptera*.]
59. —. Recherches sur la synonymie des *Coléoptères* de l'ancien monde. *T. c.* pp. 150-156.
60. —. Révision des *Omophlus* et *Heliotaurus* de Barbarie. *T. c.* pp. 157-173. [*Coleoptera*.]
61. BENTON, F. The curious defenses constructed by *Melipona* and *Trigona*. *P. ent. Soc. Washington*, iii, pp. 18-23. [*Hymenoptera*.]
62. —. The death's-head Moth in relation to honey-bees. *T. c.* pp. 60-63.
63. BERG, —. Descripciones de algunos *Hemipteros*, *Heterópteros*, nuevos ó poco conocidos. *An. Mus. Montevideo*, i, pp. 13-27.
64. BERGROTH, E. Einige Worte über Nomenclatur und Prioritätsberechtigung. *Ent. Nachr.* xx, pp. 193-199.
Cf. SEIDLITZ (995).
65. —. Ueber einige australische Dipteren. *Ent. Zeit. Stettin*, lv, pp. 71-75.

66. [BERGROTH, E.] *Rhynchota orientalia*. Rev. Ent. franc. xiii, pp. 152-164.
67. ——. Liste de quelques *Hémiptères* de la Plata. *T. c.* pp. 164-167.
68. ——. *Tingidæ* tres madagascarienses. *T. c.* pp. 167 & 168. [*Rhynchota*.]
69. ——. *Rhynchota æthiopica*, II. Ann. Soc. ent. Belgique, xxxviii, pp. 535-547.
70. ——. Diagnoses *Homopterorum* quatuor madagascariensium. *T. c.* pp. 160 & 161. [*Rhynchota*.]
71. ——. Ein neuer *Aradus* aus Oesterreich. Wien. ent. Zeit. xiii, pp. 189 & 248. [*Rhynchota*.]
72. ——. Erstes Verzeichniss von Dr. A. Voeltzkow in Madagaskar gesammelter *Hemiptera Heteroptera*. Ent. Nachr. xx, pp. 356-359.
73. ——. Fortsatta bidrag till Aradidernas kannedom. Ent. Tidskr. xv, pp. 97-118. [*Rhynchota*.]
74. BERLESE, A. Materiali per un catalogo dei Mallofagi e Pediculi italiani. Bull. Soc. ent. Ital. xxvi, pp. 50-65.
75. BERTHOUMIEU, G. V. *Ichneumonides* description d'espèces nouvelles. Rev. Sci. Bourbonnais, vii, pp. 178-181. [*Hymenoptera*.]
76. ——. *Ichneumonides* d'Europe et des pays limitrophes. 1^{re} Tribu—*Ichneumoniens*. Ann. Soc. ent. France, 1894, pp. 241-274 & 505-592, 5 pls.
- The first parts of a work that will be of considerable extent; only a portion of the first of the six divisions of the tribe being here treated.
77. BERTKAU, P. Bericht uber die wissenschaftlichen Leistungen im Gebiete der Entomologie während des Jahres 1893. Arch. Naturg. lx, ii, pp. 1-276.
78. BETHE, A. Ueber die Erhaltung des Gleichgewichts. Biol. Centralbl. xiv, pp. 95-114.
79. BETHUNE-BAKER, G. T. Descriptions of the *Pyralidæ*, *Crambidæ*, and *Phycidæ*, collected by the late T. Vernon Wollaston in Madeira. Tr. ent. Soc. London, 1894, pp. 581-586. [*Lepidoptera*.]
80. ——. Notes on some *Lepidoptera* received from the neighbourhood of Alexandria. *T. c.* pp. 33-51, pl. i.
81. BEUTENMÜLLER, W. Studies of some species of North American *Ægeriidae*. Bull. Amer. Mus. vi, pp. 87-98. [*Lepidoptera*.]
82. ——. Notes on some species of North American *Orthoptera*, with descriptions of new species. *T. c.* pp. 249-252. ✓
83. ——. On North American Moths, with a description of a new species of *Triplocris*. *T. c.* pp. 365-368. [*Lepidoptera*.]
84. ——. Descriptive Catalogue of the *Orthoptera* found within fifty miles of New York City. *T. c.* pp. 253-316, pls. v-x. ✓

85. [BEUTENMÜLLER, W.] Description of a new Tree-cricket. J. N. York Ent. Soc. ii, p. 56. [*Orthoptera.*]
86. —. On the food-habits of North American *Rhynchophora*. *Op. cit.* i, pp. 36-43, &c. [*Coleoptera.*]
— [See also LENG & BEUTENMÜLLER (635, 636).]
87. BEZZI, M. Sulle specie italiane del gen. *Peleteria*, R.D.; B.B. Bull. Soc. ent. Ital. xxvi, pp. 242-261. [*Diptera.*]
88. —. I Ditteri del Trentino. Saggio di un elenco delle specie di Ditteri osservate nel Trentino. Atti Soc. Veneto-Trent. (2) i, pp. 209-253.
89. BIGNELL, G. C. Address [Presidential]. Rep. Plymouth Inst. xi, pp. 271-294.
Deals with parasitic *Hymenoptera* and *Aphididae* and their destroyers.
90. —. Two new species of *Ichneumonidae* from Devonshire. Ent. Mag. 1894, p. 255. [*Hymenoptera.*]
91. BINET, A. Contribution à l'étude du système nerveux sous intestinal des insectes. J. Anat. Physiol. xxx, pp. 449-580.
92. BINGHAM, C. T. On new and little-known *Hymenoptera* from India, Burma, and Ceylon. J. Bombay Soc. viii, pp. 358-390, pls. i & ii.
93. BLACKBURN, T. Notes on Australian *Coleoptera*, with descriptions of new species. Part XIII. P. Linn. Soc. N. S. Wales, viii, pp. 185-208.
94. —. Notes. . . . Part xiv. *T. c.* pp. 245-286. [*Coleoptera.*]
95. —. Notes. . . . Part xv. *Op. cit.* ix, pp. 85-108. [*Coleoptera.*]
96. —. Further notes on Australian *Coleoptera*, with descriptions of new genera and species. Part xv. Tr. R. Soc. S. Austral. xviii, pp. 139-168. Part xvi: *t. c.* pp. 200-240.
97. BLANC, L. La tête du *Bombyx mori* à l'état larvaire, anatomie et physiologie. Trav. Lab. Soie, 1889-90, pp. 1-180 (sep. pag.).
98. BLANCHARD, R. Contributions à l'étude des *Diploères parasites* (2^e série). Ann. Soc. ent. France, 1894, pp. 142-160.
99. BLANDFORD, W. F. H. The *Rhynchophorous Coleoptera* of Japan. Part III. *Scolytidae*. Tr. ent. Soc. London, 1894, pp. 53-141.
100. —. Supplementary notes on the *Scolytidae* of Japan, with a list of species. Tr. ent. Soc. London, 1894, pp. 575-580. [*Coleoptera.*]
101. —. Description d'un nouveau genre de *Scolytides*. *Aricerus*. Ann. Soc. ent. Belgique, xxxviii, pp. 133-135. [*Coleoptera.*]
102. —. Notes on *Scolytidae* and their food-plants. Insect Life, vi, pp. 260-265. [*Coleoptera.*]
103. —. The Chigoe in Asia. Ent. Mag. 1894, pp. 228-230. [*Aphaniptera.*]

- BLANFORD, W. T. [See HAMPSON (401).]
104. BLATCHLEY, W. S. Some Indiana *Acrididæ*. *Canad. Ent.* 1894, pp. 217-223 & 241-245. [*Orthoptera*.]
105. BOLIVAR, J. Ad cognitionem *Orthoptërorum* Europæ et confinium. III. *Especies nuevas ó críticas*. *Act. Soc. Españ.* xxiii, pp. 83-89.
106. —. Note. *Bull. Soc. ent. France*, 1894, pp. clxi-clxiii. [*Orthoptera*.]
107. BONJOUR, S. Notes sur quelques *Lépidoptères* intéressants ou nouveaux pour le département de la Loire-inférieure. *Bull. Soc. Ouest France*, 1894, pp. 184-192.
108. BONNEFOIS, A. Note sur *Eumenes pomiformis*, Fabr. *Ann. Soc. ent. France*, 1894, pp. 8-11. [*Hymenoptera*.]
109. BORDAS, L. Anatomie du système trachéen des larves d'*Hyménoptères*. *C.R. Ac. Sci.* cxviii, p. 664.
110. —. Anatomie du tubé digestif des *Hyménoptères*. *T. c.* p. 1423.
111. —. Anatomie de l'appareil venimeux des *Ichneumonidæ*. *Zool. Auz.* xvii, pp. 385-387. [*Hymenoptera*.]
113. —. Appareil génital male des *Bombinæ*. *Bull. Soc. Philom.* (8) vi, pp. 41-58. [*Hymenoptera*.]
114. —. Sur les glandes salivaires des *Hyménoptères*. *C.R. Ac. Sci.* cxviii, p. 296.
115. —. Glandes salivaires des *Hyménoptères* de la famille des *Crabronidæ*. *T. c.* p. 363.
116. —. Anatomie des glandes salivaires des *Philanthidæ*. *T. c.* p. 483.
117. —. Glandes salivaires des *Apinæ* (*Apis mellifica*). *Op. cit.* cxix, p. 693. [*Hymenoptera*.]
118. —. Glandes salivaires des *Apinæ* (*Apis mellifica*). *C.R. Soc. Philom.* (8) vii, No. 4, pp. 12-14. [*Hymenoptera*.]
119. —. Glandes salivaires des *Sphégiens*. *Op. cit.* vi, No. 9, pp. 5-7. [*Hymenoptera*.]
120. —. Glandes salivaires des *Hyménoptères* de la famille des *Mellinidæ*. *T. c.* pp. 66 & 67.
121. —. Anatomie des glandes salivaires des *Hyménoptères* de la famille des *Ichneumonides*. *Zool. Anz.* xvii, pp. 131-133.
122. BOURGEOIS, J. Description d'un genre nouveau et d'une espèce nouvelle de *Malacodermes* d'Algérie. *Rev. Ent. franc.* xiii, pp. 121-123. [*Coleoptera*.]
123. —. Description d'une nouvelle espèce d'*Amauronia*. *Bull. Soc. ent. France*, 1894, p. cciv. [*Coleoptera*.]
124. —. Description d'une nouvelle espèce de *Malacoderme*. *T. c.* p. cclxvi. [*Coleoptera*.]

125. BRANDES, G. Der Saison-Dimorphismus bei einheimischen und exotischen Schmetterlingen. *Zeitschr. Naturw.* lxvi, pp. 277-300, pl. ii. [*Lepidoptera.*]
126. BRAUER, F. Bemerkungen zu Baron Osten Sacken's "Rejoinder, &c.," und "two critical remarks, &c." Berlin ent. *Zeitschr.* xxxix, pp. 235-239. [*Diptera.*]
For note on this, v. MIALL, *t. c.* p. 447.
127. BRAUER, F., & BERGENSTAMM, J. E. v. Die Zweiflügler des Kaiserlichen Museums zu Wien. VI. Vorarbeiten zu einer Monographie der *Muscaria schizometopa* (exclusive *Anthomyidæ*). Pars. III. Denk. Ak. Wien, lx, pp. 89-240. [*Diptera.*]
128. BRENDÉL, E. On some *Pselaphidæ*. Ent. News Philad. v, pp. 158-160, pl. v. [*Coleoptera.*]
129. —. Corrections in *Pselaphidæ*. *T. c.* p. 194. [*Coleoptera.*]
130. BRENSKE, E. Die Melolonthiden der palæarctischen und orientalischen Region im königlichen, naturhistorischen Museum zu Brüssel. Mem. Soc. ent. Belgique, ii, pp. 1-87. [*Coleoptera.*]
131. —. Zur Kenntniss der Melolonthiden Sumatra's. Ent. Zeit. Stettin, lv, pp. 274-279. [*Coleoptera.*]
132. —. Einiges über die *Rhizotrogiden* und den Berliner Gerichtshof für entomologischen Angelegenheiten. Ent. Nachr. xx, pp. 177-183. [*Coleoptera.*]
133. —. Ein neuer *Rhizotrogus* aus Spanien. Ent. Zeit. Stettin, lv, pp. 272-274. [*Coleoptera.*]
134. —. Revision der Gattung *Cyphonotus*, Duv. *T. c.* pp. 264-272. [*Coleoptera.*]
135. —. Uebersicht der Arten der Coleopteren-Gattung *Lepidoderma*, Wath. Soc. ent. ix, pp. 41 & 42.
136. BRONGNIART, C. Recherches pour servir à l'histoire des Insectes fossiles des temps primaires précédées d'une Étude sur la nervation des ailes des Insectes. I. Vol. Texte, 493 pp. II. Vol. Atlas, 44 pp., 37 pls. St. Etienne: 1894, 4to.
The volume of Text bears a second title-page, "Thèses présentées à la Faculté des Sciences de Paris pour obtenir le grade de Docteur ès sciences naturelles." The plates in the "Atlas" appear to have been published by the "Société de l'Industrie minière." Bulletin (3) vii, pls. xvii-lviii.
137. —. Étude de la nervation des insectes appliquée à la description des Insectes fossiles paléozoïques. Ann. Soc. ent. France, 1894, pp. 94-98. [*Neuroptera.*]
Made obsolete by his more extensive work (136).
138. —. Les insectes de l'époque carbonifère. C.R. Ac. Sci. cxviii, p. 1128.
— [See also BECQUEREL & BRONGNIART (57).]

139. BROUN, T. Descriptions of new *Coleoptera* from New Zealand. *Ann. Nat. Hist.* (6) xiv, pp. 302-312.
140. BRUNER, L. A new species of *Pezotettix*. *Insect Life*, vii, p. 41. [Orthoptera.]
 —: [See also RILEY (912).]
- 140A. BRUYANT, C. Sur un Hémiptère aquatique stridulant, *Sigara minutissima*, Lin. *C.R. Ac. Sci.* cxviii, p. 299.
141. BUCHENAU, F. Las semillas brincadoras de Mexico. *Naturaleza* (n. s.) ii, pp. 389-403. [Lepidoptera.]
 Translation from the papers recorded in *Zool. Rec.* xxviii & xxix, *Insecta*.
142. BUCKLER, W. (THE LATE). The larvæ of the British Butterflies and Moths. Edited by Geo. T. Porritt. Vol. vi. The third and concluding portion of the *Noctux*. London, Ray Society Vol. for 1893. [Lepidoptera.]
143. BUCKTON, G. B. A new *Coccid* from Ceylon. *Indian Mus. Notes*, iii, pp. 103 & 104.
144. —. Notes on Indian *Aphidæ*. *T. c.* p. 108.
145. BURKILL, I. H. On the fertilisation of some species of *Medicago*, L., in England. *P. Cambridge Soc.* viii, pp. 142-153.
146. BUTLER, A. G. On a collection of *Lepidoptera* from British East Africa, made by Dr. J. W. Gregory between the months of March and August, 1893. *P. Zool. Soc. London*, 1894, pp. 557-593, pls. xxxvi & xxxvii.
- 146A. —. Abnormal variability in the antennal characters of *Cosmophila erosa*, Hübn. *Ann. Nat. Hist.* (6) xiv, pp. 298-300. [Lepidoptera.]
147. —. Note on *Eumestleta*, Butl., &c.; a group of *Noctux* of the Eublemmine type. *Entomologist*, 1894, pp. 314 & 315. [Lepidoptera.]
148. BUYSSON, R. DU. De l'accouplement chez les *Hyménoptères*. *Rev. Ent. franc.* xiii, pp. 119-121.
149. CAILLOL, H. Diagnoses de trois espèces nouvelles de *Mylabris*. *Bull. Soc. ent. France*, 1894, pp. cclxix-cclxx. [Coleoptera.]
150. CALVERT, P. P. The Odonate genus *Ortholestes*. *P. Ac. Philad.* 1893, pp. 377-382. [Odonata.]
 —. [See also RILEY (921).]
151. CALVERT, W. BARTLETT. Nuevos *Lepidópteros* de Chile. *An. Univ. Chile*, lxxxiv, pp. 813-833.
152. CAMBOUÉ, —. Sur l'*Urania rhipheus*. *Congr. Zool.* 1892, ii, pp. 180-184. [Lepidoptera.]

153. CAMERANO, L. Viaggio del dott. Alfredo Borelli nella Republica Argentina e nel Paraguay. Descrizione di nuove specie del genere *Geniates*, Kirby. Boll. Mus. Torino, ix, No. 179, 3 pp. [*Coleoptera.*]
CAMERON, P. [See GODMAN & SALVIN (377).]
154. CANDEZE, E. Description de trois espèces d'Élatérides nouveaux du Musée de Leyde. Notes Leyden Mus. xvi, pp. 197 & 198. [*Coleoptera.*]
155. CARLINI, A. DE. Rincoti di Nkole (Africa Centrale). Bull. Soc. ent. Ital. xxvi, pp. 470-472.
156. CARPENTER, G. H. The stridulation of *Corixa*. Irish Natural. iii, pp. 253-255. [*Rhynchota.*]
157. —. Further notes upon habits of Insects. Nat. Sci. iv, pp. 365 & 370.
An account of recent observations of Marchal, Janet, Heim, and others.
158. —. *Clunio marinus*, Haliday: a marine Chironomid. Ent. Mag. 1894, pp. 129 & 130. [*Diptera.*]
CASAD, J. E. [See COCKERELL & CASAD (197).]
159. CASPARI, W. Beiträge zur Biologie der Noctuiden. Jahrb. nassau. Ver. xvii, pp. 91-112. [*Lepidoptera.*]
Chiefly notes on rearing and on pairing in confinement.
160. —. Biologisches über *Acronycta alni*. T. c. pp. 113-122. [*Lepidoptera.*]
CATOR, D. [See PRYER & CATOR (857).]
161. CHAMPION, G. C. On the *Tenebrionida* collected in Australia and Tasmania, by Mr. James J. Walker, R.N., F.L.S., during the voyage of H.M.S. "Penguin," with descriptions of new genera and species. Tr. ent. Soc. London, 1894, pp. 351-408, pl. viii. [*Coleoptera.*]
162. —. On two new species of Tenebrionid *Coleoptera* from Namoa Island. Ann. Nat. Hist. (6) xiv, pp. 448 & 449.
163. —. An entomological excursion to Corsica. Tr. ent. Soc. London, 1894, pp. 225-242. [*Coleoptera.*]
— [See also GODMAN & SALVIN (377).]
164. CHAPMAN, T. A. Some notes on the *Micro-Lepidoptera* whose larvæ are external feeders, and chiefly on the early stages of *Eriocephalæ calthella* (*Zyganidæ*, *Limacodidæ*, *Eriocephalidæ*). Tr. ent. Soc. London, 1894, pp. 335-350, pls. vi & vii.
165. —. On the larva of *Arctia caja*, with special reference to its correlated variations in plumage, moulting and hybernation. Ent. Rec. v, pp. 11, &c., &c., pls. i & ii. [*Lepidoptera.*]
166. —. Hair-tufts and Androconia in *Eustroma reticulata*. T. c. pp. 5 & 6. [*Lepidoptera.*]
167. —. The evolution of the Lepidopterous pupa. T. c. pp. 25-27.

168. CHEVREL, R. Sur un Diptère marin, du genre *Clunio*, Haliday. Arch. Zool. exp. 1894, pp. 583-598.
169. CHILD, C. M. Beiträge zur Kenntniss der antennalen Sinnesorgane der Insecten. Zool. Anz. xvii, pp. 35-38.
Translation in Ann. Nat. Hist. (6) xiii, p. 372, under title of "Contributions to the knowledge of the antennary sense-organs of insects."
170. CHITTENDEN, F. H. On the habits of some Longicorns. P. ent. Soc. Washington, iii, pp. 95-102. [*Coleoptera*.]
N. American species.
171. CHOBAUT, A. Espèce nouvelle d'*Anthicus*. Bull. Soc. ent. France, 1894, p. cccxxviii. [*Coleoptera*.]
172. —. Espèce nouvelle de *Mordellides* du genre *Pentaria*. T. c. p. lxxv. [*Coleoptera*.]
173. —. Espèce nouvelle de *Rhipidius*. T. c. p. ci. [*Coleoptera*.]
— [See also PIC (815).]
174. CHOLODKOVSKY, N. Contributions à la théorie du mésoderme et de la métamerie. Communication préliminaire. Congr. Zool. 1892, i, pp. 58-65.
175. —. Zur Frage über die Anfangsstadien der Spermatogenese bei den Insecten. Zool. Anz. xvii, pp. 302-304.
Relates to NOGAKUSHI's note (761).
176. —. Zur Lebensgeschichte von *Chermes abietis*, L., und *Chermes strobilobius*, Kalt. T. c. pp. 434-437. [*Rhynchota*.]
177. —. Zwei neue *Aphiden* aus Südrussland. Bull. Soc. Moscou, 1894, pp. 400-406.
178. CHRÉTIEN, P. Note sur une ponte parasitée de *Liparis salicis*, L. Ann. Soc. ent. France, 1894, pp. 27-29. [*Hymenoptera*, *Lepidoptera*.]
179. CHRISTOPH, H. *Deilephila peplidis*, n. sp. Ent. Nachr. xx, p. 333. [*Lepidoptera*.]
180. CIACCIO, G. V. Della natura e cagione onde muove il color cangiante negli occhi delle *Tabanidæ*, e dei mezzi refrattivi che in loro si trovano. Mem. Ac. Bologna (5) iii, pp. 247-254, pl. [*Diptera*.]
181. CLAUS, C. Ueber einen Bienen-staat mit zwei Königinnen. Verh. Ges. deutsch. Naturf. lxvi, 2, pp. 147 & 148. [*Hymenoptera*.]
182. COCKERELL, T. D. A. Discontinuous Colour-Variation. Nature, 1, p. 197. [*Lepidoptera*.]
183. —. A check list of the Nearctic *Coccidæ*. Canad. Ent. 1894, pp. 31-36.
184. —. A check list of the *Coccidæ* of the Neotropical Region. J. Trinidad Club, i, pp. 311 & 312.
185. —. Notes on some Trinidad *Coccidæ*. T. c. pp. 306-310.

186. [COCKERELL, T. D. A.] Descriptions of new *Coccide*. Ent. News Philad. v, pp. 203, 204, & 263.
187. —. Two new *Coccide* from the arid region of North America. Ann. Nat. Hist. (6) xiv, pp. 12–14. [*Rhynchota*.]
188. —. The twentieth Neotropical *Aspidiotus*. Act. Soc. Chili, iv, p. 35. [*Coccide*.]
189. —. Notes on some scale insects of the subfamily *Diaspinæ*. Canad. Ent. 1894, pp. 127–132, 189–191, & 284–288. [*Coccide*.]
190. —. A new scale-insect on *Agave*. Ent. News Philad. v, p. 59. [*Coccide*.]
191. —. A new wax-scale found in Jamaica. *T. c.* p. 157. [*Coccide*.]
192. —. A maritime species of *Coccide*. Insect Life, vii, pp. 42–44.
193. —. A new sawfly which is injurious to hollyhocks. *T. c.* pp. 251–253. [*Hymenoptera*.]
194. —. Descriptions of new *Hymenoptera*. Ent. News Philad. v, pp. 199, 200, 234 & 235.
195. —. Descriptions of new *Hymenoptera*. *T. c.* p. 328.
196. —. Description of a new *Chrysis*. *T. c.* p. 125. [*Hymenoptera*.]
197. COCKERELL, T. D. A., & CASAD, J. E. New species of *Mutillidæ*. *T. c.* pp. 293–295. [*Hymenoptera*.]
198. COPE, E. D. Heredity in the social colonies of the *Hymenoptera*. P. Ac. Philad. 1893, pp. 436–438.
199. COUILLETT, D. W. Notes and descriptions of North American *Bombylidæ*. Tr. Amer. ent. Soc. xxi, pp. 89–112. [*Diptera*.]
200. —. New North American *Trypetidæ*. Canad. Ent. 1894, pp. 71–75. [*Diptera*.]
201. —. Two interesting new *Diptera* from Washington. Ent. News Philad. v, pp. 125 & 126.
202. —. Synopsis of the Dipterous genus *Symphoromyia*. J. N. York Ent. Soc. ii, pp. 53–56.
203. —. Revision of the Dipterous family *Therevidæ*. *T. c.* pp. 97–101.
204. —. A new *Anthrax* from California. *T. c.* pp. 101 & 102. [*Diptera*.]
- [See also DAVIDSON (220) and RILEY (912).]
205. COSTA, A. Prospetto degl' Imenotteri italiani. Parte terza. Rend. Acc. Napoli (2) viii, pp. 84–87.
206. COTES, E. C. Miscellaneous notes from the entomological section. Indian Mus. Notes, iii, pp. 110–141.
207. COUCKE, E. & L. Matériaux pour une étude des Diptères de Belgique. *Bombylides*. Ann. Soc. ent. Belgique, xxxviii, pp. 281–292.

208. COUCKE, L. Matériaux pour une étude des Diptères de Belgique. *Asilides*. T. c. pp. 481-501.
209. COUPIN, H. L'amateur de *Coléoptères*. Guide pour la chasse la préparation et la conservation. Paris : 8vo, 352 pp., 217 figg.
[Cf. Zool. Centr. i, p. 323, and Wien. ent. Zeit. xiii, p. 78.]
210. ——. Le Pélopée tourneur. *Nature* (La), 1894 (2) pp. 21 & 22.
[*Hymenoptera*.]
211. CROISSANDEAU, J. *Scydmanidæ*, européens ou circa-méditerranéens. *Ann. Soc. ent. France*, 1894, pp. 351-400, pls. x-xviii. [*Coleoptera*.]
212. ——. Du sexe chez les *Scydmanidæ*. T. c. pp. 58-60. [*Coleoptera*.]
213. ——. Quatre *Scydmanidæ* nouveaux. *Bull. Soc. ent. France*, 1894, pp. lxxxviii-xci. [*Coleoptera*.]
———. [See also PIC (815).]
214. CUÉNOT, L. Le rejet de sang comme moyen de défense chez quelques *Coléoptères*. *C.R. Ac. Sci.* cxviii, p. 875.
215. ——. Défense de l'organisme contre les parasites chez les Insectes. *Op. cit.* cxix, p. 806.
216. CUNNINGHAM, J. T. Neuter insects and Darwinism. *Nat. Sci.* iv, pp. 281-289.
Relates to BALL (42).
217. DALLA TORRE, C. G. DE. Catalogues *Hymenopterorum*. Vol. I. Leipzig : 8vo, 1894, pp. viii & 459. *Tenthredinidæ*, *Uroceridæ*. Vol. IX (*Vespidæ*, *Diptera*).
218. DALLA TORRE, —, & FRIESE, H. Synonymischer Katalog der europäischen Schmarotzerbienen. *Ent. Nachr.* xx, pp. 33-43.
[*Hymenoptera*.]
219. DALE, C. W. The sexual distinctions of Insects. *Brit. Natural.* 1894, pp. 160-164.
220. DAVIDSON, A. On the parasites of wild bees in California. *Ent. News Philad.* v, pp. 170-172.
Includes a description by COUILLETT.
221. DAVIS, G. C. A study of the genus *Meniscus*. *Canad. Ent.* 1894, pp. 321-324. [*Hymenoptera*.]
222. ——. Some notes from a study of the Provancher collection of *Ichneumonidæ*. *P. Ac. Philad.* 1894, pp. 184-190. [*Hymenoptera*.]
223. DAVIS, W. T. The seventeen-year *Cicada* on Staten Island. *J. N. York Ent. Soc.* ii, pp. 38, 39, & 96. [*Rhynchota*.]
224. DÉCAUX, —. Sur une chenille inédite, dévorant les feuilles et les fruits du figuier dans l'arrondissement de Puget-Théniers. *C.R. Ac. Sci.* cxix, p. 695. [*Lepidoptera*.]
225. ——. Métamorphoses du *Caryoborus tamarindi*, Coléoptère de la famille des *Bruchides*. *Naturaliste*, 1894, p. 129.
1894. [VOL. XXXI.]

226. DESBROCHERS, J. DES LOGES. Descriptions de *Rhyncophores* (sic). Bull. Soc. ent. France, 1894, pp. cclxvii & cclxviii. [*Coleoptera*.]
227. DIETZ, W. G. Revision of the genera and species of *Desmori* of North America. Tr. Amer. ent. Soc. xxi, pp. 113-178, pls. vii & viii. [*Coleoptera*.]
228. DILLON, R. E. Six years' entomology in Co. Galway. Entomologist, 1894, pp. 88-91, 169-171, & 190 & 191. [*Lepidoptera*.]
229. DIXEY, F. A. On the phylogeny of the *Pierinæ*, as illustrated by their wing-markings and geographical distribution. Tr. ent. Soc. London, 1894, pp. 249-334, pls. iii-v. [*Lepidoptera*.]
230. —. Mr. Merrifield's experiments in Temperature Variation as bearing on theories of Heredity. *T. c.* pp. 439-446. [*Lepidoptera*.]
231. DOGNIN, P. *Lépidoptères* de Loja et environs (Equateur). Descriptions d'espèces nouvelles. Troisième livraison, 1894.
232. —. *Lépidoptères* nouveaux de Loja et environ. Ann. Soc. ent. Belgique, xxxviii, pp. 680-686.
233. —. *Heterocères* nouveaux de Loja et environs. *T. c.* pp. 122-132 & 238-242. [*Lepidoptera*.]
234. DOMINIQUE, J. Catalogue des *Orthoptères* de la Loire-inférieure. Bull. Soc. Ouest France, 1893, pp. 71-93.
Includes tables of families, genera and species.
235. —. Sur le groupe des *Evanides*. *T. c.* pp. 193-215, pl. iii. [*Hymenoptera*.]
236. —. Le tube digestif des *Orthoptères*. Bull. Soc. Ouest France, 1894, pp. 17-26.
237. —. Notes orthoptérologiques. *T. c.* pp. 29-32.
238. DOUGLAS, J. W. Notes on some British and Exotic *Coccidæ*. No. 27. Ent. Mag. 1894, pp. 28-30.
239. —. A new species of *Aleurodes*. *T. c.* p. 73. [*Rhynchota*.]
240. DRUCE, H. Descriptions of some new species of *Heterocera* from Central America. Ann. Nat. Hist. (6) xiii, pp. 168-182. [*Lepidoptera*.]
241. —. Descriptions of some new species of *Heterocera* from Central America. *T. c.* pp. 352-363. [*Coleoptera*.]
242. —. Descriptions of some new species of *Agaristidæ*. *Op. cit.* xiv, pp. 21-24. [*Lepidoptera*.]
243. DRUCE, H. H. Descriptions of three new *Lycanidæ* from New Guinea. *Op. cit.* xiii, pp. 252-254. [*Lepidoptera*.]
244. —. Note on a species of *Lampides*, recently described by Mr. de Nicéville, and description of a new *Arhopala* from Borneo. Ent. Mag. 1894, pp. 9 & 10. [*Lepidoptera*.]

245. DREYFUS, L. Zu J. Krassiltschik's Mittheilungen über "die vergleichende Anatomie und Systematik der Phytophthires" mit besonderer Bezugnahme auf die Phylloxeriden. Zool. Anz. xvii, pp. 205-208, 221-235, 237-242, 2 pls. [*Rhynchota*.]
246. DUDLEY, P. H. Observations on the Termites, or white Ants, of the Isthmus of Panama. Tr. N. York Ac. viii, pp. 85-114. [*Neuroptera*.]
- Most of the observations in this and the following paper are due to Mr. J. BEAUMONT.
247. —. Termites of the Isthmus of Panama. Part II. *Op. cit.* ix, pp. 157-180. [*Neuroptera*.]
248. DUFFEY, J. C. Transformations of a *Carabid* (*Plochionus timidus*), and observations on a *Coccinellid* enemy of the Red Spider. Tr. St. Louis Ac. v, pp. 533-542 [pls. x & xi].
- Includes description of a *Thrips* by PERGANDE.
249. DUZEE, E. P. VAN. A catalogue of the described *Jassoidea* of North America. Tr. Amer. ent. Soc. xxi, pp. 245-317. [*Rhynchota*.]
250. —. New North American *Homoptera*. No. VII: Canad. Ent. 1894, pp. 89-93. No. VIII: *t. c.* pp. 136-139.
251. DYAR, H. G. Descriptions of the larvæ of certain *Tenthredinide*. Canad. Ent. 1894, pp. 42-45 & 185-188. [*Hymenoptera*.]
252. —. A new *Hepialus* from California. Ent. News Philad. v, p. 25. [*Lepidoptera*.]
253. —. A new form of *Pagara*. *T. c.* p. 198. [*Lepidoptera*.]
254. —. Life-histories of some Bombycid Moths. P. Boston Soc. xxvi, pp. 153-166. [*Lepidoptera*.]
- [See also NEUMOEGEN & DYAR (750, 751, 752).]
255. EATON, A. E. Description of a new species of *Pericoma* from Delagoa Bay. Ent. Mag. 1894, p. 194. [*Diptera*.]
256. *ECKSTEIN, K. Die Kiefer (*Pinus sylvestris*), und ihre tierischen Schädlinge. I Band. Fol., 52 pp., 22 pls.
- Summary, Zool. Centralbl. i, p. 52.
257. EDWARDS, J. Notes on *Baltia*, Moore, and *Mesapia*, Kirby. Entomologist, 1894, pp. 126-128. [*Lepidoptera*.]
258. —. British *Hemiptera*: additions and corrections. Ent. Mag. 1894, pp. 101-106.
259. —. The *Hemiptera-Homoptera* of the British Islands. Parts I & II. London: 1894, 64 pp., 8 pls.
260. EDWARDS, W. H. The Butterflies of North America, with coloured drawings and descriptions. Third series, part xv. [*Lepidoptera*.]
261. EHRMANN, G. A. Three new West African Moths. Canad. Ent. 1894, pp. 69 & 70. [*Lepidoptera*.]

262. [EHRMANN, G. A.] A strange form of *Catocala*. J. N. York Ent. Soc. i, p. 152.
263. —. New West African Butterflies. *Op. cit.* ii, pp. 77 & 78. [*Lepidoptera*.]
264. ELWES, H. J. Address. P. ent. Soc. London, 1894, pp. i-lxxxiv. On the geographical distribution of *Rhopalocera*.
265. EMERY, C. Ueber Entstehung des Soziallebens bei *Hymenopteren*. Biol. Centralbl. xiv, pp. 21-23.
266. —. Die Entstehung und Ausbildung des Arbeiterstandes bei den Ameisen. *T. c.* pp. 53-59. [*Hymenoptera*.]
Summary, J. R. Micr. Soc. 1894, p. 332.
267. —. Mission scientifique de M. Ch. Alluaud aux îles Séchelles. 2^e mémoire. *Formicides*. Ann. Soc. ent. France, 1894, pp. 67-72. [*Hymenoptera*.]
268. —. Studi sulle Formiche della Fauna neotropica, VII-XVI. Bull. Soc. ent. Ital. xxvi, pp. 137-241, pls. i-iv. [*Hymenoptera*.]
269. —. Studio monografico sul genere *Azteca*, Forel. Mem. Acc. Bologna (5) iii, pp. 119-152, 2 pls. [*Hymenoptera*.]
270. —. Viaggio del dottor Alfredo Borelli nella Repubblica Argentina e nel Paraguay. Formiche. Boll. Mus. Torino, ix, No. 186, 4 pp. [*Hymenoptera*.]
271. —. Descriptions de deux fourmis nouvelles. Ann. Soc. ent. France, 1894, pp. 72-74. [*Hymenoptera*.]
272. —. Descrizione di una nuova *Formica* di Sicilia. Natural. Sicil. xiv, p. 28. [*Hymenoptera*.]
273. —. Estudios sobre las Hormigas de Costa Rica. An. Mus. Costa Rica, 1888-89, pp. 45-64, pls. i & ii. [*Hymenoptera*.]
This and the following were apparently intended to form part of a volume of An. Mus. Costa Rica; but the other parts of the volume will, it seems, not appear. The paper will, therefore, stand as if it were a separate work. The numerous species, though given as new, have been previously described and recorded in Zool. Rec. xxvii.
274. —. República de Costa Rica. Estudio contributivo á la Biología de las Hormigas. *T. c.* pp. 65-67. [*Hymenoptera*.]
Ants living in acacias: translation of part of paper that appeared in 1891 [*cf.* Zool. Rec. 1891, *Ins.* Titles (240).]
EMERY, C. [See also JHERING, H. VON (491).]
EPPELSHEIM, —. [See HAUSER (415), and REITTER (892).]
275. ESCHERICH, K. Anatomische Studien über das männliche Genitalsystem der *Coleopteren*. Zeitschr. wiss. Zool. lvii, pp. 620-641, pl. xxvi.
Summary in Zool. Centralbl. i, pp. 480-482.

276. [ESCHERICH, K.] Bemerkungen über Verhoeff's primäre und secundäre Sexualcharaktere der Insecten. Ent. Nachr. xx, pp. 17-19, & 32.
- [Cf. VERHOEFF (1100).]
277. —. Beiträge zur Naturgeschichte der Meloidengattung *Lytta* Fab. Verh. Ges. Wien, xlv, pp. 251-298, pls. viii-x. [*Coleoptera*.]
278. —. Ueber die "Begattungszeichen" der Insekten. Soc. ent. viii, p. 177.
279. —. Zwei Fälle von Anpassung. Verh. Ges. Wien, xlv, pp. 299 & 300. [*Coleoptera*.]
- [See also HAUSER (415).]
280. FAIRMAIRE, L. *Hétéromères* du Bengale. Ann. Soc. ent. Belgique, xxxviii, pp. 16-43. [*Coleoptera*.]
281. —. *Coléoptères* de l'Afrique intertropicale et australe. T. c. pp. 314-335.
282. —. *Coléoptères* du Kilimandjaro et des environs. T. c. pp. 386-395.
283. —. *Coléoptères* de l'Afrique intertropicale et australe, Troisième note. T. c. pp. 651-679.
284. —. Descriptions de *Coléoptères* d'Algérie. T. c. pp. 310-313.
285. —. Quelques *Coléoptères* du Thibet. T. c. pp. 216-225.
286. —. *Coléoptères* de Madagascar. T. c. pp. 139-160.
287. —. Descriptions de cinq *Coléoptères* exotiques. Bull. Soc. ent. France, 1894, pp. lxxxvi-lxxxviii.
288. —. Diagnose d'un *Coléoptère* des Comores. T. c. pp. c & ci.
289. —. Deux *Cérambycides* des Comores. T. c. p. ccliii. [*Coleoptera*.]
- [See also SCHINZ, H. (970).]
290. *FAUCONNET, L. *Genera des Coléoptères* de France. Autun, 1894. Reviewed in Rev. Ent. franc. xiii, p. 196.
291. FAURE, F. Les criquets pèlerins en Algérie. Mt. Schweiz. ent. Ges. ix, pp. 142-147. [*Orthoptera*.]
292. FAUST, J. Verzeichniss der von Herrn Peter Schmidt 1892 um Issyk-Kul gesammelten *Curculioniden*. Horæ Soc. ent. Ross. xxviii, pp. 140-148. [*Coleoptera*.]
293. —. Zwei neue *Rhytidoplax*. Nov. Zool. i, pp. 569 & 570. [*Coleoptera*.]
294. —. Westafrikanische *Curculioniden*. T. c. pp. 552-568. [*Coleoptera*.]
295. —. Ein Beitrag zur Kenntniss der *Curculioniden* Afrikas. Ann. Soc. ent. Belgique, xxxviii, pp. 505-535. [*Coleoptera*.]

296. [FAUST, J.] Die noch nicht gedeuteten *Cleonus*-Arten des Dejean Catalog, und einige neue Arten dieser Gattung. Ann. Soc. ent. Belgique, xxxviii, pp. 612-618. [*Coleoptera*.]
297. —. Rüsselkäfer der alten und neuen Welt. Ent. Zeit. Stettin, iv, pp. 140-159. [*Coleoptera*.]
298. —. Drei *Psolidium* und eine *Parameira*. Deutsche ent. Zeitschr. 1894, pp. 189-192. [*Coleoptera*.]
299. —. Ueber *Strongylophthalmus* Mots. i. litt. T. c. p. 192. [*Coleoptera*.]
— [See also HAUSER (415).]
300. FELT, E. P. On certain grass-eating Insects. Bull. Cornell Exp. Stat. lxiv, pp. 47-102, pls. i-xiv. [*Lepidoptera*.]
An important paper on North American *Crambi*.
301. FERNALD, C. H. North Greenland *Microlepidoptera*. Ent. News Philad. v, pp. 129-132.
302. —. Descriptions of *Pyralidæ* from the Death Valley. Insect Life, vi, pp. 255-257. [*Lepidoptera*]
303. FINOT, A. Quatre espèces nouvelles d'*Orthoptères* habitant l'Algérie. Bull. Soc. ent. France, 1894, pp. xii & xiii.
304. FIORI, A. Alcune nuove specie e varietà di *Staphylinidæ* raccolti in Italia. Natural. Sicil. xiii, pp. 86-100. [*Coleoptera*.]
305. FLEUTIAUX, E. Supplément au "Catalogus Coleopterorum" de Gemminger et Harold. Vol. v, 1869. *Trixagidæ*. Ann. Soc. ent. Belgique, xxxviii, pp. 687-691.
306. —. Les *Megacephalidæ* d'Australie. Rev. Ent. franc. xiii, pp. 123-128. [*Coleoptera*.]
307. —. Voyage de M. E. Simon dans l'Afrique australe. 2^e Mémoire. Ann. Soc. ent. France, 1894, pp. 401-404. [*Coleoptera*.]
308. —. Description d'une nouvelle espèce de *Cicindela*. Bull. Soc. ent. France, 1894, p. cclxxxi. [*Coleoptera*.]
309. —. Note sur les *Coléoptères Cicindélides* du genre *Phæoxantha*, Chaudoir. Bull. Soc. zool. France, xix, pp. 24-28.
310. FOCKEU, H. Liste de galles recueillies en Provence. Rev. biol. Nord France, vi, pp. 435-438.
311. —. Étude sur quelques galles de Syrie. T. c. pp. 219-223. [*Hemiptera, Diptera*.]
312. FORBES, S. A. Eighteenth report of the State entomologist of the noxious and beneficial Insects of the State of Illinois. Seventh report of S. A. Forbes. Springfield: 171 pp., 15 pls.
Monograph of Insects injurious to Indian corn. The descriptions of new *Aphididæ* are by C. A. HART.

313. FOREL, A. Ueber den Polymorphismus und Ergatomorphismus der Ameisen. Verh. Ges. deutsch. Naturf. lxvi, 2, pp. 142-147. [*Hymenoptera.*]
314. —. Polymorphisme et ergatomorphisme des fourmis. Arch Sci. Nat. xxxii, Oct. 1894, pp. 1-8 (sep. pag.). [*Hymenoptera.*]
Translation of the preceding.
315. —. Les *Formicides* de l'empire des Indes et Ceylan. Part iv. J. Bombay Soc. viii, pp. 396-420, pl. [*Hymenoptera.*]
316. —. Abessinische und andere afrikanische Ameisen, gesammelt von Herrn Ingenieur Alfred Ilg, von Herrn Dr. Lieugme, von Herrn Pfarrer Missionar P. Berthoud, Herrn Dr. Arth. Müller, etc. Mt. Schweiz. ent. Ges. ix, pp. 64-100. [*Hymenoptera.*]
317. —. Quelques fourmis de Madagascar (récoltées par M. le Dr. Völtzkow); de Nouvelle Zélande (récoltées par M. W. W. Smith); de Nouvelle Calédonie (récoltées par M. Sommer); de Queensland (Australie) (récoltées par M. Wiederkehr); et de Perth (Australie occidentale) récoltées par M. Chase. Ann. Soc. ent. Belgique, xxxviii, pp. 226-237. [*Hymenoptera.*]
318. —. Les formicides de la province d'Oran (Algérie). Bull. Soc. Vaudoise, xxx, pp. 1-45, pls. i & ii. [*Hymenoptera.*]
Appendices on species from Brazil and Marseilles.
319. FOWLER, W. W. Some new species of *Membracidae*. Tr. ent. Soc. London, 1894, pp. 415-424. [*Rhynchoa.*]
— [See also GODMAN & SALVIN (377).]
320. FOX, W. J. A proposed classification of the fossorial *Hymenoptera* of North America. P. Ac. Philad. 1894, pp. 292-307.
321. —. Studies among the fossorial *Hymenoptera*. I, II, III. Ent. News Philad. v, pp. 86-89, 126-128, & 201-203.
322. —. New North American Aculeate *Hymenoptera*. J. N. York Ent. Soc. i, pp. 53-56.
323. —. The N. American *Larridae*. P. Ac. Philad. 1893, pp. 467-551. [*Hymenoptera.*]
324. —. A new species of *Mutillidae*. Ent. News Philad. v, p. 297. [*Hymenoptera.*]
325. —. Report on some Mexican *Hymenoptera*, principally from Lower California. P. Calif. Ac. iv, pp. 1-25.
326. —. Second report on some *Hymenoptera* from Lower California. T. c. pp. 92-121.
327. FREY-GESSNER, E. Nester von *Chalicodoma muraria*, Linn. Mt. Schweiz. ent. Ges. ix, pp. 147-150. [*Hymenoptera.*]
328. *FRIEDRICH, H. Die Biber an der mittleren Elbe. Nebst einem Anhang über *Platypyllus castoris*, Rits. Dessau: 1894, 47 pp. [*Coleoptera.*]
[Cf. Wien. ent. Zeit. xiii, p. 110.]

329. FRIESE, H. Die Bienenfauna Mecklenburgs. Arch. Ver. Mecklenb. xlviii, pp. 1-30. [*Hymenoptera.*]
 —. [See also DALLA TORRE & FRIESE (218).]
330. FRITZE, A. Die Fauna der Liu-Kiu Insel, Okinawa. Zool. Jahrb. Syst. vii, pp. 852-926.
331. —. Ueber Saison-Dimorphismus und -Polymorphismus bei japanischen Schmetterlingen. Ber. Ges. Freiburg, viii, pp. 152-162. [*Lepidoptera.*]
332. FROGGATT, W. W. Some account of the gall-making insects of Australia. Nat. Sci. v, pp. 109-114.
333. —. Notes on a new classification of the *Brachyscelidæ*. Tr. R. Soc. S. Austral. xviii, pp. 75 & 76. [*Coccidæ.*]
 Relates to Tepper's paper. [Cf. Zool. Rec. xxx, *Ins.* Titles (959).]
334. —. Notes on the family *Brachyscelidæ* with descriptions of new species. Part II. P. Linn. Soc. N. S. Wales, viii, pp. 209-214, pl. viii. Part III. *T. c.* pp. 335-348, pls. xvi & xvii. [*Coccidæ.*]
335. —. On the nests and habits of Australian *Vespidæ* and *Larridæ*. *Op. cit.* ix, pp. 27-34. [*Hymenoptera.*]
336. —. On the life-histories of Australian *Coleoptera*. *T. c.* pp. 113-125.
337. —. Wood Moths: with some account of their life-histories. *T. c.* pp. 375-383. [*Lepidoptera.*]
338. FRUHSTORFER, H. Neue und wenig bekannte Java-*Rhopaloceren*. Ent. Zeit. Stettin, lv, pp. 116-125. [*Lepidoptera.*]
 These are the species described last year [cf. Zool. Rec. xxx, *Insecta*, Titles (349)] though no reference whatever is made to the previous paper.
339. —. Ein neuer Tagfalter aus Nias. *T. c.* p. 126. [*Lepidoptera.*]
 No reference whatever is made to the fact of a description having appeared last year. [Cf. Zool. Rec. xxx, *Insecta*, Titles (351).]
340. —. Neue und wenig bekannte Java-*Rhopaloceren*. Berlin. ent. Zeitschr. xxxix, pp. 241-247. [*Lepidoptera.*]
341. —. Ein neuer Tagfalter aus Deutsch-Neu-Guinea, *T. c.* p. 248. [*Lepidoptera.*]
342. —. Neue Java-*Rhopaloceren*, v. Ent. Nachr. xx, pp. 19-24. vi. *T. c.* pp. 43 & 44, vii. *T. c.* pp. 300-302. [*Lepidoptera.*]
343. —. Neue *Rhopaloceren* aus dem malayischen Archipel. *T. c.* pp. 302-306. [*Lepidoptera.*]
344. —. Ein *Prachtlucanide* aus Sumatra. *T. c.* pp. 298 & 299. [*Colcoptera.*]

345. FUENTE, J. M. DE LA. Diagnosis de dos especies nuevas de *Ortopteros*. Act. Soc. Espan. xxii, p. 137. ✓
346. FYLES, T. W. *Botys irticaloides*, n. s. Canad. Ent. 1894, p. 184. [*Lepidoptera*.]
347. GADEAU DE KERVILLE, H. Notes sur les larves marines d'un *Diptère* du group des *Muscidés acalyptérés* et probablement du genre *Actora* trouvées aux îles Chausey (Manche). Bull. Soc. Rouen, 1894, pp. 177-181.
This paper is also given in Ann. Soc. ent. France, 1894, pp. 82-85.
348. GAHAN, C. J. Supplemental list of the *Longicorn Coleoptera* obtained by Mr. J. J. Walker, R.N., F.L.S., during the voyage of H.M.S. "Penguin," under the command of Captain Moore, R.N. Tr. ent. Soc. London, 1894, pp. 481-488.
349. ——. On the characters of a new genus and six new species of *Longicorn Coleoptera* from New Guinea. Ann. Nat. Hist. (6) xiii, pp. 288-292.
350. ——. Description of a new Longicorn Beetle of the genus *Diaxenes*, which has been found injuring some imported Orchids. T. c. pp. 520 & 521. [*Coleoptera*.]
351. ——. Descriptions of some new *Coleoptera* from Costa Rica. Op. cit. xiv, pp. 115-120.
352. ——. On some new *Longicorn Coleoptera* obtained by Mr. Th. Greenfield in Somali. T. c. pp. 407-411.
353. ——. Descriptions of some new species of *Prionidæ*. T. c. pp. 221-227. [*Coleoptera*.]
— [See also WALKER, J. (1118).]
354. GAIL, — DE. La nonne, ou le Bombyx moine (*Psilura monacha*). Bull. Soc. Semur (2) vii, pp. 51-79. [*Lepidoptera*.]
355. GARMAN, H. Two cave Beetles not before recorded. Psyche, vii, pp. 81 & 82. [*Coleoptera*.]
GASCARD, A. [See TOZZETTI (1078).]
356. GEINITZ-ROSTOCK, E. Die Käferreste des Dobbertiner Lias. Arch. Ver. Mecklenb. xviii, pp. 71-78. [*Coleoptera*.]
357. GERHARDT, J. Ueber das Reinigen der Käfer durch Kochen. Zeitschr. Ent. Breslau, xix, pp. 8-10. [*Coleoptera*.]
358. GERMAIN, P. Nouvelles notes sur les *Coléoptères* du Chili. Act. Soc. Chili, iii, pp. 47-64.
359. ——. Apuntes sobre los *Coléopteros* de Chile. An. Univ. Chile, lxxxiv, pp. 1031-1039.
360. ——. Une excursion entomologique dans la Cordillère de Chillan. Act. Soc. Chili, ii, pt. v, pp. clxv & clxvi. [*Coleoptera*.]

361. GIARD, A. Évolution des êtres organisés. Sur certains cas de dédoublement des courbes de Galton dus au parasitisme et sur le dimorphisme d'origine parasitaire. C.R. Ac. Sci. cxviii, p. 870.
362. —. Convergence et pœcilogony chez les insectes. Ann. Soc. ent. France, 1894, pp. 128-135. [*Lepidoptera.*]
Translation by OSBORN in Psyche, vii, pp. 171-175.
363. —. Sur le mimétisme parasitaire. *T. c.* pp. 124-128.
364. —. Sur une cochenille souterraine des vignes du Chili (*Margarodes vitium*, n. sp.). C.R. Soc. Biol. 1894, pp. 125-128. [*Coccidæ.*]
365. —. Sur les transformations de *Margarodes vitium*, Gd. *T. c.* pp. 412-414. [*Coccidæ.*]
366. —. Troisième note sur le genre *Margarodes*. *T. c.* pp. 710-713. [*Coccidæ.*]
367. GIGLIO-TOS, E. Ditteri del Messico. Parte terza. *Muscidæ calypteratæ*, *Ocypterinæ*, *Gymnosominæ*, *Phasinæ*, *Phaninæ*, *Tachininæ*, *Dexinæ*, *Sarcophaginæ*. Mem. Acc. Torino, ii, xlv, pp. 473-546, pl.
368. —. Viaggio del Dr. E. Festa in Palestina, nel Libano e regioni vicine. *Rincoti*. Boll. Mus. Torino, ix, No. 169, 14 pp.
Review, with synonymy by PUTON in Rev. Ent. franc. xiii, p. 117.
369. —. Viaggio del Dott. Alfredo Borelli nella Republica Argentina e nel Paraguay. *Ortotteri*. *T. c.* No. 184, 46 pp., 1 pl.
370. —. Viaggio del Dott. E. Festa in Palestina, nel Libano e regioni vicine. *Ortotteri*, seconda comunicazione. *T. c.* No. 191, 4 pp.
371. GILLETTE, C. P. New *Cynipidæ*. Canad. Ent. 1894, pp. 157-159. [*Hymenoptera.*]
372. GIBSON, R. J. H. The mushroom beds of the South American Ants. P. Liverp. lit. Soc. xlviii, pp. 99-105. [*Hymenoptera.*]
373. GILSON, G. Recherches sur les Cellules sécrétantes. I. La soie et les appareils séricigènes. I. *Lepidoptères* (suite). II. *Trichoptères*. Cellule, x, pp. 37-63, pl. iv.
374. GIRSCHNER, E. Beiträge zur Biologie von *Hilara*. Ent. Nachr. xx, pp. 61-64. [*Diptera.*]
375. —. Entgegnung auf Herrn Prof. Mik's Artikel in Nr. x, Jahrg. 1894, dieser Zeitschrift. *T. c.* pp. 241-244. [*Diptera.*]
Relates to MIK (717).
376. GLASER, L. Meine interessantesten Raupen- und Puppenfund-Erinnerungen. *T. c.* pp. 307-315. [*Lepidoptera.*]

377. GODMAN, F. D., & SALVIN, O. *Biologia Centrali-Americana*.
The entomological contents of the parts, 114-119, published in 1894 are :
Coleoptera, vol. ii, pt. 1, pp. 441-488, pl. xiv : *Colydiidæ*, by D. SHARP. Vol. iii, pt. 1, pp. 258-296 : *Elateridæ*, by G. C. CHAMPION. Vol. vi, pt. 2, pp. 165-249 & i-ix, pls. v-xiii : *Cassididæ* and *Hispidæ*, by G. C. CHAMPION, completing the volume. Vol. vii, pp. 177-208, pls. x & xi : *Coccinellidæ*, by H. S. GORHAM.
Hymenoptera, vol. ii, pp. 257-328, pls. xii & xiii : *Mutillidæ*, by P. CAMERON.
Lepidoptera : *Rhopalocera*, vol. ii, pp. 329-384, pls. lxxix-lxxxiii : *Hesperidæ*, by F. D. GODMAN & O. SALVIN.
Rhynchocha : *Homoptera*, vol. ii, pp. 1-56, pls. i-iii : *Membracidæ*, by W. W. FOWLER.
Orthoptera, pp. 105-200, pls. vi-x : *Blattidæ* pt. to *Mantidæ*, by H. DE SAUSSURE and L. ZEHNTNER.
378. — & —. Descriptions of new species of *Rhopalocera* from Mexico and Central America. *Ann. Nat. Hist.* (6) xiv, pp. 95-98.
379. GONIN, J. Recherches sur la métamorphose des *Lépidoptères* (de la formation des appendices imaginaires dans la chenille du *Pieris brassicæ*). *Bull. Soc. Vaudoise*, xxx, pp. 89-139, pls. xi-xiv.
380. GORHAM, H. S. On the *Coccinellidæ* from India, in the collection of Mr. H. E. Andrewes, of the Indian forest service. *Ann. Soc. ent. Belgique*, xxxviii, pp. 200-208. [*Coleoptera*.]
381. —. Insectes du Bengale. Observations on some species of the family *Coccinellidæ*, collected near Konbir and Mandar, India, Bengal, by P. Cardon. *T. c.* pp. 209-211. [*Coleoptera*.]
— [See also GODMAN & SALVIN (377).]
382. GRADENIGO, P. Sopra un caso di *Dermatobia noxialis* in um bambino lattante. *Atti Ist. Veneto*, lii, pp. 965-968, pl. iii. [*Diptera*.]
383. GRIBODO, G. Note imenotterologiche. Nota II, continuazione. *Bull. Soc. ent. Ital.* xxvi, pp. 76-136 & 262-312. [*Hymenoptera*.]
384. *GRIFFINI, A. Gli insetti acquioli. Storia naturale dei principali *Coleotteri* e *Rincoti* aquatici nostrali. Turin : 1894, 8vo, 44 pp.
385. *—. *Coleotteri italiani*. Milan : 1894, 332 pp., 215 cuts.
[*Cf.* *Wien. ent. Zeit.* xiii, p. 259.]
386. GROUVELLE, A. Insectes du Bengale. *Clavicornes*. *Ann. Soc. ent. Belgique*, xxxviii, pp. 578-587. [*Coleoptera*.]
387. —. Descriptions de nouveaux *Clavicornes* exotiques. *Ann. Soc. ent. France*, 1894, pp. 12-16. [*Coleoptera*.]
388. GROUVELLE, A., & GUILLEBEAU, F. *Clavicornes* nouveaux récoltés dans l'Inde par Mr. H. E. Andrewes. *Ann. Soc. ent. Belgique*, xxxviii, pp. 458-465. [*Coleoptera*.]
389. GUERCIO, G. DEL. Cocciniglie nuove, note e poco note. *Natural. Sicil.* xiii, pp. 141-158. [*Coccidæ*.]

390. [GUERCIO, G. DEL.] Frammenti di osservazioni sulla storia naturale di un *Myzus trovato* sull' *Elæagnus* e sulla distinzione delle forme di *Myzus ribis*, L., descritte fin qui. *Natural. Sicil.* xiii, pp. 188-199; and *op. cit.* xiv, p. 22. [*Aphididæ.*]
391. GUIGNARD, J. A., & FLETCHER, J. The inter-relation of Insects and Flowers. *Canad. Ent.* 1894, pp. 111 & 112.
Account of Robertson's work.
392. GUILLEBEAU, F. Descriptions de quelques *Phalacrides* de Sumatra. *Bull. Soc. ent. France*, 1894, pp. ccvii-ccix. [*Coleoptera.*]
393. —. Descriptions de quelques espèces de la famille des *Phalacride* de la collection de M. Antoine Grouvelle. *Ann. Soc. ent. France*, 1894, pp. 275-310. [*Coleoptera.*]
394. —. Deux espèces nouvelles de *Coléoptères*. *Bull. Soc. ent. France*, 1894, pp. cxcii & cxciii.
— [See also GROUVELLE & GUILLEBEAU (388).]
395. GUNDLACH, J. Apuntes para la Fauna Puerto-Riquena. Octava Parte. *Neurópteros, Hemípteros, Coleópteros*. *An. Soc. Espan.* xxii, pp. 259-344.
396. HAGEN, B. Verzeichniss der von mir auf Sumatra gefangenen *Rhopaloceren*. *Deutsche ent. Zeitschr. Lep.* vii, pp. 1-44. [*Lepidoptera.*]
397. —. *Pyrameis samani*, n. sp. *T. c.* p. 359. [*Lepidoptera.*]
398. HAMILTON, JOHN. Catalogue of the *Coleoptera* common to North America, Northern Asia, and Europe, with distribution and bibliography. Second edition. *Tr. Amer. ent. Soc.* xxi, pp. 345-416.
399. —. Catalogue of the *Coleoptera* of Alaska with the synonymy and distribution. *T. c.* pp. 1-38.
400. —. *Coleoptera* taken at Lake Worth, Florida. *Canad. Ent.* 1894, pp. 250-256.
401. HAMPSON, G. F. The fauna of British India, including Ceylon and Burma. Published under the authority of the Secretary of State for India in Council. Edited by W. T. BLANFORD. *Moths*, Vol. ii, London: 1894, 8vo, xxii & 609 pp. Vol. iii, London: 1895, 8vo, xxviii & 546 pp.
Reviewed by A. G. Butler, *Ann. Nat. Hist.* (6) xiii, p. 447.
402. —. On recent contributions to the classification of the *Lepidoptera* by Prof. J. H. Comstock and Dr. T. A. Chapman. *Ann. Nat. Hist.* (6) xiv, pp. 254-261.
403. HANCOCK, J. L. The white-marked Tussock-moth (*Orgyia leucostigma*, Smith & Abbott) in Chicago. *Amer. Natural.* 1894, pp. 326-328. [*Lepidoptera.*]
404. —. Unusual flights of the Grouse Locust (*Tettigidea lateralis*, Say) in North-Eastern Illinois. *T. c.* pp. 483-487. [*Orthoptera.*]

405. HANDLIRSCH, A. Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. VII. (Schluss). SB. Ak. Wien, cii, Ab. i, pp. 657-942, 7 pls. [*Hymenoptera*.]
 —. [See also KOHL (552).]
406. HANSEN, H. J. On the structure and habits of *Hemimerus talpoides*, Walk. Ent. Tidskr. xv, pp. 65-93, pls. ii & iii. [*Orthoptera*.]
 Summaries by BERGROTH, Wien ent. Zeit. xiii, p. 193, and SHARP, Ent. Mag. 1894, p. 256.
407. HARRINGTON, W. H. Canadian *Hymenoptera*, No. 4. Canad. Ent. 1894, pp. 193-196, 209-214, & 245-250.
408. —. Canadian *Uroceridæ*. Tr. R. Soc. Canada, xi, Sect. iv pp. 131-153. [*Hymenoptera*.]
 HART, C. A. [See FORBES (312).]
409. HART, J. H. Natural history notes. Council paper No. 43 of 1893, pp. 11-13. Trinidad: 1893.
 [Cf. SPENCER (1036).]
410. HARTIG, R. Das Erkranken und Absterben der Fichte nach der Entnadelung durch die Nonne (*Liparis monacha*). Forstl. Zeitschr. Munchen, i, pp. 1, 49, 89, &c. [*Lepidoptera*.]
411. —. Niedere Organismen im Raupenblute. *T. c.* p. 124.
412. —. *Cecidomyia* ? *piceæ*, n. sp. *Op. cit.* ii, pp. 6-8. [*Diptera*.]
413. HARVEY, F. L. The American species of the Thysanouran genus *Seira*. *Psyché*, vii, pp. 159-162. [*Aptera*.]
414. —. A new species of *Lepidocyrtus*. Ent. News Philad. v, pp. 324-326. [*Aptera*.]
415. HAUSER, F. Beitrag zur *Coleopteren*-Fauna von Transcaspien und Turkestan. Zusammengestellt unter Mitwirkung der Herren Dr. EPPELSHEIM, ESCHERICH, FAUST, Dr. VON HEYDEN, KUWERT, REITTER und WEISE. Deutsche ent. Zeitschr. 1894, pp. 17-74.
416. HEDEMANN, W. VON. Beitrag zur Kenntniss der *Microlepidopteren*-Fauna von Dänisch-Westindien. Ent. Zeit. Stettin, lv, pp. 280-302.
 —. [See also HERING (425).]
417. HEIM, F. Du rôle de quelques *Coléoptères* dans la dissémination de certains cas de charbon. C.R. Soc. Biol. 1894, pp. 58-60.
418. —. Réponse à M. A. Giard, à propos de la tarière (!) d'un *Diptère* femelle et du Champignon entomophyte *Isaria tenuis*. Ann. Soc. ent. France, 1894, pp. 32-36.
419. —. Dégâts occasionnés sur les tubercules de pomme de terre par les fourmis. *T. c.* pp. 29-32. [*Hymenoptera*.]
 Discussion of the properties of formic acid.

420. HELLER, K. M. Zwei neue *Omotemnus*-Arten. Ent. Nachr. xx, pp. 98-100. [*Coleoptera.*]
421. —. A new Curculionid of the genus *Ommatolampus*. Notes Leyden Mus. xvi, pp. 169-172. [*Coleoptera.*]
422. —. Neue *Zygopiden*, *Isorhynchiden*, und *Sympiezopiden*, nebst ergänzenden Bemerkungen zu bekannten Arten. Tijdschr. Ent. xxxvii, pp. 33-66, pl. ii. [*Coleoptera.*]
423. —. Ueber *Hyantis* und *Tenaris*. Ent. Nachr. xx, pp. 369-376. [*Lepidoptera.*]
424. HELLESEN, T. Bidrag til Kundskaben om Norges Coleopterfauna. II, Stavanger Mus. Aarsb. 1891, pp. 57-113. III, *op. cit.* 1892, pp. 30-57. IV, *op. cit.* 1893, pp. 29-50.
425. HERING, E. Microlepidopterologisches aus West-Indien. Ent. Zeit. Stettin, IV, pp. 65-71.
Chiefly extracts from letters of Baron von Hedemann, from St. Thomas.
HERON, F. A. [See WALKER, J. (1118).]
426. HEYDEN, L. VON. Ueber *Meloë olivieri*, Chevrolat, und sechs neue *Longicornen* aus Klein-Asien. Deutsche ent. Zeitschr. 1894, pp. 85-89. [*Coleoptera.*]
— [See also HAUSER (415).]
427. HEYMONS, R. Die Fortpflanzung der Ohrwürmer. SB. Ges. naturf. Berlin, 1894, pp. 65 & 66. [*Orthoptera.*]
428. —. Ueber die Bildung der Keimblätter bei den Insecten. Mt. Ak. Berlin, 1894, pp. 1-5.
Summary, J. R. Micr. Soc. 1894, p. 557.
429. —. Uebersicht über die neueren Ergebnisse auf dem Gebiete der Insektenembryologie. Zool. Centralbl. i, pp. 41-50 & 81-92.
430. HILGER, C. Zur Morphologie des Käferabdomens. T. c. pp. 385-389. [*Coleoptera.*]
Relates chiefly to Verhoeff's work. [Cf. VERHOEFF (1102).]
HOERNES, M. [See APFELBECK (19) and KNOTEK (549).]
431. HOFMANN, O. Genitalanhänge bei verschiedenen Coleophoren. Verh. Ges. deutsch. Naturf. lxxv (2) p. 140. [*Lepidoptera.*]
432. HOLLAND, W. J. African *Hesperiidae*. Ent. News Philad. v, pp. 26-31, pt. i. [*Lepidoptera.*]
433. —. Some new and little-known African *Hesperiidae*. T. c. pp. 89-95, pl. iii. [*Lepidoptera.*]
434. —. New and undescribed genera and species of West African *Noctuidae*. Psyche, vii, pp. 7-10, 27-34, 47-50, 67-70, 83-90, 109-128, & 141-144, pl. v. [*Lepidoptera.*]

435. [HOLLAND, W. J.] New West African *Dysgoniida*. Ent. News Philad. v, pp. 57-59, pl. ii. [*Lepidoptera*.]
436. —. Four new genera and species of West African *Sesiida*. J. N. York Ent. Soc. i, pp. 181-184. [*Lepidoptera*.]
437. HOLT WHITE, A. E. The Butterflies and Moths of Teneriffe. Edited by R. H. WHITE. London: 1894, xii & 107 pp., 3 pls. [*Lepidoptera*.]
Reviews: Entomologist, 1894, p. 155, and Nature, xlix, p. 384.
438. HOPKINS, A. D. Sexual characters in *Scolytida*. (A preliminary contribution.) Canad. Ent. 1894, pp. 274-280. [*Coleoptera*.]
439. —. Notes on the discovery of a new Scolytid, with brief description of the species. P. ent. Soc. Washington, iii, p. 104. [*Coleoptera*.]
440. HORMUZAKI, C. VON. Untersuchungen über die Lepidopterenfauna der Bucovina. Czernowitz: 1894, 8vo, 183 pp.
441. —. Ueber einige Abänderungen von *Lepidopteren* aus der Bucovina und aus Rumänien. Ent. Nachr. xx, pp. 2-8 & 53-57.
442. HORN, G. H. The *Coleoptera* of Baja California. P. Calif. Ac. iv, pp. 302-449, pls. vii & viii.
443. HORN, W. Neue *Collyriden*. Deutsche ent. Zeitschr. 1894, pp. 13-16. [*Coleoptera*.]
444. —. Neue *Cicindeleten*. T. c. pp. 109-112. [*Coleoptera*.]
445. —. Beitrag zur *Cicindeliden*-Fauna von Vorder-Indien. T. c. pp. 169-175. [*Coleoptera*.]
446. —. Neues aus der Familie der *Cicindeleten*. T. c. pp. 217-224. [*Coleoptera*.]
447. —. Ueber *Cicindeliden*. T. c. pp. 237-240. [*Coleoptera*.]
448. —. Vier neue westafrikanische *Cicindeliden*. Ent. Nachr. xx, pp. 245-247. [*Coleoptera*.]
449. HORVATH, G. *Hémiptères* recueillis dans la Russie méridionale et en Transcaucasie. Rev. Ent. franc. xiii, pp. 169-189.
450. —. Notes sur quelques *Capsides*. T. c. pp. 190-193.
451. *HOULBERT, C. Rapports naturels et Phylogénie des principales familles de *Coléoptères*. Paris: 1894, 8vo, 116 pp.
[Cf. Naturaliste, 1894, p. 168.]
452. HOWARD, L. O. On the geographical distribution of some common scale Insects. Canad. Ent. 1894, pp. 353-355. [*Coccidæ*.]
453. —. A peculiar structural feature of the *Elasminæ*. P. ent. Soc. Washington, iii, p. 13. [*Hymenoptera*.]
454. —. The *Hymenopterous* parasites of the California red scale. Insect Life, vi, pp. 227-236. [*Coccidæ*.]

455. [HOWARD, L. O.] Completed life-history of the sugar-beet web-worm (*Loxostege sticticalis*). *Insect Life*, vi, pp. 369-373. [*Lepidoptera*.]
456. —. Two parasites of important scale-insects. *Op. cit.* vii, pp. 5-8. [*Hymenoptera*.]
457. —. Damage by the American Locust. *T. c.* pp. 220-229. [*Orthoptera*.]
458. —. The maple *Pseudococcus*. *T. c.* pp. 235-240. [*Coccidæ*.]
459. —. A new parasite of *Mytilaspis pomorum*. *T. c.* p. 256. [*Hymenoptera*.]
- . [Report on the parasitic *Hymenoptera* of St. Vincent, see RILEY, ASHMEAD, & HOWARD (926).]
- . [See also RILEY & HOWARD (923, 924, 925).]
460. HUBBARD, H. G. The Insect guests of the Florida land Tortoise. *Insect Life*, vi, pp. 302-315.
Includes description of a *Ceuthophilus* by SCUDDER.
461. —. Note on *Brathinus*. *P. ent. Soc. Washington*, iii, pp. 10 & 11. [*Coleoptera*.]
462. HÜBER, T. Synopsis der deutschen Blindwanzen (*Hemiptera-Heteroptera*. Fam. *Capsidæ*). *Jahresh. Ver. Würtemb.* 1, pp. 142-169.
463. * —. Synopsis der deutschen Blindwanzen (*Hemiptera-Heteroptera*. Fam. *Capsidæ*). Heft. I. Stuttgart: pp. 1-29.
Probably same as preceding. [*Cf.* VERHOEFF, in *Zool. Centralbl.* i, p. 530.]
464. HÜBNER, J. Exotische Schmetterlinge (*Lepidoptères exotiques*—Exotic butterflies). Nouvelle édition revue, corrigée et augmentée par W. F. Kirby. Bruxelles: 1894, 4to.
10 parts, consisting entirely of plates (i-c), have at present appeared.
465. HUDSON, G. V. On the importance of New Zealand biological collections. *Tr. N. Zealand Inst.* xxvi, pp. 199-203.
466. HULST, G. D. Notes on types of North American *Geometrina* in European collections. *Ent. News Philad.* v, pp. 302-306. [*Lepidoptera*.]
467. ISTVÁNYFI, G. Gombatenyésztő hangyák. *Termes. Kozl. Magyar Tars.* 1894, pp. 378-387. [*Hymenoptera*.]
Habits of fungus- and other ants.
468. JABLONOWSKI, J. *Thysanoptera nova*. *Termes. Fuzetek.* xvii, pp. 44-47.
469. —. Additamentum ad cognitionem *Thysanopterorum*. *T. c.* pp. 93-99, pl. iv.
470. JACOBSON, G. Materialia ad cognitionem faunæ Chrysomelidarum provinciæ Astrachanensis. *Horæ Soc. ent. Ross.* xxviii, pp. 152-160. [*Coleoptera*.]

471. [JACOBSON, G.] *Chrysomelide* ab A. Trotziua in provinciis Transcaspica et Ferganensi, A. 1893 collectæ. Horæ Soc. ent. Ross. xxviii, pp. 238-241. [*Coleoptera*.]
472. —. Adnotationes de *Chrysomelidis* nonnullis novis vel parum cognitæ. *T. c.* pp. 242-246. [*Coleoptera*.]
473. —. *Chrysomelide* palæarcticæ novæ ac parum cognitæ. *T. c.* pp. 269-278. [*Coleoptera*.]
474. —. De fauna aquatili insulæ "Bolschaja Topa" in mari Albo sitæ. *T. c.* pp. 279-285.
In Russian.
475. —. Zur *Chrysomeliden*-Fauna der Umgegend vom See Issyk-Kul. Deutsche ent. Zeitschr. 1894, pp. 97-107. [*Coleoptera*.]
476. JACOBY, M. Descriptions of new species of *Coleoptera* of the genera *Edionychis* and *Asphæra*. P. Zool. Soc. London, 1894, pp. 609-631, pl. xxxviii.
477. —. Descriptions of some new genera and species of Phytophagous *Coleoptera*, contained in the collection of the Brussels Museum and my own. Ann. Soc. ent. Belgique, xxxviii, pp. 184 & 197.
478. —. Descriptions of new genera and species of Phytophagous *Coleoptera* obtained by W. Doherty in the Malayan Archipelago. Nov. Zool. i, pp. 267-330.
479. —. Descriptions of new genera and species of Phytophagous *Coleoptera* from Africa and Madagascar. *T. c.* pp. 503-534.
480. JAKOWLEFF, B. E. *Neodorcadion dux*, n. sp. Horæ Soc. ent. Ross. xxviii, p. 120. [*Coleoptera*.]
481. —. *Hemiptera-Heteroptera* palæarctica nova. *T. c.* pp. 128-139.
482. JANET, A. Descriptions de trois *Lépidoptères Rhopalocères*. Bull. Soc. ent. France, 1894, pp. cclv & cclvi.
483. —. De l'action des réactifs à l'état naissant utilisés dans les préparations de zoologie. Congr. Zool. 1892, ii, pp. 98-102. [*Lepidoptera*.]
484. JANET, C. Études sur les fourmis (quatrième note). *Pelodera* des glandes pharyngiennes de *Formica rufa*, L. Mem. Soc. zool. France, vii, pp. 45-62. [*Hymenoptera*.]
485. —. Études sur les fourmis. 6^e note. Sur l'appareil de stridulation de *Myrmica rubra*, L. Ann. Soc. ent. France, 1894, pp. 109-117. [*Hymenoptera*.]
486. —. Études sur les fourmis (septième note). Sur l'anatomie du pétiole de *Myrmica rubra*, L. Mem. Soc. zool. France, vii, pp. 185-202. [*Hymenoptera*.]
487. —. Sur les nerfs de l'antenne et les organes chordotonaux chez les Fourmis. C.R. Ac. Sci. cxviii, p. 814. [*Hymenoptera*.]

488. [JANET, C.] Sur le système glandulaire des Fourmis. C.R. Ac. Sci. cxviii, p. 989. [*Hymenoptera.*]
489. —. Sur les nids de la *Vespa crabro*, L.; ordre d'apparition des premiers alvéoles. *Op. cit.* cxix, p. 1282. [*Hymenoptera.*]
490. JEMILLER, J. Versuch einer Zusammenstellung der südbayerischen Hymenopteren. I. *Tenthredinidæ*, *Ichneumonidæ*. Ber. Ver. Augsburg, xxxi, pp. 95–156.
491. JHERING, H. VON. Die Ameisen von Rio Grande do Sul. Berlin. ent. Zeitschr. xxxix, pp. 321–446, 1 pl. [*Hymenoptera.*]
 Descriptions of new species by Emery are added.
492. —. Quelques observations sur les nids d'insectes, faits d'argile. Congr. Zool. 1892, i, pp. 246–252.
493. JOANNIS, J. DE. Mission scientifique de M. Ch. Alluaud aux îles Séchelles. *Lépidoptères*. Ann. Soc. ent. France, 1894, pp. 425–438.
494. —. Description d'un *Lépidoptère* nouveau. Bull. Soc. ent. France, 1894, pp. clix & clx.
495. JOHANSEN, H. Sur le développement de l'œil composé de *Vanessa*. Congr. Zool. 1892, ii, pp. 124–126. [*Lepidoptera.*]
496. JOHNSON, C. W. List of the *Diptera* of Jamaica, with descriptions of new species. P. Ac. Philad. 1894, pp. 271–281.
497. *JOLICŒUR, H. Le *Phylloxera vastatrix*, ses différentes formes, les lésions qu'il détermine. Mémento pratique de l'évolution biologique de l'insecte à l'usage des viticulteurs de la Champagne. Avec figg. en coul. Epernay : 1893, 32mo, 12 pp.
 [Cf. Zool. Anz. xvii, p. 20.]
498. JORDAN, K. New species of *Coleoptera* from the Indo- and Austro-Malayan region, collected by William Doherty. Nov. Zool. i, pp. 104–122.
499. —. New species of the genus *Scymnus*, Kugel., from the East and New Guinea. *T. c.* pp. 122–138, pl. viii, pt. [*Coleoptera.*]
500. —. On African *Longicornia*. *T. c.* pp. 139–266, pls. ix & x. [*Coleoptera.*]
501. —. On some new genera and species of *Coleoptera* in the Tring Museum. *T. c.* pp. 484–503.
502. —. On a new species of *Cicindela* from Luzon. *T. c.* p. 663. [*Coleoptera.*]
503. —. On *Anthrribidæ* in the Museum of the Honourable Walter Rothschild. *T. c.* pp. 591–651. [*Coleoptera.*]
504. —. Two new species of *Cetonidæ*. *T. c.* p. 691. [*Coleoptera.*]
 —. [See also ROTHSCHILD & JORDAN (951).]
505. JOUTEL, L. H. Some notes on the ravages of the White Ant. J. N. York Ent. Soc. i, pp. 89 & 90. [*Termitidæ.*]

506. JUNOD, H. A. Sur quelques larves inédites de *Rhopalocères* sud-africains. Bull. Soc. Neuchatel, xx, pp. 18-31. [*Lepidoptera*.]
507. KANE, F. W. DE V. The new Entomology. Entomologist, 1894, pp. 185-187.
Notes on W. E. SHARP (1010).
508. KARSCH, F. Einige neue afrikanische Tagfalter aus den Familien der *Nymphaliden*, *Acræiden*, *Danaïdiden* und *Satyriden*. Ent. Nachr. xx, pp. 209-240. [*Lepidoptera*.]
509. ——. *Pseudathyma neptidina* eine neue Nymphalide aus dem Hinterlande von Kamerun. T. c. pp. 289 & 290. [*Lepidoptera*.]
510. ——. Ueber die seltene Nymphalide *Harma concordia*, Hopff. T. c. pp. 257-259. [*Lepidoptera*.]
511. ——. Eine neue ostafrikanische *Lepidopteren*-Gattung und -Art aus der Familie der *Satyriden*. T. c. pp. 190 & 191.
512. ——. Ueber einige neue oder ungenügend bekannte, durch Herrn G. Zenker auf der deutschen Forschungsstation Yaünde im Hinterlande von Kamerun gesammelte *Nymphaliden*. Berlin. ent. Zeitschr. xxxix, pp. 1-10. [*Lepidoptera*.]
513. ——. Zwei neue ostafrikanische *Arctiiden*. Ent. Nachr. xx, pp. 376-379. [*Lepidoptera*.]
514. ——. Verzeichniss der von Herrn Dr. Paul Preuss in Kamerun gesammelten Schnabelkerfe nebst Beschreibung der neuen arten. Ent. Zeit. Stettin, lv, pp. 99-116, pls. i & ii. [*Rhynchota*.]
515. ——. Eine chinesische Art der Singicaden-Gattung *Graptosaltria*, Stål. Ent. Nachr. xx, p. 57. [*Rhynchota*.]
516. ——. Libellen von der deutschen Forschungs-Station Yaünde im Hinterlande von Kamerun, gesammelt von Herrn G. Zenker. Berlin. ent. Zeitschr. xxxix, pp. 11-16. [*Neuroptera*.]
517. ——. Mantodeen aus Kamerun, gesammelt von Herrn Dr. Paul Preuss. T. c. pp. 269-280, pls. xix & xx. [*Orthoptera*.]
518. KELLOGG, V. L. The taxonomic value of the scales of the *Lepidoptera*. Kansas quart. iii, pp. 45-89.
519. KERREMANS, CH. Étude sur la répartition géographique des *Buprestides*. Ann. Soc. ent. Belgique, xxxviii, pp. 97-121. [*Coleoptera*.]
520. ——. Mission scientifique de M. Ch. Alluaud dans le territoire de Diego-Suarez (Madagascar-Nord). *Buprestides*. T. c. pp. 338-357.
521. ——. *Buprestides*, Indo-Malais. T. c. pp. 468-480. [*Coleoptera*.]
522. ——. *Buprestides* recueillis dans les Tabacs, par les soins de M. A. Grouvelle. Ann. Soc. ent. France, 1894, pp. 413-424. [*Coleoptera*.]

523. KESSLER, H. F. Beobachtungen an dem Blattfloh *Trioxa alacris*, Flor, und den von denselben an den Blättern des *Laurus nobilis*, L., hervorgerufenen Missbildungen (1892-93). Ber. Ver. Kassel, xxxix, pp. 19-25. [*Rhynchota*.]
524. —. Drei kleine entomologische Abhandlungen. 1. . . . *Psylla fraxini*. 2. . . . *Trypeta cardui*. 3. . . . *Penphigus*. T. c. pp. 26-33. [*Rhynchota*, *Diptera*.]
525. KHOLIN, N. O stroenii i reaktzii klyetok pishchevaritel'nagho kanala lichinki *Musca caesaris vomitoria*, L. Trudui St. Peterb. Obshch. xxiv, pp. 33-45. [*Diptera*.]
Entirely in Russian: probably relates to digestive processes.
526. KIEFFER, J. J. Sur le groupe *Epidosis* de la famille des *Cecidomyide*. Ann. Soc. ent. France, 1894, pp. 311-350, pls. iv & v. [*Diptera*.]
527. —. Trois genres nouveaux du groupe *Diplosis*. Bull. Soc. ent. France, 1894, p. xxviii. [*Diptera*.]
528. —. Sur le rôle de la spatule sternale chez les larves de *Cécidomyes*. T. c. pp. 36-44. [*Diptera*.]
529. —. Note préliminaire sur le genre *Campylomyza*. T. c. pp. clxxv & clxxvi. [*Diptera*.]
530. —. Description de quelques larves de *Cecidomyes*. Feuille Natural. xxiv, pp. 33-88, &c., &c. [*Diptera*.]
531. —. Neuer Beitrag zur Kenntniss der Zoocecidien Lothringens. Ent. Nachr. xx, pp. 295-299.
Phytological arrangement.
532. —. Ueber die *Heteropezine*. Wien. ent. Zeit. xiii, pp. 200-212, pl. i. [*Diptera*.]
533. KIESEL, A. Untersuchungen zur Physiologie des facettirten Auges. SB. Ak. Wien, ciii, Abth. iii, pp. 97-139, pl.
534. KIRBY, W. F. Descriptions of one new genus and six new species of *Hymenoptera terebrantia* from Queensland. Ann. Nat. Hist. (6) xiv, pp. 45-47.
535. —. Notes on *Mesapia peloria*, Hewitson, and its allies. Entomologist, 1894, pp. 99-101 & 174. [*Lepidoptera*.]
536. —. Description of a new species of *Hirdapa*, Moore, from Dinner Island, New Guinea, in the collection of the British Museum. Ann. Nat. Hist. (6) xiii, p. 166. [*Lepidoptera*.]
537. —. Supplementary list of *Sphingida*. Nov. Zool. i, pp. 99-103. [*Lepidoptera*.]
538. —. Description of a new species of *Epiphora* (*Saturniide*) from Uganda. Ann. Nat. Hist. (6) xiii, p. 165. [*Lepidoptera*.]

539. [KIRBY, W. F.] Notes on *Dorydium* ? *westwoodi*, Buchanan White, with observations on the use of the name *Dorydium*. Tr. ent. Soc. London, 1894, pp. 411-413. [*Rhynchota*.]
540. —. Description of a new species of Dragonfly (*Dythemis broadwayi*) from Trinidad. Ann. Nat. Hist. (6) xiv, p. 227. [*Neuroptera*.]
541. —. Catalogue of the described *Neuroptera Odonata* (Dragonflies) of Ceylon, with descriptions of new species. J. Linn. Soc. xxiv, pp. 545-566, pls. xli & xlii.
542. —. On a new genus and species of *Agrionidae* from Foo Chow. Ann. Nat. Hist. (6) xiii, pp. 84-86. [*Odonata*.]
543. —. On a small collection of *Odonata* (Dragonflies) from Queensland, with descriptions of five new species. Op. cit. xiv, pp. 15-21. [*Neuroptera*.]
544. —. On some small collections of *Odonata* (Dragonflies). T. c. pp. 261-269. [*Neuroptera*.]
545. —. Notes on a small collection of *Odonata* from Upper Burma, with the description of a new species. T. c. pp. 111-113. [*Neuroptera*.]
- [See also HÜBNER, J. (464), RIDLEY (911), SMITH & KIRBY (1029), WALKER, J. (1118).]
546. KLAPÁLEK, F. Descriptions of a new species of *Raphidia*, L., and of three new species of *Trichoptera* from the Balkan Peninsula, with critical remarks on *Panorpa gibberosa*, McLach. Tr. ent. Soc. London, 1894, pp. 489-495, pl. x. [*Neuroptera*.]
547. —. Is *Aleuropteryx lutea*, Löw, identical with *Coniopteryx lutea*, Wallg.? Ent. Mag. 1894, pp. 121 & 122. [*Neuroptera*.]
548. KLEMENSIEWICZ, S. Beiträge zur Lepidopterenfauna Galiziens. Verh. Ges. Wien, xliv, pp. 167-190.
549. KNOTEK, J. Die bosnisch-hercegovinischen Borkenkäfer. Ein Beitrag zur Kenntniss der bosnisch-hercegovinischen Käferfauna. Hoernes, Wiss. Mt. Bosn. Hercegov. ii, pp. 553-559, pls. viii & ix. [*Coloptera*.]
550. KNOWER, H. McE. Origin of the "Nasutus" (soldier) of *Eutermes*. Johns Hopkins Univ. Circ. xiii, pp. 58 & 59. [*Neuroptera*.]
Summary, J. R. Micr. Soc. 1894, p. 560.
551. *KNUTH, P. Blumen und Insekten auf den nordfriesischen Inseln. Kiel: 8vo, viii & 207 pp.
Summary, Zool. Centralbl. i, p. 26.
KOEBELE, A. [See RILEY (912).]
552. KOHL, F. F. Zur *Hymenopteren*-fauna Afrikas. Ann. Hofmus. Wien, ix, pp. 279-350, pls. xiii-xvii.
Includes some descriptions by A. HANDLIRSCH.

553. KOLBE, H. J. Ueber fossile Reste von *Coleopteren* aus einem alten Torflager (Schmierkohle) bei Gr. Räschen in der Nieder-Lausitz. SB. Ges. naturf. Berlin, 1894, pp. 236–238.
554. —. Ein Beitrag zur Kenntniss der faunistischen Verhältnisse des centralafrikanischen Seengebietes. Arch. Naturg. lx, 1, pp. 55–63. [*Coleoptera.*]
555. —. Beiträge zur Kenntniss der Melolonthiden. Ann. Soc. ent. Belgique, xxxviii, pp. 548–577. [*Coleoptera.*]
 1. Uebersicht der Melolonthinen, Leucopholinen und Schizonychinen Africas.
556. —. Ueber einige neue, von Herrn J. Fruhstorfer auf Java entdeckte *Coleopteren*. Ent. Zeit. Stettin, lv, pp. 3–11.
557. —. Beiträge zur Kenntniss der Longicornier (*Coleoptera*). T. c. pp. 11–50.
558. —. Die Pfeilgiftkäfer der Kalahari-Wüste, *Diamphidia simplex*, Péring. (*locusta*, Fairm.). T. c. pp. 79–86. [*Coleoptera.*]
559. —. Die *Coleopteren*-fauna Central-Afrikas. I. Von Herrn Dr. F. Stuhlmann im Seengebiete (Victoria-, Albert-Edward-, und Albert-See) gesammelte Longicornier, pp. 50–65. II. Ueber einige neue Formen von Carabiden, pp. 191–203. T. c.
560. —. *Coleopteren* aus Togo in Ober-Guinea. T. c. pp. 162–165.
561. —. Beiträge zur Kenntniss der Mistkäfer, *Lamellicornia onthophila*. IV. Arten von *Bolboceras*, *Anachalcos*, und *Gyronotus* aus Afrika. T. c. pp. 166–177. [*Coleoptera.*]
562. —. *Coleopteren* aus Afrika. T. c. pp. 178–190.
563. —. Synopsis der in Afrika gefundenen Arten der Ruteliden-Gattung *Popillia*. T. c. pp. 207–263. [*Coleoptera.*]
564. KOLBE, W. Beiträge zur Larvenkenntniss schlesischer Käfer. Zeitschr. Ent. Breslau, xix, pp. 11–16. [*Coleoptera.*]
565. KÖNIG, A. Ueber die Larve von *Ogcodes*. Verh. Ges. Wien, xlv, pp. 163–166, pl. vii. [*Diptera.*]
566. KONOW, F. W. Neue europäische Blattwespen. Wien. ent. Zeit. xiii, pp. 84–96. [*Hymenoptera.*]
567. —. Neue *Tenthrediniden*. T. c. pp. 129–139. [*Hymenoptera.*]
568. —. Une nouvelle *Tenthredinide* de France. Rev. Ent. franc. xiii, p. 284. [*Hymenoptera.*]
569. —. Philologische Randbemerkung. Wien. ent. Zeit. xiii, pp. 249–251.
 —. KORNAUTH, K. [See WACHTL & KORNAUTH (1113).]
570. KOROTNEFF, A. Zur Entwicklung des Mitteldarmes bei den Arthropoden. Biol. Centralbl. xiv, pp. 433 & 434.

571. KOSHANTSCHIKOW, D. Zur Scarabæiden-Fauna der Umgegend von Issyk-Kul. Horæ Soc. ent. Ross. xxviii, pp. 96-99. [*Coleoptera.*]
572. —. Einige Bemerkungen zu Reitter's "Bestimmungs-Tabelle der Lucaniden und Coprophagen Lamellicornen." *T. c.* pp. 100-102. [*Coleoptera.*]
573. —. Verzeichniss der von Herrn D. Glasunow in Turkestan gesammelten Coprophagen Lamellicornen. *T. c.* pp. 103-119. [*Coleoptera.*]
574. —. Vier neue Aphodien der russisch-europäischen Fauna. *T. c.* pp. 123-127. [*Coleoptera.*]
575. —. Ein neuer *Lethrus* aus Turcmenien. *T. c.* pp. 149-151. [*Coleoptera.*]
576. KOULAGUINÉ, N. Noticé pour servir à l'histoire du développement des *Hyménoptères* parasites. Congr. Zool. 1892, i, pp. 253-277.
577. KOVALEVSKY, A. O. Sur les organes excréteurs chez les Arthropodes terrestres. Congr. Zool. 1892, i, pp. 187-235.
Insects, pp. 196-205. There are said to be 4 plates, but the Recorder has not seen them.
578. KOWALEWSKY, A. Études expérimentales sur les glandes lymphatiques des invertébrés. Insectes. Bull. Ac. St. Petersb. xxxvi, pp. 290-295.
579. —. Sur le cœur de quelques *Orthoptères*. C.R. Ac. Sci. cxix, p. 409. ✓
580. —. Études sur le cœur de quelques *Orthoptères*. Arch. Zool. exp. 1894, pp. 485-490. ✓
581. *KOWARZ, F. Catalogus insectorum faunæ bohemicæ. II. Fliegen (*Diptera*) Böhmens. Prágue: 1894, 42 pp.
[*Cf.* Wien. ent. Zeit. xiii, p. 30.]
582. KRAATZ, G. Zur näheren Kenntniss der *Cetôniden*-Gattung *Stenoiarsia*, Burm., aus Madagascar. Wien. ent. Zeit. xiii, pp. 160-163. [*Coleoptera.*]
583. —. *Trigonocnemis*, n. g., *Melolonthidarum*. *T. c.* pp. 171 & 172. [*Coleoptera.*]
584. —. *Trichaulax macleayi*, n. sp. *T. c.* p. 255. [*Coleoptera.*]
585. —. Ueber die Gattung *Cryphæobius*, Krtz. Deutsche ent. Zeitschr. 1894, pp. 75-80. [*Coleoptera.*]
586. —. Ergänzende Bemerkungen zu Escherich's monographischer Studie über *Trichodes*, Herbst. *T. c.* pp. 113-130. [*Coleoptera.*]
587. —. *Apotomopterus eccoptopterus*, n. sp., von China. *T. c.* pp. 137-139. [*Coleoptera.*]
588. —. *Pleuronota 6-maculata*, n. sp. *T. c.* p. 141. [*Coleoptera.*]

589. [KRAATZ, G.] *Teniodes laterimacula*, n. sp., and *trifusciata*, n. sp. Deutsche ent. Zeitschr. 1894, pp. 142 & 143. [*Coleoptera.*]
590. —. *Pogoniotarsus setiger*, n. sp. *T. c.* p. 152. [*Coleoptera.*]
591. —. *Anthrachophora siamensis*, n. sp. *T. c.* p. 216. [*Coleoptera.*]
592. —. *Cyclommatus albersii*, n. sp. *T. c.* p. 268.
593. —. *Phaneresthes*, n. g., *Cetonidarum*. *T. c.* pp. 269 & 270. [*Coleoptera.*]
594. —. *Macronota nobilis*, n. sp. *T. c.* p. 272. [*Coleoptera.*]
595. —. *Oligophylla*, n. g., begründet auf *Microphylla* (*Anoxia*) *detrita*, Fairm. *T. c.* p. 289. [*Coleoptera.*]
596. —. *Theodosia westwoodi*, n. sp. *T. c.* p. 231. [*Coleoptera.*]
597. —. Ueber *Glycyphana quadricolor*, Wiedem. *T. c.* pp. 293–295. [*Coleoptera.*]
598. —. *Protetia mindoroensis*, n. sp. *T. c.* p. 298. [*Coleoptera.*]
599. —. Zwei neue *Paussus* aus Madagascar. *T. c.* pp. 317 & 318. [*Coleoptera.*]
600. —. *Lomaptera giesbersi*, n. sp. *T. c.* p. 320. [*Coleoptera.*]
601. KRASSILSTSCHIK, J. Sur deux maladies contagieuses des larves des *Lamellicornies* causées par des bactéries. Congr. Zool. 1892, ii, pp. 1–12. [*Coleoptera.*]
602. KRAUSS, H. Neue Absidien aus den Alpen. Wien. ent. Zeit. xiii, pp. 180–185. [*Coleoptera.*]
603. KRAWKOW, N. P. Ueber verschiedenartige Chitine. Zeitschr. Biol. xxix, pp. 177–198, pl. iii.
604. KRIECHBAUMER, J. *Ichneumonidae* novæ e fauna Hungarica musei nationalis Hungarici. Termes. Fuzetok, xvii, pp. 48–60. [*Hymenoptera.*]
605. —. *Hymenopteros* nuevos de Mallorca recogidos por D. Fernando Moragues (Presbítero). An. Soc. Espan. xxiii, pp. 239–253.
606. —. *Hymenoptera ichneumonidea* a medico nautico Dr. Joh. Brauns in itinere ad oras Africae occidentalis lecta. Berlin. ent. Zeitschr. xxxix, pp. 43–68.
607. —. *Hymenoptera ichneumonidea* a medico nautico Dr. Joh. Brauns in itinere secundo ad oras Africae lecta, enumerata et quoad nova descripta. *T. c.* pp. 297–318.
608. —. *Ichneumoniden*-Studien. 68–71. Ent. Nachr. xx, pp. 25–28. [*Hymenoptera.*]
609. —. Zwei neue Schlupfwespen-Gattungen. *T. c.* pp. 58–60. [*Hymenoptera.*]
610. —. Die Gattung *Tropistes* und eine neue Art derselben. *T. c.* pp. 260–262. [*Hymenoptera.*]

611. *KRIEGER, R. Ein Beitrag zur Kenntniss der *Hymenopteren*-fauna des Königreichs-Sachsen. Verzeichniss der bis jetzt in Sachsen aufgefundenen Grabwespen und Bienen. Beil. Jahresber. Nicolaigym. Leipzig : 1894, 50 pp., 4to.
[Cf. Ent. Nachr. xx, p. 159.]
612. KÜNCKEL, J. D'HERCULAI. Observations sur l'Hypermétamorphose ou hypnodie chez les *Cantharidiens*. La phase dite de pseudo-chrysalide, considérée comme phénomène d'enkystement. C.R. Ac. Sci. cxviii, p. 360. [*Coleoptera*.]
613. —. L'hypnodie chez les *Cantharidiens*. La phase dite de pseudo-chrysalide considérée comme un phénomène d'enkystement. Ann. Soc. ent. France, 1894, pp. 136 & 137. [*Coleoptera*.]
614. —. Mécanisme physiologique de la ponte chez les Insectes *Orthoptères* de la famille des *Acridides*. Rôle de l'air comme agent mécanique et fonctions multiples de l'armure génitale. C.R. Ac. Sci. cxix, p. 244.
Summary, J. R. Micr. Soc. 1894, p. 560.
615. —. Observations biologiques faites sur le Criquet pelerin (*Schistocerca peregrina*, Olivier) pendant les invasions de 1891, 1892, et 1893, en Algérie. Pariade et accouplements répétés. Pluralité des pontes. T. c. p. 863. [*Orthoptera*.]
616. —. Invasions des Sauterelles vraies (*Locustides*) vols et ravages de *Decticus albifrons*, Fab., ou Bou-Sag des Arabes, en Algérie. Les instincts carnassiers du Dectique à front blanc. Ann. Soc. ent. France, 1894, pp. 137-142. [*Orthoptera*.]
617. —. Les *Diptères* parasites des *Acridiens*, les *Bombylides*. Hypnodie larvaire et métamorphose avec stade d'activité et stade de repos. C.R. Ac. Sci. cxviii, p. 926.
618. —. Les *Diptères* parasites des *Acridiens* : les *Muscides vivipares* à larves sarcophages. Apténie et castration parasitaire. T. c. p. 1106.
Translated in Ann. Nat. Hist. (6) xiv, pp. 74-76.
619. —. Les *Diptères* parasites des *Acridiens* : les *Muscides ovipares* à larves oophages. Les *Diptères* fouisseurs. T. c. p. 1359.
Summary, J. R. Micr. Soc. 1894, p. 560.
620. KUNTZE, A. Eine neue *Chortophila*, Macq. Deutsche ent. Zeitschr. 1894, p. 335. [*Diptera*.]
621. KÜSTER, H. C. Die Käfer Europas. Heft 30. [*Coleoptera*.]
This Heft is by J. SCHILSKY and deals with *Dasytides*.
622. KUWERT, A. Die Cleridengattungen Madagascars. Ann. Soc. ent. Belgique, xxxviii, pp. 2-6. [*Coleoptera*.]
623. —. Die Enopliengattungen der Cleriden und einige amerikanische neue Arten derselben. T. c. pp. 6-13. [*Coleoptera*.]

624. [KUWERT, A.] Revision der Cleridengattung *Omadius*, Lap. Ann. Soc. ent. Belgique, xxxviii, pp. 62-96. [*Coleoptera*.]
625. —. Revision des Genus *Stigmatium*, und der diesem Genus verwandten Gattungen nebst Bestimmungstabelle der mir zur Kenntniss gekommenen und bisher beschriebenen Arten. *T. c.* pp. 398-457. [*Coleoptera*.]
626. LABOULBÈNE, A. Sur les métamorphoses de la *Cecidomyia destructor*, Say, et sur le puparium ou l'enveloppe de sa larve avant la transformation en chrysalide. C.R. Ac. Sci. cxix, p. 297. [*Diptera*.]
627. LAMEERE, A. Revision du Catalogue des *Longicornes* de la Belgique. Ann. Soc. ent. Belgique, xxxviii, pp. 294-309. [*Coleoptera*.]
628. LAMPA, S. Berättelse angående resor och förrättningar under år 1893 af Kongl. landtbruksstyrelsens entomolog. Ent. Tidskr. xv, pp. 1-40.
629. LATFER, O. H. The Puss Moth. Rep. Epsom Soc. v, pp. 19-23. [*Lepidoptera*.]
630. ³LATZEL, R. Die Ibis-Grannenfliege in Kärnten. Carinthia : 1894. [*Diptera*.]
[*Cf.* Wien, ent. Zeit. xiii, p. 232.]
631. LEA, A. M. Descriptions of new species of *Bostrychidae*. P. Linn. Soc. N. S. Wales, viii, pp. 317-323. [*Coleoptera*.]
632. LEDER, H. Entomologische Streifzüge in Sibirien. Wien. ent. Zeit. xiii, pp. 213-227.
633. LEECH, J. H. Butterflies from China, Japan, and Corea. Part v, pp. 557-681, pls. 38-43.
This completes the work. For reviews, *v.* Nature, li, p. 6, by W. F. KIRBY; Canad. Ent. 1894, p. 113, by HOLLAND; J. Bombay Soc. ix, pp. 194-196.
634. LEMOINE, V. Sur l'œuf d'hiver du *Phylloxera*. Ann. Soc. ent. France, 1894, pp. 49-51. [*Rhynchota*.]
635. LENG, C. W., & BEUTENMÜLLER, W. List of the *Coleoptera* of North-eastern America, with special reference to the fauna of New York City and vicinity. J. N. York Ent. Soc. i, pp. 91-96, &c., &c., ii, pp. 1-30, &c.
636. — & —. Preliminary Hand-book of the *Coleoptera* of North-eastern America. *T. c.* pp. 87-95, &c., &c., plates.
637. LÉON, N. E. Schmidt's Lippentaster. Zool. Anz. xvii, p. 398.
About labial palpi of *Rhynchota*, not of E. Schmidt.
638. LETHIERRY, —. A new species of *Fulgorida*. Indian Mus. Notes, iii, p. 105. [*Rhynchota*.]

639. LETHIERRY, L., & SEVERIN, G. Catalogue général des *Hémiptères*. Tome II. *Hétéroptères, Coreidæ, Berytidæ, Lygæidæ, Pyrrhocoridaæ*. Bruxelles : 1894, 8vo, 277 pp.
640. LEVANDER, K. M. Einige biologische Beobachtungen über *Sminthurus apicalis*, Reuter. Acta Soc. Faun. Fenn. ix, No. 9, pp. 1-10. [*Collembola*.]
641. LÉVEILLÉ, A. Descriptions de dix espèces nouvelles de *Coléoptères* de la famille des *Temnochilides*. Bull. Soc. ent. France, 1894, pp. cxliii-cxlviii.
642. LEWIS, G. Insectes du Bengale. *Histeridæ*. Ann. Soc. ent. Belgique, xxxviii, pp. 212-214. [*Coleoptera*.]
643. —. On some new species of *Histeridæ*, with notes of others. *T. c.* pp. 214-216. [*Coleoptera*.]
644. —. On the *Elateridæ* of Japan. Ann. Nat. Hist. (6) xiii, pp. 26-48 & 182-201.
645. —. On the *Tenebrionidæ* of Japan. *T. c.* pp. 377-400, pl. xiii.
646. —. On new species of *Histeridæ*. *Op. cit.* xiv, pp. 174-184. [*Coleoptera*.]
647. —. On new species of *Trogositidæ* from Japan. Ent. Mag. 1894, pp. 32-34. [*Coleoptera*.]
648. —. A new species of *Coræbus (Buprestidæ)* from Japan. *T. c.* p. 244. [*Coleoptera*.]
649. LINTNER, J. A. The Insects of the past year, and progress in Insect studies. Tr. Albany Inst. xii, pp. 227-240.
650. *LOMNICKI, A. M. Pleistoceneskie owady z Boryslawia (Fauna pleistocænica insectorum Boryslaviensium). Lemberg: 1894, 127 pp., 9 pls.
[*Cf.* Wien. ent. Zeit. xiii, p. 293.]
651. LOWER, O. B. New Australian *Heterocera*. Tr. R. Soc. S. Austral. xviii, pp. 77-113. [*Lepidoptera*.]
652. —. Remarks on South Australian *Rhopalocera*. *T. c.* pp. 114-117.
653. LOWNE, B. T. The anatomy, physiology, morphology and development of the Blowfly (*Calliphora erythrocephala*). A study in the comparative anatomy and morphology of Insects. Parts v & vi. London : 1894-95.
This work is now completed ; it consists of 778 pp. and 52 pls., forming two volumes.
654. LUCAS, T. P. On thirty-four new species of Australian *Lepidoptera*, with additional localities. P. Queensland Soc. viii, pp. 68-94.
One of the descriptions is by MEYRICK.
655. —. Descriptions of new Australian *Lepidoptera*, with additional localities for known species. P. Linn. Soc. N. S. Wales, viii, pp. 133-166.

656. MACGILLIVRAY, A. D. North American *Thysanura*, v. Canad. Ent. 1894, pp. 105-110.
657. —. New species of *Nothochrysa*. *T. c.* pp. 169-171. [*Neuroptera*.]
658. —. New species of *Tenthredinidae*, with tables of the species of *Strongylogaster* and *Monectenus*. *T. c.* pp. 324-328. [*Hymenoptera*.]
659. MCLACHLAN, R. *Thermobia furnorum*, Rovelli, a heat-loving Thysanuran, in London bakehouses. Ent. Mag. 1894, pp. 52 & 53.
Cf. SHARP, *t. c.* p. 84; MCLACHLAN, *t. c.* p. 85; PACKARD, *t. c.* p. 155.
660. —. *Palpares walkeri*: a remarkable new species of *Myrmeleonidae* from Aden. *T. c.* p. 173. [*Neuroptera*.]
661. —. Some additions to the Neuropterous fauna of New Zealand, with notes on certain described species. *T. c.* pp. 238-243 & 270-272.
662. —. Two new species of *Myrmeleonidae* from Madagascar. Ann. Nat. Hist. (6) xiii, pp. 514-517. [*Neuroptera*.]
663. —. On two small collections of *Neuroptera* from Tachien-lu, in the province of Szechuen, Western China, on the frontier of Thibet. *T. c.* pp. 421-436.
664. MACLEOD, J. Over de bevruchting der bloemen in het Kempisch gedeelte van Vlaanderen. Gent: 1894, 693 pp., 125 figg.
Résumé in French, pp. 677-693.
665. MAGELHAES, P. S. DE. Subsidio al estudo das Myiasas. Rio de Janeiro: 1893. [*Diptera*.]
[Cf. Centrbl. Bakter. xiv, p. 370.]
666. MALLOCK, A. Insect sight and the defining power of composite eyes. P. R. Soc. London, lv, pp. 85-89.
667. MARCHAL, C. Notes sur les *Hyménoptères* de Saone-et-Loire de la famille des *Mellifères*. Bull. Soc. Autun, vi, pp. 465-486.
668. MARCHAL, P. Sur le réceptacle séminal de la Guêpe (*Vespa germanica*). Note préliminaire. Ann. Soc. ent. France, 1894, pp. 44-49. [*Hymenoptera*.]
669. —. Sur les ouvrières pondeuses chez les Abeilles. Bull. Soc. ent. France, 1894, pp. cxcv-cxcvii.
670. —. Note préliminaire sur la distribution des sexes dans les cellules du guêpier. Arch. Zool. exp. 1894, Notes, pp. iii-v. [*Hymenoptera*.]
671. —. Sur les *Diptères* nuisibles aux Céréales, observées à la Station entomologique de Paris en 1894. C.R. Ac. Sci. cxix, p. 496.
672. MAREY, E. J. Comparative locomotion of different animals. Rep. Smithsonian Inst. 1893, pp. 501-504, pls. xxiii & xxiv.
From La Nature, xxi, p. 215.

673. MARIE, T. Sur l'extraction des acides libres de la cire d'abeilles. C.R. Ac. Sci. cxix, p. 428.
674. MARLATT, C. L. The currant-stem girdler (*Phyllæcus [Janus] flaviventris*, Fitch). Insect Life, vi, pp. 296-301. [*Hymenoptera*.]
675. —. The buffalo tree-hopper (*Ceresa bubalus*, Fab.). *Op. cit.* vii, pp. 8-14. [*Rhynchota*.]
676. —. Neuration of the wings of *Tenthredinidæ*. P. ent. Soc. Washington, iii, pp. 78-82. [*Hymenoptera*.]
677. MARSHALL, T. A. A monograph of British *Braconidæ*. Part v. Tr. ent. Soc. London, 1894, pp. 497-534, pls. x & xi. [*Hymenoptera*.]
678. MARSHALL, W. Ueber die Vertheilung der Farben bei einheimischen Schmetterlingen. Zeitschr. Naturw. lxvii, pp. 47-58. [*Lepidoptera*.]
679. MARTEL, V. Les Cécidies des environs d'Elbeuf. Deuxième liste des galles et galloïdes récoltées aux environs d'Elbeuf et sur quelques points du département de la Seine-inférieure, en 1892 et 1893. Bull. Soc. Elbeuf, xii, pp. 73-83. [*Diptera*.]
680. MARTIN, J. Les trachées et la respiration trachéenne. C.R. Soc. Philom. (8) vi, No. 5, pp. 3 & 4.
681. MARTIN, L. Neue *Lepidopteren* aus Sumatra. Natuurk. Tijdschr. Nederl. Ind. liii, pp. 332-340.
682. MARTIN, M. Détermination du sexe d'Insectes *Coléoptères* de même espèce. Ann. Soc. ent. France, 1894, pp. 61-63.
683. MARTIN, R. *Odonates* de Chypre. Bull. Soc. Zool. France, xix, pp. 135-138.
- Includes description by DE SELYS-LONGCHAMPS.
684. MASKELL, W. M. Further *Coccid* notes: with descriptions of several new species, and discussion of various points of interest. Tr. N. Zealand Inst. xxvi, pp. 65-104, pls. iii-viii.
685. —. On a new species of *Coccid* on fern roots. P. Linn. Soc. N. S. Wales, viii, p. 225.
686. —. On a new species of *Psylla*. Ent. Mag. 1894, p. 171. [*Rhynchota*.]
687. —. Remarks on certain genera of *Coccidæ*. Entomologist, 1894, pp. 44-46, 93-95, & 166-168.
688. —. A Moth-catching plant. Sci. Gossip, 1894, p. 181.
689. *MASSALONGO, C. B. Le Galle nella flora italiana. Acc. Agric. Verona, lxix, 301 pp.
[*Cf.* Wien. ent. Zeit. xiii, p. 230.]
690. MATTHEWS, A. *Corylophidæ* and *Trichopterygidæ* found in the West Indian Islands. Ann. Nat. Hist. (6) xiii, pp. 334-342. [*Coleoptera*.]

691. MAYET, V. Notes sur les Cétoines et sur les larves de *Trichodes annios*. Ann. Soc. ent. France, 1894, pp. 5-8. [*Coleoptera*.]
692. —. De la direction à donner aux études entomologiques. Bull. Soc. Nimes, xxi, pp. cx-cxv.
693. MEADE, R. H. Supplement to annotated list of British *Tachinidæ*. Ent. Mag. 1894, pp. 69-73, 107-110, & 156-160. [*Diptera*.]
694. MEEHAN, T. On Bees and Honeysuckles. P. Ac. Philad. 1894, pp. 169-171, and in Ann. Nat. Hist. (6) xiv, p. 155.
695. MÉGNIN, P. La faune des cadavres. C.R. Soc. Biol. 1894, pp. 663-665.
696. MEINHEIT, K. Beobachtungen über Zunahme des Melanismus unter den Grossschmetterlingen der Dortmunder Gegend. Jahresber. Westfal. Ver. xix, pp. 62-65. [*Lepidoptera*.]
697. MENGEL, L. W. Description of a new species of *Myscelia* from Western Mexico. Ent. News Philad. v, p. 96.
698. MERRIFIELD, F. Temperature experiments in 1893 on several species of *Vanessa* and other *Lepidoptera*. Tr. ent. Soc. London, 1894, pp. 425-438, pl. ix.
[Cf. DIXEY (230).]
699. MEUNIER, F. Note sur quelques *Mycetophilidæ*, *Chironomidæ*, et *Dolichopodidæ* de l'ambre tertiaire. Ann. Soc. ent. France, 1894, pp. 21 & 22. [*Diptera*.]
700. —. Note sur les *Mycetophilidæ* fossiles de l'ambre tertiaire. Wien. ent. Zeit. xiii, pp. 62-64. [*Diptera*.]
701. —. Note sur les *Buprestidæ* fossils du Calcaire lithographique de la Bavière. Bull. Soc. zool. France, xix, pp. 14 & 15. [*Coleoptera*.]
702. —. Note complémentaire sur les *Platypezidæ* fossiles de l'ambre tertiaire. T. c. pp. 22-24. [*Diptera*.]
703. —. Note sur la classification des *Hyménoptères* et des *Diptères*. T. c. pp. 31-35.
704. —. Note sur une contre-empreinte de *Bibionidæ* des lignites de Rott. T. c. p. 101. [*Diptera*.]
705. MEVES, J. Veränderlichkeit des *Argynnis apherape*, Hübn., var. *ossianus*, Herbst. Ent. Tidskr. xv, pp. 179-189. [*Lepidoptera*.]
706. MEYRICK, E. On a collection of *Lepidoptera* from Upper Burma. Tr. ent. Soc. London, 1894, pp. 1-29.
707. —. On *Pyralidina* from the Malay Archipelago. T. c. pp. 455-480. [*Lepidoptera*.]
— [See also LUCAS (654).]
708. MICHAEL, O. Ueber den Fang und die Lebensweise der wichtigsten Tagfalter der Amazonasebene. Deutsche ent. Zeitschr. Lep. pp. 193-237. [*Lepidoptera*.]

709. MILANI, H. Ueber abnormale Brutgänge von *Hylesinus minor*, Htg. Forstl. Zeitschr. München, ii, pp. 140-144.
710. MIK, J. Ein Beitrag zur Biologie einiger *Dipteren*. Jahresber. Ak. Gymnas. Wien, 1893-94.
Relates to *Dactylolabis denticulata* and *Hilara*; the same paper as (714).
711. —. Dipterologische Miscellen. (2 Ser.) iii, iv, v, Wien. ent. Zeit. xiii, pp. 22, 49, & 164.
712. —. Ueber *Echinomyia popelii*, Portsch. *T. c.* p. 100. [*Diptera*.]
713. —. Zur Verständigung (in Sachen der *Hilara sartor*). *T. c.* pp. 197-199. [*Diptera*.]
714. —. Ein Beitrag zur Biologie einiger *Dipteren*. *T. c.* pp. 261-283, pl. ii.
715. —. Eine neue *Cecidomyiden*-Galle auf *Euphorbia palustris*, L. *T. c.* pp. 297 & 298, pl. iv. [*Diptera*.]
716. —. Einige Worte über *Hilara sartor*. Ent. Nachr. xx, pp. 49-53. [*Diptera*.]
717. —. Einige Worte zu Herrn Girschner's Artikel in den entomologischen Nachrichten Jahrg. 1894, p. 61, betitelt "Beiträge zur Biologie von *Hilara*." *T. c.* pp. 151-155. [*Diptera*.]
718. MINAKATA, K. Some Oriental beliefs about Bees and Wasps. Nature, l, p. 30.
719. MIT, W. C. Protective resemblances in S. American Insects. Entomologist, 1894, pp. 51-55.
720. MOCSÁRY, A. Species novæ vel minus cognitæ generis *Pepsis*, Fabr. Termes. Fuzetek, xvii, pp. 1-14. [*Hymenoptera*.]
721. —. E fauna *Apidarum* Hungariæ. *T. c.* pp. 34-37. [*Hymenoptera*.]
722. MONIEZ, R. Sur quelques Arthropodes trouvés dans des fourmières. Rev. biol. Nord France, vi, pp. 201-215. [*Aptera*.]
723. —. Sur l'Insecte qui attaque les Cèpes et Mousserons desséchés et sur les moyens de la détruire. *T. c.* pp. 325-328. [*Lepidoptera*.]
724. —. *Isotoma pallida*, Collembole nouveau du Brésil. *T. c.* p. 354.
725. —. Sur un *Hyménoptère* halophile, trouvé au Grau du Roi, près d'Aigues-Mortes. *T. c.* pp. 439-441.
726. —. La chenille du *Neuronia* (*Heliophobus*) *popularis* dans les environs d'Avesnes en 1894, ses dégats, ses ennemis naturels, moyens employés pour la détruire. *T. c.* pp. 460-478.
727. —. Quelques Arthropodes de la grotte des Fées, près la ville des Baux. *T. c.* pp. 479-482. [*Aptera*.]
728. MONTANDON, A. L. Nouveaux genres et espèces de la s. fam. des *Plataspidinae*. Ann. Soc. ent. Belgique, xxxviii, pp. 243-281. [*Rhynchota*.]

729. [MONTANDON, A. L.] *Pentatomides*. Notes et descriptions. Ann. Soc. ent. Belgique, xxxviii, pp. 619-648. [*Rhynchota*.]
730. MOORE, F. *Lepidoptera indica*. Pts. xvii-xix. [Vol. ii, pp. 113-176, pls. 123-146.]
 From *Satyrinae* part, to *Zeuxidia*. For notes on the dates of appearance of various parts of this work, see SHERBORN, Ann. Nat. Hist. (6) xiv, p. 464.
731. —. A new enemy of the Custard-apple. Indian Mus. Notes, iii, pp. 106 & 107. [*Lepidoptera*.]
 Translation of a description by RAGONOT.
732. MORAWITZ, F. Supplement zur Bienenfauna Turkestans. Horæ Soc. ent. Ross. xxviii, pp. 1-87. [*Hymenoptera*.]
733. —. Beitrag zur Raubwespenfauna Turkmeniens. *T. c.* pp. 327-364. [*Hymenoptera*.]
734. MORSE, A. P. Wing-length in some New England *Acridiida*. Psyche, vii, pp. 13 & 53. [*Orthoptera*.]
735. —. A preliminary list of the *Acridiida* of New England. *T. c.* pp. 102-108. [*Orthoptera*.]
736. —. Notes on the *Acridiida* of New England. *T. c.* pp. 147-154 & 163-167. [*Orthoptera*.]
737. MORTON, K. J. Palæarctic *Nemouræ*. Tr. ent. Soc. London, 1894, pp. 557-574, pls. xiii & xiv. [*Neuroptera*.]
738. MÜLLER, F. Der Sonapparat bei *Prionus coriarius*. Insecten besuch bei Salbeiblüten. Progr. deutsch. Staats-Gymn. Kremsier, 1891-92, pp. 13-18 (sep. pag.).
- 738A. *MURRAY-AARON, E. The Butterfly Hunters in the Caribbees. New York: 1894, 269 pp. [*Lepidoptera*.]
 [Cf. Canad. Ent. 1894, p. 358.]
739. MURTFELDT, M. E. Acorn Insects: primary and secondary. Insect Life, vi, pp. 318-324.
 —. [See also RILEY (912).]
740. NAGEL, W. A. Vergleichend physiologische und anatomische Untersuchungen über den Geruchs- und Geschmackssinn und ihre Organe mit einleitenden Betrachtungen aus der allgemeinen vergleichenden Sinnesphysiologie. Gekrönte Preisschrift. Bibl. Zool. xviii, 207 pp., 7 pls.
 Spezieller Teil. Insekten, pp. 67-132. Summary of this part in Biol. Centralbl. xiv, pp. 547-551.
741. NASSONOV, N. Position des *Strepsiptères* dans le système selon les données du développement postembryonal et de l'anatomie. Congr. Zool. 1892, i, pp. 174-184. [*Coleoptera*.]

742. °NASSONOFF, N. Zur Morphologie von *Stylops melitta*. Entomologische Untersuchungen aus dem Jahre 1893, pp. 75-92. [*Coleoptera*.]
Anatomy, cf. ADELUNG, in Zool. Centralbl. i, p. 766.
743. °——. Bemerkung über *Halictophagus curtisii*, Dale. *T. c.* pp. 93-97.
744. °——. *Halobates flaviventris*, var. *krudini*, nov. var. Entomologische Untersuchungen im Jahre 1893. [*Rhynchota*.]
According to Zool. Centralbl. i, pp. 702-704, this includes an account of the anatomy.
745. °——. Ueber eigenthümliche, auf den Nesterbau bezügliche Organisationsverhältnisse bei den Termiten. Entomologische Untersuchungen im Jahre 1893. [*Neuroptera*.]
According to Zool. Centralbl. i, pp. 700-702, this relates to the salivary glands of the nasuti and soldiers.
746. °NEBEL, L. Die Käfer des Herzogthums Anhalt. Dessau: 1894, 23 pp. [*Coleoptera*.]
[Cf. Wien. ent. Zeit. xiii, p. 110.]
747. NEUMOEGEN, B. A new *Lithosid* genus. J. N. York Ent. Soc. i, pp. 35 & 36. [*Lepidoptera*.]
748. ———. Some beautiful new forms of N. American *Egeriidae*. Ent. News Philad. v, pp. 330 & 331. [*Lepidoptera*.]
749. ———. A new *Pericopid*, and some new *Zygenide* from Cuba. Canad. Ent. 1894, pp. 334 & 335. [*Lepidoptera*.]
750. NEUMOEGEN, B., & DYAR, H. G. A preliminary revision of the *Bombyces* of America, North of Mexico. J. N. York Ent. Soc. i, pp. 97-118, &c.; ii, pp. 1-30, &c.
751. ——— & ———. A preliminary revision of the Lepidopterous family *Notodontidae*. Tr. Amer. ent. Soc. xxi, pp. 179-208.
North American only.
752. ——— & ———. New species and varieties of *Bombyces*. J. N. York Ent. Soc. i, pp. 29-35. [*Lepidoptera*.]
753. NEWSTEAD, R. Observations on *Coccidae*. (No. 8) Ent. Mag. 1894, pp. 179-183; (No. 9) *t. c.* pp. 204-206; (No. 10) *t. c.* pp. 232-234.
754. °NICKERL, O. Catalogus insectorum faunæ bohemicæ. Verzeichniss der Insecten Böhmen's, herausgegeben von der Gesellschaft für Physiokratie in Böhmen. III. Die Kleinschmetterlinge (*Microlepidoptera*). Prague: 1894, 8vo, vi & 38 pp.
[Cf. Wien. ent. Zeit. xiii, p. 317.]
755. NICOLAS, H. Vues générales sur les *Hyménoptères*. Congr. Zool. 1892, ii, pp. 114-123.
756. ———. Observations sur l'éclosion des *Hyménoptères* à l'observatoire du Mont-Ventoux en 1892. C.R. Ass. Franc. xxii (2) pp. 633-636.
1894. [VOL. XXXI.]

757. [NICOLAS, H.] Le "*Sphex splendidulus*," Da Costa. C.R. Ass. Franc. xxij (2) pp. 636-647. [*Hymenoptera*.]
758. NIETSCH, V. Ueber das Tracheensystem von *Locusta viridissima*. Verh. Ges. Wien, xlv, pp. 1-8, and *id.* SB. p. 21. [*Orthoptera*.]
759. NITSCHÉ, H. Beobachtungen über die Eierdeckschuppen der weiblichen Processionsspinner. SB. Ges. Isis, 1893, pp. 108-117. [*Lepidoptera*.]
760. NOEL, P. Nouveau réflecteur pour la chasse aux Insectes nocturnes. Bull. Soc. Rouen, xxix, pp. 63-67.
761. NOGAKUSHI, K. T. Preliminary note on the Spermatogenesis of *Bombyx mori*, L. Zool. Anz. xvii, pp. 20-24. [*Lepidoptera*.]
762. NONFRIED, A. F. Beiträge zur *Coleopteren*-Fauna von Tebing-Tinggi (Süd-Sumatra): *Lucanidae*, *Melolonthidae*, *Rutelidae*, *Cetonini*, *Buprestidae*, und *Cerambycidae*. Deutsche ent. Zeitschr. 1894, pp. 193-215.
763. —. Beiträge zur *Coleopteren*-fauna von Ostasien und Polynesien. Ent. Nachr. xx, pp. 9-14, 28-32, 44-48, 81-83.
764. —. Beschreibungen neuer *Lamellicornier*, *Buprestiden*, und *Cerambyciden* aus Central- und Süd-Amerika. T. c. pp. 113-142. [*Coleoptera*.]
765. NORRIS, A. Observations on the New Zealand Glow-worm, *Bolitophila luminosa*. Ent. Mag. 1894, p. 202. [*Diptera*.]
766. NUNNEY, W. H. Larvæ-nymphs of British Dragon-flies. Sci. Gossip, i, pp. 148-150. [*Odonata*.]
767. OBERTHUR, C. Études d'Entomologie. Livr. xviii; viii & 49 pp., 6 pls.: Livr. xix; x & 41 pp., 8 pls. [*Lepidoptera*.]
768. OLIVIER, E. Descriptions d'espèces nouvelles de *Lampyrides*. Ann. Soc. ent. France, 1894, pp. 23 & 24. [*Coleoptera*.]
769. —. *Lampyris* nouveau d'Algérie. Bull. Soc. ent. France, 1894, p. ecliii. [*Coleoptera*.]
770. —. Description d'un *Lampyris* nouveau d'Algérie. Echange, 1894, p. 135. [*Coleoptera*.]
771. OLLIFF, A. S. Entomological notes. Bees-wax Moths. Agric. Gaz. N.S.W. v, pp. 253-255, plate.
772. —. On a species of Moth (*Epicrocis terebrans*) destructive to Red Cedar and other timber trees in New South Wales. T. c. pp. 513-515, plate. [*Lepidoptera*.]
773. ORMEROD, E. A. Report of observations of injurious insects and common farm pests, during the year 1893. Seventeenth Report. London: 8vo, vii & 152 pp.
774. —. Lamellicorn Beetles on pasturage in the Argentine Territories. Entomologist, 1894, pp. 229-232. [*Coleoptera*.]

775. OSBORN, H. Collecting and studying parasitic Insects. Amer. Micr. J. xv, pp. 56-59.
776. —. Key to the genera of *Pediculidæ* and *Mallophagidæ* (sic). T. c. pp. 344-346.
777. —. Description of a new species of *Dorycephalus*. Canad. Ent. xxvi, p. 216. [*Orthoptera*.]
— [See also RILEY (912).]
- 777A. OSCHANINE, B. Sur les limites de la région paléarctique, basées sur l'étude de la faune des *Hémiptères*. Congr. Zool. 1892, ii, pp. 275-280.
778. OSTEN SACKEN, C. R. On the oxen-born Bees of the Ancients (*Bugonia*), and their relation to *Eristalis tenax*, a two-winged Insect. Enlarged edition of the essay: on the so-called *Bugonia* of the Ancients, &c., published in the Bull. Soc. ent. Ital. 1893. Heidelberg: 8vo, xiv & 80 pp.
779. —. On the atavic index-characters, with some remarks about the classification of the *Diptera*. Berlin. ent. Zeitschr. xxxix, pp. 69-76.
780. —. Synonymica about *Tipulidæ*. T. c. pp. 249-263. [*Diptera*.]
781. —. Three *Trochobole* from New Zealand and Tasmania. T. c. pp. 264-266. [*Diptera*.]
782. —. A remarkable case of malformation of the discal cell of *Liogma glabrata*. T. c. pp. 267 & 268. [*Diptera*.]
783. OTTO, A. Zwei nette *Curculioniden* aus Oesterreich. Wien. ent. Zeit. xiii, pp. 1-4. [*Coleoptera*.]
784. PACKARD, A. S. On the inheritance of acquired characters in animals, with a complete metamorphosis. P. Amer. Ac. xxix, pp. 331-370.
Two sections are entomological, viz. :—iv. Homochronous heredity in Insects, with a hypermetamorphosis, pp. 351-359. v. On the inheritance of acquired characters in *Lepidoptera*, pp. 359-367.
785. —. Attempt at a new classification of the Bombycine Moths. J. N. York Ent. Soc. i, pp. 6-11. [*Lepidoptera*.]
786. —. A study of the transformations and anatomy of *Lagoa crispata*, a Bombycine Moth. P. Amer. Phil. Soc. xxxii, pp. 275-292, 7 pls. [*Lepidoptera*.]
787. —. Studies on the transformations of Moths of the family *Saturniidae*. P. Amer. Ac. xxviii, pp. 55-92. [*Lepidoptera*.]
788. —. Notes on the life-histories of some *Notodontidæ*, I. J. N. York Ent. Soc. i, pp. 22-28 ; ii, pp. 57-76. [*Lepidoptera*.]
789. —. On the systematic position of the *Siphonaptera*, with notes on their structure. P. Boston Soc. xxvi, pp. 312-355. [*Diptera*.]
790. —. Occurrence of the Hen Flea (*Sarcopsylla gallinacea*, Westw.) in Florida. Insect Life, vii, pp. 23 & 24. [*Aphaniptera*.]
— [See also RILEY (912).]

791. PAGENSTECHEK, A. Beiträge zur *Lepidopteren*-Fauna des Malayischen Archipels. IX : 1, Ueber javanische Schmetterlinge ; 2, Ueber einige Schmetterlinge von der Insel Sumba. Jahrb. nassau. Ver. xlvii, pp. 25-58.
792. —. Beiträge . . . x. Ueber Schmetterlinge aus dem Schutzgebiete der Neu-Guinea Compagnie. *T. c.* pp. 59-81. [*Lepidoptera.*]
- 792A. PALM, C. Notes on some N. American Moths. J. N. York Ent. Soc. i, pp. 20 & 21, pl. i. [*Lepidoptera.*]
793. PANDELLÉ, L. Études sur les *Muscides* de France. II^e partie. Rev. Ent. franc. xiii, pp. 1-113.
794. PAOLUCCI, L. Passaggio straordinario di *Lepidotteri*. Boll. Soc. Rom. Zool. iii, pp. 114 & 115. [*Vanessa cardui.*]
795. PATTON, W. H. Description of a new *Pelecinus* from Tennessee. Amer. Natural. 1894, pp. 895 & 896. [*Hymenoptera.*]
796. —. Notes upon Wasps, I. P. ent. Soc. Washington, iii, pp. 45-47.
797. PAULY, H. Borkenkäferstudien. Forstl. Zeitschr. Munchen, i, pp. 193, 233, 253, 316, & 351, and iii, pp. 376-379. [*Coleoptera.*]
798. —. Ueber Jungferzeugung bei *Cimex saliceti*, Zdd. *T. c.* pp. 165-167. [*Hymenoptera.*]
799. —. Ueber einen Zuchtversuch mit dem kleinen, braunen Rüsselkäfer, *Pissodes notatus*, F. *T. c.* pp. 23-34. [*Coleoptera.*]
800. PENECKE, K. A. Vier neue Rüsselkäfer aus den Ostalpen. Wien. ent. Zeit. xiii, pp. 17-21. [*Coleoptera.*]
801. PEREZ, J. De l'organe copulateur mâle des *Hyménoptères* et de sa valeur taxonomique. Ann. Soc. ent. France, 1894, pp. 74-81.
802. —. Sur la formation de colonies nouvelles chez le Termite lucifuge (*Termes lucifugus*). C.R. Ac. Sci. cxix, p. 804. [*Neuroptera.*]
803. —. Sur les essaims du Termite lucifuge. *T. c.* p. 866. [*Neuroptera.*]
804. PEREZ, T. DE STEFANI. Imenotteri di Sicilia raccolti nel territorio di Santa Ninfa in provincia di Trapani. Natural. Sicil. xiii, pp. 199-203 & 211-219.
805. PERGANDE, T. On a collection of *Formicidæ* from Lower California and Sonora, Mexico. P. Calif. Ac. iv, pp. 26-36. [*Hymenoptera.*]
806. —. *Formicidæ* of Lower California, Mexico. *T. c.* pp. 161-165. [*Hymenoptera.*]
- [See also DUFFEY (248).]
807. PÉRINGUEY, L. Description of new *Cicindelidæ* from Mashunaland. Tr. ent. Soc. London, 1894, pp. 447-453. [*Coleoptera.*]

808. PEYTOUREAU, A. Remarques sur l'organisation et l'anatomie comparée des derniers segments du corps des *Lépidoptères*, *Coléoptères*, et *Hemiptères*. Rev. biol. Nord France, vii, pp. 29-131.
809. ——. Recherches sur l'anatomie et le développement de l'armure génitale femelle des Insectes *Lépidoptères*. C.R. Ac. Sci. cxviii, p. 358.
810. ——. Recherches sur l'anatomie et le développement de l'armure génitale mâle des *Lépidoptères*. T. c. p. 542.
811. PIC, M. Liste des *Anthicidés* décrits postérieurement au catalogue de MM. Gemminger et Harold (1870-1893): Ann. Soc. ent. Belgique, xxxviii, pp. 43-58. Additions et corrections. T. c. pp. 137 & 138. [*Coleoptera*.]
812. ——. Descriptions de *Tomoderus* exotiques. T. c. p. 59. [*Coleoptera*.]
813. ——. *Anthicidés* du Bengale. T. c. pp. 181-183. [*Coleoptera*.]
814. ——. Tableaux synoptiques des *Ocladius* d'Europe et circa. T. c. pp. 587 & 588. Supplement, t. c. p. 611. [*Coleoptera*.]
815. ——. Habitats de quelques *Coléoptères* algériens et descriptions d'espèces nouvelles. Ann. Soc. ent. France, 1894, pp. 101-106.
Includes descriptions by CROISSANDEAU and CHABAUT.
816. ——. Descriptions de deux *Coléoptères* nouveaux de la Chine orientale. Bull. Soc. ent. France, 1894, pp. x & xi.
817. ——. Trois *Coléoptères* nouveaux du groupe des *Dermestides*. T. c. p. xliii.
818. ——. Trois *Anthicus* nouveaux. T. c. pp. lxxvii & lxxviii. [*Coleoptera*.]
819. ——. Description de deux *Coléoptères* nouveaux. T. c. p. cxcii.
820. ——. Pour prendre date. T. c. pp. cclxxxiv & cclxxxv. [*Coleoptera*.]
821. ——. Descriptions de *Coléoptères*. Mem. Soc. zool. France, vii, pp. 203-207.
822. ——. Liste complète des *Xylophilides* décrits jusqu'en 1894, avec descriptions d'espèces nouvelles. T. c. pp. 427-436. [*Coleoptera*.]
823. ——. Descriptions de *Coléoptères Hétéromères* Africains. Bull. Soc. zool. France, xix, pp. 15-17.
824. ——. Catalogue des *Anthicidés* de France et d'Algérie. Rev. Sci. Bourbonnais, vii, pp. 19, &c., &c. [*Coleoptera*.]
825. ——. *Xylophilides* et *Anthicidés* recueillis en Algérie en Mai et Juin, 1894. T. c. pp. 140-146. [*Coleoptera*.]
826. ——. Note sur les *Elmides*. Rev. Ent. franc. xiii, pp. 193-195. [*Coleoptera*.]

827. [PIC, M.] Descriptions de *Coléoptères* de la faune circa-européenne. Feuille Natural. xxiv, pp. 44, 60, & 61.
828. —. Deux *Coléoptères* nouveaux. *T. c.* p. 140.
829. —. Étude sur les *Melyris* proprement dits. *Op. cit.* xxv, p. 13. [*Coleoptera.*]
830. —. Descriptions de *Coléoptères* nouveaux. Naturaliste, 1894, p. 27.
831. —. Descriptions de *Coléoptères* nouveaux. *T. c.* pp. 32 & 33.
832. —. Descriptions de *Coléoptères* du nord de l'Afrique. *T. c.* p. 71.
833. —. Descriptions de trois *Coléoptères Hétéromères* nouveaux. *T. c.* p. 93.
834. —. Contribution à la faune *Coléoptérologique* d'Algérie. *T. c.* pp. 180, 210, & 247.
835. —. Description d'un *Coléoptère* nouveau. *T. c.* p. 221.
836. —. Essai d'une étude sur les *Anthicus (lagenicolles) cyclodinus*, Muls. Echange, 1893, pp. 113-116, 125-128, & 137-140. [*Coleoptera.*]
837. —. Excursion entomologique à Tougourt. Echange, 1894, pp. 14-21.
838. —. Descriptions de deux *Coléoptères*. *T. c.* pp. 65 & 66.
839. —. Examen des *Anthicides* de la collection H. Tournier. *T. c.* pp. 64 & 65. [*Coleoptera.*]
840. —. Descriptions et notes entomologiques (*Coléoptères.*) *T. c.* p. 66.
841. —. Trois *Coléoptères* syriens. *T. c.* pp. 75 & 76.
842. —. Sur le genre *Ceralliscus*, Bourg. *T. c.* p. 95. [*Coleoptera.*]
843. —. Essai d'une étude sur les *Danacæa* de la faune d'Europe et circa. *T. c.* pp. 99-106 & 134. [*Coleoptera.*]
844. —. Descriptions de deux *Coléoptères* de la Turquie d'Asie. *T. c.* pp. 110 & 111.
845. —. Contribution à l'étude des *Amauronia*, West. *T. c.* pp. 113-116. [*Coleoptera.*]
846. —. Contribution à l'étude du genre *Cychramus*, Kugl. *T. c.* p. 132. [*Coleoptera.*]
847. —. Notes sur quelques *Dasytides* d'Algérie. *T. c.* pp. 111 & 112. [*Coleoptera.*]
848. —. Descriptions d'espèces et variétés de *Coléoptères* asiatiques. *T. c.* pp. 142-144.
849. PIETSCH, —. Eine neue *Eudectus*-Art. Zeitschr. Ent. Breslau, xix, pp. 17 & 18. [*Coleoptera.*]

850. PLANET, L. Description d'une nouvelle espèce de *Lucanide*. Naturaliste, 1894, p. 44. [*Coleoptera*.]
851. PLATEAU, F. Sur quelques cas de faux mimétisme. T. c. pp. 39-41.
852. —. Observations et expériences sur les moyens de protection de l'*Abraxas grossulariata*, L. Mem. Soc. zool. France, vii, pp. 375-392. [*Lepidoptera*.]
 PORRITT, G. T. [See BUCKLER (142).]
853. POTTIER, F. Le cerf-volant et la résistance de l'air. Nature (La), 1894 (2) p. 27. [*Coleoptera*.]
854. POUJADE, G. A. Description d'un *Lépidoptère hétérocère* du Moudoupin. Bull. Soc. ent. France, 1894, p. clxxxvi.
855. POULTON, E. B. The experimental proof that the colours of certain Lepidopterous larvæ are largely due to modified plant pigments derived from food. P. R. Soc. London, liv, pp. 417-430, pls. iii & iv.
856. —. The enemies of Lepidopterous pupæ enclosed in bark-formed cocoons. Science, xxiii, p. 62.
857. PRYER, W. B., & CATOR, D. Preliminary list of the *Rhopalocera* of Borneo. British North Borneo Herald, xii.
858. PÜNGELER, R. *Acidalia adelpharia*, n. sp. Ent. Zeit. Stettin, lv, p. 76. [*Lepidoptera*.]
859. PUTON, A. *Hémiptères* nouveaux et notes diverses. Rev. Ent. franc. xiii, pp. 114-116.
860. RAFFRAY, A. Révision des *Psélaphides* des Îles de Singapour et de Penang. T. c. pp. 197-282. [*Coleoptera*.]
861. RAGONOT, E. L. Description d'une nouvelle espèce de Tinéité (*Trichophaga coprobiella*) provenant d'Obock (mer Rouge). Ann. Soc. ent. France, 1894, pp. 120-124. [*Lepidoptera*.]
862. —. Notes synonymiques sur les *Microlépidoptères* et descriptions d'espèces peu connues ou inédites. T. c. pp. 161-226.
 —. [See also MOORE (731).]
863. RAILLIET, —. Recherches sur l'origine des larves d'*Æstridés* de l'estomac du chien. C.R. Soc. Biol. 1894, pp. 541-543. [*Diptera*.]
864. RAMÍREZ, J. Otros datos para la historia de las "Semillas brincadoras." Naturaleza, ii, pp. 403 & 404. [*Lepidoptera*.]
 This and the following relate to the food-plant of *Carpocapsa saltitans*, the habitat, and some minor points in connection with the insect.
865. —. Nuevos datos para la historia de las "Semillas brincadoras." T. c. pp. 408-410.
866. RATH, O. VOM. Ueber abnorme Zustände im Bieneinstock. Ber. Ges. Freiburg, viii, pp. 142-151. [*Hymenoptera*.]

867. RÄTZER, —. Ueber Schwankungen im Bestand der Coleoptern-Lokalfauna. Mt. Schweiz. ent. Ges. ix, pp. 124–131.
868. REBEL, H., & ROGENHOFER, A. Zur Lepidopterenfauna der Canaren. Ann. Hofmus. Wien, ix, pp. 1–96, pl. i.
— & —. [See also BAUMANN, O. (53).]
869. REDTENBACHER, J. Ueber Wanderheuschrecken. Abdruck aus dem Jahresberichte der deutschen k. k. Staats-Realschule in Budweis, 42 pp. [*Orthoptera.*]
Summary in Zool. Centralbl. i, pp. 640–642.
870. REED, E. C. Entomología chilena. Introduccion al estudio de los Insectos *Himenópteros* de Chile. Santiago: 1894, 14 pp.
- This is extracted from An. Univ. Chile. It is merely a general Introduction, without reference to Chilean Insects.
871. —. Entomología chilena. Los Fosores o avispas cavadoras. Chile: 1894, 57 pp.
Also an extract from An. Univ. Chile; lxxxiv, pp. 873–897.
872. —. On the Coleopterous genus (or subgenus) *Ceroglossus*. P. Bristol Soc. n.s. vii, pp. 161–164.
873. RÉGIMBART, M. Voyage de M. E. Simon dans l'Afrique australe. 1^{er} Mémoire. *Haliplide, Dytiscide, Gyrinide*. Ann. Soc. ent. France, 1894, pp. 227–240. [*Coleoptera.*]
874. REICHENBACH, H. Eine Sklavenjagd am Grafenbruch. Ber. Senckenberg. Ges. 1894, pp. 99–104. [*Hymenoptera.*]
875. REITTER, E. Uebersicht der mir bekannten palæarctischen Arten der *Coleopteren*-Gattung *Trichius*, F. Wien. ent. Zeit. xiii, pp. 5 & 6.
876. —. Ein neuer *Lathridius* aus Ostgalizien. *T. c.* p. 14. [*Coleoptera.*]
877. —. *Coleopterologische* Notizen, xlix–liv. *T. c.* pp. 15, 64, 115, 191, 251, 311.
878. —. Uebersicht der Arten der *Coleopteren*-Gattung *Morimus*, Serv. *T. c.* p. 43.
879. —. Ueber einige bekannte und neue Borkenkäfer. *T. c.* p. 45. [*Coleoptera.*]
880. —. Die *Coleopteren*-Gattung *Podistrina*, Fairm., und deren Arten. *T. c.* pp. 46–48.
881. —. Die verwandten des *Ophonus sabulicola*, Panz. *T. c.* p. 61. [*Coleoptera.*]
882. —. Einige neue *Coleopteren* von der Insel Malta. *T. c.* pp. 81–83.
883. —. Vierter Beitrag zur *Coleopteren*-Fauna von Europa und den angrenzenden Ländern. *T. c.* pp. 101–107.

884. [REITTER, E.] Neue *Pselaphiden* und *Scydmaniden* aus der europäischen Türkei. Wien. ent. Zeit. xiii, pp. 113–115. [*Coleoptera*.]
885. —. Zehnter Beitrag zur *Coleopteren*-Fauna des russischen Reiches. *T. c.* pp. 122–128.
886. —. Uebersicht der metallisch-blauen und grünen Arten der *Coleopteren*-Gattung *Agapanthia*, Sv. *T. c.* pp. 144–146.
887. —. Zwei neue *Bythinus*-Arten. *T. c.* p. 149. [*Coleoptera*.]
888. —. Ueber die bekannten Arten der *Coleopteren*-Gattung *Zonoptilus*, Motsch. *T. c.* pp. 177 & 178.
889. —. Ueber die *Coleopteren*-Gattung *Absidia* und *Podistra*. *T. c.* pp. 185–188. [*Coleoptera*.]
890. —. Ueber die mit *linearis*, Oliv., verwandten Arten der *Coleopteren*-Gattung *Dromius* mit getiefter Stirn. *T. c.* pp. 190 & 191. [*Coleoptera*.]
891. —. Elfter Beitrag zur *Coleopteren*-Fauna des russischen Reiches. *T. c.* pp. 238–248.
892. —. Neue Revision der *Coleopteren*-Gattung *Zonoptilus*, Motsch. *T. c.* pp. 291 & 292.
- The descriptions are by EPPELSHEIM.
893. —. Fünfter Beitrag zur *Coleopteren*-Fauna von Europa und den angrenzenden Ländern. *T. c.* pp. 299–311.
894. —. Revision der europäischen Arten der *Coleopteren*-Gattung *Alophus*, Sch., mit der Beschreibung einer neuen Art aus der Mongolei. *T. c.* pp. 307–310.
895. —. Uebersicht der Arten der Gattung *Dryops*, Oliv. *T. c.* p. 313. [*Coleoptera*.]
896. —. Ueber *Omiastorticornis*, Boh., und Verwandte (*Rhinomias*, Reitter). *T. c.* pp. 314–316. [*Coleoptera*.]
897. —. Analytische Uebersicht der europäischen Arten der *Coleopteren*-Gattung, *Epuræa*, Er. Verh. Ver. Brunn, xxxii, pp. 18–36. [*Coleoptera*.]
898. —. Bestimmungs-Tabelle der *Coleopteren*-Familie der *Cleriden* des palæarctischen Faunengebietes. *T. c.* pp. 37–89.
899. —. Nachträge und Berichtigungen zu meiner Bestimmungs-Tabelle der coprophagen *Lamellicornen*. Ent. Nachr. xx, pp. 183–190. [*Coleoptera*.]
- [See also HAUSER (415).]
900. REUTER, E. *Tortrix paleana*, Hb. En ny fiende till våra ängar och åkrar. Bidrag till artens natural historia. Medd. Soc. Fauna Fenn. xix, pp. 82–94. [*Lepidoptera*.]

901. [REUTER, E.] Om de Finska arterna af bombycidsläktet *Nola*, Leach. Medd. Soc. Fauna Fenn. xix, pp. 119-126. [*Lepidoptera*.]
902. —. Förteckning öfver *Macrolepidoptera* funna i Finland efter år 1869. Acta Soc. Faun. Fenn. ix, No. 6, pp. 1-85.
903. [REUTER, O. M.]. *Hemiptera gymnocerata* Europæ. *Hémiptères gymnocérates* d'Europe, du bassin de la Méditerranée et de l'Asie russe. Tome quatrième. Helsingfors: 1891, 179 pp., 6 pls.
- The Recorder regrets that he has not been able to see this work previously.
904. —. Ad cognitionem *Capsidarum*. *Capsidæ palæarcticæ*. Rev. Ent. franc. xiii, pp. 128-152. [*Rhynchota*.]
905. —. Monographia generis *Holotrichius*, Burm. Acta Soc. Sci. Fenn. xix, No. 4, pp. 1-40, 2 pls. [*Rhynchota*.]
906. —. Monographia *Ceratocombidarum* orbis terrestris. *T. c.* No. 6, pp. 1-28, pl. [*Rhynchota*.]
907. —. Monographia generis *Reduvius*, Fabr., Lam. *T. c.* No. 15, pp. 1-36. [*Rhynchota*.]
908. —. *Neuroptera fennica*. Förteckning och beskrifning öfver Finlands Neuropterer. Acta Soc. Faun. Fenn. ix, No. 8, pp. 1-36.
909. —. Corrodentia fennica. I. *Psocidæ*. Förteckning och beskrifning öfver Finlands Psocider. *T. c.* No. 4, pp. 1-49, pl.
910. —. *Blitophaga opaca*, Linné, härjande våra kornåkrar. Ofv. Finska Forh. xxxv, pp. 87-92. [*Coleoptera*.]
911. RIDLEY, H. N. Notes on the Zoology of Fernando Noronha. *J. Linn. Soc.* xx, pp. 473-570. *Insecta* (excepting *Coleoptera*) by W. F. KIRBY, pp. 530-548. *Coleoptera* by C. O. WATERHOUSE, pp. 548-556. *Thysanura* and *Collembola* by H. M. RIDLEY, pp. 556-559.
- The Recorder extremely regrets that the fact that this paper includes *Insecta* escaped his notice at the time of publication.
912. RILEY, C. V. Reports of observations and experiments in the practical work of the division made under the direction of the Entomologist. Bull. Dep. Agric. Ent. xxxii, 59 pp.
- Contents: BRUNER, L., report on injurious insects in Nebraska.—COQUILLET, D. W., report on some of the injurious insects of California.—KOEBELE, A., report on entomological work in Oregon and California; notes on Australian importations.—MURTFELDT, M. E., report on the insects of Missouri for 1893.—OSBORN, H., insects of the season in Iowa in 1893.—PACKARD, A. S., report on insects injurious to forest trees.
913. —. Report of the Entomologist. Rep. Secr. Agricult. 1891, pp. 231-266.

914. [RILEY, C. V.] Report of the Entomologist. Rep. Secr. Agricult. 1892, pp. 153-180, pls. i-xii.
915. —. Report of the Entomologist. *Op. cit.* 1893, pp. 199-226, pls. i-iv.
916. —. Social insects from psychical and evolutionary points of view. P. Soc. Washington, ix, pp. 1-74. [*Hymenoptera, Neuroptera.*]
917. —. Notes on *Coccidæ*. P. ent. Soc. Washington, iii, pp. 65-71.
918. —. Notes upon *Belostoma* and *Benacus*. *T. c.* pp. 83-88. [*Rhynchota.*]
919. —. The eggs of *Ceresa bubalus*, Fab., and those of *C. taurina*, Fitch. *T. c.* pp. 88-92. [*Rhynchota.*]
920. —. Longevity in insects, with some unpublished facts concerning *Cicada septendecim*. *T. c.* pp. 108-127.
921. —. Scientific results of the U. S. Eclipse Expedition to West Africa, 1889-90. Report upon the *Insecta, Arachnida, and Myriopoda*. Including descriptive papers on *Pseudoneuroptera* by P. P. CALVERT P. U. S. Mus. xvi, pp. 565-590.
922. —. The insects occurring in the foreign exhibits of the World's Columbian Exposition. *Insect Life*, vi, pp. 213-227.
923. RILEY, C. V., & HOWARD, L. O. A new and destructive Peach-tree Scale. *T. c.* pp. 287-295. [*Coccidæ.*]
924. —. Bees. *T. c.* pp. 350-360. [*Hymenoptera.*]
925. —. The senses of insects. *Op. cit.* vii, pp. 33-41.
926. RILEY, C. V., ASHMEAD, W. H., & HOWARD, L. O. Report upon the parasitic *Hymenoptera* of the Island of St. Vincent. *J. Linn. Soc.* xxv, pp. 56-254.
Introduction by RILEY; *Braconidæ, Ichneumonidæ, Proctotrupidæ*, and part of *Chalcididæ* by ASHMEAD; part of *Chalcididæ* by HOWARD.
927. RIS, F. Vier schweizerische *Hydroptiliden*. *Mt. Schweiz. ent. Ges.* ix, pp. 131-134. [*Neuroptera.*]
928. RITSEMA, C. Two new species of the genus *Helota* from Burma. *Notes Leyden Mus.* xvi, pp. 97-109. [*Coleoptera.*]
929. —. A new species of the Longicorn genus *Zonopterus*. *T. c.* p. 107. [*Coleoptera.*]
930. —. Two new species of exotic Longicorn Beetles. *T. c.* pp. 157-160. [*Coleoptera.*]
931. RÖBER, J. Ueber *Charaxes athamas* und *hebe*. *Ent. Nachr.* xx, pp. 290-295. [*Lepidoptera.*]
932. —. Ueber neue und wenig bekannte Schmetterlinge aus Deutsch-Neu-Guinea und Nias. *T. c.* pp. 360-366. [*Lepidoptera.*]
933. ROBERTSON, C. Flowers and Insects. *Botan. Gaz.* xix, pp. 103-112.

934. [ROBERTSON, C.] Flowers and Insects: *Umbelliferae*. Tr. Ac. St. Louis, v, pp. 449-460.
935. —. Flowers and Insects: *Asclepiadaceae* to *Scrophulariaceae*. *T. c.* pp. 569-598.
936. —. Flowers and Insects: *Rosaceae* and *Compositae*. *Op. cit.* vi, pp. 435-480.
- The numerous insects referred to are all named.
- [See also GUIGNARD & FLETCHER (391).]
937. RÖDER, V. v. Genus *Ctenophanes*, Lw. Ent. Nachr. xx, pp. 173 & 174. [*Diptera*.]
938. —. Eine neue *Diptere* aus Kleinasien. *T. c.* pp. 202 & 203.
939. RODZIANKO, V. N. Notes sur les insectes *Orthoptères*. Trudui Kharkov. Univ. xxvi, pp. 39-44.

In Russian.

- ROGENHOFER, A. [See REBEL & ROGENHOFER (868), and BAUMANN (52, 53).]
940. RÖHRIG, H. *Oscinis frit (vastator, Curt.) und pusilla*. Ein Beitrag zur Kenntniss der kleinen Feinde der Landwirtschaft. Dresden: 1893, 33 pp.
- Summary, Zool. Centralbl. i, p. 163.
941. ROLLAT, V. Expériences sur les œufs des Vers à soie du murier, race annuelle. C.R. Ac. Sci. cxix, p. 612.
942. ROTHSCHILD, HON. W. Descriptions of new *Sphingidae* in the collection of Dr. Otto Staudinger. Deutsche ent. Zeitschr. Lep. vii, pp. 297-302, pls. v, vi, & vii. [*Lepidoptera*.]
943. —. Notes on *Sphingidae*, with descriptions of new species. Nov. Zool. i, pp. 65-98, pls. v, vi, & vii. [*Lepidoptera*.]
944. —. Additional notes on *Sphingidae*. *T. c.* pp. 541-543. [*Lepidoptera*.]
945. —. Additional notes on *Sphingidae*. *T. c.* pp. 664-666. [*Lepidoptera*.]
946. —. Some new species of *Lepidoptera*. *T. c.* pp. 535-540.
947. —. On five new *Delias* collected by William Doherty in the East. *T. c.* pp. 661 & 662. [*Lepidoptera*.]
948. —. On some new local races of *Papilio vollenhovii*, Feld., and *Papilio hipponous*, Feld. *T. c.* pp. 685 & 687. [*Lepidoptera*.]
949. —. On a new genus and species of Butterfly. *T. c.* p. 687. [*Lepidoptera*.]
950. —. On a new species of the Hepialid genus *Aenetus*. Ann. Nat. Hist. (6) xiii, p. 440. [*Lepidoptera*.]
951. ROTHSCHILD, HON. W., & JORDAN, K. Six new species of *Plusio-tis*, and one new *Anoplostethus*. Nov. Zool. i, pp. 504-507. [*Coleoptera*.]

952. RÜBSAAMEN, E. H. Die aussereuropaischen Trauermücken des Königl. Museums für Naturkunde zu Berlin. Berlin. ent. Zeitschr. xxxix, pp. 17-42, pls. i-iii. [*Diptera.*]
953. —. Ueber Australische Zoocecidien und deren Erzeuger. *T. c.* pp. 199-234, pls. x-xvi.
954. —. Bemerkungen zu Giard's neuesten Arbeiten über *Cecidomyiden*. Ent. Nachr. xx, pp. 273-279. [*Diptera.*]
955. *RUPERTSBERGER, M. Die biologische Literatur über die Käfer Europa's von 1889 an. Mit Nachträgen aus früherer Zeit und einem Larven-Cataloge. Linz: 1894.
[*Cf.* Wien. ent. Zeit. xiii, p. 294.]
956. SAHLBERG, J. Catalogus *Trichopterorum* Fennix præcursorius. Acta Soc. Faun. Fenn. ix, No. 3, pp. 1-19. [*Neuroptera.*]
957. —. Om de finska arteronå af Orthopterslägtet *Tettix*, Charp. Medd. Soc. Fauna Fenn. xix, pp. 43-48.
958. SAJÓ, K. A hesszeni légy. Termes. Kozl. Magyar Tars. xxvi, pp. 241-255. [*Diptera.*]
SALVIN, O. [See GODMAN & SALVIN (377, 378).]
959. SÁNCHEZ, J. Datos para la Zoología médica mexicana. Arácnidos é insectos. Mexico: 1893, 8vo, 189 & iv pp., 9 pls.
960. SAPPEY, —. Note sur le *Phyllium pulchrifolium*. C.R. Ac. Sci. cxviii, p. 1393. [*Orthoptera.*]
961. SASAKI, C. On the scale insect of mulberry trees (*Diaspis patelliformis*, n. sp.). Bull. Coll. Agric. Tokyo, ii, pp. 107-124, pls. i & ii. [*Coccida.*]
962. SAUNDERS, E. The *Hymenoptera aculeata* of the British Islands. A descriptive account of the families, genera, and species indigenous to Great Britain and Ireland, with notes as to localities, habitats, &c. London: 8vo.
6 parts, including pp. 1-192 and pls. i-xxiv, have appeared, the work being still in progress.
963. —. Additions and corrections to the list of British Aculeate *Hymenoptera*. Ent. Mag. 1894, pp. 35, 36, & 196-198.
964. —. A list of the *Hemiptera-Heteroptera* collected by Mr. Champion in Corsica in June, 1893, with a description of one new species. Tr. ent. Soc. London, 1894, pp. 243-247.
SAUSSURE, H. DE. [See GODMAN & SALVIN (377).]
965. SAYRE, L. E. Insects injurious to drugs. Int. J. Micr. (3) iv, pp. 67-75.
966. SCHAEFFER, C. Verzeichniss der von den Herren Prof. Dr. Kükenthal und Dr. Walter auf Spitzbergen gesammelten *Collembolen*. Zool. Jahrb. Syst. viii, pp. 128-130. [*Aptera.*]

967. SCHAUS, W. On new species of *Heterocera* from Tropical America. P. Zool. Soc. London, 1894, pp. 225-243. [*Lepidoptera.*]
968. —. New species of *Noctuidæ* from Tropical America. Tr. Amer. ent. Soc. xxi, pp. 223-244. [*Lepidoptera.*]
969. *SCHENKLING, S. Nomenclator coleopterologicus. Eine etymologische Erklärung sämtlicher Gattungs- und Artnamen der Käfer des deutschen Faunengebietes. Frankfurt-a-M. : 224 pp.
970. SCHINZ, H. Ueber das Pfeilgift der Kalixari-san; mit Beiträgen von Prof. Böhm und Fairmaire. Biol. Centralbl. xiv, pp. 337-339. [*Coleoptera.*]
971. SCHILSKY, J. Beitrag zur Kenntniss der Dasytinen. Deutsche ent. Zeitschr. 1894, pp. 225-236. [*Coleoptera.*]
— [See also KÜSTER (621).]
972. SCHLECHTENDAL, D. H. R. VON. Beiträge zur Kenntnis fossiler Insekten aus dem Braunkohlengebirge von Rott am Siebengebirge. Abh. Ges. Halle, pp. 197-228. [*Coleoptera, Rhynchota.*]
973. SCHLICK, W. Biologische Bidrag. *Coleoptera*. Ent. Meddel. iv, pp. 290-311.
974. SCHMIDT, P. Ueber das Leuchten der Zuckmücken (*Chironomidæ*). Zool. Jahrb. Syst. viii, pp. 58-66. [*Diptera.*]
975. SCHNEIDER, J. S. Lepidopterfauna'en på Tromsøen og i næmueste omegn. Tromsø Mus. Aarsh. xv, pp. 1-156, pl.
Many descriptions of varieties.
976. —. Sydvarangers entomologiske Fauna 1ste Bidrag. *Coleoptera*. Op. cit. xvi, pp. 17-104.
977. SCHOCH, G. Ueber die Systematik der *Cetoniden*. Mt. Schweiz. ent. Ges. ix, pp. 164-225. [*Coleoptera.*]
978. SCHÖTT, H. Zur Systematik und Verbreitung palæarctischer *Collembola*. Svenska Ak. Handl. xxv, No. 11, pp. 1-100, 7 pls.
979. —. Beiträge zur Kenntniss der Iusektenfauna von Kamerun. i. *Collembola*. Bih. Svenska Ak. xix, No. 2, pp. 1-28, 7 pls.
980. SCHØYEN, W. M. Fortegnelse over Norges *Lepidoptera*. Forh. Selsk. Christian. 1893, No. 13, pp. 1-54, map.
981. *SCHRÖDER, CHR. Entwicklung der Raupenzeichnung und Abhängigkeit der letzteren von der Farbe der Umgebung. Berlin : 1894, 67 pp., 1 pl.
Summary in Zool. Centralbl. i, pp. 423-426.
982. SCHULTHESS-RECHBERG, A. v. Die von Fürst Ruspoli und Prof. Dr. C. Keller im Somalilande erbeuteten *Orthopteren*. Zool. Jahrb. Syst. viii, pp. 67-84, pl. iv.
983. SCHWARZ, E. A. A parasitic Scolytid. P. ent. Soc. Washington, iii, pp. 15-17. [*Coleoptera.*]

984. [SCHWARZ, E. A.] Note on the ovipositor of some species of *Donacia*. P. ent. Soc. Washington, iii, pp. 24-26. [*Coleoptera*.]
985. —. Descriptions of two Rhynchophorous *Coleoptera* from semi-tropical Florida. *T. c.* pp. 42-45.
986. —. Additions to the list of North American termitophilous and myrmecophilous *Coleoptera*. *T. c.* pp. 73-77.
987. SCHWARZ, O. Neue *Elateriden*. Deutsche ent. Zeitschr. 1894, pp. 145-150. [*Coleoptera*.]
988. SCHWARZ, O., & WEISE, J. Bemerkungen zu Hrn. C. Verhoeff's Untersuchungen über die Abdominal-segmente und die Copulationsorgane der männlichen *Coleoptera* (D. e. Z. 1893, p. 113). Deutsche ent. Zeitschr. 1894, pp. 153-157.
989. SCUDDER, S. H. Tertiary *Rhynchophorous Coleoptera* of the United States. Mon. U. S. Geol. Surv. xxi, xi & 206 pp., 12 pls.
990. —. Tertiary *Tipulidæ*, with special reference to those of Florissant, Colorado. P. Amer. Phil. Soc. xxxii, pp. 163-245, pls. i-ix. [*Diptera*.]
Summary in J. R. Micr. Soc. 1894, p. 446.
991. —. Biological notes on American *Gryllidæ*. Psyche, vii, pp. 3-5. [*Orthoptera*.]
992. —. A preliminary review of the North American *Dectidæ*. Canad. Ent. 1894, pp. 177-184. [*Orthoptera*.]
993. —. The Cranberry girdler (*Crambus topiarius*, Zell.). Insect Life, vii, pp. 1-5. [*Lepidoptera*.]
— [See also HUBBARD (460).]
994. SEIDLITZ, G. Naturgeschichte der Insecten Deutschlands. *Coleoptera*. v. Lief 3, pp. 401-608.
995. —. Einige Worte über Nomenclatur und Prioritätsberechtigung. Ent. Nachr. xx, pp. 65-76.
996. SEITZ, A. Allgemeine Biologie der Schmetterlinge. III. Theil. Fortpflanzung. Zool. Jahrb. Syst. vii, pp. 823-851. [*Lepidoptera*.]
Summary in J. R. Micr. Soc. 1894, p. 559.
997. SELYS-LONGCHAMPS, E. Causeries Odonatologiques. No. 7. Ann. Soc. ent. Belgique, xxxviii, pp. 163-180. [*Neuroptera*.]
— [See also MARTIN (683).]
998. SEMENOW, A. Revisio synoptica *Meloidarum* generis *Ctenopus*, Fisch. Bull. Ac. St. Petersburg. xxxvi, pp. 11-20. [*Coleoptera*.]
999. —. Supplementum ad cl. Edm. Reitteri "Revisionem" *Tenebrionidarum* generis *Prosodes*, Esch. Horæ Soc. ent. Ross. xxviii, pp. 179-223 & 548-550. [*Coleoptera*.]
1000. —. Symbolæ ad cognitionem *Edemeridarum*. *T. c.* pp. 449-474. [*Coleoptera*.]

1001. [SEMENOW, A.] *Fragmenta monographiæ generis Lethrus*, Scop. Horæ Soc. ent. Ross. xxviii, pp. 475-525. [*Coleoptera*.]
1002. —. *Coleoptera Asiatica nova*. *T. c.* pp. 526-547.
1003. SENNA, A. Contributions à l'étude des *Breuthides*. Ann. Soc. ent. Belgique, xxxviii, pp. 357-383. [*Coleoptera*.]
1004. —. Insectes du Bengale. *Breuthides* recueillis par le R. P. Cardon. *T. c.* pp. 384-386. [*Coleoptera*.]
1005. —. Revision des espèces du genre *Rhaphidorrhynchus*, Schoenherr. *T. c.* pp. 590-611. [*Coleoptera*.]
1006. —. Voyage de M. Ch. Alluaud dans le territoire d'Assinie (Afrique occidentale). Contributions à l'étude des *Breuthides* africains. Ann. Soc. ent. France, 1894, pp. 405-412. [*Coleoptera*.]
1007. —. Descriptions of some new *Breuthidæ*. Notes Leyden Mus. xvi, pp. 213-226. [*Coleoptera*.]
1008. —. On some new *Breuthidæ* from Java and Sumatra. *T. c.* pp. 179-196. [*Coleoptera*.]
1009. SERVICE, R. *Charcas graminis* in Southern Scotland. Entomologist, 1894, pp. 278-282. [*Lepidoptera*.]
- SEVERIN, G. [See LETHIERRY & SEVERIN (639).]
- SHARP, D. [See GODMAN & SALVIN (377).]
1010. SHARP, W. E. The new Entomology. Entomologist, 1894, pp. 81-86 & 110-116.
- For critical remarks see KANE, W. F. DE V. (507).
1011. SHARPE, E. M. [MISS]. List of Butterflies collected by Captain J. W. Pringle, R.E., on the march from Teita to Uganda, in British East Africa. P. Zool. Soc. London, 1894, pp. 334-353, pl. xix. [*Lepidoptera*.]
1012. SHIPP, J. W. A new classification of the genus *Thoracantha*, Latr. Entomologist, 1894, pp. 188-190. [*Hymenoptera*.]
1013. —. A new classification of the genus *Perga*. *T. c.* pp. 338-340. [*Hymenoptera*.]
1014. —. On an unusual number of monstrosities occurring in *Eros* (*Platycis*) *minutus*, F. *T. c.* pp. 33-35. [*Coleoptera*.]
1015. —. *Exochlanus*, Shipp, a new genus of *Leucospidæ*. Ent. Mag. 1894, p. 245.
1016. SICKMANN, F. Beiträge zur Kenntniss der *Hymenopteren*-Fauna des nördlichen China. Zool. Jahrb. Syst. viii, pp. 195-236.
1017. SKINNER, H. A new *Eudamus*. Ent. News Philad. v, p. 332. [*Lepidoptera*.]

1018. SKUSE, F. A. A. Description of a new Flea (*Stephanocircus dasyuri*) from New South Wales, with notes of some other insect parasites known in Australia. Rec. Austral. Mus. ii, pp. 77-84, pl. xvii. [*Aphaniptera.*] 1873.
1019. SLINGERLAND, M. V. The cabbage root Maggot, with notes on the onion Maggot and allied insects. Bull. Cornell Exp. Stat. lxxviii, pp. 481-577.
1020. —. A plum scale in Western New York. *Op. cit.* lxxxiii, pp. 681-699. [*Coccidæ.*]
1021. SLOANE, T. G. A second note on the *Carenides*, with descriptions of new species. P. Linn. Soc. N. S. Wales, viii, pp. 448-483. [*Coleoptera.*]
1022. —. Studies in Australian entomology. No. VII. New genera and species of *Carabidæ* (including some notes on previously described species, and synoptic lists of genera and species). *Op. cit.* ix, pp. 393-455. [*Coleoptera.*]
1023. SLOSSON, A. T. Spring collecting in Northern Florida. J. N. York Ent. Soc. i, pp. 147-152.
1024. SMALIAN, C. Altes und Neues aus dem Leben der Ameisen. Zeitschr. Naturw. lxxvii, pp. 1-46. [*Hymenoptera.*]
1025. SMITH, H. G. An account of a collection of diurnal *Lepidoptera* made by Mr. W. Doherty at Humboldt Bay, Dutch New Guinea, and in neighbouring islands, in the Museum of the Honourable Walter Rothschild at Tring, with descriptions of new species. Nov. Zool. i, pt. 1, pp. 331-365; pt. 2, *t. c.* pp. 543-551; pt. 3, *t. c.* pp. 571-584.
1026. —. Descriptions of nine new species of Butterflies from the Sattelberg, near Finsch Hafen, German New Guinea, in the collections of the Honourable Walter Rothschild and H. Grose Smith, captured by Captains Cayley Webster and Cotton. *T. c.* pp. 585-590. [*Lepidoptera.*]
1027. —. Descriptions of eight new species of Butterflies from New Britain and Duke of York Islands, in the collections of the Honourable Walter Rothschild and Mr. Grose Smith, captured by Captains Cayley Webster and Cotton. Ann. Nat. Hist. (6) xiii, pp. 496-501. [*Lepidoptera.*]
1028. —. Descriptions of two more new species of Butterflies from New Britain, in the collection of Mr. Grose Smith, captured by Captains Cayley Webster and Cotton. *Op. cit.* xiv, p. 25. [*Lepidoptera.*]
1029. SMITH & KIRBY. *Rhopalocera* exotica. Parts 27-30. [*Lepidoptera.*]
1030. SMITH, J. B. Descriptions of new genera and species of *Noctuidæ*. Tr. Amer. ent. Soc. xxi, pp. 39-88, pls. i-vi. [*Lepidoptera.*]
1894. [VOL. XXXI.]

1031. SNELLEN, P. C. T. Aanteekeningen over Nederlandsche *Lepidoptera*. II. *Microlepidoptera*. Tijdschr. Ent. xxxvii, pp. 1-32, pl. i.
1032. —. Lepidopterologische Aanteekeningen door P. C. T. Snellen. *T. c.* pp. 67-72.
1033. —. Description de deux espèces inédites du genre *Goossensia*, Ragonot. *T. c.* pp. 73-75. [*Lepidoptera*.]
1034. —. *Glyphodes jaculalis*, nieuwe soort der *Pyraliden*. *T. c.* pp. 177-179. [*Lepidoptera*.]
1035. SNOW, W. A. American *Platypezidae*. Kansas quart. iii, pp. 143-152, pl. xii. [*Diptera*.]
1036. SPENCER, H. Origin of classes among the "Parasol" Ants. *Nature*, li, pp. 125 & 126. [*Hymenoptera*.]
Account of the observations of HART (1036).
SPRY, F. P. [See ANDERSON & SPRY (15).]
1037. SPULER, A. Zur Kenntnis der Schmetterlingsschuppen. SB. Soc. Erlangen, xxvi, pp. 111-122. [*Lepidoptera*.]
1038. STADELMANN, H. Eine neue Hymenopterengattung aus der Familie der *Proctotrupiden*. Ent. Nachr. xx, pp. 199-201.
1039. —. *Vespa fruhstorferi*, n. sp. SB. Ges. naturf. Berlin, 1894, pp. 89-92. [*Hymenoptera*.]
1040. STANDFUSS, M. Die Beziehungen zwischen Färbung und Lebensgewohnheit bei den paläarktischen Grossschmetterlingen. Vierteljahrsschr. Ges. Zurich, xxxix, pp. 85-119. [*Lepidoptera*.]
1041. STARCK, A. *Coleoptera nova Imperii Rossici*, iv. Wien. ent. Zeit. xiii, pp. 7-11.
1042. STAUDINGER, O. Hochandine *Lepidopteren*. Deutsche ent. Zeitschr. Lep. vii, pp. 43-100.
1043. —. Bemerkungen über einige Neu-Guinea-Tagschmetterlinge und Beschreibungen einiger neuer Arten. *T. c.* pp. 101-120. [*Lepidoptera*.]
1044. —. Neue *Lepidopteren*-Arten und Varietäten aus dem paläarktischen Faunengebiet. *T. c.* pp. 241-296.
1045. —. Ueber einige neuere und neue Tagfalter des Indo-malayischen Faunengebiets. *T. c.* pp. 341-358. [*Lepidoptera*.]
1046. STEIN, R. v. Ueber neue Blattwespen. Wien ent. Zeit. xiii, pp. 55-58. [*Hymenoptera*.]
1047. STIERLIN, —. Beschreibung einiger neuen europäischen Rüsselkäfer. Mt. Schweiz. ent. Ges. ix, pp. 100-102. [*Coleoptera*.]
1048. —. Beschreibung einiger neuen Rüsselkäfer. *T. c.* pp. 109-124. [*Coleoptera*.]
1049. —. Noch eine neue Rüssler-species. *T. c.* p. 159. [*Coleoptera*.]

1050. *[STIERLIN, —.] Calver's Käferbuch Naturgeschichte der Käfer Europas. Fünfte, bedeutend vermehrte und verbesserte Auflage. [Cf. Wien. ent. Zeit. xiii, p. 79.]
1051. STILES, C. Parasitism. P. ent. Soc. Washington, iii, pp. 1-7.
1052. STRATON, C. R. Alternating generations. A biological study of oak-galls and gall-flies, by Herman Adler; translated and edited by [C. R. S.]. 1894, 8vo, xliii and 198 pp., 3 pl.
1053. STROBL, P. G. Die *Dipteren* von Steiermark. Mt. Ver. Steiermark, xxix, pp. 1-199, and xxx, pp. 1-52.
Another part will complete the work.
1054. —. *Hilara longicornis*, n. sp. Wien. ent. Zeit. xiii, p. 59. [*Diptera*.]
1055. —. Anmerkungen zu Herrn Em. Pokorny's Aufsatz in den Verh. Ges. Wien, 1893, pp. 526-544. T. c. pp. 65-76. [*Diptera*.]
1056. SWAINSON, G. Some curious aquatic larvæ. Brit. Natural. 1894, pp. 107, &c., &c. [*Diptera*.]
1057. SWINHÖE, C. A list of the *Lepidoptera* of the Khasia Hills. Part II. Tr. ent. Soc. London, 1894, pp. 145-223, pl. ii.
1058. —. New species of *Geometers* and *Pyræles* from the Khasia Hills. Ann. Nat. Hist. (6) xiv, pp. 135-149 & 197-210. [*Lepidoptera*.]
1059. —. New species of Eastern *Lepidoptera*. T. c. pp. 429-443.
1060. TAIT, W. C. O mimetismo nos insectos americanos. Ann. Sci. nat. Porto, i, pp. 103-108.
1061. TAYLOR, C. B. Description of the larva and pupa of *Papilio homerus*. Tr. ent. Soc. London, 1894, pp. 409 & 410. [*Lepidoptera*.]
1062. TEPPER, J. G. O. The *Blattariæ* of Australia and Polynesia. Supplementary and additional descriptions and notes. Tr. R. Soc. S. Austral. xviii, pp. 169-189. [*Orthoptera*.]
1063. THIERRY-MIEG, P. Descriptions de *Lépidoptères* nocturnes. Ann. Soc. ent. France, 1894, pp. 51-57.
1064. —. Trois nouveaux *Lépidoptères* nocturnes. Bull. Soc. ent. France, 1894, pp. xci-xciii.
1065. —. Trois descriptions de *Lépidoptères* nocturnes. T. c. pp. cviii & cix.
1066. *THOMAS, F. Die Mückengallen der Birkenfrüchte. Forstl.-naturw. Zeitschr. 1893, pp. 464 & 465. [*Diptera*.]
1067. THOMSON, C. G. Opuscula entomologica. Fasc. xvii, 47, Bidrag till Braconidernas, Kännedone. Lund, 1892, pp. 1777-1861. Fasc. xviii, 48, Anmärkningar öfver Ichneumoner, särskilt med hänsyn till några af A. E. Holmgrens typer. Lund: 1893, pp. 1889-1967. [*Hymenoptera*.]

1068. TICHOMIROV, A. Aus der Entwicklungsgeschichte der Insecten. Festschr. Leuckart, pp. 337-346, pl. xxxv.
1069. TIKHOMIROVA, MME. O. Sur l'histoire du développement de *Chrysopa perla*. L'origine du mésoderme des cellules vitellines. Congr. Zool. 1892, i, pp. 112-119.
1070. TIEBE, —. Einige Fälle falscher Mimikry. Nach F. Plateau in Gent. Biol. Centralbl. xiv, pp. 471-473.
1071. TOURNEUX, F. Sur les modifications structurales que présentent les fibrilles des muscles jaunes des insectes en passant de l'état de repos à l'état de contraction. C.R. Soc. Biol. 1894, p. 594.
1072. TOWNSEND, C. H. T. Note on the *Coruco*, a Hemipterous insect which infests poultry in Southern New Mexico. P. ent. Soc. Washington, iii, pp. 40 & 41.
1073. —. A Nycterid from a New Mexico Bat. J. N. York Ent. Soc. i, p. 79. [*Diptera*.]
1074. —. Some new Santo Domingo *Tachinidæ*. *Op. cit.* ii, pp. 78 & 79. [*Diptera*.]
1075. —. Notes on the Tenthredinid gall of *Euura orbitalis* on *Salix* and its occupants. *T. c.* pp. 102-104. [*Hymenoptera*.]
1076. —. A very remarkable and anomalous Syrphid, with peculiarly developed hind tarsi. Canad. Ent. 1894, pp. 50-52 & 102. [*Diptera*.]
1077. TOYAMA, K. On the spermatogenesis of the Silk-worm. Bull. Coll. Agric. Tokyo, ii, pp. 125-157, pls. iii & iv.
1078. TOZZETTI, A. TARGIONI. Sopra una specie di *Lacca* del Madagascar e sopra gli insetti che vi si trovano, con osservazioni sulla *Lacca rossa* delle Indie e i suoi insetti, come sopra altre *Lacche* ed insetti di esse. Bull. Soc. ent. Ital. xxvi, pp. 425-469. [*Coccidæ*.]
Includes observations by GASCARD on the composition of Lac.
1079. TREAT, M. Some injurious insects of the orchard and garden. J. N. York Ent. Soc. i, pp. 16-20.
1080. TRIMEN, R. On a collection of Butterflies made in Manica, Tropical S. E. Africa, by Mr. F. C. Selous, in the year 1892. P. Zool. Soc. London, 1894, pp. 14-82, pls. iv-vi. [*Lepidoptera*.]
1081. TROUSSERT, C. L. Les parasites des habitations humaines. Paris: 8vo, 168 pp.
1082. TRYBOM, F. Iakttagelser om Blåsfotingar (Physapoder) från sommaren 1893. Ent. Tidskr. xv, pp. 41-58. [*Thysanoptera*.]
1083. TRYON, H. The disease affecting the Orange orchards of Wide Bay and the insect pests prevalent therein. Bull. Agric. Brisbane., Ser. ii, No. 4. [*Coccidæ*.]

1084. TSCHITSCHÉRINE, T. Note sur quelques espèces de la tribu des *Scaritides*. Horæ Soc. ent. Ross. xxviii, pp. 224-235. [*Coleoptera*.]
1085. —. Diagnoses de quelques nouvelles espèces de la tribu des *Feroniens*. *T. c.* pp. 254-258. [*Coleoptera*.]
1086. —. Description de deux nouvelles espèces du genre *Harpalus*, Latr. *T. c.* pp. 259-261. [*Coleoptera*.]
1087. —. Description d'une nouvelle espèce du genre *Nebria*, Latr. *T. c.* pp. 286-288. [*Coleoptera*.]
1088. —. Matériaux pour servir à l'étude des *Feroniens*, II. *T. c.* pp. 365-435. [*Coleoptera*.]
1089. —. Description d'une nouvelle espèce de la tribu des *Xiphidriides*. *T. c.* pp. 436-439. [*Hymenoptera*.]
1090. —. Description de deux nouvelles espèces de la tribu des *Trigonotomides*. *T. c.* pp. 444-474. [*Coleoptera*.]
1091. TUBEUF, E. VON. Die Krankheiten der Nonne (*Liparis monacha*). Forstl. Zeitschr. Munchen, i, pp. 34 & 62. [*Lepidoptera*.]
1092. TURNER, A. J. Descriptions of *Micro-Lepidoptera* from Moreton Bay. Tr. R. Soc. S. Austral. xviii, pp. 120-138.
1093. TUTT, J. W. Notes on some of the *Noctue* in the British Museum collection. Canad. Ent. 1894, pp. 226-228. [*Lepidoptera*.]
1094. —. The life-history of a *Lepidopterous* Insect, comprising some account of its morphology and physiology. Ent. Rec. v, pp. 65, &c., &c.
1095. UHLER, P. R. A list of the *Hemiptera-Heteroptera* of the families *Anthocoridae* and *Ceratocombidae* collected by Mr. H. H. Smith in the island of St. Vincent, with descriptions of new genera and species. P. Zool. Soc. London, 1894, pp. 156-160.
1096. —. On the *Hemiptera-Heteroptera* of the island of Grenada, West Indies. *T. c.* pp. 167-224.
1097. —. Observations upon the *Heteropterous Hemiptera* of Lower California, with descriptions of new species. P. Calif. Ac. iv, pp. 223-295.
1098. VÁZQUEZ, FIGUEROA A. Catálogo de los *Lepidópteros* recogidos en los alrededores de Madrid y en S. Ildefonso. An. Soc. Espan. xxiii, pp. 255-266.
1099. VERHOEFF, C. Blumen und Insekten der Insel Norderney und ihre Wechselbeziehungen, ein Beitrag zur Insekten-Blumenlehre und zur Erkenntniss biologischer und geographischer Erscheinungen auf den deutschen Nordseeinseln. Acta Ac. German. lxi, pp. 45-216, pls. iv-vi.
Review by DALLA TORRE, Zool. Centralbl. i, pp. 414-420.

1100. [VERHOEFF, C.] Ueber primäre und secundäre sexualcharaktere der Insekten, ein Antwort an Dr. K. Escherich. *Ent. Nachr.* xx, pp. 101-109.
1101. —. Zur vergleichenden Morphologie der "Abdominalanhänge der *Coleopteren*." *T. c.* pp. 93-96.
1102. —. Einige Worte an Herrn Dr. C. Hilger. *Zool. Anz.* xvii, pp. 381-385.
 Concerns morphology of abdominal structures of *Coleoptera*.
1103. —. Beitrag zur Kenntniss des Abdomens der männlichen *Eluteriden*. *Zool. Anz.* xvii, pp. 100-106. [*Coleoptera*.]
1104. —. Vergleichende Morphologie des Abdomens der männlichen und weiblichen *Lampyriden*, *Canthariden*, und *Malachiiden*, untersucht auf Grund der Abdominalsegmente, Copulationsorgane, Legeapparate, und Dorsaldrüsen. Ein Beitrag zur Kenntniss der Phylogenie der *Coleopteren*. *Arch. Naturg.* lx, i, pp. 129-210, pls. viii-xi.
 Summary, *J. R. Micr. Soc.* 1894, p. 673.
1105. —. Zur Kenntniss des Hinterleibes der *Cleriden*. *T. c.* pp. 155-157. [*Coleoptera*.]
1106. —. Zur Kenntniss der vergleichenden Morphologie des Abdomens der weiblichen *Coleoptera*. *T. c.* pp. 177-188.
1107. —. Vergleichende Untersuchungen über die Abdominalsegmente der weiblichen *Hemiptera-Heteroptera* und *-Homoptera*. *Verh. Ver. Rheinland*, pp. 306-374.
1108. —. Zur Biologie von *Hilara*. *Ent. Nachr.* xx, pp. 1 & 2. [*Diptera*.]
1109. VERRALL, G. H. A second hundred new British species of *Diptera*. *Ent. Mag.* 1894, pp. 76-79 & 140-146.
1110. *VERSON, E. La formazione delle ali nella larva del *Bombyx mori*. Padova: 1890, 17 pp., 2 pls.
 [Cf. GONIN (379, p. 90) and *Zool. Jahresber.* 1890, *Arthropoda*, p. 70.]
1111. VINE, H. C. A. Predacious and parasitic enemies of the *Aphides*. (Including a study of hyper-parasites.) *Int. J. Micr.* (3) iv, pp. 21-29, 166-175, 292-303, & 337-351.
1112. WACHTL, F. A. Analytische Uebersicht der europäischen Gattungen aus dem Verwandtschaftskreise von *Echinomyia* Dum. nebst Beschreibung einer neuen *Eudora*. *Wien. ent. Zeitschr.* xiii, pp. 140-143. [*Diptera*.]
1113. WACHTL, F. A., & KORNAUTH, K. Beiträge zur Kenntniss der Morphologie, Biologie, und Pathologie der Nonne (*Psilura monacha*, L.) und Versuchsergebnisse über den Gebrauchswerth einiger Mittel zur Vertilgung der Raupe. *Mt. forst. Versuchs. Oesterreichs.* xvi.
 Summary, *Wien. ent. Zeit.* xiii, p. 29.

1114. WAGNER, F. v. Die Allmacht der Naturzuchtung. Biol. Centralbl. xiv, pp. 1-11.
With reference to Weismann's writings with this title: deals largely with workers of ants and with slave-making ants.
1115. WAGNER, J. Einige Betrachtungen über die Bildung der Keimblätter, der Dotterzellen und der Embryonalhüllen bei Arthropoden. Biol. Centralbl. xiv, pp. 361-375.
1116. —. Notiz über *Pulex pallidus*, Tasch., und *Sarcopsylla gallinacea*, Westw., aus Transcaspien. Horæ Soc. ent. Ross. xxviii, pp. 440-443. [*Aphaniptera*.]
1117. WAINWRIGHT, C. J. On Mimicry in *Diptera*. Ent. Mag. 1894, p. 177.
1118. WALKER, J. J. A visit to Damma Island, East Indian Archipelago. With notes on the Fauna by . . . C. O. WATERHOUSE, C. G. GAHAN, W. F. KIRBY, and F. A. HERON. Ann. Nat. Hist. (6) xiv, pp. 49-71 & 98-113.
1119. WALLENGREN, H. D. J. Revision af Släktet *Corisa*, Latr., beträffande dess Skandinaviska Arter. Ent. Tidskr. xv, pp. 129-164. [*Rhynchota*.]
1120. —. Öfversikt af Skandinaviens *Pseudoneuroptera*. T. c. pp. 235-272.
1121. WALSINGHAM, LORD. Catalogue of the *Pterophoridae*, *Tortricidae*, and *Tineidae* of the Madeira Islands, with notes and descriptions of new species. Tr. ent. Soc. London, 1894, pp. 535-555. [*Lepidoptera*.]
1122. —. A new genus separated from *Heydenia*, Hfm., with description of a new English species. Ent. Mag. 1894, pp. 199-201. [*Lepidoptera*.]
1123. WANDOLLECK, —. Ueber das Kopfskelett der Dipterenfamilie *Henopii*. SB. Ges. naturf. Berlin, 1894, pp. 92-97.
1124. WARREN, W. New genera and species of *Geometridæ*. Nov. Zool. i, pp. 366-466. [*Lepidoptera*.]
1125. —. New species and genera of Indian *Geometridæ*. T. c. pp. 678-682. [*Lepidoptera*.]
1126. WASMANN, E. Zur Morphologie, Biologie, und Pathologie der Nonne. Biol. Centralbl. xiv, pp. 59-64. [*Lepidoptera*.]
1127. —. Kritisches Verzeichniß der myrmekophilen und termitophilen Arthropoden. Mit Angabe der Lebensweise und mit Beschreibung neuer Arten. Berlin: 1894, 8vo, xiii & 231 pp.
Includes an exhaustive bibliographical list.
1128. —. *Formica exsecta*, Nyl., und ihre Nestgenossen. Verh. Ver. Rheinland, li, pp. 10-22 & 70. [*Hymenoptera*.]

1129. [WASMANN, E.] Zur Myrmekophilen Fauna des Rheinlandes. Deutsche ent. Zeitschr. 1894, pp. 273 & 274.
1130. —. Die europäischen *Dinarda* mit Beschreibung einer neuen deutschen Art. *T. c.* pp. 275–280.
1131. —. Zur Lebens- und Entwicklungsgeschichte von *Atemeles pubicollis*, mit einem Nachtrag über *Atemeles emarginatus*. *T. c.* pp. 281–284. [*Coleoptera.*]
1132. WATERHOUSE, C. O. New *Coleoptera* from the Australian Region. Ann. Nat. Hist. (6) xiii, pp. 283–287.
1133. —. *Scarabeidae* in the British Museum. A Sixth contribution. *Op. cit.* xiv, pp. 9–12. [*Coleoptera.*]
1134. —. Further observations on the Tea-bugs (*Helopellis*) of India. Tr. ent. Soc. London, 1894, pp. 31 & 32. [*Rhynchota.*]
— [See also WALKER, J. J. (1118), and RIDLEY (911).]
1135. WATSON, E. Y. Notes on the synonymy of some species of Indian *Pierinae*. J. Bombay Soc. viii, pp. 489–527, 52 pls. [*Lepidoptera.*]
1136. WEBER, L. Ueber kämpfende Käfermännchen. Ber. Ver. Kassel, xxxix, pp. 34–36. [*Coleoptera.*]
1137. WEBSTER, F. M. Some studies of the fecundity of the apple-leaf Plant-louse, *Aphis mali*, Fitch. J. N. York Ent. Soc. i, pp. 119–123.
1138. —. Butterflies common to Norway and Arctic North America. Canad. Ent. 1894, pp. 117–120. [*Lepidoptera.*]
1139. WEIR, J. J. The genera of Limnaine *Rhopalocera* allied to *Caduga*, and description of a new species. Entomologist, 1894, pp. 109 & 110.
1140. WEISE, J. *Chrysolida sibirica*. Wien. ent. Zeit. xiii, pp. 153–155. [*Coleoptera.*]
1141. —. *Gynandrophthalma algerica*. Deutsche ent. Zeitschr. 1894, p. 84. [*Coleoptera.*]
1142. —. *Psylliodes sicardi*, n. sp., von Tunis. *T. c.* p. 90. [*Coleoptera.*]
1143. —. *Chrysoliden* aus Amasia. *T. c.* pp. 91 & 92. [*Coleoptera.*]
1144. —. *Cryptocephalus castilianus*, n. sp. *T. c.* p. 93. [*Coleoptera.*]
1145. —. *Coleopterus armeniacus*. *T. c.* p. 144. [*Coleoptera.*]
1146. —. Ueber *Halticinen*. *T. c.* p. 152. [*Coleoptera.*]
1147. —. Ueber zwei japanische *Galeruca*-Arten. *T. c.* p. 168. [*Coleoptera.*]
1148. —. Eine Excursion in das Tatra-Gebirge. *T. c.* pp. 241–267. [*Coleoptera.*]
— [See also HAUSER (415), and SCHWARZ & WEISE (988).]

1149. WELLMAN, MAY H. A study of the prothorax of Butterflies. Kansas quart. iii, pp. 137-142. [*Lepidoptera*.]
1150. WERCHRATSKI, J. Motyle wieksze Stanislawowa i okolicy. Sprawozd. Kom. Krajo. xxxviii, pp. 167-266. *Macrolepidoptera* of Stanislawów and neighbourhood.
1151. WERMELIN, J. H. Några anteckningar rörande röda tallstekeln (*Lophyrus rufus*). Ent. Tidskr. xv, pp. 223-225. [*Hymenoptera*.]
1152. WERNER, F. Zoologische Miscellen. VII. Die relative Darmlänge bei Insekten- und Pflanzenfressenden *Orthopteren*. Biol. Centralbl. xiv, pp. 116-119. ✓
- Summary, J. R. Micr. Soc. 1894, p. 560.
1153. WESTERLUND, A. Hymenopteroloogia havainnoita Laatokan pohjoisrannikolta v. 1891. Acta Soc. Faun. Fenn. ix, No. 2, pp. 1-30.
- WHITE, A. E. HOLT. [See HOLT WHITE.]
1154. WICKHAM, H. F. On the habits of some oceanic *Hemiptera*. Ent. News Philad. v, pp. 32-36.
1155. —. On some aquatic larvæ, with notice of their parasites. Canad. Ent. 1894, pp. 39-41.
1156. —. The *Coleoptera* of Canada. T. c. pp. 149, &c., &c.
1157. —. Further notes on *Coleoptera* found with Ants. Psyche, vii, pp. 79-81.
1158. —. On the larvæ and pupæ of *Hololepta* and *Pyrochroa*. Amer. Natural. 1894, pp. 816-820, pl. xxvi. [*Coleoptera*.]
1159. WIEDEMANN, A. Die im Regierungsbezirke Schwaben und Neuburg vorkommenden Libellen oder Odonaten. Ber. Ver. Augsburg, xxxi, pp. 59-93.
1160. WILLISTON, S. W. On the genus *Dolichomyia*, with the description of a new species from Colorado. Kansas quart. iii, pp. 41-43. [*Diptera*.]
1161. —. The American genera of *Sapromyzineæ*. Ent. News Philad. v, pp. 196 & 197. [*Diptera*.]
1162. WISKOTT, M. Eine neue europäische Noctuide. *Luperina standfussi*, n. sp., m. Ent. Zeit. Stettin, lv, pp. 90-95. [*Lepidoptera*.]
1163. —. Ein neuer Hybride. *Saturnia hybrid. standfussi*. Deutsche ent. Zeitschr. Lep. vii, pp. 237-240. [*Lepidoptera*.]
1164. WOOD, J. H. Notes on the earlier stages of the *Nepticulæ*, with a view to their better recognition at this period of their life. Ent. Mag. 1894, pp. 1-4, 43-50, 93-98, & 150-154. [*Lepidoptera*.]
1165. —. *Nepticula confusella*, a new birch-mining species. T. c. p. 272. [*Lepidoptera*.]
1166. WOOLVERTON, L. Some problems in horticulture. 2. Insects injurious to plants. J. Hamilton Ass. ix, pp. 87-96.

1167. XAMBEU, —. Notes entomologiques. Soc. Pyrenees-or. xxxv, pp. 141-144.
1168. —. Entomologie appliquée à la médecine. *T. c.* pp. 145 & 146.
1169. —. Mœurs et métamorphoses des Insectes. 4^e mémoire. Ann. Soc. ent. France, 1894, pp. 459-504. [*Coleoptera.*]
1170. —. Mœurs et métamorphoses d'insectes. Cinquième mémoire. Ann. Soc. Linn. Lyon, xli, pp. 107-156. [*Coleoptera.*]
1171. —. Mœurs et métamorphoses d'insectes. Sixième mémoire. This is published in connection with Échange, but with a separate pagination; pp. 1-32 appeared in 1894; for previous parts of the series see Zool. Rec. xxix & xxx. Part II was published, previous to VI, as a supplement to Échange.
1172. ZABRISKIE, J. L. Notes on some parasites of *Vespa*. J. N. York Ent. Soc. ii, pp. 81-86. [*Hymenoptera.*]
ZEHNTER, L. [See GODMAN & SALVIN (377).]
1173. ZOUFAL, V. Bestimmungs-Tabelle der *Bostrychida* aus Europa und den angrenzenden Ländern. Wien. ent. Zeit. xiii, pp. 33-42. [*Coleoptera.*]

II.—ANATOMY, PHYSIOLOGY, BIOLOGY.

1. GENERAL, COMPARATIVE AND EXTERNAL.

Anatomy, histology, physiology, LOWNE (653).—Anatomy and physiology of head of larva of *Bombyx mori*, BLANC (97).—*Phylloxera punctata*, general anatomy, specially of digestive system, DREYFUS (245).—Anatomy of *Halobates*, NASSONOFF (744): of *Stylops* and *Halictophagus*, NASSONOFF (741, 742).—Structure of fleas and their larvæ, PACKARD (789).—Anatomy of the petiole of an ant, *Myrmica rubra*, JANET (485, 486).—Morphology, biology, pathology of *Psilura monacha*, WACHTL & KORNAUTH (1113).—Structure of the head of nasute form of *Eutermes*, KNOWER (550).—Structure of ovipositor of *Donacia*, SCHWARZ (984).—Mode of action of gonapophyses of locusts in oviposition, KÜNCKEL (614).—Labial palpi of *Rhynchota*, LÉON (637).—Number of joints in the antennæ and form of club, WATERHOUSE, pp. xxxiii & xxxiv, P. ent. Soc. London, 1894.—Note on Lindemann's views as to the structure of the thorax in *Coleoptera*, VERHOEFF, pp. 380-382, Ent. Nachr. xx.—Prothorax of butterflies, WELLMAN (1149).—Histology of *Phyllium*, SAPPY (960).

Anatomy and morphology of abdomen, see 5. SEXUAL ORGANS.

Metamorphosis of *Lepidoptera*, imaginal folds in larvæ, development of wings, &c., GONIN (379).

Hypermetamorphosis with encystment named Hypuodie, KÜNCKEL (612, 613).

2. NERVOUS SYSTEM, ORGANS OF SENSE AND PSYCHOLOGY.

Anatomy and histology of the ventral chain, and physiology of movement, BINET (91).—A few remarks on the subject of the nerve-endings in the sense-organs of insects, VOM RATH, Ber. Ges. Freiburg, ix, pp. 137–164.

The senses of insects, with illustrations, RILEY (925).

Sight; defining power of composite eye, MALLOCK (666).

Post embryonic development of compound eye of *Vanessa urticae*, JOHANSEN (495).—Physiology of the compound eye: the luminous condition considered, KIESEL (533).—Nature of the colour, and refractive media of eyes of *Tabanidae*, CIACCIO (180).—Attraction of light, LEE, Canad. Ent. 1894, p. 296.

Macroglossa stellatarum visiting flowers of one colour, SHAW, Entomologist, 1894, p. 20, BEDFORD, t. c. p. 62, JOHNSON, t. c. p. 63, OLDFIELD, t. c. p. 134.

A sense-organ at base of the antenna in various orders, CHILD (169).

Taste and smell, NAGEL (740).

Chordotonal organs of ants, JANET (487).

Assembling in *Lepidoptera*, ARKLE, Entomologist, 1894, pp. 336–338.—Assembling of *Attacus*, MOFFAT, p. 240, Canad. Ent. 1894; FIELD, t. c. p. 296.—Hair-tufts and Androconia in *Cidaria*, CHAPMAN (166).

Stridulatory organs of ants, JANET (485, 486).—Stridulation of *Sigara*, BRUYANT (140A); of *Corixa*, CARPENTER (156).—Production of sound by *Prionus*, and by larva of *Sphinx elpenor*, MULLER (738).

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3. MUSCULAR SYSTEM.

Anisotropic and isotropic layers in wing-muscles of *Musca*, BERNARD, p. 539, pl. xxix, fig. 25, Zool. Jahrb. Anat. vii.—Conditions at commencement of contraction, TOURNEUX (1071).

4. ORGANS AND FUNCTION OF NUTRITION, CIRCULATION AND RESPIRATION. GLANDS.

Heart and pericardial sinus of *Orthoptera* and their relations with other parts, KOWALEWSKY (579, 580).

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Copulation of *Satyrus* and *Vanessa*, ROCQUIGNY, p. 174, Feuille Natural. xxiv. and p. 150, Rev. Sci. Bourbonnais, vii. *Argynnis paphia* and *Thecla quercus* coupled, GRAVES, p. 269, Entomologist, 1894. Hybrids: of *Saturnia*, &c., MERRIFIELD, p. xxxv, P. ent. Soc. London, 1894; of *Saturnia pavonia* and *pyri*, WISKOTT (1163); of *Saturnia*, STANDFUSS, p. 163, Mt. Schweiz. ent. Ges. ix; of *Smerinthus ocellatus* and *Paonius astylus*, NEUMOEGEN, p. 326, Ent. News Philad. v.

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p. 317, *Entomologist*, 1894.—Resemblance of bug to ant, UHLER, p. 277, *P. Calif. Ac. iv.*—Mimicry of bug by moth, ROTHNEY, p. xv, *P. ent. Soc. London*, 1894.—Mimicry in *Diptera*, WAINWRIGHT (117):—Mimicry in Sumatra discussed and condemned, HAGEN (396).—Mimicry in S. America, TAIT (1060).—Double mimicry: mimicry between insects of different countries, KARSCH, Berlin. ent. Zeitschr. xxxix, SB. p. 11.—Mimicry of movement between ant and beetle, HAMILTON, p. 255, *Canad. Ent.* 1894; mimicry in larva of *Homodes oblatoria*, LUCAS, p. 145, *P. Linn. Soc. N. S. Wales*, viii.—Resemblance of pupa to baboon's head, AITKEN (7).—Bee and its dipterous parasite, ARNOLD (21, p. 164).—Various forms of aberrant mimicry, &c., GIARD (363); convergence, and pœcilogony, GIARD (362).—False mimicry, PLATEAU (851).—Cases of false mimicry, TIEBE (1070).—False mimicry between *Xerophyllum* and *Membracis*, KARSCH, Berlin. ent. Zeitschr. xxxix, SB. p. 15.

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Expansion of wings of *Lepidoptera* delayed by cold, CHAPMAN, *Ent. Mag.* 1894, p. 54.

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Insects attacking man: insects and flowers. [See ECONOMIC, p. 101.]

III.—FAUNISTIC AND PALÆONTOLOGY.

The numbers in brackets refer to "Titles"; by their means it is intended to give a reference to every memoir containing a notice affecting the entomological fauna of each of the twelve regions here made use of. But synonymical notes and changes of systematic position are not included in these references.

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Collembola. Revision of the palæarctic, SCHÖTT (978).

(b.) *Collective Europe.*

Coleoptera. GUILLEBEAU (394), REITTER (875, 876, 877, 883, 896), STIERLIN (1047).

Hymenoptera. ASHMEAD (23); catalogue of parasitic bees, DALLA-TORRE & FRIESE (218), KONOW (566, 568), THOMSON (1067).

Diptera. BECKER (56), KIEFFER (532), PANDELLÉ (793).

Aphididae. GUERCIO (390).

Neuroptera. Klapálek (547).

(c.) *British Islands:*

ADDITIONS, CHANGES, ETC.

Coleoptera. Novelty, CHAMPION, Ent. Mag. 1894, p. 100.

Hymenoptera. Systematic work on *Aculeata*, SAUNDERS (962).—Monograph of British *Braconidae*, Pt. v, MARSHALL (677).—Novelty, BEAUMONT, Ent. Mag. 1894, p. 40.—N. spp., BIGNELL (90).—Novelties, n. sp., SAUNDERS (963).

Lepidoptera. Amount of cabinet space requisite, SOUTH, Entomologist, 1894, pp. 217 & 218.—List of additions during the last ten years, *t. c.* pp. 342-345.—Systematic work, BARRETT (48).—*Psychida* revised, BARRETT (47).—Vertical distribution, proposed zones, BATH (50).—*Chariclea delphinii* as British, DALE, p. 220, Entomologist, 1894.—*Callimorpha hera*, STUDD, *t. c.* pp. 120-124.—*Chrysophanus dispar*, DALE, *t. c.* p. 60; n. g., WALSHINGHAM (1122); n. sp., WOOD (1165).—Novelty, *Sesia conopiformis*, DALE, Entomologist, 1894, p. 245.—Novelty, TAYLOR, Ent. Mag. 1894, p. 11.—Novelty, WALSHINGHAM, *t. c.* p. 51.

Diptera. Novelties, ADAMS, Ent. Mag. 1894, p. 255, and P. ent. Soc. London, 1894, p. xxv.—Novelties, BEAUMONT, Ent. Mag. 1894, p. 64, and *cf.* VERRALL, *t. c.* p. 88.—Novelty, MATTHEWS, *t. c.* p. 39.—Novelties, n. spp., MEADE (693).—100 novelties, VERRALL (1109).

Rhynchota. Systematic work on *Homoptera*, EDWARDS (259).—Novelties, n. spp., EDWARDS (258); n. sp., EDWARDS (259).—Novelty, SAUNDERS, Ent. Mag. 1894, p. 254.—Novelty, MASON, *t. c.* p. 231.—*Aleurodes*, n. sp., DOUGLAS (239).—*Aleurodes*, novelty, DOUGLAS, p. 155, Ent. Mag. 1894.

Neuroptera. N. spp., MORTON (737).—Novelties (*Psocidae*), McLACHLAN, Ent. Mag. 1894, pp. 243 & 244.

Orthoptera. Novelty, SWALE, Ent. Mag. 1894, p. 124.—? Introduction, BRIGGS, *t. c.* p. 236.—Locusts, ORMEROD (773).

Thysanura. Novelty, McLACHLAN (659).

LOCAL LISTS.

Insecta. Painswick, WATKINS, *Entomologist*, 1894, p. 284.—A London bakehouse, MILTON, *Ent. Mag.* 1894, p. 86.—Ipswich, MORLEY, *Naturalists' J.* iii, pp. 134–136.—In addition to various papers recorded below, other notes relating to Irish insects will be found in *Irish Natural.* i, ii, & iii.—Insects collected by the Royal Irish Academy flora and fauna Committee, *Irish Natural.* iii, pp. 83–89, 103–105, 122–124, 153–155, 170–172, 198, & 199.

Coleoptera. Guernsey, LUFF, *Rep. Guernsey Soc.* 1893, pp. 295–310.—Braunton, CHITTY, p. xviii, *P. ent. Soc. London*, 1894.—Westward Ho, WOOD, *Ent. Mag.* 1894, p. 278.—Plymouth, KEYS, *t. c.* pp. 210 & 278.—Weymouth, BEARE, *t. c.* p. 234.—Portland, WALKER, *t. c.* p. 210.—Southampton, GORHAM, pp. 198 & 274, *Entomologist*, 1894.—New Forest, CHAMPION & SHARP, *Ent. Mag.* 1894, pp. 225–228; WOOD, *t. c.* p. 277.—Hampshire, Kent, and Essex, WALKER, *t. c.* pp. 207–209.—Kent, WALKER, *t. c.* pp. 13, 163, & 164.—Sheppey, WALKER, *t. c.* p. 115.—Maidstone, BENNETT, *t. c.* p. 63.—Hastings, BENNETT, *t. c.* p. 64.—Snodland, WALKER, *t. c.* p. 133.—Guildford, CHAMPION, *t. c.* pp. 135, 185, & 259.—Woking, SHARP, *t. c.* p. 163.—Wimbledon, &c., RYE, *t. c.* p. 277.—Shirley, DONISTHORPE, *t. c.* p. 136.—Kent and Surrey, DONISTHORPE, *t. c.* pp. 63 & 162.—Oxford, SHIPP, *t. c.* p. 15.—Wootton, LAMBERT; p. 321, *Entomologist*, 1894.—Marlborough, CLAXTON, *Rep. Marlbor. Soc.* xlii, p. 83.—Herefordshire, CHAPMAN, *Ent. Mag.* 1894, p. 163; THORNLEY, *t. c.* p. 279.—Nottinghamshire, THORNLEY, *t. c.* p. 280.—Askham Bog, HEY, *t. c.* p. 116.—Scarborough, HEY, *Naturalist*, 1894, pp. 201–203; Yorkshire, *id.*, *t. c.* p. 283.—Lake District, THORNLEY, *Ent. Mag.* 1894, p. 280.—Cardiff, TOMLIN, *t. c.* p. 135.—Ireland, JOHNSON, *Brit. Natural.* 1894, pp. 195, &c., &c.—Armagh, JOHNSON, *Ent. Mag.* 1894, p. 134; SHARP, W. E., *Irish Natural.* iii, pp. 133 & 134.—Antrim, TOMLIN, *t. c.* p. 23.—Dublin, HALBERT, pp. 203 & 204, *t. c.*—Bray, HALBERT, p. 114, *t. c.*—Meath, HALBERT, p. 176, *t. c.*

Hymenoptera. Ilfracombe, SAUNDERS, *Ent. Mag.* 1894, p. 260.—Portland, RICHARDSON, *t. c.* p. 213.—Surrey, BEAUMONT, *t. c.* p. 259.—Marlborough, YOUNG, *Rep. Marlbor. Soc.* xlii, pp. 81 & 82.—Llangollen, GARDNER, *Ent. Mag.* 1894, p. 213.—Dalguise, M'GREGOR, *Ann. Scott. Nat. Hist.* 1894, p. 184.—Pitlochry, BEAUMONT, *Ent. Mag.* 1894, p. 40.—Loch Ard, MORTON, *t. c.* p. 62.—Shetland and Orkney, MORICE, *t. c.* p. 259.—Dublin, CARPENTER, p. 202, *Irish Natural.* iii.—Wexford, CUTHBERT, *t. c.* pp. 18–20.—Dublin, CUTHBERT, *t. c.* p. 67.

Lepidoptera. Guernsey, LUFF, *Rep. Guernsey Soc.* 1893, p. 263.—Jersey, GUITON, *Entomologist*, 1894, p. 148.—Scilly islands, ADKIN, *t. c.* pp. 9–12.—Cornwall and Scilly islands, BAILY (39).—Cornwall, TRENNERY, *t. c.* p. 177.—Devonshire, STILL, *t. c.* p. 222.—Devon, BENTHALL, *t. c.* p. 295; STILL, *Ent. Mag.* 1894, p. 212.—S. Devon, PORRITT, *t. c.* p. 223; JÄGER, *Entomologist*, 1894, p. 319.—Exeter, STUDD, *t. c.* pp. 55–57.—Occurrences of second broods of *Lepidoptera* in Devon during 1893, STILL, *t. c.* p. 18.—Dartmoor, BETHUNE-BAKER, *Ent.*

Mag. 1894, p. 235.—Dawlish, TREMAYNE, *Entomologist*, 1894, p. 29.—Dorset, RICHARDSON, *P. Dorset. Club*, xv, pp. 59–69 & 200.—Portland, RICHARDSON, p. 349, *Entomologist*, 1894.—Bournemouth, BROMLOW, p. 323, *t. c.*—Porchester, STARES, p. 349, *t. c.*—Christchurch, WEIR, *P. ent. Soc. London*, 1894, p. ii.—Ringwood, FOWLER, *Entomologist*, 1894, p. 142.—New Forest, HUGHES, *P. Hampsh. Club*, ii, p. 271; BANKES, *Ent. Mag.* 1894, p. 210; WELLS, p. 274, *Entomologist*, 1894; COX, *t. c.* p. 275.—Eastbourne, WATKINS, *Ent. Mag.* 1894, p. 211.—Dover, WEBB, *Entomologist*, 1894, p. 321.—Folkestone, HILLS, *t. c.* p. 199.—Margate, COOPER, p. 271, *t. c.*—S. Foreland, FREMLIN, p. 349, *t. c.*—Tonbridge, BABINGTON, *Ent. Mag.* 1894, p. 88; TURNER, *Entomologist*, 1894, p. 198.—Wye (Kent), RICHARDSON, *t. c.* p. 246.—Kent and Surrey (re *Plusia moneta*), *t. c.* p. 246.—Surrey, KAYE, *t. c.* p. 27.—Dorking, PRIDEAUX, *Ent. Mag.* 1894, p. 132.—Reigate, ADKIN, p. 221, *Entomologist*, 1894.—Croydon, JOY, *t. c.* p. 245.—Twickenham, MELDOLA, *Ent. Mag.* 1894, p. 161.—Middlesex, BERGMAN, *Entomologist*, 1894, p. 179.—North Middlesex, BROWN, *t. c.* p. 145.—Kensington, LEECH, *t. c.* p. 245.—Regent's Park, ELLIS, *t. c.* p. 295.—Northwood, SOUTH, p. 323, *t. c.*—Epping, WHITTINGHAM, *t. c.* p. 178.—Bristol (first appearances), BARTLETT & GRIFFITHS, *P. Bristol. Soc. (n.s.)* vii, pp. 69 & 150.—Delamere Forest, ARKLE, *Entomologist*, 1894, p. 247.—Hereford, *Entomologist*, 1894, p. 32.—S. Wales, JEFFREYS, p. 351, *t. c.*—Swansea, ROBERTSON, p. 324, *t. c.*—Market Drayton, WOODFORDE, *t. c.* p. 30.—Marlborough, MEYRICK, *Rep. Marlbor. Soc.* xlii, pp. 68–80.—Gloucestershire, SEARANCKE, *Entomologist*, 1894, p. 179.—Wellington, *Rep. Wellington Soc.* 1894, p. 48.—Rugby, FURNES and others, *Rep. Rugby Soc.* 1894, pp. 49–55.—Oxford, SHEPHEARD-WALWYN, p. 348, *Entomologist*, 1894.—Worksop, ALDERSON, *t. c.* p. 140.—North Staffordshire, DALTRY, *Rep. North Staffordsh. Club*, xxvii, pp. 56–61, and *op. cit.* xxviii, pp. 98–102.—Ipswich, MORLEY, *Entomologist*, 1894, p. 27.—Monkswood, BLAKE, *t. c.* p. 107.—Wicken, MITCHELL, *t. c.* p. 29.—Suffolk, HODGKINSON, *t. c.* p. 65.—Woodbridge, WALLER, *t. c.* p. 246.—Norfolk, WALSINGHAM, *Ent. Mag.* 1894, p. 50; TILLET, *t. c.* p. 211.—Norfolk Broads, CONQUEST, *Entomologist*, 1894, p. 139.—Norwich, TILLET, *t. c.* pp. 31 & 272; BARRETT, *Ent. Mag.* 1894, p. 88; CARLIER, *t. c.* p. 235, and *Entomologist*, 1894, p. 298.—The *Lepidoptera* of Lincolnshire, CARR, *t. c.* pp. 232–237.—Derby, HILL, *Naturalist*, 1894, p. 43.—York, HEWETT, *t. c.* p. 13, and *Entomologist*, 1894, p. 70.—Yorkshire, PORRITT, *Naturalist*, 1894, p. 68, and THOMPSON, *t. c.* p. 158.—South Yorkshire, HEWETT, *t. c.* p. 116.—Lancashire, BANKES, *Ent. Mag.* 1894, p. 275; HODGKINSON, *Entomologist*, 1894, p. 246.—Morecambe, PORRITT, *Ent. Mag.* 1894, p. 12.—Grange-over-Sands, HODGKINSON, p. 221, *Entomologist*, 1894.—North Lancashire, ARKLE, *t. c.* pp. 301–306.—Cumberland, BARRETT, *Ent. Mag.* 1894, p. 113.—Carlisle, DAY, *t. c.* p. 62.—Scotland, WALSINGHAM, *t. c.* p. 50.—Solway, BUCHAN-HEPBURN, *Ann. Scott. Nat. Hist.* 1894, p. 117.—Ayr, FERGUSSON, *Entomologist*, 1894, p. 273.—Ayrshire, SMITH, *Tr. Soc. Glasgow*, iv, p. 35.—Lauarkshire, MORTON, *Ent. Mag.* 1894, p. 257.—Lanark, MACKONCHIE, *Ento-*

mologist, 1894, p. 352.—Jura, EVANS, p. 258, Ann. Scott. Nat. Hist. 1894.—Argyllshire, COTTINGHAM, p. 223, Entomologist, 1894; CHRISTY, p. 297, *t. c.*, and Ent. Mag. 1894, p. 275; KING, *l. c.*—Stirlingshire, KING, *t. c.* p. 258.—Perth, EVANS, p. 184, Ann. Scott. Nat. Hist. 1894, p. 184.—Montrose, GUNNING, p. 295, Entomologist, 1894.—Kincardineshire, DALGLISH, p. 353, *t. c.*—Nairnshire, THOMSON, pp. 12–18, Ann. Scott. Nat. Hist. 1894.—Strathspey, EVANS, *t. c.* p. 56.—West Ross, CHRISTY, p. 355, Entomologist, 1894.—Sutherland, BARRETT, Ent. Mag. 1894, p. 211.—Catalogue of *Lepidoptera* of Ireland (continued), KANE, Entomologist, pp. 13, &c. &c.; *cf.* also *t. c.* pp. 16 & 17.—Ireland, THORNHILL, *t. c.* p. 32; Irish Natural. iii, pp. 219 & 233.—Antrim, CAMPBELL, Ent. Mag. 1894, p. 211.—Belfast, WATTS, Irish Natural. iii, p. 44, and Ent. Mag. 1894, p. 13.—Armagh, JOHNSON, *t. c.* p. 38.—Meath, CUPPAGE, p. 175, Irish Natural. iii; REYNELL, *t. c.* p. 176.—Fermanagh, PORTER, Entomologist, 1894, p. 273.—Vale of Neath, BIRKENHEAD, Rep. Cardiff Soc. xxvi, pp. 14–17.—Waterford, FLEMING, Irish Natural. iii, p. 175, and Entomologist, 1894, p. 221.—Galway, DILLON, *t. c.* pp. 8, 169, 190, & 322.

Diptera. South Devon (Hessian-fly), THEOBALD, Brit. Natural. 1894, pp. 179–183.—Sherborne, EATON, Ent. Mag. 1894, p. 261.—Wyre Forest, BRADLEY, *t. c.* p. 116.—Warwickshire, BRADLEY, *t. c.* p. 16.

Rhynchota. LUFF, Rep. Guernsey Soc. 1893, p. 264.—Isle of Wight, CHAMPION, Ent. Mag. 1894, p. 258.—Purfleet, LEAKE, p. 222, Entomologist, 1894.—Perth, M'GREGOR, Ann. Scott. Nat. Hist. 1894, p. 99.—Perthshire, BEAUMONT, *t. c.* p. 56.—Ireland, HALBERT, Ent. Mag. 1894, p. 65.—Guernsey (*Coccidæ*), NEWSTEAD (753).—Argyleshire (*Coccidæ*), DOUGLAS, p. 17, Ent. Mag. 1894.

Neuroptera. Guernsey, LUFF, Rep. Guernsey Soc. 1893, p. 264.—New Forest, MCLACHLAN, Ent. Mag. 1894, pp. 185 & 186.—Wisley and Ripley, BRIGGS, *t. c.* p. 186.—Esher, LUCAS, pp. 270 & 349, BROCKLESBY, p. 271, Entomologist, 1894.—Oxshott, LUCAS, p. 220, *t. c.*—Cobham, BROCKLESBY, p. 296, *t. c.*—Chester, ARKLE, p. 147, *t. c.*—York, PORRITT, Ent. Mag. 1894, p. 231.—Ireland, JOHNSON, *t. c.* p. 236.—*Odonata*, localities, BRIGGS, Sci. Gossip, i, pp. 7 & 8, LUCAS, Entomologist, 1894, pp. 86–88.

Orthoptera. New Forest and Deal, BATH, Entomologist, 1894, p. 32.

Thysanura. Hastings, BLOOMFIELD, Ent. Mag. 1894, p. 185.

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

Insecta. Finland, SAHLBERG, Medd. Soc. Faun. Fenn. xix, pp. 5, 51, & 56.—Siberia, LEDER (632).

Coleoptera. Norway, HELLIESEN, Stavanger Mus. Aarsb. 1891–92–93.—Tromso, SCHNEIDER (976).—Sweden, GRILL, Ent. Tidskr. xv, p. 232.—Siberia, FAUST (299), WEISE (1140).

Hymenoptera. Finland, SAHLBERG, Medd. Soc. Faun. Fenn. xix, p. 20, WESTERLUND (1153).

Lepidoptera. The *Lepidoptera* of Norway, SCHØYEN (980).—Tromsø, SCHNEIDER (975).—Sweden, MEVES, Ent. Tidskr. xv, pp. 95 & 96.—Hunneberg, LAMPA, pp. 93 & 94, *t. c.*—Finland, REUTER (901); REUTER, Catalogue (902); THESLEFF, Medd. Soc. Faun. Fenn. xix, p. 9; REUTER, *t. c.* pp. 20 & 111; MONTELL, *t. c.* p. 25.—St. Petersburg, MENSHOOTKIN, Entomologist, 1894, p. 183.

Rhynchota. Finland, REUTER, Medd. Soc. Faun. Fenn. xix, p. 53.—Scandinavia, WALLENGREN (1119).

Neuroptera. Finland, O. REUTER, monograph (908); *Psocidæ* of Finland, REUTER (909).—Scandinavia, *Odonata*, WALLENGREN (1120).—Catalogue of *Trichoptera* of Finland, SAHLBERG (956).

Orthoptera. Norway, HANSSON, Forh. Selsk. Christian. 1893, No. 14.—Finland, SAHLBERG, *Tettig.* (957).

(e.) *Central and Eastern Europe* [see also (a.) and (b.)].

Insecta. Netherlands, Tijdschr. Ent. xxxvii, pp. xxxviii–xl.—Rhine-land, WASMANN (1129).—Switzerland, number of species of Swiss insects, STECK, p. 61, Mt. Schweiz. ent. Ges. ix; Martigny, FAVRE, *l. c.*

Coleoptera. PENECKE (800), KRAUSS (602).—Denmark, ANDERSEN, Ent. Meddel. iv, p. 252; (Larvæ), SCHLICK (973).—Cuxhaven, TIMM, Verh. Ver. Hamburg, viii, pp. 12–14.—Hamburg, TIMM & WIMMEL, *t. c.* pp. 1–11.—Anhalt, NEBEL (746).—Belgium, DE BORRE, Ann. Soc. ent. Belgique, xxxviii, p. 650.—The Longicorns of Belgium, LAMBEERE (627).—Germany, PIETSCH (849), WASMANN (1130).—IX. Beitrag zur deutschen Käferfauna, SCHILSKY, p. 329, Deutsche ent. Zeitschr. 1894.—Nachträge zur Käferfauna Westfalens, ROSSI, pp. 101–103, Jahresber. Westfal. Ver. pp. 101–103.—Zweiter Nachtrag zu dem Verzeichniss der in der Umgebung Annabergs beobachteten Käfer; Ber. Annaberg. Ver. ix, pp. 73–80.—Conclusion of KILLIAS' Catalogue of the *Coleoptera* of Graubünden; Jahresber. Ges. Graubünden, xxxvii, Beilage.—Namslau, MÜLLER, Zeitschr. ent. Breslau, xix, pp. x & xi.—Extinction at Buren a/Aare, RÄTZER (867).—Silesia, GERHARDT, Deutsche ent. Zeitschr. 1894, pp. 333–335.—Neuheiten der schlesischen *Coleoptern*-fauna aus dem Jahre 1893; Zeitschr. ent. Breslau, xix, pp. 1–4.—Austria, OTTO (783). Tatra Mountains, WEISE (1148).—S. E. Europe, KOSHIANTSCHIKOW (574).—Sarepta, BECKER (54).—Astrachan, JACOBSON (470).

Hymenoptera. STEIN (1046), FRIESE (329).—Naamlijst van Nederlandsche *Tenthredinida*, OUDEMANS, Tijdschr. Ent. xxxvii, pp. 88–152. Fünfter Beitrag zur Kenntniss der *Hymenopteren* der Umgegend von Hamburg, FICK, Verh. Ver. Hamburg, viii, pp. 15–51; Sechster Beitrag, ENGEL, *t. c.* pp. 52–56.—Germany, KRIECHBAUMER (609).—Beiträge zur Kenntniss der *Hymenopteren*-Fauna der weiteren Umgegend von Frankfurt a.-M.: VIII. Teil. *Chalcidida*; HEYDEN, Ber. Senckenberg. Ges. 1894, pp. 169–194.—Verzeichniss der bisher in der Umgebung Annabergs beobachteten Tenthrediniden (Blattwespen), C. LANGE, Ber. Annaberg. Ver. ix, pp. 65–72.—Saxony, KRIEGER (611).—Hungary,

KRIECHBAUMER (604), MOCSÁRY (720). — Bavaria, JEMILLER (490), KRIECHBAUMER (610).—Russia, ARNOLD (21).

Lepidoptera. WISKOTT (1162).—List of the *Microlepidoptera* of Denmark, HEDEMANN, Ent. Meddel. iv, pp. 254–289. — Netherlands, SNELLEN (1031). — Belgium, CROMBRUGGHE, p. 504, Ann. Soc. ent. Belgique, xxxviii, CROMBRUGGHE, t. c. p. 589, HIPPERT, t. c. p. 590, HIPPERT, pp. 337 & 467, t. c.—The *Macrolepidoptera* of Stanislawów, WERCHIRATSKI (1150). — Die *Macrolepidopteren* der Dresdner Gegend *Geometridæ*, STEINERT, Deutsche ent. Zeitschr. Lep. vii, pp. 314–332.—Crefeld, ROTIHE, pp. 303–305, Ent. Zeit. Stettin, iv.—Bern (at light), HILTBOLD, Mt. Schweiz. ent. Ges. ix, pp. 151–157.—Galizia, KLEMENSIEWICZ (548). — Bohemia, NICKERL (754). — Die Schmetterlinge des Lavantthales, &c. : ix. Nachtrag, HÖFNER, Jahrb. Mus. Kärnten. xxiii, pp. 68–73; Petzen, *id. t. c.* pp. 74–83.—Bucovina, HORMUZAKI (440).

Diptera. HARTIG (412), KIEFFER (526), STROBL (1053, 1055).—Belgium, COUCKE (207, 208).—Borkum isl., KUNTZE (620).—Cracow, BOBEK, Sprawozd. Kom. Krajo. xxviii, Cz. ii, pp. 8–28.—Bohemia, KOWARZ (581).—Hungary, STROBL (1054), WACHTL (1112).

Rhynchota. BERGROTH (71).—Germany, HUEBER (462, 463).—Bohemia, Coccids, NEWSTEAD (753).—Tyrol, Istria, Illyria, FOKKER, Tijdschr. Ent. xxxvii, pp. 80–84; Corsica, *id. t. c.* p. 87.—S. Russia, *Aphididæ*, CHOLODKOVSKY (177).

Newoptera. Schwaben and Neuburg, WIEDEMANN (1159).—Einsiedeln and Bünzener Moss, RIS, Mt. Schweiz. ent. Ges. ix, pp. 134–142.—Switzerland, RIS (927).

Aptera. Linz-a-Rh., MONIEZ (722).—*Thysanura* of Kharkov, SCORIKOW, Trudui Kharkov. Univ. xxvii, p. xxxii.

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

Insecta. Canigou, XAMBEU, Soc. Pyrenees-or. xxxv, pp. 134–140.

Coleoptera. ABEILLE (1, 4), CROISSANDEAU, p. lxxiv, Bull. Soc. ent. France, 1894.—Granville, GADEAU DE KERVILLE, p. clxxiii, t. c.—Paris, BEDEL, p. ccxl, t. c.; DONGÉ, p. cliii, t. c.—Bordeaux, EYQUEM, C.R. Soc. Bordeaux, xlvi, p. clxv.—Aude, GAVOY, Bull. Soc. Aude, v.—Pyrénées orientales, XAMBEU (1169).

Hymenoptera. Contribution au Catalogue des insectes *Hyménoptères* habitant l'ouest de la France; Mellifères (*Apiaires*), Bull. Soc. Ouest France, 1894, pp. 39–72.—Loire-inférieure, DOMINIQUE (235).—Contributions au Catalogue des *Tenthredinides* de la Loire-inférieure, DOMINIQUE, Bull. Soc. Ouest France, 1894, pp. 91–96.—Saone-et-Loire, MARCHAL (667).—Avignon, CHOBAUT, p. cii, Bull. Soc. ent. France, 1894.

Lepidoptera. BROWN, p. ccv, Bull. Soc. ent. France, 1894; FALLOU, p. lxxvii, t. c.; GAULLE, t. c. p. lxxiv; GAULLE, Feuille Natural. xxiv, p. 90.—Reims, DEMAISON, pp. 16–18, Ann. Soc. ent. France, 1894.—Supplément à la faune des *Lépidoptères* de la Seine-inférieure, Bull. Soc.

Rouen, xxix, pp. 47-62.—Loire-inférieure, BONJOUR (107).—Liste de *Lépidoptères* de la Loire-inférieure non signalés jusqu'ici, BUREAU, pp. 161-184, Bull. Soc. Ouest France, 1894.—Bordeaux, BROWN, C.R. Soc. Bordeaux, xvi, pp. cxxxvii-cxl; *id. t. c. p.* clxiv; BREIGNET, *op. cit.* xlvii, p. xii.—South France, JONES, Ent. Mag., 1894, p. 175.—Nachtrag zum Verzeichniss der Grossschmetterlinge des Département de la Haute Garonne, Deutsche ent. Zeitschr. Lep. vii, pp. 336-340.—Alpes-maritimes, BROMILOW, Entomologist, 1894, pp. 178 & 222.

Diptera. PANDELLÉ (793).

Coccidae. NOEL, Bull. Soc. Rouen, xxix, pp. 67-73.

Odonata. DUBOIS, pp. 56-59, Feuille Natural. xxiv.

Orthoptera. Vosges, SAULCY, Bull. Soc. ent. France, 1894, p. xxiii.—Nantes, &c., DOMINIQUE (237).—Loire-inférieure, DOMINIQUE (234).—Nîmes, MINGAUD, Bull. Soc. Nîmes, xxi, p. 40.

Aptera. Arles, MONIEZ (727).

(g.) *Southern Europe and Mediterranean Basin* [see also (a.), (b.) and (f.)].

Insecta. Galls of Syria, FOCKEU (311).—Spain, MOUTÓN de Trigo, BECERRA, Act. Soc. Espan. xxiii, p. 243; MEDINA, *t. c.* pp. 112-116.—Murcia, FUENTE, *t. c.* pp. 119-124.—Corsica, SCHARFF, Ber. Senckenberg. Ges. 1894, pp. 165-167.—Algeria, PIC (837).

Coleoptera. CROISSANDEAU (213), ESCHERICH (277), FAUST (298), KUWERT (625), LEWIS (646), PIC (814, 824), ZOUFAL (1173).—Spain, BRENSKE (133), REITTER (881), WEISE (1144).—Corsica, CHAMPION (163), HOOP, Tijdschr. Ent. xxxvii, pp. 158-176.—Portugal and Algeria, PIC (828).—Malta, REITTER (882).—Italy, FIORI (304), GRIFFINI (384, 385).—Piedicavallo, BORN, p. 113, Soc. ent. ix.—Trentino, BERTOLINI, Bull. Soc. ent. Ital. xxvi, pp. 356-388.—REITTER (879, 880).—Turkey, REITTER (884).—Bulgaria, REITTER (890).—Bosnia, KNOTEK (549).—Balkans, APFELBECK (19, 20), KNOTEK (549).—N. Africa, BEDEL (60), CAILLOL (149), PIC (817, 827, 829, 832), SCHILSKY, p. 176, Deutsche ent. Zeitschr. 1894.—Tangier, LEWIS (644, p. 36).—Algeria, ABEILLE (2, 3, 5), BOURGEOIS (122, 123), CHOBOUT (171), DESBROCHERS (226), FAIRMAIRE (284), OLIVIER (769, 770), p. clxxix, Bull. Soc. ent. France, 1894, and PIC (815, 818, 819, 824, 825, 830, 834, 835, 842, 847), also *Anthicidae*, Echange, 1894, pp. 67-71, WEISE (1141).—Tunis, KRAATZ (595), WEISE (1142).—Contribution à la faune entomologique du sud de la Kabylie, THIRIAT, Bull. Soc. Angers, xxiii, pp. 137-153, PIC (823, 833), REITTER (895).—Palestine, BAUDI (51).—Syria, BOURGEOIS (124), PIC (820, 822, 826, 841, 844).—Asia Minor, HEYDEN (426), WEISE (1143).—Persia, KRAATZ (586).—Aden, PIC (819).—Arabia, ZOUFAL (1173).

Hymenoptera. FOREL (318), GRIBODO (383).—Spain, KOHL (552), MEDINA, Act. Soc. Espan. xxiii, pp. 144, 149, 150, 165, 234, 258, 262.—Mallorca, KRIECHBAUMER (605).—Italy, COSTA (205); *Sphagides* and

Vespidæ of Modena, BALDINI (41).—Sicily, EMERY (272), PEREZ (804), and Natural. Sicil. xiii, pp. 100 & 101.

Lepidoptera. Pyrenees, NICHOLSON & LEMANN, Ent. Mag. 1894, pp. 220–223 & 246–249.—Galicia, VELADO, pp. 221–242, An. Soc. Espan. xxii.—Spain, THIERRY-MIEG (1064); VÁSQUEZ-FIGUEROA (1098).—Algeria, AUSTAUT (37); VALLANTIN, p. 16, &c., &c., Naturaliste, 1894.—Alexandria, BETHUNE-BAKER (80).—Syria, Algeria, OBERTHUR (767).—Syria, PÜNGELER (858).—Red Sea, RAGONOT (861).—Persia, CHRISTOPH (179).

Diptera. Avigliana, GRIFFINI, Boll. Mus. Torino, ix, No. 168.—Aggiunte alla fauna *ditterologica* della provincia di Pavia, CORTI, Bull. Soc. Ent. ital. xxvi, pp. 389–395.—Catalogue of *Diptera* of Trentino, BEZZI (88).—Asia Minor, RÖDER (937, 938).

Rhynchota. HORVATH (450), PÜTON (859), REUTER (907).—Corsica, SAUNDERS (964).—Palestine, GIGLIO-TOS (368).

Coccidæ. Italy, GUERCIO (389).—Baluchistan, NEWSTEAD (753).

Mallophaga. Italy, BERLESE (74.)

Neuroptera. Balkan penins., KLAPÁLEK (546).—Aden, McLACHLAN (660).

Odonata. Italy, BENTIVOGLIO, Atti Soc. Modena (3) xiii, pp. 20 & 21.—Cyprus, MARTIN (683).

Orthoptera. BOLIVAR (105).—Spain, FUENTE (345).—Algeria, FINOT (303); Oran, FREY-GESSNER, Mt. Schweiz. ent. Ges. ix, p. 103.—Palestine, GIGLIO-TOS (370).

Aptera. Oran, MONIEZ (722).

(h.) *Caucasus and West and Central Asia*

[see also (a.) and (b.)].

Coleoptera. Arabia and Mesopotamia, PIC (848).—W. Asia, HAUSER (415).—Caucasus, CHOBOUT (172), STARCK (1041), WEISE (1146).—Araxes Valley, REITTER (886), WEISE (1145).—Transcaspian, JACOBSON (471).—W. & Centr. Asia, SEMENOW (998).—Centr. Asia, KOSHIANTSCHIKOW (571, 573), REITTER (888), TSHITSCHÉRINE (1086).—Altai, JAKOWLEFF (480), REITTER (892).—Lake Issyk-kul, JACOBSON (475), FAUST (292).—Turcomania, KOSHIANTSCHIKOW (575).—Turkestan, KRAATZ (583), HEYDEN, pp. 261–268, Horæ Soc. ent. Ross. xxviii, TSHITSCHÉRINE (1087).—Afghanistan, HEYDEN, pp. 81–84, Deutsche ent. Zeitschr. 1894, PIC (821), SEMENOW (1002).—Thibet, TSHITSCHÉRINE (1090).

Hymenoptera, Turkestan, MORAWITZ (732, 733).

Lepidoptera. Serafschan Valley and Kisilkum, GRUM-GRSHIMAILO, Horæ Soc. ent. Ross. xxviii, pp. 88–95.—Kashmir, BUTLER, in Conway, Karakoram-Himalayas, p. 93, and KIRBY, *t. c.* pp. 87–89.

Rhynchota. S. Russia and Transcaucasus, HORVATH (449).

4. AFRICA (TROPICAL AND SOUTH).

Insecta. German East Africa, BAUMANN (52, 53), RILEY (921).

Coleoptera. CHOBAUT (173), FAIRMAIRE (281, 282, 283, 287), and FAIRMAIRE, p. cclii, Bull. Soc. ent. France, 1894; FAUST (292, p. 143), FAUST (294, 295, 296, 297), FLEUTIAUX (307), GAHAN (352), GROUVELLE (387), GUILLEBEAU (393), HELLER (422), HORN (444, 446, 448), JACOBY (476, 477, 479), JORDAN (500, 501, 503), KOLBE (554, 555, 557, 559, 560, 561, 562), KRAATZ (593), KUWERT (625), LEWIS (643, 646); PÉRINGUEY, Mashunaland (807), PIC (821, 822, 823), RÉGIMBART (873), SCHOCH (977), SENNA (1006), TSCHITSCHÉRINE (1084), WASMANN (1127).

Hymenoptera. ANDRÉ (17), FOREL (316), GRIBODO (383), HANDLIRSCH (405), KOHL (552), KRIECHBAUMER (606, 607), STADELMANN (1038).

Lepidoptera. AURIVILLIUS (34, 36), BUTLER (146), DRUCE (242), EHRMANN (261, 263), HOLLAND (432-436), JANET (482), KARSCH (508, 509, 511, 512, 513), KIRBY (538), ROTHSCHILD (942, 943, 946), SHARPE (1011), SMITH & KIRBY (1029); TRIMEN, Manica (1080), WARREN (1121).

Diptera. EATON (255).

Rhynchota. BERGROTH (69, 73), CARLINI (155), KARSCH (514), MONTANDON (728, 729), REUTER (905, 907).

Coccidæ. COCKERELL, p. 178, Psyche, vii.

Odonata. KARSCH (516).

Orthoptera. BOLIVAR (106), KARSCH (517), SCHULTHEISS-RECHBERG (982).

Collembola. SCHÖTT (979).

5. MADAGASCAR.

Coleoptera. FAIRMAIRE (286, 287); FAIRMAIRE, Comoro Is. (288, 289), FAUST (293, 296); GROUVELLE, Bourbon and Seychelles (387); HORN, Nossi-bé (446), *id.* (447), JACOBY (479), KERREMANS (520), KOLBE (555), KRAATZ (582, 590, 599), LÉVEILLÉ (641), LEWIS (646), SCHOCK (977), TSCHITSCHÉRINE (1084), WASMANN (1127).

Hymenoptera. EMERY, Seychelles (267), FOREL (317), KOHL (552).

Lepidoptera. DRUCE (242); JOANNIS, Seychelles (493), OBERTHUR (767), ROTHSCHILD (943).

Diptera. RÜBSAAMEN (952).

Rhynchota. BERGROTH (68, 70, 72); *id.*, Madagascar and Seychelles (73), MONTANDON (729).

Coccidæ. TOZZETTI (1078).

Neuroptera. MCLACHLAN (662).

Odonata. SELYS (997).

6. TROPICAL AND EASTERN ASIA WITH JAPAN.

For outskirts see also 3 (a.) & (h.)

Coleoptera. India, ALLARD (10, 11), BLANDFORD (99); *id.*,

Japan (99, 100), BRENSKE (130); CANDÈZE, China (154); Namoia I., CHAMPION (162); DECAUX, India (225), FAIRMAIRE, E. India (280); *id.*, Thibet (285), FAUST (296, 297); FLEUTIAUX, Japan (308); GAHAN (348); *id.*, India (353); *id.*, Burma (350); *id.*, Japan (353); GORHAM, India (380, 381); GROUVELLE, India (386); GROUVELLE & GUILLEBEAU, India (388); GUILLEBEAU (393), HELLER (420), HORN (443, 446); *id.*, India (445); JACOBY (476, 477, 478), JORDAN (499, 501, 503); *id.*, Assam (504); KERREMANS (521); KRAATZ (597); *id.*, India (588); *id.*, Malacca (589); *id.*, Siam (591); *id.*, Burma (592); *id.*, China (587); KUWERT (624, 625), LEWIS (646); *id.*, India (642); *id.*, Ceylon (645); *id.*, Japan (644, 645, 647, 648); NONFRIED, Ceylon (763); PIC, India (813); *id.*, China (816, 818); PLANET, India (850); RAFFRAY (860); REITTER, Japan (897); RITSEMA (930); *id.*, Burma (928); SCHOCH (977); SENNA, India (1004); *id.*, Burma (1003); TSCHITSCHÉRINE (1084); WEISE, Japan (1147).

Hymenoptera. ANDRÉ, India (16), BINGHAM (92); FOREL, India (315), GRIBODO (383), HANDLIRSCH (405), KOHL (552); SICKMANN, N. China (1016).

Lepidoptera. MATHERAN BETHAM, E. India, p. 423, J. Bombay Soc. viii; list of the butterflies of Sikhim, 631 species, by GAMMIE, in Gazetteer of Sikhim, 1894; HAMPSON, India (401); JANET, Tonkin (482); JOANNES, China (494), LEECH (633); MEYRICK, Upper Burma (706); MOORE, India (730, 731), OBERTHUR (767); POUJADE, Mou-pin (854), ROTHSCHILD (943, 944, 946); *id.*, Assam (942); *id.*, Japan (943), SMITH & KIRBY (1029), SWINHOE (1059); *id.*, Khasia Hills (1057, 1058), WARREN (1124); *id.*, India (1125); *id.*, Japan (1124); WATSON, India (1135).

Diptera. BRAUER & BERGENSTAMM (127), RÜBSAAMEN (952).

Aphaniptera. China, BLANDFORD (103).

Rhynchota. BERGROTH (66); KARSCH, China (515); LETHIERRY, Ceylon (638); MONTANDON (728, 729).

Coccidæ. BUCKTON, Ceylon (143); SASAKI, Japan (961).

Neuroptera. W. China, McLACHLAN (663).

Odonata. Ceylon, KIRBY (541); *id.*, Burma (545); *id.*, China (542), SELYS (997).

7. ASIATIC ARCHIPELAGO, INCLUDING PAPUA.

Insecta. DAMMA I., WALKER (1118); ALBERS, Java (8), BRENSKE (130); *id.*, Sumatra (131); CANDÈZE, Sumatra (154), FAUST (297), FRUHSTORFER, Sumatra (344), GAHAN (348); *id.*, New Guinea (349), GUILLEBEAU (393); *id.*, Sumatra (392), HELLER (422); *id.*, Java (421); *id.*, Borneo (420), HORN (443, 446), JACOBY (477, 478), JORDAN (498, 499, 501, 503); *id.*, Borneo (504); *id.*, Philippines (502), KERREMANS (521); *id.*, Sumatra (522); KOLBE, Java (556), KUWERT (624, 625); KRAATZ, Sumatra (589); *id.*, Borneo (596); *id.*, Celebes (594); *id.*, Philippines (598); *id.*, New Guinea (600), LÉVEILLÉ (641), LEWIS (646), NONFRIED (763); *id.*, Sumatra (762), PIC (831); *id.*, Java

(822); *id.*, Sumatra (812, 821); RITSEMA, Borneo (929); *id.*, Java (930), SENNA (1008), WASMANN (1127).

Hymenoptera. EMERY, Borneo and New Guinea (271), GRIBODO (383), HANDLIRSCH (405), STADELMANN, Java (1039).

Lepidoptera. AURIVILLIUS (35), DRUCE (242); *id.*, Borneo (244); H. H. DRUCE, New Guinea (243), FRUHSTORFER (343); *id.*, Java (340, 342); *id.*, New Guinea (341); HAGEN, Sumatra (396, 397); HELLER, New Guinea (423); HOLLAND, Timor-Laut, Ent. News Philad. v, p. 39; KIRBY, New Guinea (536); MARTIN, Sumatra (681), MEYRICK (707), OBERTHUR (767); PAGENSTECHER, Java, Sumba (791); *id.*, New Guinea (792); PRYER & CATOR, Borneo (857), RÖBER (932), ROTHSCHILD (942, 943, 947, 948); SMITH, New Guinea (1025, 1026), SMITH & KIRBY (1029), SNELLEN (1032, 1033); *id.*, Java (1034), STAUDINGER (1045); *id.*, New Guinea (1043), SWINHOE (1059), WARREN (1124); WEIR, Borneo (1139).

Diptera. RÜBSAAMEN (952).

Rhynchota. BERGROTH (66, 73), MONTANDON (728); *id.*, Philippines (729).

8. AUSTRALIA AND TASMANIA.

Coleoptera. BLACKBURN (93, 94, 95, 96), BLANDFORD (101), BRENSKE (135); CHAMPION, Australia and Tasmania (161), FLEUTIAUX (306), GUILLEBEAU (393), HELLER (422), HORN (446), JACOBY (477, p. 197), *id.* (478), JORDAN (501), KRAATZ (584), KUWERT (624, 625), LEA (631), ROTHSCHILD & JORDAN (951), SLOANE (1021, 1022), WATERHOUSE (1132, 1133).

Hymenoptera. FOREL (317), HANDLIRSCH (405), KIRBY (534).

Lepidoptera. LOWER (651, 652), LUCAS (655), ROTHSCHILD (942, 943, 950), TURNER (1092), WARREN (1124).

Butterflies of Victoria, ANDERSON & SPRY (15).—Catalogue of Victorian *Heterocera* by LUCAS continued in Victorian Naturalist, x & xi.

Diptera. BERGROTH (65), BRAUER & BERGENSTAMM (127); OSTEN SACKEN, Tasmania (781).

Aphaniptera. SKUSE (1018).

Rhynchota. BERGROTH (73), MONTANDON (728).

Coccidae. FROGGATT (334), *id.*, P. Linn. Soc. N. S. Wales, viii, p. 534, and *op. cit.* ix, p. 186, MASKELL (684, 685), RÜBSAAMEN (953).

Odonata. KIRBY (543).

Orthoptera. TEPPER (1062).

9. NORTH AMERICA.

Insecta. ASHMEAD (31), GODMAN & SALVIN (377), HUBBARD (460); Ottawa, HARRINGTON, Ottawa Natural. viii, pp. 77-80, FLETCHER, *t. c.* p. 141; Copper Cliff, Ontario, *id.*, Canad. Ent. 1894, pp. 9-16; Mount Washington, SLOSSON, Ent. News Philad. v, pp. 1-6 & 271-274; N. Florida, SLOSSON (1023).

Coleoptera. ANGELL (18), BRENDL (128, 129), DIETZ (227), GARMAN (355), GUILLEBEAU (393), HOPKINS (439), HUBBARD (461), HORN (442), SCHWARZ (983, 985, 986), WASMANN (1127), WICKHAM (1156); Catalogue of Alaska *Coleoptera*, HAMILTON (399); Quebec, HANHAM, pp. 350-352, *Canad. Ent.* 1894; Canada, HARRINGTON, *t. c.* p. 356; Additions to the list of Canadian *Coleoptera*, KILMAN, *t. c.* pp. 48-50; Wisconsin, SNYDER, p. 187, *Canad. Ent.* xxvi; N. East America, LENG & BEUTENMÜLLER (635, 636); New Jersey, BOERNER, p. 175, *Ent. News Philad.* v, WENZEL, *t. c.* p. 40; Newark, BISCHOFF, *t. c.* p. 115; New Mexico, TOWNSEND, *Psyche*, vii, pp. 100-102; California, BLAISDELL, p. 17, *Ent. News Philad.* v; San Bernardino, FALL, *t. c.* p. 97; Florida, ANGELL, *J. N. York Ent. Soc.* i, p. 16, HAMILTON (400).

Hymenoptera. ASHMEAD (23, 26, 27, 28, 29, 30, 32), COCKERELL (193-196), COCKERELL & CASAD (197), DAVIS (221), DYAR (251), EMERY (268), FOX (320-326), GILLETTE (371), HANDLIRSCH (405), HARRINGTON (407), HOWARD (454, 456, 459), MACGILLIVRAY (658), PATTON (795, 796), ZABRISKIE (1172); Canadian *Uroceridae*, *Cephidae*, *Oryssidae*, HARRINGTON (408); Ottawa, HARRINGTON, *Ottawa Natural.* vii, pp. 162 & 163; Illinois, NASON, *Ent. News Philad.* v; New Mexico, TOWNSEND, *t. c.* p. 103.

Lepidoptera. BEUTENMÜLLER (81, 83), DYAR (252, 253), EDWARDS (260), EHRMAN (262), FELT (300), FERNALD (302), FYLES (346), GROTE, p. 215, *Canad. Ent.* 1894, HULST (466), NEUMOEGEN (747, 748), NEUMOEGEN & DYAR (750, 752), *iid.*, *Notodontidae* (751), PALM (792A), SKINNER (1017), SMITH (1030); Vancouver I., DANBY, pp. 31-36; Ontario, FLETCHER, pp. 117 & 118, *Ottawa Natural.* viii; Ottawa, *id.*, p. 176, *Canad. Ent.* 1894; Quebec, HANHAM, p. 294, *t. c.*; Toronto, ELLIS, *t. c.* p. 176; Toronto, STEWART, p. 306, *t. c.*; London, Canada, MOFFAT, pp. 123-126; Manitoba, HEATH, p. 208, *t. c.*; Hamilton, MOFFAT, *J. Hamilton Ass.* v, p. 104; Brooklyn, WHITE, *Ent. News Philad.* v; Cat. Butterflies of Staten I., DAVIS, pp. 43-48, *J. N. York Ent. Soc.* i; Pennsylvania, EHRMANN, *Ent. News Philad.* v, p. 212; *Rhopalocera* of North-eastern Mississippi, WEED, pp. 129-131, *Psyche*, vii; Kentucky Butterflies, WARNER, pp. 289-291; Utah, SNYDER, pp. 133 & 164, *Ent. News Philad.* v; Montana, WILEY, p. 38, *t. c.*; Arkansas, DAVIS, p. 108, *t. c.*; Florida, SCHLAUS, *t. c.* p. 17.

Diptera. BANKS (45), BRAUER & BERGENSTAMM (127), COQUILLET (199-204), DAVIDSON (220), RÜBSAAMEN (952), SNOW (1035), TOWNSEND (1073, 1076), WILLISTON (1160).

Rhynchocha. FOWLER (319), UHLER (1096); FORBES, *Aphididae* (312); Catalogue of *Jassoidea*, DUZEE (249); Ottawa, HARRINGTON, *Ottawa Natural.* viii, pp. 66, 67, 132-134; New Mexico and Arizona, TOWNSEND, pp. 312-316, *Canad. Ent.* 1894.

Coccidæ. List of N. American, COCKERELL (183, 187, 189, 192).

Neuroptera. MACGILLIVRAY (657); Chicago, McDADE, *Ent. News Philad.* vi, p. 47; Kansas, BANKS, pp. 178-180, *op. cit.* v.

Odonata. Nova Scotia *Odonata*, CALVERT & SHERATON, pp. 317-320,

Canad. Ent. 1894; Ithaca, N. Y., BANKS, pp. 76-78, *t. c.*; Corunna, KELLICOTT, *t. c.*, pp. 345-347; Maine, WADSWORTH, p. 132, Ent. News Philad. v.; Massachusetts, D. S. K., *t. c.* p. 314; Local lists, "Data on the distribution of dragon-flies," *t. c.* pp. 243 & 244.

Orthoptera. BEUTENMÜLLER (82, 85), BRUNER (140), MORSE (735, 736), OSBORN (777), SCUDDER (992); *Orthoptera* of New York, BEUTENMÜLLER (84).

Thysanura and *Collembola.* HARVEY (413, 414), MACGILLIVRAY (656), MONIEZ (722), PERGANDE (248), LÖNNBERG, p. 165, Canad. Ent. 1894, SCHOTT, Ent. Tidskr. xv, p. 128.

10. CENTRAL AMERICA, INCLUDING MEXICO.

Insecta. GODMAN & SALVIN (377), PITTIER, pp. 115-122, An. Mus. Costa Rica, iii.

Coleoptera. GAHAN (351), GUILLEBEAU (393), HORN (444); *id.*, Lower California, &c. (442), JORDAN (503), KERREMANS (522), LÉVEILLÉ (641), NONFRIED (764), ROTHSCHILD & JORDAN (951), SENNA (1005, 1007).

Hymenoptera. ASHMEAD (23); *id.*, Lower California (25), COCKERELL (194), COCKERELL & CASAD (197), EMERY (268, 269); FOX, Lower California (325, 326), GRIBODO (383), HANDLIRSCH (405), MOCSÁRY (720), PERGANDE, Lower California (805, 806).

Lepidoptera. DRUCE (240, 241), GODMAN & SALVIN (378), MENGEL (697), NEUMOEGEN & DYAR, J. N. York Ent. Soc. ii, p. 171, ROTHSCHILD (943), SCHAUS (967, 968), WARREN (1124).

Diptera. BRAUER & BERGENSTAMM (127), GIGLIO-TOS (367), RÜBSAAMEN (952).

Rhynchota. BERGROTH (73), UHLER, Lower California (1097).

Coccidæ. COCKERELL (184).

Termitidæ. DUDLEY (246, 247).

11. ANTILLES.

Insecta. *Neuroptera*, *Rhynchota*, *Coleoptera* of Porto Rico, GUNDLACH (395).

Coleoptera. ALLARD, Havanna (12); GUILLEBEAU (393), JACOBY, Jamaica (476); LEWIS, Jamaica (646); MATTHEWS, St. Vincent and Grenada (690).

Hymenoptera. ASHMEAD (23), EMERY (268); *id.*, Bahamas (268); RILEY, ASHMEAD, HOWARD (926).

Lepidoptera. HEDEMANN (416), HERING, St. Thomas (425); MURRAY-AARON (738A), NEUMOEGEN, Cuba (749); ROTHSCHILD, Jamaica and San Domingo (943).

Diptera. *Diptera* of Jamaica, JOHNSON (496); supplementary note and Johnson's list, COCKERELL, pp. 419 & 420, P. Ac. Philad. 1894; RÜBSAAMEN (952), TOWNSEND (1074).

Rhynchota. FOWLER (319), UHLER, St. Vincent (1095); *id.*, Grenada, (1096).

Coccidæ. COCKERELL (190, 191), *id.*, p. 43, Ent. News Philad. v.

Neuroptera. KIRBY (544), CALVERT, Hayti (150).

12. SOUTH AMERICA.

Insecta. GODMAN & SALVIN (377), RIDLEY (911).

Coleoptera. ALLARD (11, 12), CAMERANO (153), FAUST (297), GAHAN (353), GERMAIN, Chili (358, 359, 360); GUILLEBEAU (393), HORN (444, 446), JACOBY (476), JORDAN (503), KERREMANS (522), KOLBE (557), KUWERT (623), LÉVEILLÉ (641), LEWIS (646), NONFRIED (764), OLIVIER (768), PIC (812), REED, Chili (872), SENNA (1005, 1007), WASMANN (1127).

Hymenoptera. Geographical connections of the Ant-fauna of S. America, JHERING, Berlin. ent. Zeitschr. xxxix, pp. 395-446; ASHMEAD (23), EMERY (268, 269, 270), FOREL (318), GRIBODO (383), HANDLIRSCH (405), JHERING (491), MOCSÁRY (720); REED, Chili (871), TSCHITSCHÉRINE (1089).

Lepidoptera. Chili, CALVERT (151), DOGNIN (231, 232, 233), DRUCE (241), MICHAËL (708); RAKE, Trinidad butterflies, J. Inst. Trinidad, i, pp. 40-52; ROTHSCCHILD (942, 943, 944, 945, 949), SCHIAUS (967, 968), SMITH & KIRBY (1029), STAUDINGER (1042), THIERRY-MIEG (1063, 1064, 1065), WARREN (1124); WILSON, Trinidad, J. Trinidad Club, ii, pp. 102-104.

Diptera. ARRIBÁLZAGA (22), BRAUER & BERGENSTAMM (127), RÜBSAAMEN (952).

Rhynchota. BERG (63); BERGROTH (67, 73), FOWLER (319), REUTER (906).

Coccidæ. COCKERELL (184), *id.*, Trinidad (185, 186), *id.*, Chili (188), and p. lxxix, p.-v, Act. Soc. Chili, iii, and *op. cit.* iv, p. lvii.

Odonata. KIRBY, Trinidad (540); SELYS (997).

Orthoptera. GIGLIO-TOS (369).

Thysanura and *Collembola.* MACGILLIVRAY (656), MONIEZ (724).

PALÆO-ENTOMOLOGY.

[*Cf.* BRONGNIART (136, 137, 138), GEINITZ-ROSTOCK (356), KOLBE (553), LOMNICKI (650), MEUNIER (699-702, 704), SCHLECHTENDAL (972), SCUDDER (989, 990).]

Pleistocene insects of Boryslaw, 76 *Coleoptera* and 4 *Hemiptera*; LOMNICKI (650).

BRONGNIART recognizes the insects of the carboniferous epoch as belonging to four orders, *Neuroptera*, *Orthoptera*, *Thysanura*, *Homoptera* (136), p. 453.

Coleoptera in Peatmoss in Germany; KOLBE (553).

New Fossil *Coleoptera* from the Braunkohlengebirge of Rott ; SCHLECHTENDAL (972).

Remarks on the Coleopterous fauna of the Upper Lias of Mecklenburg, with descriptions and figures noticing about 20 species ; GEINITZ-ROSTOCK (356).

Insects' eggs in fossil bark of *Lepidodendrons* ; RENAULT, pp. 135, 164, *Naturaliste*, 1894.

COLEOPTERA.

Buprestid from Miocene of Australia ; CURRAN, p. 181. *P. Linn. Soc. N. S. Wales*, viii.

Note on the fossil *Buprestidae* of lithographic limestone of Bavaria ; MEUNIER (701).

Paleogyridae, n. fam., for the following : *Paleogyrinus*, n. g. ; SCHLECHTENDAL, p. 201, *Abh. Ges. Halle*, xx.

Tertiary fossil *Rhynchophora* of United States of North America ; SCUDDER, *Mon. U. S. Geol. Surv.* xxi. No less than 193 species are enumerated ; they are arranged as follows :—

Rhynchitinae.—*Auletes*, 1 species ; *Eugnaptus*, 2 species ; *Rhynchites*, 1 species ; *Masteutes*, n. g., p. 12, 2 species.

Isotheinae, n. subf.—*Paltorhynchus*, n. g., p. 18, 3 species ; *Isothea*, n. g., p. 20, 1 species ; *Trypanorhynchus*, n. g., p. 21, 3 species ; *Docirhynchus*, n. g., p. 24, 2 species ; *Teretrum*, n. g., p. 25, 2 species ; *Toxorhynchus*, n. g., p. 26, 2 species ; *Steganius*, n. g., p. 28, 1 species.

Brachyderini.—*Epicærus*, 3 species ; *Hormorus*, 1 species ; *Trigonoscuta*, 1 species ; *Tenillus*, n. g., p. 35, 1 species.

Ophryastini.—*Ophryastes*, 4 species ; *Ecomias*, 1 species ; *Phyxelis*, 4 species ; *Ophryastites*, n. g., p. 38, 4 species.

Otiiorhynchini.—*Otiiorhynchus*, 4 species ; *Otiiorhynchites*, 4 species, *Neoptochus*, 1 species.

Tanymecini.—*Tanymecus*, 1 species.

Cyphini.—*Entimus*, 1 species ; *Artipus*, 1 species ; *Syntomostylus*, n. g., p. 50, 1 species.

Evotini.—*Lachnopus*, 2 species ; *Omileus*, 1 species ; *Evopes*, n. g., p. 53, 1 species.

Phyllobiini.—*Phyllobius*, 3 species ; *Scythropus*, 3 species.

Promecopini.—*Eudiagogus*, 1 species ; *Eudomus*, n. g., p. 62, 2 species ; *Eucryptus*, n. g., p. 63, 1 species.

Sitoninae.—*Sitona*, 3 species.

Alophinae.—*Coniatus*, 2 species ; *Centron*, n. g., p. 69, 1 species ; *Limalophus*, n. g., p. 71, 2 species ; *Geralophus*, n. g., p. 72, 9 species.

Apioninae.—*Apion*, 7 species.

Phytonomini.—*Lepyrus*, 1 species ; *Listronotus*, 1 species.

Hyllobiini.—*Pachylobius*, 3 species ; *Hyllobius*, 3 species ; *Laccopygus*, n. g., p. 93, 1 species.

Cleonini.—*Cleonus*, 4 species ; *Eocleonus*, n. g., p. 95, 1 species.

Erirehini.—*Dorytomus*, 2 species; *Grypidius*, 1 species; *Erycus*, 1 species; *Procas*, 2 species; *Erirehinus*, 1 species; *Numitor*, n. g.; p. 103, 1 species; *Smicrorhynchus*, n. g., p. 104, 1 species.

Magdalini.—*Magdalis*, p. 106, 1 species.

Anthonomini.—*Acalyptus*, 1 species; *Coccotorus*, 2 species; *Anthonomus*, 10 species; *Orchestes*, 1 species; *Macrorhoptus*, 1 species; *Cremastorhynchus*, n. g., p. 110, 1 species.

Prionomerini.—*Prionomerus*, 1 species.

Tychiini.—*Tychius*, 2 species; *Sibynes*, 1 species.

Cionini.—*Gymnetron*, 2 species.

Cryptorhynchini.—*Rhyssomatus*, 1 species; *Cryptorhynchus*, 4 species; *Rhyssosternum*, n. g., p. 124, 2 species.

Ceuthorhynchini.—*Celiodes*, 1 species; *Ceuthorhynchus*, 5 species.

Barini.—*Baris*, 4 species; *Aulobaris*, 4 species; *Centrinus*, 2 species; *Catobaris*, n. g., p. 140, 1 species.

Balaninae.—*Balaninus*, 6 species.

Calandrinae.—*Scyphophorus*, 2 species; *Sciabregma*, n. g., p. 146, 1 species; *Oryctorhinus*, n. g., p. 149, 1 species; *Calandrites*, n. g., p. 150, 2 species.

Dryophthorini.—*Spodotribus*, n. g., p. 152, 1 species; *Lithophthorus*, n. g., p. 153, 1 species.

Cossonini.—*Cossonus*, 2 species.

Tomicini.—*Dryocetes*, 2 species.

Hylurgini.—*Polygraphus*, 1 species; *Hylesinus*, 1 species; *Hylastes*, 1 species.

Anthribidae.—*Tropideres*, 2 species; *Hormiscus*, 1 species; *Anthribus*, 1 species; *Cratoparis*, 3 species; *Brachytarsus*, 1 species; *Choragus*, 1 species; *Saperdirhynchus*, n. g., p. 160, 1 species; *Stiraderes*, n. g., p. 163, 1 species.

DIPTERA.

Diptera in amber; MEUNIER (699, 700, 702).

Cecidomyia fugi in Pliocene; MARTY, p. 173, Feuille Natural. xxiv.

Scudderella, n. g., *Mycetophilidae*, for a Dipteron found in amber; MEUNIER (700).

Loewiella, n. g. (*Mycetophilidae*), in amber; MEUNIER, p. cxi, Bull. Soc. ent. France, 1894.

Note on *Mycetophilidae* and *Chironomidae* from the lignites of Rott; MEUNIER, p. cxvi, t. c.

Dilophus krantzi, Heyden: note on; MEUNIER, p. 101, Bull. Soc. zool. France, xx.

Bibionidae of the lignites of Rott; MEUNIER, p. ccxxx, Bull. Soc. ent. France, 1894.

SCUDDER, P. Amer. Phil. Soc. xxxii, publishes an important work on fossil *Tipulidae*, giving a systematic list of the European Tertiary forms, a note of pre-tertiary *Tipulidae*, and descriptions of many new forms from

Florissant, in Colorado, amongst which are included the following new genera :—

Micraspis, n. g., p. 242, for *M. paludis*, n. sp., Florissant, p. 243, pl. ix, fig. 7 ; SCUDDER, *t. c.*

Tipulitea, n. g., for 4 new species from Florissant ; SCUDDER, p. 238, *t. c.*

Rhadinobrochus, n. g., for *R. extinctus*, n. sp., Florissant, pl. v, fig. 4 ; SCUDDER, p. 223, *t. c.*

Manapsis, n. g., for *M. anomala*, n. sp., Florissant, pl. v, fig. 1 ; SCUDDER, p. 222, *t. c.*

Cladoneura, n. g., p. 212, for *C. willistoni*, n. sp., Florissant, p. 213, pl. iv, fig. 2 ; SCUDDER, *t. c.*

Linnocema, n. g., p. 201, for 4 species from Colorado ; SCUDDER, *t. c.*

Oryctogma, n. g., for *O. sackenii*, n. sp., Florissant ; SCUDDER, p. 194, *t. c.*

Sackeniella, n. g. (*Tipulidæ*), in amber ; MEUNIER, p. clxxviii, Bull. Soc. ent. France, 1894.

Note on amber *Platypezidæ* ; MEUNIER (702).

RHYNCHOTA.

Fossil *Notonectidæ* from the Braunkohlengebirge of Rott ; SCHLECHTENDAL (972).

Mecynostoma, n. g. *Fulgorides*, for *M. dohrni*, n. sp., Carboniferous of Commentry ; BRONGNIART (136), p. 451.

NEUROPTERA.

In the following lines we have given all the new genera established by BRONGNIART (136), but for the new species the student should refer to the work itself :—

Mischoptera, n. g., for *Woodwardia*, Brong., *olim.* ; BRONGNIART (136) p. 283.

Psilothorax, n. g., for *Woodwardia longicauda*, Brong. ; BRONGNIART (136), p. 288.

Cyclocelis, n. g., *Megasecopterides*, for several n. spp. from the Carboniferous of Commentry ; BRONGNIART (136), p. 290.

Ischnoptilus, n. g., *Megasecopterides*, for *I. elegans*, n. sp., Carboniferous of Commentry ; BRONGNIART (136), p. 296.

Aspidothorax, n. g., for *Protocapnia*, Brong., *olim.* ; BRONGNIART (136), p. 304.

Diaphanoptera, n. g., *Megasecopterides*, for *D. munieri*, *vetusta*, n. spp., Carboniferous of Commentry ; BRONGNIART (136), p. 308.

Protephemerides, n. fam., for the following new genus, in addition to *Homaloneura*, *Homothetus*, and *Anthracothremma*, viz. :—

Blanchardia, n. g., for *B. pulchella*, n. sp., Carboniferous of Commentry ; BRONGNIART (136), p. 325.

Compsonewra, n. g., *Platypterides*, for *Zeilleria*, Brong., *olim.*; BRONGNIART (136), p. 334.

Lamproptilia grandeuryi, fig.; BRONGNIART, Ann. Soc. ent. France, 1894, p. 95.

Graphiptilus, n. g., *Platypterides*, for *G. heeri*, *williamsoni*, *ramondi*, n. spp., Carboniferous of Commentry; BRONGNIART (136), p. 348.

Palæoptilus, n. g., *Platypterides*, for *P. buillei*, n. sp., Carboniferous of Commentry; BRONGNIART (136), p. 352.

Homoioptera, n. g., for *Lithomantis woodwardi*, Brong.; BRONGNIART, (136), p. 353.

Bequerelia, n. g., *Platypterides*, for *B. superba*, and other n. spp. from Carboniferous of Commentry; BRONGNIART (136), p. 356.

Rhabdoptilus, n. g., *Platypterides*, for a n. sp. from the Carboniferous of Commentry; BRONGNIART (136), p. 364.

Fouquea, n. g., for *Oustaletia*, Brong., *olim.*; BRONGNIART (136), p. 372.

Borrea, n. g., *Platypterides*, for *B. lachlani*, n. sp., Carboniferous of Commentry; BRONGNIART (136), p. 378.

Titanoptera, n. g., *Platypterides*, for *T. maculata*, n. sp., Carboniferous of Commentry; BRONGNIART (136), p. 379.

Stenodictya, n. g., for several new species from the Carboniferous of Commentry; BRONGNIART (136), p. 383, and including *Scudderia*, Brong., *olim.*, p. 386.

Heeria, n. g., *Stenodictyopteridæ*, for *H. vaillanti*, *hamyi*, n. spp., Carboniferous of Commentry; BRONGNIART (136), p. 388.

Microdictya, n. n. to replace the above *Heeria*, which is preoccupied; BRONGNIART (136), Atlas, p. 28.

Dictyoptilus, n. g., *Stenodictyopterides*, for *D. renaulti*, n. sp., Carboniferous of Commentry; BRONGNIART (136), p. 390.

Peromaptera, n. g., *Stenodictyopterides*, for *P. fillioli*, n. sp., Carboniferous of Commentry; BRONGNIART (136), p. 391.

ORTHOPTERA.

Stenoneura, n. g., *Protphasmidæ*, for *Protascalaphus*, Brong., *olim.*; BRONGNIART (136), p. 429.

Ischnoneura, n. g., *Hadrobrachypodes*, for *Leptoneura*, Brong., *olim.*; BRONGNIART (136), p. 433.

Homalophlebia, n. g., *Protolocustidæ*, for *H. finoti*, *courtini*, n. spp., Carboniferous of Commentry; BRONGNIART (136), p. 437.

IV.—ECONOMIC.

Reports, &c.: Reports on U. S. injurious insects, see RILEY (912-915); LINTNER (649).—Foreign insects in the World's Columbian Exposition; RILEY (922).

Notes on some insects commonly injurious to gardens and orchards in N. America; TREAT, pp. 16-20, J. N. York Ent. Soc. i.—Notes, with

figures, on various insects said to be injurious in India; COTES (206).—Proceeding of the Association of Economic Entomologists, Canad. Ent. 1894, pp. 265–274.

For numerous papers on American economic entomology, see *Insect Life*, vii, pp. 55–212, includes a bibliographic list of the publications of the State Agricultural Experiment Stations, pp. 99–105.

Bibliographic list of papers published by the N. American Agricultural Experiment Stations; HOWARD, *t. c.* pp. 99–105.

Board of Agricultural Leaflets: A $\frac{2-24}{1}$, *Otiorrhynchus sulcatus* and *picipes*; A $\frac{6-24}{1}$, *Hypoderma bovis*; A $\frac{8-24}{1}$, Moths on fruit trees, the winter moth. The vol. for 1893 contained numerous articles on insects.

Diptera injurious to cereals in France; MARCHAL (671).—Monograph of insects injurious to Indian corn; FORBES (312).—Damage to wheat crops in Persia by an insect called "Sen"; PREECE, p. xx, *P. ent. Soc. London*, 1894.—Insects attacking coffee-trees; KÜNCKEL, pp. cxcvii–cc, *Bull. Soc. ent. France*, 1894.—Some insects injurious to pines in France; HICKEL, pp. 5–10, *Feuille Natural.* xxv.—Insects injurious to *Pinus sylvestris*; ECKSTEIN (256).—Insects injurious to rape, &c., in Sweden; LAMPA (628): *Nematus ribesii*, *Plusia gamma*, *Agriotes*, &c., *Ent. Tidskr.* i, also *id.* pp. 59–64.—Rose-injuring insects; JANDER, p. xii, *Zeitschr. Ent. Breslau*, xix.—Insects injurious to dried mushrooms; MONIEZ (723).—Insects injurious to drugs; SAYRE (965).—*Silpha (Blitophaga) opaca* in Finland; REUTER (910).—*Melasis buprestoides* injuring oaks; DECAUX, p. 64, *Naturaliste*, 1894.—*Agrilus sinuatus* injuring pear-trees, *Insect Life*, vii, pp. 258–260.—*Scarabæidæ* injuring pasturage in Argentine Terr.; ORMEROD (774), and p. xx, *P. ent. Soc. London*, 1894.—*Leptispa pygmæa* injuring sugar-cane in Bombay; JACOBY, p. ii, *t. c.*—*Cetoniide* injurious to vines; MAYET (691).—*Cetonia stictica* injurious to fruit-trees in France; GILLOT, p. 140, *Feuille Natural.* xxiv.—*Steirostoma depressum* injurious to cacao-trees in Trinidad; CARR, p. 110, *J. Trinidad Club*, ii.—*Lema melanopus* injurious in Hungary; SAJÓ, *Ent. Nachr.* xx, p. 175.—The currant-stem girdler, *Phyllæcus flaviventris*; MARLATT (674).—*Lyda hypotrophica* in Bavaria; LANG, pp. 6–16, *Forstl. Zeitschr. Munchen*, ii.—*Vespa crabro* injurious to birches; KNAUTH, p. 27, *op. cit.* iii.—*Lasiocampa pini* injurious in France; RAGONOT, p. cc, *Bull. Soc. ent. France*, 1894.—*Chareas graminis* in S. Scotland; SERVICE, p. 278, *Entomologist*, 1894.—Injuries of *Chareas graminis*, in S. Scotland; ORMEROD, *Ent. Mag.* 1894, p. 169.—Ravages of *Neuronis popularis* in France; MARCHAL, p. cxlii, *Bull. Soc. ent. France*, 1894, and GIARD, *t. c.* p. clv, MARCHAL, *t. c.* pp. clvi–clix.—*Neuronis popularis*, ravages, enemies, destruction; MONIEZ (722).—*Cheimatobia brumata* and its destruction; WILSON, *Ent. Mag.* 1894, p. 4.—*Simæthis nemorana* injurious to fig-trees; DECAUX (224).—*Epicrocis terebrans* injuring red cedar trees, &c., in Australia; OLLIFF (772).—*Galleria mellonella* in Australia; OLLIFF (771).—*Tortrix murinana* and *Steganoptycha rufimitrana* injurious to conifers in Switzerland; FANKHAUSER, pp. 129–134, *Forstl. Zeitschr. Munchen*, ii.—*Tortrix paleana* injurious to pastures in Finland; REUTER

(900).—Ravages of *Sitotroga cerealella* ; LABOULBÈNE, p. clxi, Bull. Soc. ent. France, 1894.

Psilura monacha, discussion of habits, &c. ; WASMANN (1126) : ravages, remedies, &c. ; GAIL (354).—Ravages of *Liparis monacha* ; HARTIG (410), TUBEUF (1091) : its destruction by various means discussed ; WACHTL & KORNAUTH (1113).—Failure of infection of *Liparis monacha* ; TUBEUF, pp. 113–126, Forstl. Zeitschr. Munchen, ii.

Hessian-fly ; SAJÓ (958).—*Oscinis frit* and *pusilla* ; RÖHRIG (940).—Cabbage-root maggot, onion maggot, and allies, economical monograph ; SLINGERLAND (1019).

Ravage of Tea-bugs in India ; WATERHOUSE (1134).—Chinch-bug ; OSBORN, Insect Life, vii, p. 23, MARLATT, t. c. p. 232.

Phylloxera ; JOLICÉUR (497) : control of *Phylloxera* by submersion ; Insect Life, vi, pp. 315–318.—The enemies of *Aphides* ; VINE (1111).

Scale insects on orange in Australia ; TRYON (1083).—*Lecanium* sp. attacking plum trees in New York ; SLINGERLAND (1020).—*Diaspis patelliformis* on mulberry in Japan ; SASAKI (961).—*Diaspis lanatus*, destructive to peach trees ; RILEY & HOWARD (923).—*Aspidiotus perniciosus* in Virginia ; SCHWÄRZ & COQUILLÉTT, Insect Life, vi, pp. 247 & 253.—*Trioza alacris*, injuries to *Laurus nobilis* ; KESSLER (523).

Lac insects ; TOZZETTI (1078).

Coccinellid destroying red spider ; DUFFEY (248).

Pissodes, life-history ; PAULY (799).—Life-histories of *Scolytidae* ; PAULY (797).—Effects of ants on potatoes ; HEIM (419).

Migratory locusts of the world ; REDTENBACHER (869).—"Locusts" in Madeira and Natal ; P. ent. Soc. London, 1894, pp. xxix & xxxii.—A locustid, *Decticus albifrons*, injurious in Algeria ; KÜNCKEL (616).—Account of operations against locusts in Algeria ; FAURE (291).—*Schistocerca americana*, ravages ; HOWARD (457).—Enemies of locusts ; KÜNCKEL (617–619).

Infecting *Silpha* with destructive cryptogam ; DANYSZ, pp. clxxxv–clxxxv, Bull. Soc. ent. France, 1894.—Destruction of larvæ of *Lamelliscornis* by *Bacteria* ; KRASSILTSCHIK (601).

Dissemination of contagious diseases by flies ; MOORE, p. 18, Ent. News Philad. v.—*Dermestes* as a disseminator of contagion ; HEIM (417).

Rearing silkworms in Australia ; McCULLOCH, Bull. Agric. Brisbane, No. 23.—The silkworm disease : its cause and prevention ; FARN, P. Croydon Club, 1893–94, pp. 69–77.

Grease-bands as preventives against *Cheimatobia* ; McLACHLAN, p. xl, P. ent. Soc. London, 1894.

Notes on *Dianthidia* and other insects used for poisoning arrows ; KOLBE (558).

Use of stinging of bees as a remedy in rheumatism ; XAMBEU (1168).—Medical entomology in Mexico ; SÁNCHEZ (959).

Estimate of expenses, &c., of establishing a Swedish entomological station ; Ent. Tidskr. xv, Bihang, pp. i–xxviii.—Establishment of a

section in the Pasteur Institute for experimenting with fungi destructive to insects; DANYSZ, p. cxiv, Bull. Soc. ent. France, 1894.

Insects found in human habitations; TROUSSERT (1081).

Insects and flowers: *Salvia*; MÜLLER (738), BURKILL (145).—Bees and honeysuckles; MEEHAN (694), MACLEOD (664), KNUTH (551), ROBERTSON (933-936), GUIGNARD & FLETCHER (391).—Insects and flowers on the I. of Norderney; VERHOEFF (1099).

Insects attacking man; GRADENIGO (382), BLANCHARD (98).—*Diptera* attacking man; MAGELHAES (665).

Collections: Insect collections exhibited at the Columbian Exposition; CHITTENDEN, p. 236, Insect Life, vi.—Importance of collections in New Zealand; HUDSON (465).—Improved mode of freeing wings of *Lepidoptera* from scales; JANET (483).—Mounting *Hymenoptera* and *Diptera*; NASON, p. 245, Ent. News Philad. v.—Collecting and preserving *Coleoptera*; COUPIN (209).—Extraction of moth-grease by ether; KNAGGS, Entomologist, 1894, pp. 6-9 & 91.—Methods of curing grease in *Lepidoptera*, KNAGGS, Ent. Mag. 1894, pp. 5-8 & 60, and WEBB, t. c. p. 61.—Solvents for moth-grease: KNAGGS, t. c. p. 201.—Cleaning beetles by boiling; GERHARDT (357).—Modes of relaxing insects; ARKLE, Entomologist, 1894, p. 23.—Preparation of small *Coleoptera* for sex determination; MARTIN (682).—Collecting and mounting parasitic insects; OSBORN (775).—Embedding in paraffin-celloiden for sections of chitinous objects, &c.; FIELD & MARTIN, Zeitschr. wiss. Mikr. xi, p. 9.—Cyanide of potassium and killing-bottles; ARKLE, Entomologist, 1894, p. 58, and BROMILOW, t. c. p. 177.—Improved pins; KNAGGS, Ent. Mag. 1894, pp. 252-254 & 274.—Nickel pins; Naturaliste, 1894, p. 233.—Mode of rearing caterpillars; CULOT, Feuille Natural. 1894, p. 110.—A dark chamber for larvæ; KNAGGS, Entomologist, 1894, pp. 159-161.—New attracting lamp; NOEL (760).—Patent postal box without packing; KNAGGS, Ent. Mag. 1894, p. 101.—Protection against mites and moulds by kyanizing; KNAGGS, Ent. Mag. 1894, p. 130.—Description and plan of the Insectary in Washington; RILEY, Rep. Secr. Agric. 1892, pp. 178 & 179, pls. ix-xii.

Enumeration of von Heyden's collection of palæartic *Coleoptera*; HEYDEN, pp. 271 & 272, Deutsche ent. Zeitschr. 1894.—Account of the collections in the Museum of the University of Halle; TASCHENBERG, Abh. Ges. Halle, xx.—Lethierry's collection of *Hemiptera* acquired by NOUALHIER, Bull. Soc. ent. France, 1894, p. clxxi.—Lethierry's collection of *Hymenoptera* passed to BRABANT, t. c. p. ccxxviii.—Note on the types of Fischer von Waldheim; Ent. Nachr. xx, pp. 14-16.

Prices of *Chrysophanus dispar* and *Noctua subrosea*; Ent. Mag. 1894, p. 11.—Prices realised at sale of the Burney collection of British *Lepidoptera*; SOUTH, Entomologist, 1894, pp. 24, 67 & 103.—Prices of British *Lepidoptera* at the Wellman sale; ADKIN, t. c. pp. 243-245.—Prices of British *Lepidoptera*; t. c. p. 346.

V.—BIBLIOGRAPHY, NOMENCLATURE, BIOGRAPHY.

1. *Bibliography.* The dates of appearance of Moore's *Lepidoptera Indica*; SHERBORNE, Ann. Nat. Hist. (6) xiv, p. 464.—Entomological papers [by Coquerel, Vinson, Coquerel, Monforand] contained in Album de l'île de la Réunion, 1879–1883; ALLUAUD, p. ccxxxii, Bull. Soc. ent. France, 1894.—Bibliography of natural history notes on European *Coleoptera*; RUPERTSBERGER (955).—Bibliographic list of works on the senses and sense-organs of smell and taste; NAGEL (740) pp. 195–203.—List of works on myrmecophilous and termitophilous insects; WASMANN (1127).—Records of zoological literature, 1893; BERTKAU (77).

2. *Nomenclature.* Formation of names, adjective and substantive; KONOW (569).—Common *v.* proper names; SLOSSON, J. N. York Ent. Soc. i, pp. 1–3.—Priority, &c.; BERGROTH (64).—Priority and other points discussed; SEIDLITZ (995).

3. *Biographical.* C. V. RILEY, resignation as Entomologist of U. S.; Ent. News Philad. v, p. 186.—Portrait of Rev. J. C. S. Bethune, Canad. Ent. 1894, frontisp.—Biography of Léon Provancher, with portrait; Natural. Canad. xxi, pp. 38–41, &c.—Benjamin Dann Walsh, with portrait; Ent. News Philad. v, pp. 269 & 270.

Obituary Notices.—Felix Lynch Arribalzaga, by HOLMBERG, Ann. Soc. Argent. xxxvii, pp. 161–163.—Rev. Leonard Blomefield, P. Linn. Soc. London, 1893–94, p. 29.—Leonard Blomefield; Hist. Berwick Club, 1892–93, pp. 347–358.—Reminiscences of the late President and Founder of the club [L. Blomefield]; P. Bath Club, viii, pp. 35–55, portrait.—Julia Perkins Ballard; Canad. Ent. 1894, p. 234.—George Barnard of Coomoolaroo; Entomologist, 1894, p. 228.—Notice nécrologique sur Charles Brisout de Barneville, par H. DE BONVOULOIR; Ann. Soc. ent. France, 1894, pp. 439–448.—J. C. Bowring; P. Linn. Soc. London, 1893–94, p. 29.—George Dexter Bradford; J. N. York Ent. Soc. ii, p. 192.—Major-General George Carden; Entomologist, 1894, p. 108, and Ent. Mag. 1894, p. 65.—Hugo Christoph, by E. HERING, Ent. Zeit. Stettin, iv, pp. 133–139; by SIEVERS, Deutsche ent. Zeitschr. Lep. vii, pp. 361–363.—Gustav Czwalina, with portrait by SEIDLITZ, p. 325, Deutsche ent. Zeitschr. 1894.—W. J. Eichhoff; Wien. ent. Zeit. xiii, p. 80.—Dr. Cajetan Freiherr v. Felder, by ROGENHOFER, Deutsche ent. Zeitschr. Lep. vii, p. 363.—Prof. P. M. Ferrari, Ent. News Philad. v, p. 47.—Rev. Dr. Geo. Gordon; Ann. Scott. Nat. Hist. 1894, pp. 65–71, portrait.—Professor Dr. Veit Graber, by JAWOROWSKI, with list of his works; Mt. Ver. Steiermark, xxix, pp. 224–232.—C. Freiherr von Gumpfenberg; Ent. News Philad. v, p. 32.—Dr. Erich Haase, with list of his writings, by DITTRICH, Zeitschr. Ent. Breslau, xix, pp. 19–26; by STEINERT, Deutsche ent. Zeitschr. Lep. vii, pp. 364–366, and Wien. ent. Zeit. xiii, p. 234.—Hermann August Hagen by MCLACHLAN, Ent. Mag. 1894, p. 18; with portrait by SEIDLITZ, p. 323, Deutsche ent. Zeitschr. 1894, and Psyche, vii,

p. 35.—Dr. G. J. Hearder ; *Ent. Mag.* 1894, p. 65.—E. G. Honrath ; *Berlin. ent. Zeitschr.* xxxix, p. 319.—Dr. Johann Friedrich Judeich ; *Wien. ent. Zeit.* xiii, p. 195.—Wilhelm Jülich ; *Psyche*, vii, p. 36, and *Ent. News Philad.* v, p. 32.—A. F. Kuwert ; *Wien. ent. Zeit.* xiii, p. 260.—Édouard Lefèvre ; *Bull. Soc. ent. France*, 1894, p. clxix.—Notice nécrologique sur C. E. Leprieur, by F. DE SAULCY, *Ann. Soc. ent. France*, 1894, pp. 453–458.—Lucien Lethierry, by PUTON, *Rev. Ent. franc.* xiii, p. 118.—Lucien François Lethierry ; *Ent. Mag.* 1894, p. 137.—Emanuel Liegel ; *Wien. ent. Zeit.* xiii, p. 80.—W. Machin ; *Entomologist*, 1894, p. 300 ; *Ent. Mag.* 1894, p. 214, and *Ent. Rec.* v, p. 209.—Giam-Battista Novak ; *Wien. ent. Zeit.* xiii, p. 195.—Edward Norton, with portrait ; *Ent. News Philad.* v, p. 161 ; *Insect Life*, vi, p. 379, and *Wien. ent. Zeit.* xiii, p. 234.—Auguste Osmont, by FAUVEL, p. 287, *Rev. Ent. franc.* xiii.—F. P. Pascoe ; *P. Linn. Soc.* 1893–94, p. 33.—Don Laureano Pérez Arcas, by MARTINEZ, with portrait, *Act. Soc. espan.* xxiii, pp. 278–293, and with list of his works, pp. 294–296.—Karl Reutti, by HERING, *Ent. Zeit. Stettin*, lv, pp. 305 & 307.—Oskar Theodor Sandahl, with portrait, by LAMPA, *Ent. Tidskr.* xv, pp. 315–323.—Moritz Schuster ; *Ent. News Philad.* v, p. 96.—Notice nécrologique sur le docteur Hippolyte Sénac, par A. LEVEILLÉ, *Ann. Soc. ent. France*, 1894, p. 449.—Jacob Spångberg, with portrait ; SANDAHL, *Ent. Tidskr.* xv, pp. 165–168, and *Ent. Mag.* 1894, p. 137.—Knut Fredrik Thedenius, with portrait, by SANDAHL, *Ent. Tidskr.* xv, pp. 191–199.—Hans Daniel Johan Wallengren ; *t. c.* p. 326, and *Wien. ent. Zeit.* xiii, p. 295.—John Jenner Weir ; *P. Linn. Soc. London*, 1893–94, p. 37 ; with portrait, *Sci. Gossip*, i, p. 49 ; with portrait, *Entomologist*, 1894, pp. 157–159 ; with portrait, by TUTT, *Ent. Rec.* v, pp. 103–105, and *Ent. Mag.* 1894, p. 116.—John Richard Wellman, p. 360, *Entomologist*, 1894.—Buchanan White ; *Sci. Gossip*, i, p. 241.—J. Trimmer Williams ; *Entomologist*, 1894, p. 228.

VI.—SYSTEMATIC.

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

(A.) *COLEOPTERA.*

- Comparison of the wing-neuration in the various orders; BRONGNIART (136).
 Morphology of the abdomen and male and female genitalia; PEYTOUREAU (808).
 Anatomy and morphology of male organs; ESCHERICH, *Zeitschr. wiss. Zool.* lvii, pp. 620-641, pl. xxvi.
 Structure of the female abdomen; VERHOEFF (1106).
 Sense of smell and taste in *Coleoptera*; NAGEL (740).
 Catalogue of known European Coleopterous larvæ; RUPERTSBERGER (955).
 Fossil *Coleoptera*, see PALÆONTOLOGY, p. 98.
Coleoptera common to North America, Northern Asia, and Europe; HAMILTON (398).
 Phylogeny of *Coleoptera*; HOULBERT (451).
 Notes on various Coleopterous larvæ found in Denmark, with dates of emergence, &c.; SCHLICK (973).

CICINDELIDÆ.

- [Cf. FLEUTIAUX (306-309), HORN (443-448), JORDAN (498, 502), KOLBE (560), PÉRINGUEY (807).]
 Note on S. African *Cicindelidæ*; FLEUTIAUX, pp. 401-404, *Ann. Soc. ent. France*, 1894.
 Review of Péringuey's descriptive Catalogue of S. African *Cicindelidæ*, with synonymical and other suggestions; HORN, *Deutsche ent. Zeitschr.* 1894, pp. 305-317.
Cicindelidæ of Ontario and Quebec; WICKHAM, *Canad. Ent.* 1894, pp. 149-154.
Calcohroa andrewesi, fabricii, p. 171, *kraatzi*, p. 172, E. India, HORN, *Deutsche ent. Zeitschr.* 1894, n. spp.
Cicindela sumatrensis, n. var. *imperfecta*; HORN, p. 173, *Deutsche ent. Zeitschr.* 1894. *C. batesi*, n. var. *albina*; HORN, p. 240, *t. c.* *C. strachani*, var. *xanthospila*; HORN, p. 220, *t. c.* *C. ritchi*, variation; HORN, p. 12, *t. c.* *C. maura*, pp. 205 & 206, *paludosa*, p. 262, *lyoni*, p. 263, *atrata*, p. 264, *burmeisteri*, p. 265, varieties; BEUTHIN, *Ent. Nachr.* xx. *C. scutellaris*, varr.; JOHNSON, p. 142, *J. N. York Ent. Soc.* ii.

- C. mashuna*, S. Africa, PÉRINGUEY, Tr. ent. Soc. London, 189 p. 448 ;
C. viridicincta, p. 173, *belli*, p. 174, E. India, HORN, Deutsche ent. Zeitschr. 1894 ; *C. nietneri*, Ceylon, HORN, p. 220, *t. c.* ; *C. mucronata*, Philippines, JORDAN, p. 663, Nov. Zool. i ; *C. timoriensis*, Timor, JORDAN, p. 104, *t. c.* ; *C. fevrii*, Japan, FLEUTIAUX, p. cclxxxi, Bull. Soc. ent. France, 1894 ; *C. batesi*, Mexico, p. 111, *alba*, E. Africa, p. 112, HORN, Deutsche ent. Zeitschr. 1894 : n. spp.
- Collyris bonelli*, var. *cruentata* ; HORN, p. 224, Deutsche ent. Zeitschr. 1894 ; *C. redtenbacheri*. n. n. for *attenuata*, Chd., nec Redt. id. *t. c.* p. 12.
- C. andrevesi*, E. India, HORN, p. 170, Deutsche ent. Zeitschr. 1894 ; *C. thomsoni*, Penang, p. 217, *obscurata*, p. 218, *viridescens*, p. 219, Java, *smaragdina*, p. 220, E. India, HORN, *t. c.* ; *C. paraguensis*, Palawan, *gracilis*, Manilla, p. 13, *levigata*, Borneo, *pinguis*, Sumatra, p. 14, *srnka*, Burma, p. 15, *chevolati*, Andaman Is., p. 16, HORN, *t. c.* : n. spp.
- Cosmema dolosa*, Mashunaland, PÉRINGUEY, p. 452, Tr. ent. Soc. London, 1894, n. sp.
- Cratocherea aurosternalis*, *kolbei*, p. 245, *conradti*, p. 246, W. Africa, HORN, Ent. Nachr. xx, n. spp.
- Ctenostoma breviusculum*, Mann., a valid species ; HORN, p. 238, Deutsche ent. Zeitschr. 1894.
- Ĉ. heydeni*, Brazil, *affine*, Bahia, HORN, p. 109, Deutsche ent. Zeitschr. 1894, n. spp.
- Distypsidera levisculpta*, Queensland, HORN, p. 222, Deutsche ent. Zeitschr. 1894, n. sp.
- Euryoda dromicaria*, Upper Guinea, KOLBE, p. 164, Ent. Zeit. Stettin, lv ;
E. gibbosa, W. Africa, HORN, p. 247, Ent. Nachr. xx : n. spp.
- Halme formicaria*, Sumatra, NONFRIED, p. 206, Deutsche ent. Zeitschr. 1894, n. sp.
- Megacephala howitti*, note on ; SLOANE, p. 483, P. Linn. Soc. N. S. Wales, viii.
- M. oberthuri*, Kilimandjaro, FAIRMAIRE, p. 387, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Myrmecoptera angusticollis*, p. 448, *mashuna*, p. 449, *marshalli*, p. 450, *formosa*, p. 451, *invicta*, p. 452, Mashunaland, PÉRINGUEY, Tr. ent. Soc. London, 1894, n. spp.
- Odontochila simulator*, Columbia, HORN, p. 223, Deutsche ent. Zeitschr. 1894, n. sp.
- Oxychila chaudoiri*, Chiriqui, HORN, p. 111, Deutsche ent. Zeitschr. 1894, n. sp.
- Oxygonia prodiga*, Er., variation ; HORN, p. 237, Deutsche ent. Zeitschr. 1894.
- Peridexia hilaris*, *fulvipes*, distinctions ; FLEUTIAUX, p. cclxxxii, Bull. Soc. ent. France, 1894.
- Phaeoxantha* : tabulation, synonymy ; FLEUTIAUX, pp. 24–28, Bull. Soc. zool. France, xix.
- Pogonostoma ovicolle* and *schaumi*, note on ; HORN, p. 238, Deutsche ent. Zeitschr. 1894.

- P. kraatzi*, Nossi-bé, HORN, p. 221, Deutsche ent. Zeitschr. 1894 ; *P. sikovæ*, Madagascar, p. 239, HORN, *t. c.* : n. spp.
- Pseudotetracha*, n. g., for *Tetr. cylindrica* and *howitti* ; FLEUTIAUX, Rev. Ent. franc. xiii, p. 123.
- Styphloderma subopacum, oblongulum*, Kilimandjaro, FAIRMAIRE, p. 389, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Tetracha* : revision of the Australian ; FLEUTIAUX, pp. 125-128, Rev. Ent. franc. xiii. *T. basalis*, n. var. *phæoxantha* ; HORN, p. 110, Deutsche ent. Zeitschr. 1894.
- T. thomsoni*, Bolivia, HORN, p. 110, Deutsche ent. Zeitschr. 1894, n. sp.
- Therates punctipennis*, Sanghi I., JORDAN, p. 105, Nov. Zool. i, n. sp.
- Tricondyla nigripalpis*, Ceylon, HORN, p. 224, Deutsche ent. Zeitschr. 1894, n. sp.

CARABIDÆ.

- [Cf. ABELLE (6), BAUDI (51), BLACKBURN (95, 96), BROUN (139), DUFFEY (248), FAIRMAIRE (281, 283, 285), GAHAN (351), GERMAIN (358, 359, 360), HAUSER (415), HELLIEN (424), HORN (442), JORDAN (498), KOLBE (554, 559), KRAATZ (587), PIC (815, 828), REED (872), REITTER (881, 882, 885, 890, 891), SEMENOW (1002), SLOANE (1021, 1022), STARCK (1041), TSCHITSCHÉRINE (1084-1088, 1090), WASMANN (1127), XAMBEU (1170).]
- List of myrmecophilous and termitophilous *Carabidæ* ; WASMANN, Verzeichniss, pp. 59 & 60.
- Acupalpus bistriga, discus*, Malta, REITTER, p. 81, Wien. ent. Zeit. xiii, n. spp.
- Agonocheila perplexa*, Victoria, BLACKBURN, p. 201, Tr. R. Soc. S. Austral. xviii, n. sp.
- Agonoderus pallipes*, habits ; FORBES, p. 12, pl. ii, fig. 3, Rep. Ins. Illinois, xviii.
- Agonum punctibasis*, Herat, REITTER, p. 123, Wien. ent. Zeit. xiii, n. sp.
- Amara fodinæ*, n. var. *vicina*, p. 387, *tumida*, Mor., = (*tibialis*, Motsch., = *pedestris*, Putz.), p. 390, *validipes*, Tschitsch. (sub *Pterostichus*), description, p. 396 ; TSCHITSCHÉRINE, Horæ Soc. ent. Ross. xxviii. *A. affinis*, Dej., = (*versuta*, Woll.) ; BEDEL, p. 150, Abeille, xxviii. *A. obsoleta*, early stages ; XAMBEU, p. 122, Ann. Soc. Linn. Lyon, xli. *A. trivialis*, larva ; XAMBEU, Mœurs, ii, p. 87.
- A. (Bradytus) reitteri*, pp. 257 & 403, E. Siberia, *A. (Liocnemis) hankaica*, p. 257, *A. (Celia) vilis*, p. 258, Mongolia, TSCHITSCHÉRINE, Horæ Soc. ent. Ross. xxviii ; *A. magnicollis*, Thibet, p. 379, *A. (Cyrtonotus) herculeana*, p. 381, *dux*, p. 383, Chingan, *peculiaris*, Amdo, p. 386, *ignatovitschi*, Sémiretschie, p. 387, *eremita*, Mongolia, p. 391, *misera*, Turkestan, p. 392, *A. (Leirodema) sifanica*, Amdo, p. 394, *A. (Liocnemis?) singularis*, Ganssu, p. 397, *abnormis*, Asia Minor, p. 399, II. (*Bradytulus*, n. subg.) *thibetana*, p. 400, *A. (Bradytus) micans*, p. 402, *dissimilis*, p. 404, *chinensis*, p. 406, Amdo, *A. (Heterodema*,

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- Ammozena*, n. subg. of *Amara*, q.v.
- Anchomenus (Agonum) tschitscherini*, W. Turkestan, SEMENOW, p. 526, Horæ Soc. ent. Ross. xxviii, n. sp.
- Anchonoderus apicalis*, Lower California, HORN, p. 360, P. Calif. Ac. iv, n. sp.
- Anillus magdalenæ*, Algeria, ABÉILLE, p. 91, Echange, 1894, n. sp.
- Antarctiides*: note on Lacordaire's characters for; GERMAIN, p. 1039, An. Univ. Chile, lxxxiv.
- Anthia ida*, p. 200, *bucolica*, *adulatrix*, p. 201, *gorge*, *stygne*, p. 202, Trop. Africa, KOLBE, Ent. Zeit. Stettin, lv, n. spp.
- Apotomopterus eccoptopterus*, China, KRAATZ, p. 133, pl. i, figg. 17-19, Deutsche ent. Zeitschr. 1894, n. sp.
- Apristus subcyaneus*, Lower California, HORN, p. 360, P. Calif. Ac. iv, n. sp.
- Aristus opacus*, Er., = (*subopacus*, Woll.); BEDEL, p. 151, Abeille, xxviii.
- Aurisma robusta*, Thibet, FAIRMAIRE, p. 216, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Bembidion bualei*, = (*dromioides*, DuR.); BEDEL, p. 151, Abeille, xxviii.
- Bembidium mastersi*, p. 404, *riverine*, p. 505, Australia, SLOANE, P. Linn. Soc. N. S. Wales, ix, n. spp.
- Brachinus janthinipennis*, larval habits; WICKHAM, p. 39, Canad. Ent. 1894.
- B. timoriensis*, Timor, JORDAN, p. 105, Nov. Zool. i, n. sp.
- Bradycellus nigrifulus, glabratus*, East Siberia; REITTER, p. 125, Wien. ent. Zeit. xiii, n. spp.
- Bradytulus*, n. subg. of *Amara*, q.v.
- Callida rugicollis*, Lower California, HORN, p. 361, P. Calif. Ac. iv, n. sp.
- Carabus*: structure of male organs; ESCHERICH, Zeitschr. wiss. Zool. xxvi, p. 630. *C. principalis*, note on; KRAATZ, p. 139, Deutsche ent. Zeitschr. 1894. Various named varieties; STARCK, pp. 7-10, Wien. ent. Zeit. xi. *C. auratus*, variation; BEUTHIN, pp. 109-112, Ent. Nachr. 1894. *C. parreyssi*, varr.; BEUTHIN, p. 97, Soc. ent. ii.
- C. (Plectes) guginus*, Caucasus, STARCK, p. 10, Wien. ent. Zeit. xi, n. sp.
- Carenides*: the genera tabulated; SLOANE, pp. 448-450, P. Linn. Soc. N. S. Wales, viii.
- Carenum*: characters; species tabulated; SLOANE, pp. 461-466, P. Linn. Soc. N. S. Wales, viii.
- C. brevicolle*, p. 467, *tibiale*, p. 468, *iridescens*, p. 470, *virescens*, p. 471, Australia, SLOANE, P. Linn. Soc. N. S. Wales, viii; *C. frenchi*, p. 396, *optimum*, p. 397, *cognatum*, p. 399, *gracile*, p. 401, Australia, SLOANE, op. cit. ix : n. spp.

- Ceroglossus*: notes on the species; REED, P. Bristol Soc. (n.s.) vii, pp. 161-164.
- Chlœnius fulgidicollis*, n. var. *lugubris*; FAIRMAIRE, p. xxiv, Bull. Soc. ent. France, 1894. *C. fulgidicollis*, early stages; XAMBEU, p. 111, Ann. Soc. Linn. Lyon, xli.
- C. dilutipes*, Turkestan, REITTER, p. 40, Deutsche ent. Zeitschr. 1894, n. sp.
- Clivina oodnadatta*, p. 86, *eremicola*, p. 87, Australia, BLACKBURN, P. Linn. Soc. N. S. Wales, ix, n. spp.
- Colpodes pleuralis*, Timor, JORDAN, p. 110, Nov. Zool. i, n. sp.
- Conopterum riverinæ*, = (*Carenium amabile*, Cast.); SLOANE, p. 482, P. Linn. Soc. N. S. Wales, viii.
- Coronocanthus sulcatus*, Macl., = (*Sarticus quadrisulcatus*, Chaud.); SLOANE, p. 426, P. Linn. Soc. N. S. Wales, ix.
- Coptolabrus pustulifer*, n. var. *mirificus*; KRAATZ, p. 140, Deutsche ent. Zeitschr. 1894.
- Coscinia striata*, Herat, REITTER, p. 122, Wien. ent. Zeit. xiii, n. sp.
- Otenognathus actochares*, New Zealand, BROUN, p. 307, Ann. Nat. Hist. (6) xiv, n. sp.
- Cyclothorax*: systematic position queried; SLOANE, p. 447, P. Linn. Soc. N. S. Wales, ix. *C. lateralis*, Cast. (sub *Phorticosomus*), = (*cinctipennis*, Black.); SLOANE, p. 448, t. c.
- C. curtus*, p. 448, *punctatus*, p. 449, Australia, SLOANE, P. Linn. Soc. N. S. Wales, ix, n. spp.
- Cymindis pilosissima*, Mongolia, REITTER, p. 126, Wien. ent. Zeit. xiii, n. sp.
- Darodilia macilenta*, p. 444, *rugisternus*, p. 445, Australia, SLOANE, P. Linn. Soc. N. S. Wales, ix, n. spp.
- Dicrochile cephalotes*, New Zealand, BROUN, p. 306, Ann. Nat. Hist. (6) xiv, n. sp.
- Ditomus (Aristus) punctatissimus*, Jerusalem, BAUDI, p. 2, Boll. Mus. Torino, ix, No. 173, n. sp.
- Dromius linearis* and allies, characters; REITTER, p. 190, Wien. ent. Zeit. xiii.
- D. strigifrons*, Bulgaria, REITTER, p. 191, Wien. ent. Zeit. xiii; *D. hauseri*, Transcaspiàn Region, REITTER, p. 126, t. c. : n. spp.
- Dyschirius numidicus*, = (*armatus*, Woll.); BEDEL, p. 150, Abeille, xxviii.
- D. hipponensis*, Algeria, PIC, p. 140, Feuille Natural. xxiv, n. sp.
- Ectroma parvicolle*, W. Australia, BLACKBURN, p. 201, Tr. R. Soc. S. Austral. xviii, n. sp.
- Euchlœnius*, n. g., *Chlœniine*, p. 198, for *E. trochantericus*, n. sp., Central Africa, p. 199; KOLBE, Ent. Zeit. Stettin, lv.
- Euryscaphus*: characters of the genus and species; SLOANE, pp. 452-460, P. Linn. Soc. N. S. Wales, viii.
- E. atratus*, p. 456, *politus*, p. 457, *concolor*, p. 459, Australia, SLOANE, P. Linn. Soc. N. S. Wales, viii; *E. terrenus*, Australia, SLOANE, p. 394, op. cit. ix : n. spp.

- Eutoma*: characters, notes on species; SLOANE, pp. 474-476, P. Linn. Soc. N. S. Wales, viii.
- E. frenchi*, Queensland, SLOANE, p. 476, P. Linn. Soc. N. S. Wales, viii ;
E. viridicolor, Australia, SLOANE, p. 402, *op. cit.* ix : n. spp.
- Feronia aneocuprea*, Fairm., = (*ganssuensis*, Tschitsch.); TSCHITSCHÉRINE, p. 379, Horæ Soc. ent. Ross. xxviii.
- F. (Pterostichus) mira*, pp. 254 & 366, *F. (Pseudocryobius) homalonota*, pp. 255 & 378, *sahlbergi*, N. Mongolia, *lederi*, p. 255, *dubiosa*, E. Siberia, *F. (Derus) hanhaica*, p. 256, *peculiaris*, p. 257, Mongolia, TSCHITSCHÉRINE, Horæ Soc. ent. Ross. xxviii ; *F. tundra*, Arctic Siberia, p. 368, *regeli*, Songaria, p. 370, *necessaria*, Turkestan, p. 371, *bungei*, Siberia, p. 372, *gestroi*, Piedmont, p. 373, *batesi*, Suchovindak, p. 375, *F. ? eoa*, Thibet, p. 376, TSCHITSCHÉRINE, *t. c.* : n. spp.
- Geoscaptus crassus*, Queensland, SLOANE, p. 393, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Gnathaphanus riverinæ*, Australia, SLOANE, p. 455, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Graphipterus cinerarius*, Zanzibar, FAIRMAIRE, p. 651, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Harpalodema*, Reitt.: merged in *Amara* as subg.; TSCHITSCHÉRINE, Horæ Soc. ent. Ross. xxviii.
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- H. agonus*, Pamir, p. 259, *przewalskyi*, N. Thibet, p. 260, TSCHITSCHÉRINE, Horæ Soc. ent. Ross. xxviii, n. spp.
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- Lebistina subcruciata*, S. Africa, FAIRMAIRE, p. 314, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Lecanomerus pallipes*, New Zealand, BROWN, p. 379, Ann. Nat. Hist. (6) xiv, n. sp.
- Leptotomus*, n. g., p. 115, near *Barysomus*, for *L. pittieri*, n. sp., Costa Rica, p. 116; GAHAN, Ann. Nat. Hist. (6) xiv.
- Leptotrachelus dorsalis*, larval habits; WEBSTER, p. 140, Ent. News Philad. v.
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- Lesticus desgodinsi*, Thibet, TSCHITSCHÉRINE, p. 446, Horæ Soc. ent. Ross. xxviii, n. sp.

- Lithostrotus*, n. g., *Lebiidarum*, for *L. cærulescens*, n. sp., Victoria, BLACKBURN, p. 200, Tr. R. Soc. S. Austral. xviii.
- Loxophonus*, n. g., p. 124, near *Harpalus*, for *L. setiporus*, n. sp., Turkestan, p. 125; REITTER, Wien. ent. Zeit. xiii.
- Mecodema scitulum*, p. 302, *lineatum*, p. 303, New Zealand, BROUN, Ann. Nat. Hist. (6) xiv, n. spp.
- Mecynognatus macleayi*, Queensland, SLOANE, p. 411, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Menidius vittatus*, Costa Rica, GAHAN, p. 116, Ann. Nat. Hist. (6) xiv, n. sp.
- Metabletus fuscifer*, Transcaspian Region, REITTER, p. 127, Wien. ent. Zeit. xiii, n. sp.
- Metaglymma modicum*, *oregoide*, New Zealand, BROUN, p. 305, Ann. Nat. Hist. (6) xiv, n. spp.
- Mimodromius frigidus*, Chili, GERMAIN, p. 61, Act. Soc. Chili, iii, n. sp.
- Molops (Stenochoromus) montenegrinus*, n. var. *ganglbaueri*; APFELBECK in HOERNES, Wiss. Mt. Bosn. Hercegov. ii, p. 527.
- Morio simulatus*, Timor, *gracilis*, Tenimber, JORDAN, p. 107, Nov. Zool. i, n. spp.
- Nebria bonellii*, n. var. *ardua*; STARCK, p. 11, Wien. ent. Zeit. xiii.
- N. glasunowi*, Turkestan, TSCHITSCHÉRINE, Horæ Soc. ent. Ross. xxviii, p. 286, n. sp.
- Neocarenum angustatum*, p. 478, *parviceps*, p. 480, Eucla, SLOANE, P. Linn. Soc. N. S. Wales, viii, n. spp.
- Notolestus*, n. g., for *Abax sulcipennis*, Macl.; SLOANE, p. 428, P. Linn. Soc. N. S. Wales, ix.
- Notonomus* and *Sarticus*, distinctions; SLOANE, p. 426, P. Linn. Soc. N. S. Wales, ix.
- Ochyropus frater*, Grand Bassam, TSCHITSCHÉRINE, p. 228, Horæ Soc. ent. Ross. xxviii, n. sp.
- Omiphron vittulatum*, Soudan, FAIRMAIRE, p. 651, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Ophonus quadricollis*, Dej., = (*marginepunctatus*, Reitt., and *laminatus*, Fairm.); BEDEL, p. 151, Abeille, xxviii. *O. sabulicolu* and allies, characters; REITTER, p. 61, Wien. ent. Zeit. xiii.
- O. marginepunctatus*, Spain, REITTER, Wien. ent. Zeit. xiii, p. 61 (n. sp., but said, p. 192, to be *laminatus*, Fairm.); *O. hystrix*, Mongolia, REITTER, p. 124, t. c. : n. spp.
- Orthogonius equistriatus*, Halmahora, JORDAN, p. 110, Nov. Zool. i, n. sp.
- Orthomus barbarus*, v. *longulus*, Reiche., = (*atlanticus*, Fairm.); BEDEL, p. 150, Abeille, xxviii.
- Orthomus leprieuri*, Algeria, PIC, p. 104, Ann. Soc. ent. France, 1894, n. sp.
- Otophthalmus politus*, amended description; TSCHITSCHÉRINE, pp. 229 & 230, Horæ Soc. ent. Ross. xxviii.
- Oxylobus dissors*, Tonkin, p. 224, *minor*, E. India, p. 227, TSCHITSCHÉRINE, Horæ Soc. ent. Ross. xxviii, n. spp.

- Pantophyrtus hauseri*, Turkestan, REITTER, p. 30, Deutsche ent. Zeitschr. 1894, n. sp.
- Parachlænius*, n. g., *Chlæniiine*, p. 196, for *P. emini*, n. sp., Central Africa, p. 197; KOLBE, Ent. Zeit. Stettin, lv. *Parachlænius*, n. g., *Chlæniiini*, for *P. emini*, n. sp., Central Africa; KOLBE, p. 60, Arch. Naturg. lx, i.
- Phanerodonta*, n. subg. of *Amara*, for *Harpalodema punctipennis*, Reitt.; TSCHITSCHÉRINE, p. 433, Horæ Soc. ent. Ross. xxviii.
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- Platynus cooki*, Queensland, SLOANE, p. 450, P. Linn. Soc. N. S. Wales, n. sp.
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- Pseudoderus ellipticus*, Samarcand, REITTER, p. 238, Wien. ent. Zeit. xiii, n. sp.
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- Pseudotribax*: validity discussed; REITTER, p. 147, Wien. ent. Zeit. xiii. *P.*, distinct from *Pantophyrtus*; KRAATZ, p. 95, Deutsche ent. Zeitschr. 1894.
- Pterostichus*: table of the Australian allied genera; SLOANE, pp. 414-416 P. Linn. Soc. N. S. Wales, ix. *P. microps*, = (*Feronia platymorpha*, Tsch.); TSCHITSCHÉRINE, p. 237, Horæ Soc. ent. Ross. xxviii.
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- Rhopalomelus*, Boh., referred to *Chlæniiini*; KOLBE, p. 60, Arch. Naturg. lx, i.
- Rhytisternus*: table of the species; SLOANE, pp. 437 & 438, P. Linn. Soc. N. S. Wales, ix.
- R. solidus*, p. 438, *nigellus*, p. 440, *gigas*, p. 441, *carpentarius*, p. 443, Australia, SLOANE, P. Linn. Soc. N. S. Wales, ix, n. spp.
- Sarrothrocrepis bimaculatus*, Sumbawa, *m-nigrum*, Tenimber, JORDAN, p. 106, Nov. Zool. i, n. spp.
- Scaraphites*: characters of the species; SLOANE, pp. 450-453, P. Linn. Soc. N. S. Wales, viii.
- S. assimilis*, Fowler's Bay, SLOANE, p. 452, P. Linn. Soc. N. S. Wales, viii, n. sp.

- Scopodes rugatus*, Australia, BLACKBURN, p. 85, P. Linn. Soc. N. S. Wales, ix; *S. simplex*, Victoria, p. 201, *intermedius*, Tasmania, *flavipes*, S. Australia, p. 202, BLACKBURN, Tr. R. Soc. S. Austral. xviii : n. spp.
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- Stomonaaxus minor*, Sumbawa, *abruptus*, Tenimber, p. 108, *convexior*, Sumbawa, *similis*, Buru, p. 109, JORDAN, Nov. Zool. i, n. spp.
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- Tachys striolatum*, Macl. (sub *Bembidium*), = (*brightensis*, Blk.); BLACKBURN, p. 139, Tr. R. Soc. S. Austral. xviii. *T. flindersi*, = (*rubicundus*, Macl.); BLACKBURN, p. 90, P. Linn. Soc. N. S. Wales, ix. *T. vneus*, n. var. *biplagiatus*; JORDAN, p. 112, Nov. Zool. i. *T. bistriata*, early stages; XAMBEU, p. 125, Ann. Soc. Linn. Lyon, xli.
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- Tarastethus strenuus*, p. 308, *dubius*, *simulans*, p. 309, New Zealand, BROUN, Ann. Nat. Hist. (6) xiv, n. spp.
- Taromorphæ*, n. g.; *Lebiides* for *T. alternata*, n. sp., Queensland, BLACKBURN, p. 85, P. Linn. Soc. N. S. Wales, ix.
- Tefflus tenuicollis*, Upper Congo, FAIRMAIRE, p. 314, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Teratotarsus schouberti*, habitat is Cape Good Hope; TSCHITSCHÉRINE, p. 237, Horæ Soc. ent. Ross. xxviii.
- Trechoblemmus pallidus*, S. Russia, REITTER, p. 238, Wien. ent. Zeit. xiii, n. sp.

- Trechus pyreneus*, metamorphoses ; XAMBEU, Mœurs, ii, p. 78, and vi, p. 15.
- T. rathkei*, Norway, HELLIESEN, p. 31, Stavanger Mus. Aarsb. 1892 ; *T. buldiensis*, p. 88, *victorie*, p. 89, Australia, *simsoni*, Tasmania, p. 90, BLACKBURN, P. Linn. Soc. N. S. Wales, ix : n. spp.
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- Zabrus semipunctatus*, Fairm., = (*dispar*, Bonn.) ; BEDEL, p. 151, Abeille, xxviii.
- Zolus femoralis*, New Zealand, BROUN, p. 311, Ann. Nat. Hist. (6) xiv, n. sp.

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- Amphizoa lecontei*, translation of Hubbard's description of larva ; HOULBERT, Naturaliste, 1894, p. 7, cuts.
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- [*Cf.* BAUDI (51), HORN (442), RÉGIMBART (873), XAMBEU (1170).
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- Anodontochilus mocquerysi*, p. 231, *natalensis*, p. 232, S. Africa, RÉGIMBART, Ann. Soc. ent. France, 1894, n. spp.
- Bidessus geminus*, n. var. *capensis, confusus*, n. var. *transvaalensis*; RÉGIMBART, p. 234, Ann. Soc. ent. France, 1894.
- Clypeodytes*, n. g., for a part of *Bidessus*, with *O. hieroglyphicus*, p. 230, *coarctaticollis*, p. 231, n. spp., S. Africa ; RÉGIMBART, Ann. Soc. ent. France, 1894.
- Copelatus depauperatus*, S. Africa, RÉGIMBART, p. 238, Ann. Soc. ent. France, 1894, n. sp.
- Cybister laterimarginalis*, varr., ? *jordani*, noticed ; APFELBECK in HOERNES, Wiss. Mt. Bosn. Hercegov. ii, p. 537.
- Deronectes griseostriatus*, n. var. *palæstinus*; BAUDI, Boll. Mus. Torino, ix, No. 173, p. 3.
- Hydroporus nigrita*, p. 128, *lituratus*, p. 130, early stages ; XAMBEU, Ann. Soc. Linn. Lyon, xli.
- Hydrovatus simoni*, Transvaal, RÉGIMBART, p. 236, Ann. Soc. ent. France, 1894, n. sp.
- Laccophilus lineato-guttatus*, Transvaal, RÉGIMBART, p. 238, Ann. Soc. ent. France, 1894, n. sp.
- Thermonectes peninsularis*, Lower California, HORN, p. 362, pl. viii, fig. 10, P. Calif. Ac. iv, n. sp.
- Tyndallhydrus coriaceus*, S. Africa, RÉGIMBART, p. 235, Ann. Soc. ent. France, 1894, n. sp.

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- Paleogyrinide*, n. fam. (fossil), allied to *Dytiscide* and *Gyrinide*; SCHLECHTENDAL (972), p. 200.
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- [Cf. BROUN (139), JORDAN (498), XAMBEU (1170).]
 Sense-organs of antennæ and palpi; NAGEL, Bibl. Zool. xviii, p. 88.
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Hydrobius fuscipes, metamorphoses, larval anatomy, &c.; BAKER, Naturalist, 1894, pp. 327-333.
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- Platypsyllus castoris*, structure and larva; FRIEDRICH (328): distinctions of sexes; HORN, p. 141, Ent. News Philad. v.

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- [Cf. BLACKBURN (95), BROUN (139), FAIRMAIRE (285), FIORI (304), GARMAN (355), HAUSER (415), HELLIEN (424), HORN (442), HUBBARD (460), PIETSCH (849), REITTER (888, 892), WASMANN (1127, 1130, 1131), XAMBEU (1170).]
 List of myrmecophilous and termitophilous *Staphylinidæ*; WASMANN (1127).
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- Atheta subsenescens*, Scriba, = (*brisouti*, Har.) ; EPPELSHEIM, p. 12, Wien. ent. Zeit. xiii.
- A. termitobia*, Rio de Janeiro, WASMANN, p. 211, Verzeichniss, n. sp.
- Bledius hauseri*, Bukhara, EPPELSHEIM, p. 40, Deutsche ent. Zeitschr. 1894, n. sp.
- Cafius algophilus*, New Zealand, BROUN, p. 419, Ann. Nat. Hist. (6) xiv, n. sp.
- Calodera cavicola*, N. America, GARMAN, p. 81, Psyche, vii ; *C. sericophora*, *granifer*, p. 381, *diversa*, p. 382, *vestita*, *tumidella*, p. 383, *bituberculata*, *fungicola*, p. 384, New Zealand, BROUN, Ann. Nat. Hist. (6) xiv : n. spp.
- Ctenodonia*, n. g., near *Myrmedonia*, for *C. inclyta*, n. sp., W. Africa, in nests of *Termes bellicosus* ; WASMANN, p. 208, Verzeichniss.
- Dinardu* : notes on the species and the ants they dwell with ; WASMANN, pp. 275-280, Deutsche ent. Zeitschr. 1894.
- D. pygmea*, Germany, WASMANN, p. 277, Deutsche ent. Zeitschr. 1894 n. sp.
- Ecitonia*, n. g., near *Myrmedonia*, for *E. salesiana*, n. sp., S. Paolo, and *M. badariottii*, Wasm. ; WASMANN, p. 209, Verzeichniss.
- Ecitonides*, n. g., *Paderini*, for *E. tuberculosus*, n. sp., S. America ; WASMANN, p. 212, Verzeichniss.
- Ecitonilla*, n. g., near *Falagria* and *Tachyusa*, *E. claviventris*, and *socia*, S. America, n. spp., and including *Myrmedonia gemmata*, Wasm. ; WASMANN, p. 210, Verzeichniss.
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- Emus griseosericans*, Thibet, FAIRMAIRE, p. 217, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Encephalus latulus*, New Zealand, BROUN, p. 386, Ann. Nat. Hist. (6) xiv, n. sp.
- Eudectus gerhardti*, Germany, PIETSCH, p. 17, Zeitschr. ent. Breslau, xix, n. sp.
- Homalota rufotestacea*, &c., synonymy ; CHAMPION, p. 135, Ent. Mag. 1894. *H. testaceipes*, early stages ; XAMBEU, p. 135, Ann. Soc. Linn. Lyon, xli. *H. sp.* in burrows of land-tortoise ; HUBBARD, Insect Life, vi, p. 304.
- Hyperomma sanguineum*, New Zealand, BROUN, p. 425, Ann. Nat. Hist. (6) xiv, n. sp.
- Lathrobium ludyi*, Epp., = *manueli*, Fauv. ; EPPELSHEIM, p. 12, Wien. ent. Zeit. xiii.
- Leptacinus scripticollis*, Hoch., = (*Metoponcus basalis*, Aubé) ; REITTER, p. 192, Wien. ent. Zeit. xiii.
- L. sardous*, Sardinia, FIORI, p. 94, Natural. Sicil. xiii, n. sp.
- Leptusa pallida*, = (*bonvouloiri*), *difformis*, = (*cordicollis*, Fauv.) ; EPPELSHEIM, p. 12, Wien. ent. Zeit. xiii.
- Lithocharis caeca*, New Zealand, BROUN, p. 424, Ann. Nat. Hist. (6) xiv, n. sp.
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- Micropeplus staphylinoides*, n. var. *laticollis*; FIORI, p. 98, Natural. Sicil. xiii.
- Myrmecochara debilis*, Washington, WASMANN, p. 206, Verzeichniss, n. sp.
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- Olophrum piceum*, odour; SWALE, Ent. Mag. 1894, p. 16.
- Omalius monilicorne*, metamorphoses; XAMBEU, p. 6, Echange, 1894.
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- Othius puncticeps*, New Zealand, BROUN, p. 419, Ann. Nat. Hist. (6) xiv, n. sp.
- Oxygoda incerta*, Epp., = *determinata*, Scriba; EPPELSHEIM, p. 12, Wien. ent. Zeit. xiii. *O. ferruginea*, larva; XAMBEU, Mœurs, ii, p. 80.
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- Oxysoma reitteri*, Araxes Valley, WASMANN, Verzeichniss, p. 206, n. sp.
- Pæderus simsoni*, Tasmania, BLACKBURN, p. 92, P. Linn. Soc. N. S. Wales, ix, n. sp.
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- Scopæus ovicollis*, Macl. (sub *Stilicus*), = (*ruficollis*, Frl.) ; BLACKBURN, p. 203, Tr. R. Soc. S. Austral. xviii.
- Scotodonia*, n. g., for *Myrmedonia diabolica*, Wasm. ; WASMANN, p. 210, Verzeichniss.
- Scotonomus raymondi*, variation ; FIORI, p. 95, Natural. Sicil. xiii, n. sp.
- Staphylinus (Leistotrophus) murinus*, early stages ; XAMBEU, p. 141, Ann. Soc. Linn. Lyon, xli, and Naturaliste, 1894, p. 117.
- S. lucanus*, Lower California, HORN, p. 362, P. Calif. Ac. iv, n. sp.
- Stenus mendicus*, Er., = (*tythus*, Schauf.) *carbonarius*, var. = (*callidus*, Baudi) ; EPPELSHEIM, p. 12, Wien. ent. Zeit. xiii.
- S. calabrus*, Italy, FIORI, p. 95, Natural. Sicil. i, n. sp.
- Tachinus caucasicus*, v. *marginicollis*, Kol., is probably *pallipes*, Grav. ; EPPELSHEIM, p. 12, Wien. ent. Zeit. xiii.
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- Tetradonia*, n. g., for *Myrmedonia eppelsheimi*, Wasm. ; WASMANN, p. 209, Verzeichniss.
- Xantholinus peliopterus*, Solsky., = (*sublævis*, Fauv.) ; EPPELSHEIM, p. 12, Wien. ent. Zeit. xiii. *X. atratus*, characters, synonymy ; WASMANN, pp. 285-287, Deutsche ent. Zeitschr. 1894 ; KRAATZ, t. c. p. 288.
- Xenocephalus trilobita*, S. America, with *Eciton prædator* ; WASMANN, p. 211, Verzeichniss.
- Xenodusa*, n. g., for *Lomechusa cava*, Lec., and other N. American species ; WASMANN, Verzeichniss, p. 205.
- Zonoptilus* : species tabulated ; REITTER, pp. 177 & 291, Wien. ent. Zeit. xiii.
- Z. rufipennis*, Margelan, REITTER, p. 178, t. c. ; *Z. striatipennis*, Altai, EPPELSHEIM, p. 291, t. c. : n. sp.

PSELAPHIDÆ.

- [Cf. BRENDÉL (128, 129), CROISSANDEAU (815), FIORI (304), RAFFRAY (860), REITTER (884, 887, 893), WASMANN (1127).]
- List of myrmecophilous and termitophilous *Pselaphidæ* ; WASMANN, Verzeichniss, pp. 92-111.

- The *Pselaphida* of Singapore and Penang ; RAFFRAY, Rev. Ent. franc. xiii, pp. 197-286, pl.
- Amudrocerus*, n. g., near *Euplectus*, for *A. grandiceps*, n. sp., Singapore, pl. i, fig. 1 ; RAFFRAY, p. 218, Rev. Ent. franc. xiii.
- Aphilia reitteri*, Singapore, RAFFRAY, p. 214, Rev. Ent. franc. xiii, n. sp.
- Apoterus*, n. g., near *Mechanicus*, for *A. lævis*, n. sp., Singapore, pl. i, fig. 20 ; RAFFRAY, p. 211, Rev. Ent. franc. xiii.
- Arnyllium ciliatum*, p. 279, *cultratum*, pl. i, fig. 24, p. 280 ; RAFFRAY, Rev. Ent. franc. xiii, n. spp.
- Batrisodema orbata*, Penang, p. 224, *opaca*, Singapore, p. 225, RAFFRAY, Rev. Ent. franc. xiii, n. spp.
- Batrisodes fenestratus*, pl. i, fig. 15, p. 268, *cursitans*, fig. 17, p. 270, *circellaris*, *clavatus*, fig. 14, p. 271, *induratus*, fig. 16, p. 272, *quinesulcatus*, *septemsulcatus*, pl. i, fig. 13, p. 274, Malay Peninsula, RAFFRAY, Rev. Ent. franc. xiii, n. spp.
- Batrisoplatus*, n. g., near *Batrisodema*, for *B. rugosulus*, p. 226, pl. i, fig. 18, *obesus*, p. 227, n. spp., Penang ; RAFFRAY, Rev. Ent. franc. xiii.
- Batrisopsis*, n. g., near *Batrisus*, for *B. myrmecophila*, n. sp., Penang, pl. i, fig. 4 ; RAFFRAY, p. 264, Rev. Ent. franc. xiii.
- Batrisoschema denticollis*, Singapore, *humeralis*, Penang, RAFFRAY, p. 222, Rev. Ent. franc. xiii, n. sp.
- Batrisus* : the subgenera tabulated ; RAFFRAY, p. 229, Rev. Ent. franc. xiii.
- B. bispina*, p. 234, *persimilis*, p. 235, *parens*, *sylvicola*, p. 236, *latipalpus*, p. 237, *longicollis*, p. 239, *termitophilus*, p. 240, *quinesulcatus*, *singapuriensis*, p. 241, *platycephalus*, p. 242, *quadrispina*, p. 243, *elegans*, pl. i, fig. 7, *paradoxus*, p. 244, *alacer*, p. 245, *rajah*, p. 246, *auriculatus*, pl. i, fig. 9, p. 247, *satelles*, *montivagus*, p. 248, *geminus*, p. 249, *merulus*, *verticicornis*, pl. i, fig. 10, p. 250, *miles*, p. 251, *galeatus*, pl. i, fig. 11, p. 252, *præclarus*, p. 253, *dux*, *vulneratus*, *vagepunctatus*, p. 254, *granosus*, p. 255, *hirtellus*, p. 256, *hepaticus*, p. 257, *hispidulus*, p. 258, *crenatulus*, p. 259, *cribratus*, *tropicus*, p. 260, Penang and Singapore, RAFFRAY, Rev. Ent. franc. xiii, n. spp.
- Biblopectus puberulus*, Singapore, RAFFRAY, p. 221, Rev. Ent. franc. xiii, n. sp.
- Briaraxis*, n. g., p. 158, for *B. depressa*, n. sp., Dry Tortugas, p. 159, pl. v, fig. 8 ; BRENDÉL, Ent. News Philad. v.
- Bryaxis albionica*, Motsch., description ; BRENDÉL, p. 195, Ent. News Philad. v.
- B. (Reichenbachia) arthritica*, California, BRENDÉL, p. 159, Ent. News Philad. v, n. sp.
- Bythinus theanus*, Constantinople, REITTER, p. 113, Wien. ent. Zeit. xiii ; *B. rosti*, Circassia, *mauricii*, Oran, REITTER, p. 149 *l. c.* : n. spp.
- Ceroderma asperata*, ♂ characters ; RAFFRAY, p. 223, Rev. Ent. franc. xiii.
- Claviger kaufmanni*, Herzegowina, REITTER, p. 299, Wien. ent. Zeit. xiii, n. sp.
- Cratna denticornis*, p. 276, *foveiventris*, p. 277, Penang, RAFFRAY, Rev. Ent. franc. xiii, n. spp.

- Desimia parvipalpis*, Raff., = (*pici*, Croiss., *infra*) ; BEDEL, p. c, Bull. Soc. ent. France, 1894.
- D. pici*, Algeria, CROISSANDEAU, p. 106, Ann. Soc. ent. France, 1894, n. sp. (but *cf. supra*).
- Euplectina*, n. g., near *Euplectus*, for *E. nigripennis*, p. 216, *concolor*, p. 217, pl. i, fig. 2, n. spp., Singapore ; RAFFRAY, Rev. Ent. franc. xiii.
- Euplectus clavicornis*, p. 219, *grandiceps*, *cicatricosus*, p. 220, Singapore, RAFFRAY, Rev. Ent. franc. xiii ; *E. (Biblopectus?) sikora*, Madagascar, WASMANN, p. 213, Verzeichniss ; *E. raffrayi*, California, BREDEL, p. 196, Ent. News Philad. v : n. spp.
- Goniacerus simonis*, figure ; pl. v, fig. 5, Ent. News Philad. v.
- Hamotus emeryi*, Joinville, WASMANN, p. 214, Verzeichniss, n. sp.
- Mechanicus cribratus*, Singapore, RAFFRAY, p. 210, pl. i, fig. 21, Rev. Ent. franc. xiii, n. sp.
- Mirellus*, n. g., *Euplectini*, for *M. sulcicollis*, n. sp., Singapore, pl. ii, fig. 4 ; RAFFRAY, p. 204, Rev. Ent. franc. xiii.
- Novoclaviger*, n. g., p. 214, for *N. wroughtoni*, n. sp., Delagoa Bay, p. 215 ; WASMANN, Verzeichniss.
- Oxarthrius indentatus*, p. 261, pl. i, fig. 12, *penangensis*, p. 262, *edentatus*, p. 263, Malay Peninsula, RAFFRAY, Rev. Ent. franc. xiii, n. spp.
- Oxyomera denticollis*, distinction of sexes ; RAFFRAY, p. 228, Rev. Ent. franc. xiii.
- Philiopsis cavifrons*, Singapore, RAFFRAY, p. 213, pl. i, fig. 23, Rev. Ent. franc. xiii, n. sp.
- Phtegnomus uaso*, Venezuela, in nests of *Eutermes*, p. 213, *inermis*, p. 214, WASMANN, Verzeichniss, n. spp.
- Prophilus capitatus*, Singapore, RAFFRAY, p. 215, pl. i, fig. 22, Rev. Ent. franc. xiii, n. sp.
- Pselaphus reitteri*, Modena, FIORI, p. 98, Natural. Sicil. xiii, n. sp.
- Pyxidicerus tetratomus*, p. 205, pl. i, fig. 19, *sultan*, p. 206, Singapore, RAFFRAY, Rev. Ent. franc. xiii, n. spp.
- Reichenbachia fundata*, a valid species ; CASEY, p. 208, Ent. News Philad. v.
- Rhinocepsis gracilis*, figure ; pl. v, fig. 3, Ent. News Philad. v.
- Sathytes rufus*, Penang, RAFFRAY, p. 281, Rev. Ent. franc. xiii, n. sp.
- Trimiomorphus* : full description ; RAFFRAY, p. 212, Rev. Ent. franc. xiii.
- Trimium merkli*, Constantinople, REITTER, p. 113, Wien. ent. Zeit. xiii, n. sp.
- Trisimus*, n. g., near *Batrismus*, for *T. cratocerus*, n. sp., Singapore, pl. i, fig. 3 ; RAFFRAY, p. 265, Rev. Ent. franc. xiii.
- Zethopsus procerus*, *humilis*, p. 207, *puberulus*, p. 208, *semipunctatus*, *bifoveatus*, p. 209, Singapore, RAFFRAY, Rev. Ent. franc. xiii, n. spp.

SCYDMÆNIDÆ.

- [Cf. CROISSANDEAU (211, 212, 213), REITTER (883, 884), WASMANN (1127).]
 List of myrmecophilous *Scydmanidæ*; WASMANN, pp. 122-125, Verzeichniss.
 Variability of male characters in certain species; CROISSANDEAU, pp. 58-60, Ann. Soc. ent. France, 1894.
Euconnus goerzensis, Görz, REITTER, p. 101, Wien. ent. Zeit. xiii;
E. (Tetramelus) cæcus, Constantinople, REITTER, p. 115, t. c.; *E. africanus*, Algeria, CROISSANDEAU, p. lxxxviii, Bull. Soc. ent. France, 1894: n. spp.
Leptomastax hypogæus, nemoralis, sublevis, queried as one species; FIORI, p. 229, Natural. Sicil. xiii.
Nanophthalmus turcicus, Constantinople, REITTER, p. 114, Wien. ent. Zeit. xiii, n. sp.
Neuraphes pandellei, Pyrenees, p. 363, *reitteri*, Syria, p. 399, CROISSANDEAU, Ann. Soc. ent. France, 1894; *N. caviceps* (altered, p. 192, t. c. to *osmanlis*), Constantinople, REITTER, p. 114, Wien. ent. Zeit. xiii: n. spp.
Scydmanus syriacus, p. lxxxix, *sauleyanus*, Syria, *intermedius*, Algeria, p. xc, CROISSANDEAU, Bull. Soc. ent. France, 1894, n. spp.

GNOSTIDÆ and PAUSSIDÆ.

- Gnostus meinerti*, Venezuela, WASMANN, p. 216, Verzeichniss, n. sp.
 List of *Paussidæ* (excl. *Arthopterus*); WASMANN, Verzeichniss, pp. 111-121.
Paussus wasmanni, p. 317, *reitteri*, p. 318, Madagascar, KRAATZ, Deutsche ent. Zeitschr. 1894; *P. suavis, wroughtoni*, p. 215, *soleatus*, p. 216, E. India, WASMANN, Verzeichniss: n. spp.

SILPHIDÆ.

- [Cf. ABEILLE (1), APFELBECK (19), HUBBARD (461), FAIRMAIRE (285), SEMENOW (1002), WASMANN (1127), XAMBEU (1170).]
 List of myrmecophilous and termitophilous *Silphidæ*; WASMANN, Verzeichniss, pp. 126-129.
Antroherpon, n. g.; REITTER, Deutsche ent. Zeitschr. 1889, p. 294, for the following new species described by APFELBECK in HOERNES, Wiss. Mt. Bosn. Hercegov. ii, viz.: *cylindricolle*, p. 511, *pygmaeum, hoermannii*, p. 512, *ganglbaueri*, p. 513.
Apholeuonus nudus, description; APFELBECK, p. 513, in HOERNES, Wiss. Mt. Bosn. Hercegov. ii.
Blitophaga opaca, in cornfields in Sweden; REUTER (910).
Brathinus californicus, California, HUBBARD, p. 11, P. ent. Soc. Washington, iii, n. sp.
Catopomorphus foreli, Oran, WASMANN, p. 217, Verzeichniss; *C. magnicollis*, Orudbad, REITTER, p. 238, Wien. ent. Zeit. xiii: n. spp.

- Catops sericeus*, p. 151, *quadraticollis*, p. 153, early stages; XAMBEU, Ann. Soc. Linn. Lyon, xli.
Necrophorus przewalskii, N. China, SEMENOW, p. 528, Horæ Soc. ent. Ross. xxviii, n. sp.
Protobracharhron reitteri, described; APFELBECK in HOERNES, Wiss. Mt. Bosn. Hercegov. ii.
Silpha picescens, p. 217, *thibetana*, p. 218, Thibet, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
Troglophyes, n. g., *Leptodiridæ*, for *T. gavoyi*, n. sp., grotto of Laguzon; ABEILLE, p. xxvii, Bull. Soc. ent. France, 1894.

TRICHOPTERYGIDÆ.

- List of myrmecophilous *Trichopterygidæ*; WASMANN, pp. 129 & 130, Verzeichniss.
Ptenidium concinnum, Grenada and St. Vincent, MATTHEWS, p. 342, Ann. Nat. Hist. (6) xiii, n. sp.
Ptilium smithsii, impressum, rufo-testaceum, West Indies, MATTHEWS, p. 341, Ann. Nat. Hist. (6) xiii, n. spp.
Trichopteryx sp. inhabiting burrows of a land-tortoise; HUBBARD, p. 305, Insect Life, vi.
T. levicollis, p. 338, *occidentalis, depressa, grenadensis*, p. 339, *dubitata*, p. 340, West Indies; MATTHEWS, Ann. Nat. Hist. (6) xiii, n. spp.

SCAPHIDIIDÆ.

- Scaphisoma peninsulare, apicale*, Lower California, HORN, p. 363, P. Calif. Ac. iv, n. spp.

HISTERIDÆ.

- [*Cf.* HAUSER (415), HORN (442), HUBBARD (460), LEWIS (642, 643, 646), PIC (834), REITTER (891), WASMANN (1127), WICKHAM (1158).]
List of myrmecophilous and termitophilous *Histeridæ*; WASMANN, Verzeichniss, pp. 140-152.
Anaglymma, n. g., near *Macrosternus*, for *A. cardoni*, E. India, p. 212, *crenulata*, Singapore, p. 213, n. spp; LEWIS, Ann. Soc. ent. Belgique, xxxviii.
A. afra, W. Africa, LEWIS, p. 175, *cut*, Ann. Nat. Hist. (6) xiv, n. sp.
Carcinops blandfordi, Jamaica, LEWIS, p. 182, Ann. Nat. Hist. (6) xiv, n. sp.
Chelyoxenus, n. g., for *C. xerobatis*, n. sp., Florida, in burrows of land-tortoise; HUBBARD, p. 309, Insect Life, vi.
Chlamydopsis striatella, Westw., = (*Byzenia formicicola*, King); LEWIS, p. 183, Ann. Nat. Hist. (6) xiv.
Cypturus thugi, India, LEWIS, p. 178, Ann. Nat. Hist. (6) xiv, n. sp.
Eretmotus: note on the Algerian, *bedeli*, = (*obscurus*, Pic, *infra*); THIÉRY, pp. 144 & 145, Echange, 1894.

- E. valens*, Bougie, LEWIS, p. 180, Ann. Nat. Hist. (6) xiv; *E. obscurus*, Algeria, PIC, p. 248, Naturaliste, 1894: n. spp.
- Gnathoncus schmidti*, W. Russia, REITTER, p. 239, Wien. ent. Zeit. xiii; *G. severini*, E. India, LEWIS, Ann. Soc. ent. Belgique, xxxviii: n. spp.
- Hister solskyi*, a valid species not a var. of *gratiosus*; SCHMIDT, p. 42, Deutsche ent. Zeitschr. 1894. *H. cadaverinus*, p. 17, *ventralis*, p. 19, *4-maculatus*, p. 21, metamorphoses; XAMBEU, Mœurs, vi.
- Hololepta higonix*, n. n. for *parallela*, Lew.; LEWIS, p. 174, Ann. Nat. Hist. (6) xiv. *H. fossularis*, larva described; WICKHAM, p. 816, pl. xxvi, fig. 1, Amer. Natural. 1894.
- Notolister*, n. g., for *Sternaulax edwardsii*, *Epierus imitans*, and *dux*; LEWIS, p. 182, Ann. Nat. Hist. (6) xiv.
- Pachycrærus raffrayi*, probably = (*completus*, Gerst.); LEWIS, p. 179, Ann. Nat. Hist. (6) xiv.
- P. elegans*, Natal, p. 179, *puncticollis*, Central Africa, p. 180, LEWIS, Ann. Nat. Hist. (6) xiv; *P. latus*, River N'Gamic, LEWIS, p. 215, Ann. Soc. ent. Belgique, xxxviii: n. spp.
- Phelister capensis*, S. Africa, LEWIS, p. 178, Ann. Nat. Hist. (6) xiv, n. sp.
- Platysoma africanum*, River N'Gamic, LEWIS, p. 215, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Saprinus rotundatus*, metamorphoses; XAMBEU, p. 21, Echange, 1894.
- S. semiopacus*, p. 41, *hauseri*, *viridicatus*, p. 42, W. Asia, SCHMIDT, Deutsche ent. Zeitschr. 1894; *S. opacus*, Lower California; HORN, P. Ac. Calif. iv, p. 364: n. spp. •
- Sternocalis acutangulus*, figure, p. 181, *S. politus*, = (*cancer* and *sedilloti*, Lew.); LEWIS, p. 182, Ann. Nat. Hist. (6) xiv.
- Teretrius levatus*, Lower California, HORN, p. 365, P. Calif. Ac. iv, n. sp.
- Triballus corpulentus*, River N'Gamic, LEWIS, p. 216, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Trypocæus singularis*, Rio Janeiro; LEWIS, p. 183, Ann. Nat. Hist. (6) xiv.

PHALACRIDÆ.

- [Cf. GUILLEBEAU (388, 392, 393, 394), PIC (844).]
Classification and table of characters of the genera; GUILLEBEAU, pp. 275-284, Ann. Soc. ent. France, 1894.
- Biophytus*, n. g., p. 279, for *B. grouvellei*, n. sp., Zanzibar, p. 295; GUILLEBEAU, Ann. Soc. ent. France, 1894.
- Cœlocælius subhemisphæricus*, Bahia, *latisternus*, Saint Domingo, p. 303, *vicinus*, Rio Grande, *insularis*, Martinique, p. 304, *stilboides*, Brazil, p. 305, GUILLEBEAU, Ann. Soc. ent. France, 1894, n. spp.
- Dolerus*, n. g., p. 282, for *D. limbatus*, n. sp., Colombia, p. 307; GUILLEBEAU, Ann. Soc. ent. France, 1894.
- Entomocnemus*, n. subg. of *Eustilbus*, *q.v.*

- Eustilbus nanulus, substriatus*, Sumatra, GUILLEBEAU, p. ccix, Bull. Soc. ent. France, 1894; *E. (Entomocnemus, n. subg., p. 307), raffrayi*, Abyssinia, *E. misellus*, Sumatra, p. 308, *seriatus*, Brazil, p. 309, *univestis*, Havana, *borealis*, Labrador, p. 309, GUILLEBEAU, *t. c.* : n. spp.
- Ganyrus, n. g.*, p. 280, for *G. rubellus*, Abyssinia, *strigillatus*, Mexico, n. spp., p. 299, GUILLEBEAU, Ann. Soc. ent. France, 1894.
- Ganyrus reticulatus*, p. ccviii, *pumilus*, p. ccix, Sumatra, Bull. Soc. ent. France, 1894, n. spp.
- Gorginus, n. g.*, type *rubens*, Lec.; GUILLEBEAU, p. 283, Ann. Soc. ent. France, 1894.
- Heterolitus suturalis*, p. ccviii, *palleolus*, p. ccviii, Sumatra, GUILLEBEAU, Bull. Soc. ent. France, 1894; *H. picinus*, Zanzibar, *strigellus*, Cuba, *senegalensis*, Senegal, p. 297, *grouvellei*, Sumatra, *mexicanus*, Mexico, p. 298, GUILLEBEAU, Ann. Soc. ent. France, 1894 : n. spp.
- Litostilbus, n. g.*, p. 283, for *Sphceridium testaceum*, Fab.; GUILLEBEAU, p. 310, Ann. Soc. ent. France, 1894.
- Micromerus amabilis*, Australia, *grouvellei*, Sunesia, p. 296, *mærens*, Bahia, p. 297, GUILLEBEAU, Ann. Soc. ent. France, 1894, n. spp.
- Microstilbus, n. g.*, type *nitidus*, Lec.; GUILLEBEAU, p. 283, Ann. Soc. ent. France, 1894.
- Olibrus gerhardi* and *heydeni* are one species; FLACK, p. 170, Wien. ent. Zeit. xiii.
- O. globiformis*, Caramania, PIC, p. 111, Echange, 1894; *O. raffrayi*, *anthobius*, Abyssinia, GUILLEBEAU, p. 300, Ann. Soc. ent. France, 1894; *O. obscuricornis*, *latisternus*, E. India, GUILLEBEAU, p. 459, Ann. Soc. ent. Belgique, xxxviii : n. spp.
- Parasemus, n. g.*, p. 281, for *P. grouvellei*, n. sp., Australia, p. 300; GUILLEBEAU, Ann. Soc. ent. France, 1894.
- Phalacrus politus*, larval habits; WEBSTER, p. 140, Ent. News Philad. v.
- P. atticus*, Greece, GUILLEBEAU, p. ccxii, Bull. Soc. ent. France, 1894; *P. corvinus*, *lineopunctatus*, E. India, GUILLEBEAU, p. 458, Ann. Soc. ent. Belgique, xxxviii; *P. brasiliensis*, Bahia, pp. 284 & 291, *tarsalis*, Bogota, *raffrayi*, Zanzibar, *caseyi*, Bahia, *vicinus*, Michigan, p. 285, *apicalis*, *sharpi*, Zanzibar, p. 286, *propinquus*, Kansas, p. 287, *americanus*, Michigan, p. 288, GUILLEBEAU, Ann. Soc. ent. France, 1894 : n. spp.
- Pharcisimus, n. g.*, type *Tolyphus punctulatus*, Rosenh.; GUILLEBEAU, p. 278, Ann. Soc. ent. France, 1894.
- Podocesus, n. g.*, type *semirufus*, n. sp. (not described); GUILLEBEAU, p. 281, Ann. Soc. ent. France, 1894.
- Polyaloxus, n. g.*, p. 283, for *Litochrus pallidus*, Woll., redescribed, p. 310; GUILLEBEAU, Ann. Soc. ent. France, 1894.
- Sternosternus, n. g.*, for *S. grouvellei*, n. sp., Sumatra; GUILLEBEAU, p. ccvii, Bull. Soc. ent. France, 1894.
- Stilboides, n. g.*, p. 282, for *S. sublineatus*, Saint Domingo, p. 306, *grouvellei*, Bahia, p. 307, n. spp.; GUILLEBEAU, Ann. Soc. ent. France, 1894.

- Tinodemus*, n. g., p. 282, for *T. ornatus*, Mexico, *flaviceps*, Colombia, p. 301, *oblongus*, Bahia, *grouvellei*, Michigan, p. 302; GUILLEBEAU, Ann. Soc. ent. France, 1894.
- Xanthocomus rufescens*, Rio Grande, *floralis*, Havana, p. 305, *grouvellei*, Saint Domingo, p. 306, GUILLEBEAU, Ann. Soc. ent. France, 1894, n. spp.

NITIDULIDÆ.

- [*Cf.* GROUVELLE (386, 387, 388), KÜSTER (621), PIC (827, 846), REITTER (897).]
- Æthinā vicina*, Bengal, GROUVELLE, p. 585, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Brachypeplus murrayi*, Macl., = (*haagi*, Reit.); BLACKBURN, p. 203, Tr. R. Soc. S. Austral. xviii.
- B. bimaculatus*, Gaboon, GROUVELLE, p. 12, Ann. Soc. ent. France, 1894, n. sp.
- Carpophilus luridipennis*, Macl., = (*excellens*, Reit.); BLACKBURN, p. 203, Tr. R. Soc. S. Austral. xviii. *C. niger*, larva; WICKHAM, p. 261, pl. viii, fig. 2, Ent. News Philad. v.
- Cilleus gabonensis*, p. 12, *fauveli*, *reticulatus*, p. 13, *contractus*, p. 14, Gaboon, GROUVELLE, Ann. Soc. ent. France, 1894, n. spp.
- Circopes marginatus*, Bengal, GROUVELLE, p. 584, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Cryptarcha strigata*, = (*punctatissima*, Boiel.); BEDEL, p. 151, Abeille, xxviii.
- Cychramus algericus*, Algeria, PIC, p. 134, Echange, 1894; *C. fairmairei*, Algeria, PIC, p. 44, Feuille Natural. xxiv : n. spp.
- Cyllodes biplagiatus*, larva; WICKHAM, p. 262, pl. viii, fig. 3; Ent. News Philad. v.
- C. indicus*, Kanara, GROUVELLE, Ann. Soc. ent. Belgique, xxviii, n. sp.
- Epuræa*: table of characters of the European species; REITTER, Verh. Ver. Brunn, xxxii, pp. 18-36.
- E. lapponica*, Finland, p. 24, *argus*, Japan, *curtula*, East Siberia, p. 25, *nobilis*, Styria, p. 26, *planidorsis*, Siberia, p. 32, REITTER, Verh. Ver. Brunn, xxxii; *E. indica*, Belgaum, GROUVELLE, p. 459, Ann. Soc. ent. Belgique, xxxviii; *E. (Micrurula) braeti*, p. 578, *subtilis*, *cerina*, p. 579, Bengal, GROUVELLE, t. c. : n. spp.
- Haptoneura sobrina*, Bourbon, and Seychelles; GROUVELLE, p. 15, Ann. Soc. ent. France, 1894, n. sp.
- Ips fasciatus*, metamorphoses; FORBES, p. 23, pl. iv, figg. 3-5, Rep. Ins. Illinois, xviii.
- Macroura obscurus*, Macl. (sub *Carpophilus*) = (*baileyi*, Blackb.); BLACKBURN, p. 204, Tr. R. Soc. S. Austral. xviii.
- M. pusilla*, Bengal, GROUVELLE, p. 585, Ann. Soc. ent. Belgique, xxxviii; *M. dubia*, *subrugosa*, E. India, GROUVELLE, p. 461, t. c. : n. spp.
- Meligethes æneus*, metamorphoses; LAMPA, pp. 1-10, Ent. Tidsskr. xv.

- M. rufithorax, binotatus*, E. India, GROUVELLE, p. 460, Ann. Soc. ent. Belgique, xxxviii; *M. braeti*, p. 583, *cardoni*, p. 584, Bengal, GROUVELLE, t. c. : n. spp.
- Pallodes cardoni*, Bengal, GROUVELLE, p. 585, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Parametopia indica*, Bengal, GROUVELLE, p. 581, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Pria indica*, p. 581, *apicalis, plagiata*, p. 582, Bengal, GROUVELLE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Prometopia setosula*, Bengal, GROUVELLE, p. 580, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Soronia braeti*, Bengal, GROUVELLE, p. 580, Ann. Soc. ent. Belgique, xxxviii, n. sp.

TROGOSITIDÆ.

- [*Cf. LÉVEILLÉ* (641), *LEWIS* (647).]
- Airora parallelcollis*, p. cxliv, *humeralis, quadrimaculata*, p. cxlvi, Brazil, LÉVEILLÉ, Bull. Soc. ent. France, 1894, n. spp.
- Alindria alluaudi*, Madagascar, LÉVEILLÉ, p. cxliii, Bull. Soc. ent. France, 1894, n. sp.
- Ancyrona orbicularis*, Ternate, LÉVEILLÉ, p. cxlvii, Bull. Soc. ent. France, 1894, n. sp.
- Leptonyxa fairmairei*, ♂ described; LÉVEILLÉ, p. cxlix, Bull. Soc. ent. France, 1894.
- Monesoma*, n. p., to replace *Sturmia*, Rag., *Nemosoma nigripenne* referred to it; LÉVEILLÉ, p. cxliv, Bull. Soc. ent. France, 1894.
- Nemosoma gounellei*, Brazil, LÉVEILLÉ, p. cxliy, Bull. Soc. ent. France, 1894, n. sp.
- Ostoma valida, higonis*, Japan, LEWIS, p. 34, Ent. Mag. 1894, n. spp.
- Phycosecis*, referred with some doubt to *Trogositide* or *Cucujide*; CHAMPION, p. 364, Tr. ent. Soc. London, 1894.
- Shoguna* = (*Holocephala* and *Pachycephala*, Fairm.), note on; LEWIS, p. 485, Ann. Nat. Hist. (6) xiii.
- Temnochila sharpi*, Bogota, LÉVEILLÉ, p. cxlvii, Bull. Soc. ent. France, 1894, n. sp.
- Tenebrioides ocularis*, Japan, LEWIS, p. 34, Ent. Mag. 1894; *T. brunneo-vittatus, carinatus*, p. cxlv, Brazil, *cribratus*, p. cxlvii, Mexico, LÉVEILLÉ, Bull. Soc. ent. France, 1894 : n. spp.
- Thymalus laticeps, punctidorsum, parviceps*, Japan, LEWIS, p. 33, Ent. Mag. 1894, n. spp.

COLYDIIDÆ.

- [*Cf. GROUVELLE* (388), *SHARP* (377).]
- Classification: thirteen groups proposed; SHARP, pp. 443-445, Biol. Centr.-Amer. Col. ii, pt. i.
- Acolobicus*, n. g., for *A. obscurus*, n. sp., Central America, pl. xiv, fig. 12; SHARP, p. 452, Biol. Centr.-Amer. Col. ii, pt. i.

- Acotulus*, Reitt., is distinct from *Orthocerus*; REITTER, p. 311, Wien. ent. Zeit. xiii.
- Acropis serrata*, *championi*, pl. xv, fig. 8, *recta*, fig. 9, Central America, SHARP, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Anarmostes argutus*, Nicaragua, SHARP, p. 471, pl. xv, fig. 4, Biol. Centr.-Amer. Col. ii, pt. i, n. sp.
- Aneumesa*, n. g., for *A. atomaria*, Panama, p. 455, *costata*, Guatemala, pl. xiv, fig. 16, p. 456, n. spp.; SHARP, Biol. Centr.-Amer. Col. ii, pt. i.
- Asynchita*, n. g., p. 448, for *A. granosa*, n. sp., Panama, p. 449, pl. xiv, fig. 7; SHARP, Biol. Centr.-Amer. Col. ii, pt. i.
- Aulonium frontale*, pl. xv, fig. 2, *belti*, fig. 3, *tubulum*, Central America, SHARP, p. 469, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Bitoma exarata*, Pasc. (sub *Coniophæa*), *B. jejuna*, figures; SHARP, Biol. Centr.-Amer. Col. ii, pt. i, pl. xiv.
- B. subfasciata*, *centralis*, p. 459, *gracilis*, p. 460, *pascoei*, p. 461, pl. xiv, fig. 21, SHARP, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Bothridères andrewesi*, E. India, GROUVELLE, p. 462, Ann. Soc. ent. Belgique, xxxviii; *B. setiger*, Guatemala, SHARP, p. 488, pl. xv, fig. 19, Biol. Centr.-Amer. Col. ii, pt. i: n. spp.
- Cacotarphius*, n. g., for *C. compressus*, n. sp., Guatemala, pl. xv, fig. 6; SHARP, p. 473, Biol. Centr.-Amer. Col. ii, pt. i.
- Catolæmus*, n. g., for *C. minutus*, n. sp., Guatemala, pl. xiv, fig. 18; SHARP, p. 457, Biol. Centr.-Amer. Col. ii, pt. i.
- Colydium godmani*, p. 465, pl. xiv, fig. 26, *guatemalenum*, *chiriquense*, p. 466, *puncticolle*, *championi*, fig. 27, p. 467, *pusillum*, *clavigerum*, pl. xv, fig. 1, p. 468, Central America, SHARP, Biol. Centr.-Amer. Col. ii, pt. i.
- Coniophæa*: queried as invalid; SHARP, p. 458, Biol. Centr.-Amer. Col. ii, pt. i.
- Distaphyla gibbiceps*, figured, pl. xiv, fig. 6, description, p. 447; SHARP, Biol. Centr.-Amer. Col. ii, pt. i.
- Ditaphrus*, n. g., for *D. championi*, n. sp., Guatemala, pl. xiv, fig. 15, SHARP, p. 454, Biol. Centr.-Amer. Col. ii, pt. i.
- Endeitoma*, n. g. near *Cicones*, for *E. mexicana*, pl. xiv, fig. 9, *panamensis*, fig. 10, n. spp., Central America; SHARP, Biol. Centr.-Amer. Col. ii, pt. i.
- Endestes sculpturatus*, Central America, SHARP, p. 472, pl. xv, fig. 5, Biol. Centr.-Amer. Col. ii, pt. i, n. sp.
- Ethelema sobrina*, *decorata*, pl. xv, fig. 10, Central America, SHARP, p. 477, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Eucicones*, n. g., p. 452, for *E. perfectus*, n. sp., Guatemala, p. 453, pl. xiv, fig. 13; SHARP, Biol. Centr.-Amer. Col. ii, pt. i.
- Hystericones*, n. g., for *H. armatus*, n. sp., Guatemala, pl. xiv, fig. 14; SHARP, p. 453, Biol. Centr.-Amer. Col. ii, pt. i.
- Labrotichus*, n. g., p. 446, for *L. aberrans*, n. sp., Central America, p. 447, pl. xiv, fig. 5; SHARP, Biol. Centr.-Amer. Col. ii, pt. i.

- Lado elegans*, pl. xiv, fig. 23, *ciliatus*, p. 463, *funestus*, fig. 24, p. 464, SHARP, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Lithophorus*, n. g., for *L. gemmifer*, n. sp., Mexico, pl. xv, fig. 18, including also *Bothrideres succineus*, Pasc. ; SHARP, p. 487, Biol. Centr.-Amer. Col. ii, pt. i.
- Microsicus*, n. g., for *M. setosus*, n. sp., Guatemala, pl. xiv, fig. 17 ; SHARP, p. 456, Biol. Centr.-Amer. Col. ii, pt. i.
- Minthea* (sub *Ditoma*) *rugicollis*, Wlk., = (*similata*, Pascoe), the genus is scarcely separable from *Lyctus* ; WATERHOUSE, p. 68, Ann. Nat. Hist. (6) xiv.
- Mychocerus alluaudi*, Seychelles, GROUVELLE, p. 15, Ann. Soc. ent. France, 1894, n. sp.
- Nematidium fryanum*, pl. xv, fig. 11, p. 478, *viverra*, *ilarium*, p. 479, Central America, SHARP, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Phlaeonemus adharens*, Guatemala, SHARP, p. 451, pl. xiv, fig. 11, Biol. Centr.-Amer. Col. ii, pt. i, n. sp.
- Prolyctus sculpticollis*, p. 485, pl. xv, fig. 15, *signatus*, fig. 16, *annectens*, fig. 17, p. 486, Central America, SHARP, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Pycnomerus breviceps*, pl. xv, fig. 7, p. 474, *germanus*, p. 475, Central America, SHARP, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Sosylus terminulis*, pl. xv, fig. 12, p. 480, *strigicollis*, *simplex*, fig. 13, *affinis*, p. 481, *centralis*, *infans*, p. 482, *mexicanus*, *strigosus*, p. 483, *annectens*, *salvini*, fig. 14, *choutalensis*, p. 484, Central America, SHARP, Biol. Centr.-Amer. Col. ii, pt. i, n. spp.
- Synchita mimetes*, Brit. Honduras, SHARP, p. 449, pl. xiv, fig. 8, Biol. Centr.-Amer. Col. ii, pt. i, n. sp.
- Triboderus*, n. g., *Bothriderini*, for *T. andrewesi*, n. sp., E. India ; GROUVELLE, p. 463, Ann. Soc. ent. Belgique, xxxviii.
- Xuthia brevipes*, Central America, SHARP, p. 462, pl. xiv, fig. 22, Biol. Centr.-Amer. Col. ii, pt. i, n. sp.

ADIMERIDÆ.

Adimeridæ, n. fam. for the following :—

- Adimerus*, n. g., p. 441, for *A. crispatus*, pl. xiv, fig. 3, *setosus*, fig. 4, p. 442, *dubius*, p. 443, n. spp., Central America ; SHARP, Biol. Centr.-Amer. Col. ii, pt. i.

CUCUJIDÆ.

- Læmophlæus raffrayi*, Abyssinia, GROUVELLE, p. 16, Ann. Soc. ent. France, 1894, n. sp.

LATHRIDIIDÆ.

- [*Cf.* REITTER (876, 883, 893), SCHLECHTENDAL (972), WASMANN (1127).]
List of myrmecophilous *Lathridiide* ; WASMANN (1127).

- Anommatius plicatus*, Ragusa, p. 299, *rugifer*, Herzegowina, p. 300, REITTER, Wien. ent. Zeit. xiii, n. spp.
Belouilla, n. g., for *B. termitophila*, n. sp., Abyssinia; WASMANN, p. 218, Verzeichniss.
Corticaria thea, Trebizond, REITTER, p. 101, Wien. ent. Zeit. xiii, n. sp.
Lathridius sahlbergi, Lapland, REITTER, p. 300, Wien. ent. Zeit. xiii;
L. rybinskii, Galicia, REITTER, p. 14, t. c. : n. spp.
Platycephala olivieri, referred to *Aglycyderes*; SHARP, Ent. Mag. 1894, p. 31.

MYCETOPHAGIDÆ, THORICTIDÆ.

- Diplocælus leai*, N. S. Wales, BLACKBURN, p. 204, Tr. R. Soc. S. Austral. xviii, n. sp.
Thorictidæ: list of, &c.; WASMANN, Verzeichniss, pp. 137-140.
Thorictus lethierryi, habits in connection with ants; FOREL, p. 9, Bull. Soc. Vaudoise, xxx.
T. foreli, with var. *bonnairei*, Algeria, *pauciseta*, Gabes, WASMANN, p. 219, Verzeichniss; *T. indicus*, Belgaum, GROUVELLE, p. 465, Ann. Soc. ent. Belgique, xxxviii : n. spp.

DERMESTIDÆ.

- [Cf. BLACKBURN (95), PIC (817, 827, 832, 840).]
Attagenus fallax, n. var. *octomaculatus*; PIC, p. xliii, Bull. Soc. ent. France, 1894.
A. maltensis, Malta, *picipennis*, Sicily, *longicornis* (Tourn.), Naples, PIC, p. 66, Echange, 1894, ? n. spp.
Cryptorhopalum quornense, Australia, BLACKBURN, p. 93, P. Linn. Soc. N. S. Wales, ix, n. sp.
Dermestes vulpinus, dissemination of contagion; HEIM, p. 58, C.R. Soc. Biol. 1894.
Telopes lineatus, Algeria, PIC, p. 71, Naturaliste, 1894; *T. attenuatus*, Algeria, PIC, p. 210, t. c.; *T. pubescens*, Egypt, PIC, p. 66, Echange, 1894 (? n. sp.); *T. aristidis*, Egypt, PIC, p. xliii, Bull. Soc. ent. France, 1894; *T. ? scalaris*, Egypt, PIC, p. 60, Feuille Natural. xxv : n. spp.
Trinodes curtus, Algeria, PIC, p. xliii, Bull. Soc. ent. France, 1894, n. sp.
Trogoderma nobile, Reitt., = (*tamaricis*, Pic); PIC, p. cclxv, Bull. Soc. ent. France, 1894.
T. tamaricis, Algeria, PIC, p. 180, Naturaliste, 1894, n. sp.

BYRRHIDÆ.

- Aspidiphorus humeralis*, Tasmania, BLACKBURN, p. 92, P. Linn. Soc. N. S. Wales, ix, n. sp.
Chelonarium indicum, E. India, GROUVELLE, p. 464, Ann. Soc. ent. Belgique, xxxviii, n. sp.

PARNIDÆ.

- [*Cf.* BLACKBURN (95), GROUVELLE (386, 388), PIC (826), REITTER (895).]
Dryops : characters of European ; REITTER, p. 313, Wien. ent. Zeit. xiii.
D. fenyesi, Egypt, REITTER, p. 313, Wien. ent. Zeit. xiii, n. sp.
Elmini : note on the European genera ; PIC, p. 193, Rev. Ent. franc. xiii.
Elmis megerlei, characters and synonymy ; GERHARDT, pp. 5-7, Zeitschr. Ent. Breslau, xix.
E. letourneuxi, Damascus, PIC, p. 195, Rev. Ent. franc. xiii ; *E. tasmanicus*, Tasmania, BLACKBURN, p. 94, P. Linn. Soc. N. S. Wales, ix : n. spp.
Pelonomus brasiliensis, = (*Parnoides pectinicornis*, Kuw.) ; REITTER, p. 312, Wien. ent. Zeit. xiii.
Psephenus lecontei, habits ; LENG, p. 86, J. N. York Ent. Soc. ii.
Stenelmis curdoni, Bengal, GROUVELLE, p. 586, Ann. Soc. ent. Belgique, xxxviii, n. sp.

HETEROCERIDÆ.

- Heterocerus senegalensis*, Africa, FAIRMAIRE, p. 652, Ann. Soc. ent. Belgique, xxxviii, n. sp.

LUCANIDÆ.

- [*Cf.* ALBERS (8), BLACKBURN (95), FRUHSTORFER (344), JORDAN (510), KRAATZ (592), NONFRIED (762), PLANET (850), POTTIER (853), WATERHOUSE (1132).]
 Carnivorous habits ; PLANET, p. 119, Naturaliste, 1894.
 Attitude of stag-beetle in flight ; POTTIER (853).
Allotopus, n. g., for *Prosopocelus rosenbergi*, Voll. ; ALBERS, p. 162, Deutsche ent. Zeitschr. 1894.
Chiasognathus grantii, combats ; Nature (La), 1894 (2) p. 53.
Cladognathus umhangi, figure ; PLANET, p. 119, Ann. Soc. ent. France, 1894.
Ceratognathus froggatti, Botany Bay, BLACKBURN, p. 94, P. Linn. Soc. N. S. Wales, ix, n. sp.
C. froggatti, larva ; FROGGATT, p. 120, P. Linn. Soc. N. S. Wales, ix.
Cyclommatus squamosus, Rits., the supposed major development is *insignis*, but the smaller form is distinct ; RITSEMA, p. 110, Notes Leyden Mus. xvi.
C. albersii, Burma, KRAATZ, p. 268, Deutsche ent. Zeitschr. 1894, n. sp.
Dorcus ? *barbarus*, Assam, JORDAN, p. 485, pl. xiii, fig. 2, Nov. Zool. i (p. 692, this is said to be a synonym of *Fulvicornis groulti*, *infra*), n. sp.
Eurytrachelus wickhami, Queensland, WATERHOUSE, p. 283, Ann. Nat. Hist. (6) xiii, n. sp.
Fulvicornis, n. g., for *F. groulti*, n. sp., India ; PLANET, p. 44, Naturaliste, 1894, n. sp.

- Hexarthrius aduncus*, Assam, pl. xiii, fig. 1, *elongatus*, Borneo, JORDAN, p. 484, Nov. Zool. i, n. spp.
Nigidius fruhstorferi, Java, ALBERS, p. 161, Deutsche ent. Zeitschr. 1894, n. sp.
Odontolabis lowei, teleodont form, ALBERS, p. 165, Deutsche ent. Zeitschr. ii, n. sp.
Prosopocælus mollenkampii, Sumatra, FRUHSTORFER, p. 299, Ent. Nachr. xx, n. sp.

SCARABÆIDÆ.

- [*Cf.* BLACKBURN (93, 95, 96), BRENSKE (130–135), CAMERANO (153), FAIRMAIRE (281–285), GAHAN (351), HAUSER (415), HORN (442), HUBBARD (460), KOLBE (554, 555, 556, 562, 563), KOSHANTSCHIKOW (571–575), KRAATZ (583, 585, 595), NONFRIED (762, 763, 764), ORMEROD (774), REITTER (891, 893, 899), ROTHSCILD & JORDAN (951), SEMENOW (1001), WASMANN (1127), WATERHOUSE (1133). Also *Cetoniini*, p. 141.]
 List of myrmecophilous and termitophilous *Scarabæidæ*; WASMANN, Verzeichniss, pp. 152–155.
Lamellicornis of Ontario and Quebec; WICKHAM (1156).

Coprini.

- Remarks on Reitter's Bestimmungstabelle; KOSHANTSCHIKOW, Horæ Soc. ent. Ross. xxviii, pp. 100–102.
Acanthocerus termiticola, Rio de Janeiro, WASMANN, p. 220, Verzeichniss, n. sp.
Anachalcos holsti, p. 174, *hopei*, *pleuriticus*, *diversipes*, p. 175, Tropical Africa, KOLBE, Ent. Zeit. Stettin, lv, n. spp.
Aphodius opacior, n. n. for *opacus*, Reitt., *digitalis*, n. n. for *digitatus*, Reitt.; KOSHANTSCHIKOW, p. 102, Horæ Soc. ent. Ross. xxviii.
A. fœtidus, p. 11, *ater*, p. 14, metamorphoses; XAMBEU, Mœurs, vi.
A. (Plagiogonus) reitteri, p. 97, *A. (Agolius) haroldi*, p. 98, Turkestan, KOSHANTSCHIKOW, Horæ Soc. ent. Ross. xxviii; *A. (Mendidius) spinosus*, p. 107, *A. (Agrilinus) glazunowi*, p. 108, *A. (Esimus) stereotypus*, p. 109, *A. (Meraphodius) nodulifer*, p. 110, *selenocarus*, p. 111, *A. (Esimaphodius) nasalis*, p. 112, *A. (Orodalus) lucifer*, p. 113, *A. (Amidorus) fronticornis*, p. 114, *A. (Volinus) interstitialis*, p. 115, *A. (Melinopterus) similis*, p. 116, Turkestan, KOSHANTSCHIKOW, Horæ Soc. ent. Ross. xxviii; *A. (Volinus) plustschewskii*, p. 123, *varicolor*, p. 124, Astrachan, *A. (Melinopterus) planus*, Orenburg, p. 125, *A. (Nialus) subtilis*, p. 126, Astrachan, KOSHANTSCHIKOW, t. c.; *A. (Mendidius) brevitarsis*, Algeria, *A. (Phæaphodius) truncatangulus*, Amasia, p. 186, *A. (Orodalus) putoni*, Madrid, *A. (Volinus) nævuliger*, Tunis, p. 187, *A. (Bivalus) tunicatus*, Russia, p. 188, REITTER, Ent. Nachr. xx; *A. troglodytes*, Florida, in burrows of tortoise, HUBBARD, p. 312, Insect Life, vi : n. spp.

- Atenius deserti*, Australia, BLACKBURN, p. 95, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Bolboceras rufotestaceum*, n. var., *puncticolle*; KOLBE, p. 172, Ent. Zeit. Stettin, lv.
- B. bidenticolle*, Congo, FAIRMAIRE, p. 652, Ann. Soc. ent. Belgique, xxxviii; *B. princeps*, p. 166, *gigas, atavus*, p. 167, *interruptum*, p. 168, *sansibaricum*, p. 169, *littorale, suahelum*, p. 170, *quinquedens*, p. 171, *globulare*, p. 172, *togonicum, monticola*, p. 173, Tropical Africa, KOLBE, Ent. Zeit. Stettin, lv : n. spp.
- Canthon obliquus*, Lower California, HORN, p. 393, P. Calif. Ac. iv, n. sp.
- Chiron cylindrus*, Fab., = (*digitatus*, Fab.); BEDEL, p. 152, Abeille, xxviii.
- Chironitis metasternalis*, Egypt, REITTER, p. 302, Wien. ent. Zeit. xiii; *C. pygidialis*, Turkestan, KOSHANTSCHIKOW, p. 104, Horæ Soc. ent. Ross. xxviii : n. spp.
- Copris armatus*, var., from Costa Rica, noticed; GAHAN, p. 117, Ann. Nat. Hist. (6) xiv.
- C. gopheri*, Florida, in burrows of tortoise, HUBBARD, p. 310, Insect Life, vi; *C. costaricensis*, Central America, GAHAN, p. 117, Ann. Nat. Hist. (6) xiv : n. spp.
- Eucranium arachnoides*, habits; ORMEROD, Entomologist, 1894, p. 229.
- Geotrypes metallescens*, Thibet, FAIRMAIRE, p. 218, Ann. Soc. ent. Belgique, xxxviii; *G. felschei*, Honduras, NONFRIED, p. 114, Ent. Nachr. xx : n. spp.
- Goniolethrus*, n. subg. of *Lethrus*, q.v.
- Gyronotus fimetarius*, Usambara, KOLBE, p. 176, Ent. Zeit. Stettin, lv, n. sp.
- Hybalus*: remarks on, characters of males; BEDEL, pp. 147-149, Abeille, xxviii.
- Lethrus*: table of the subgenera of, pp. 474-479; the following new: *Microlethrus*, p. 476, *Teratolethrus*, p. 477, *Goniolethrus*, p. 479; SEMENOW, Horæ Soc. ent. Ross. xxviii : combats of males; WEBER, p. 35, Ber. Ver. Kassel, xxxix.
- L. (Autolethrus) silus*, p. 43, *hauseri*, p. 44, Turkestan, REITTER, Deutsche ent. Zeitschr. 1894; *L. (Abrognathus) glasunovi*, Turkestan, KOSHANTSCHIKOW, p. 118, Horæ Soc. ent. Ross. xxviii; *L. (Scelolethrus) sieversi*, Turcomania, KOSHANTSCHIKOW, p. 149, t. c.; *L. (Teratolethrus) komarowi*, Askhabad, p. 491, *L. (Scelolethrus) costatus*, Kulab, p. 497, *auriculatus*, p. 500, *bactrianus*, p. 502, *bucharicus*, East Bokhara, p. 504, *turcomanicus*, p. 507, Transcasian Region, *L. (Heteroplistodus) tschitscherini*, Kuldsha, p. 508, *obliquus*, Kulab, p. 510, *obsoletus*, Turkestan, p. 513, *L. (Autolethrus) coptotis*, Kulab, p. 514, *sogdianus*, p. 516, *fedtschenkoi*, p. 519, Samarkand, *nucronatus*, Central Turkestan, *eous*, Kuldsha, p. 522, SEMENOW, Horæ Soc. ent. Ross. xxviii : n. spp.
- Machidius clypealis*, Australia, BLACKBURN, p. 95, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Megathopa violacea*, habits; ORMEROD, Entomologist, 1894, p. 229.

- Mendidius quadridentulus*, Senegal, FAIRMAIRE, p. 652, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Meraphodius*, n. subg. of *Aphodius*; KOSHANTSCHIKOW, Horæ Soc. ent. Ross. xxviii, p. 112.
- Microlethrus*, n. subg. of *Lethrus*, q.v.
- Mnematidium silenus*, note on; REITTER, p. 183, Ent. Nachr. xx.
- Oniticellus* and *Liatongus*, distinguished; REITTER, p. 189, Ent. Nachr. xx. *O. californicus*, habits and habitat; ANGELL, p. 15, J. N. York Ent. Soc. i.
- Onitis inuus*, note on the type of Fabricius, and synonymy; WATERHOUSE, p. 9, Ann. Nat. Hist. (6) xiv.
- Onthophagus liothorax*, n. n. for *levicollis*, Reitt., *granulosus*, n. n. for *granulifer*, Reitt.; KOSHANTSCHIKOW, p. 102, Horæ Soc. ent. Ross. xxviii. *O. crassus*, habitat, p. 9, *quadripustulatus*, characters of type, p. 10, *declivis* and *desectus*, synonymy, p. 10; WATERHOUSE, Ann. Nat. Hist. (6) xiv.
- O. cupreolus*, Andalusia, REITTER, p. 301, Wien. ent. Zeit. xiii; *O. glansnowi*, KOSHANTSCHIKOW, p. 105, Horæ Soc. ent. Ross. xxviii; *O. clitellifer*, Amurland, REITTER, p. 189, Ent. Nachr. xx; *O. fabricii*, Port Bowen, p. 10, *rupicapra*, *duboulayi*, West Australia, p. 11, *nanus*, Sydney, p. 12, WATERHOUSE, Ann. Nat. Hist. (6) xiv; *O. polyphemi*, Florida, in burrows of tortoise, HUBBARD, p. 311, Insect Life, vi: n. spp.
- Rhysemus coluber*, = (*læsifrons*, Fairm.); BEDEL, p. 152, Abeille, xxviii. *R. coluber*, Fairm., = (*cæsoides*, Reitt., and *læsifrons*, Fairm.); REITTER, p. 312, Wien. ent. Zeit. xiii. *R. reitteri*, n. n. for *interruptus*, Reitt.; KOSHANTSCHIKOW, p. 117, Horæ Soc. ent. Ross. xxviii.
- R. cæsoides*, Algeria, REITTER, p. 184, Ent. Nachr. xx, n. sp.
- Sisyphus schaefferi*, combats; WEBER, p. 36, Ber. Ver. Kassel, xxxix.
- Sitiphus*, n. g., near *Mendidius*, for *S. brisouti*, n. sp., Algeria; FAIRMAIRE, p. 313, Ann. Soc. ent. Belgique, xxxviii.
- Sitiphus*, characters, a group of *Mendidius*; REITTER, p. 253, Wien. ent. Zeit. xiii.
- Sugrames*, n. g., near *Mendidius*, p. 184, for *S. hauseri*, n. sp., Herat, p. 185, and *Mendidius auriculatus*, Reitt.; REITTER, Ent. Nachr. xx.
- Temnioplectron diversicolle*, Queensland, BLACKBURN, p. 204, Tr. R. Soc. S. Austral. xviii, n. sp.
- Teratolethrus*, n. subg. of *Lethrus*, q.v.
- Termitodius*, n. g., near *Rhyparus*, for *T. coronatus*, n. sp.; VENEZUELA; WASMANN, p. 220, Verzeichniss.
- Trox perrisi* = (*haroldi*, Flach); BEDEL, p. 151, Abeille, xxviii. *T. arena-rius*, habits; LABOULBÈNE, p. cxxxiv, Bull. Soc. ent. France, 1894.

Glaphyrini.

- Chnaumanthus palmeri*, Utah, HORN, p. 393, P. Calif. Ac. iv, n. sp.
- Oncerus convergens*, Lower California, HORN, p. 394, P. Calif. Ac. iv, n. sp.

Melolonthini.

- Notes on affinities of aberrant Melolonthids and doubtful forms ; HORN, pp. 395 & 396, P. Calif. Ac. iv.
- Characters of the groups of *Melolonthini* discussed and tabulated, the African genera and species of *Melolonthinae*, *Leucopholinae*, and *Schizonychinae* revised ; KOLBE, pp. 548-577, Ann. Soc. ent. Belgique, xxxviii.
- The first part of BRENSKE's memoir (130) includes many observations on various species of *Melolonthidae*.
- Notes on various genera of *Rhizotrogides* ; BRENSKE, pp. 177-183, Ent. Nachr. xx.
- Amphimallus dalmatinus*, Zara, p. 58, *circassicus*, Circassia, p. 59, *crinitus*, Turkestan, p. 60, BRENSKE, Mem. Soc. ent. Belgique, ii ; *Amphimallon* (sic) *korbi*, Spain, REITTER, p. 302, Wien. ent. Zeit. xiii : n. spp.
- Amphitrichia*, n. subg., see *Holotrichia*.
- Anartioschiza*, n. g., pp. 567 & 569, for *A. camaruna*, p. 569, *major*, p. 570, n. spp., Cameroons ; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Apogonia ferruginea*, redescribed from the type of Fabricius ; WATERHOUSE, p. 513, Ann. Nat. Hist. (6) xiii.
- A. leuveni* (Rits. i. l.), Sumatra, BRENSKE, p. 275, Ent. Zeit. Stettin, lv ; *A. gigantea*, Sumatra, NONFRIED, p. 204, Deutsche ent. Zeitschr. 1894 : n. spp.
- Asactopholis*, n. g., for *Lepidiota gracilipes*, Shp., and including *L. ornata*, *opalinea*, *bicolor* ; BRENSKE, p. 276, Ent. Zeit. Stettin, lv.
- Atys glabra*, East Africa, KOLBE, p. 577, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Brachylepis*, n. g., pp. 552 & 560, for *Coniopholis elephas*, Gerst. ; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Calloserica*, n. g., for *C. tigrina*, n. sp., E. India ; BRENSKE, p. 56, Mem. Soc. ent. Belgique, ii.
- Cochliotis*, n. g., pp. 553 & 564, for *Coniopholis melolonthoides* ; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- C. nyassica*, *fraterna*, Lake Nyassa, KOLBE, p. 570, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Cryphaobius* : characters and validity ; KRAATZ, pp. 77-79, Deutsche ent. Zeitschr. 1894.
- Cyphochilus elongatus*, China, BRENSKE, p. 80, Mem. Soc. ent. Belgique, ii, n. sp.
- Cyphonotus* and allies (*Anoxia*, *Cyphanoxia*, *Euranoxia*, *Cryptotrogus*, *Trinoxia*), revised ; BRENSKE, pp. 264-272, Ent. Zeit. Stettin, lv.
- Dejeania borneensis*, Borneo, BRENSKE, p. 58, Mem. Soc. ent. Belgique, ii, n. sp.
- Dichelonycha picea*, Lower California, HORN, p. 396, P. Calif. Ac. iv, n. sp.
- Diplouwix punctulata*, Lower California, HORN, p. 397, P. Calif. Ac. iv ; *D. wittkugeli*, Honduras, NONFRIED, p. 116, Ent. Nachr. xx : n. spp.

- Ectinohoplia luteostriata*, India, *quadrifuberculata*, Shanghai, BRENSKE, p. 34, Mem. Soc. ent. Belgique, ii, n. spp.
- Euthora miliaris*, Madagascar, KOLBE, p. 566, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Eutyposis*, n. g., pp. 568 & 575, for *E. impressa*, n. sp., Tropical Africa, p. 576, and *Schizonycha cavicollis*, Fairm.; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Eulepida*, n. g., pp. 552 & 554, with *E. gracilipes*, p. 556, *pagana*, *nyassica*, p. 557, *sansibarica*, *montana*, p. 558, *baumanni*, p. 559, n. spp., Tropical Africa, KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Hecistospilus*, n. g., pp. 568 & 574, for *H. molitor* and *sinuatus*, n. spp., E. Africa, p. 575; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Hemiserica*, n. g., for *H. nasuta*, n. sp., E. India; BRENSKE, p. 57, Mem. Soc. ent. Belgique, ii.
- Heteronyx cowelli*, p. 96, *sequens*, p. 97, Australia, BLACKBURN, P. Linn. Soc. N. S. Wales, ix, n. spp.
- Holocnemus*, n. g., *Rhizotrogides*, p. 76, for *H. tomentosus*, n. sp., E. India, p. 77; BRENSKE, Mem. Soc. ent. Belgique, ii.
- Holotrichia sumatrana*, Sumatra, NONFRIED, p. 205, Deutsche ent. Zeitschr. 1894; *H. dohrni*, Sumatra, BRENSKE, p. 277, Ent. Zeit. Stettin, lv; *H. bengalensis*, Sylhet, p. 60, *desiderata*, Borneo, p. 61, *severini*, Java, p. 62, *rufo-flava*, Ceylon, p. 63, *intermedia*, Cochinchina, p. 64, *glossata*, Java, p. 65, *remorata*, p. 66, *insularis*, p. 67, Ceylon, *kiotonensis*, Kioto, p. 68, *hankowiensis*, Hankow, *helleri*, Java, p. 69, *semiserrata*, Shanghai, p. 70, *fissa*, Bombay, p. 71, *H. (Amphitrichia) amboina*, Amboyna, p. 73, *H. tjibodasia*, Java, p. 74, BRENSKE, Mem. Soc. ent. Belgique, ii : n. spp.
- Holotrochus*, n. g., *Rhizotrogides*, for *H. vestitus*, n. sp., Shanghai; BRENSKE, p. 75, Mem. Soc. ent. Belgique, ii.
- Homæoschiza*, n. g., pp. 568 & 574, for *Schizonycha aberrans*, Gerst.; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Hoplia peroni*, = (*kobelti*, Reitt.), the locality is Barbary not Teneriffe; BEDEL, p. 152, Abeille, xxviii.
- H. tebingyana*, p. 196, *schulthessi*, p. 197, *sumatrana*, p. 198, *fuliginosa*, p. 199, Sumatra, NONFRIED, Deutsche ent. Zeitschr. 1894; *H. viridissima*, p. 34, *advena*, p. 35, E. India, BRENSKE, Mem. Soc. ent. Belgique, ii : n. spp.
- Lachnosterna*; table of characters of the 32 Illinois species, pp. 139-144.
L. fusca, *inversa*, *hirticula*, *rugosa*, *gibbosa*, larvæ; FORBES, pp. 138-140, pl. xii, Rep. Ins. Illinois, xviii.
- L. centralis*, Honduras, NONFRIED, p. 119, Ent. Nachr. xx, n. sp.
- Lecanotrogus*, n. g., pp. 568 & 573, for *L. runsoricus*, n. sp., Tropical Africa, p. 574; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Lepidoderma waterhousei*, *lansbergei*, Australia, *glaber*, Cornwallis I., BRENSKE, p. 42, Soc. ent. ix; *L. nigra*, p. 9, *livi*, p. 10, New Guinea, NONFRIED, Ent. Nachr. xx : n. spp.

- Lepidiota* : notes on various species, pp. 84-86, *olivacea*, = (*pedator*, Shp.), *mansueta*, = (*rufipennis*, Shp.), p. 84 ; BRENSKE, Mem. Soc. ent. Belgique, ii.
- L. cochinchinæ*, E. India, BRENSKE, p. 77, Mem. Soc. ent. Belgique, ii, n. sp.
- Lepidomela*, n. g., pp. 552 & 561, for *L. cervina*, n. sp., E. Africa, p. 561 ; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Lepidotrogus*, n. g., pp. 567 & 572, for *L. conradti*, *squamiger*, p. 573, n. spp., Usambara ; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- L. fontainei*, Philippines, p. 78, *shangirana*, Shangir, p. 79, BRENSKE, Mem. Soc. ent. Belgique, ii ; *L. proxima*, p. 275, *schochi*, p. 276, Sumatra, BRENSKE, Ent. Zeit. Stettin, lv : n. spp.
- Leucophorus*, n. g., *Leucopholides*, p. 79, for *L. flabellatus*, n. sp., E. India, p. 80 ; BRENSKE, Mem. Soc. ent. Belgique, ii.
- Listrochelus carminator*, Lower California, HORN, p. 398, P. Calif. Ac. iv, n. sp.
- Macroductylus elegans*, Ecuador, NONFRIED, p. 142, Ent. Nachr. xx, n. sp.
- Melolontha cochinchinæ*, Indo-China, BRENSKE, p. 82, Mem. Soc. ent. Belgique, ii, n. sp.
- Microserica*, n. subg., cf. *Serica*.
- Neoserica*, n. subg., cf. *Serica*.
- Oligophylla*, n. g., p. 289, for *Anoxia detrita*, Fairm., and *O. quedenfeldtii*, n. sp., Tunis, p. 290 ; KRAATZ, Deutsche ent. Zeitschr. 1894.
- Pachnessa*, n. g., for *Pachydema nicobarica*, Redt. ; BRENSKE, p. 279, Ent. Zeit. Stettin, lv.
- Pachrodema picea*, Patagonia, NONFRIED, p. 115, Ent. Nachr. xx, n. sp.
- Pegylis rufolineata*, *neumanni*, Central Africa ; KOLBE, p. 553, Ann. Soc. ent. Belgique, xxxviii.
- Pholidochris*, n. g., pp. 553 & 562, for *Ancylonycha dohrni* and *Lepidiota quedenfeldti*, with *P. preussi*, n. sp., W. Africa, p. 563 ; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Prosecnius*, n. g., pp. 568 & 576, for *Schizonycha capito*, Gerst. ; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Pseudodiplotaxis*, n. g., p. 117, for *P. albosetosa*, n. sp., W. Brazil, p. 118 ; NONFRIED, Ent. Nachr. xx.
- Ramilia*, n. g., for *Rhopæa pruinosæ*, Harold ; KOLBE, p. 551, Ann. Soc. ent. Belgique, xxxviii.
- Rhizoproctus*, n. g., pp. 567 & 571, for *R. aurescens*, n. sp., Usambara, p. 571 ; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Rhizotrogus limbatipennis*, p. 75, *holosericeus*, *vulpinus*, *pilicollis*, *vernus*, notes on, p. 80 ; KRAATZ, Deutsche ent. Zeitschr. 1894. *R. pilicollis*, habitat ; KRAATZ, p. 172, Wien. ent. Zeit. xiii, and BRENSKE, t. c. p. 227.
- R. rosineæ*, Spain, BRENSKE, p. 272, Ent. Zeit. Stettin, lv, n. sp.
- Rhopæa callabonnensis*, S. Australia, BLACKBURN, p. 205, Tr. R. Soc. S. Austral. xviii, n. sp.
- Schönherria borneensis*, Borneo, BRENSKE, p. 83, Mem. Soc. ent. Belgique, ii, n. sp.

- Serica rufescens*, p. 199, *sumatrana*, p. 200, *unicolor*, p. 201, *ornata*, p. 202, *rufo-brunnea*, p. 203, Sumatra, NONFRIED, Deutsche ent. Zeitschr. 1894; *S. pilifera*, Lower California, HORN, p. 397, P. Calif. Ac. iv; *S. nigrorubra*, Philippines, p. 36, *exigua*, Shanghai, *insanabilis*, p. 37, *tyrannica*, p. 38, *ignava*, E. India, *nigricans*, Sumatra, p. 39, *regia*, Java, p. 40, *mirabilis*, Shanghai, *tarsata*, India, p. 41, *philippinica*, Philippines, p. 42, *ventricosa*, India, p. 43, *S. (Neoserica) suturata*, Borneo, p. 44, *molesta*, Sumatra, *oceanæ*, Philippines, p. 45, *limbata*, Sumatra, p. 46, *grandis*, Java, p. 47, *nobilis*, Sikkim, p. 48, *ursina*, Shanghai, *maculata*, p. 49, *minutula*, p. 50, India, *marginalis*, Shanghai, p. 51, *S. (Microserica) striola*, Sumatra, p. 52, *quadrinaculata*, Borneo, p. 53, *semperi*, Philippines, *setigera*, p. 54, *thomsoni*, p. 55, India, BRENSKE, Mem. Soc. ent. Belgique, ii : n. spp.
- Spaniolepis*, n. g., pp. 552 & 562, for *S. excavata*, n. sp., Angola, p. 562; KOLBE, Ann. Soc. ent. Belgique, xxxviii.
- Trichoderma*, n. g., near *Achloa*, for *T. ceylanica*, n. sp., Ceylon; NONFRIED, p. 11, Ent. Nachr. xx.
- Trigonocnemis*, n. g., *Rhizotrogides*, p. 171, for *T. hauseri*, n. sp., Turkestan, p. 172; KRAATZ, Wien. ent. Zeit. xiii.
- Trinoxia*, n. g., near *Cyphonotus* [for *T. cyphonotoides*, described as n. sp. from Bangalore in Mem. Soc. ent. Belgique, ii, p. 81]; BRENSKE, p. 272, Ent. Zeit. Stettin, lv. *Trinoxia*, n. g., p. 27, for *T. cyphonotoides*, n. sp., Bangalore, p. 81; BRENSKE, Mem. Soc. ent. Belgique, ii.
- Triodonta lusitanica*, Portugal, BRENSKE, p. 35, Mem. Soc. ent. Belgique, ii, n. sp.
- Zietzia*, n. g., *Macrophyllidarum*, p. 205, for *Z. geologa*, n. sp., S. Australia, p. 206; BLACKBURN, Tr. R. Soc. S. Austral. xviii.

Rutelini.

- Anatista sericea*, Honduras, NONFRIED, p. 120, Ent. Nachr. xx, n. sp.
- Anisoplia agricola*, Poda, = (*villosa*, Gœze); BEDEL, p. 152, Abeille, xxviii. *A. villica*, metamorphoses; XAMBEU, Mœurs, ii, p. 76.
- Axomala sublucida*, n. var. *nigrovirens*; REITTER, p. 46, Deutsche ent. Zeitschr. 1894.
- A. plustschevskyi*, S. Russia, REITTER, p. 239, Wien. ent. Zeit. xiii; *A. imitatrix*, Central India, p. 12, *excellens*, Borneo, p. 13, NONFRIED, Ent. Nachr. xx; *A. honduræ*, p. 120, *plagiata*, p. 121, Honduras, *phylloperthoides*, Brazil, p. 122, NONFRIED, Ent. Nachr. xx : n. spp.
- Anoplognathus abnormis*, Macl., = (*quadrilineatus*, Wat.); BLACKBURN, p. 206, Tr. R. Soc. S. Austral. xviii.
- Anoplostethus letus*, Queensland, ROTHSCHILD & JORDAN, p. 507, pl. xiii, fig. 13, Nov. Zool. i, n. sp.
- Bolax femoratus*, Brazil, NONFRIED, p. 125, Ent. Nachr. xx, n. sp.
- Calopopillia*, n. subg. of *Popillia*; KOLBE, p. 209, Ent. Zeit. Stettin, lv.
- Eupopillia*, n. subg. of *Popillia*; KOLBE, p. 209, Ent. Zeit. Stettin, lv.

- Fruhstorferia*, n. g., near *Dicaulocephalus*, p. 3, for *F. javana*, n. sp., mountains of West Java, p. 6 ; KOLBE, Ent. Zeit. Stettin, lv.
- Geniates borellii, tucumanensis*, Tucuman, CAMERANO, Boll. Mus. Torino, ix, No. 179, n. spp.
- Lagochile trigona*, n. var. *atrovirens* ; NONFRIED, p. 124, Ent. Nachr. xx.
- Metapopillia*, n. subg. of *Popillia* ; KOLBE, p. 209, Ent. Zeit. Stettin, lv.
- Nannopopillia*, n. g., for *Popillia minuscula*, Har. ; KOLBE, p. 259, Ent. Zeit. Stettin, lv.
- Pelidnota tricolor*, Brazil, NONFRIED, p. 123, Ent. Nachr. xx, n. sp.
- Peripopillia*, n. subg. of *Popillia* ; KOLBE, p. 208, Ent. Zeit. Stettin, lv.
- Plusiotis aurigans*, Costa Rica, p. 504, *limbata*, Central America, *clypealis*, p. 505, *melior*, Costa Rica, *crassimargo*, p. 506, *brevis*, p. 507, Mexico, ROTHSCHILD & JORDAN, Nov. Zool. i, n. spp.
- Popillia* : revision of the African species, with n. subg. and with n. spp. as under :—
- Popillia aenesceus*, p. 223, *meinhardti*, p. 224, *browni*, p. 226, *ovata*, p. 229, *mulleri*, p. 232, *chlorotica*, p. 233, *graminea*, p. 234, *albertina*, p. 236, *anthracina*, p. 239, *congoana*, p. 245, *melanochlora*, p. 247, *nyassica*, p. 249, *crassiuscula*, *biimprensa*, p. 250, *anea*, p. 251, *njamensis*, *propinqua*, p. 256, *phylloperthina*, p. 258, Africa, KOLBE, Ent. Zeit. Stettin, lv, n. spp.
- Pseudopopillia*, n. subg. of *Popillia* ; KOLBE, p. 209, Ent. Zeit. Stettin, lv.
- Sulcipalpus subviolaceus*, Chili, NONFRIED, p. 125, Ent. Nachr. xx, n. sp.

Dynastini.

- Corynophyllus haroldi*, Shp., = (*melas*, Fairm.) ; BLACKBURN, p. 206, Tr. R. Soc. S. Austral. xviii.
- Cyclocephala immaculata*, larva ; FORBES, p. 138, pl. xii, fig. 8, & pl. xiii, fig. 1, Rep. Ins. Illinois, xviii.
- Cyphonistes inermicollis*, Guinea, FAIRMAIRE, p. 653, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Diloboderus abderus*, habits ; ORMEROD, Entomologist, 1894, p. 231.
- Heteronychus levilineatus, curtipennis*, Mozambique, FAIRMAIRE, p. 315, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Isodon pecuarius*, Reiche (sub *Cheiroplatys*), = (*subcornutus*, Fairm.) ; BLACKBURN, p. 206, Tr. R. Soc. S. Austral. xviii.
- Oryctes ingens*, East Africa, KOLBE, p. 178, Ent. Zeit. Stettin, lv ; *O. truncaticollis*, Gabon, p. 315, *cratericollis*, Guinea, p. 316, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii ; n. spp.
- Palmerstonia minor*, Queensland, BLACKBURN, p. 139, Tr. R. Soc. S. Austral. xviii, n. sp.
- Pentodon syriacus*, Kr., = (*Heteronychus cribratellus*) ; BEDEL, p. 152, Abeille, xxviii.
- P. coniceps, bispinifrons*, W. Asia, REITTER, p. 45, Deutsche ent. Zeitschr. 1894, n. spp.

- Phyllognathus hauseri*, Transcaspien, REITTER, p. 46, Deutsche ent. Zeitschr. 1894, n. sp.
- Pycnoschema parvicornis*, Kilimandjaro, FAIRMAIRE, p. 391, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Xynodria*, n. g., near *Pseudoryctes*, p. 185, for *X. interioris*, n. sp., Australia, p. 186; BLACKBURN, P. Linn. Soc. N. S. Wales, viii.

Cetoniini.

[Cf. BEDEL (58), BLACKBURN (94, 96), FAIRMAIRE (281, 282, 283, 285, 286, 287), HORN (442), JORDAN (501, 504), KRAATZ (582, 584, 588-591, 593, 594, 596, 597, 598, 600), MAYET (691), NONFRIED (762, 763, 764), REITTER (875, 885), SCHUCH (977), WATERHOUSE (1132).]

Classification discussed, with tables of genera, &c.; SCHUCH (977).

For many remarks on palæarctic genera and species, see BEDEL (58).

Agenius (Stringophorus) monochrous, Zanzibar, FAIRMAIRE, p. 317, Ann. Soc. ent. Belgique, xxxviii, n. sp.

Allorhina nitida, larva; FORBES, p. 144, pl. xiii, fig. 7, Rep. Ins. Illinois, xviii.

Amithao 10-guttata, n. var. *beinlingi*; NONFRIED, p. 129, Ent. Nachr. xx.

A. splendens, Honduras, NONFRIED, p. 127, Ent. Nachr. xx, n. sp.

Anochilia rufipes, n. var. described; SCHUCH, p. 319, Deutsche ent. Zeitschr. 1894.

A. bimaculata, Madagascar, KRAATZ, p. 152, Deutsche ent. Zeitschr. 1894, n. sp.

Anthrachophora siamensis, Siam, KRAATZ, p. 216, Deutsche ent. Zeitschr. 1894, n. sp.

Cetonia: food-habits of various species; MAYET (691).

Clinteria sumatrana, Sumatra, NONFRIED, p. 28, Ent. Nachr. xx, n. sp.

Conostethus, n. g.; SCHUCH, p. 215, Mt. Schweiz. ent. Ges. ix.

Coquerelia rufipes, variation; SCHUCH, p. 220, Mt. Schweiz. ent. Ges. ix.

Cotinis sobrina, n. var. *schafraneki*; NONFRIED, p. 126, Ent. Nachr. xx.

Cremastochilus opaculus, Lower California, HORN, p. 399, pl. vii, fig. 1, P. Calif. Ac. iv, n. sp.

Diaphonia dorsalis, larva; FROGGATT, p. 121, P. Linn. Soc. N. S. Wales, ix.

D. lateralis, p. 246, *euclensis*, p. 248, *satelles*, p. 250, Australia, BLACKBURN, P. Linn. Soc. N. S. Wales, viii, n. spp.

Dicranocephalus adamsi and *dabryi*, distinguished; JANSON, p. viii, P. ent. Soc. London, 1894.

Dilochrosis frenchi, Queensland, BLACKBURN, p. 245, P. Linn. Soc. N. S. Wales, viii, n. sp.

Diplognatha leviscutata, Abyssinia, FAIRMAIRE, p. 654, Ann. Soc. ent. Belgique, xxxviii, n. sp.

Elaphinis delagoensis, Africa, SCHUCH, p. 188, Mt. Schweiz. ent. Ges. ix;

E. vermiculata, Abyssinia, FAIRMAIRE, p. 653, Ann. Soc. ent. Belgique, xxxviii: n. spp.

- Elaphoides*, n. g., for *E. sikorce*, n. sp., Madagascar; SCHUCH, Mt. Schweiz. ent. Ges. ix.
- Eucatheta*, n. g., near *Cratomolops*, for *E. bicarinata*, n. sp., Madagascar; FAIRMAIRE, p. 140, Ann. Soc. ent. Belgique, xxxviii.
- Eucetonia*, n. g.; SCHUCH, p. 211, Mt. Schweiz. ent. Ges. ix.
- Eudicella carmelita*, S. Africa, FAIRMAIRE, p. lxxxvi, Bull. Soc. ent. France, 1894, n. sp.
- Euphoria inda*, n. var. *nigripennis*; KLAGEB, p. 198, Ent. News Philad. v.
- E. trivittata*, Ecuador, NONFRIED, p. 130, Ent. Nachr. xx, n. sp.
- Glycyphana nepalensis*, Darjeeling, KRAATZ, p. 294, Deutsche ent. Zeitschr. 1894, n. sp.
- Gnorimus viridis*, Assam, JORDAN, p. 486, Nov. Zool. i (p. 692, *t. c.*, this is said to be a synonym of *G. costipennis*, Jans.), n. sp.
- Gymnetis fuliginosa*, Bogota, NONFRIED, p. 130, Ent. Nachr. xx, n. sp.
- Ischiopsopha exasperata* (var. of *wallacei*) described; KRAATZ, p. 321, Deutsche ent. Zeitschr. 1894.
- Linotarsia plagiicollis* (*infra*), queried by KRAATZ, p. cxxvii, Bull. Soc. ent. France, 1894, as *discoidalis*, Wat.
- L. plagiicollis*, *rotundicollis*, Madagascar, FAIRMAIRE, p. lxxxvii, Bull. Soc. ent. France, 1894, n. spp.
- Longiptera reitteri*, New Guinea, NONFRIED, p. 29, Ent. Nachr. xx; *L. giesbersi*, New Guinea, KRAATZ, p. 320, Deutsche ent. Zeitschr. 1894; n. spp.
- Macronota nobilis*, Celebes, KRAATZ, p. 272, Deutsche ent. Zeitschr. 1894, n. sp.
- Mausoleopsis argentea*, referred to *Pseudeuryomia* and = (*Euryomyia oberthurii*, Fairm.); KRAATZ, p. cxxvii, Bull. Soc. ent. France, 1894.
- Mycteristes bicoronatus*, Borneo, JORDAN, p. 691, Nov. Zool. i, n. sp.
- Pachnoda latetrabeata*, Kilimandjaro, FAIRMAIRE, p. 391, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Pachycetonia*, n. g.; SCHUCH, p. 212, Mt. Schweiz. ent. Ges. ix.
- Penthima* (sub *Macronota*) *aciculata*, Voll., ♀ = (*nigerrima*, Kr.); KRAATZ, p. 296, Deutsche ent. Zeitschr. 1894.
- Phedimus mohikei*, var. described; KRAATZ, p. 107, Deutsche ent. Zeitschr. 1894.
- Phaneresthes*, n. g., p. 269, for *P. flavovariegata*, n. sp., W. Africa, p. 270, and *Elaphinis brevis*, Jans.; KRAATZ, Deutsche ent. Zeitschr. 1894.
- Pleuronota 6-maculata*, Darjeeling, KRAATZ, p. 141, Deutsche ent. Zeitschr. 1894, n. sp.
- Pecilopharis femorata*, New Guinea, WATERHOUSE, p. 284, Ann. Nat. Hist. (6) xiii, n. sp.
- Pogoniotarsus setiger*, Madagascar, KRAATZ, p. 152, Deutsche ent. Zeitschr. 1894; *P. cruciatus*, Madagascar, FAIRMAIRE, p. 139, Ann. Soc. ent. Belgique, xxxviii : n. spp.
- Potosia konigi*, Jerusalem, REITTER, p. 127, Wien. ent. Zeit. xiii; *P. ceylanica*, Ceylon, SCHUCH, p. 188, Mt. Schweiz. ent. Ges. ix : n. spp.

- Prigenia khasiana*, Assam, JORDAN, p. 691, Nov. Zool. i, n. sp.
- Protatia mindoroensis*, Philippines, KRAATZ, p. 298, Deutsche ent. Zeitschr. 1894.
- Pseudeuryomia*, n. g., for *Euryomia oberthuri*; KRAATZ, p. 297, Deutsche ent. Zeitschr. 1894.
- Pseudoclienteria borni*, Transvaal, SCHOCH, p. 188, Mt. Schweiz. ent. Ges. ix, n. sp.
- Pygora ornatissima*, Madagascar, SCHOCH, p. 220, Mt. Schweiz. ent. Ges. ix, n. sp.
- Stenotarsia*; the species discussed, varr. of *velutina* named; KRAATZ, pp. 160 & 161, Wien. ent. Zeit. xiii.
- S. marginicollis*, Madagascar, KRAATZ, p. 163, Wien. ent. Zeit. xiii, n. sp.
- Teniodera fulvopilosa*, Thibet, FAIRMAIRE, p. 219, Ann. Soc. ent. Belgique, xxxviii; *T. laterimacula*, Malacca, p. 142, *trifasciata*, p. 143, Sumatra, KRAATZ, Deutsche ent. Zeitschr. 1894: n. spp.
- Taurrhina longiceps*, Kolbe, = (*chrysocephala*, Fairm., *infra*); KRAATZ, p. cxxvii, Bull. Soc. ent. France, 1894.
- T. chrysocephala*, Tropical Africa, FAIRMAIRE, p. lxxxvi, Bull. Soc. ent. France, 1894 (but cf. *suprà*); n. sp.
- Trichaulax macleayi*, W. Australia, KRAATZ, p. 255, Wien. ent. Zeit. xiii, n. sp.
- Trichius*: synopsis of the Mediterranean species; REITTER, pp. 5 & 6, Wien. ent. Zeit. xiii. *T.*: synopsis of palæarctic species; P. B., pp. 141-143, Echange, 1894.
- T. gallicus*, n. var. *nigripennis*; BEDEL, p. ccxl, Bull. Soc. ent. France, 1894.
- T. orientalis*, Syria; REITTER, p. 6, Wien. ent. Zeit. xiii.
- Trigonophorus parvus*, Assam, KRAATZ, p. 295, Deutsche ent. Zeitschr. 1894, n. sp.
- Zebinus*, n. g., near *Pogoniotarsus*, for *Z. flavolimbalis*, n. sp., Madagascar; FAIRMAIRE, p. 139, Ann. Soc. ent. Belgique, xxxviii.

BUPRESTIDÆ.

- [Cf. ABEILLE (1, 2, 5, 6), BLACKBURN (95, 96), FAIRMAIRE (281), HORN (442), JORDAN (501), KERREMANS (519-522), LEWIS (648), MEUNIER (701), NONFRIED (762, 763, 764), WATERHOUSE (1118, 1132).]
- Geographical distribution; KERREMANS, Ann. Soc. ent. Belgique, xxxviii, pp. 97-121.
- Acmæodera ordinata*, n. n. for *regularis*, Ab., nec Wat.; ABEILLE, p. cxxxi, Bull. Soc. ent. France, 1894.
- A. nivifera*, Algeria, ABEILLE, p. lxxv, Bull. Soc. ent. France, 1894; *A. scapularis*, p. 369, pl. viii, fig. 6, *stigmata*, p. 370, pl. vii, fig. 2, Lower California, *bivulnera*, Arizona, p. 371, *maculifera*, Texas, p. 372,

- pl. viii, fig. 5, *clausa*, Lower California, p. 374, pl. vii, fig. 3, *cribricollis*, Texas, p. 375, pl. viii, fig. 4, *nebulosa*, California, p. 376
insignis, Lower California, p. 377, *delumbis*, Arizona, p. 378, HORN
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- Actenodes alluaudi*, Madagascar, KERREMANS, p. 347, Ann. Soc. ent.
 Belgique, xxxviii, n. sp.
- Agrilus sinuatus*, habits of larva ; Insect Life, vii, p. 258, cut.
- A. mundus*, Algeria, ABEILLE, p. 91, Echange, 1894 ; *A. tuberculicollis*,
brevicollis, p. 352, *octoguttatus*, p. 353, Madagascar, KERREMANS, Ann.
 Soc. ent. Belgique, xxxviii ; *A. simplex*, E. India, *nodosus*, Birma,
 p. 470, *agilis*, E. India, p. 471, *fugax*, Ceram, p. 472, *placidus*,
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 HORN, p. 378, P. Calif. Ac. iv ; *A. subobtusus*, *patruelis*, p. 415,
tacitus, *demissus*, p. 416, *fugax*, p. 417, *percarus*, *mentitus*, p. 418
bucolicus, p. 419, Mexico, KERREMANS, Ann. Soc. ent. France
 1894 : n. spp.
- Ancylوحةira wawrai*, Erivan, NONFRIED, p. 45, Ent. Nachr. xx, n. sp.
- Ankareus*, n. g., *Mastogenini*, p. 349, for *A. cyanicollis*, p. 350, *subcyaneus*,
æneus, p. 351, n. spp., Madagascar ; KERREMANS, Ann. Soc. ent.
 Belgique, xxxviii.
- Anthaxia millefolii* and *smaragdifrons*, synonymy ; ABEILLE, p. lxiv
 Bull. Soc. ent. France, 1894. *A. congregata*, Kl., = (*arabs*, Mars.),
angustipennis, Kl., = (*stupidus*, Mars.) ; BEDEL, p. 152, Abeille,
 xxviii. *A. grammica* and allies distinguished ; REITTER, p. 13,
 Wien. ent. Zeit. xiii.
- A. chobauti*, Algeria, ABEILLE, p. lxiv, Bull. Soc. ent. France, 1894, n. sp.
- Aphanisticus cristatus*, Madagascar, KERREMANS, p. 353, Ann. Soc. ent.
 Belgique, xxxviii, n. sp.
- Astræus jansoni*, = (*tepperi*) ; BLACKBURN, p. 101, P. Linn. Soc. N. S.
 Wales, ix.
- Belionota saundersii*, Cape York, *woodfordi*, Solomon Is., WATERHOUSE,
 p. 285, Ann. Nat. Hist. (6) xiii ; *B. walkeri*, Damma I., WATERHOUSE,
 p. 67, *op. cit.* xiv : n. spp.
- Chalcophora exilis*, p. 98, *beltanae*, p. 100, Australia, BLACKBURN, P. Linn.
 Soc. N. S. Wales, n. spp.
- Chrysobothris kerremansi*, n. n., for *quadraticollis*, Ab., *nec.* Kerr. ; ABEILLE,
 p. cxxx, Bull. Soc. ent. France, 1894.
- C. bicolor*, p. 366, *lucana*, p. 367, Lower California, HORN, P. Calif. Ac.
 iv, n. spp.
- Chrysochroa simillima*, Borneo, JORDAN, p. 488, Nov. Zool. i, n. sp.
- Conognatha staudingeri*, Rio Grande, NONFRIED, p. 135, Ent. Nachr. xx,
 n. sp.
- Coræbus santolineæ*, Carcassonne, ABEILLE, p. xxvi, Bull. Soc. ent. France,
 1894 ; *C. niponicus*, Japan, LEWIS, p. 244, Ent. Mag. 1894 : n. spp.
- Cylindromorphus pinguis*, = (*sefrensis*, Bonn.) ; BEDEL, p. 152, Abeille,
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- C. mariaantonice*, Algeria, ABEILLE, p. 67, Echange, 1894, n. sp. (but on p. 94 this is said to be *C. spinipennis*, Bed.).
- Cyphogastra fruhstorferi*, Java, NONFRIED, p. 30, Ent. Nachr. xx; *C. abdominalis*, Damma I., WATERHOUSE, p. 67, Ann. Nat. Hist. (6) xiv : n. spp.
- Ectinogonia cariosa*, Brazil, NONFRIED, p. 131, Ent. Nachr. xx, n. sp.
- Endelus subviridis*, E. India, KERREMANS, p. 475, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Epidelus wallacei*, n. var. *tricolor*; NONFRIED, p. 31, Ent. Nachr. xx.
- Galbella howas*, Madagascar, KERREMANS, p. 354, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Leiopleura lata*, *minuta*, *levis*, p. 422, *inæqualis*, *nitidicollis*, p. 423, Mexico, KERREMANS, Ann. Soc. ent. France, 1894, n. spp.
- Melanophila coriacea*, E. India, KERREMANS, p. 468, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Metaxymorpha gloriosa*, Queensland, BLACKBURN, p. 207, Tr. R. Soc. S. Austral. xviii, n. sp.
- Mundaria*, n. g., p. 468, near *Discoderes*, for *M. typica*, n. sp., E. India, p. 469; KERREMANS, Ann. Soc. ent. Belgique, xxxviii.
- Pachyschelus bicolor*, *carmineus*, p. 420, *albopictus*, *solitarius*, p. 421, Mexico, KERREMANS, Ann. Soc. ent. France, 1894, n. spp.
- Paracephala cyaneipennis*, larva; BLACKBURN, p. 122, P. Linn. Soc. N. S. Wales, ix.
- Paratania aurosorirens*, Gaboon, FAIRMAIRE, p. 317, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Polybothris flavocincta*, p. 339, *humeralis*, p. 340, *cupreovaria*, p. 341, *striolata*, p. 342, *bilobata*, p. 343, *viridicollis*, *punctipennis*, p. 344, *cyaneopyga*, p. 345, *cupreonitens*, p. 346, Madagascar, KERREMANS, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Polycesta howas*, Madagascar, KERREMANS, p. 348, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Pseudagrilus densegranatus*, Couango, FAIRMAIRE, p. 318, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Pseudochrysoedema (?) walkeri*, Damma I., WATERHOUSE, p. 67, Ann. Nat. Hist. (6) xiv, n. sp.
- Psiloptera diceroides*, Gaboon, FAIRMAIRE, p. 318, Ann. Soc. ent. Belgique, xxxviii; *P. albidopilosa*, p. 132, with var. *maculiventris*, p. 133, *elegans*, p. 134, Brazil, NONFRIED, Ent. Nachr. xx : n. spp.
- Ptosima sericea*, Madagascar, KERREMANS, p. 349, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Sphenoptera chrysostoma*, a valid species; BEDEL, p. 152, Abeille, xxviii.
- Sponsor alluaudi*, Madagascar, KERREMANS, p. 348, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Stigmodera pictipes*, p. 140, *caroli*, p. 141, *oleata*, p. 142, West Australia, BLACKBURN, Tr. R. Soc. S. Austral. xviii, n. spp.
- Trachys imperatrix*, p. 354, *magnifica*, p. 355, *exsculta*, *alluaudi*, *solitaria*, Madagascar, p. 356, KERREMANS, Ann. Soc. ent. Belgique, xxxviii; 1894. [VOL. XXXI.] F 10

T. nova, Perak, *plebeia*, E. India, p. 476, *bella*, Ceylon, *consimilis*, Perak, p. 477, *maculata*, *pacifica*, p. 478, *mansueta*, E. India, *languida*, Ceylon, p. 479, *taciturna*, Perak, p. 480, KERREMANS, Ann. Soc. ent. Belgique, xxxviii : n. spp.

THROSCIDÆ, MONOMMIDÆ.

Supplement to the Munich Catalogue of *Throscide* and *Monommide* ; FLEUTIAUX, pp. 687-691, Ann. Soc. ent. Belgique, xxxviii.
Monomma senegalense, Senegal, FAIRMAIRE, p. 319, Ann. Soc. ent. Belgique, xxxviii, n. sp.

EUCNEMIDÆ.

Bathyaulacus, n. n., to replace *Macraulacus*, BONV. ; FAIRMAIRE, p. 395, Ann. Soc. ent. Belgique, xxxviii.
Fornax algericus, Bou-Saâda, PIC, p. 105, Ann. Soc. ent. France, 1894, n. sp.
Melasis buprestoides, habits, metamorphoses ; DECAUX, Naturaliste, 1894, pp. 64-66.

ELATERIDÆ.

[Cf. ABELLE (6), CANDÈZE (154), CHAMPION (377), FORBES (312), HORN (442), JORDAN (501), LEWIS (644), REITTER (883, 893), SCHWARZ (987), VERHOEFF (1103).]
 Generic synopsis of N. American wire-worms, with numerous figures ; FORBES, pp. 31-47, pls. iv-vii, Rep. Ins. Illinois, xviii.
 Pp. 73-144 of the Faune gallo-rhenane, *Elateridæ*, by DU BUYSSON, have been published in connection with Rev. Ent. franc. xiii.
 Structure of abdomen, number of stigmata, male characters ; VERHOEFF (1103).
Adelocera candezei, Desb., = (*braatzi*, Schw.) ; SCHWARZ, p. 145, Deutsche ent. Zeitschr. 1894. *A. mexicana*, pl. xi, fig. 1, *pollinaria*, fig. 2, figured ; Biol. Centr.-Amer. Col. iii, pt. i.
A. viridis, p. 260, pl. xi, fig. 3, *longicornis*, p. 261, fig. 4, *pectinicornis*, p. 262, fig. 5, Central America, CHAMPION, Biol. Centr.-Amer. Col. iii, pt. i ; *A. ganglbaueri*, Beyrout, SCHWARZ, p. 145, Deutsche ent. Zeitschr. 1894 ; *A. antennata*, p. 27, *parallela*, p. 28, Japan, LEWIS, Ann. Nat. Hist. (6) xiii : n. spp.
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A. suturalis, Nicaragua, CHAMPION, p. 271, pl. xi, fig. 13, Biol. Centr.-Amer. Col. iii, pt. i ; *A. pini*, Japan, LEWIS, p. 30, Ann. Nat. Hist. (6) xiii : n. spp.

- Anchastus mus*, p. 31, *rufipes*, p. 32, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Athous vittatus*, n. var. *denigratus*; BUYSSON, p. cclxxxiii, Bull. Soc. ent. France, 1894.
- A. henoni*, p. 91, *argentatus*, p. 92, Algeria, ABEILLE, Echange, 1894; *A. spatrensis*, Dalmatia, REITTER, p. 102, Wien. ent. Zeit. xiii; *A. umbratilis*, p. 198, *sinuatus*, p. 199, *comes*, p. 200, *porrecticollis*, *singularis*, p. 201, *jactatus*, *inornatus*, p. 255, *unulosus*, p. 256, Japan, LEWIS, Ann. Nat. Hist. (6) xiii : n. spp.
- Betarmon quadrisignatus*, Smyrna, REITTER, p. 302, Wien. ent. Zeit. xiii, n. sp.
- Cumprosternus husselti*, Sumatra, CANDEZE, p. 197, Notes Leyden Mus. xvi, n. sp.
- Cardiophorus syriacus*, n. varr. *fulvofuscatus*, *obscurifuscatus*; REITTER, p. 254, Wien. ent. Zeit. xiii.
- C. trimaculatus*, Persia, SCHWARZ, p. 146, Deutsche ent. Zeitschr. 1894; *C. pinguis*, p. 189, *niponicus*, *opacus*, p. 190, *ferrugineus*, p. 191, Japan, LEWIS, Ann. Nat. Hist. (6) xiii : n. spp.
- Chalcolepis luczoli*, figure, pl. xi, fig. 16, Biol. Centr.-Amer. Col. iii, pt. i.
- Chalcolepidius*: the following are noticed or figured—*bonplandi*, p. 276, *lafargei*, pl. xi, fig. 18, *rugatus*, fig. 20, and var. *pistorius*, fig. 21, *approximatus*, fig. 22, p. 278, *webbi*, fig. 23, *lucordairei*, pl. xii, fig. 1, *exquisitus*, pl. xi, fig. 24, *silbermanni*, fig. 25, *forreri*, pl. xii, fig. 5, *virginialis*, figg. 2 & 3, *angustatus*, fig. 4, *jansonii*, fig. 7, *boucardi*, fig. 12, *desmanesti*, figg. 8 & 9, *mexicanus*, figg. 10 & 11, *jekeli*, fig. 13, *rodriguezii*, figg. 16 & 17, *attenuatus*, fig. 18, *oxydatus*, fig. 15, *dugesii*, fig. 19, CHAMPION, Biol. Centr.-Amer. Col. iii, pt. i.
- C. murinus*, pl. xii, fig. 6, p. 283, *cuneatus*, fig. 14, p. 286, *tenuis*, fig. 20, p. 287, Central America, CHAMPION, Biol. Centr.-Amer. Col. iii, pt. i, n. spp.
- Corymbites melancholicus*, metamorphoses; XAMBEU, Mœurs, vi, p. 26.
- C. daimio*, p. 256, *modestus*, *fulvipennis*, p. 258, *prænobilis*, *hypocrita*, p. 259, *onerousus* = (*tristis*, Cand.), p. 260, *pacatus*, *vagepictus*, p. 261, *gratus*, *ferrugineipennis*, p. 262, *rubripennis*, *chlamydatus*, *concolor*, p. 263, *obscuripes*, p. 264, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Crignus* and *Ludius*, distinctive characters; LEWIS, Ann. Nat. Hist. (6) xiii, p. 266.
- Cryptohypnus*: note on the validity of *Cryptohypnus* and *Hypnoidus*, and the arrangement of the N. American forms; HORN, pp. 6 & 7, Ent. News Philad. v. *Cryptohypnus* and *Hypnoidus*, nomenclature and characters; SEIDLITZ, p. 70, Ent. Nachr. xx.
- C. rivalis*, p. 184, *optatus*, *interstinctus*, p. 185, *tutus*, *modestus*, p. 186, *difficilis*, *atomarius*, p. 187, *carinicollis*, *cinectus*, p. 188, *agilis*, p. 189, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Dicrepidius corvinus*, figured, pl. xiii, fig. 9, Biol. Centr.-Amer. Col. iii, pt. i.

- Dicrepidius politus*, Nicaragua, pl. xiii, fig. 10, p. 294, *serraticornis*, Mexico, p. 295, pl. xiii, fig. 6, CHAMPION, Biol. Centr.-Amer. Col. iii, pt. i, n. spp.
- Dilobitarsus inopinus*, pl. xi, fig. 6, *eloini*, fig. 10, figures, Biol. Centr.-Amer. Col. iii, pt. i.
- Elater ocellatus*, = (*punctatus*, Schwarz); BUYSSON, p. cclxxxiii, Bull. Soc. ent. France, 1894. *E. ryei*, the locality is Tangier, not Japan; LEWIS, p. 36, Ann. Nat. Hist. (6) xiii.
- E. niponicus*, p. 32, *optabilis*, *orientalis*, p. 33, *fagi*, *convexicollis*, p. 34, *scutellaris*, *aini*, p. 35, *chlamydatus*, *montanus*, p. 36, *miles*, p. 37, *canalicollis*, *nigroventris*, p. 38, *vestitus*, *tenuistriatus*, p. 39, *rufipes*, p. 40, *rugipennis*, *parvulus*, p. 41, *pauxillus*, *gracilipes*, p. 42, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Hemirhipus binaculatus*, pl. xi, fig. 17, *decorus*, fig. 19, figures, Biol. Centr.-Amer. Col. iii, pt. i.
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- Lepturoides* : name inadmissible; SEIDLITZ, p. 75, Ent. Nachr. xx.
- L. (Campylus) versicolor*, p. 316, *scutellaris*, *oculatus*, p. 317, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Limonium niponensis*, *montivagus*, p. 194, *marginipennis*, *brunneus*, p. 195, *marginicollis*, *imitans*, p. 196, *rufipennis*, *iguicollis*, p. 197, *approximans*, p. 198, *eximius*, p. 318, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Ludius niponensis*, p. 264, *candezei*, p. 265, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Megapenthes natunensis*, Gulf of China, CANDÈZE, p. 198, Notes Leyden Mus. xvi; *M. bicarinatus*, *higonius*, p. 43, *insidiosus*, *fugisanus*, p. 44, *bifoveolatus*, *cariniceps*, p. 45, *pallidus*, *insignitus*, p. 46, *versipellis*, *ornatus*, p. 47, Japan, LEWIS, Ann. Nat. Hist. (6) xiii : n. spp.
- Melanotopsis*, n. g., for a part of *Melanotus*, p. 191, type *M. cete*, with fig., p. 192, LEWIS, Ann. Nat. Hist. (6) xiii.
- Melanotus invectilius*, = (*fortnumi*); LEWIS, p. 192, Ann. Nat. Hist. (6) xiii. *M. rufipes*, metamorphoses; PLANET, Naturaliste, 1894, p. 107.
- M. vetustus*, p. 147, *carinicollis*, p. 148, Kulab, SCHWARZ, Deutsche ent. Zeitschr. 1894; *M. diploconoides*, Sumatra, CANDÈZE, p. 198, Notes Leyden Mus. xvi; *M. longipennis*, p. 192, *ocellato-punctatus*, p. 193, Japan, LEWIS, Ann. Nat. Hist. (6) xiii : n. spp.
- Melanocanthus pictipennis*, p. 48, *similis*, p. 182, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.

- Meristhus scobinula*, figure ; Biol. Centr.-Amer. Col. iii, pt. i, pl. xi, fig. 12.
- M. squamiger*, Central and S. America, CHAMPION, p. 269, pl. xi, fig. 14, Biol. Centr.-Amer. Col. iii, pt. i; *M. niponensis*, Japan, LEWIS, p. 30, Ann. Nat. Hist. (6) xiii : n. spp.
- Nomopleus angusticollis*, Mery, REITTER, p. 242, Wien. ent. Zeit. xiii, n. sp.
- Odontoderus*, n. g., near *Pleonomus*, for *O. spinicollis*, n. sp., Beyrout, SCHWARZ, Deutsche ent. Zeitschr. 1894.
- Oistus cacicus*, pl. xiii, fig. 8, *sphenosomus*, fig. 7, figures ; Biol. Centr.-Amer. Col. iii, pt. i.
- Semiotus cuspidatus*, pl. xii, fig. 21, *splendidus*, fig. 23, *insignis*, fig. 25, *lafertei*, fig. 22, *dohrni*, pl. xiii, figg. 1 & 2, *superbus*, figg. 4 & 5, *chontalenus*, fig. 3, *ligneus*, pl. xii, fig. 24, figures, notes, pp. 287-292 ; CHAMPION, Biol. Centr.-Amer. Col. iii, pt. i.
- Sericosomus viridis*, Japan, LEWIS, p. 314, Ann. Nat. Hist. (6) xiii, n. sp.
- Silesis scabripennis*, Japan, LEWIS, p. 315, Ann. Nat. Hist. (6) xiii, n. sp.
- Sinuaria*, n. g., near *Oxyopterus*, for *S. ænescens*, n. sp., Borneo ; JORDAN, p. 487, pl. xiii, fig. 4, Nov. Zool. i.
- Spilomorphus*, n. g., near *Spilus*, for *S. rubricollis*, n. sp., Panama, pl. xiii, fig. 12 ; CHAMPION, Biol. Centr.-Amer. Col. iii, pt. i.
- Spilus ciliaticornis*, Central America, CHAMPION, p. 295, pl. xiii, fig. 11, Biol. Centr.-Amer. Col. iii, pt. i, n. sp.

CEBRIONIDÆ.

- Cebrio piceiventris, pellucidus*, Algeria, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.

RHIPICERIDÆ.

- In Zool. Rec. xxx, *Ins.*, pp. 137 and 156, an erroneous record was made as to *Rhipiceridæ* and *Rhipidophoridæ*. It was corrected in Errata at beginning of the volume, to which reference should therefore be made.
- Arrhaphipterus schellkowi*, note and figure ; HEYDEN, p. 88, pl. i, fig. 2, Deutsche ent. Zeitschr. 1894.
- A. larclausei*, Algeria, REITTER, p. 107, Wien. ent. Zeit. xiii, n. sp.
- Vesperoctenus flohri* referred to *Rhipiceridæ* ; HORN, p. 324, P. Calif. Ac. iv : this treated as incorrect by GAHAN, and again maintained by HORN, Ent. News Philad. 1895, p. 114.

DASCILLIDÆ.

- Anorus parvicollis*, Arizona, HORN, p. 365, P. Calif. Ac. iv, n. sp.
- Helodes chobauti*, Algeria, ABELLE, p. 92, Echange, 1894 ; *H. angulatus*, Australia, BLACKBURN, p. 186, P. Linn. Soc. N. S. Wales, viii, n. sp.

MALACODERMIDÆ.

- [*Cf.* ABEILLE (6), BLACKBURN (93, 96), BOURGEOIS (122, 123, 124), FAIRMAIRE (281, 283), HORN (442), KRAUSS (602), KÜSTER (621), OLIVIER (768, 769, 770), PIC (829, 841-845), REITTER (880, 883, 889, 891), SCHILSKY (971), VERHOEFF (1104).]
- Anatomy and morphology of the abdomen and external sexual structures, with discussion of their bearing on taxonomy; *Malachiides* to be a separated family associated with *Cleridæ*; VERHOEFF (1104).
- Synonymic and systematic observations on numerous European and Mediterranean *Dasytides*; SCHILSKY, pp. 225-236, Deutsche ent. Zeitschr. 1894.
- Abidia* and *Podistra*, validity and distinctions queried and discussed; KRAUSS, p. 184, REITTER, pp. 185-188, Wien. ent. Zeit. xiii.
- A. birubacheri*, p. 180, *saxicola*, p. 181, Eastern Alps, KRAUSS, Wien. ent. Zeit. xiii, n. spp.
- Amauroniu contracta* is a *Eumolpid*; BEDEL, p. 153, Abeille, xxviii.
- A. bourgeoisi*, Madrid, PIC, 114, Echange, 1894; *A. juniperi*, Algeria, BOURGEOIS, p. ceiv, Bull. Soc. ent. France, 1894; *A. violacea*, Syria, ABEILLE, p. 93, Echange, 1894: n. spp.
- Attalus pici*, Algeria, ABEILLE, p. 92, Echange, 1894; *A. setosus, unicolor*, Lower California, HORN, p. 381, P. Calif. Ac. iv: n. spp.
- Ceralliscus*, n. g., near *Cerallus*, p. 121, for *C. raffrayi*, n. sp., Algeria, p. 122; BOURGEOIS, Rev. Ent. franc. xiii.
- C. laticollis, nigricollis*, Algeria, PIC, p. 95, Echange, 1894, n. spp.
- Cladodes carbonarius, proteus, ambiguus*, Venezuela, OLIVIER, p. 23, Ann. Soc. ent. France, 1894, n. spp.
- Danacæa opacula*, Ab., *infra*, is *nigritarsis*, Kust.; PIC, p. 135, Echange, 1894.
- Danacæa pallidipalpis*, p. 93, Austria, *opacula*, France, p. 94, ABEILLE, Echange, 1894; *D. minuta*, Algeria, PIC, p. 105, t. c.: n. spp.
- Dasystes akbesianus, minutissimus*, Syria, PIC, p. 76, Echange, 1894 (? n. spp.); *D. sefrensis*, Algeria, PIC, p. 112, t. c.: n. spp.
- Dasytiscus? bimetallicus*, Mesopotamia, ABEILLE, p. 93, Echange, 1894, n. sp.
- Ebæus formaneki*, Mongolia, REITTER, p. 240, Wien. ent. Zeit. xiii, n. sp.
- Eros minutus*, abnormal individuals; SHIPP, Entomologist, 1894, p. 34: habits, DISTANT, t. c. p. 161.
- Eurema*, n. g., near *Acanthocnemus*, for *E. dilutum*, n. sp., Algeria; ABEILLE, Echange, 1894.
- Haplocnemus kusteri*, n. n. for *virens*, Kust.; SCHILSKY, p. 331, Deutsche ent. Zeitschr. 1894.
- Heterophotinus*, n. g., for *Photinus dissidens*, n. sp., Uruguay; OLIVIER, p. 24, Ann. Soc. ent. France, 1894.
- Hypattalus*, n. g., p. 208, for the two Australian *Attali*, and the following new species from Australia, viz., *punctulatus, elegans*, p. 209; BLACKBURN, Tr. R. Soc. S. Austral. xviii.

- Laius inflaticornis*, Upper Congo, FAIRMAIRE, p. 319, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Lampyrus exilis*, Algeria, OLIVIER, p. 135, Echange, 1894; *L. exilis*, Algeria, OLIVIER, p. coliii, Bull. Soc. ent. France, 1894: n. spp.
- Ledocas xanthomus*, Brazil, OLIVIER, p. 23, Ann. Soc. ent. France, 1894, n. sp.
- Malachius cervulus*, Siebenbürgen, REITTER, p. 104, Wien. ent. Zeit. xiii; *M. smaragdinus*, Algeria, ABEILLE, p. 92, Echange, 1894; *M. profugus*, Mongolia, REITTER, p. 241, Wien. ent. Zeit. xiii; *M. trabeatus*, Caffraria, FAIRMAIRE, p. 654, Ann. Soc. ent. Belgique, xxxviii: n. spp.
- Maltharchus hexacanthus*, male characters; WEISE, pl. ii, fig. 21, Deutsche ent. Zeitschr. 1894.
- Malthodes caudatus*, *quadrifidus*, *spalatrensis*, *liegeli*, male characters; WEISE, pl. ii, figg. 22-25, Deutsche ent. Zeitschr. 1894.
- Melyris aristidis*, Egypt, *rotundicollis*, Algeria, PIC, Feuille Natural. xv, p. 13, ? n. spp.
- Metriorhynchus*, *Trichalus*, *Xantheros*, queried as one genus; BLACKBURN, p. 208, Tr. R. Soc. S. Austral. xviii.
- Plateros sanguinicollis*, Lower California, HORN, p. 379, P. Calif. Ac. iv, n. sp.
- Podistrina* and *Podistrella* are distinct; REITTER, p. 191, Wien. ent. Zeit. xiii: characters of genus and species; REITTER, pp. 46-48, t. c.
- P. novaki*, Dalmatia, REITTER, p. 48, Wien. ent. Zeit. xiii; *P. reitteri*, Syria, BOURGEOIS, p. cclxvi, Bull. Soc. ent. France, 1894: n. spp.
- Polemus languidus*, California, HORN, p. 380, P. Calif. Ac. iv, n. sp.
- Progeutes*, n. g., for part of *Malthinus*; ABEILLE, p. 92, Echange, 1894.
- Psilothrix bioculata*, Syria, ABEILLE, p. 93, Echange, 1894, n. sp.
- Silis australis* referred to *Edemerida* and renamed *boisduvali*; BLACKBURN, p. 187, P. Linn. Soc. N. S. Wales, viii.
- Telephorus decipiens*, Lower California, HORN, p. 380, P. Calif. Ac. iv, n. sp.
- Troglops spinifrons*, Algeria, ABEILLE, Echange, 1894, p. 92; *T. basicornis*, Cape Town, FAIRMAIRE, p. 655, Ann. Soc. ent. Belgique, xxxviii: n. spp.

CLERIDÆ.

- [Cf. HORN (442), KRAATZ (586), KUWERT (622-625), MAYET (691), REITTER (898), VERHOEFF (1105), WATERHOUSE (1118, 1132).]
- Morphology of abdomen and male organs; VERHOEFF, pp. 155-157, Ent. Nachr. xx.
- Revision of the palæarctic *Clerida*, with tables of the genera and species; REITTER, Verh. Ver. Brunn, xxxii, pp. 37-89.
- Astigmus*, n. subg., p. 399, cf. *Stigmatium*, *infra*.
- Cardiostichus divergens*, Loando, KUWERT, p. 437, Ann. Soc. ent. Belgique, xxxviii, n. sp.

- Chlorocnemis*, n. subg., p. 399, [? of *Stigmatium*] for the following n. spp. from New Guinea and Malay Archipelago, *tibichloralis*, p. 417, *viriditibialis*, *chloritibialis*, *smaragditibialis*, *depressus*, p. 418, *attenuatus*, *marmoratus*, *piger*, *prasinus*, p. 419, with more ample descriptions, pp. 445-448; KUWERT, Ann. Soc. ent. Belgique, xxxviii.
- Clerus mutillaroides*, Asia Minor, REITTER, p. 47, Verh. Ver. Brunn, xxxii, n. sp.
- Corynetes coxalis*, Syria, REITTER, p. 84, Verh. Ver. Brunn, xxxii, n. sp.
- Corynetinus*, n. g., pp. 82 & 84, for *C. fmetarius*, Woll.; REITTER, Verh. Ver. Brunn, xxxii.
- Cyclotomocerus*, n. subg., p. 400, [? of *Stigmatium*] for *gemmatus*, Ceylon, *tuberculifer*, New Guinea, *australicus*, Australia, p. 435, *impressidorsum*, *angustus*, *felderi*, Ceylon, p. 436, n. spp.; KUWERT, Ann. Soc. ent. Belgique, xxxviii.
- Cymatodera purpuricollis*, Lower California, HORN, p. 381, P. Calif. Ac. iv, n. sp.
- Dasyrocclusus*, n. g., p. 399, including the following n. spp., *viridis*, Perak, p. 411, *duplicatus*, *seminiger*, p. 412, *apicalis*, Malay Archipelago, *femoralis*, Celebes, p. 413, *parallelus*, Borneo, *annulatus*, Sangir, p. 414, *ruficrus*, Perak, p. 415, *tibialis*, Ceylon, p. 416, with more ample descriptions, pp. 448-451; KUWERT, Ann. Soc. ent. Belgique, xxxviii.
- Denops albofasciatus*, var. *rubrofasciatus*; PIC, p. 27, Naturaliste, 1894.
- Hydnocera discoidea* var. = (*furcata*, Gorb.); HORN, p. 384, P. Calif. Ac. iv.
- H. omogera*, Lower California, HORN, p. 383, P. Calif. Ac. iv, n. sp.
- Ichne roseicollis*, p. 9, *fronticosta*, p. 10, *vitticollis*, *striaticollis*, p. 11, *confluens*, p. 12, Upper Amazons, KUWERT, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Natalis blackburni*, Swan River, p. 286, *lata*, Moreton Bay, *lævis*, New Guinea, p. 287, WATERHOUSE, Ann. Nat. Hist. (6) xiii, n. spp.
- Necrobia pilifera*, Cosmopolite, REITTER, p. 85, Verh. Ver. Brunn, xxxii, n. sp.
- Necrobinus*, n. g., pp. 83 & 86, with *N. frater*, n. sp., Marocco, and including *defunctorum*, Walk., and *subterranea*, Chev.; REITTER, Verh. Ver. Brunn, xxxii.
- Ommadius*: table of the species; KUWERT, pp. 62-76, Ann. Soc. ent. Belgique, xxxviii: notes on Kuwert's revision; GORHAM, p. xlii, P. ent. Soc. London, 1894.
- O. aruensis*, Aru, *ceramensis*, Ceram, p. 77, *amberbakii*, Amberbaki, *bicolor*, Ceylon, *amboinae*, Amboyna, p. 78, *maculosus*, no locality, *latifascia*, Cape York, p. 79, *griseovirescens*, Australia, *dohertyi*, Celebes, p. 80, *æquicollis*, *nigriceps*, Malay Archipelago, *signiceps*, Batchian, p. 81, *maculiceps*, Malay Archipelago, *yorkensis*, Cape York, p. 82, *brunnipictus*, Perak, &c., *roepstorfi*, Andaman Is., p. 83, *cookstowni*, Australia, *impressus*, Malay Archipelago, p. 84, *celebensis*, Celebes, *convergens*, p. 85, *lanceolatus*, *costipennis*, *signatus*, p. 86,

- Malay Archipelago, *rugicollis*, Celebes, *angustifrons*, Sumatra, p. 87, *javanus*, *fallax*, p. 88, *similis*, p. 89, Perak, *fasciatus*, Celebes, *signatipes*, *lineæfrons*, p. 90, *bornensis*, Sarawak, *æquifrons*, Batchian, p. 91, *fumipes*, Perak, *latifrons*, New Guinea, p. 92, *cavifrons*, Aru, *papua*, New Guinea, p. 93, *malaiorum*, Malay Archipelago, *viridis*, Perak, *wallacei*, New Guinea, p. 94, *tricostatus*, no locality, *jordani*, p. 95, *harterti*, New Guinea, *incertus*, no locality, p. 96, KUWERT, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Operculiphorus*, n. g., p. 399, for *O. tubifer*, n. sp., Malay Archipelago, p. 410; KUWERT, Ann. Soc. ent. Belgique, xxxviii.
- Opilo domesticus*, var. = (*germanus*, Chev.), *taniatus*, Kl., = (*fallax*, Chev.); BEDEL, p. 153, Abeille, xxviii.
- O. barbarus* (Ab.), Algeria, REITTER, p. 44, Verh. Ver. Brunn, xxxii, n. sp.
- Pelonides*, n. g., for *4-punctatus*, Say, *sericeus*, Klug.; KUWERT, p. 8, Ann. Soc. ent. Belgique, xxxviii.
- Pelonium frontale*, Upper Amazons, p. 12, *4-plagiatum*, St. Paolo, p. 13, KUWERT, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Phæocyclotomus*, n. subg., p. 400, [? of *Stigmatium*] with the following n. spp., *smaragdinus*, p. 421, *noticornis*, *togonis*, p. 422, *rufo-villosus*, *sansibaricus*, p. 423, *vulgaris*, p. 425, Africa, *flavioculatus*, Malay Archipelago, *stevensi*, Ceylon, p. 426, *thoreyi*, Australia, *wallacei*, Borneo, p. 427, *basisubrufus*, Malay Archipelago, *orbatus*, hab. ?, *humboldti*, *chloropus*, p. 428, *rugifer*, Amboyna, *guinensis*, New Guinea, *ternatensis*, Ternate, p. 429, *stomachodes*, *frequens*, p. 430, *vestitus*, New Guinea, *villosus*, Borneo, p. 431, *simia*, Batchian, p. 432, *creber*, Java, *distinctus*, Batchian, p. 433, *irritans*, *malitiosus*, p. 434, *malevolus*, p. 435, New Guinea, with more ample descriptions, pp. 453-457, KUWERT, Ann. Soc. ent. Belgique, xxxviii.
- Pseudoclerops mendax*, Amasia, *bicingulatus*, Borneo, KUWERT, p. 404, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Pseudopilus*, n. g.; KUWERT, p. 4, Ann. Soc. ent. Belgique, xxxviii.
- Pyticeroides*, n. g., p. 7, for *P. arrogans*, n. sp., Upper Amazons, p. 8; KUWERT, Ann. Soc. ent. Belgique, xxxviii.
- Rhytidoclerus*, n. subg., p. 400, [? of *Stigmatium*] for *rugosus*, Amboyna ?, p. 419, *cochinchinae*, Cochin China, pp. 420 & 443, n. spp.; KUWERT, Ann. Soc. ent. Belgique, xxxviii.
- Stigmatium*: notes on Kuwert's revision; GORHAM, p. xlv, P. ent. Soc. London, 1894.
- Stigmatium rothschildi*, Loando, *dispar*, Australia, p. 405, *victoriae*, Victoria, *amboinae*, Philippines, *dilatatum*, Borneo, p. 406, *sumatrae*, Sumatra, *laterifoveatum*, Philippines, *tuberculibase*, Borneo, *speculifrons*, Malay Archipelago, p. 407, *S. (Astignus) ventralis*, Tropical Africa, p. 408, *nigrosignatus*, E. Africa, *pictipennis*, Ceylon, p. 409, with more ample descriptions, pp. 438-442, KUWERT, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Tenerus moorei*, Damma I., WATERHOUSE, p. 68, Ann. Nat. Hist. (6) xiv, n. sp.

- Trichodes*: synonymical and varietal discussions, with particular reference to the work of Escherich; KRAATZ, pp. 113-136, pl. i, figg. 5-16, Deutsche ent. Zeitschr. 1894. *T. turkestanicus*, *hauseri*, synonymy, p. 251, *kraatzi*, n. n. for *turkestanicus*, Kr., p. 252; REITTER, Wien. ent. Zeit. xiii. *T. turkestanicus*, varr. described; ESCHERICH, p. 46, Deutsche ent. Zeitschr. 1894. *T. amnios*, habits of larva, prolonged fast of 2½ years; MAYET, Ann. Soc. ent. France, 1894, p. 7.
- T. galbula*, Transcaspian Region, REITTER, p. 252, Wien. ent. Zeit. xiii; *T. biteniatus*, Persia, KRAATZ, p. 128, Deutsche ent. Zeitschr. 1894; *T. rectilinea*, Transcaspian Region, p. 71, *dilatipennis*, Syria, p. 75, *inermis* (Escher.), Caucasus, *abeillei*, Syria, p. 76, REITTER, Verh. Ver. Brunn, xxxii; *T. peninsularis*, Lower California, HORN, p. 382, pl. viii, fig. 7, P. Calif. Ac. iv: n. spp.
- Xestonotus*, n. subg., p. 400, [? of *Stigmatium*] for *X. eximius*, n. sp., New Holland, pp. 420 & 444; KUWERT, Ann. Soc. ent. Belgique, xxxviii.

PTINIDÆ.

- [Of. ABEILLE (1), CHOBOUT (115), HORN (442), PIC (821, 827, 830, 832, 840), WASMANN (1127), XAMBEU (1169).]
- Ectrephide*: to be a separate family, placed near *Seydmanida*; WASMANN, p. 121, Verzeichniss.
- Metamorphoses of 17 species of *Ptinides* from France described; XAMBEU, pp. 459-501, Ann. Soc. ent. France, 1894.
- Bruchus ellipticus*, Italy, REITTER, p. 304, Wien. ent. Zeit. xiii, n. sp.
- Ctenobium cinereum*, Texas, HORN, p. 385, P. Calif. Ac. iv, n. sp.
- Dysides*: note on the genus and species; LESNE, pp. 18-20, Ann. Soc. ent. France, 1894.
- Gibbium ægyptiacum*, Ramleh, PIC, p. 203, Mem. Soc. zool. France, vii, n. sp.
- Hemiptychus estriatus*, p. 390, Lower California, *robustus*, Texas, p. 391, HORN, P. Calif. Ac. iv, n. spp.
- Ptinus edmundi*, n. n. for *perplexus*, Reitt., nec Rey.; characters of *perplexus*, *perrini*, and *edmundi*; ABEILLE, p. cxxxi, Bull. Soc. ent. France, 1894. *P. pulverulentus*, var. *mesopotamicus*; PIC, p. 66, Echange, 1894.
- P. (Bruchus) spissicornis, indutus*, Alpes-Maritimes, ABEILLE, p. xxv, Bull. Soc. ent. France, 1894; *P. (Bruchus, Reitt.) letourneuzi*, Egypt, p. 60, *P. (Gymnopterus) vaulogeri*, Algeria, p. 61, PIC, Feuille Natural. xxiv; *P. (Pseudoptinus) obscuricollis*, Algeria, PIC, p. cxc; Bull. Soc. ent. France, 1894; *P. (Pseudobruchus) pustuliferus*, Marocco, PIC, p. 203, Mem. Soc. zool. France, vii; *P. (Cyptoderes) togesi*, *P. (Bruchus) reitteri*, Algeria, PIC, Naturaliste, 1894, p. 71; *P. (Eutaphrus) algericus*, Algeria, PIC, p. 27, t. c.: n. spp.
- Trichodesma sellata*, Lower California, p. 386, *sordida*, Texas, p. 387, HORN, P. Calif. Ac. iv, n. spp.
- Tripopitys tenuilineata*, Oregon, HORN, p. 389, P. Calif. Ac. iv, n. sp.

- Xestobium elegans*, N. America, HORN, p. 384, pl. viii, fig. 9, P. Calif. Ac. iv, n. sp.
Xyletinus lepricuri, Algeria, PIC, p. 107, Ann. Soc. ent. France, 1894, n. sp.
Xystrophorus denticornis, Lap., = (*Anobium alternatum*, Fairm.) ; BEDEL, p. 153, Abeille, xxviii.

BOSTRYCHIDÆ.

- [Cf. LEA (631), ZOUFAL (1173).]
 Tables of characters of Mediterranean *Bostrychida* ; ZOUFAL, Wien. ent. Zeit. xiii, pp. 33-42.
 Many remarks on Zoufal's tables by VON HEYDEN & REITTER, Wien. ent. Zeit. xiii, pp. 118-120.
Amasa, n. g., for *A. thoracica*, n. sp., Australia ; LEA, p. 322, P. Linn. Soc. N. S. Wales, viii.
Apate sericans and *coronata* are sexes of one ; LESNE, p. ccxl, Bull. Soc. ent. France, 1894. *A. collaris*, larva ; FROGGATT, p. 122, P. Linn. Soc. N. S. Wales, ix.
A. serrata, *subcostata*, p. 317, *excavata*, p. 318, *bicolor* (but = *excavata*, ♀), p. 319, *retusa*, p. 320, Australia, LEA, P. Linn. Soc. N. S. Wales, viii, n. spp.
Bostrychus capucinus, n. var. *rubriventris* ; ZOUFAL, p. 40, Wien. ent. Zeit. xiii.
Ligniperda frontalis, note on ; LESNE, p. ccxl, Bull. Soc. ent. France, 1894.
L. ganglbaueri, Arabia, ZOUFAL, p. 37, Wien. ent. Zeit. xiii, n. sp.
Sinoxylon coronatum, North Africa, ZOUFAL, p. 38, Wien. ent. Zeit. xiii, n. sp.
Stephanopachys : characters of the species ; BEDEL, pp. 149 & 150, Abeille, xxviii.
Xylopertha ? *compressa*, *hirsuta*, *parva*, Australia, LEA, p. 321, P. Linn. Soc. N. S. Wales, viii, n. spp.
Cherostus, n. g., near *Eutomus*, p. 68, for *C. walkeri*, Damma I., *simpsoni*, E. Australia, n. spp., p. 69 ; WATERHOUSE, Ann. Nat. Hist. (6) xiv.

CIOIDÆ.

- Ceracis similis*, Lower California, HORN, p. 391, P. Calif. Ac. iv, n. sp.

TENEBRIONIDÆ:

- [Cf. ABEILLE (6), ALLARD (10, 11, 12), BLACKBURN (95, 96), CHAMPION (161, 162, 377), FAIRMAIRE (280-288), HAUSER (415), HORN (442), KOLBE (562), LEWIS (645), PIC (834), REITTER (882, 883, 891, 893), SEIDLITZ (994), SEMENOW (999, 1000), WATERHOUSE (911, 1118).]
 List of myrmecophilous *Tenebrionide* ; WASMANN, pp. 156 & 157, Verzeichniss.

- Acanthioides*, n. g., near *Lycanthropa*, for *A. asperula*, n. sp., Mozambique ; FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Achrostus amariformis*, Sierra Leone, FAIRMAIRE, p. 666, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Acotulus*, Reitt. : referred to *Colydiida* ; BEDEL, p. 154, Abeille, xxviii.
- Acthosus*, Pasc. : merged in *Uloma* ; BLACKBURN, p. 219, Tr. R. Soc. S. Austral. xviii.
- Addia*, n. g., near *Ceropria*, p. 465, for *A. scatebræ*, n. sp., Japan, p. 466 ; LEWIS, Ann. Nat. Hist. (6) xiii.
- Adelium tasmanicum*, p. 403, *nodulosum*, p. 404, Tasmania, CHAMPION, Tr. ent. Soc. London, 1894 ; *A. ellipticum*, N. S. Wales, BLACKBURN, p. 219, Tr. R. Soc. S. Austral. xviii : n. spp.
- Adesmia macropus*, Sol., = (*convergens*, Wlk.) ; BEDEL, p. 153, Abeille, xxviii.
- Aldynata tenuelineata, fuscocœrulescens*, Kilimandjaro, FAIRMAIRE, p. 393, Ann. Soc. ent. Belgique, xxxviii : n. spp.
- Æsthetus*, n. g., near *Cyrtosoma*, for *Æ. tuberculatus*, n. sp., Fernando Noronha ; WATERHOUSE, p. 552, J. Linn. Soc. xx.
- Ainu*, n. g., near *Strongylium*, p. 479, for *A. tenuicornis*, n. sp., Japan, p. 480 ; LEWIS, Ann. Nat. Hist. (6) xiii.
- Alcyonotus iridescens*, Pasc., = (*Sterces resplendens*, Champ.) ; CHAMPION, p. lxiii, Bull. Soc. ent. France, 1894.
- Alphitophagus pallidicollis*, Japan, LEWIS, p. 398, Ann. Nat. Hist. (6) xiii, n. sp.
- Amarantha viridis*, Motsch., = (*Platydema chlorodium*, Baudi) ; BEDEL, p. 154, Abeille, xxviii.
- Amarsenes viridistriatus*, p. 143, *chalcophanus*, p. 145, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Amarygmus ruficrus*, India, ALLARD, p. 153, Naturaliste, 1894, n. sp.
- Amblycava alutacea*, Fairm. (sub. *Melanerus*), = *biskrensis*, Fairm. ; BEDEL, p. 154, Abeille, xxviii.
- Ammophthorus asperatus*, Namoa I., CHAMPION, p. 448, Ann. Nat. Hist. (6) xiv, n. sp.
- Anemia asperula*, n. var. *seriesetosa* ; BAUDI, Boll. Mus. Torino, ix, No. 173, p. 8.
- A. striolata*, Algeria, FAIRMAIRE, p. 311, Ann. Soc. ent. Belgique, xxxviii ; *A. hauseri*, Transcaspian Region, REITTER, p. 50, Deutsche ent. Zeitschr. 1894 : n. spp.
- Anomalipus granocostatus*, Mozambique, FAIRMAIRE, p. 323, Ann. Soc. ent. Belgique, xxxviii ; *A. granatus, natalensis*, p. 662, *crassicauda*, p. 663, S. Africa, FAIRMAIRE, t. c. : n. spp.
- Anthracias* : characters discussed ; LEWIS, p. 470, Ann. Nat. Hist. (6) xiii.
- A. duellius*, pl. xiii, fig. 8, *punctatulus*, p. 470, *fagi, boleti*, p. 471, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Aphanotus* : founded in error ; HORN, p. 41, Ent. News Philad. v.
- Argoporis ebenina*, p. 424, *inconstans*, p. 425, Lower California, HORN, P. Calif. Ac. iv, n. spp.

- Arrhenoplita pygmaea*, p. 371, *exilis*, p. 372, N. W. Australia, CHAMPION, Tr. ent. Soc. London, 1894; *A. (Hoplocephala) asiatica*, Japan, LEWIS, p. 392, Ann. Nat. Hist. (6) xiii : n. spp.
- Arthrodeis antennatus hauseri*, Transcaspian Region, REITTER, p. 48, Deutsche ent. Zeitschr. 1894, n. spp.
- Asidâ melitana*, Malta, REITTER, p. 82, Wien. ent. Zeit. xiii; *A. planata*, p. 415, *subvittata*, p. 416, Lower California, *densicollis*, p. 417, pl. vii, fig. 5, *impetrata*, p. 418, fig. 4, N. America, *embaphionoides*, p. 419, pl. vii, fig. 8, Lower California, *wickhami*, p. 420, pl. vii, fig. 7, Arizona, HORN, P. Calif. Ac. iv : n. spp.
- Aspidosternum purpurinum*, Africa, FAIRMAIRE, p. 325, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Astenorhinus contractus*, Congo, FAIRMAIRE, p. 664, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Atasthalus dentifrons*, p. 385, pl. xiii, fig. 3, *bellicosus*, fig. 4, Japan, *taprobane*, Ceylon, p. 386, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Basanus erotyloides*, figured; LEWIS, pl. xiii, fig. 7, Ann. Nat. Hist. (6) xiii.
- Blaps*: structure of male organs; ESCHERICH, Zeitschr. wiss. Zool. lvii, p. 634.
- Blapstinus ridleyi*, Fernando Noronha, WATERHOUSE, p. 551, J. Linn. Soc. xx, n. sp.
- Bolitoncus*, n. g., near *Bolitotherus*, for *B. merge*, n. sp., Japan, pl. xiii, fig. 5, including also *Bolitophagus vacca*, Motsch., *Heledona nasalis*, Pasc., and *Bolitotherus 4-dentatus*, Cand.; LEWIS, p. 387, Ann. Nat. Hist. (6) xiii.
- Bolitophagus felix*, pl. xiii, fig. 2, *pamosus*, Japan, LEWIS, p. 384, Ann. Nat. Hist. (6) xiii, n. spp.
- Brycopia tuberculifera*, Tasmania, CHAMPION, p. 405, Tr. ent. Soc. London, 1894, n. sp.
- Byrsax niponicus spiniceps*, Japan, LEWIS, p. 388, Ann. Nat. Hist. (6) xiii, n. spp.
- Caanthus*, n. g., near *Calymmus*, for *C. gibbicollis*, n. sp., Tasmania, pl. viii, fig. 7; CHAMPION, Tr. ent. Soc. London, 1894, p. 378.
- Cadius cassidoides*, Egypt, FAIRMAIRE, p. 661, Ann. Soc. ent. Belgique, xxxviii; *C. bengalensis*, p. 21, *malabaricus*, p. 22, Bengal, FAIRMAIRE, t. c.; *C. alternatus*, p. 321, *latipes*, p. 322, Senegal, FAIRMAIRE, t. c. : n. spp.
- Camaria cardonii*, Bengal; FAIRMAIRE, p. 25, Ann. Soc. ent. Belgique, xxxviii; *C. trapezicollis*, Madagascar, FAIRMAIRE, p. 143, t. c.; *C. passeti*, Madagascar, FAIRMAIRE, p. lxxxviii, Bull. Soc. ent. France, 1894 : n. spp.
- Camarimena renardii*, Bengal, FAIRMAIRE, p. 25, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Cataphronetis reitteri*, Greece, SEIDLITZ, p. 572, Ins. Deutschlands, Col. v, n. sp.
- Catomus capillatus*, Brazil, ALLARD, p. 259, Naturaliste, 1894, n. sp.

- Centrioptera angularis*, Lower California, HORN, p. 414, pl. viii, fig. 4, P. Calif. Ac. iv, n. sp.
- Cerenopus aterrimus*, p. 425, pl. vii, fig. 10, *angustatus*, p. 426, fig. 9, Lower California, HORN, P. Calif. Ac. iv, n. spp.
- Ceropria striata*, Japan, LEWIS, p. 399, Ann. Nat. Hist. (6) xiii, n. sp.
- Cestrinus* and *Isopteron*, synonymy and systematic position; CHAMPION, p. 355, Tr. ent. Soc. London, 1894.
- C. brevis*, W. Australia, CHAMPION, Tr. ent. Soc. London, 1894, p. 356 ;
C. championi, *aspersus*, p. 210, *angustior*, *eremicola*, p. 211, *zietzi*, *minor*, p. 212, Australia, BLACKBURN, Tr. R. Soc. S. Austral. xviii : n. spp.
- Chariotheca besti*, Queensland, BLACKBURN, p. 105, P. Linn. Soc. N. S. Wales, ix ; *C. caraboides*, *ovalis*, India, ALLARD, p. 104, Naturaliste, 1894 ; *C. angusta*, India, ALLARD, p. 116, t. c. : n. spp.
- Chirosceles striatopunctatus*, Congo, FAIRMAIRE, p. 667, Ann. Soc. ent. Belgique, xxxviii ; *C. stygica*, Usambara, KOLBE, p. 182, Ent. Zeit. Stettin, lv : n. spp.
- Clitobius strongyloides*, Zambezi, FAIRMAIRE, p. 321, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Corticus* : the name discussed and rejected ; SEIDLITZ, p. 551, Ins. Deutschlands, Col. v. *C. erratus*, n. n. for *cylindricus*, Reitt., Colombia ; REITTER, p. 16, Wien. ent. Zeit. xiii.
- C. colydioides*, *gentilis*, Japan, LEWIS, p. 468, Ann. Nat. Hist. (6) xiii ; *C. australis*, N. W. Australia, CHAMPION, p. 369, Tr. ent. Soc. London, 1894 : n. spp.
- Crypticus submaculatus*, N. W. Australia, CHAMPION, p. 362, Tr. ent. Soc. London, 1894, n. sp.
- Dasus*, Motsch., = (*Gonocephalum*, Muls.) ; BEDEL, p. 154, Abeille, xxviii.
- Decialma erichsoni*, Tasmania, CHAMPION, p. 395, Tr. ent. Soc. London, 1894, n. sp.
- Derispia*, n. g., *Leiochrinine*, type *Diaperis maculipennis*, Mars. ; LEWIS, p. 389, Ann. Nat. Hist. (6) xiii.
- Derosphærus quadriplagiatus*, Guinea, FAIRMAIRE, p. 665, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Diesia sefrana*, Herat, REITTER, p. 244, Wien. ent. Zeit. xiii, n. sp.
- Dietytus navicularis*, Bengal, FAIRMAIRE, p. 26, Ann. Soc. ent. Belgique, xxxviii ; *D. puncticollis*, India, ALLARD, p. 116, Naturaliste, 1894 : n. spp.
- Dila seriata*, Turkestan, REITTER, p. 242, Wien. ent. Zeit. xiii, n. sp.
- Dilamus brevicollis*, Abyssinia, FAIRMAIRE, p. 660, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Diphyrrhynchus*, affinities discussed ; CHAMPION, p. 366, Tr. ent. Soc. London, 1894.
- D. ellipticus*, CHAMPION, Tr. ent. Soc. London, 1894, p. 367, pl. viii, fig. 1, *apicalis*, p. 368, fig. 4, W. Australia, CHAMPION, t. c., n. spp.
- Distretus inaequalis*, Mozambique, FAIRMAIRE, p. 320, Ann. Soc. ent. Belgique, xxxviii, n. sp.

- Docalis* (sub *Tagenia*) *funerosa*, Hope, = (*exoletus* and *degener*, Pasc.); CHAMPION, p. 352, Tr. ent. Soc. London, 1894.
- Doliopines*, n. g., p. 427, near *Doliema*, for *D. cucujinus*, n. sp., Lower California, p. 428, pl. vii, figg. 11 & 12; HORN, P. Calif. Ac. iv.
- Dysgena tenuicollis*, Abyssinia, FAIRMAIRE, p. 328, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Ectyche cærulea*, N. W. Australia, CHAMPION, p. 397, pl. viii, fig. 15, Tr. ent. Soc. London, 1894, n. sp.
- Edylius*, n. g., *Pedinides*, p. 353, for *E. canescens*, n. sp., Tasmania, p. 354, pl. viii, fig. 5; CHAMPION, Tr. ent. Soc. London, 1894.
- Elixota*, Pasc., note on; LEWIS, p. 466, Ann. Nat. Hist. (6) xiii.
- Emmenastrichus*, n. g., near *Emmenastus*, for *E. cribratus*, p. 413, *erosus*, p. 414, n. spp., Lower California; HORN, P. Calif. Ac. iv.
- Enaneda*, n. g., near *Uloma*, for *E. testacea*, n. sp., Japan; LEWIS, p. 467, Ann. Nat. Hist. (6) xiii.
- Enneboopsis*, n. g., p. 375, for *E. pruinosis*, n. sp., Tasmania, p. 376, pl. viii, fig. 3, CHAMPION, Tr. ent. Soc. London, 1894.
- Enneboeus australis*, Tasmania, CHAMPION, p. 375, pl. viii, fig. 2, Tr. ent. Soc. London, 1894, n. sp.
- Epiphalaria*, n. g., near *Phalaria*, p. 382, for *E. atriceps*, Japan, fig. 1, *pallida*, Ceylon, n. spp., p. 383, and including *P. pusilla*, Boh.; LEWIS, Ann. Nat. Hist. (6) xiii.
- Epitragus batesii*, Amazons and Fernando Noronha, WATERHOUSE, p. 550, J. Linn. Soc. xx, n. sp.
- Eucyrtus cæruleus*, Japan, LEWIS, p. 475, pl. xiii, fig. 9, Ann. Nat. Hist. (6) xiii, n. sp.
- Eurychora simoni*, habits; SIMON, p. 63, Ann. Soc. ent. France, 1894.
- Eurynotus lamnicollis*, Abyssinia, FAIRMAIRE, p. 322, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Eusattus*: table of species; HORN, p. 423, P. Calif. Ac. iv.
- E. secutus*, p. 421, *ciliatus*, p. 422, Lower California, HORN, P. Calif. Ac. iv, n. spp.
- Gabonia*, n. g., near *Prioscelides*, for *G. denticulatus*, n. sp., Congo; FAIRMAIRE, p. 326, Ann. Soc. ent. Belgique, xxxviii.
- Gabonisca*, n. n. for the above *Gabonia*; FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, p. 395.
- Gargilius rufitarsis*, Gaboon, FAIRMAIRE, p. 660, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Gonocephalum setulosum* = (*demaïsoni*, All.); BEDEL, p. 154, Abeille, xxviii.
- Gonocnemis senegalensis*, Africa, FAIRMAIRE, p. 673, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Helops mutabilis* = (*occidentalis*, All.); CHAMPION, p. lxxxv, Bull. Soc. ent. France, 1894.
- H. pinguis*, Lower California, HORN, p. 430, P. Calif. Ac. iv, n. sp.
- Hemicera zigzaga, latreillei*, distinguished; LEWIS, p. 474, Ann. Nat. Hist. (6) xiii.

- Heterotarsus crenatus*, p. 23, *foveoseriatus*, p. 24, Bengal, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Hexarhoptrum foveipenne*, Bengal, FAIRMAIRE, p. 38, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Himatismus indicus*, redescribed; FAIRMAIRE, p. 18, Ann. Soc. ent. Belgique, xxxviii.
- H. (Sphenaria) hauseri*, Bukhara, REITTER, p. 48, Deutsche ent. Zeitschr. 1894; *H. (Sphenaria?) sewertzowi*, p. 530, *H. (S.) acutus*, p. 532, W. Turkestan, SEMENOW, Horæ Soc. ent. Ross. xviii; *H. emarginifrons*, Madagascar, FAIRMAIRE, p. 141, Ann. Soc. ent. Belgique, xxxviii : n. spp.
- Hopatrum amplithorax*, Abyssinia, FAIRMAIRE, p. 659, Ann. Soc. ent. Belgique, xxxviii; *H. helopoide, subspinosum*, p. 19, *minusculum*, p. 20, Bengal, FAIRMAIRE, t. c.; *H. meyricki, carpentariæ*, p. 213, *adelaidæ*, p. 214, *cowardense*, p. 215, *darlingense*, p. 216, *darwini*, p. 217, *victoriæ*, p. 218, Australia, BLACKBURN, Tr. R. Soc. S. Austral. xviii : n. spp.
- Hoplonyx cyanescens*, Kibanga, FAIRMAIRE, p. 673, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Hoplopeltis*, n. g., near *Peltoides*, p. 22, for *H. tricornis*, n. sp., Bengal, p. 23, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Hyoicis subparallela*, W. Australia, CHAMPION, p. 364, Tr. ent. Soc. London, 1894; *H. nigra*, p. 101, *variegata, occidentalis*, p. 102, Australia, BLACKBURN, P. Linn. Soc. N. S. Wales, ix : n. spp.
- Hyperchalca humblotii*, Madagascar, FAIRMAIRE, p. 146, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Hypocilibe vittata*, Queensland, BLACKBURN, p. 104, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Hypophlæus angustus*, Luc., referred to *Lyphia*, characters; BEDEL, p. 154, Abeille, xxviii.
- Ildricus tribulus*, Lagoa, FAIRMAIRE, p. 658, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Ischnodactyla loripes*, Japan, LEWIS, p. 392, pl. xiii, fig. 6, Ann. Nat. Hist. (6) xiii, n. sp.
- Lachnopus*, n. g., *Trachyscelini*, for *L. digitatus*, n. sp., Turkestan, SEIDLITZ, p. 476, *Ins. Deutschlands*, Col. v, n. sp.
- Lamperos cordicollis*, figured; LEWIS, pl. xiii, fig. 11, Ann. Nat. Hist. (6) xiii.
- L. elegantulus*, Japan, LEWIS, p. 478, Ann. Nat. Hist. (6) xiii, n. sp.
- Lamprobothris attenuata*, Fairm., and *Praogena fossulata*, Müller, are one species; FAIRMAIRE, p. 674, Ann. Soc. ent. Belgique, xxxviii.
- Leiochrinus satzumæ*, Japan, LEWIS, p. 390, Ann. Nat. Hist. (6) xiii, n. sp.
- Leiochrodes convexus*, Japan, LEWIS, p. 391, Ann. Nat. Hist. (6) xiii, n. sp.
- Licinoma sylvicola*, N. S. Wales, BLACKBURN, p. 219, Tr. R. Soc. S. Austral. xviii, n. sp.
- Lyphia tetraphylla*, Fairm., = (*jicicola*, Muls.); BEDEL, p. 154, Abeille, xxviii.

- Lyphia tasmanica*, Hobart, CHAMPION, p. 370, pl. viii, fig. 6, Tr. ent. Soc. London, 1894, n. sp.
- Lypros rugatulus*, Africa, FAIRMAIRE, p. 325, Ann. Soc. ent. Belgique, xxxviii; *L. fuscicornis*, *piceus*, India, FAIRMAIRE, p. 24, t. c. : n. spp.
- Macropoda tuberculifera*, p. 179, *transversalis*, p. 180, E. Africa, KOLBE, Ent. Zeit. Stettin, lv, n. spp.
- Menephilus ornatipennis*, Gaboon, FAIRMAIRE, p. 324, Ann. Soc. ent. Belgique, xxxviii; *M. quadrilunatus*, Guinea, FAIRMAIRE, p. 666, t. c.; *M. ruficornis*, Tasmania, CHAMPION, p. 391, Tr. ent. Soc. London, 1894 : n. spp.
- Meneristes australis*, synonymy; CHAMPION, p. 392, Tr. ent. Soc. London, 1894.
- Menimus niponicus*, Japan, LEWIS, p. 398, Ann. Nat. Hist. (6) xiii, n. sp.
- Mesomorphus*: note on; FAIRMAIRE, p. 20, Ann. Soc. ent. Belgique, xxxviii.
- Micrantereus scaberrimus*, Mozambique, FAIRMAIRE, pp. 327 & 672, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Micropedinus*, n. g., near *Cabirus*, for *M. algæ*, p. 379, *pallidipennis*, p. 380, Japan; LEWIS, Ann. Nat. Hist. (6) xiii.
- Misolampidius rugipennis*, Japan, LEWIS, p. 476, pl. xiii, fig. 10, Ann. Nat. Hist. (6) xiii, n. sp.
- Nautes asperipennis*, Havana, ALLARD, p. 259, Naturaliste, 1894, n. sp.
- Nesogena humerosa*, *fuscoconea*, p. 145, *obscuripes*, *fastidiosa*, p. 146, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Notibius puberulus*, = (*substriatus* and *laticeps*, Cas.); HORN, p. 41, Ent. News Philad. v.
- N. reflexus*, p. 429, *costipennis*, p. 430, Lower California, HORN, P. Calif. Ac. iv, n. spp.
- Nycteropus cæruleipes*, *splendidus*, Madagascar, FAIRMAIRE, p. 142, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Nyctobates parvicollis*, p. 37, *cribrifrons*, p. 38, Bengal, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Nyctozoilus sexcostatus*, N. W. Australia, CHAMPION, p. 388, pl. viii, fig. 9, Tr. ent. Soc. London, 1894; *N. sloanei*, N. S. Wales, BLACKBURN, p. 103, P. Linn. Soc. N. S. Wales, ix : n. spp.
- Ocnera lima*, Petag., = (*angustata*, Sol.); BEDEL, p. 154, Abeille, xxviii.
- Omolipus cyaneipennis*, N. W. Australia, CHAMPION, p. 394, pl. viii, fig. 12, Tr. ent. Soc. London, 1894, n. sp.
- Opatrum expansicolle*, *orarium*, p. 380, *persimile*, p. 381, Japan, LEWIS, Ann. Nat. Hist. (6) xiii; *O. torridum*, p. 359, *walkeri*, p. 360, *dispersum*, *vagabundum*, p. 361, N. W. Australia, CHAMPION, Tr. ent. Soc. London, 1894 : n. spp.
- Osdora granosa*, India, ALLARD, p. 104, Naturaliste, 1894, n. sp.
- Palorus minor*, Damma I., WATERHOUSE, p. 71, Ann. Nat. Hist. (6), xiv, n. sp.
- Paramarygmus*: note on the species; FAIRMAIRE, pp. 667 & 668, Ann. Soc. ent. Belgique, xxxviii.

- Paramarygnus tenuestriatus*, Mozambique, *atratus*, Cape Good Hope, *zanzibaricus*, p. 669, *semisulcatus*, *phædonoides*, *morychoides*, *P. ? senegalensis*, p. 670, Tropical Africa, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Paraphlæus*, n. subg., of *Hypophlæus*; SEIDLITZ, pp. 553 & 557, *Ins. Deutschlands*, Col. v.
- Paratoxicum*, n. g., near *Toxicum*, p. 380, for *P. iridescens*, n. sp., Tasmania, p. 381, pl. viii, fig. 8; CHAMPION, Tr. ent. Soc. London, 1894.
- Peltoides quadriguttatus*, *pustulosus*, Gaboon, FAIRMAIRE, p. 323, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Pentaphyllus oblongus*, Japan, LEWIS, p. 398, Ann. Nat. Hist. (6) xiii, n. sp.
- Phænnis*, n. g., near *Ectyche*, p. 399, for *P. fasciculata*, n. sp., Hobart, p. 400, pl. viii, fig. 14; CHAMPION, Tr. ent. Soc. London, 1894.
- Phedius opaculus*, Lower California, HORN, p. 431, P. Calif. Ac. iv, n. sp.
- Phellopsis*, = (*Pseudonosoderma*, Heyd.); CHAMPION, p. lxxxv, Bull. Soc. ent. France, 1894. *Phellopsis*, = (*Pseudonosoderma*) *Ps. amurensis*, Heyd., = (*suberea*, Lew.); CHAMPION, p. 114, Ent. Mag. 1894. *P. suberea*, figured; LEWIS, Ann. Nat. Hist. (6) xiii, p. 379.
- Phthora (Cataphronetis) confluens*, Andalusia, REITTER, p. 104, Wien. ent. Zeit. xii; *P. canalicollis*, Japan, LEWIS, p. 466, Ann. Nat. Hist. (6) xiii : n. spp.
- Phycosecis* rejected from *Tenebrionidae*, to be placed in *Trogositidae* or *Cucujidae*; CHAMPION, p. 364, Tr. ent. Soc. London, 1894.
- Phylax picipes*, Ol., = (*littoralis*, Muls.), *ignavus* and *segnis*, Muls., are one species, *P. ingratus* a valid species; BEDEL, p. 154, Abeille, xxviii.
- Pimelia papulenta*, n. var. *sefrensis*; PIC, p. 247, Naturaliste, 1894.
- Platydemia marseuli*, p. 393, *higonium*, *sylvestre*, *recticorne*, p. 394, *lynceum*, *fumosum*, p. 395, *scriptum*, p. 396, Japan, LEWIS, Ann. Nat. Hist. (6) xiii; *P. sodale*, *plagiatum*, Damma I., WATERHOUSE, p. 70, *op. cit.* xiv; *P. bicinctum*, p. 373, *deplanatum*, p. 374, N. W. Australia, CHAMPION, Tr. ent. Soc. London, 1894 : n. spp.
- Platyphanes superbus*, Queensland, BLACKBURN, p. 105, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Plesiophthalmus*; synonymy of Japanese species; LEWIS, pp. 478 & 479, Ann. Nat. Hist. (6) xiii.
- Pogonobasis longipilis*, Caffraria, FAIRMAIRE, p. 657, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Porphyryba cyaneo-cuprea*, *obscurata*, Madagascar, FAIRMAIRE, p. 144, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Prioscelis rugatifrons*, E. Africa, FAIRMAIRE, p. 393, Ann. Soc. ent. Belgique, xxxviii; *P. tridens*, Usambara, KOLBE, p. 183, Ent. Zeit. Stettin, lv : n. spp.
- Prosodes fleischeri*, Samarcand, REITTER, p. 243, Wien. ent. Zeit. xiii; *P. biformis*, Kulab, p. 181, *elateroides*, p. 185, *gymnandra*, p. 189,

- sphodroides*, p. 190, *jakolcwi*, pp. 192 & 549, Bucharia, *przewalskii*, Tian-shan, p. 195, *bactriana*, Bucharia, p. 199, *regeli*, W. China, p. 202, *grombozewskii*, Bucharia, p. 203, *glasunowi*, p. 208, *turkestanica*, p. 211, *foveicollis*, p. 213, *nuratensis*, p. 214, *fausti*, p. 217, Turkestan, *edmundi*, Tian-shan, p. 220, SEMENOW, Horæ Soc. ent. Ross. xxviii : n. spp.
- Psectrapus validus*, Caffraria, FAIRMAIRE, p. 661, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Pseudhelops fasciatus*, India, ALLARD, p. 116, Naturaliste, 1894, n. sp.
- Pterohelceus nigricornis*, Port Darwin, CHAMPION, p. 382, Tr. ent. Soc. London, 1894, n. sp.
- Pycna*, n. g., p. 141, near *Uloma*, for *P. aphodina*, n. sp., Madagascar, p. 142 ; FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Rhipidanarus peninsularis*, Lower California, HORN, p. 392, P. Calif. Ac. iv, n. sp.
- Saragus bicarinatus*, p. 385, pl. viii, fig. 10, *intricatus*, p. 386, N. W. Australia, CHAMPION, Tr. ent. Soc. London, 1894, n. spp.
- Scaphidema ornatellum*, p. 396, *pictipenne*, *discale*, *nigricorne*, p. 397, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Scleron depelchinii*, Bengal, FAIRMAIRE, p. 21, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Scoriaderma*, n. g., p. 100, near *Nosoderma*, for *S. comoriense*, n. sp., Comoro Is., p. ci ; FAIRMAIRE, Bull. Soc. ent. France, 1894.
- S. congolense*, Africa, FAIRMAIRE, p. 656, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Sepidium pagesii*, Abyssinia, FAIRMAIRE, p. 321, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Selenis insomnis*, *higonius*, p. 472, *striatipennis*, *noctivigilus*, p. 473, Japan, LEWIS, Ann. Nat. Hist. (6) xiii, n. spp.
- Stenochia cancellata*, Mesopotamia, ABEILLE, p. 94, Echange, 1894, n. sp.
- Stenosis melitana*, Malta, REITTER, p. 82, Wien. ent. Zeit. xiii ; *S. bengala*, Bengal, FAIRMAIRE, p. 18, Ann. Soc. ent. Belgique, xxxviii : n. spp.
- Stizopus major*, Caffraria, FAIRMAIRE, p. 661, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Strongyliastrum*, n. g., p. 39, near *Strongylium*, for *S. braetii*, n. sp., Bengal, p. 40 ; FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Strongylium aspidosternum*, Guinea, FAIRMAIRE, p. 674, Ann. Soc. ent. Belgique, xxxviii ; *S. niponicum*, p. 480, *impigrum*, *marseuli*, p. 481, *helopioides*, *brevicorne*, pl. xiii, fig. 12, p. 482, Japan, LEWIS, Ann. Nat. Hist. (6) xiii : n. spp.
- Taraxides luniferus*, Gaboon, FAIRMAIRE, p. 324, Ann. Soc. ent. Belgique, xxxviii ; *T. rufocinctus*, *ruficrus*, W. Africa, FAIRMAIRE, p. 665, t. c. : n. spp.
- Thalpophila 12-costata*, Soudan, FAIRMAIRE, p. 655, Ann. Soc. ent. Belgique, xxxviii, n. sp.

- Thriptera sororcula*, Algeria, REITTER, p. 303, Wien. ent. Zeit. xiii, n. sp.
- Thydemus*, n. g., type *Scotæus purpurivittatus*, Mars.; LEWIS, p. 476, Ann. Nat. Hist. (6) xiii.
- Titana tasmanica*, Tasmania, CHAMPION, p. 396, pl. viii, fig. 13, Tr. ent. Soc. London, 1894, n. sp.
- Toxicum ruficolle*, *chevolati*, = (*picticolle*, Bates), note on; WATERHOUSE, p. 71, Ann. Nat. Hist. (6) xiv.
- T. funginum*, *tuberculifrons*, Japan, LEWIS, p. 469, Ann. Nat. Hist. (6) xiii, n. spp.
- Trachyscelis chinensis*, Namoa I., CHAMPION, p. 448, Ann. Nat. Hist. (6) xiv; *T. sabuleti*, Japan, LEWIS, p. 383, *op. cit.* xiii: n. spp.
- Trimytis obtusa*, Lower California, HORN, p. 412, P. Calif. Ac. iv, n. sp.
- Uloma consentanea*, = (*depressa*, Pasc.); BLACKBURN, p. 219, Tr. R. Soc. S. Austral. xviii. *U. foveicollis*, Thoms., redescribed; FAIRMAIRE, p. 663, Ann. Soc. ent. Belgique, xxxviii.
- Vieta lacunosa*, East Africa, FAIRMAIRE, p. cclii, Bull. Soc. ent. France, 1894; *V. montana*, *luctuosa*, Kilimandjaro, FAIRMAIRE, p. 392, Ann. Soc. ent. Belgique, xxxviii: n. spp.
- Xanthofopeia partiticornis*, p. 671, *cæruleata*, Guinea, *basipennis*, Usambara, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Zabroideus*, n. g., p. 219, near *Misolampidius*, for *Z. pinguis*, n. sp., Thibet, p. 220; FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Zophosis plicatipennis*, = (*crispata*, Fairm.); BEDEL, p. 153, Abeille, xxviii.

CISTELIDÆ.

- [*Cf.* BEDEL (60), FAIRMAIRE (280, 284), HAUSER (415), HORN (442).]
- Allecula punctatella*, *piceata*, p. 26, *squalescens*, *tenuis*, *holomelæna*, p. 27, Bengal, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii; *A. sordida*, Lower California, HORN, p. 432, P. Calif. Ac. iv: n. spp.
- Buxela*, n. g., near *Hymenulia*, for *B. sordescens*, n. sp., Bengal; FAIRMAIRE, p. 28, Ann. Soc. ent. Belgique, xxxviii.
- Caristela*, n. g., near *Cistela*, for *C. megalops*, n. sp., Algeria; FAIRMAIRE, p. 311, Ann. Soc. ent. Belgique, xxxviii.
- Cistelomorpha axillaris*, p. 28, *renardii*, *trabeata*, *flavovirens*, p. 29, Bengal, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii; *C. alternans*, *subcostulata*, Bengal, p. 40, *irregularis*, Java, p. 41, FAIRMAIRE, *t. c.*; *C. nigrolineata*, *humeralis*, India, ALLARD, p. 153, Naturaliste, 1894: n. spp.
- Cteniopus (Proctenius) chamæleon*, Spain, REITTER, p. 305, Wien. ent. Zeit. xiii, n. sp.
- Hymenorus planulus*, Lower California, *spinifer*, Arizona, HORN, p. 434, P. Calif. Ac. iv, n. spp.
- Lystronychus championi*, Texas, HORN, p. 433, P. Calif. Ac. iv, n. sp.

- Omophlina hauseri*, Turkestan, REITTER, p. 50, Deutsche ent. Zeitschr. 1894, n. sp.
Omophilus and *Heliotaurus*, revision of the species of Barbary; BEDEL, Abeille, xxviii, pp. 157-173. *O. amerina*, metamorphoses; XAMBEU, Mœurs, vi, p. 30.
O. martini, p. 160, *chobauti*, p. 169, N. Africa, BEDEL, Abeille, xxviii, n. spp.

PYTHIDÆ, MELANDRYIDÆ.

- Rhinosimus planirostris*, = (*Salpingus luteo-nitens*, Fairm.); BEDEL, p. 155, Abeille, xxviii.
Abdera undata, Panz., = (*flexuosa*, Payk.); BEDEL, p. 155, Abeille, xxviii.
Dircea and *Hypulus*, nomenclature; SEIDLITZ, p. 71, Ent. Nachr. xx.
Eustrophus dermestoides, habits and metamorphoses; XAMBEU, p. cclxxxv, Bull. Soc. ent. France, 1894.
Zilora ferruginea, metamorphoses; XAMBEU, Mœurs, ii, p. 85.

LAGRIIDÆ.

- [Cf. ALLARD (11), FAIRMAIRE (280, 281, 283, 285).]
Casonidea nigripennis, Bengal, FAIRMAIRE, p. 32, Ann. Soc. ent. Belgique, xxxviii, n. sp.
Chlorophila obscuripennis, p. 220, *campestris*, p. 221, Thibet, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.
Lagria hirta, larva noticed; KOLBE, p. 13, Zeitschr. ent. Breslau, xix.
L. sulcicollis, E. India, ALLARD, p. 162, Naturaliste, 1894; *L. comosella*, p. 30, *multipunctata*, *cardonii*, p. 31, *rufina*, p. 32, Bengal, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii; *L. quadrivittata*, Mozambique, FAIRMAIRE, p. 674, t. c. : n. spp.
Lagriamina, n. g., for *L. strigipennis*, n. sp., Usambara; FAIRMAIRE, p. 675, Ann. Soc. ent. Belgique, xxxviii.
Nemostira ruftarsis, *rufovirens*, p. 328, W. Africa, *interstitialis*, p. 329, Cape Good Hope, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.

ANTHICIDÆ, PEDILIDÆ.

- [Cf. ABAILLE (6), CHOBOUT (171), FAIRMAIRE (280), PIC (811, 812, 813, 816, 818, 820-823, 827, 828, 831, 839, 845), WASMANN (1127).]
 Supplement to the Munich Catalogue, containing species described from 1870-93; PIC, Ann. Soc. ent. Belgique, xxxviii, pp. 43-58, 137 & 138.
 Criticism of Pic's list of species; CHAMPION, Ent. Mag. 1894, p. 86.
 Catalogue of the known species of *Xylophilidæ*; PIC, pp. 427-436, Mem. Soc. zool. France, vii.
Amblyderus indicus, Bengal, FAIRMAIRE, p. 33, Ann. Soc. ent. Belgique, xxxviii, n. sp.
Anthicus scaurus and allies, characters; PIC, pp. 98-100, Ann. Soc. ent.

- France, 1894. *A. waterhousei*, n. n. for *A. wollastoni*, Waterh.; PIC, p. 237, Ann. Soc. ent. Belgique, xxxviii. *A. hispidus*, var. = (*jaqueti*, Pic); REITTER, p. 64, Wien. ent. Zeit. xiii. *A. hamicornis*, = (*bedeli*, Pic); CHOBOUT, p. ccxxix, Bull. Soc. ent. France, 1894.
- A. marie-antonie*, Algeria, CHOBOUT, p. ccxxviii, Bull. Soc. ent. France, 1894; *A. raffrayi*, East China, PIC, p. xi, t. c.; *A. dromioides*, N. Africa, *infittialis*, China, p. lxxvii, *A. (Aulacoderus) sefrensis*, Algeria, p. lxxviii, PIC, t. c.; *A. truncatus*, Syria, PIC, p. cclxxxiv, t. c.; *A. tournieri*, Sarepta, PIC, p. 65, Echange, 1894; *A. caroli*, Spain, pp. 115 & 128, *forticornis*, pp. 116 & 128, Turkey, *sibiricus*, Siberia, pp. 126 & 128, *brunnescens*, Syria, pp. 126 & 137, PIC, t. c.; *A. argenteofasciatus, petri*, Central Asia, p. 205, *rubripes*, Afghanistan, p. 206, PIC, Mem. Soc. zool. France, vii; *A. crassicollis*, p. 49, *testaceofasciatus, macta*, p. 73, Algeria, PIC, Rev. Sci. Bourbonnais, vii; *A. brevicornis*, p. 142, *A. (Microhoria) admirabilis*, p. 144, *A. annulipes, vosseleri*, p. 145, Algeria, PIC, t. c.; *A. curticolis*, Portugal, PIC, p. 140, Feuille Natural. xxiv; *A. subustulatus*, W. Africa, PIC, p. 17, Bull. Soc. zool. France, xix; *A. subbasalis*, p. 33, *pexicollis*, p. 34, Bengal, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii; *A. (Stenilius) longitarsis*, p. 181, *A. bengalensis, insignipes, nigronotatus*, p. 182, *punctatifrons*, p. 183, Bengal, PIC, t. c.; *A. formicetorum*, Colorado, WASMANN, p. 221, Verzeichniss : n. spp.
- Formicomus canaliculatus*, n. var. *sulcifer*; PIC, p. 93, Naturaliste, 1894.
- F. mellyi*, Egypt, PIC, p. 64, Echange, 1894; *F. walkeri*, Aden, PIC, p. cxc, Bull. Soc. ent. France, 1894; *F. lagenicollis*, Bengal, FAIRMAIRE, p. 41, Ann. Soc. ent. Belgique, xxxviii; *F. obscurus*, Java, PIC, p. 32, Naturaliste, 1894; *F. semirufus*, Sumatra, PIC, p. 204, Mem. Soc. zool. France, vii : n. spp.
- Holcopyge pallidicornis*, = (*Tomoderus sydmænideus*, Pic); CHAMPION, p. lxiii, Bull. Soc. ent. France, 1894.
- Mecynotarsus trifasciatus*, Bengal, FAIRMAIRE, p. 33, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Notoxus lunulifer*, Delagoa Bay, PIC, p. 204, Mem. Soc. zool. France, vii; *N. trinotatus*, East China, PIC, p. x, Bull. Soc. ent. France, 1894 : n. spp.
- Pseudotomoderus sumatree*, Sumatra, PIC, p. 59, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Stereopalpus chobauti*, Algeria, S. ? *bedeli*, Perim, ABEILLE, p. 94, Echange, 1894, n. spp.
- Steriphodon*, n. g., for *Stereopalpus chobauti* and *bedeli* (cf. *suprà*); ABEILLE, p. cclxxi, Bull. Soc. ent. France, 1894.
- Steropes caspius*, n. var. *obscurans*; PIC, p. 93, Naturaliste, 1894.
- Syzeton abnormis*, King (sub *Anthicus*), = (*latus*, Blackb.); BLACKBURN, p. 219, Tr. R. Soc. S. Austral. xviii.
- Tomoderus nitidus*, Egypt, PIC, p. 16, Bull. Soc. zool. France, xix; *T. sydmænideus*, Colombia, PIC, p. 59, Ann. Soc. ent. Belgique, xxxviii : n. spp.

- Xylophilus maronitus*, *drusus*, *gratiosus*, notes on ; PIC, p. 435, Mem. Soc. zool. France, vii. *X. championi*, n. n. for *bicolor*, Champ., nec Schauf. ; PIC, p. lxxviii, Bull. Soc. ent. France, 1894.
- X. (Anidorus) sefrensis*, Algeria, PIC, p. 141, Rev. Sci. Bourbonnais, vii ; *X. (Anidorus) tenietensis*, Algeria, PIC, p. 61, Feuille Natural. xxiv ; *X. javanus*, Java, p. 433, *raffrayi*, Abyssinia, p. 434, PIC, Mem. Soc. zool. France, vii ; *X. macularis*, p. 15, *sulcatulus*, p. 16, W. Africa, PIC, Bull. Soc. zool. France, xix ; *X. sumatra*, Sumatra, PIC, p. 33, Naturaliste, 1894 : n. spp.

PYROCHROIDÆ.

- Pyrochroa flabellata*, larva described ; WICKHAM, p. 818, pl. xxvi, fig. 2, Amer. Natural. 1894.
- P. cardonii*, Bengal, FAIRMAIRE, p. 30, Ann. Soc. ent. Belgique, xxxviii ; *P. insignita*, Thibet, FAIRMAIRE, p. 220, t. c. : n. spp.

MORDELLIDÆ.

- Mordellistena artemisiæ*, metamorphoses ; XAMBEU, Mœurs, ii, p. 84.
- Pentaria defarguesi*, = (*oberthüri*, Champ.) ; CHAMPION, p. 115, Ent. Mag. 1894.
- P. reitteri*, Caucasus, CHOBOUT, p. lxxv, Bull. Soc. ent. France, 1894, n. sp.

RHIPIDOPHORIDÆ.

- For correction of errors in entry of this family in last volume of our Record, see Errata at commencement of that volume.
- Emenadia bimaculata*, = (*larvata*, Schr.) ; BEDEL, p. 155, Abeille, xxviii.
- Metæcus paradoxus*, 24 in one wasp's nest ; BUTLER, Ent. Mag. 1894, p. 235.
- Rhipidius fairmairei*, Zanzibar, CHOBOUT, p. ci, Bull. Soc. ent. France, 1894, n. sp.
- Rhipiphorus variicollis*, p. 34, *bipartitus*, p. 35, Bengal, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. spp.

CANTHARIDÆ.

[Cf. ABELLE (3), ESCHERICH (277), FAIRMAIRE (280-283, 285), HAUSER (415), HORN (442), KOLBE (562), KÜNCKEL (612, 613), SEMENOW (998, 1002).]

Discussion on various points of general interest in connection with *Lytta* ; structure of abdomen, ♂ organs, &c. ; ESCHERICH, Verh. Ges. Wien, xlv, pp. 251-265.

Nature of hypermetamorphosis ; KÜNCKEL, p. 136, Ann. Soc. ent. France, 1894.

- Calospasta decolorata*, Lower California, HORN, p. 437, P. Calif. Ac. iv, n. sp.
- Cuntharis braetii*, Bengal, FAIRMAIRE, p. 41, Ann. Soc. ent. Belgique, xxxviii; *C. cardonii*, Bengal, FAIRMAIRE, p. 35, t. c. : n. spp.
- Ctenopus*: revision of; SEMENOW, Bull. Ac. St. Petersb. xxxvi, pp. 11-20.
- C. testaceus*, Chinese Turkestan, p. 14, *aurantiacus*, p. 15, *persicus*, p. 17, Persia, *reitteri*, p. 18, Transcaucasus, SEMENOW, Bull. Ac. St. Petersb. xxxvi; *C. hauseri*, Transcaspian Region, REITTER, p. 50, Deutsche ent. Zeitschr. 1894; *C. oxianus*, W. Turkestan, SEMENOW, p. 540, Horæ Soc. ent. Ross. xxviii : n. spp.
- Eletica stuhlmanni*, p. 183, *dimidiata*, p. 184, *unifasciata*, p. 186, *niansana*, p. 187, *infans*, p. 188, Tropical Africa, KOLBE, Ent. Zeit. Stettin, lv, n. spp.
- Horia crouzeti*, Abyssinia, FAIRMAIRE, p. 329, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Lydenas*, n. g., p. 51, type *Lydus pygmaeus*, Dokht., with *L. albopilosus*, n. sp., Turkestan; REITTER, Deutsche ent. Zeitschr. 1894.
- Lydenas*, Reitt., and *Lydulus*, Sem., are the same, and *L. albopilosus*, Reitt., and *L. albopilosus*, Sem., are the same; REITTER, p. 116, Wien. ent. Zeit. xiii.
- Lytta*: revision of the species, with figg. of male characters; ESCHERICH, Verh. Ges. Wien, 1894, pp. 265-298, pls. viii-x.
- L. djerbensis*, Tunis, ESCHERICH, p. 285, pl. xi, fig. 1, Verh. Ges. Wien, xlv; *L. hauseri*, Kara-kum Desert, HEYDEN, p. 51, Deutsche ent. Zeitschr. 1894 : n. sp.
- Macrobasis tenuilineata*, Lower California, HORN, p. 436, P. Calif. Ac. iv, n. sp.
- Megetra opaca* is ♀ of a species of the genus *Calospasta*: classification of allied forms; HORN, pp. 438 & 439, P. Calif. Ac. iv.
- Meloë proscarabæus*, habits; LANCELEVÉE, Bull. Soc. Elbeuf, xii, p. 47. *M. cavensis*, Petagn., = *purpurascens*, Germ., and *sardous*, Gené; BEDEL, p. 155, Abeille, xxviii. *M. olivieri*, note on; HEYDEN, p. 85, Deutsche ent. Zeitschr. 1894.
- M. semicariosus*, Kilimandjaro, FAIRMAIRE, p. 394, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Mylabris*: metamorphosis; KÜNCKEL, C.R. Ac. Sci. cxviii, p. 360.
- Parænas*, n. g., for *P. limbata*, n. sp., Victoria Nyanza; KOLBE, p. 190, Ent. Zeit. Stettin, lv.
- Pseudabris*, n. g., near *Mylabris*, for *P. tigriodera*, n. sp., Thibet; FAIRMAIRE, p. 222, Ann. Soc. ent. Belgique, xxxviii.
- Pyrotta trochanterica*, Lower California, HORN, p. 439, P. Calif. Ac. iv, n. sp.
- Teratolytta*, n. g., p. 533, type *Lytta dives*, Br., and including *T. cylandti*, n. sp., p. 534, Transcaspian Region; SEMENOW, Horæ Soc. ent. Ross. xxviii.
- Tetraonyx dubiosus*, Lower California, HORN, p. 440, P. Calif. Ac. iv, n. sp.

- Zonabris komarowi*, n. varr., *pilimana*, *connecticornis*; REITTER, p. 51, Deutsche ent. Zeitschr. 1894.
Z. (Mylabris) theryi, Algeria, ABEILLE, p. cxxxii, Bull. Soc. ent. France, 1894, n. sp.
Zonitis straminea, p. 35, *melanarthra*, *melanoptera*, p. 36, Bengal, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii; *Z. cribripennis*, Bengal, FAIRMAIRE, p. 42, t. c.; *Z. gigantea*, Congo, FAIRMAIRE, p. 329, t. c.; *Z. atrimembris*, Guinea, FAIRMAIRE, p. 675, t. c.; *Z. (Euzonitis) varentzowi*, Askhabad, SEMENOW, p. 537, Horæ Soc. ent. Ross. xxviii: n. spp.

ŒDEMERIDÆ.

- [Cf. BLACKBURN (93), FAIRMAIRE (284), PIC (833, 834), REITTER (883, 893), SEMENOW (1000, 1002).]
 Table and revision of the genera of palæarctic *Œdemeridæ*; SEMENOW, pp. 449-474, Horæ Soc. ent. Ross. xxviii.
Ananca obsoleta, Algeria, FAIRMAIRE, p. 312, Ann. Soc. ent. Belgique, xxxviii; *A. boisduvali*, Australia, BLACKBURN, p. 187, P. Linn. Soc. N. S. Wales, viii: n. spp.
Anoncodes wartmanni, Algeria, PIC, p. 180, Naturaliste, 1894, n. sp.
Asclera jakolewi, Issyk-kul, SEMENOW, p. 542, Horæ Soc. ent. Ross. xxviii; *A. indica*, Bengal, FAIRMAIRE, p. 42, Ann. Soc. ent. Belgique, xxxviii: n. spp.
Chrysanthia korbi, Spain, REITTER, p. 104, Wien. ent. Zeit. xiii, n. sp.
Eobia, n. g., near *Copidita*, for *Asclera cinereipennis* and *Nacerdes bicolor*; SEMENOW, p. 455, Horæ Soc. ent. Ross. xxviii.
Ganglbaueria wilkinsi, Transcaspian Region, HEYDEN, p. 52, Deutsche ent. Zeitschr. 1894, n. sp.
Holozantha, n. g., for *Ditylus concolor* and *pallida*; SEMENOW, p. 470, Horæ Soc. ent. Ross. xxviii.
Mycterus curculionoides, = (*gracilior*, Fairm.); BEDEL, p. 155, Abeille, xxviii.
Nacerdes (Peronocnemis) davidis, Fairm., = (*Anoncodes femorata*, Gangl.); SEMENOW, p. 464, Horæ Soc. ent. Ross. xxviii.
Nacerdochroa glasunowi, Transcaspian Region, SEMENOW, p. 466, Horæ Soc. ent. Ross. xxviii, n. sp.
Œdemera rostralis, n. var., *petroschmidti*; HEYDEN, p. 265, Horæ Soc. ent. Ross. xxxviii.
Œ. alaiensis, Turkestan, SEMENOW, p. 544, Horæ Soc. ent. Ross. xxviii, n. sp.
Oncomera atriceps, Greece, REITTER, p. 303, Wien. ent. Zeit. xiii, n. sp.
Probosca letourneuxi, Egypt, PIC, p. 93, Naturaliste, 1894, n. sp.
Sessinia: amended characters; SEMENOW, p. 454, Horæ Soc. ent. Ross. xxviii.
Sisenes championi, Arizona, HORN, p. 436, P. Calif. Ac. iv, n. sp.
Zubkovia, n. g., p. 467, for *Z. turcomanica*, n. sp., Transcaspian Region, p. 468; SEMENOW, Horæ Soc. ent. Ross. xxv.

STREPSIPTERA (STYLOPIDÆ).

Development of *Xenos rossii*: systematic position of the group; NASSONOV (741).

Anatomy of *Stylóps*; NASSONOFF (742): of *Halictóphagus*; NASSONOFF (743).

CURCULIONIDÆ.

[*Cf.* ABEILLE (4, 6), ANGELL (18), APFELBECK (19), BEUTENMÜLLER (86), BLACKBURN (93, 94, 96), DESBROCHERS (226), DIETZ (227), FAIRMAIRE (285), FAUST (292-299, 415), GERMAIN (359), HAUSER (415), HELLER (420, 421, 422), HORN (442), JORDAN (501), OTTO (783), PAULY (797, 799), PENECKE (800), PIC (814, 834, 848), REITTER (882, 883, 885, 891, 893, 894, 896), RÜBSAAMEN (953), SCHLECHTENDAL (972), SCHWARZ (985), SCUDDER (989), STIERLIN (1047-1049), THOMSON (1067), WEISE (1148).]

Tertiary fossil *Rhynchophora* of N. America by SCUDDER, see PALÆONTOLOGY, p. 98.

Curculionid galls on Eucalyptus; RÜBSAAMEN, p. 228, Berlin. ent. Zeitschr. xxxix.

Notes on the food-plants and habits of many N. American *Rhynchophora*; BEUTENMÜLLER (86).

Acalonoma pusilla, Victoria, BLACKBURN, p. 256, P. Linn. Soc. N. S. Wales, viii, n. sp.

Alaocyba mingrelica, Caucasus, REITTER, p. 246, Wien. ent. Zeit. xiii; *A. stricticollis*, Italy, REITTER, p. 306, t. c. : n. spp.

Alcides proximus, p. 552, *rhomboidalis*, *antennalis*, p. 553, *interruptolineatus*, p. 554, W. Africa, FAUST, Nov. Zool. i, n. sp.

Allodactylus transversicollis, Issyk-kul, FAUST, p. 147, Horæ Soc. ent. Ross. xxviii, n. sp.

Alophus: revision of the European; REITTER, pp. 307-310, Wien. ent. Zeit. xiii.

A. obsoletus, Centr. Europe, p. 309, *cretaceus*, Mongolia, p. 310, REITTER, Wien. ent. Zeit. xiii; *A. austriacus*, Carinthia, OTTO, p. 4, t. c.; *A. inopinus*, Alai Mts., FAUST, p. 61, Deutsche ent. Zeitschr. 1894: n. spp.

Anchistosiphilia mocquerysi, W. Africa, FAUST, p. 566, Nov. Zool. i, n. sp.

Anchonus floridanus, Washington, SCHWARZ, p. 42, P. ent. Soc. Washington, iii, n. sp.

Anchylorhynchus burmeisteri, Entre Réos, FAUST, p. 152, Ent. Zeit. Stettin, lv, n. sp.

Anthonomus signatus, habits; CHITTENDEN, Insect Life, vii, p. 16: Riley's figures and descriptions repeated in French; HOULBERT, p. 29, Naturaliste, 1894.

A. dentoni, Nevada, ANGELL, p. 13, J. N. York Ent. Soc. i, n. sp.

- Aplocnemis loweri*, Victoria, BLACKBURN, p. 188, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Aosseterus carinirostris*, Natal, FAUST, p. 522, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Apion kraatzii*, = (*parvithorax*, Desb.), p. 155, *A. dichroum*, note on, p. 156; BEDEL, Abeille, xxviii. *A. steveni*, n. var. *nigerrimum*; FAUST, p. 65, Deutsche ent. Zeitschr. 1894. *A. pisi*, habits; MARCHAL, p. cxliii, Bull. Soc. ent. France, 1894.
- A. henoni*, Algeria, ABELLE, p. 94, Echange, 1894; *A. pistillum*, Issyk-kul, FAUST, p. 146, Horæ Soc. ent. Ross. xxviii; *A. gibbiceps*, Persia, p. 91, *sejugum*, Syria, p. 94, *spathula*, France, p. 98, *hipponense*, p. 102, *edentatum*, p. 104, Algeria, *sublavithorax*, Caucasus, p. 107, *damryi*, Corsica, p. 111, DESBROCHERS, Frelon, iii : n. spp.
- Apoderus tolerans*, *anxius*, p. 525, *seminiger*, *flavonotatus*, p. 526, *A. (Haplapoderus) cerverus*, p. 527, Tropical Africa, FAUST, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Arammichnus ruminalis*, Turkestan, FAUST, p. 53, Deutsche ent. Zeitschr. 1894, n. sp.
- Astycomerus satelles*, Quango, FAUST, p. 509, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Attelabus longicollis*, Thibet, FAIRMAIRE, p. 222, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Bagous tournieri*, Algeria, PIC, p. 247, Naturaliste, 1894; *B. australasia*, p. 284, *adelaidæ*, p. 285, S. Australia, BLACKBURN, P. Linn. Soc. N. S. Wales, viii; *B. clarenciensis*, N. S. Wales, BLACKBURN, p. 163, Tr. R. Soc. S. Austral. xviii : n. spp.
- Balaninus uniformis*, oviposition; MURTFELDT, p. 320, Insect Life, vi.
- Balanobius cruz*, larva noticed; KOLBE, p. 13, Zeitschr. ent. Breslau, xix.
- Baris peninsulæ*, Lower California, HORN, p. 447, P. Calif. Ac. iv n. sp.
- Barypithes leptoviensis*, Hungary, WEISE, p. 249, Deutsche ent. Zeitschr. 1894, n. sp.
- Bothynoderes subfuscus*, Caspian Sea, FAUST, p. 61, Deutsche ent. Zeitschr. 1894, n. sp.
- Bryochæta lineata*, p. 514, *pascoei*, p. 515, W. Africa, FAUST, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Campyloscelus affinis*, Congo, FAUST, p. 568, Nov. Zool. i, n. sp.
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Chromonotus albolineatus, n. var. *sellatus*; FAUST, p. 63, Deutsche ent. Zeitschr. 1894.
C. staudingeri, Margelan, FAUST, Deutsche ent. Zeitschr. 1894, n. sp.
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Cleonus: notes on the Dejeanian species; FAUST, p. 612, Ann. Soc. ent. Belgique, xxxviii.
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- Eutinopus peregrinus*, Turkestan, FAUST, p. 59, Deutsche ent. Zeitschr. 1894, n. sp.
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- Hypera plantaginis*, early stages; HUIC, p. 117, Ann. Scott. Nat. Hist. 1894.
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- Liophlæus* : characters of the species ; WEISE, pp. 257-266, Deutsche ent. Zeitschr. 1894.
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- Synertha*, n. g., near *Smicronyx*, p. 172, for *S. hornii*, p. 173, *wickhami*, p. 174, n. spp., N. America ; DIETZ, Tr. Amer. ent. Soc. xxi.
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- Tanymecus alienus*, *brachyderoides*, Abyssinia, FAUST, p. 143, Ent. Zeit. Stettin, lv, n. spp.

- Tanyrhynchus fahraei*, Natal, FAUST, p. 522, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Tapinostethus*, n. g., *Sphenophorinorum*, near *Diathetes*, p. 532, for *T. nitidicollis*, n. sp., W. Africa, p. 533; FAUST, Ann. Soc. ent. Belgique, xxxviii.
- Telenica subfasciata*, W. Australia, BLACKBURN, p. 261, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Telephæte* distinguished from *Blattocerus*, *T. bifasciata*, pl. ii, figg. 7, 7a, *obliquifasciata*, fig. 11, described and figured; HELLER, pp. 39-47, Tijdschr. Ent. xxxvii.
- T. brachythorax*, Celebes, p. 48, pl. ii, fig. 12, *dajak*, Borneo, p. 49, pl. ii, fig. 9, *paryphanta*, Perak, p. 50, figg. 8, 8a, *ursula*, Celebes, p. 51, fig. 14, *muscula*, Borneo, p. 52, fig. 13, *sangirensis*, Sangir, p. 54, HELLER, Tijdschr. Ent. xxxvii, n. spp.
- Temnoschoita pygidialis*, W. Africa, FAUST, p. 534, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Tetragonothorax gyllenhali*, n. n. for *Cleonus macilentus*, Gyll., nec Ol.; FAUST, p. 617, Ann. Soc. ent. Belgique, xxxviii.
- Themelia*, n. g., *Eriirrhinarum*, p. 159, for *T. conspicua*, n. sp., N. S. Wales; BLACKBURN, p. 160, Tr. R. Soc. S. Austral. xviii.
- Thricolepsis* ? *seminuda*, HORN, p. 443, P. Calif. Ac. iv, n. sp.
- Timareta lineata*, p. 263, *concolor*, *munda*, p. 264, *pusilla*, p. 265, *subfasciata*, p. 266, Australia, BLACKBURN, P. Linn. Soc. N. S. Wales, viii, n. spp.
- Trachyphæus globipennis*, Varna, REITTER, p. 106, Wien. ent. Zeit. xiii, n. sp.
- Trachysoma*, n. g., near *Liosoma*, for *T. alpinum*, n. sp., Styria, p. 21; PENECKE, Wien. ent. Zeit. xiii.
- Tropiphorus bertolinii*, no locality, STIERLIN, p. 117, Mt. Schweiz. ent. Ges. ix, n. sp.
- Tychius bertolinii*, Italy, STIERLIN, pp. 101 & 122, Mt. Schweiz. ent. Ges. ix; *T. maculosus*, Dalmatia, STIERLIN, p. 122, t. c.; *T. amabilis*, Margelan, FAUST, p. 64, Deutsche ent. Zeitschr. 1894 : n. spp.
- Xeda magistra*, S. Australia, *notabilis*, N. S. Wales, BLACKBURN, p. 153, Tr. R. Soc. S. Austral. xviii, n. spp.
- Xenia*, n. g., *Sympiezopinorum*, for *X. semicincta*, n. sp., Loanda; FAUST, p. 530, Ann. Soc. ent. Belgique, xxxviii.

SCOLYTIDÆ.

[Cf. ABEILLE (6), BLANDFORD (99-102), HOPKINS (438, 439), KNOTEK (549), MILANI (709), PAULY (797, 799), REITTER (879, 885), SCHWARZ (983, 985), WATERHOUSE (911).]

Scolytidæ of Japan, with general remarks; BLANDFORD, Tr. ent. Soc. London, pp. 53-141.

List of the Japan Scolytids, pp. 578-580; BLANDFORD, Tr. ent. Soc. London, 1894.

- Account of the distinctions between the sexes in many N. American *Scolytidae*; HOPKINS, *Canad. Ent.* 1894, pp. 274-280.
- Food-plants and habits of *Scolytidae*; BLANDFORD (102).
- Fossil tertiary Scolytids; see SCUDDER, *Palæo-entomology*, p. 99.
- Acanthotomicus*, n. g., near *Tomicus*, p. 89, for *A. spinosus*, n. sp., Japan, pp. 90 & 91; BLANDFORD, *Tr. ent. Soc. London*, 1894.
- Aricerus*, n. g., p. 133, ? *Phlæotribi*, for *A. chapuisi*, p. 134, *eichhoffi*, p. 135, n. spp., Australia; BLANDFORD, *Ann. Soc. ent. Belgique*, xxxviii.
- Bostrychus typographus*, habits, PAULY, *Forstl. Zeitschr. Munchen*, iii, p. 376.
- Coccotrypes*: generic characters; BLANDFORD, p. 98, *Tr. ent. Soc. London*, 1894.
- C. perditor*, p. 99, *advena*, p. 100, Japan, BLANDFORD, *Tr. ent. Soc. London*, 1894, n. spp.
- Corthylus punctatissimus*, habits; HOPKINS, p. 105, *P. ent. Soc. Washington*, iii.
- C. columbianus*, Virginia, HOPKINS, p. 104, *t. c. n. sp.*
- Cosmoderes consobrinus*, Japan, BLANDFORD, p. 86, *Tr. ent. Soc. London*, 1894, n. sp.
- Crossotarsus concinnus*, n. n. for *chapuisi*, *infra*; BLANDFORD, 'p. 578, *Tr. ent. Soc. London*, 1894.
- C. chapuisi*, p. 129, *niponicus*, p. 130, *contaminatus*, p. 131, Japan, BLANDFORD, *Tr. ent. Soc. London*, 1894, n. spp.
- Cryphalus exiguus*, Japan, BLANDFORD, p. 82, *Tr. ent. Soc. London*, 1894, n. sp.
- Crypturgus hystrix*, Algeria, ABEILLE, p. 94, *Echange*, 1894; *C. alutaceus*, N. America, SCHWARZ, p. 17, *P. ent. Soc. Washington*, iii: n. spp.
- Diapus aculeatus*, Japan, BLANDFORD, p. 139, *Tr. ent. Soc. London*, 1894, n. sp.
- Dryocetes pilosus*, p. 92, *affinis*, p. 93, *luteus*, p. 94, *nubilus*, p. 95, *mæstus*, p. 96, *dinoderoides*, p. 97, Japan, BLANDFORD, *Tr. ent. Soc. London*, 1894, n. spp.
- Eidophelus minutus*, Japan, BLANDFORD, p. 88, *Tr. ent. Soc. London*, 1894, n. sp.
- Hylastes plumbeus*, n. n. for *obscurus*, Chap., *nec Marsh*; BLANDFORD, p. 57, *Tr. ent. Soc. London*, 1894.
- H. ambiguus*, Japan, BLANDFORD, p. 57, *Tr. ent. Soc. London*, 1894, n. sp.
- Hylesinus minor*, *piniperda*, notes on; LANG, *Forstl. Zeitschr. Munchen*, ii, pp. 136 & 137. *H. minor*, abnormal brood burrows; MILANI, *t. c.* pp. 140-144. *H. micans*, life-history; PAULY (797). *H. sericeus*, habits, burrows; SCHWARZ, p. 254, *cut*, *Insect Life*, vii.
- H. henscheli*, Bosnia, KNOTEK, p. 554, pl. viii, figg. 1a, b, in HOERNES, *Wiss. Mt. Bosn. Hercegov.* ii; *H. costatus*, p. 63, *nobilis*, p. 64, *laticollis*, p. 65, *tristis*, p. 66, *cingulatus*, *scutulatus*, p. 67, BLANDFORD, *Tr. ent. Soc. London*, 1894: n. spp.

- Hyorrhynchus*, n. g., *Hylesini*, p. 58, for *H. lewisi*, n. sp., Japan, p. 60, BLANDFORD, Tr. ent. Soc. London, 1894.
- Hypothemus peritus*, p. 84, *expers*, p. 85, Japan, BLANDFORD, Tr. ent. Soc. London, 1894, n. spp.
- Kissophagus novaki*, Dalmatia, REITTER, p. 45, Wien. ent. Zeit. xiii, n. sp.
- Loyanius ficus*, Florida, SCHWARZ, p. 44, P. ent. Soc. Washington, iii, n. sp.
- Phlæosinus aubei*, figures, burrows, note; KNOTEK, p. 554, pl. viii, figg. 3a, b, in HOERNES, Wiss. Mt. Bosn. Hercegov. ii.
- P. pulchellus*, p. 69, *dubius*, p. 70, *minutus*, p. 71, *seriatus*, p. 72, *rudis*, p. 73, Japan, BLANDFORD, Tr. ent. Soc. London, 1894, n. spp.
- Pityophthorus jucundus*, Japan, BLANDFORD, p. 87, Tr. ent. Soc. London, 1894, n. sp.
- Platypus modestus*, p. 133, *lewisi*, p. 134, *severini*, p. 136, *calamus*, p. 137, *hamatus*, p. 138, Japan, BLANDFORD, Tr. ent. Soc. London, 1894, n. spp.
- Polygraphus grandiclava*, distinguished from *pubescens*; REITTER, p. 253, Wien. ent. Zeit. xiii.
- P. oblongus*, *proximus*, p. 75, *miser*, p. 76, Japan, BLANDFORD, Tr. ent. Soc. London, 1894, n. spp.
- Pycnarthrum* ? *setulosum*, Fernando Noronha, WATERHOUSE, p. 553, J. Linn. Soc. xx, n. sp.
- Scolytoplatypus shogun*, Japan, BLANDFORD, p. 126, Tr. ent. Soc. London, 1894, n. sp.
- Scolytus destructor*: life-history; PAULY (797). *S. lewis*, ♀ and burrows figured; KNOTEK, p. 555, pl. viii, figg. 5a-c, in HOERNES, Wiss. Mt. Bosn. Hercegov. ii.
- S. aceris*, Bosnia, KNOTEK in HOERNES, Wiss. Mt. Bosn. Hercegov. ii, p. 556, pl. viii, figg. 4 a, b, and burrows, pl. ix; *S. koltzei*, Amurland, REITTER, p. 128, Wien. ent. Zeit. xiii; *S. esuriens*, p. 77, *agnatus*, p. 78, *frontalis*, *aratus*, p. 79, *claviger*, p. 80, Japan, BLANDFORD, Tr. ent. Soc. London, 1894 : n. spp.
- Spherotrypes*, n. g., *Hylesini*, p. 61, for *S. pila*, Japan, p. 62, *globulus*, E. India, p. 63, n. spp.; BLANDFORD, Tr. ent. Soc. London, 1894.
- Tomicus proximus*, habits; HENSCHEL, p. 380, Forstl. Zeitschr. Munchen, iii.
- Trypodendron quercus*, var. *niponicum*, BLANDFORD, p. 124, Tr. ent. Soc. London, 1894.
- T. pubipenne*, Japan, BLANDFORD, p. 125, Tr. ent. Soc. London, 1894; *T. sordidum*, Japan, BLANDFORD, p. 577, t. c. : n. spp.
- Xyleborus mutilatus*, p. 103, *lewisi*, p. 104, *apicalis*, p. 105, *germanus*, p. 106, *concisus*, p. 107, *aquilus*, p. 109, *prævius*, p. 110, *seriatus*, p. 111, *muticus*, p. 112, *bicolor*, p. 113, *attenuatus*, p. 114, *adumbratus*, p. 115, *minutus*, p. 116, *schaufussi*, p. 117, *defensus*, p. 118, *exesus*, p. 119, *cucullatus*, p. 121, *orbatus*, *galeatus*, p. 123, Japan, BLANDFORD, Tr. ent. Soc. London, 1894; *X. amputatus*, p. 575,

- interjectus*, p. 576, Japan, BLANDFORD, *t. c.*; *X. morigerus* on *Dendrobium*, from New Guinea, BLANDFORD, p. 264, *Insect Life*, vi : n. spp.
Xylocleptes biuncus, Dalmatia, REITTER, p. 45, *Wien. ent. Zeit.* xiii, n. sp.

BRENTHIDÆ.

[*Cf.* SENNA (1003-1008).]

- Adidactus*, n. g., for *Zemioses cancellatus*, Lac.; SENNA, p. 406, *Ann. Soc. ent. France*, 1894.
Allæodromus, n. g., *Taphroderides*, p. 179, for *A. insignis*, n. sp., Sumatra, p. 180; SENNA, *Notes Leyden Mus.* xvi.
Amorphocephalus piochardi, male described; BAUDI, p. 10, *Boll. Mus. Torino*, ix, No. 173.
A. dahomeensis, W. Africa, SENNA, p. 407, *Ann. Soc. ent. France*, 1894; *A. sumatranus*, Sumatra, SENNA, p. 195, *Notes Leyden Mus.* xvi : n. spp.
Arcorrhinus longirostris, Sumatra, SENNA, p. 187, *Notes Leyden Mus.* xvi, n. sp.
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- R. sexvittatus*, Panama, p. 596, *amplicollis*, S. & Centr. America, p. 597, *amazonicus*, Amazons, p. 598, *vicinus*, Brazil, p. 599, *severini*, p. 602, *politus*, p. 605, *variabilis*, p. 606, *linearis*, p. 607, *mexicanus*, p. 608, *panamensis*, Panama, p. 609, SENNA, Ann. Soc. ent. Belgique, xxxviii; *R. rothschildi*, Nicaragua, p. 214, *consanguineus*, Venezuela, p. 217, SENNA, Notes Leyden Mus. xvi : n. spp.
- Symmorphocerus cardoni*, Bengal, SENNA, p. 385, Ann. Soc. ent. Belgique, xxxviii; *S. alluaudi*, W. Africa, SENNA, p. 409, Ann. Soc. ent. France, 1894 : n. spp.
- Taphrocomister*, n. g., near *Higonius*, for *T. singularis*, n. sp., Sumatra; SENNA, p. 185, Notes Leyden Mus. xvi.
- Tmetogonus*, n. g., near *Orychodes*, p. 224, for *T. chiriquensis*, n. sp., Panama, p. 224; SENNA, Notes Leyden Mus. xvi.
- Trachelizus doherthyi*, Burma, SENNA, p. 366, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Tulotus*, n. g., p. 370, *Trachelizina*, for *T. maculipennis*, n. sp., Burma, p. 371; SENNA, Ann. Soc. ent. Belgique, xxxviii.
- Ubanius*, n. g., near *Episphales*, p. 221, for *U. æneus*, n. sp., Mexico, p. 220; SENNA, Notes Leyden Mus. xvi.
- Zemioses pubens*, *latus*, *celtis*, referred to *Sebasius*; SENNA, p. 361, Ann. Soc. ent. Belgique, xxxviii.

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[Cf. HORN (442), JORDAN (503), SCHLECHTENDAL (972), SCUDDER (989).]

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- Acorynus biplagiatus*, p. 616, *simulatus*, *geometricus*, p. 617, *calcaratus*, W. Africa, *striolatus*, p. 618, *cylindricus*, Perak, *guttatus*, Sumatra, p. 619, *lineolatus*, *distinguendus*, Perak, *similis*, Sikkim, p. 620, *griseescens*, Java, *alboguttatus*, Borneo, p. 621, *ceylonicus*, Ceylon, *punctatus*, Sumatra, p. 622, *discoidalis*, Java, *apicalis*, Sikkim, p. 623, *rufus*, Sumatra, *parvulus*, Perak, p. 624, *batjanensis*, Batjan, p. 625, JORDAN, Nov. Zool. i, n. spp.
- Afrocedus*, n. g., near *Cedus*, for *A. episternalis*, n. sp., Congo; JORDAN, p. 626, Nov. Zool. i.
- Altipectus*, n. g., near *Mycteis*, p. 605, for *A. fasciatum*, New Guinea, *nigrofemorale*, Amboyna, p. 606, n. spp.; JORDAN, Nov. Zool. i.
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- A. geometricus*, *subfasciatus*, *ater*, *bimaculatus*, p. 650, *pygidialis*, *albinus*, p. 651, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Ancylotropis waterhousei*, = (*Macrotrichius niveinasus*, Motsch.); JORDAN, p. 604, Nov. Zool. i.
- Anthribus fasciatus*, *scapularis*, distinctions, p. cxiii, Bull. Soc. ent. France, 1894.
- A. vagus*, Lower California, HORN, p. 448, P. Calif. Ac. iv, n. sp.
- Apatenia* and allies, systematic position; JORDAN, p. 629, Nov. Zool. i.

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- Apolecta javanica*, Java, JORDAN, p. 649, Nov. Zool. i, n. sp.
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- Cedus*, = (*Puchygenia*, Motsch.), *C. guttatus*, = (*P. impluviata*); JORDAN, p. 626, Nov. Zool. i.
- C. antennalis*, Perak, JORDAN, Nov. Zool. i, p. 626, n. sp.
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- Gnoticarina*, n. g., near *Decataphanes*, for *G. cristulata*, n. sp., W. Africa; JORDAN, p. 648, Nov. Zool. i.
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- Mucronianus*, n. g., near *Cedus*, for *M. rufipes*, n. sp., Batchian; JORDAN, p. 627, Nov. Zool. i.
- Mycteis nigromaculatus*, Java, *subfasciatus*, Amboyna, JORDAN, p. 607, Nov. Zool. i, n. spp.
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- Phaulimia*? *rufescens*, Perak, JORDAN, p. 632, Nov. Zool. i, n. sp.
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- Phleophagoides*, n. g., p. cclxxi, near *Phleophagus*, for *P. humilis*, n. sp.; Sos, ABEILLE, p. cclxxii, Bull. Soc. ent. France, 1894.
- Physopterus alboguttulatus*, *tuberculosis*, Java, JORDAN, p. 601, Nov. Zool. i, n. spp.
- Ptychoderes longicollis*, Surinam, *brevis*, p. 592, *affinis*, p. 593, Brazil, *bivittatus*, Central America, p. 594, JORDAN, Nov. Zool. i, n. spp.
- Sintor quadrimaculatus*, Sumatra, JORDAN, p. 604, Nov. Zool. i, n. sp.
- Sympactor longicornis*, New Guinea, JORDAN, p. 604, Nov. Zool. i, n. sp.

- Tropideres*, *Litocerus* and *Acorynus*, generic distinctions ; JORDAN, p. 608, Nov. Zool. i.
- T. marmoreus*, Birma, JORDAN, p. 628, Nov. Zool. i, n. sp.
- Xenocerus* : notes on various doubtful species ; JORDAN, p. 636, Nov. Zool. i. *X. angulifer*, Wlk., referred to *Sympactor* ; JORDAN, p. 605, Nov. Zool. i.
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- [Cf. CAILLOL (149), DECAUX (225), HAUSER (415), HORN (442), PIC (838).]
- Bruchus julianus*, Texas, HORN, p. 410, P. Calif. Ac. iv, n. sp.
- Caryoborus tamarindi*, E. India, DECAUX, p. 129, Naturaliste, 1894, n. sp.
- Mylabris tuberculifera*, p. cclxix, *segmentata*, Algeria, *letourneuxi*, Egypt, p. cclxx, CAILLOL, Bull. Soc. ent. France, 1894 ; *M. (Bruchus, olim.) ochraceosignatus*, HEYDEN, p. 65, Deutsche ent. Zeitschr. 1894 : n. spp.
- Pachimerus germani* (Jekel), S. America, but imported into France, PIC, p. 65, Echange, 1894, n. sp.
- Spermophagus (Zabrotus) semicinctus*, Lower California, HORN, p. 411, P. Calif. Ac. iv, n. sp.

CERAMBYCIDÆ.

- [Cf. ALLARD (11), BLACKBURN (93, 95, 96), CHITTENDEN (170), FAIRMAIRE (281, 283, 285, 286, 289), GAHAN (348-353, 1118), GERMAIN (360), HAUSER (415), HEYDEN (426), HORN (442), JAKOWLEFF (480), JORDAN (498, 500, 501), KOLBE (554, 556, 557, 559), NONFRIED (762, 763, 764), PIC (840, 844), REITTER (878, 885, 886, 891, 893), RITSEMA (929, 930), WATERHOUSE (911).]
- List of West African Longicorns ; JORDAN, Nov. Zool. i, pp. 139-266.
- Revised list of the Longicorns of Belgium ; LAMEERE (627).
- Notes on the habits of many N. American Longicorns ; CHITTENDEN, P. ent. Soc. Washington, iii, pp. 95-102.
- Acanthoderes ridleyi*, Fernando Noronha, WATERHOUSE, p. 555, J. Linn. Soc. xx, n. sp.
- Acanthophorus modicus*, p. 222, *rugiceps*, p. 223, E. India, GAHAN, Ann. Nat. Hist. (6) xiv, n. spp.
- Acanthoptura*, n. g., near *Brachyta*, for *A. spinipennis*, n. sp., Thibet ; FAIRMAIRE, p. 224, Ann. Soc. ent. Belgique, xxxviii.

- Accola*, n. g., near *Glenida*, for *A. citrina*, n. sp., Assam, pl. xiii, fig. 12; JORDAN p. 503, Nov. Zool. i.
- Acmocera varians*, p. 228, *convexa*, p. 229, *apicalis*, *aberrans*, p. 230, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Acroama*, n. g., near *Smermus*, p. 501, for *A. armata*, n. sp., Borneo, p. 502; JORDAN, Nov. Zool. i.
- Acrocyrta reticulata*, Borneo, JORDAN, p. 498, Nov. Zool. i, n. sp.
- Acrocyrtidus*, n. g., p. 499, *Compsocerinorum*, for *A. fasciatus*, n. sp., Siam, p. 500, pl. xiii, fig. 10; JORDAN, Nov. Zool. i.
- Acyphoderes delicatus*, Lower California, HORN, p. 400, P. Calif. Ac. iv, n. sp.
- Aderpas subfasciatus*, *punctulatus*, W. Africa, JORDAN, p. 197, Nov. Zool. i, n. spp.
- Ægosoma bowringi*, p. 226, *buckleyi*, p. 227, N. India, GAHAN, Ann. Nat. Hist. (6) xiv; *Æ. carpentariae*, N. Australia, BLACKBURN, p. 191, P. Linn. Soc. N. S. Wales, viii : n. spp.
- Agapanthia*: table of the metallic species; REITTER, pp. 144-146, Wien. ent. Zeit. xiii.
- A. cynarae*, n. var. *delagrangei*; PIC, p. 75, Echange, 1894.
- A. persicola*, Araxes Valley, REITTER, p. 146, Wien. ent. Zeit. xiii, n. sp.
- Agnitogaster*, n. g., near *Prosopocera*, for *A. variegatus*, p. 200, *fasciatus*, p. 201, n. spp., Kuilu; JORDAN, Nov. Zool. i.
- Agnitosternum*, n. g., near *Anisogaster*, p. 152, for *A. apicale*, n. sp., Kuilu, p. 153; JORDAN, Nov. Zool. i.
- Allogaster niger*, W. Africa, JORDAN, p. 496, Nov. Zool. i, n. sp.
- Alphitopola flava*, Kuilu, JORDAN, p. 201, Nov. Zool. i, n. sp.
- Amblymora uniformis*, Buru, JORDAN, p. 118, Nov. Zool. i, n. sp.
- Amphionycha ventralis*, Costa Rica, GAHAN, p. 119, Ann. Nat. Hist. (6) xiv, n. sp.
- Anaglyptus (Cyrtophorus) mysticoides*, Caucasus, REITTER, p. 128, Wien. ent. Zeit. xiii, n. sp.
- Analophus niger*, New Guinea, GAHAN, p. 291, Ann. Nat. Hist. (6) xiii, n. sp.
- Anauxesida*, n. g., near *Hyllisia*, for *A. cuneata*, p. 243, *lineata*, p. 244, n. spp., W. Africa; JORDAN, Nov. Zool. i.
- Anisogaster brunneus*, Kuilu, p. 153, *robustus*, Axim, p. 154, JORDAN, Nov. Zool. i, n. spp.
- Anoeme gahani*, Kuilu, JORDAN, p. 144, Nov. Zool. i, n. sp.
- Antennica*, n. g., near *Anisogaster*, for *A. nigripes*, pl. ix, fig. 4, p. 154, *lutea*, p. 155, n. spp., Kuilu; JORDAN, Nov. Zool. i.
- Antigenes morosus*, Madagascar, FAIRMAIRE, p. 148, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Apheniastus rutilus*, *analis*, *apicalis*, W. Africa, JORDAN, p. 223, Nov. Zool. i, n. sp.
- Aphrodisium tibiale*, Assam, RITSEMA, Notes Leyden Mus. xvi, n. sp.
- Apiogaster minor*, Gaboon, JORDAN, p. 190, Nov. Zool. i, n. sp.

- Apomecyna quadristricta*, Central Africa, KOLBE, Ent. Zeit. Stettin, lv, n. sp.
- Apomempsis bufoides*, *bispinosa*, p. 191, *trispinosa*, p. 192, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Apophrena grandis*, Sanghi I., JORDAN, p. 118, Nov. Zool. i, n. sp.
- Aposites gracilis*, W. Australia, BLACKBURN, p. 198, P. Linn. Soc. N. S. Wales, viii, n. spp.
- Arcyphorus reticulatus*, Borneo, JORDAN, p. 499, Nov. Zool. i, n. sp.
- Arideus timoriensis*, Timor, JORDAN, p. 116, pl. viii, fig. 7, Nov. Zool. i, n. sp.
- Aristobia murina*, no locality, NONFRIED, p. 82, Ent. Nachr. xx, n. sp.
- Armatostrongia*, n. g., near *Callimation*, for *A. spinifera*, n. sp., Kuilu; JORDAN, p. 213, Nov. Zool. i.
- Aromia thea*, Azores, REITTER, p. 306, Wien. ent. Zeit. xiii, n. sp.
- Athemistus cristatus*, p. 200, *monticola*, p. 201, *torridus*, p. 202, Australia, BLACKBURN, P. Linn. Soc. N. S. Wales, viii, n. spp.
- Aulacopus thoracicalis*, Gold Coast, JORDAN, p. 143, Nov. Zool. i, n. sp.
- Baliesthes*, n. g., for *Zographus alboguttatus*, Fairm.; GAHAN, p. 411, Ann. Nat. Hist. (6) xiv.
- Basitoxus rugosus*, Cayenne, GAHAN, p. 224, Ann. Nat. Hist. (6) xiv, n. sp.
- Batocera* sp. : pupa; LANOET, Naturaliste, 1894, p. 232.
- Belodera subsociata*, Gaboon, JORDAN, p. 242, Nov. Zool. i; *B. affinis*, Abyssinia, FAIRMAIRE, p. 331, Ann. Soc. ent. Belgique, xxxviii : n. spp.
- Bourbonia*, n. g., *Hebecerisorum*?, for *B. bifasciata*, n. sp., W. Africa; JORDAN, p. 239, Nov. Zool. i.
- Brachytatus*, n. g., p. 158, near *Hebecerus*, for *B. niciplagiatus*, *limbolarius*, n. spp., Madagascar, p. 159; FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Callichroma afrum*, n. var. *obsoletum*, JORDAN, p. 165, Nov. Zool. i. *C. rubigineum*, = (*Chloridolum nigrans*, Fairm.); FAIRMAIRE, p. 395, Ann. Soc. ent. Belgique, xxxviii.
- C. ituricum*, *emini*, Central Africa, KOLBE, p. 57, Ent. Zeit. Stettin, lv; *C. concentricale*, *socius*, p. 166, *virescens*, *collare*, p. 167, pl. ix, fig. 7, *imitator*, p. 168, *tricolor*, *coloratum*, p. 169, *edentulum*, pl. ix, fig. 8, p. 170, W. Africa, JORDAN, Nov. Zool. i; *C. batesi*, Costa Rica, GAHAN, p. 118, Ann. Nat. Hist. (6) xiv : n. spp.
- Callimation gracile*, Kuilu, JORDAN, p. 213, Nov. Zool. i, n. sp.
- Cantharoctenus somalius*, East Africa, GAHAN, p. 408, Ann. Nat. Hist. (6) xiv, n. sp.
- Capnocerambyx*, n. g., for *Cerambyx mauritanicus*, Luc.; REITTER, p. 356, Ent. Nachr. xx.
- Casiphia*, n. g., near *Pacilosoma*, for *C. thibeticola*, n. sp., Thibet; FAIRMAIRE, p. 223, Ann. Soc. ent. Belgique, xxxviii.
- Cerambyx*: characters of the palæarctic species; REITTER, pp. 353 & 354, Ent. Nachr. xx.
- Ceresida*, n. g., near *Ceresium*, for *C. suturalis*, n. sp., Kuilu, pl. ix, fig. 1; JORDAN, p. 156, Nov. Zool. i.

- Ceroplesis minuta*, Natal, JORDAN, p. 224, Nov. Zool. i, n. sp.
- Chariesthes apicalis*, Congo, FAIRMAIRE, p. 677, Ann. Soc. ent. Belgique, xxxviii ; *C. elegans*, p. 216, *freya*, pl. x, figg. 8 & 9, *antennata*, p. 217, *quadrivittata*, *formosa*, p. 218, *nobilis*, pl. x, fig. 7, p. 219, W. Africa, JORDAN, Nov. Zool. i : n. spp.
- Chenoderus 4-maculatus*, Chili, GERMAIN, p. clxvi, pr.-v. Act. Soc. Chili, ii, n. sp.
- Chreonoma basalis*, Hong-kong, GAHAN, p. 487, Tr. ent. Soc. London, 1894, n. sp.
- Cincinnata*, n. g., *Crossotinorum*, for *C. fasciata*, n. sp., Kuilu, pl. x, fig. 14 ; JORDAN, p. 238, Nov. Zool. i.
- Clodia decorata*, Sumatra, NONFRIED, p. 214, Deutsche ent. Zeitschr. 1894, n. sp.
- Cloniophorus aurifer*, pl. ix, fig. 10, *tricolor*, fig. 9, p. 171, *plicatus*, *curvato-plicatus*, p. 172, *C. ? parva*, p. 173, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Clytanthus perornatus*, *pileatus*, pl. viii, fig. 5, p. 115, *t-nigrum*, fig. 6, p. 116, Timor, JORDAN, Nov. Zool. i, n. spp.
- Clytosaurus siamensis*, Siam, JORDAN, p. 497, pl. xiii, fig. 9, Nov. Zool. i, n. sp.
- Clytus aegyptiacus*, n. var. *magdalene* ; THÉRY, p. cclxvi, Bull. Soc. ent. France, 1894.
- C. murinus*, *albomaculatus*, p. 162, *parens*, p. 189, India, ALLARD, Naturaliste, 1894, n. spp.
- Cænopaëus niger*, Lower California, HORN, p. 402, P. Calif. Ac. iv, n. sp.
- Colpoderus substriatus*, ♂ described ; FAIRMAIRE, p. 676, Ann. Soc. ent. Belgique, xxxviii.
- C. laevis*, Kuilu, JORDAN, p. 144, Nov. Zool. i ; *C. stuhlmanni*, Lake Albert, KOLBE, p. 52, Ent. Zeit. Stettin, lv : n. spp.
- Conizonia (Coptosia) rufobrunnea*, Asia Minor, HEYDEN, p. 88, Deutsche ent. Zeitschr. 1894, n. sp.
- Cornuscoparia*, n. g., near *Sarothrocera*, for *C. ochracea*, n. sp., New Guinea ; JORDAN, p. 501, Nov. Zool. i.
- Cortodera alpina*, n. var. *fischtenis* ; STARCK, p. 11, Wien. ent. Zeit. xiii. *C. obscurans* is a valid species, not a var. of *flavimana*, description ; PIC, p. 116, Echange, 1894.
- C. deyrollei*, Persath, PIC, p. 66, Echange, 1894, ? n. sp.
- Criocerinus*, n. g., p. 150, for *C. corallinus*, n. sp., Madagascar, p. 151, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Criodion 8-maculatum*, Brazil, NONFRIED, p. 137, Ent. Nachr. xx, n. sp.
- Crossotus cristatus*, p. 235, *robustus*, *irroratus*, p. 236, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Cumaltera*, n. g., near *Mecosaspis*, for *C. robusta*, n. sp., Congo ; JORDAN, p. 162, Nov. Zool. i.
- Cylindrepomus albicornis*, *unguiculata*, Sumatra, NONFRIED, p. 212, Deutsche ent. Zeitschr. 1894, n. spp.

- Cymatura lichenifera*, Mozambique, FAIRMAIRE, p. 332, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Dasystola*, n. g., *Acanthociniva*, p. 63, for *D. hirta*, n. sp., W. Africa, p. 64; KOLBE, Ent. Zeit. Stettin, lv.
- Delagoa*, n. g., near *Ceresium*, for *D. fenestrata*, n. sp., Delagoa Bay, pl. ix, fig. 2; JORDAN, p. 155, Nov. Zool. i.
- Denticerus*, n. g., near *Xylotrechus*, for *D. reticulatus*, n. sp., Kuilu; JORDAN, p. 189, Nov. Zool. i.
- Diaxenes dendrobii*, note on, DONGÉ, p. cclii, Bull. Soc. ent. France, 1894; presumed habitat Birma, in England in orchids, GAHAN, p. 520, Ann. Nat. Hist. (6) xiii: n. sp.
- Dichostates nigroguttatus, lobatus*, p. 237, *acuminatus*, p. 238, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Discoceps*, n. g., near *Acrocera*, for *D. fasciatus*, n. sp., Kuilu; JORDAN, p. 231, Nov. Zool. i.
- Distichocera frenchi*, Queensland, BLACKBURN, p. 200, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Dorcadion fulvum*, varr. = (*cervæ, cylindraceum, and hybridum*), KRAATZ, p. 299, Deutsche ent. Zeitschr. 1894, n. var. *nigripenne*, FLEISCHER, p. 121, Wien. ent. Zeit. xiii.
- D. schultzei, preissi*, p. 86, pl. i, figg. 3, 4, *accola*, p. 87, *bangi*, fig. 4, p. 89, Asia Minor, HEYDEN, Deutsche ent. Zeitschr. 1894; *D. delagrangi*, Syria, PIC, p. 110, Echange, 1894; *D. fenestratum*, Syria, PIC, p. cclxxxiv, Bull. Soc. ent. France, 1894: n. spp.
- Eburia conspersa*, Lower California, HORN, p. 399, P. Calif. Ac. iv, n. sp.
- Echphora latefasciata*, p. 265, *analis*, p. 266, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Ephies palliatus* and *ligystropteroides* referred to *Erythrus*; RITSEMA, p. 159, Notes Leyden Mus. xvi.
- Erythrus rothschildi*, W. Java, RITSEMA, p. 157, Notes Leyden Mus. xvi, n. sp.
- Esmeralda insignis*, Santarem, NONFRIED, p. 136, Ent. Nachr. xx, n. sp.
- Euchitonina*, n. g., for *Zonopterus suspectus*, Rits.; KOLBE, p. 7, Ent. Zeit. Stettin, lv.
- Eulitopus tenuis, gracilis*, W. Africa, JORDAN, p. 174, Nov. Zool. i, n. spp.
- Eumimetes attenuatus*, Kuilu, JORDAN, p. 235, Nov. Zool. i; *E. turchais*, Gaboon, FAIRMAIRE, p. 330, Ann. Soc. ent. Belgique, xxxviii: n. spp.
- Euporus singularis*, p. 179, *similis*, p. 180, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Eurypoda batesi*, Japan, GAHAN, p. 225, Ann. Nat. Hist. (6) xiv, n. sp.
- Eurytops simplicicollis*, Congo, FAIRMAIRE, p. 677, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Eximia*, n. g., near *Litopus*, for *E. tricolor*, n. sp., Congo, pl. ix, fig. 13; JORDAN, p. 181, Nov. Zool. i.

- Exocentrus nonymoides, griseus*, p. 246, *brevis, subfasciatus, E. ? antennalis*, p. 247, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Frea basalis*, p. 233, *malachitica*, pl. x, fig. 13, *grisea, sparsilis*, p. 234, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Glenea cantor*, Fab., noticed as omitted from Munich Catalogue; GAHAN, p. 488, Tr. ent. Soc. London, 1894. *G. puella*, n. var. *assimilis*; JORDAN, p. 249, Nov. Zool. i. *G. ochracea*, n. var. *montana*; JORDAN, p. 503, t. c.
- G. gahani*, pl. x, fig. 17, p. 248, *lunulata*, p. 249, *ossifera*, fig. 18, *atra*, p. 250, *occidentalis*, p. 251, *cana*, p. 252, W. Africa, JORDAN, Nov. Zool. i; *G. timoriensis*, Timor, pl. viii, fig. 9, *suturalis*, Adonara I., fig. 10, JORDAN, p. 119, Nov. Zool. i : n. spp.
- Gnathoenia venerea*, n. var. *alboplagiata*; JORDAN, p. 225, Nov. Zool. i.
- G. irrorata*, Kuilu, JORDAN, p. 225, Nov. Zool. i, n. spp.
- Gnathonyx*, n. g., p. 290, *Remphanides*, for *G. piceipennis*, n. sp., New Guinea, p. 291; GAHAN, Ann. Nat. Hist. (6) xiii.
- Graciella*, n. g., p. 215, for part of *Chariesthes*, type *C. concinna*, Chev., with *G. compacta*, p. 219, *trivittata*, W. Africa, *zanzibarica*, Zanzibar, p. 220, n. spp.; JORDAN, Nov. Zool. i.
- Griphammus*, n. g., near *Monohammus*, for *G. ligatus*, n. sp., Kuilu, pl. x, fig. 1; JORDAN, p. 195, Nov. Zool. i.
- Griphapez*, n. g., p. 184, near *Hypocrites*, for *G. scutellaris*, n. sp., Cameroons, p. 185; JORDAN, Nov. Zool. i.
- Hammatoderus jacobyi*, Honduras, NONFRIED, p. 141, Ent. Nachr. xx, n. sp.
- Haplogaster*, n. g., *Dorcasominae*, for *H. emini*, n. sp., Central Africa, KOLBE, p. 54, Ent. Zeit. Stettin, lv.
- Haplohammus longipennis*, New Guinea, GAHAN, p. 292, Ann. Nat. Hist. (6) xiii, n. sp.
- Helymaeus pallidiventris*, Caffraria, JORDAN, p. 185, Nov. Zool. i, n. sp.
- Hesperophanes preissi*, Asia Minor, HEYDEN, p. 85, Deutsche ent. Zeitschr. 1894, n. sp.
- Holonotus sternalis*, Costa Rica, GAHAN, p. 117, Ann. Nat. Hist. (6) xiv, n. sp.
- Hoplideres grandidieri*, Madagascar, FAIRMAIRE, p. 146, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Hospes*, n. g., near *Litopus*, for *H. nitidicollis*, pl. ix, fig. 12, p. 182, *gracilis, punctatus*, p. 183, *H. ? hypocritidus*, p. 184, n. spp., W. Africa; JORDAN, Nov. Zool. i.
- Homelix variegata*, Kuilu, JORDAN, p. 226, Nov. Zool. i, n. sp.
- Homonaea uniformis*, Sanghi I., JORDAN, p. 117, pl. viii, fig. 8, Nov. Zool. i, n. sp.
- Hypoesthrus strigosus*, n. var. *abyssinicus*; JORDAN, p. 146, Nov. Zool. i.
- Hystatus bonni*, Sumatra, NONFRIED, p. 46, Ent. Nachr. xx, n. sp.
- Idactus maculicornis*, male described; GAHAN, p. 409, Ann. Nat. Hist. (6) xiv.
- Iphiastus dispar*, Queensland, BLACKBURN, P. Linn. Soc. N. S. Wales, viii, p. 204, n. sp.

- Lagrula*, n. g., *Hebecerinorum*, for *L. rufa*, n. sp., Kuilu, pl. x, fig. 12 ; JORDAN, Nov. Zool. i.
- Latisternum*, n. g., near *Acnocera*, p. 231, for *L. pulchrum*, n. sp., Loanda, p. 232 ; JORDAN, Nov. Zool. i.
- Leptura oblongo-maculata* and allies, characters ; PIC, p. 106, Echange, 1894. *L. pallidipennis*, = (*circassica*, Daniel) ; PIC, p. cclxv, Bull. Soc. ent. France, 1894. *L. fulva*, n. var., *corsica* ; PIC, p. 206, Mem. Soc. zool. France, vii. *L. livida*, n. var., *corallipes* ; REITTER, p. 247, Wien. ent. Zeit. xiii.
- Liagrica*, Costa, = (*Exilia*, Muls.) ; BEDEL, p. 156, Abeille, xxviii.
- Liopus mocquerysi*, pl. x, fig. 15, p. 245, *africanus*, fig. 16, p. 246, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Litopus virens*, Kuilu, JORDAN, p. 180, Nov. Zool. i, n. sp.
- Lux*, n. g., near *Callimation*, for *L. pulchra*, n. sp., Gold Coast ; JORDAN, p. 214, Nov. Zool. i.
- Macrodontia chevreichi*, Central Brazil, KOLBE, p. 42, Ent. Zeit. Stettin, lv, n. sp.
- Macrotoma* : n. subg., cf. *Metriotoma*, *Prionotoma*. *M. palmata*, n. var., *rugulosa*, *brevipes* ; KOLBE, p. 49, Ent. Zeit. Stettin, lv.
- M. viridescens*, Kuilu, JORDAN, p. 142, Nov. Zool. i ; *M. sylvia*, Congo, *M. (Metriotoma) gracilipes*, Cameroons, p. 46, *caffra*, Natal, *M. (Prionotoma) ergatoides*, Cameroons, p. 48, KOLBE, Ent. Zeit. Stettin, lv ; *M. castaneipennis*, Central Africa, KOLBE, p. 53, t. c. : n. spp.
- Mastodera tibialis*, Madagascar, FAIRMAIRE, p. 148, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Mattania*, n. g., near *Aromia*, for *M. maculicollis*, n. sp., Madagascar ; FAIRMAIRE, p. 147, Ann. Soc. ent. Belgique, xxxviii.
- Mecaspis glabripennis*, Central Africa, KOLBE, p. 58, Ent. Zeit. Stettin, lv, n. sp.
- Mecosaspis magnifica*, pl. ix, fig. 6, *rugosa*, p. 160, *viridis*, *rufipes*, p. 161, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Merioneda sumatrana*, p. 206, *fulvonotata*, p. 207, Sumatra, NONFRIED, Deutsche ent. Zeitschr. 1894 ; *M. flavipennis*, Timor, JORDAN, p. 113, pl. viii, fig. 3, Nov. Zool. i : n. spp.
- Metaleptus honduræ*, Honduras, NONFRIED, p. 138, Ent. Nachr. xx, n. sp.
- Metopocælus giganteus*, Brazil, NONFRIED, p. 137, Ent. Nachr. xx, n. sp.
- Metriotoma*, n. subg. of *Macrotoma* ; KOLBE, p. 44, Ent. Zeit. Stettin, lv.
- Mimiculus*, n. g., *Crossotinorum*, for *M. maculatus*, n. sp., Kuilu ; JORDAN, p. 239, Nov. Zool. i.
- Monohammus frenchi*, male noticed ; BLACKBURN, p. 286, P. Linn. Soc. N. S. Wales, viii.
- M. stuhlmanni*, Central Africa, KOLBE, p. 60, Ent. Zeit. Stettin, lv ; *M. cineraceus*, p. 193, *fulvaster*, *griphus*, p. 194, Kuilu, JORDAN, Nov. Zool. i ; *M. jordani*, Sumatra, NONFRIED, p. 81, Ent. Nachr. xx : n. spp.

- Morimus orientalis*, Asia Minor, p. 43, *ganglbaueri*, Bosnia, p. 44, REITTER, Wien. ent. Zeit. xiii, n. spp.
- Murosternum*, n. g., p. 215, for part of *Chariesthes*, type *C. dalmani*, Chev., with *M. mocquerysi*, pl. x, fig. 10, *molitor*, p. 221, *pentagonale*, fig. 11, p. 222, n. spp., W. Africa; JORDAN, Nov. Zool. i.
- Mycerinus subcostatus*, Tanganyika, *limbatus*, Niger, KOLBE, p. 28, Ent. Zeit. Stettin, lv, n. spp.
- Mycerinus*: characters and composition discussed; KOLBE, pp. 26-28, Ent. Zeit. Stettin, lv.
- Nemophus eupholoides*, Sumatra, NONFRIED, p. 47, Ent. Nachr. xx, n. sp.
- Neobethelium*, n. g., *Callidiopsides*, for *N. megacephalum*, n. sp., Australia; BLACKBURN, p. 196, P. Linn. Soc. N. S. Wales, viii.
- Neodorcadion dux*, Altai, JAKOWLEFF, p. 120, Horæ Soc. ent. Ross. xxviii, n. sp.
- Neomicrus*, n. g., *Graciliides*, p. 98, for *N. walkeri*, n. sp., Damma I., p. 99; GAHAN, Ann. Nat. Hist. (6) xiv.
- Neopsebium*, n. g., near *Psebium*, for *N. apicipenne*, n. sp., Madagascar; FAIRMAIRE, p. 151, Ann. Soc. ent. Belgique, xxxviii.
- Niphecya*, n. g., near *Hecyrula*, p. 29, for *N. interpres*, n. sp., Lake Victoria, p. 30, including also *H. rufolineata*, Quedf.; KOLBE, Ent. Zeit. Stettin, lv.
- Niphotragulus*, n. g., *Niphoninae*, p. 31, for *N. batesi*, n. sp., Lake Nyassa, p. 32; KOLBE, Ent. Zeit. Stettin, lv.
- Nitocris nigricornis*, n. var. *breviplagiata*; KOLBE, p. 36, Ent. Zeit. Stettin, lv.
- N. semicollaris*, Gold Coast, KOLBE, p. 37, Ent. Zeit. Stettin, lv; *N. luteiceps*, *humilis*, Gaboon, FAIRMAIRE, p. 333, Ann. Soc. ent. Belgique, xxxviii; *N. elegantula*, Central Africa, KOLBE, p. 64, Ent. Zeit. Stettin, lv; *N. dux*, *princeps*, p. 257, *regina*, *caelebs*, p. 258, *atra*, p. 259, *frontalis*, *servilis*, p. 260, *thoracica*, *leonis*, p. 261, *comes*, *punctata*, p. 262, *suturalis*, *angustior*, p. 263, *brevior*, p. 264, *lutea*, *discoidalis*, p. 265, W. Africa, JORDAN, Nov. Zool. i : n. spp.
- Nosoeme*, n. g., *Oeminae*, p. 55, for *N. clavipes*, n. sp., Central Africa, p. 56; KOLBE, Ent. Zeit. Stettin, lv.
- Notomulciber*, n. g., near *Mulciber*, for *N. carpentariae*, n. sp., Cape York; BLACKBURN, p. 166, Tr. R. Soc. S. Austral. xviii.
- Nupserha vittata*, *antennalis*, p. 253, *capitata*, *punctata*, p. 254, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Nyctopais mysticus*, *fasciatus*, W. Africa, JORDAN, p. 212, Nov. Zool. i, n. spp.
- Oberea linearis*, larval habits; ECKSTEIN, p. 163, Forsk. Zeitschr. Munchen, i.
- O. walkeri*, Hong-kong, GAHAN, Tr. ent. Soc. London, 1894, p. 487; *O. difformis*, p. 119, Timor, *bipartita*, Celebes, p. 120, *libellula*, Deli, *abdominalis*, Timor, p. 121, JORDAN, Nov. Zool. i : n. spp.
- Obrium longicolle*, Timor, p. 112, pl. viii, fig. 1, JORDAN, Nov. Zool. i, n. sp.

- Ocularia*, n. g., *Prosopocerides*, for *O. apicalis*, pl. x, fig. 19, *brunnea*, p. 202, *cineracea*, p. 203, n. spp., W. Africa; JORDAN, Nov. Zool. i.
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- Oligosmerus*, n. g.; p. 40, for *Hypocrites limbalis*, Har., and *O. saturatus* and *aureovittis*, n. spp., Tropical Africa, p. 41; KOLBE, Ent. Zeit. Stettin, lv.
- Omoptycha clemétsi*, p. 158, pl. ix, fig. 5, *mirabilis*, p. 159, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Oncideres pittieri*, Costa Rica, GAHAN, p. 119, Ann. Nat. Hist. (6) xiv, n. sp.
- Oopsis moorei*, Damma I., GAHAN, p. 100, Ann. Nat. Hist. (6) xiv, n. sp.
- Ophistomis ventralis*, S. California, HORN, p. 401, P. Calif. Ac. iv, n. sp.
- Oricopsis guttatus*, N. S. Wales, BLACKBURN, p. 167, Tr. R. Soc. S. Austral. xviii, n. sp.
- Orthomegas similis*, Brazil, GAHAN, p. 223, Ann. Nat. Hist. (6) xiv, n. sp.
- Osphyron hirticollis*, p. 288, *forbesi*, p. 289, New Guinea, GAHAN, p. 290, Ann. Nat. Hist. (6) xiii, n. spp.
- Oxyptelus 4-spinosus*, note on; GERMAIN, p. clxvi, Act. Soc. Chili, ii.
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- Pachydissus furcifer, P. (Derolus) subaureus*, Bahr-el-Abiad, JORDAN, p. 151, Nov. Zool. i, n. spp.
- Pachyteria*, names of recently described; RITSEMA, p. 168, Notes Leyden Mus. xvi.
- Pachystola*: characterised; KOLBE, p. 32, Ent. Zeit. Stettin, lv.
- P. erinaceus*, E. Africa, p. 226, *tibialis*, W. Africa, p. 227, Nov. Zool. i, n. spp.
- Paphora robustior*, W. Australia, BLACKBURN, p. 195, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Paphrœcia*, n. g., near *Belodera*, for *P. obliquepicta*, n. sp., Abyssinia, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, p. 332.
- Parandra vitiensis*, Fiji Is., NONFRIED, p. 46, Ent. Nachr. xx, n. sp.
- Paroberea similis*, Kuilu, JORDAN, p. 255, Nov. Zool. i, n. sp.
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- Periaptodes buruensis*, Buru, JORDAN, p. 117, Nov. Zool. i, n. sp.
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- Petrognatha gigas*, n. var. *spinosa*, KOLBE, p. 39, Ent. Zeit. Stettin, lv.
- Phacodes occidentalis*, W. Australia, BLACKBURN, p. 192, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Phantasis* and *Phrissomâ*, discussed and defined; KOLBE, pp. 11-15, list of species, pp. 24-26, Ent. Zeit. Stettin, lv.
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- Phrynetia semicribrosa*, Comoro Is., FAIRMAIRE, p. ccliii, Bull. Soc. ent. France, 1894, n. sp.
- Phrystola brunneicornis*, p. 39, *bulbifera*, p. 40, W. Africa, KOLBE, Ent. Zeit. Stettin, lv, n. spp.
- Phyllocnema analis*, Kibanga, FAIRMAIRE, p. 676, Ann. Soc. ent. Belgique, xxxviii; *P. janthina*, Central Africa, KOLBE, p. 59, Ent. Zeit. Stettin, lv : n. spp.
- Phytacia pulla*, Gangl., = (*gibbicollis*, Reit.); REITTER, p. 15, Wien. ent. Zeit. xiii.
- P. mardiniensis*, Asia Minor, HEYDEN, p. 87, Deutsche ent. Zeitschr. 1894, n. sp.
- Pithomictus elegans*, Sumatra, NONFRIED, p. 213, Deutsche ent. Zeitschr. 1894, n. sp.
- Plagionotulus*, n. g., near *Xylotrechus*, for *P. lyricen*, pl. ix, fig. 16, p. 188, *cinereus*, p. 189, Delagoa Bay, n. spp.; JORDAN, Nov. Zool. i.
- Pæcilosotolus*, n. g., for *Volumnia militaris*, Fairm.; KOLBE, p. 38, Ent. Zeit. Stettin, lv.
- Poemenesperus teniatus*, pl. x, fig. 5, *ligatus*, fig. 6, p. 209, *fulvo-marmoratus*, p. 210, *marmoratus*, *phrynetoides*, p. 211, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Pogonocherus inermicollis*, Circassia, REITTER, p. 247, Wien. ent. Zeit. xiii, n. sp.
- Polyarthron komarowi*, ♀, p. 65, pl. i, fig. 1, *bienerti*, ♂, ♀, p. 66, HAUSER, Deutsche ent. Zeitschr. 1894.
- Polyzonus dohertyi*, Timor, JORDAN, p. 114, pl. viii, fig. 4, Nov. Zool. i, n. sp.
- Porithea plagiata*, N. S. Wales, BLACKBURN, p. 198, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Potemmemus tuberifer*, New Guinea, GAHAN, p. 292, Ann. Nat. Hist. (6) xiii, n. sp.
- Praonetha cristata*, Gold Coast, JORDAN, p. 241, Nov. Zool. i, n. sp.
- Praonethida*, n. g., near *Apomemopsis*, for *P. apicalis*, n. sp., KUILU; JORDAN, p. 192, Nov. Zool. i.
- Prionocalus gunteri*, Ecuador, GAHAN, p. 221, Ann. Nat. Hist. (6) xiv, n. sp.
- Prionotoma*, n. subg. of *Macrotoma*; KOLBE, p. 45, Ent. Zeit. Stettin, lv.
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- Prodomitia*, n. g., near *Domitia*, for *P. squamigera*, n. sp., Kuilu ; JORDAN, p. 196, Nov. Zool. i.
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- Protonarthron subfasciatum*, Kuilu, JORDAN, p. 227, Nov. Zool. i, n. sp.
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- Psyrassa rufescens*, Amazons, NONFRIED, p. 139, Ent. Nachr. xx, n. sp.
- Pterolophia albocincta*, Somali, GAHAN, p. 410, Ann. Nat. Hist. (6) xiv, n. sp.
- Pteroplatus metallicus*, Honduras, NONFRIED, p. 140, Ent. Nachr. xx, n. sp.
- Rhamnusium gracilicorne*, Austria, THÉRY, p. cclxv, Bull. Soc. ent. France, 1894, ? n. sp.
- Rhaphidopsis virens*, Kuilu, JORDAN, p. 215, Nov. Zool. i, n. sp.
- Rhaphipodus andamanicus*, Andaman Is., GAHAN, p. 224, Ann. Nat. Hist. (6) xiv, n. sp.
- Rhaphuma nigripes*, Timor, JORDAN, p. 116, Nov. Zool. i, n. sp.
- Rhopalizida*, n. g., near *Rhopalizus*, for *R. viridanà*, Kuilu, pl. ix, fig. 11, n. sp. ; JORDAN, p. 177, Nov. Zool. i.
- Rhopalizus aureolineatus*, *euporidus*, W. Africa, JORDAN, p. 178, Nov. Zool. i, n. spp.
- Rhopalopus nadari*, E. Bukhara, PIC, p. 207, Mem. Soc. zool. France, vii, n. sp.
- Ropica squamosa*, Samboangan, GAHAN, p. 486, Tr. ent. Soc. London, 1894, n. sp.
- Rhytiphora fasciata*, Queensland, BLACKBURN, p. 106, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Saphanidus*, n. g., near *Saphanus*, for *S. viridescens*, n. sp., Loanda ; JORDAN, p. 145, Nov. Zool. i.
- Scariates*, n. g., p. 148, near *Icariotis*, for *S. basipennis*, n. sp., Madagascar, p. 149 ; FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Scolecobrotus westwoodi*, larva ; FROGGATT, p. 113, P. Linn. Soc. N. S. Wales, ix.
- S. validus*, N. W. Australia, BLACKBURN, p. 199, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Semaotus ferruginèus*, Kuilu, JORDAN, p. 185, Nov. Zool. i, n. sp.
- Sophonica punctata*, p. 242, *pilosa*, p. 243, Kuilu, JORDAN, Nov. Zool. i, n. spp.
- Sphenothecus basalis*, Lower California, HORN, P. Calif. Ac. iy, n. sp.

- Steirostoma depressum*, larval habits; CARR, pp. 110-112, J. Trinidad Club, ii.
- Stelisea tuberculata*, Sumatra, NONFRIED, p. 210, Deutsche ent. Zeitschr. 1894, n. sp.
- Stenobia pradierei*, Gaboon, FAIRMAIRE, p. 330, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Sternangustum*, n. g., near *Didymacantha*, for *S. bruneum*, n. sp., Kuilu; JORDAN, p. 152, Nov. Zool. i, n. sp.
- Sternotomis zintgraffi*, Cameroous, KOLBE, p. 38, Ent. Zeit. Stettin, iv; *S. aglaura*, Uganda, KOLBE, p. 61, t. c.; *S. levassorii*, Comoro Is., FAIRMAIRE, p. celihi, Bull. Soc. ent. France, 1894 : n. spp.
- Stromatium hirsutum*, Senegal, JORDAN, p. 497, Nov. Zool. i; *S. subpilosum*, Sumatra, NONFRIED, p. 208, Deutsche ent. Zeitschr. 1894 : n. spp.
- Strongylurus minor*, Queensland, BLACKBURN, p. 199, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Sybra mastersi*, Queensland, BLACKBURN, p. 168, Tr. R. Soc. S. Austral. xviii, n. sp.
- Syllitus adonarensis*, Adonara, JORDAN, p. 113, pl. viii, fig. 2, Nov. Zool. i, n. sp.
- Symphyletes solandri*, larva; FROGGATT, p. 115, P. Linn. Soc. N. S. Wales, ix.
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- Synaptola debilis*, Central Africa, KOLBE, p. 59, Ent. Zeit. Stettin, iv; *S. brevis*, *minor*, *pubiventris*, W. Africa, JORDAN, p. 163, Nov. Zool. i : n. spp.
- Syndere*, n. g., *Cleomeninae*, for *S. bicolor*, n. sp., Central Africa; KOLBE, p. 55, Ent. Zeit. Stettin, iv.
- Synnupserha frontalis*, p. 255, *cylindrica*, p. 256, W. Africa, JORDAN, Nov. Zool. i, n. sp.
- Tairotagus vestitus*, Sierra Leone, JORDAN, p. 150, Nov. Zool. i; *T. greenfieldi*, Somali, GAHAN, p. 408, Ann. Nat. Hist. (6) xiv : n. spp.
- Tennosternus martini*, no locality, ALLARD, p. 189, Naturaliste, 1894, n. sp.
- Tetruopes elegans*, Lower California, HORN, p. 404, P. Calif. Ac. iv, n. sp.
- Thaumasthes*, n. g., p. 155, near *Xylorhiza*, for *T. penicillus*, n. sp., Madagascar, p. 156, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Theticus denticollis*, p. 240, *similis*, p. 241, W. Africa, JORDAN, Nov. Zool. i, n. sp.
- Thylactus lateralis*, Deli, JORDAN, p. 120, Nov. Zool. i, n. sp.
- Tigrana*, n. g., p. 156, near *Cymatura*, for *T. nervulata*, *lateritia*, p. 157, *lactaria*, p. 158, n. spp., Madagascar; FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii.
- Tmesisternus dohertyi*, New Guinea, JORDAN, p. 500, pl. xiii, fig. 11, Nov. Zool. i, n. sp.
- Toxoliades*, n. n., to replace *Toxotinus*, Bates; FAIRMAIRE, p. 395, Ann. Soc. ent. Belgique, xxxviii.

- Tragocephala pulchra*, pl. x, fig. 2, *cærulescens*, fig. 3, p. 204, *occidentalis*, *mocquerysi*, p. 205, *confluens*, *ochracea*, p. 206, *elongata*, *phidias*, p. 207, *basalis*, pl. x, fig. 4, *grisea*, p. 208, W. Africa, JORDAN, Nov. Zool. i; *T. citrinella*, *ochreatea*, p. 153, *oculicollis*, *nubeculosa*, p. 154, Madagascar, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii : n. sp.
- Trigonoptera 4-maculata*, Sumatra, NONFRIED, p. 211, Deutsche ent. Zeitschr. 1894, n. sp.
- Trypanidius isolatus*, Fernando Noronha, WATERHOUSE, p. 555, J. Linn. Soc. xx, n. sp.
- Tryphocharia solida*, Cape York, BLACKBURN, p. 194, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Trypogeus fuscus*, Sumatra, NONFRIED, p. 209, Deutsche ent. Zeitschr. 1894, n. sp.
- Uracanthus froggatti*, larva; FROGGATT, p. 116, P. Linn. Soc. N. S. Wales, ix.
- U. froggatti*, N. S. Wales, BLACKBURN, p. 106, P. Linn. Soc. N. S. Wales, ix, n. sp.
- Vesperoctenus fohri*, discussed and referred to *Rhipidoceridæ*; HORN, p. 324, pl. viii, figg. 1-3, P. Calif. Ac. iv.
- Volumnia militaris*, = (*Nupserha kirki*, Gah.); cf. also *Pœcilotolus*, supra; KOLBE, p. 38, Ent. Zeit. Stettin, lv.
- Xylotrechus anguliferus*, p. 186, *socius*, *x-maculatus*, pl. ix, fig. 14, *mocquerysi*, fig. 15, p. 187, W. Africa, JORDAN, Nov. Zool. i, n. spp.
- Xystrocera cyanella*, n. var. *luteiventris*; JORDAN, p. 146, Nov. Zool. i.
- X. minuta*, p. 146, *velutina*, p. 147, *similis*, *emarginata*, p. 148; *lævis*, p. 149, Kuilu, JORDAN, Nov. Zool. i, n. spp.
- Zonopterus bossche*, W. Borneo, RITSEMA, p. 107, Notes Leyden Mus. xvi; *Z. fruhstorferi*, S. Java, KOLBE, p. 11, Ent. Zeit. Stettin, lv : n. spp.
- Zaera pulcherrima*, New Pomerania, NONFRIED, p. 83, Ent. Nachr. xx, n. sp.
- Zygocera niveosignata*, Australia, JORDAN, p. 502, Nov. Zool. i, n. sp.

CHRYSOMELIDÆ.

- [Cf. ALLARD (11, 12), BLACKBURN (93, 95, 96), CHAMPION (377), FAIRMAIRE (281-285), GUILLEBEAU (394), HAUSER (415), HORN (442), JACOBSON (470-475), JACOBY (476-479), PIC (815, 820, 821, 834, 835, 838, 848), REITTER (891), SCHLECHTENDAL (972), SCHWARZ (984), SEMENOW (1002), WEISE (1140-1148, 415, 988).]
- List of myrmecophilous and termitophilous *Chrysomelidæ*; WASMANN, Verzeichniss, pp. 159-161.
- Acanthodon lineatum*, cedeagus; WEISE, Deutsche ent. Zeitschr. 1894, pl. ii, fig. 8.
- Acrocrypta apicalis*, Celebes, JACOBY, p. 292, Nov. Zool. i, n. sp.
- Adorium leviscutum*, Gaboon, FAIRMAIRE, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Adoxinia jacobsoni*, Turkestan, REITTER, p. 16, Wien. ent. Zeit. xiii, n. sp.

- Æthonea serricornis*, Th., = (*Haplosonyx fromholtzi*, Karsch); JACOBY, p. 532, Nov. Zool. i.
- Agelastica alni*, larva; KOLBE, p. 15, Zeitschr. Ent. Breslau, xix.
- A. brasiliensis*, Therezopolis, JACOBY, p. 195, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Allomorpha timorensis*, Timor, JACOBY, p. 294, Nov. Zool. i, n. sp.
- Anthipha longicornis*, p. 317, *apicata*, Sumbawa, *sangirensis*, Sangir, p. 318, JACOBY, Nov. Zool. i, n. spp.
- Aphilenia parvula*, *hauseri*, Turkestan, WEISE, p. 71, Deutsche ent. Zeitschr. 1894, n. spp.
- Aphthona testaceicornis*, Caucasus, WEISE, p. 152, Deutsche ent. Zeitschr. 1894; *A. flava*, S. Europe, GUILLEBEAU, p. cxciii, Bull. Soc. ent. France; *A. doherlyi*, Assam, *glabrata*, Borneo, JACOBY, p. 287, Nov. Zool. i : n. spp.
- Asphera haroldi*, p. 629, *melanocephala*, *clarki*, p. 630, Amazons, *plumbea*, Venezuela, p. 361, JACOBY, P. Zool. Soc. London, 1894, n. spp.
- Astena muculipennis*, New Guinea, JACOBY, p. 314, Nov. Zool. i, n. sp.
- Atomyria*, n. g., for *Nodostoma sarafschanica*, Solsky; JACOBSON, p. 102, Deutsche ent. Zeitschr. 1894.
- Atysa affinis*, New Guinea, JACOBY, p. 311, Nov. Zool. i, n. sp.
- Augomela flavicornis*, Queensland, JACOBY, p. 285, Nov. Zool. i, n. sp.
- Aulacia brunnea*, Perak, JACOBY, p. 271, Nov. Zool. i, n. sp.
- Aulacophora ocellata*, Karsch, note on; JACOBY, p. 526, Nov. Zool. i.
- A. sexplagiata*, Tropical Africa, JACOBY, p. 187, Ann. Soc. ent. Belgique, xxxviii; *A. apicipennis*, Tenimber, *subcaerulea*, p. 302, *militaris*, *nigroplagiata*, p. 303, *papuanu*, p. 304, New Guinea, JACOBY, Nov. Zool. i : n. spp.
- Candezea basalis*, Har., = (*Monolepta vulgaris*, All.); JACOBY, p. 197, Ann. Soc. ent. Belgique, xxxviii. *C. bimaculata*, note on male and variation; JACOBY, p. 321, Nov. Zool. i.
- C. pictipennis*, *violacea*, W. Africa, JACOBY, p. 531, Nov. Zool. i; *C. leai*, N. S. Wales, BLACKBURN, p. 237, Tr. R. Soc. S. Austral. xviii; *C. nigripennis*, *terminata*, *hirsuta*, p. 322, *flavofasciata*, *hirtipennis*, New Guinea, *variabilis*, Tenimber, p. 323, *castanea*, Borneo, *minuta*, New Guinea, p. 324, JACOBY, Nov. Zool. i : n. spp.
- Cassida pallidula*, pl. ix, fig. 16, *rugosa*, fig. 17, figured, Biol. Centr.-Amer. Col. vi, pt. ii.
- C. (Cassidula) hauseri*, Margelan, WEISE, p. 72, Deutsche ent. Zeitschr. 1894; *C. (Mionycha) morawitzi*, W. Siberia, p. 245, *C. (Cassidula) weisei*, Syr-darja, p. 246, JACOBSON, Horæ Soc. ent. Ross. xxviii; *C. mexicana*, Durango, CHAMPION, p. 176, pl. ix, fig. 14, Biol. Centr.-Amer. Col. vi, pt. ii : n. spp.
- Cerichrestus citrinus*, Guiana, ALLARD, p. 275, Naturaliste, 1894, n. sp.
- Cerochroa inconspicua*, W. Africa, JACOBY, p. 529, Nov. Zool. i, n. sp.
- Chætocnema*: habits of European species; BEDEL, p. xlvii, Bull. Soc. ent. France, 1894.
- C. tenimberensis*, Tenimber, JACOBY, p. 297, Nov. Zool. i, n. sp.

- Chalæpus parallelus*, pl. xiii, fig. 23, *atroceruleus*, p. 235, *flavipes*, fig. 24, p. 237, *maculicollis*, *yucatanus*, fig. 25, p. 238, Mexico, CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii, n. spp.
- Charidotis auroguttata*, pl. ix, fig. 20, *seminulum*, fig. 25, *curtula*, fig. 26, figured; CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii.
- C. pustulata*, p. 179, pl. ix, fig. 19, *flavomarginata*, fig. 21, *erythrostroma*, fig. 23, p. 180, *yucatanensis*, fig. 22, *frontalis*, fig. 24, p. 181, Central America, CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii, n. spp.
- Chelysida deflexicollis*, habits; ESCHERICH, Verh. Ges. Wien, xliv, p. 299, pl. xi, figg. 4 & 5.
- Chersinella*, n. g., for *Cassida heteropunctata*, Boh., figured, pl. ix, fig. 12, CHAMPION, p. 175, Biol. Centr.-Amer. Col. vi, pt. ii.
- Chiridula 11-notata*, n. var. *impicticollis*; WEISE, p. 96, Deutsche ent. Zeitschr. 1894.
- Chlamys africanus*, Sierra Leone, JACOBY, p. 517, Nov. Zool. i, n. sp.
- Chrysochares asiatica*, varieties noticed; JACOBSON, p. 103, Deutsche ent. Zeitschr. 1894.
- Chrysomela fastuosa*, = (*ventricosa*, Suffr.), *lutea*, Pet., = (*lævipennis*, Suffr.); BEDEL, p. 156, Abeille, xxviii. *C. fastuosa*, larva noticed; KOLBE, p. 14, Zeitschr. Ent. Breslau, xix. *C. graminis*, œdeagus; WEISE, p. 266, pl. ii, fig. 7, Deutsche ent. Zeitschr. 1894. *C. marginata*, metamorphoses; XAMBEU, p. 77, Naturaliste, 1894.
- C. interversa*, Kilimandjaro, FAIRMAIRE, p. 394, Ann. Soc. ent. Belgique, xxxviii; *C. sellata*, *amasiensis*, Asia Minor, WEISE, p. 92, Deutsche ent. Zeitschr. 1894 : n. spp.
- Cleoporus timorensis*, Timor, JACOBY, p. 273, Nov. Zool. i, n. sp.
- Cleorina puncticollis*, Perak, JACOBY, p. 272, Nov. Zool. i, n. sp.
- Cneorane unicolor*, W. Africa, JACOBY, p. 528, Nov. Zool. i; *C. borneensis*, Borneo, JACOBY, p. 325, t. c. : n. spp.
- Cœlocrania maluyana*, Celebes, JACOBY, p. 307, Nov. Zool. i, n. sp.
- Cœlopterus armeniacus*, Araxes Valley, WEISE, p. 144, Deutsche ent. Zeitschr. 1894, n. sp.
- Cænobius suffriani*, Kuilu, JACOBY, p. 516, Nov. Zool. i, n. sp.
- Colaspoides malayanus*, Borneo, JACOBY, p. 275, Nov. Zool. i, n. sp.
- Colasposoma viridimarginatum*, p. 517, *gabonensis*, W. Africa, *auripes*, E. Africa, p. 518, JACOBY, Nov. Zool. i, n. spp.
- Colobaspis*, n. g., near *Clythraxeloma*, for *C. flavonigra*, n. sp., Thibet; FAIRMAIRE, p. 225, Ann. Soc. ent. Belgique, xxxviii.
- Coptocyclus nigropunctata*, pl. ix, fig. 2, *wagneri*, fig. 1, *leprosa*, pl. x, fig. 1, *sordida*, pl. x, fig. 4, *wesmaeli*, figg. 6-8, variation and synonymy noticed, p. 190, *ephippiata*, figg. 9 & 10, *amœna*, fig. 11, *opulenta*, fig. 12, *atalanta*, fig. 14, *extensa*, fig. 15, *zetterstedti*, fig. 16, *insubida*, fig. 17, *hallæi*, fig. 18, *signifera*, figg. 19-21, variation and synonymy, pp. 194 & 195, *lecontei*, fig. 22, *circulata*, fig. 25, *cingulata*, pl. xi, fig. 1, *puella*, fig. 5, *bonvouloiri*, fig. 6, *semiatrata*, fig. 8, *crucipennis*, fig. 9, *dohrni*, fig. 10, *distorta*, fig. 11, *incincta*, fig. 13, *circumducta*, fig. 14, *aurofasciata*, figg. 15 & 16, synonymy, p. 205, *testudinaria*, fig. 17,

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- C. tripartita*, pl. ix, fig. 3, p. 184, *dorsoplagiata*, pl. x, fig. 5, p. 186, *mar-morata*, fig. 2, *rufonotata*, p. 187, *orbiculata*, pl. x, fig. 3, *azteca*, pl. ix, fig. 15, p. 188, *tricolorata*, pl. x, fig. 13, p. 192, *gibbifera*, p. 197, fig. 23, *isthmica*, p. 198, pl. x, fig. 26, *atroannulatus*, p. 199, fig. 27, *ambita*, pl. xi, fig. 2, p. 199, *balteata*, fig. 3, p. 200, *irazuensis*, p. 201, pl. ix, fig. 4, *diophtalma*, p. 202, pl. xi, fig. 7, *biannulifera*, p. 204, fig. 12, *tumida*, pl. xii, fig. 1, p. 214, *maculicollis*, fig. 2, p. 215, *evanescens*, fig. 5, p. 216, *diluta*, fig. 8, p. 217, *sinuata*, fig. 9, *scapularis*, fig. 10, p. 218, *duplex*, fig. 11, p. 219, *angularis*, fig. 15, p. 221, *Central America*, CHAMPION, *Biol. Centr.-Amer. Col. vi*, pt. ii.
- Corynodes longicollis*, W. Africa, JACOBY, p. 521, *Nov. Zool. i*; *C. sub-costatus*, Celebes, p. 271, *unituberculatus*, Timor, p. 272, JACOBY, *t. c.* : n. spp.
- Corysthea albomaculata*, Brazil, ALLARD, p. 259, *Naturaliste*, 1894, n. sp.
- Crepidodera impressa*, = (*peregrina*, Har.) ; BEDEL, p. 156, *Abeille*, xxviii.
- C. varipes*, S. W. Africa, JACOBY, p. 525, *Nov. Zool. i*; *C. sumatrana*, Sumatra, JACOBY, p. 298, *t. c.* : n. spp.
- Crioceris abeillei*, Syria, PIC, p. cclxxxiv, *Bull. Soc. ent. France*, 1894 ; *C. sokolowi*, Caucasus, JACOBSON, p. 270, *Horæ Soc. ent. Ross. xxviii* ; *C. duodecimmaculata*, W. Africa, JACOBY, p. 510, *Nov. Zool. i* ; *C. thoracica*, p. 268, *divisa*, p. 269, *New Guinea*, JACOBY, *t. c.* : n. spp.
- Crosita concinna*, p. 153, *jakolewi*, *matronula*, pp. 154 & 155, E. Siberia, WEISE, *Wien. ent. Zeit.* xiii, n. spp.
- Cryptocephalus undatus*, = (*fulmenifer*, Reit.) ; REITTER, p. 64, *Wien. ent. Zeit.* xiii. *C. distinguendus*, *sarafshanicus*, *pallifrons*, *ilicis*, *imperialis*, *trimaculatus*, *cœdeagus* figured ; WEISE, pl. ii, *Deutsche ent. Zeitschr.* 1894. *C. pusillus*, larva noticed ; KOLBE, pp. 13 & 14, *Zeitschr. Ent. Breslau*, xix.
- C. castilianus*, Cuenca, WEISE, p. 93, *Deutsche ent. Zeitschr.* 1894 ; *C. limoniastri*, Algeria, PIC, p. 106, *Ann. Soc. ent. France*, 1894 ; *C. amasiensis*, Asia Minor, WEISE, p. 91, *Deutsche ent. Zeitschr.* 1894 ; *C. plustchewskyi*, Astrachan, JACOBSON, p. 155, *Horæ Soc. ent. Ross. xxviii* ; *C. glasunowi*, Transcaspian Region, p. 272, *zubovskyi*, Minussinsk, p. 274, *ovulum*, Persia, p. 275, JACOBSON, *t. c.* ; *C. scapularis*, p. 98, *variolosus*, p. 99, *schmidtii*, p. 100, Lake Issyk-kul, JACOBSON, *Deutsche ent. Zeitschr.* 1894 ; *C. dilectus*, p. 67, *tshingariensis*, *levifrons*, p. 68, Turkestan, WEISE, *t. c.* ; *C. semiargenteus*, Buchara, REITTER, p. 247, *Wien. ent. Zeit.* xiii ; *C. cæruleomaculatus*, Madagascar, *brevicornis*, p. 515, *tropicus*, p. 516, W. Africa, JACOBY, *Nov. Zool. i* : n. spp.

- Ctenochira*: the Central American species figured, pls. xii & xiii; discussed, with much synonymy, pp. 222-231; CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii.
- C. crux-flava*, Panama, pl. xiii, fig. 20, *aspersa*, Costa Rica, fig. 21, p. 232, CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii, n. spp.
- Cyaniris (Gynandrophthalma) schelkownikowi*, Erivan, JACOBSON, p. 272, Horæ Soc. ent. Ross. xxviii, n. sp.
- Cynorta limbata*, p. 187, *parvicollis*, *semilimbata*, p. 188, *tripunctata*, p. 189, *semperi*, *citrina*, p. 190, Philippines, *costata*, p. 191, *variabilis*, p. 192, Perak, JACOBY, Ann. Soc. ent. Belgique, xxxviii; *C. lateralis*, *longicornis*, Sumbawa, p. 312, *basalis*, Pura I., *granulata*, Borneo, p. 313, JACOBY, Nov. Zool. i: n. spp.
- Cystocnemis discoidea*, note on; JACOBSON, p. 103, Deutsche ent. Zeitschr. 1894.
- Dermorhysis longipes*, Birma, JACOBY, p. 275, Nov. Zool. i, n. sp.
- Diabrotica bituberculata*, referred to *Hyperacantha*; JACOBY, p. 528, Nov. Zool. i. *D. 12-punctata*, *longicornis*, life-histories, habits; FORBES, pp. 146-165, pls. xiv & xv, Rep. Ins. Illinois, xviii.
- D. teinturieri*, Brazil, ALLARD, p. 285, Naturaliste, 1894, n. sp.
- Diamphidia simplex*, (= *locusta*, Fairm.), notes on; KOLBE, pp. 79-86, Ent. Zeit. Stettin, iv.
- D. locusta*, S. Africa, FAIRMAIRE, p. 339, Biol. Centralbl. xiv, n. sp.
- Diorhabda inconspicua*, Tenimber, JACOBY, p. 307, Nov. Zool. i, n. sp.
- Docema apicicornis*, *angulicollis*, Borneo, JACOBY, p. 296, Nov. Zool. i, n. sp.
- Donacia*: structure of ovipositor described and figured; SCHWARZ, pp. 23-25, P. ent. Soc. Washington, iii. *D. (Plateumaris) discolor* and *D. clavipes*, in peat; KOLBE, SB. Ges. naturf. Berlin, 1894, p. 237.
- D. æquidorsis*, Astrachan, JACOBSON, p. 152, Horæ Soc. ent. Ross. xxviii, n. sp.
- Dysphenges*, n. g., p. 408, near *Oxygona*, for *D. elongatulus*, n. sp., Lower California, p. 409, pl. viii, fig. 8; HORN, P. Calif. Ac. iv.
- Epitrix flavotestacea*, Lower California, HORN, p. 407, P. Calif. Ac. iv, n. sp.
- Eucycla metallica*, Sanghi, JACOBY, p. 288, Nov. Zool. i, n. sp.
- Eumœa fulvicollis*, p. 309, *viridiornata*, p. 310, New Guinea, JACOBY, Nov. Zool. i, n. spp.
- Eumolpopsis*, n. n. for *Pseudeumolpus*, Jac.; JACOBY, p. 16, Ent. Mag. 1894.
- Euryopè*, = (*Ecranus*) and *E. rubra*, = (*Ecr. nigripes*, Wlk.); BEDEL, p. 156, Abeille, xxviii.
- Eurypepla brevilineata*, figured, pl. ix, fig. 11, Biol. Centr.-Amer. Col. vi, pt. ii.
- Galeruca dahl*, n. var. *japonica*; WEISE, p. 168, Deutsche ent. Zeitschr. 1894. *G. laticollis*, larva; KOLBE, p. 16, Zeitschr. Ent. Breslau, xix.
- G. bang-haasi*, Yokohama, WEISE, p. 168, Deutsche ent. Zeitschr. 1894, n. sp.

- Galerucella melanopectera* and *flavonigra* referred to *Hyperacantha*; JACOBY, p. 527, Nov. Zool. i. *G. lineola*, larva; KOLBE, p. 15, Zeitschr. Ent. Breslau, xix.
- G. amboinensis*, Amboyna, p. 305, *wallacei*, New Guinea, *marginipennis*, Halmahera, p. 306, JACOBY, Nov. Zool. i, n. spp.
- Graptodera pyritosa*, Er., redescribed; JACOBY, p. 525, Nov. Zool. i.
- Gynandrophthalma concolor*, metamorphoses; XAMBEU, p. 280, Naturaliste, 1894.
- G. vaulogeri*, Syria, PIC, p. cclxxxv, Bull. Soc. ent. France, 1894; *G. basalis*, *africana*, p. 512, *metallica*, *placida*, p. 513, *deyrollei*, *seminigra*, p. 514, W. Africa, JACOBY, Nov. Zool. i : n. spp.
- Haltica engstromi*, note on; SAHLBERG, p. 167, Medd. Soc. Fauna Fenn. xix.
- Haplosomyx wallacei*, Sumatra, JACOBY, p. 315, Nov. Zool. i, n. sp.
- Himatidium sanguineum*, Costa Rica, CHAMPION, p. 233, pl. xiii, fig. 22, Biol. Centr.-Amer. Col. vi, pt. ii, n. sp.
- Hoplasoma philippinensis*, Luzon, JACOBY, p. 197, Ann. Soc. ent Belgique, xxxviii, n. sp.
- Hybosa mellicula*, figured, pl. ix, fig. 18, Biol. Centr.-Amer. Col. vi, pt. ii.
- Hydrothassa fairmairei*, Bris., (sub *Phratora*), = (*planiuscula*, Weise); BEDEL, p. 156, Abeille, xxviii.
- Hyperacantha pectoralis*, S. Africa, JACOBY, p. 526, Nov. Zool. i, n. sp.
- Ischyrosomyx nigrosignata*, figured, pl. ix, fig. 13, *I. hospes*, Dohrn, noticed, p. 176; CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii.
- Kuilua*, n. g., *Megalopinæ*, for *K. africana*, n. sp., W. Africa, JACOBY, p. 511, Nov. Zool. i.
- Labidostomis albida*, Transcaspien Region, JACOBSON, p. 271, Horæ Soc. ent. Ross. xxviii, n. sp.
- Lactica sumbawaensis*, Sumbawa, *bipunctata*, Timor, JACOBY, p. 286, Nov. Zool. i, n. spp.
- Lefevrella*, n. g., *Leprotilæ*, for *Heteraspis hauseri*, Weise; JACOBSON, p. 277, Horæ Soc. ent. Ross. xxviii.
- Lema margelanica*, Turkestan, WEISE, p. 67, Deutsche ent. Zeitschr. 1894; *L. subdepressa*, *plicatocollis*, W. Africa, JACOBY, p. 509, Nov. Zool. i; *L. nigrilabris*, p. 267, *imitans*, Nias I., *celebensis*, Celebes, p. 268, JACOBY, t. c.; *L. flavida*, *omogera*, p. 405, *amula*, p. 406, Lower California, HORN, P. Calif. Ac. iv : n. spp.
- Lepina aureovillosa*, Tenimber, JACOBY, p. 271, Nov. Zool. i, n. sp.
- Leptarthra fasciata*, Assam, JACOBY, p. 314, Nov. Zool. i, n. sp.
- Longitarsus malayanus*, Tenimber, JACOBY, p. 288, Nov. Zool. i; *L. bicolor*, Margarita I., Lower California, HORN, p. 410, P. Calif. Ac. iv : n. spp.
- Luperus (Calomicrus) altaicus*, n. var. *sericeus*, JACOBSON, p. 105, Deutsche ent. Zeitschr. 1894.
- L. (C.) grandis*, Lake Issyk-kul, JACOBSON, p. 106, Deutsche ent. Zeitschr. 1894; *L. metallicus*, Sumbawa, *excavatus*, Tenimber, JACOBY, p. 308, Nov. Zool. i : n. spp.

- Luperodes flavopilosus*, W. Africa, JACOBY, p. 529, Nov. Zool. i ;
L. obesa, New Guinea, p. 308, *variabilis*, Celebes, p. 309, JACOBY,
t. c. : n. spp.
- Lygaria africana*, p. 521, *discoidalis*, W. Africa, *scutellata*, Nguru, p. 522,
 JACOBY, Nov. Zool. i, n. spp.
- Lypnea ? nigra*, Halmahera, JACOBY, p. 295, Nov. Zool. i, n. sp.
- Macrogonus*, n. g., p. 329, near *Macrolema*, for *M. submetallicus*, n. sp.,
 Queensland, p. 330 ; JACOBY, Nov. Zool. i.
- Malacosoma dilatatum*, W. Africa, JACOBY, p. 528, Nov. Zool. i ; *M. uni-*
color, Tenimber, JACOBY, p. 313, *t. c.* : n. spp.
- Malaxia dilaticornis*, Timor, JACOBY, p. 314, Nov. Zool. i, n. sp.
- Malegia asiatica*, Mesopotamia, PIC, p. 143, Echange, 1894 ; *M. hirsuta*,
 Lake Issyk-kul, JACOBSON, p. 101, Deutsche ent. Zeitschr. 1894 :
 n. spp.
- Manobia pallidicornis*, New Guinea, *maculata*, Sumbawa, JACOBY, p. 292,
 Nov. Zool. i, n. spp.
- Mantura suturata*, Fairm., = (*limbata*, All.) ; BEDEL, p. 156, Abeille,
 xxviii.
- Melasoma saliceti*, n. var. *nigripennis*, REITTER, p. 192, Wien. ent. Zeit.
 xiii. *M. aneum*, larva ; KOLBE, p. 15, Zeitschr. Ent. Breslau, xix.
- M. discoidale*, *unicolor*, *lividum*, W. Africa, JACOBY, p. 524, Nov. Zool. i ;
 n. spp.
- Melitonoma lefevrei*, Algeria, PIC, p. 221, Naturaliste, 1894, n. sp.
- Melixanthus rothschildi*, p. 269, Borneo, *timorensis*, Timor, *minutus*,
 Tenimber, p. 270, JACOBY, Nov. Zool. i, n. spp.
- Menippus philippinensis*, Luzon, JACOBY, p. 192, Ann. Soc. ent. Belgique,
 xxxviii, n. sp.
- Mesodonta imitans*, W. Africa, JACOBY, p. 532, Nov. Zool. i, n. sp.
- Metellus fulvicollis*, Jac., = (*Platyxantha femoralis*, All.) ; JACOBY, p. 197,
 Ann. Soc. ent. Belgique, xxxviii.
- Microrhopala unicolor*, Mexico, CHAMPION, p. 240, Biol. Centr.-Amer.
 Col. vi, pt. ii, n. sp.
- Microlepta palpalis*, Batchian, *tibialis*, New Guinea, p. 316, *pallida*, Perak,
 p. 317, JACOBY, Nov. Zool. i, n. spp.
- Microsutrea*, n. g., near *Sutrea*, p. 290, for *M. violaceipennis*, n. sp., New
 Guinea, p. 291 ; JACOBY, Nov. Zool. i.
- Momæa costatipennis*, New Guinea, JACOBY, p. 310, Nov. Zool. i, n. sp.
- Monolepta minima*, All., the correct habitat is Australia ; *M. moluccensis*
 and *verticalis* are one species, *apicalis*, Sahl., = (*dichroa*, All.) ;
 JACOBY, p. 197, Ann. Soc. ent. Belgique, xxxviii.
- M. fulvosignata*, p. 529, *africana*, *nigrita*, p. 530, W. Africa, JACOBY,
 Nov. Zool. i ; *M. sangirensis*, Sangir, p. 325, *obscurumaculata*, New
 Guinea, *inornata*, Batchian, p. 326, *timorensis*, Timor, p. 327, JACOBY,
t. c. ; *M. alpina*, Victoria, BLACKBURN, p. 108, P. Linn. Soc. N. S.
 Wales, ix : n. spp.
- Myocoryna peninsularis*, Lower California, HORN, p. 407, P. Calif. Ac.
 iv, n. sp.

- Myrcinoides*, n. g., *Halticinae*, p. 185, for *M. viridis*, n. sp., Borneo, p. 186; JACOBY, Ann. Soc. ent. Belgique, xxxviii.
- Nerissus* and *Cheiridea*, probably identical; JACOBY, p. 520, Nov. Zool. i.
- N. ornata*, W. Africa, JACOBY, p. 520, Nov. Zool. i, n. sp.
- Nisotra terminata*, Timor, *nigripes*, Birma, p. 293, *brunnea*, Deli, p. 294, JACOBY, Nov. Zool. i; *N. submetallica*, Victoria, BLACKBURN, p. 108, P. Linn. Soc. N. S. Wales, ix; n. spp.
- Nodina tricolorata*, Talaut Is., JACOBY, p. 274, Nov. Zool. i, n. sp.
- Nodostoma multicolor*, Borneo, p. 283, *acutangulum*, Sumatra, *staudingeri*, Perak, *purpureofasciatum*, New Guinea, p. 284, JACOBY, Nov. Zool. i, n. spp.
- Ochralea imitans*, Perak, JACOBY, p. 321, Nov. Zool. i, n. sp.
- Octogonotes tricinctus*, Brazil, ALLARD, p. 285, Naturaliste, 1894, n. sp.
- Oedionychis albipennis*, p. 609, Ega, *tabida*, *nigroscurata*, pl. xxxviii, fig. 3, p. 610, *discicollis*, *evanida*, p. 611, *dilecta*, *quadripustulata*, fig. 7, p. 612, *crucifera*, *crux-nigra*, p. 613, Brazil, *bratula*, Amazons, *quadriplagiata*, Brazil, p. 614, *centurio*, p. 615, *trimaculata*, Colombia, *osculans*, Brazil, p. 616, *intersignata*, Surinam, *oblonga*, Amazons, p. 617, *pulchella*, Venezuela, *cyaneo-fasciata*, Bolivia, p. 618, *nigronotata*, Brazil, *palpalis*, p. 619, *chapuisi*, p. 620, Amazons, *semidivisa*, Peru, *jamaicensis*, Jamaica, p. 621, *princeps*, fig. 4, Brazil, *peruviana*, Peru, *beskii*, p. 622, *apicata*, fig. 9, *morosa*, p. 623, *fasciaticollis*, fig. 5, Brazil, *brunneofasciata*, fig. 8, Bolivia, p. 624, *fusco-annulata*, fig. 6, *multomaculata*, p. 625, *advena*, Brazil, *turpis*, Upper Amazons, p. 626, *pardalis*, fig. 1, *virgintinotata*, fig. 10, p. 627, Brazil, *sexsignatus*, Colombia, fig. 2, *africana*, Sierra Leone, fig. 12, p. 628, *siamensis*, Siam, fig. 11, p. 629, JACOBY, P. Zool. Soc. London, 1894; *O. teinturieri*, Brazil, ALLARD, p. 275, Naturaliste, 1894; n. spp.
- Oides cribellata*, W. Africa, JACOBY, p. 526, Nov. Zool. i; *O. humboldti*, New Guinea, p. 298, *dimidiaticornis*, Celebes, *unifasciata*, p. 299, *suturalis*, *clypeata*, p. 300, *flavofasciata*, *bimaculata*, p. 301, *dohertyi*, p. 302, New Guinea, JACOBY, t. c. : n. spp.
- Ootheca carulea*, All., noticed and referred to *Æthonea*; JACOBY, p. 532, Nov. Zool. i.
- Orina*: notes on many species, and table of the characters of the red-necked group, cedeagus figured, pl. ii, figg. 1-6; WEISE, pp. 250-257, Deutsche ent. Zeitschr. 1894.
- Orsodacna cerasi*, *lineola*, cedeagus; WEISE, p. 267, Deutsche ent. Zeitschr. 1894.
- O. ruficollis*, Syria, PIC, p. cclxxxiv, Bull. Soc. ent. France, 1894, n. sp.
- Orthæa burmanica*, Birma, JACOBY, p. 294, Nov. Zool. i, n. sp.
- Pachnephorus lefevrei*, Mesopotamia, PIC, p. 65, Echange, 1894, ? n. sp.
- Pachybrachys probus*, n. var. *nitidicollis*; WEISE, p. 69, Deutsche ent. Zeitschr. 1894. *P. tessellatus*, n. var. *orientalis*; WEISE, p. 144, t. c. *P. vermicularis*, n. var. *pallidiventris*; JACOBSON, p. 158, Horæ Soc. ent. Ross. xxviii.
- Paridea quadriplagiata*, Birma, JACOBY, p. 327, Nov. Zool. i, n. sp.

- Parnopſ*, n. g., p. 275, *Heteraspitæ*, for *P. glasunovi*, n. sp., Transcaspiān Region, p. 277; JACOBSON, Horæ Soc. ent. Ross. xxviii.
- Paropsis*: the Australian species and their characters discussed, the species of Group I tabulated; BLACKBURN, pp. 220-226, Tr. R. Soc. S. Austral. xviii.
- P. montana*, p. 226, *debilitata*, p. 227, *longicornis*, *cerea*, p. 228, *affinis*, p. 229, *advena*, *angusticollis*, p. 230, *bovilli*, p. 231, *colorata*, *glauca*, p. 232, *mystica*, *variegata*, p. 233, *mutabilis*, p. 234, *convexa*, *latissima*, p. 235, *bella*, *zietzi*, p. 236, *intermedia*, p. 237, Australia, BLACKBURN, Tr. R. Soc. S. Austral. xviii, n. spp.
- Phyllobrotica javana* and *bifasciata*, generic position; JACOBY, p. 197, Ann. Soc. ent. Belgique, xxxviii.
- P. africana*, Central Africa, JACOBY, p. 194, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Phyllobroticella*, n. g., near *Aulacophora*, for *P. flava*, n. sp., N'Gami; JACOBY, p. 194, Ann. Soc. ent. Belgique, xxxviii.
- Physimerus teinturieri*, Cayenne, ALLARD, p. 275, Naturaliste, 1894, n. sp.
- Phyllocharoides*, n. g., near *Phyllocharis*, p. 285, for *P. abdominalis*, n. sp., New Guinea, p. 286; JACOBY, Nov. Zool. i.
- Physonota alutacea*, pl. viii, fig. 12, *nitidicollis*, fig. 13, *cerea*, fig. 14, *gigantea*, fig. 11, *stigmatilis*, fig. 16, *picticollis*, fig. 17, *ovalis* var., fig. 18, *vitticollis* var., fig. 19, *turgida*, fig. 20, *mexicana*, fig. 21, *flavago*, fig. 22, *disjuncta*, fig. 23, *caudata*, fig. 24, *attenuata*, fig. 25, *limoniata*, pl. ix, fig. 5, *humilis*, fig. 4, *translucida*, fig. 7, *eucalypta*, fig. 8, *maculiventris*, fig. 9, *calcarata*, fig. 10, figured; CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii.
- Physonota perampla*, p. 167, pl. viii, fig. 15, *ovipennis*, p. 172, pl. ix, fig. 6, Central America; CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii, n. spp.
- Phytodecia*: oedeagus of various species; WEISE, Deutsche ent. Zeitschr. 1894, p. 267. *P. mannerheimi*, Stål, note on; WEISE, p. 72, t. c.
- Plateumaris obsoleta*, *excisipennis*, E. Siberia, JACOBSON, p. 243, Horæ Soc. ent. Ross. xxviii, n. spp.
- Platyxantha rutilans*, All., referred to *Halticine*; JACOBY, p. 197, Ann. Soc. ent. Belgique, xxxviii.
- P. curvicornis*, Central Africa, JACOBY, p. 196, Ann. Soc. ent. Belgique, xxxviii; *P. dohertyi*, Borneo, JACOBY, p. 328, Nov. Zool. i: n. spp.
- Podagrica malva*, n. var. *nigerrima*; WEISE, p. 152, Deutsche ent. Zeitschr. 1894.
- Podontia nigripes*, Tenimber, JACOBY, p. 295, Nov. Zool. i, n. sp.
- Pæcilomorpha centromaculata*, p. 510, *aureovillosa*, p. 511, W. Africa, JACOBY, Nov. Zool. i; *P. varicolor*, p. 184, N'Gami, *modesta*, Gaboon, p. 185, JACOBY, Ann. Soc. ent. Belgique, xxxviii: n. spp.
- Polysticta semirufa*, Mozambique, FAIRMAIRE, p. 335, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Prasocuris phellandrii*, larval habits; KOLBE, p. 15, Zeitschr. Ent. Breslau, xix.

- Prasyptera rugosa*, p. 327, *abdominalis*, p. 328, New Guinea, JACOBY, Nov. Zool. i, n. spp.
- Pseudocolaspis henoni*, Algeria, PIC, p. 210, Naturaliste, 1894, n. sp.
- Pseudoscelida*, n. g., *Scelidinae*, for *P. pallida*, n. sp., Borneo; JACOBY, p. 311, Nov. Zool. i.
- Psylliodes chrysocephala*, metamorphoses; LAMPA, pp. 18-21, cuts, Ent. Tidskr. xv.
- P. sicardi*, Tunis, WEISE, p. 90, Deutsche ent. Zeitschr. 1894, n. sp.
- Rhembastus costatus*, W. Africa, JACOBY, p. 519, Nov. Zool. i, n. sp.
- Rhombosternus obscurus*, p. 205, *monticola*, *pallidus*, p. 206, *minor*, p. 207, Australia, BLACKBURN, P. Linn. Soc. N. S. Wales, viii, n. spp.
- Rhyparida fulvicornis*, Batchian, *sangirensis*, Celebes, p. 276, *rothschildi*, Halmaheira, *balyi*, *suturalis*, Tenimber, p. 277, *timorensis*, Timor, *inornata*, Tenimber, *angustata*, p. 278, *pictipennis*, *nodostomoides*, p. 279, New Guinea, *adonarae*, Adonara I., *anduiensis*, p. 280, *atra*, *plebeia*, p. 281, *curvipes*, *prosternalis*, p. 282, *longipes*, p. 283, New Guinea, JACOBY, Nov. Zool. i, n. spp.
- Rupilia ruficollis* and *viridianeae*, discussed; JACOBY, p. 195, Ann. Soc. ent. Belgique, xxxviii.
- Sagra striatipennis*, E. Africa, JACOBY, Nov. Zool. i, p. 508, n. sp.
- Sastra metallescens*, p. 304, Borneo, *bicostata*, New Guinea, p. 305, JACOBY, Nov. Zool. i, n. spp.
- Sastroides indicus*, Assam, JACOBY, p. 315, Nov. Zool. i, n. sp.
- Scelodonta costata*, W. Africa, JACOBY, p. 519, Nov. Zool. i; *S. celebensis*, Celebes, JACOBY, p. 273, t. q. : n. spp.
- Sebaethe longicornis*, Talaut, *bipustulata*, Perak, JACOBY, p. 291, Nov. Zool. i, n. spp.
- Solenia elongata*, New Guinea, p. 318, *punctatissima*, Tenimber, *carulea*, Ternate, p. 319, *dilatocollis*, *terminata*, New Guinea, JACOBY, Nov. Zool. i, n. spp.
- Spilocephalus ? metallicus*, W. Africa, JACOBY, p. 534, Nov. Zool. i, n. sp.
- Stenoplatys divisa*, W. Africa, JACOBY, p. 533, Nov. Zool. i, n. sp.
- Sutrea celebensis*, Celebes, p. 288, *sexmaculata*, *impressa*, New Guinea, p. 289, *biplagiata*, Batchian, p. 290, JACOBY, Nov. Zool. i, n. spp.
- Syagrus bipunctatus*, noticed; JACOBY, p. 519, Nov. Zool. i.
- S. fuscoæneus*, *cinerascens*, Senegal, FAIRMAIRE, p. 334, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Systema tenuata*, habits, metamorphoses; FORBES, Rep. Ins. Illinois, p. 21, pls. iii & iv.
- Tebalia ? varicolor*, Amboyna, JACOBY, p. 329, Nov. Zool. i, n. sp.
- Timarchosoma*, n. g., for *T. transvaalense*, n. sp., S. Africa; JACOBY, p. 523, Nov. Zool. i.
- Titubæa minor*, Algeria, FAIRMAIRE, p. 312, Ann. Soc. ent. Belgique, xxxviii; *T. silensis*, Chodschakent, WEISE, p. 70, Deutsche ent. Zeitschr. 1894 : n. spp.
- Uroplata sulcifrons*, p. 241, pl. xiii, fig. 26, *annulipes*, p. 242, fig. 27, Mexico, CHAMPION, Biol. Centr.-Amer. Col. vi, pt. ii : n. spp.

- Xenidea pusilla, brevicornis*, New Guinea, JACOBY, p. 297, Nov. Zool. i, n. sp.
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- The *Erotylidæ* and *Endomychidæ* of Ontario and Quebec, with figures of larvæ and pupæ and imagines; WICKHAM, pp. 337-342, Canad. Ent. 1894.
Aulachochilus chevrolati, metamorphoses; POUJADE, p. 117, Ann. Soc. ent. France, 1894, cuts.
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- Cryptophilus*, n. g., *Mycetainorum*, for *C. cremastogastris*, n. sp., Madagascar; WASMANN, p. 217, Verzeichniss.
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COCCINELLIDÆ.

- [Cf. BLACKBURN (96), DUFFEY (248), GORHAM (377, 380, 381), JORDAN (499), SCHLECHTENDAL (972), VINE (1111).]
 Larvæ of various German species noticed; KOLBE, p. 16, Zeitschr. Ent. Breslau, xix.
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 Canadian *Coccinellidæ* with figg. of varr.; WICKHAM, pp. 297-306, Canad. Ent. 1894.
 Figg. of the Australian *Coccinellids* introduced into United States; RILEY, Rep. 1893, pl. ii, p. 225.
 Generic characters of *Scymnus* and allies discussed; JORDAN, pp. 122 & 123, Nov. Zool. i.

- Aulis*, Muls., = (*Sumnius*, Weise), *A. vestita*, Muls., = (*S. renardi*, Weise); GORHAM, p. 210, Ann. Soc. ent. Belgique, xxxviii.
- A. hematica*, Assam, GORHAM, p. 211, *t. c.*, n. sp.
- Brachyacantha*: notes on variation of Central American, pp. 185-189.
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- B. aymardi*, pl. x, fig. 18, *cryptocephalina*, fig. 19, p. 186, *cachensis*, *fenestrata*, p. 190, Central America; GORHAM, Biol. Centr.-Amer. Col. vii, n. spp.
- Clanis binotata*, p. 204, *C. ? unnotata*, p. 205, E. India, GORHAM, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Celophora gratiosa*, variation discussed; BLACKBURN, p. 238, Tr. R. Soc. S. Austral. xviii.
- C. veranioides*, N. S. Wales, BLACKBURN, p. 339, Tr. R. Soc. S. Austral. xviii, n. sp.
- Corystes hypocrita*, figured, Biol. Centr.-Amer. Col. vii, pl. x, fig. 13.
- Cryptognatha circumdata*, Guatemala, GORHAM, p. 182, pl. x, fig. 12, Biol. Centr.-Amer. Col. vii, n. sp.
- Epilachna minima*, E. India, GORHAM, p. 206, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Exochomus marginipennis*, figured, pl. x, figg. 5 & 6, Biol. Centr.-Amer. Col. vii.
- E. lituratus*, E. India, GORHAM, p. 203, Ann. Soc. ent. Belgique, xxxviii; *E. championi*, Panama, p. 177, pl. x, fig. 7, *tricoloratus*, Nicaragua, fig. 8, *scapularis*, Mexico, fig. 9, p. 178, *apicatus*, Panama, *bisbinotatus*, fig. 10, p. 179, *sallai*, *hogeii*, fig. 11, p. 180, Mexico, GORHAM, *t. c.*: n. spp.
- Hyperaspidius*: note on the genus; GORHAM, pp. 203 & 204, Biol. Centr.-Amer. Col. vii.
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- Lithophilus cordicollis*, = (*cribratellus*, Fairm.) ; BEDEL, p. 151, Abeille, xxviii.
- Orcus nummularis*, distinct from *australasiae*; BLACKBURN, p. 240, Tr. R. Soc. S. Austral. xviii.
- O. ? ferrugineus*, E. India, GORHAM, p. 203, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Ortalia quadripectata*, E. India, GORHAM, p. 205, Ann. Soc. ent. Belgique, xxxviii, n. sp.

- Pentilia* ? *convexa*, Panama, pl. xi, fig. 1, *discors*, Guatemala, GORHAM, p. 181, Biol. Centr.-Amer. Col. vii, n. spp.
- Poria sallæi*, figured, pl. xi, fig. 18, Biol. Centr.-Amer. Col. vii.
- P. chiriquensis*, pl. xi, fig. 19, *cuprea*, fig. 20, p. 207, *rubicunda*, p. 208, Panama, GORHAM, Biol. Centr.-Amer. Col. vii, n. spp.
- Prodilis marginithorax*, referred to *Poria*; GORHAM, p. 352, Biol. Centr.-Amer. Col. vii.
- Scymnus punctum*, metamorphoses; DUFFEY, p. 540, Tr. Ac. St. Louis, v.
- S. punctillum*, habits; GIARD, p. xlvi, Bull. Soc. ent. France, 1894.
- S. picescens*, *ephippiatus*, p. 207, *S. ? flavoguttatus*, p. 208, E. India, GORHAM, Ann. Soc. ent. Belgique, xxxviii; *S. aberrans*, p. 125, pl. viii, figg. 13 & 16, *biimpressus*, New Guinea, *sternalis*, Malay Peninsula, p. 126, *varians*, pl. viii, figg. 14, 16, & 17, *confluens*, New Guinea, p. 127, *dohertyi*, Tenimber I., figg. 12, 15, & 18, *flexuosus*, fig. 19, p. 128, *perakensis*, Perak, *grandis*, fig. 20, p. 129, *socius*, fig. 21, *brevis*, p. 130, *hæmorrhous*, p. 131, *conformis*, *grossus*, p. 132, Borneo, *dubius*, Perak, *thoracicalis*, Borneo, p. 133, *chinensis*, China, *celebensis*, Celebes, p. 134, *oralis*, Tenimber, *thomasi*, Nias, p. 135, *uniplicatus*, Malay Peninsula, *rubroventralis*, Timor, p. 136, *novoguineæ*, Humboldt Bay, *gibbosus*, Java, p. 137, *weisei*, Sumbawa, p. 138, JORDAN, Nov. Zool. i : n. spp.
- Seladia beltiana*, Nicaragua, pl. xi, fig. 14, *albuguttata*, figg. 15 & 16, Guatemala, GORHAM, p. 205, Biol. Centr.-Amer. Col. vii, n. spp.
- Thalassa pentaspilota*, fig. 14, *montezumæ*, fig. 15, figured, pl. x, Biol. Centr.-Amer. Col. vii.

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- Arthrolips innotabilis*, p. 336, *nitidus*, p. 337, Grenada I., MATTHEWS, Ann. Nat. Hist. (6) xiii, n. spp.
- Corylophodes pusillus*, St. Vincent and Grenada, MATTHEWS, p. 337, Ann. Nat. Hist. (6) xiii, n. sp.
- Peltinus gigas*, Algeria, ABELLE, p. 91, Echange, 1894, n. sp.
- Rhyphobius dissimilis*, Grenada and St. Vincent, MATTHEWS, p. 337, Ann. Nat. Hist. (6) xiii, n. sp.
- Sacium instabile*, I. of Grenada, MATTHEWS, p. 336, Ann. Nat. Hist. (6) xiii, n. sp.
- Sericoderus minutus*, West Indies, MATTHEWS, p. 337, Ann. Nat. Hist. (6) xiii, n. sp.

(B.) *HYMENOPTERA.**ACULEATA.*

[*Cf.* ANDRÉ (16, 17), ARNOLD (21), ASHMEAD (23-32, 926), BALDINI (41), BENTON (61), BINGHAM (92), BONNEFOIS (108), BORDAS (113-120), CAMERON (377), CLAUS (181), COCKERELL (194, 195), COCKERELL & CASAD (197), COPE (198), COUPIN (210), DALLA TORRE (217), DALLA TORRE & FRIESE (218), EMERY (265-278, 491), FOREL (313-318), FOX (320-326), FREY-GESSNER (327), FRIESE (329), FROGGATT (335), GIBSON (372), GRIBODO (383), HANDLIRSCH (405), HART (409), HEIM (419), ISTVÁNFFI (467), JANET (484-489), JHERING (491, 492), KIRBY (1118), KOHL (552), KOULAGUINE (576), KRIEGER (611), MARCHAL (667-670), MOCSÁRY (720, 721), MORAWITZ (732, 733), NICOLAS (755-757), PATTON (796), PEREZ, J. (801), PEREZ, T. (804), PERGANDE (805, 806), RATH (886), REED (871), REICHENBACH (874), RIDLEY (911), RILEY (916, 924), SAUNDERS (962, 963), SICKMANN (1016), SMALIAN (1024), STADELMANN (1039), THOMSON (1067), WAGNER (1115), WASMANN (1127, 1128, 1129, 1131), WESTERLUND (1153), ZABRISKIE (1172).]

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Notes on the habits of many North-American Aculeates; ASHMEAD (24).

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Polliniferous organs; RILEY, pp. 65-67, *P. Soc. Washington*, ix.

Wax-producing organs; RILEY, *P. Soc. Washington*, pp. 67-69.

- Synonymic list of European parasitic bees ; DALLA TORRE & FRIESE, Ent. Nachr. xx, pp. 33-43.
- Bees of Saxony ; KRIEGER (611).
- List of bees of Mecklenburg, with localities and dates ; FRIESE, Arch. Ver. Mecklenb. xlviii, pp. 1-30.
- Ammobates punctatus*, n. var. *atratus* ; MOCSÁRY, p. 36, Termes. Fuzetek, xvii.
- A. obscuratus*, Turkestan, MORAWITZ, p. 57, Horæ Soc. ent. Ross. xxviii ;
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- Andrena rufiventris*, p. 114, *binominata*, p. 115, males described ; GRIBODO, Bull. Soc. ent. Ital. xxvi. *A. trimmerana*, var. ; JOHNSON, p. 236, Ent. Mag. 1894.
- A. jagnobensis*, p. 62, *dolosa*, p. 63, *jakolewi*, p. 64, *pretiosa*, p. 65, *atrorhirta*, p. 67, Turkestan, MORAWITZ, Horæ Soc. ent. Ross. xxviii ;
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- Augochlora tisiphone*, Mexico, GRIBODO, p. 291, Bull. Soc. ent. Ital. xxvi, n. sp.
- Bombus*, anatomy and development of male organs of ; BORDAS (113).
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- p. 1863, Opusc. *B. montivagus*, figure ; BINGHAM, pl. i, fig. 12, J. Bombay Soc. viii.
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- Ceratina morawitzi*, = (*flavopicta*, Mor., nec Smith), SICKMANN, p. 233, ♂ described, p. 234, Zool. Jahrb. Syst. viii, n. sp.
- Chalicodoma muraria*, nests and contents ; FREY-GESSNER, Mt. Schweiz. ent. Ges. ix, pp. 147-150.
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- Halictus pulvereus*, n. var. *pallidus* ; GRIBODO, p. 135, Bull. Soc. ent. Ital. xxvi.
- H. nigriventris*, Gorki, ARNOLD, p. 166, Horæ Soc. ent. Ross. xxviii ; *H. ocularis*, p. 71, *parumpunctatus*, p. 72, *atripes*, p. 73, *turanicus*, p. 74, *chloropus*, p. 75, *anguliceps*, p. 76, *debilis*, p. 77, Turkestan, MORAWITZ, Horæ Soc. ent. Ross. xxviii ; *H. lavipyga, alternipes*, p. 542, *atripyga*, p. 543, Fernando Noronha, KIRBY, J. Linn. Soc. xx : n. spp.
- Hylæus atrocillosus, citrinipes*, Turkestan, MORAWITZ, p. 85, Horæ Soc. ent. Ross. xxviii, n. spp.
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- Melecta nivosa*, Turkestan, MORAWITZ, p. 56, Horæ Soc. ent. Ross. xxviii, n. sp.
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- Nomia smithella*, n. n. for *Nomia ruficornis*, Smith ; *N. westwoodi*, n. n. for *simillima*, Sm. Cat. Ind. Acul. Hym. ; GRIBODO, p. 128, Bull. Soc. ent. Ital. xxvi. *N. rufescens*, ♂ described ; MORAWITZ, p. 79, Horæ Soc. ent. Ross. xxviii.
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- Philerenus punctatus*, generic and specific characters discussed at length; ARNOLD, pp. 168-176, pls. i-iii, Horæ Soc. ent. Ross. xxviii.
- Prosopis variegata*, n. var. (an n. sp.?) *absoluta*; GRIBODO, Bull. Soc. ent. Ital. xxvi, p. 267.
- P. masoni*, England, SAUNDERS, p. 196, Ent. Mag. 1894, and Hym. Ac. p. 183; *P. quartina*, p. 263, *sulphuripes*, p. 265, Algeria, *amazonica*, Pebas, p. 294; GRIBODO, Bull. Soc. ent. Ital. xxvi : n. spp.
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- Sphecodes subquadratus*, parasitism on *Halictus malachurus*; MARCHAL, p. cxv, Bull. Soc. ent. France, 1894. *S. gibbus*, n. var. *tunetanus*; GRIBODO, p. 293, Bull. Soc. ent. Ital. xxvi.
- S. gracilior*, Turkestan, MORAWITZ, p. 78, Horæ Soc. ent. Ross. xxviii, n. sp.
- Stelis scutellaris*, Turkestan, MORAWITZ, p. 54, Horæ Soc. ent. Ross. xxviii, n. sp.
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- X. punctilabris*, Turkestan, MORAWITZ, p. 24, Horæ Soc. ent. Ross. xxviii; *X. erythrina*, p. 296, *fraudulenta*, p. 297, Saganeita, GRIBODO, Bull. Soc. ent. Ital. xxvi : n. spp.

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- Histology of receptaculum seminis; question of parthenogenesis in *Vespa germanica*; MARCHAL, pp. 44-49, Ann. Soc. ent. France, 1894.
- Catalogue of *Diploptera*; DALLA TORRE (217).
- Production of males by the wasp; MARCHAL (670).
- Wasps as useful insects; ASHMEAD, p. 241, Insect Life, vii.
- Abispa splendida*, habits; FROGGATT, p. 29, P. Linn. Soc. N. S. Wales, ix.
- Alastor eriurgus*, habits; FROGGATT, p. 27, P. Linn. Soc. N. S. Wales, ix.
- Belonogaster*: catalogue of the species; KOHL, pp. 334-337, Ann. Hofmus. Wien, ix.
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- Eumenes pomiformis*, habits of larva; BONNEFOIS (108).
- E. latipes*, p. 228, *reflexus*, p. 230, Tientsin, SICKMANN, Zool. Jahrb.

- Syst. viii ; *E. walkeri*, DAMMA I., KIRBY, p. 108, Ann. Nat. Hist. (6) xiv ; *E. pedalis*, Lower California, FOX, p. 109, P. Calif. Ac. iv : n. spp.
- Icaria gregaria*, habits ; FROGGATT, p. 30, P. Linn. Soc. N. S. Wales, ix.
- Ischnogaster rufo-maculata*, p. 385, *hauxwellii*, p. 386, pl. i, fig. 4, Tenasserim, BINGHAM, J. Bombay Soc. viii, n. spp.
- Masaris maculifrons*, Lower California, FOX, p. 12, P. Calif. Ac. iv, n. sp.
- Nortoria* (sic) sp., nidification ; VON JHÉRING, Congr. Zool. 1892, i, p. 251.
- Odynerus sinuatus*, n. var. *mutinensis* ; BALDINI, p. 78, pl. iii, fig. 6, Atti Soc. Modena (3) xiii.
- O. saussurei*, p. 13, *O. (Ancistrocerus) lacunus*, p. 111, Lower California, FOX, P. Calif. Ac. iv, n. spp.
- Polistes chinensis*, var. ?, note on ; SICKMANN, p. 227, Zool. Jahrb. Syst. viii. *P. tasmaniensis*, p. 30, *facilis*, p. 31, *tepidus*, p. 32, habits ; FROGGATT, P. Linn. Soc. N. S. Wales, ix.
- P. ridleyi*, Fernando Noronha, KIRBY, J. Linn. Soc. xx, p. 541, n. sp.
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- Synagris amplissima*, p. 337, *crassipes*, p. 338, Tropical Africa, KOHL, Ann. Hofmus. Wien, ix, n. spp.
- Vespa* : nests and parasites of some N. American species ; ZABRISKIE (1172). *V. crabo*, habits, construction of comb ; JANET, C.R. Ac. Sci. cxix, p. 1282. *V. orientalis*, nest noticed ; STEFANI, p. 134, Riv. ital. Sci. Nat. xiv.
- V. fruhstorferi*, Java, STADELMANN, SB. Ges. naturf. Berlin, 1894, p. 89, n. sp.
- Zethus poeyi* and *aztecus* are one species, *slossone* being a synonym ; PATTON, p. 140, Canad. Ent. 1894 ; but FOX, t. c. p. 172, gives characters for their distinction.

HYMENOPTERA FOSSORIA. (SPHEGIDÆ, CRABRONIDÆ,
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- Classification of the Fossoria discussed, and subfamilies and tribes proposed for the N. American forms ; FOX, P. Ac. Philad, 1894, pp. 292-307.
- Fossors of Saxony ; KRIEGER (611).
- Revision of N. American *Larridæ* ; FOX, P. Ac. Philad. 1893.
- Agenia armata*, Chili, REED (871), p. 22, n. sp.
- Alyson* : characters of N. American ; FOX, Ent. News Philad. v.
- A. radiatus*, p. 87, *striatus*, p. 88, N. America, FOX, Ent. News Philad. v, n. spp.
- Ammophila sinensis*, Tientsin, SICKMANN, p. 217, Zool. Jahrb. Syst. viii ; *A. femur-rubra*, Lower California, FOX, p. 102, P. Calif. Ac. iv ; *A. chilensis*, Chili, REED (871), p. 25 : n. spp.

- Ampulex nasuta*, Zanzibar, ANDRÉ, p. cclvii, Bull. Soc. ent. France, 1894, n. sp.
- Ancistromma*, n. g., p. 487, for part of *Larra*, with *A. capax*, p. 490, *dolosa*, p. 492, *discreta*, p. 493, *conferta*, p. 494, *consimilis*, *rugosa*, p. 496, *vegeta*, p. 497, n. spp., N. America; Fox, P. Ac. Philad. 1893.
- Aphilanthops hispidus*, Lower California, Fox, p. 106, P. Calif. Ac. iv, n. sp.
- Aporus chilensis*, Chili, REED (871), p. 24, n. sp.
- Astatax sayi*, Virginia, p. 542, *asper*, Montana, p. 546, Fox, P. Ac. Philad. 1893; *Astata dispar*, Ohili, REED (871), p. 32, n. spp.
- Bembex*: monograph, with natural history, tables, figures of structural details, &c.; HANDLIRSCH, SB. Ak. Wien, cii, Abth. i.
- B. latitarsis*, Himalaya, p. 707, *cameronis*, S. Africa, p. 715, *barbara*, Algeria, p. 717, *bubalus*, S. Africa, p. 719, *cinctella*, Greece, p. 721, *weberi*, N. China, p. 723, *gracilis*, p. 725, *ganglbaueri*, p. 732, Transcaspian Region, *orientalis*, E. India, p. 737, *afra*, p. 740, *karschii*, p. 742, S. Africa, *egens*, p. 753, *calcarina*, p. 754, *lobimana*, p. 755, *marsupiata*, p. 757, *trepida*, p. 759, *cursorans*, p. 762, Australia, *amana*, N. America, p. 769, *indica*, E. India, p. 771, *mobii*, Delagoa Bay, p. 775, *taschenbergii*, E. India, p. 776, *papua*, p. 779, *pugillatrix*, p. 780, Celebes, &c., *budha*, p. 782, *pinguis*, p. 784, E. India, *monedula*, Delagoa Bay, p. 789, *physopoda*, Brazil, p. 790, *ressonni*, Texas, p. 792, *insignis*, Georgia, p. 793, *dentilabris*, Lower California, p. 794, *mima*, Mexico, p. 795, *melanopa*, S. Africa, p. 797, *forcipata*, Zanzibar, p. 798, *labidura*, Central Africa, p. 799, *dahlbomii*, N. Africa, p. 806, *baumanni*, Transvaal, p. 813, *capicola*, S. Africa, p. 814, *braunsii*, p. 815, *kriechbaumeri*, W. Africa, p. 816, *velox*, Zanzibar, p. 819, *stadelmanni*, Mombasa, p. 820, *modesta*, Guinea, p. 821, *arenaria*, Syria, p. 823, *muscicapa*, Central and S. America, p. 828, *troglydytes*, Mexico, p. 829, *inops*, Buenos Ayres, p. 833, *cinerea*, Georgia, p. 837, *truncata*, p. 840, *infumata*, p. 841, Mexico, *lamellata*, p. 842, *musca*, p. 844, Australia, *finschii*, New Guinea, p. 845, *brunneri*, Algeria, p. 848, *sibilans*, S. Africa, p. 852, *bolivari*, Mediterranean, p. 860, *ochracea*, S. Africa, p. 864, *radoszkowskyi*, Tropical Africa, p. 865, *borrei*, India and Java, p. 866, *saussurei*, p. 873, *pectinipes*, p. 875, Australia, *difformis*, Bahia, p. 878, *anilis*, Venezuela, p. 886, *pygidialis*, Amazonas, p. 887, *separanda*, N. America, p. 902, *smithii*, Brazil, p. 904, *panzeri*, Germany, p. 906, HANDLIRSCH, SB. Ak. Wien, cii, Abth. i; *B. westoni*, p. 380, pl. i, fig. 1, *hesione*, p. 381, *ovans*, p. 384, Tenasserim, BINGHAM, J. Bombay Soc. viii; *B. occidentalis*, Lower California, Fox, p. 10, P. Calif. Ac. iv: n. spp.
- Brachycistis*, n. g., near *Photopsis*, p. 7, for *B. petiolatus*, n. sp., Lower California, p. 8; Fox, P. Calif. Ac. iv.
- Brachycistus elegantulus*, New Mexico, COCKERELL & CASAD, p. 295, Ent. News Philad. v, n. sp.
- Cemonas rugifer* and *unicolor*, distinctions; BALDINI, p. 52, Atti Soc. Modena (3) xiii.

- Cerceris vitticollis*, p. 348, *intëgra*, p. 350, *puncticeps*, p. 352, Turcomania; MORAWITZ, Horæ Soc. ent. Ross. xxviii; *C. iniqua*, Sierra Leone, KOHL, p. 288, Ann. Hofmus. Wien, ix; *C. gibbosa*, Tientsin, SICKMANN, p. 202, Zool. Jahrb. Syst. viii; *C. robertsonii*, Montana, FOX, p. 55, J. N. York Ent. Soc. i: n. spp.
- Chlorion cæruleum*, var. = (*ærarium*); PATTON, p. 46, P. ent. Soc. Washington, iii.
- Clytemnestra multistrigosa*, Chili, REED (871), p. 41, n. sp.
- Crabro varentzowi*, p. 362, *finitimus*, p. 364, Turcomania, MORAWITZ, Horæ Soc. ent. Ross. xxviii; *C. chinensis*, Tientsin, SICKMANN, p. 199, Zool. Jahrb. Syst. viii; *C. (Dasyproctus) braunsii*, p. 281, Gaboon, *saussurei*, Madagascar, p. 282, *rabiosus*, Cape Lopez, *arabs*, Tor, p. 283, *infantulus*, Calcutta, *venans*, Palaw I., p. 284, KOHL, Ann. Hofmus. Wien, ix; *C. imbutus*, Lower California, FOX, p. 108, P. Calif. Ac. iv; *C. chilensis*, Chili, REED (871), p. 52: n. spp.
- Didineis nodosa*, p. 127, *peculiaris*, p. 128, N. America, FOX, Ent. News Philad. v, n. spp.
- Dielis cultrata*, Damma I., KIRBY, p. 108, Ann. Nat. Hist (6) xiv, n. sp.
- Dienoplus*, n. g., near *A status*, p. 548, for *D. pictifrons*, n. sp., Washington, p. 549; FOX, P. Ac. Philad. 1893.
- Dumonela*, n. g., for *Monedula sericea*, Spinola; REED (871) p. 12.
- Ectemnius serotinus*, Sicily, PEREZ, p. 216, Natural. Sicil. xiii, n. sp.
- Fedtschenkia indigotea*, description; MORAWITZ, p. 335, Horæ Soc. ent. Ross. xxviii.
- Gastrophæria*: characters and synonymy; PATTON, p. 46, P. ent. Soc. Washington, iii.
- Gorytes rufinodis*, description; MORAWITZ, p. 356, Horæ Soc. ent. Ross. xxviii.
- G. flaviventris*, Turcomania, MORAWITZ, p. 358, Horæ Soc. ent. Ross. xxviii; *G. monstrosus*, Zanzibar, HANDLIRSCH, p. 286, Ann. Hofmus. Wien, ix: n. spp.
- Homogambrus roseiventris*, Turcomania, MORAWITZ, Horæ Soc. ent. Ross. xxviii, n. sp.
- Isodontia azteca*, = (*macrocephala*, FOX); PATTON, p. 46, P. ent. Soc. Washington, iii.
- Larra transcaspica*, Turcomania, MORAWITZ, p. 340, Horæ Soc. ent. Ross. xxviii; *L. pseudanathema*, *mundula*, p. 296, *L. (Liris) opipara*, p. 297, *L. (Notogonia) odontophora*, p. 298, *cyphononyx*, p. 299, *primania*, p. 301, *thysanoma*, W. Africa, *nugax*, S. Africa, p. 302, *fraudulenta*, p. 303, *palumbula*, p. 304, W. Africa, KOHL, Ann. Hofmus. Wien, ix; *L. obscura*, Tientsin, SICKMANN, p. 213, Zool. Jahrb. Syst. viii: n. spp.
- Larrada pisonoides*, p. 36, *rufiventris*, p. 37, *variicornis*, p. 38, Chili, REED (871), n. spp.
- Larraxena dux*, male described; KOHL, p. 306, Ann. Hofmus. Wien, ix.
- Liphanthus*, n. g., *Philanthides*, p. 49, for *L. sabulosus*, n. sp., Chili; REED (871).

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 ent. Ross. xxviii, n. spp.

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Mutilla: table of characters and various notes on E. Indian species; ANDRÉ, pp. 462-484, J. Bombay Soc. viii.

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- Palarus flavipes*, n. var. *varius*; SICKMANN, p. 215, Zool. Jahrb. Syst. viii. *P. affinis*, female described; MORAWITZ, p. 344, Horæ Soc. ent. Ross. xxviii.
- Paratiphia æqualis*, Lower California, FOX, p. 96, P. Calif. Ac. iv, n. sp.
- Pemphredon shuckardi* and *wesmaeli*, characters and synonymy; SAUNDERS, p. 35, Ent. Mag. 1894.
- Pelopæus spirifex*, habits, sections of nests; COUPIN, pp. 21 & 22, Nature (La), 1894 (2), cuts.
- Pepsis hespericæ*, California, PATTON, p. 46, P. ent. Soc. Washington, iii; *P. aurocincta*, p. 1, *chrysochlamys*, Brazil, *deaurata*, Peru, p. 2, *opulenta*, Brazil, p. 3, *asteria*, Peru, *pictipennis*, Bolivia, p. 4, *pruinosa*, Brazil, p. 5, *nestor*, S. America, *flavicornis*, Brazil, p. 7, *nigricornis*, Peru, *nireus*, Brazil, p. 8, *lepida*, Chiriqui, p. 9, *sagana*, p. 10, *hyperion*, *citreicornis*, p. 11, *brevicornis*, Brazil, *lativalvis*, p. 12, *nitens*, p. 13, Chiriqui, MOCSÁRY, Termes. Fuzetek, xvii : n. spp.
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- P. territus*, New Mexico, COCKERELL, p. 200, Ent. News Philad. v; *P. nigriventris*, p. 5, *blakeii*, p. 6, Lower California, FOX, P. Calif. Ac. iv : n. spp.
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- Plenoculus propinquus*, p. 537, *cockerellii*, p. 538, N. America, FOX, P. Ac. Philad. 1893, n. spp.
- Pompilus sericerus*, = (*acuminatus*, Sm.); SAUNDERS, p. 35, Ent. Mag. 1894. *P. testaceus*, female described; MORAWITZ, p. 337, Horæ Soc. ent. Ross. xxviii.
- P. hasdrubal*, Spain, *braunsi*, p. 314, *venans*, p. 315, W. Africa, *furibundus*, Delagoa Bay, p. 316, *præpotens*, Mozambique, p. 318, KOHL, Ann. Hofmus. Wien, ix; *P. cameronii*, pl. i, fig. 6, *ilus*, fig. 7, Birma, BINGHAM, p. 378, J. Bombay Soc. viii; *P. nesophilus*, Fernando Noronha, KIRBY, J. Linn. Soc. xx; *P. connexus*, p. 24, *porus*, p. 98, *æquus*, p. 99, Lower California, FOX, P. Calif. Ac. iv : n. spp.
- Prionemis agenioides*, Illinois, FOX, p. 54, J. N. York Ent. Soc. i, n. sp.
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- P. hypsipyla*, Tenasserim, BINGHAM, p. 370, J. Bombay Soc. viii; *P. infantula*, *cameruna*, p. 307, *enodans*, p. 308, W. Africa, *egena*, S. Africa, p. 309, *spilotænia*, p. 310, *commendabilis*, p. 311, W. Africa, KOHL, Ann. Hofmus. Wien, ix : n. spp.
- Pseudolarra maculata*, Chili, REED, p. 43 (871), n. sp.
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- S. semicastaneus*, Turcomania, MORAWITZ, p. 338, Horæ Soc. ent. Ross. xxviii; *S. elizabethæ*, Tenasserim, BINGHAM, p. 372, pl. i, fig. 9, J. Bombay Soc. viii; *S. (Hemipepsis) occallescens*, Madagascar, p. 312, *verendus*, Mozambique, p. 313, KOHL, Ann. Hofmus. Wien, ix : n. spp.
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- Sceliphron kohli*, p. 218, *S. (Chalybion) inflexum*, p. 220, Tientsin, SICKMANN, Zool. Jahrb. Syst. viii, n. spp.
- Scolia hirta*, metamorphoses; XAMBEU, p. 245, Naturaliste, 1894.
- S. (Discolia) clypeata*, Tientsin, SICKMANN, p. 223, Zool. Jahrb. Syst. viii, n. sp.
- Solierella atra*, Chili, REED (871), p. 39, n. sp.
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- Sphæx splendidulus*, life-history; NICOLAS, pp. 636-646, C.R. Ass. Franc. xxii (2). *S. sp.*, capturing locusts; Nature (La), 1894 (2), p. 365. *S. mocsaryi* and *argentata*, distinctions; MORAWITZ, p. 339, Horæ Soc. ent. Ross. xxviii.
- S. maia*, Tenasserim, BINGHAM, p. 379, J. Bombay Soc. viii, n. sp.
- Steniola edwardsii*, = (*duplicata*, Prov.); PATTON, p. 45, P. ent. Soc. Washington, iii.
- Stizus eximius*, Turcomania, MORAWITZ, p. 360, Horæ Soc. ent. Ross. xxviii; *S. braunsii*, Tropical Africa, HANDLIRSCH, p. 287, Ann. Hofmus. Wien, ix : n. spp.
- Tachysphæx desertorum*, Turcomania, MORAWITZ, p. 342, Horæ Soc. ent. Ross. xxviii; *T. ashmeadii*, p. 509, *posterus*, p. 510, *spinus*, p. 511, *crenulatus*, p. 512, *spissatus*, p. 514, *dubius*, p. 515, *asperatus*, antenna-

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- P. alluaudi*, Seychelles, EMERY, p. 71, Ann. Soc. ent. France, 1894; 1894. [VOL. XXXI.]

- P. rothnéyi*, pp. 414 & 415, with st. *watsonii*, p. 416, *jerdonii*, p. 416, *rogeri*, *exigua*, p. 417, E. India, FOREL, J. Bombay Soc. viii; *P. steingroveri*, Angra Pequena, FOREL, p. 73, Mt. Schweiz. ent. Ges. ix : n. spp.
- Platyhyrea lamellosa*, r. *longinoda*, n. st.; FOREL, p. 75, Mt. Schweiz. ent. Ges. ix.
- Plectroctena caffra*, n. st. *major*; FOREL, p. 74, Mt. Schweiz. ent. Ges. ix.
- Pogonomyrmez badius*, n. var. *estebanius*; PERGANDE, p. 33, P. Calif. Ac. iv.
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- P. spinicola*, Delagoa, p. 70, FOREL, Mt. Schweiz. ent. Ges. ix; *P. wroughtonii*, p. 398, *phipsoni*, p. 399, E. India, FOREL, J. Bombay Soc. viii : n. spp.
- Ponera melunaria*, n. var. *macra*; EMERY, p. 68, Ann. Soc. ent. France, 1894.
- P. eduardi*, Oran, FOREL, p. 15, Bull. Soc. Vaudoise, xxx; *P. ragusai*, Sicily, EMERY, p. 28, Natural. Sicil. xiv : n. spp.
- Prenolepis madagascariensis*, n. var. *sechellensis*; EMERY, p. 71, Ann. Soc. ent. France, 1894. *P. bourbonica*, r. *bengalensis*, n. st.; FOREL, p. 408, J. Bombay Soc. viii.
- P. yerburyi*, *indica*, p. 409, *taylori*, *smythiesii*, p. 410, E. India, FOREL, J. Bombay Soc. viii, n. spp.
- Procryptocerus*: species and varr. revised; EMERY, pp. 196-201, Bull. Soc. ent. Ital. xxvi.
- P. balzani*, Bolivia, p. 199, *sulcatus*, Rio Janeiro, p. 200, EMERY, Bull. Soc. ent. Ital. xxvi, n. spp.
- Pseudolasius risii*, Hong-kong, FOREL, p. 405, J. Bombay Soc. viii, n. sp.
- Pseudomyrma arboris sanctæ*, Bolivia, EMERY, p. 147, Bull. Soc. ent. Ital. xxvi, n. sp.
- Rhopalothrix*: characters of species; EMERY, p. 216, Bull. Soc. ent. Ital. xxvi.
- R. jheringi*, head of ♀ figured; JHERING, p. 385, Berlin. ent. Zeitschr. xxxix.
- R. balzani*, Bolivia, p. 217, pl. i, fig. 10, *batesi*, Amazons, p. 218, pl. i, fig. 11, EMERY, Bull. Soc. ent. Ital. xxvi, n. spp.
- Rogeria germani*, Matto Grosso, p. 189, *curvipubens*, St. Thomas, p. 190, EMERY, Bull. Soc. ent. Ital. xxvi, n. spp.
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- Sima liengmei*, Delagoa, FOREL, p. 88, Mt. Schweiz. ent. Ges. ix, n. sp.
- Solenopsis punctaticeps*, n. var. *caffra*; FOREL, p. 99, Mt. Schweiz. ent. Ges. ix. *S. debilis*, habits; FORBES, Rep. Ins. Illinois, xviii, p. 9, pl. ii, fig. 2.
- S. latro*, p. 21, *oraniensis*, p. 22, Oran, FOREL, Bull. Soc. Vaudoise, xxx; *S. wasmanni*, Bolivia, EMERY, p. 151, Bull. Soc. ent. Ital.

- xxvi ; *S. angulata*, Rio Grande do Sul, EMERY, p. 393, Berlin. ent. Zeitschr. xxxix : n. spp.
- Strumigenys unispinulosa*, n. var. *longicornis*, p. 214, *saliens*, n. var. *procera*, p. 215, pl. i, fig. 9 ; EMERY, Bull. Soc. ent. Ital. xxvi.
- S. schulzi*, Parà, p. 213, pl. i, fig. 7, *fusca*, Amazons, p. 215, fig. 8, EMERY, Bull. Soc. ent. Ital. xxvi, n. spp.
- Tetramorium sericeiventre*, n. var. *debile*, *simillimum* r. *delagoense*, n. st. ; FOREL, p. 80, Mt. Schweiz. ent. Ges. ix.
- T. gracile*, p. 81, *T. (Xyphomyrmex) edouardi*, p. 82, Abyssinia, FOREL, Mt. Schweiz. ent. Ges. ix ; *T. balzani*, Paraguay, EMERY, p. 165, Bull. Soc. ent. Ital. xxvi : n. spp.
- Thaumatomyrmex mutilatus*, figure ; JHERING, p. 380, Berlin. ent. Zeitschr. xxxix.
- Triglyphothrix eminii*, Abyssinia, FOREL, p. 79, Mt. Schweiz. ent. Ges. ix, n. sp.
- Typhlomyrmex pusillus*, Bolivia, EMERY, p. 141, pl. i, fig. 2, Bull. Soc. ent. Ital. xxvi, n. sp.
- Vollenhovia lavithorax*, n. subsp., *alluaudi*, p. 68, n. var. *rufescens*, p. 69, EMERY, Ann. Soc. ent. France, 1894.
- Wasmannia villosa*, Rio Grande do Sul, p. 194, *sulcaticeps*, Buenos Ayres, p. 195 ; EMERY, Bull. Soc. ent. Ital. xxvi.

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- [Cf. ASHMEAD (23, 25, 27-32, 926), BERTHOUMIEU (75, 76), BIGNELL (89, 90), BORDAS (111, 121), COCKERELL (126), DAVIS (221, 222), DOMINIQUE (235), GILLETTE (371), HOWARD (453, 454, 456, 459, 926), KIRBY (911), KRIECHBAUMER (604-610), MARSHALL (677), MONIEZ (725), PATTON (795), RILEY, ASHMEAD & HOWARD (926), SHIPP (1012, 1015), SICKMANN (1016), STADELMANN (1038), STRATON (1052), THOMSON (1067), VINE (1111), ZABRISKIE (1172).]

CHRYSIDIDÆ.

- Pp. 273-400, pls. vii-xix (two plates are each numbered xix), of DU BUYSSON's work on *Chrysididæ* in ANDRÉ's *Species des Hyménoptères* have been published in 1894.
- Chrysis desidirosa*, Caucasus, p. 280, *djelma*, p. 285, *simplicicornis*, p. 328, *illudens*, p. 334, *tumens*, p. 344, Algeria, *elzearii*, p. 346, *dichropsis*, p. 378, Syria, *innesi*, Egypt, p. 391, BUYSSON in ANDRÉ, Spec. Hym. vi ; *C. mesilla*, New Mexico, COCKERELL, p. 125, Ent. News Philad. v : n. spp.
- Parnopes festivus*, New Mexico, COCKERELL, p. 328, Ent. News Philad. v, n. sp.

ICHNEUMONIDÆ.

- Numbers of species of the various tribes, geographical distribution, &c.;
TOSQUINET, pp. 693-698, Ann. Soc. ent. Belgique, xxxviii.
- Poison-glands in *Ichneumonidæ*; BORDAS, Zool. Anz. xvii, pp. 385-387.
- Salivary-glands; BORDAS, Zool. Anz. xvii, p. 131.
- Synonymy of the Provancher *Ichneumonidæ*, referring many species to
different genera; DAVIS, P. Ac. Philad. 1894, pp. 184-190.
- Notes on parasitic *Hymenoptera*; BIGNELL, Rep. Plymouth Inst. i,
pp. 276-284.
- Parasites and hyper-parasites of *Aphididæ* discussed; VINE, pp. 22-24,
Int. J. Micr. (3) iv.
- List and descriptions of the parasitic *Hymenoptera* of St. Vincent, West
Indies; RILEY, ASHMEAD & HOWARD (926).
- Monograph of *Ichneumonidæ* of Europe commenced by BERTHOUMIEU in
Ann. Soc. ent. France, 1894.
- List of the *Ichneumonidæ* of Southern Bavaria; JEMILLER (490).
- Amblyteles*: notes on the types of Tischbein; KRIECHBAUMER, pp. 162-
172, Ent. Nachr. xx. *A. binotatus*, ♂; KRIECHBAUMER, p. 25,
op. cit. 1894.
- A. infuscatus*, *coracinus*, *bolivari*, *impolitus*, p. 179, *unidentatus*, *pici*,
massiliensis, *distycus*, p. 180, Europe and Algeria, BERTHOUMIEU,
Rev. Sci. Bourbonnais, vii, n. spp.
- Angitia americana*, Vancouver I., HARRINGTON, p. 246, Canad. Ent. 1894,
n. sp.
- Anisobas 4-notatus*, Loango, KRIECHBAUMER, p. 44, Berlin. ent. Zeitschr.
xxxix, n. sp.
- Apæleticus balearicus*, Mallorca, KRIECHBAUMER, p. 241, An. Soc. Espan.
xxiii, n. sp.
- Arenetra pallipes*, Vancouver I., HARRINGTON, p. 250, Canad. Ent. 1894,
n. sp.
- Arotes annulicornis*, p. 55, *ustulatus*, p. 56, Hungary, KRIECHBAUMER,
Termes. Fuzetek, xvii, n. spp.
- Astiphromma mexicanus*, Lower California, ASHMEAD, p. 129, P. Calif. Ac.
iv, n. sp.
- Atropha*, n. g., *Pimplides*, for *A. 4-annulata*, n. sp., Natal; KRIECH-
BAUMER, p. 306, Berlin, ent. Zeitschr. xxxix.
- Barichneumon*, n. subg. of *Ichneumon*; THOMSON, p. 1959, Opusc.
- Bassus balearicus*, Mallorca, KRIECHBAUMER, p. 246, An. Soc. Espan.
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- Brachycoryphus*, n. g., *Cryptides*, p. 46, for *B. calabaricus*, *braunsii*,
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BAUMER, Berlin, ent. Zeitschr. xxxix.
- Campoplex foveolatus*, male described; THOMSON, p. 1863, Opusc.
- C. meridionalis*, St. Vincent, ASHMEAD, p. 139, J. Linn. Soc. xxv, n. sp.
- Cunidia balearica*, Mallorca, KRIECHBAUMER, p. 253, An. Soc. Espan.
xxiii, n. sp.

- Casinaria parvula*, Mallorca, KRIECHBAUMER, p. 253, An. Soc. Espan. xxiii, n. sp.
- Catadelphus anceyi*, Algeria, BERTHOUMIEU, p. 181, Rev. Sci. Bourbonnais, vii, n. sp.
- Centeterus canadensis*, Vancouver I., HARRINGTON, p. 210, Canad. Ent. 1894, n. sp.
- Chæretymma ashmeadii*, Vancouver I., HARRINGTON, p. 212, Canad. Ent. 1894, n. sp.
- Calichneumon*, n. subg. of *Ichneumon*, p. 1901, with *tenuitarsis*, p. 1907, *coactus*, p. 1908, n. spp., Sweden; THOMSON, Opusc.
- Coleocentrus ezareolatus*, Hungary, KRIECHBAUMER, p. 59, Termes. Fuzetek, xvii, n. sp.
- Cratichneumon*, n. subg. of *Ichneumon*, p. 1945, including amongst others the following n. spp., *albiscuta*, p. 1946, *parviscopa*, p. 1950, Sweden; THOMSON, Opusc.
- Cremastus* ? *insularis*, St. Vincent, ASHMEAD, p. 140, J. Linn. Soc. xxiv, n. sp.
- Cremnodes canadensis*, Queen Charlotte Is., HARRINGTON, p. 213, Canad. Ent. 1894, n. sp.
- Cryptus balearicus*, Mallorca, KRIECHBAUMER, p. 242, An. Soc. Espan. xxiii; *C. nigritarsis*, Teneriffe, KRIECHBAUMER, p. 45, Berlin. ent. Zeitschr. xxxix; *C. vancouverensis*, *victoriensis*, p. 211, *flavipes*, p. 212, Vancouver I., HARRINGTON, Canad. Ent. 1894, n. spp.
- Ephialtes pacificus*, p. 248, *vancouverensis*, p. 249, Vancouver I., HARRINGTON, Canad. Ent. 1894, n. spp.
- Eurylabus ruficornis*, Oran, BERTHOUMIEU, p. 181, Rev. Sci. Bourbonnais, vii, n. sp.
- Exochus tegularis*, St. Vincent, ASHMEAD, p. 141, J. Linn. Soc. xxv, n. sp.
- Gausocentrus gyrini*, Iowa, ASHMEAD, p. 25, Canad. Ent. 1894, n. sp.
- Glypta rufiventris*, Mallorca, KRIECHBAUMER, p. 249, An. Soc. Espan. xxiii, n. sp.
- Goniocryptus parvulus*, Mallorca, KRIECHBAUMER, p. 243, An. Soc. Espan. xxiii, n. sp.
- Griphodes*, n. g., near *Ctenopalmatius*, for *G. caligatus*, n. sp., Hungary; KRIECHBAUMER, p. 57, Termes. Fuzetek, xvii.
- Hemiteles natalensis*, S. Africa, KRIECHBAUMER, p. 303, Berlin. ent. Zeitschr. xxxix; *H. occidentalis*, *piceiventris*, Vancouver I., HARRINGTON, p. 213, Canad. Ent. 1894: n. spp.
- Henicophatus*, n. g., resembling *Hoplisus*, for *H. rufithorax*, n. sp., W. Africa; KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix, p. 301.
- Heresiarchus eudoxius*, note on; KRIECHBAUMER, p. 27, Ent. Nachr. 1894.
- Herpestomus flavicoxæ*, Vancouver I., HARRINGTON, p. 210, Canad. Ent. 1894, n. sp.
- Homoparus bifoveolatus*, Mallorca, KRIECHBAUMER, p. 246, An. Soc. Espan. xxiii, n. sp.
- Hoplismenus plagiceps*, p. 43, *tricolor*, p. 44, W. Africa, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix, n. spp.

- Hoplocryptus mallorcanus*, Mallorca, KRIECHBAUMER, p. 243, An. Soc. Espan. xxiii, n. sp.
- Hypocryptus vancouverensis*, Victoria, HARRINGTON, p. 248, Canad. Ent. 1894, n. sp.
- Ichneumon*: the genus discussed, with characters of subgenera and of numerous species; THOMSON, Opusc. pp. 1899-1967; results of an examination of Tischbein's types; KRIECHBAUMER, pp. 248-256, 279-288, 315-333, & 337-345, Ent. Nachr. xx. *I. bilunulatus*, note on; KRIECHBAUMER, p. 27, Ent. Nachr. 1894.
- I. crassitarsis*, p. 1925, *micropnygus*, p. 1927, *5-notatus*, p. 1936, Sweden, THOMSON, Opusc.; *I. balearicus*, *moraguesi*, Mallorca, KRIECHBAUMER, p. 240, An. Soc. Espan. xxiii; *I. cinctor*, p. 48, *illustris*, p. 49, *sulphuratus*, p. 50, *lativentris*, p. 51, *fulvidactylus*, *sexguttatus*, p. 52, *leucurus*, p. 53, Hungary, KRIECHBAUMER, Termes. Fuzetek, xvii; *I. 6-annularis*, Spain, p. 537, *abeillei*, Marseilles, p. 540, *merula*, *corax*, Algeria, p. 542, *madritinus*, Spain, *metidjensis*, p. 545, *nigratus*, p. 554, *ampliventris*, p. 558, Algeria, *dorsosignatus*, p. 564, *eversmanni*, Oural Mountains, *validus*, p. 565, *crenatus*, p. 571, Caucasus, BERTHOUMIEU, Ann. Soc. ent. France, 1894; *I. apparitor*, *completus*, p. 178, *pici*, *analogus*, p. 179, Europe and Algeria, BERTHOUMIEU, Rev. Sci. Bourbonnais, vii; *I. tanganus*, p. 298, *leucotrochus*, p. 299, *semipictus*, p. 300, W. Africa, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix; *I. taylorii*, p. 209, *occidentalis*, p. 210, Vancouver I., HARRINGTON, Canad. Ent. 1894: n. spp.
- Ischnus*? *balearicus*, *I. pictipes*, Mallorca, KRIECHBAUMER, p. 242, An. Soc. Espan. xxiii: n. spp.
- Joppites*, n. g., for *Ich. xanthomelas*, Br.; BERTHOUMIEU, p. 511, Ann. Soc. ent. France, 1894.
- Lampronota albomaculata*, St. Vincent, ASHMEAD, p. 142, J. Linn. Soc. xxv, n. sp.
- Limneria mississippiensis*, N. America, ASHMEAD, p. 243, Insect Life, vii, n. sp.
- Lissonota cribrosa*, W. Africa, KRIECHBAUMER, p. 52, Berlin. ent. Zeitschr. xxxviii; *L. tongana*, W. Africa, KRIECHBAUMER, p. 305, op. cit. xxxix: n. spp.
- Lyneon annulicornis*, N. America, ASHMEAD, p. 243, Insect Life, vii, n. sp.
- Melanichneumon*, n. subg. of *Ichneumon*; THOMSON, p. 1954, Opusc.
- Meniscus ostentator*, p. 321, *slossonæ*, *comptus*, p. 322, *michiganensis*, *M. ? johnsonii*, p. 323, N. America, DAVIS, Canad. Ent. 1894, n. spp.
- Mesochorus unnilitarsis*, St. Vincent, ASHMEAD, p. 140, J. Linn. Soc. xxv, n. sp.
- Mesoleius*: characters discussed at length; THOMSON, pp. 1865-1872, Opusc.
- M. flavicornis*, p. 1875, *flavoscutellatus*, p. 1876, France, THOMSON, Opusc., n. spp.
- Mesostenus humilis*, Natal, KRIECHBAUMER, p. 302, Berlin. ent. Zeitschr. xxxix; *M. insularis*, St. Vincent, ASHMEAD, p. 138, J. Linn. Soc.

- xxv; *M. cingulatus*, p. 48, *seminiger*, p. 49, *pallidus*, p. 50, W. Africa, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxviii; *M. eisenii*, Lower California, ASHMEAD, p. 129, P. Calif. Ac. iv : n. spp.
- Metopius erythropus*, Hungary, KRIECHBAUMER, p. 58, Termes. Fuzetek, xvii, n. sp.
- Microcryptus tricolor*, p. 243, *contrarius*, p. 244, Mallorca, KRIECHBAUMER, An. Soc. Espan. xxiii, n. spp.
- Mischophorus*, n. g., near *Eurylabus*, for *M. flavosignatus*, n. sp., Hungary; KRIECHBAUMER, p. 54, Termes. Fuzetek, xvii.
- Neotypus bolivari*, Madrid, BERTHOUMIEU, p. 181, Rev. Sci. Bourbonnais, vii, n. sp.
- Nototrachys niger*, *minimus*, St. Vincent, ASHMEAD, p. 139, J. Linn. Soc. xxv, n. spp.
- Ophion (Hencospilus) rufus*, p. 307, *longescutellatus*, *albiger*, p. 308, Tropical Africa, *O. (Dispilus) natalensis*, Natal, p. 309, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix; *O. (Hencospilus) braunsii*, p. 53, *pellucidus*, p. 54, W. Africa, KRIECHBAUMER, t. c.; *O. melanarius*, N. China, SICKMANN, p. 197, Zool. Jahrb. Syst. viii; *O. subfuliginosus*, Lower California, ASHMEAD, p. 126, P. Calif. Ac. iv : n. spp.
- Orthocentrus variabilis*, p. 141, *insularis*, p. 142, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.
- Osprynchotus flavipes*, ♂; KRIECHBAUMER, p. 302, Berlin. ent. Zeitschr. xxxix.
- Otacustes chrysopæ*, p. 243, *atriceps*, p. 244, N. America, ASHMEAD, Insect Life, vii, n. spp.
- Pachymerus fuscipennis*, Tientsin, SICKMANN, Zool. Jahrb. Syst. viii, p. 197, n. sp.
- Paniscus medius*, Lower California, ASHMEAD, p. 128, P. Calif. Ac. iv, n. sp.
- Pezomachus* and *Hemiteles*, intermediate examples; PATTON, p. 119, Ent. News Philad. v.
- P. keenii*, Canada, HARRINGTON, p. 214, Canad. Ent. 1894, n. sp.
- Phæogenes bellulus*, *P. ? balearicus*, Mallorca, KRIECHBAUMER, An. Soc. Espan. xxiii, n. spp.
- Phobetes canadensis*, Vancouver I., HARRINGTON, p. 248, Canad. Ent. 1894, n. sp.
- Phygadenon anthracinus*, p. 244, *balearicus*, *micromelas*, p. 245, Mallorca, KRIECHBAUMER, An. Soc. Espan. xxiii, n. spp.
- Pimpla abdominalis*, Br., ♀ described; KRIECHBAUMER, p. 305, Berlin. ent. Zeitschr. xxxix. *P. inquisitor* and *pterelas*, habits; HAMILTON, p. 288, Ent. News Philad. v.
- P. bridgmani*, Devonshire, BIGNELL, p. 255, Ent. Mag. 1894; *P. semi-varia*, p. 247, *tricolor*, *P. (Epiurus) balearica*, p. 248, *P. cingulata*, p. 249, Mallorca, KRIECHBAUMER, An. Soc. Espan. xxiii; *P. castani-ventris*, p. 51, *quadricolor*, p. 52, Teneriffe, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix : n. spp.

- Platylabus histrio*, ♀ ; KRIECHBAUMER, p. 26, Ent. Nachr. 1894.
- P. geometra*, Gironde, BERTHOUMIEU, p. 181, Rev. Sci. Bourbonnais, vii ;
P. suborbitalis, Hungary, KRIECHBAUMER, p. 55, Termes. Fuzetek,
 xvii ; *P. pacificus*, Vancouver I., HARRINGTON, p. 210, Canad. Ent.
 1894 : n. spp.
- Polyamma*, n. g., *Pimplides*, for *Pimpla continua*, Br. ; KRIECHBAUMER,
 p. 304, Berlin. ent. Zeitschr. xxxix.
- Polyomorus*, n. g., *Tryphonidarum*, for *P. gagatinus*, n. sp., Worms ;
 KRIECHBAUMER, p. 60, Ent. Nachr. xx.
- Polysphincta* sp. : larva on spiders ; GIARD, p. clv, Bull. Soc. ent. France,
 1894.
- Protichneumon*, n. subg. of *Ichneumon* ; THOMSON, p. 1899, Opusc.
- Pyracmon vancouverensis*, Victoria, HARRINGTON, p. 246, Canad. Ent.
 1894, n. sp.
- Rhynchobanchus*, n. g., p. 59, near *Banchus*, for *R. bicolor*, n. sp., Hungary,
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- Rhynchopimpla*, n. g., for *Pimpla interrupta*, Br. ; KRIECHBAUMER, p. 50,
 Berlin. ent. Zeitschr. xxxix.
- Sagaritis balearica*, *periscelis*, p. 250, *trochanterata*, *S. ♀ dorsalis*, p. 251,
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 n. spp.
- Semiodes seminiger*, Vancouver I., HARRINGTON, p. 247, Canad. Ent.
 1894, n. sp.
- Sphecophagus?* *prædator*, N. America, ZABRISKIE, p. 84, J. N. York
 Ent. Soc. ii, n. sp.
- Stenichneumon*, n. subg. of *Ichneumon* ; THOMSON, p. 1964, Opusc.
- Stenolabis*, n. g., *Pimplidarum*, for *S. cingulata*, n. sp., Heilbrunn ;
 KRIECHBAUMER, p. 59, Ent. Nachr. xx.
- Theronia 8-punctata*, Natal, KRIECHBAUMER, p. 304, Berlin. ent. Zeitschr.
 xxxix, n. sp.
- Thyreodon flammipennis*, Lower California, ASHMEAD, p. 125, P. Calif.
 Ac. iv, n. sp.
- Trogus fletcherii*, Vancouver I., HARRINGTON, p. 245, Canad. Ent. 1894,
 n. sp.
- Tropistes rufipes*, Bavaria, KRIECHBAUMER, p. 260, Ent. Nachr. xx, n. sp.
- Tryphon (Mesoleius) balearicus*, Mallorca, KRIECHBAUMER, p. 245, An. Soc.
 Espan. xxiii, n. sp.
- Zachresta dimidiata*, N. America, ASHMEAD, p. 243, Insect Life, vii, n. sp.
- Zaglyptus kincaidii*, Washington (on spider) ; ASHMEAD, p. 260, Insect
 Life, vi, n. sp.

BRACONIDÆ.

- Tribes and classification discussed ; THOMSON, Opusc. ent. xvii.
 Pp. 241-336 of the second part of *Braconides*, by MARSHALL, in
 ANDRÉ'S Species des *Hymenoptères*, have been published in 1894 :
 dealing with *Macrocentridæ*, *Diospilidæ*, *Ophiidæ*, *Alysiidæ*.

- Monograph of British *Braconidæ*, pt. v; MARSHALL, Tr. ent. Soc. London, 1894, pp. 497-534, pls. xi & xii. This is devoted to a portion of the *Alysiidæ*.
- Agathis rubricinctus*, p. 128, *pectoralis*, p. 129, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.
- Agryphon tibiale*, W. Africa, KRIECHBAUMER, p. 54, Berlin. ent. Zeitschr. xxxix, n. sp.
- Allæa contracta*, sexes figured; MARSHALL, pl. xi, figg. 3 & 3a, p. 505, Tr. ent. Soc. London, 1894.
- Alysia manducator*, ♀ figured; MARSHALL, pl. xi, fig. 4, Tr. ent. Soc. London, 1894.
- Blacus rubriceps*, St. Vincent, ASHMEAD, p. 131, J. Linn. Soc. xxv, n. sp.
- Brachyopatum*, n. g., *Eumicrodontides*, p. 312, for *B. pallidum*, n. sp., Natal, p. 313; KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix.
- Bracon crassicornis*, p. 1806, *concolor*, p. 1807, *longicauda*, *fuscipennis*, p. 1808, *parvicornis*, *pallicarpus*, *longulus*, p. 1809, *flavipalpis*, p. 1810, *macrurus*, p. 1811, *claripennis*, p. 1818, *foveola*, *efoveolatus*, p. 1819, *æqualis*, p. 1820, *crassiceps*, p. 1821, *brachycerus*, *facialis*, p. 1822, *flagellaris*, *grandiceps*, p. 1823, *gallicus*, p. 1824, *arcuatus*, *flicicornis*, p. 1827, *punctifer*, p. 1828, *brevicauda*, *lativentris*, p. 1831, Sweden, *scaber*, N. Italy, p. 1832, *striolatus*, *crassicauda*, p. 1835, *crassungula*, p. 1836, *tarsator*, p. 1837, Sweden, *bilineatus*, *semiflavus*, N. Italy, p. 1842, *pineti*, Munich, p. 1860, THOMSON, Opusc.; *B. niger*, p. 109, *xanthospilus*, *seminiger*, p. 110, *flavomaculatus*, *maculiceps*, p. 111, *femoratus*, *sancti-vincenti*, *vulgaris*, p. 112, St. Vincent, ASHMEAD, J. Linn. Soc. xxv : n. spp.
- Braunsia*, n. g., *Agathididæ*, p. 63, for *B. ruficeps*, *bicolor*, n. spp., W. Africa, p. 64, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix.
- B. analis*, p. 309, *fenestrata*, p. 310, Africa, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix, n. spp.
- Calyptus thoracicus*, St. Vincent, ASHMEAD, p. 131, J. Linn. Soc. xxv, n. sp.
- Camptocentrus*, n. g., *Rogadidarum*, p. 61, for *C. testaceus*, n. sp., W. Africa, p. 62, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix.
- Cardiochiles testaceus*, Cameroons, KRIECHBAUMER, p. 62, Berlin. ent. Zeitschr. xxxix, n. sp.
- Chelonus electus*, note, figure; HOWARD, p. 371, Insect Life, vi.
- C. albobasilaris*, Lower California, ASHMEAD, p. 123, P. Calif. Ac. iv;
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- Clinocentrus flaviventris*, St. Vincent, ASHMEAD, p. 123, J. Linn. Soc. xxv, n. sp.
- Celoides unguularis*, Sweden, THOMSON, p. 1846, Opusc., n. sp.
- Cremnops vulgaris*, habits, figure; HOWARD, p. 371, Insect Life, vi.
- C. anomala*, Sierra Leone, KRIECHBAUMER, p. 63, Berlin. ent. Zeitschr. xxxix; *C. melanoptera*, Lower California, ASHMEAD, p. 125, P. Calif. Ac. iv : n. spp.

- Dapsilarthra nigriceps*, W. Africa, KRIECHBAUMER, p. 66, Berlin. ent. Zeitschr. xxxix, n. sp.
- Diachasma pilosipes*, St. Vincent, ASHMEAD, p. 137, J. Linn. Soc. xxv, n. sp.
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- Dimeris maculipennis*, St. Vincent, ASHMEAD, p. 123, J. Linn. Soc. xxv, n. sp.
- Diospilus melasidis*, note, figure; DECAUX, p. 66, Naturaliste, 1894.
- Eupachylomma*, n. g., p. 58, type *Wesmaelia rileyi*, Ashm., with *E. flavocincta*, n. sp., N. America, p. 59; ASHMEAD, P. ent. Soc. Washington, iii.
- Eurybolus hemipterus*, Sweden, THOMSON, p. 1856, Opusc., n. sp.
- Exothecus nigricornis, nigrifrons*, W. Africa, KRIECHBAUMER, p. 59, Berlin. ent. Zeitschr. xxxix, n. spp.
- Ganychorus collaris*, St. Vincent, ASHMEAD, p. 131, J. Linn. Soc. xxv, n. sp.
- Gastrotheca bivittata*, Delagoa Bay, KRIECHBAUMER, p. 314, Berlin. ent. Zeitschr. xxxix, n. sp.
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- Idiasta maritima*, ♀ figured; MARSHALL, pl. xii, fig. 2, p. 521, Tr. ent. Soc. London, 1894.
- Iphiaulax atriceps*, p. 55, *haematostigma*, p. 56, *subauratus, nigridorsis*, p. 57, *testaceus*, p. 58, W. Africa, KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix, n. spp.
- Liophron minutus*, St. Vincent, ASHMEAD, p. 132, J. Linn. Soc. xxv, n. sp.
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- Microbracon pilosithorax*, St. Vincent, ASHMEAD, p. 114, J. Linn. Soc. xxv, n. sp.
- Microdus melanopleurus*, Lower California, ASHMEAD, p. 125, P. Calif. Ac. iv; *M. smithii, uncinatus*, p. 129, *insularis*, p. 130, St. Vincent, ASHMEAD, J. Linn. Soc. xxv : n. spp.
- Microgaster glomeratus*, natural history note; ROSSI, p. 101, Jahresber. Westfal. Ver. xxii.
- Myosoma pilosipes*, St. Vincent, ASHMEAD, p. 113, J. Linn. Soc. xxv, n. sp.
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- Opius luteus*, Natal, KRIECHBAUMER, p. 314, Berlin. ent. Zeitschr. xxxix; *O. salvini, melanocephalus*, p. 134, *insularis, unifasciatus, interstitialis*,

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- Pachylommatides* discussed, position is in *Braconidæ*; ASHMEAD, pp. 55-57, P. ent. Soc. Washington, iii.
- Pambolus annulicornis*, St. Vincent, ASHMEAD, p. 122, J. Linn. Soc. xxv, n. sp.
- Panerema inops*, figured; MARSHALL, pl. xi, fig. 1, p. 501, Tr. ent. Soc. London, 1894.
- Phanocarpa tabida*, ♀, pl. xii, fig. 3, p. 527, *eugenia*, fig. 4, p. 530, *pratella*, fig. 6, p. 531, figured, MARSHALL, Tr. ent. Soc. London, 1894.
- P. pleuralis*, St. Vincent, ASHMEAD, p. 137, J. Linn. Soc. xxv, n. sp.
- Phenotoma insularis*, p. 124, *humeralis*, *meridionalis*, p. 125, *fuscovaria*, p. 126, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.
- Phanerotoma leucobasis*, Lagos, KRIECHBAUMER, p. 62, Berlin. ent. Zeitschr. xxxix, n. sp.
- Praon absinthii*, Devonshire, BIGNELL, p. 255, Ent. Mag. 1894, n. sp.
- Pseudagathis*, n. g., *Eumicrodontidæ*, for *P. calabaricæ*, n. sp., W. Africa; KRIECHBAUMER, p. 65, Berlin. ent. Zeitschr. xxxix.
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- Stenophasmus terminalis*, St. Vincent, ASHMEAD, p. 114, J. Linn. Soc. xxv, n. sp.
- Toxoneura*: synopsis of North American; ASHMEAD, p. 47, P. ent. Soc. Washington, iii.
- T. pluto*, California, p. 49, *floridana*, Jacksonville, *californica*, Los Angeles, ASHMEAD, P. ent. Soc. Washington, iii; *T. atricornis*, St. Vincent, ASHMEAD, p. 132, J. Linn. Soc. xxv : n. spp.
- Toxoneuron viator*, variation; PATTON, p. 179, Psyche, vii.
- Trachyusa aurora*, figured, pl. xi, fig. 2, p. 504; MARSHALL, Tr. ent. Soc. London, 1894.
- Trimorus*, n. g., near *Exothecus*, for *T. nigripennis*, n. sp., Cameroons; KRIECHBAUMER, p. 60, Berlin. ent. Zeitschr. xxxix.
- Vipio radiatulus*, p. 1790, *rimulosus*, p. 1795, N. Italy, *guttiventris*, p. 1796, *heteropus*, *genalis*, Scandinavia, *sculpturatas* (sic), S. Europe, p. 1800, *brevicauda*, Sweden, *melanurus*, p. 1802, *obscuripennis*, Lapland, *longipalpis*, Sweden, p. 1803, *petiolaris*, Munich, p. 1859, THOMSON, Opusc.; *V. carnifex*, Mozambique, KRIECHBAUMER, p. 311, Berlin. ent. Zeitschr. xxxix : n. spp.

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- Evaniides* of the Nantes Region; DOMINIQUE (234).
- Evania divergens*, W. Africa, KOHL, p. 340, Ann. Hofmus. Wien, ix, n. sp.
- Fœnus*: wings are folded as in *Diploptera*; PATTON, p. 146, Canad. Ent. 1894.

- Pelecinius brunneipes*, Tennessee, PATTON, Amer. Natural. 1894, p. 896, n. sp.
Trigonalis natalensis, S. Africa, KRIECHBAUMER, p. 318, Ann. Soc. ent. Belgique, xxxix, n. sp.

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- Ablerus*, n. g., p. 7, *Aphelininæ*, for *A. clisiocampæ*, n. sp., N. America, p. 8, cut, p. 7; HOWARD, Insect Life, vii.
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- Ceratoneura*, n. g., p. 178, *Tetrastichinae*, for *C. petiolata*, *pallida*, n. spp., St. Vincent, p. 179; ASHMEAD, J. Linn. Soc. xxv.
- Cerchysius*, = (*Aseirba*, Cam.); HOWARD, p. 86, J. Linn. Soc. xxv.
- C. terebratus*, *pulchricornis*, St. Vincent, HOWARD, p. 87, J. Linn. Soc. xxv, n. spp.
- Cerocephala pityophthori*, p. 32, *scolytivora*, p. 33, Florida; ASHMEAD, P. ent. Soc. Washington, iii, n. spp.
- Chalcis cyaneus*, Fab., referred to *Chryseida*; ASHMEAD, p. 106, P. ent. Soc. Washington, iii. *C. (Brachymeria) varipes*, Wlk., note on; KRIECHBAUMER, p. 317, Berlin. ent. Zeitschr. xxxix.
- C. tarsalis*, Virginia, ASHMEAD, p. 332, Tr. Amer. ent. Soc. xxi, n. sp.
- Chalcura americana*, St. Vincent, HOWARD, p. 85, J. Linn. Soc. xxv, n. sp.
- Chilonneurus diaspidinarum*, N. America, on *Mytilaspis pomorum*, HOWARD, p. 256, Insect Life, vii, n. sp.
- Chryseida*: note on; ASHMEAD, pp. 319 & 323, Tr. Amer. ent. Soc. xxi; *Chryseida* and *Axina* referred to *Eurytominae*; ASHMEAD, p. 106, P. ent. Soc. Washington, iii.
- Chrysidea aurata*, St. Vincent, ASHMEAD, p. 150, J. Linn. Soc. xxv, n. sp.
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- Chrysopophagus*, n. g., *Encyrtinae*, for *C. compressicornis*, n. sp., N. America, p. 246; ASHMEAD, Insect Life, vii.
- Cirrospilus flavomaculatus*, Virginia, ASHMEAD, p. 341, Tr. Amer. ent. Soc. xxi, n. sp.
- Closterocercus leucopus*, *auriceps*, *albipes*, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.
- Coccophagus aurantii*, p. 231, *lunulatus*, p. 232, on red scale in California; HOWARD, Insect Life, vi, with figg., n. spp.
- Copidosoma diversicornis*, St. Vincent, HOWARD, p. 92, J. Linn. Soc. xxv, n. sp.
- Celops*, n. g., near *Halticella*, p. 316, for *C. palpebratus*, n. sp., Tropical Africa, p. 317; KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix.
- Cyrtogaster liqueatus*, Virginia, ASHMEAD, p. 336, Tr. Amer. ent. Soc. xxi; *C. dineutis*, Iowa, ASHMEAD, p. 26, Canad. Ent. 1894: n. spp.
- Decatomidea*, n. g., *Eurytominae*, for *D. xanthochroa*, Florida, *polygraphi*, Virginia, n. spp.; ASHMEAD, p. 322, Tr. Amer. ent. Soc. xxi.
- D. pallidicornis*, St. Vincent, ASHMEAD, p. 147, J. Linn. Soc. xxv, n. sp.
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- Diglyphus* ? *albipes*, *maculipennis*, St. Vincent, ASHMEAD, p. 167, J. Linn. Soc. xxv, n. spp.

- Dilocantha*, n. g., for *Thoracantha flavicornis*, Wlk.; SHIPP, p. 188, Entomologist, 1894.
- Elachistus proximus*, Virginia, ASHMEAD, p. 340, Tr. Amer. ent. Soc. xxi;
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- Elasminæ* : structure of tibiæ discussed ; HOWARD and others, P. ent. Soc. Washington, iii, pp. 13-15.
- Elasmus levifrons*, p. 101, *rugosus*, *punctatulus*, p. 102, *maculatus*, *helvus*, p. 103, *flavus*, *flaviventris*, *smithii*, p. 104, *punctatus*, p. 105, St. Vincent, HOWARD, J. Linn. Soc. xxv, n. spp.
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- Entedon bigelovia*, Arizona, ASHMEAD, p. 342, Tr. Amer. ent. Soc. xxi, n. sp.
- Erotolesia*, n. g., p. 99, *Pirenina*, for *E. compacta*, n. sp., St. Vincent, p. 100 ; HOWARD, J. Linn. Soc. xxv.
- Eudecatoma*, n. g., *Eurytomina*, type *Decatoma batatoides*, Ashm. ; ASHMEAD, p. 319, Tr. Amer. ent. Soc. xxi.
- Eudoxinna*, *Chryseida* and *Axima*, referred to *Eurytomina* ; ASHMEAD, p. 319, Tr. Amer. ent. Soc. xxi.
- Eulophus auripunctatus*, St. Vincent, ASHMEAD, p. 166, J. Linn. Soc. xxv, n. sp.
- Eupelmus piceus*, habits ; DAVIDSON, p. 269, Insect Life, vi.
- E. cleri*, p. 339, *juglandis*, p. 340, Virginia, ASHMEAD, Tr. Amer. ent. Soc. xxi, n. spp.
- Euperilampus opacus*, Colorado, ASHMEAD, p. 318, Tr. Amer. ent. Soc. xxi, n. sp.
- Eurytoma studiosa*, larva described ; TOWNSEND, p. 104, J. N. York Ent. Soc. ii. *E. gigantea*, ♂ described ; FYLES, p. 122, Canad. Ent. 1894.
- E. cleri*, p. 323, *crassineura*, p. 324, *agrili*, *lycti*, *tomici*, p. 325, *phlæotribi*, *magdalis*, p. 326, *phlæosini*, p. 327, N. America, ASHMEAD, Tr. Amer. ent. Soc. xxi ; *E. insularis*, p. 148, *peraffinis*, *maculiventris*, p. 149, St. Vincent, ASHMEAD, J. Linn. Soc. xxv : n. spp.
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- E. minima*, St. Vincent, ASHMEAD, p. 151, J. Linn. Soc. xxv, n. sp.
- Evoxysona*, n. g., *Eurytomina*, type *Systole brachyptera*, Ash. ; ASHMEAD, p. 328, Tr. Amer. ent. Soc. xxi.
- Ezochlanus*, n. g., type *Leucospis anthidioides*, Westw. ; SHIPP, p. 245, Ent. Mag. 1894.
- Ganosoma dispar*, Fernando Noronha, KIRBY, p. 537, J. Linn. Soc. xx, n. sp.
- Glyphe punctata*, St. Vincent, ASHMEAD, p. 162, J. Linn. Soc. xxv, n. sp.
- Gyrolasia bicolor*, *ciliata*, *femorata*, p. 180, *metallica*, p. 181, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.

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- Hoplocrepis albiclavus*, ♂ described, ASHMEAD, p. 165, J. Linn. Soc. xxi.
- Isomerala*, n. g., for *Thoracantha coronata*, Westw.; SHIPP, p. 188, Entomologist, 1894.
- Isosoma albomaculatum*, *montanum*, p. 329, *nevadense*, p. 330, N. America, ASHMEAD, Tr. Amer. ent. Soc. xxi; *I. heteromera*, St. Vincent, ASHMEAD, p. 151, J. Linn. Soc. xxv : n. spp.
- Isosomocharis*, n. g., *Eurytominae*, for *I. sulcata*, n. sp., Florida; ASHMEAD, p. 331, Tr. Amer. ent. Soc. xxi.
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- Latocantha*, n. g., for *Thoracantha nasua*, Wlk.; SHIPP, p. 188, Entomologist, 1894.
- Lasionychnus*, n. g., for *Thoracantha flabellata*, Westw.; SHIPP, p. 188, Entomologist, 1894.
- Lelaps flavescens*, St. Vincent, ASHMEAD, p. 156, J. Linn. Soc. xxv, n. sp.
- Leucospis rufo-notata*, synonymy; SHIPP, Entomologist, 1894, p. 16.
- L. ? carinifera*, Natal, KRIECHBAUMER, p. 314, Berlin. ent. Zeitschr. xxxix, n. sp.
- Lochites auriceps*, St. Vincent, ASHMEAD, p. 153, J. Linn. Soc. xxv, n. sp.
- Melittobia*: in nests of *Vespa*; ZABRISKIE, p. 85, J. N. York Ent. Soc. ii.
- Meraporus nigrocyanus*, St. Vincent, ASHMEAD, p. 159, J. Linn. Soc. xxv, n. sp.
- Micrapion*, n. g., near *Leucospis*, p. 315, for *M. bilineatum*, n. sp., Mozambique, p. 316; KRIECHBAUMER, Berlin. ent. Zeitschr. xxxix.
- Miotropis clisiocampæ*, Virginia, ASHMEAD, p. 341, Tr. Amer. ent. Soc. xxi; *M. nigricans*, *versicolor*, St. Vincent, HOWARD, p. 106, J. Linn. Soc. xxv : n. spp.
- Omphale varicolor*, St. Vincent, ASHMEAD, p. 168, J. Linn. Soc. xxv, n. sp.
- Orasema minutissima*, St. Vincent, HOWARD, p. 84, J. Linn. Soc. xxv, n. sp.
- Oxycooryphe*, n. g., for *O. subænea*, n. sp., W. Africa; KRIECHBAUMER, p. 67, Berlin. ent. Zeitschr. xxxix.
- Paracarotomus*, n. g., *Sphegigasterini*, p. 335, for *P. cephalotes*, n. sp., Virginia, p. 336; ASHMEAD, Tr. Amer. ent. Soc. xxi.

- Paraolina*, n. g., *Eulophina*, for *P. lineatifrons*, n. sp., St. Vincent ;
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- Pentastichus*, n. g., near *Tetrastichus*, p. 187, for *P. xanthopus*, n. sp., St.
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- Perilampus politifrons*, St. Vincent, HOWARD, p. 85, J. Linn. Soc. xxv,
n. sp.
- Phylloxerozenus*, n. g., *Eurytomina*, type *Eurytoma phylloxera*, Ashm. ;
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- Picroscytus nigro-cyaneus*, St. Vincent, ASHMEAD, p. 158, J. Linn. Soc.
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- Podagrion brasiliensis*, St. Vincent, HOWARD, p. 83, J. Linn. Soc. xxv,
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- Prospalta*, n. g., *Aphelinina*, for *P. murfeldtii*, n. sp., N. America, and
Coccophagus aurantii, How. (*suprà*) ; HOWARD, p. 6, Insect Life, vii.
- Pteromalus rugoso-punctatus*, St. Vincent, ASHMEAD, p. 165, J. Linn. Soc.
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- Rhipipallus* (?) *turneri*, Queensland, KIRBY, p. 47, Ann. Nat. Hist. (6) xiv,
n. sp.
- Rileyella mellea*, Florida, *oecanthi*, N. America, ASHMEAD, p. 321, Tr. Amer.
ent. Soc. xxi, n. spp.
- Roptrocercus auratus*, St. Vincent, ASHMEAD, p. 158, J. Linn. Soc. xxv,
n. sp.
- Sericops*, n. g., *Perilampidae*, for *S. fasciata*, n. sp., Gaboon ; KRIECH-
BAUMER, p. 68, Berlin. ent. Zeitschr. xxxix.
- Signiphora*, p. 233, and *S. flavopalliata*, p. 235, redescribed, and n. subfam.
Signiphorina proposed, p. 234 ; HOWARD, Insect Life, vi.
- S. occidentalis*, California, HOWARD, p. 235, with fig., p. 234, Insect Life,
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- Spalangiina* : N. American monographed ; ASHMEAD, pp. 27-37, P. ent.
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- Spalangia rugosicollis*, p. 36, *haematobia*, p. 37, North America, ASHMEAD,
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- Spilochalcis nigritus*, p. 79, *misturatus*, p. 80, St. Vincent, HOWARD,
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- Spintherus* ? *dubius*, St. Vincent, ASHMEAD, p. 159, J. Linn. Soc. xxv,
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- Stinoplus cyaneus*, Virginia, ASHMEAD, p. 338, Tr. Amer. ent. Soc. xxi,
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- Stomatocera rubra*, Arizona, ASHMEAD, p. 332, Tr. Amer. ent. Soc. xxi,
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- Sympiesis unicarinatus*, Virginia, ASHMEAD, p. 343, Tr. Amer. ent. Soc.
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- Syntomaspis punctifrons*, St. Vincent, ASHMEAD, p. 154, J. Linn. Soc. xxv,
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- Syntomosphyrum orgyia*, Virginia, ASHMEAD, p. 343, Tr. Amer. ent. Soc.

- xxi; *S. insularis*, St. Vincent, ASHMEAD, p. 181, J. Linn. Soc. xxv : n. spp.
- Systole minuta*, Florida, ASHMEAD, p. 319, Tr. Amer. ent. Soc. xxi; *S. ? abnormis*, St. Vincent, ASHMEAD, p. 146, J. Linn. Soc. xxv : n. spp.
- Systolodes*, n. g., *Eurytominae*, for *S. brevicornis*, n. sp., Canada; ASHMEAD, p. 320, Tr. Amer. ent. Soc. xxi.
- Tetrastichus thanasimi*, *scolyti*, Virginia, ASHMEAD, p. 343, Tr. Amer. ent. Soc. xxi; *T. cupreus*, p. 184, *vulgaris*, *longicornis*, p. 185, *acutipennis*, *basilaris*, p. 186, *fasciatus*, *punctifrons*, p. 187, St. Vincent, ASHMEAD, J. Linn. Soc. xxv : n. spp.
- Tetrastichodes tibialis*, Virginia, ASHMEAD, p. 344, Tr. Amer. ent. Soc. xxi; *T. cupreus*, p. 182, *femoratus*, p. 183, St. Vincent, ASHMEAD, J. Linn. Soc. xxv : n. spp.
- Thoracantha*: divided into new genera, *T. pallescens* and *surgens*, Wlk., referred to *Lirata*, Cam.; SHIPP, Entomologist, 1894, pp. 188-190.
- Torymus acillaris*, *hircinus*, p. 333, *persimilis*, p. 334, Virginia, ASHMEAD, Tr. Amer. ent. Soc. xxi; *T. rugosipunctatus*, *pallidipes*, p. 153, St. Vincent, ASHMEAD, J. Linn. Soc. xxv : n. spp.
- Tridymus robinicola*, Virginia, ASHMEAD, p. 334, Tr. Amer. ent. Soc. xxi; *T. solitarius*, St. Vincent, ASHMEAD, p. 154, J. Linn. Soc. xxv : n. spp.
- Xanthosoma*, n. g., *Eurytominae*, for *X. nigricornis*, n. sp., Florida; ASHMEAD, p. 320, Tr. Amer. ent. Soc. xxi.

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- Marine Proctotrupid; MONIEZ, Rev. biol. Nord France, vi, p. 439.
- Embryology of *Proctotrupida*; KOULAGUINE (576).
- Acerota confusa*, St. Vincent, ASHMEAD, p. 233, J. Linn. Soc. xxv, n. sp.
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- Platygaster oryzae*, figure, Indian Mus. Notes, iii, p. 132.
- Polygnotus meridionalis*, p. 241, *insularis, gracilicornis, laticlavus*, p. 242, *pallidicoxalis*, p. 243, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.
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- Sactogaster affinis*, *rufipes*, St. Vincent, ASHMEAD, p. 238, J. Linn. Soc. xxv, n. spp.
- Scleroderma* sp. living at expense of *Pinus*, metamorphoses; XAMBEU, pp. 468-470, Ann. Soc. ent. France, 1894.
- Spilomicrus aneurus*, p. 246, *vulgaris*, p. 247, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.
- Synopeas dubius*, St. Vincent, ASHMEAD, p. 239, J. Linn. Soc. xxv, n. sp.
- Teleas punctulatus*, habits; CHRÉTIEN, pp. 27-29, Ann. Soc. ent. France, 1894.
- Telenomus monilicornis*, p. 203, *confusus*, *impressus*, p. 204, *difformis*, *magniclavus*, p. 205, *cubiceps*, *pectoralis*, p. 206, *medius*, *flavopetiolatus*, p. 207, *meridionalis*, *pygmaeus*, *scaber*, p. 208, *smithii*, p. 209, *flavicornis*, *fuscipennis*, p. 210, *sancti-vincenti*, *nigro-coxalis*, p. 211, *negacephalus*, p. 212, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.
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- Galls of *Cynipidæ* on oaks: translation of ADLER with additional matter; STRATON (1052).
- Gall in acorns, noticed; MURTFELDT, Insect Life, vi, p. 322.
- Notes on the Cynipid galls of Sicily; PEREZ, pp. 236-249, xiii, and pp. 13-21, xiv, Natural. Sicil.
- Aglatoma pallida*, p. 64, *variabilis*, *longicornis*, *basalis*, p. 65, St. Vincent, ASHMEAD, J. Linn. Soc. xxv, n. spp.
- Andricus spongiola*, N. America, GILLETTE, p. 236, Canad. Ent. 1894, n. sp.
- Anectoclis rufipes*, St. Vincent, ASHMEAD, pp. 77 & 254, J. Linn. Soc. xxv, n. sp.
- Chilaspis nitida*, habits; SCHLECHTENDAL, Wien. ent. Zeit. xiii, p. 237.
- Chrestosema robusta*, *pallidipes*, St. Vincent, ASHMEAD, p. 68, J. Linn. Soc. xxv, n. spp.
- Cynips calicis*, note on galls; THOMAS, Forstl. Zeitschr. Munchen, ii, p. 272.
- C. washingtonensis*, N. America, GILLETTE, p. 235, Canad. Ent. 1894, n. sp.
- Diglyphosema flavipes*, St. Vincent, ASHMEAD, p. 61, J. Linn. Soc. xxv, n. sp.
- Dryophanta glabra*, Colorado, GILLETTE, p. 237, Canad. Ent. 1894, n. sp.
- Eucoila claripennis*, *ovalis*, St. Vincent, ASHMEAD, p. 76, J. Linn. Soc. xxv, n. spp.

- Ganaspis atriceps, apicalis*, St. Vincent, ASHMEAD, p. 67, J. Linn. Soc. xxv, n. spp.
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- Hexaplasta incerta*, St. Vincent, ASHMEAD, p. 77, J. Linn. Soc. xxv, n. sp.
- Holcaspis maculipennis*, New Mexico, GILLETTE, p. 236, Canad. Ent. 1894, n. sp.
- Hypolethria longicornis*, St. Vincent, ASHMEAD, p. 71, J. Linn. Soc. xxv, n. sp.
- Kleidotoma insularis*, St. Vincent, ASHMEAD, p. 69, J. Linn. Soc. xxv, n. sp.
- Leptopilina minuta*, St. Vincent, ASHMEAD, p. 70, J. Linn. Soc. xxv, n. sp.
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- Rhoptromeris insularis*, St. Vincent, ASHMEAD, p. 74, J. Linn. Soc. xxv, n. sp.
- Tetrarhapta rufipes*, St. Vincent, ASHMEAD, p. 69, J. Linn. Soc. xxv, n. sp.

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[Cf. COCKERELL (193), COSTA (205), DYAR (251), HARRINGTON (407, 408), JEMILLER (490), KIRBY (534), KONOW (566, 567, 568), KRIECHBAUMER (605), MACGILLIVRAY (658), MARLATT (674, 676), PAULY (798), SHIPP (1013), STEIN (1016), TOWNSEND (1075), TSCHITSCHÉRINE (1089), WERMELIN (1151).]

SIRICIDÆ, CEPHIDÆ, ORYSSIDÆ.

- Brachyxiplus* and *Derecyrtia*, distinctions; TSCHITSCHÉRINE, p. 439, Horæ Soc. ent. Ross. xxviii.
- Cephidæ*: monograph of Canadian; HARRINGTON (407).
- Cephus antigæ, lateralis*, Spain, KONOW, p. 84, Wien. ent. Zeit. xiii; *C. (Phylæcus) balearicus*, Mallorca, KRIECHBAUMER, p. 240, An. Soc. Espan. xxiii : n. spp.
- Derecyrtia jakolewi*, Colombia, TSCHITSCHÉRINE, p. 436, Horæ Soc. ent. Ross. xxviii, n. sp.
- Oryssus sayi*, in Canada; HARRINGTON, p. 152, Tr. R. Soc. Canada, xi.
- Phyllæcus flaviventris*, life-history, ♀ described and figured; MARLATT, Insect Life, vi, p. 296.
- Uroceridæ*: monograph of Canadian; HARRINGTON (408).

TENTHREDINIDÆ.

- Nomenclature of wing-veins; MARLATT, p. 78, P. ent. Soc. Washington, iii.
- Parthenogenesis, numerous cases; CHAWNER, Entomologist, 1894, p. 175.

- Parthenogenesis in *Cimbea saliceti*; PAULY (798).
- List of Netherlands *Tenthredinidæ*, 289 species; OUDEMANS, pp. 88-152, Tijdschr. Ent. xxxvii.
- List of *Tenthredinidæ* of Bavaria; JEMILLER (490).
- Acanthoperga*, n. g., *Pergadopsis*, n. g., *Camptoperga*, n. g., *Plagioperga*, n. g., *Xyloperga*, n. g., for divisions of *Perga*; SHIPP, pp. 338 & 339, Entomologist, 1894.
- Allantus dominiquei*, France, Spain, KONOW, p. 284, Rev. Ent. franc. xiii; *A. dusmeti*, Spain, KONOW, p. 96, Wien. ent. Zeit. xiii; *A. montanus inversus*, *ictericus*, *baldinii*, Italy, COSTA, p. 86, Rend. Acc. Napoli (2) viii; *A. striatipes*, p. 136, *contiguus*, p. 137, *tunetensis*, p. 138, N. Africa, *trifasciatus*, Turkestan, p. 138, KONOW, Wien. ent. Zeit. xiii : n. spp.
- Amasis*: list of the European, with critical remarks; KONOW, pp. 85 & 86, Wien. ent. Zeit. xiii.
- Arge enodis*, *berberidis*, males distinguished; KONOW, p. 139, Wien. ent. Zeit. xiii.
- Bivena*, n. g., p. 327, for *B. maria*, n. sp., New York, p. 328; MACGILLIVRAY, Canad. Ent. 1894.
- Blennocampa bipartita*, larva; DYAR, p. 185, Canad. Ent. 1894.
- Culiroa nortonia*, N. America, MACGILLIVRAY, p. 324, Canad. Ent. 1894, n. sp.
- Clarissa*, n. g., near *Eurys*, for *C. divergens*, n. sp., Queensland; KIRBY, p. 46, Ann. Nat. Hist. (6) xiv.
- Dolerus*, *etruscus*, *hispanicus*, *pratensis*, note on; KONOW, p. 93, Wien. ent. Zeit. xiii. *D. liogaster*, male described, p. 132, *D. sanguinicolis*, n. var. *reicherti*, p. 134, *D. ciliatus*, ♀ described, p. 133; KONOW, t. c.
- D. annulatus*, Austria, STEIN, p. 55, Wien. ent. Zeit. xiii, n. sp.
- Emphytus viennensis*, n. var. *medinæ*, *balleatus* ♂ described; KONOW, p. 92, Wien. ent. Zeit. xiii. *E. canadensis*, p. 185, *cinctipes*, p. 186, larvæ; DYAR, Canad. Ent. 1894.
- E. analis*, Algeria, KONOW, p. 132, Wien. ent. Zeit. xiii, n. sp.
- Eurys inconspicua*, Queensland, KIRBY, p. 47, Ann. Nat. Hist. (6) xiv, n. sp.
- Euura orbitalis*, note on galls; TOWNSEND, p. 102, J. N. York Ent. Soc. ii.
- Femusa wustneii*, Alsen Is., KONOW, p. 91, Wien. ent. Zeit. xiii, n. sp.
- Harpiphorus maculatus*, number of broods; WEBSTER, p. 275, Ent. News Philad. v.
- Hylotoma apicale*, Queensland, KIRBY, p. 45, Ann. Nat. Hist. (6) xiv, n. sp.
- Lyda hypotrophica*, abundance, larva, habits, &c.; LANG, Forstl. Zeitschr. Munchen, ii, pp. 6-16: in Bavaria; LANG, p. 18, op. cit. iii.
- Lophyrus rufus*, number of males, females, and parasites; WERMELIN, pp. 223-225, Ent. Tidskr. xv.
- L. anachoreta*, Italy, COSTA, p. 84, Rend. Acc. Napoli (2) viii, n. sp.)

- Macrophya rustica*, n. var. *tegularis*; KONOW, p. 135, Wien. ent. Zeit. xiii.
M. klugi, S. E. Europe, KONOW, p. 95, Wien. ent. Zeit. xiii; *M. ruficincta*, Algeria, KONOW, p. 135, t. c. : n. spp.
Monectenus juniperinus, New York, MACGILLIVRAY, p. 328, Canad. Ent. 1894, n. sp.
Monophadnus atratus, Vancouver I.; HARRINGTON, p. 193, Canad. Ent. 1894, n. sp.
Monostegia quercus-coccineæ, N. America, DYAR, p. 42, Canad. Ent. 1894, n. sp.
Nematoneura malvacearum, New Mexico, COCKERELL, p. 252, Insect Life, vii, n. sp.
Nematus gallicola, habits; GIARD, p. xxx, Bull. Soc. ent. France, 1894.
N. coryli, metamorphoses; DYAR, p. 44, Canad. Ent. 1894. *N. monochroma*, larva; DYAR, p. 187, t. c.
N. jemilleri, Bavaria, STEIN, p. 55, Wien. ent. Zeit. xiii; *N. ghiliani*, Italy, COSTA, p. 85, Rend. Acc. Napoli (2) viii; *N. salicis-odoratus*, N. America, DYAR, p. 187, Canad. Ent. 1894 : n. spp.
Periclista nigricarpa, Italy, COSTA, p. 85, Rend. Acc. Napoli (2) viii, n. sp.
Phyllotoma costæ, Italy, COSTA, p. 85, Rend. Acc. Napoli (2) viii, n. sp.
Phymatocera aterrima feeding on *Convallaria multiflora*; KIRBY, Ann. Nat. Hist. (6) xiii, p. 528.
Poecilosoma alboscuteclata, Moravia, KONOW, p. 132, Wien. ent. Zeit. xiii, n. sp.
Priophorus: table of the species; KONOW, p. 87, Wien. ent. Zeit. xiii.
P. discors, Central Europe, KONOW, p. 88, Wien. ent. Zeit. xiii; *P. phaeopterus*, Italy, COSTA, p. 85, Rend. Acc. Napoli (2) viii : n. spp.
Pristiphora oblita, Italy, COSTA, p. 85, Rend. Acc. Napoli (2) viii, n. sp.
Pterygophorus insignis, p. 45, *uniformis*, p. 46, Queensland, KIRBY, Ann. Nat. Hist. (6) xiv, n. spp.
Rhogogastera langei, Saxony, KONOW, p. 134, Wien. ent. Zeit. xiii, n. sp.
Strongylogaster pacificus, larva; DYAR, p. 43, Canad. Ent. 1894.
S. rufoculus, New York, MACGILLIVRAY, p. 327, Canad. Ent. 1894, n. sp.
Scolioneura: characters and synonymy; KONOW, p. 89, Wien. ent. Zeit. xiii.
S. vicina, Germany, KONOW, p. 91, Wien. ent. Zeit. xiii, n. sp.
Selandria impressa, Algeria, KONOW, p. 92, Wien. ent. Zeit. xiii, n. sp.
Tarpa or *Megalodontes*, use discussed; DALLA TORRE, p. 228, Wien. ent. Zeit. xiii. *T. loewi*, ♀ described; KONOW, p. 130, t. c.
T. luteiventris, Algeria, p. 129, *reitteri*, Caucasus, p. 131, KONOW, Wien. ent. Zeit. xiii, n. spp.
Tenthredo procera, Kl., ♂ described; KONOW, p. 138, Wien. ent. Zeit. xiii.
T. gribodoi, Italy, COSTA, p. 87, Rend. Acc. Napoli (2) viii; *T. melanosoma*, Alaska, p. 194, *nigrisoma*, Vancouver I., *ruficollis*, W. Canada, p. 195, HARRINGTON, Canad. Ent. 1894 : n. spp.
Tenthredopsis romana, Italy, *sareptana*, S. Russia; KONOW, p. 94, Wien. ent. Zeit. xiii; *T. nebrodensis*, Italy, COSTA, p. 86, Rend. Acc. Napoli (2) viii : n. spp.

(c.) *LEPIDOPTERA.*

- Discussion of classification of the Order, with list of the families ; HAMPSON (402).
- Use of larval characters in classification ; SMITH, p. 240, Ent. News Philad. v.
- General observations on the scales of *Lepidoptera* ; SPULER (1037).—The scales discussed, and their taxonomic value considered ; KELLOGG, Kansas quart. iii, pp. 45–89.
- Morphology of the abdomen, and male and female genitalia ; PEYTOUREAU (808, 809, 810).
- Sense organs on antennæ and proboscis of *Lepidoptera*, and of larvæ ; NAGEL, Bibl. zool. xviii, pp. 104–115.
- Notes on the biology of reproduction in *Lepidoptera* ; SEITZ (966).
- Correlation of colour and habits in palæarctic *Macrolepidoptera* ; STANDFUSS (1040).
- Lepidoptera* of high elevations in the Andes ; STAUDINGER (1042).
- Ants'-nest *Lepidoptera*, list of ; WASMANN, pp. 169–172, Verzeichniss.
- Supplement to catalogue of *Macrolepidoptera* of Finland, with many new names of varieties, the latter not recorded specially in our pages ; REUTER (902).
- New edition of Hübner's Exotische Schmetterlinge ; HÜBNER (464).
- Improved mode of using hypochlorite ; JANET (483).

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- [Cf. AITKEN (7), ANDERSON & SPRY (15), AURIVILLIUS (34), BAUMANN (52), BETHUNE-BAKER (80), BONJOUR (107), BRANDES (125), BUTLER (146), CALVERT (151), DIXEY (229), DOGNIN (231, 232), DRUCE (243, 244), EDWARDS, J. (257), EDWARDS, W. H. (260), EHRMANN (263), ELWES (264), FRITZE (330, 331), FRUHSTORFER (338–343), GODMAN & SALVIN (377, 378), GONIN (379), HAGEN (396, 397), HAMPSON (402), HELLER (423), HERON (1118), HOLLAND (432, 433), HOLT WHITE (437), JANET (482), JOANNIS (493), JOHANSEN (495), KARSCH (508–512), KIRBY (535, 536), LEECH (633), LOWER (651), LUCAS (654), MARTIN, L. (681), MENDEL (697), MERRIFIELD (698), MEVES (699), MICHAEL (708), MOORE (730), OBERTHUR (767), PAGENSTECHER (791, 792), PRYER & CATOR (857), REBEL & ROGENHOFER (853, 868), RÖBER (931, 932), ROTHSCHILD (946–949), SHARPE (1011), SMITH, H. G. (1025–1028), SMITH & KIRBY (1029), SNELLEN (1032), STAUDINGER (1042–1045), SWINHOE (1059), TAYLOR (1061), TRIMEN (1080), WATSON (1135), WEIR (1139), WELLMAN (1149).]

- Corsican butterflies ; NICHOLSON, *Entomologist*, 1894, pp. 116-120.
 Geographical distribution of *Rhopalocera* ; ELWES (264).
 Note on some classification of *Rhopalocera* ; KIRBY, pp. 6 & 7, *Ent. Rec.* v.
 Anatomy of prothorax ; WELLMAN (1149).
 Variability and value of genitalia for systematic purposes ; EDWARDS, p. 56, *Canad. Ent.* 1894.
 Season-dimorphism in butterflies discussed ; BRANDES (125).
 Metamorphosis of *Pieris brassicae*, development of wings, &c. ; GONIN (379).
 Handbook of the butterflies of Victoria, with woodcuts ; ANDERSON & SPRY (15).
 Characteristics of *Rhopalocera* of Sumatra, with list of species, habits, discussion of mimicry, &c. ; HAGEN, *Deutsche ent. Zeitschr. Lep.* vii, pp. 1-41.
Rhopalocera of the Canary Is. ; REBEL & ROGENHOFER (868).
Rhopalocera of Okinawa ; FRITZE (330).
 On collecting butterflies in the Amazons, and on their habits ; MICHAEL (708).
 DOGNIN (231) figures the species recently described by him in *La Naturaliste*.
 In the fragment of PRYER & CATOR'S list of the *Rhopalocera* of Borneo (875), there occur descriptions which may be those of new species, though not so indicated. The Recorder has not mentioned these below.

PAPILIONIDÆ.

- Antimachus druryi*, habitat ; JANET, p. 108, *Ann. Soc. ent. France*, 1894.
Culinaga lhatso, Thibet, OBERTHUR, p. 13, pl. vi, fig. 81, *Etudes Ent.* xviii, n. sp.
Drurya antimachus, distribution ; DUPONT, p. cxxvii, *Bull. Soc. ent. France*, 1894.
Ornithoptera ritsemæ, n. var. *sumatrana* ; HAGEN, p. 19, *Deutsche ent. Zeitschr. Lep.* vii. *O. amphrysus*, n. var. *pabulana* ; FRUHSTORFER, p. 44, *Ent. Nachr.* xx. *O. pegasus*, var., p. 63, pls. ii & iii, fig. 1, var. *bornemanni*, p. 65, fig. 2, *urvilliana*, var., p. 67 ; PAGENSTECHE, *Jahrb. Nassau. Ver.* xlvi. *O. andromache*, figures and notice, p. 341, pl. viii, figg. 1 & 2, *O. hippolytus*, n. var. *celebensis, sulaensis*, p. 342 ; STAUDINGER, *Deutsche ent. Zeitschr. Lep.* vii. *O. goliath*, figured, pl. iv, fig. 19, discussed as probable ♀ of *schoenbergi-paradisea*, p. 2 ; OBERTHUR, *Etudes Ent.* xix. *O. vandepolli*, ♂ figure ; FRUHSTORFER, p. 241, pl. xvii, fig. 1, *Berlin. ent. Zeitschr.* xxxviii. *O. honrathiana*, redescribed [as n. sp.] ; MARTIN, p. 332, *Natuurk. Tijdschr. Nederl. Ind.* liii, p. 332.

- Papilio pandonius*, n. n. for *P. pandion*, Feld., nec Wall.; STAUDINGER, p. 104, Deutsche ent. Zeitschr. Lep. vii. *P. madyes*, n. var. *marsyas*; STAUDINGER, p. 59, t. c. *P. alphenor*, n. var. *thesalphenor*, p. 343; *artaphernes*, n. var. *ahasuerus*, p. 347, *ascalaphus*, n. var. *ascalon*, p. 348, *semperi*, n. var. *albo-fusciatus*, *agetes*, n. var. *insularis*, p. 349, *jason*, n. var. *eurypyliides*, p. 350; STAUDINGER, t. c. *P. vollenhovii*, n. var. *hypsicliides*, p. 685, *alorensis*, *umbrosus*, p. 686, *P. hipponous*, n. var. *lunifer*, p. 687; ROTHSCHILD, Nov. Zool. i. *P. thule*, n. var. *leuthe*; SMITH, p. 333, t. c. *P. arjuna*, var. *tenggerensis*, figured; FRUHSTORFER, p. 119, pl. iii, fig. 1, Ent. Zeit. Stettin, lv. *P. machaon*, habits in Algeria; EATON, Ent. Mag. 1894, p. 162: n. var. *nigrofasciata*; ROTHKE, p. 303, Ent. Zeit. Stettin, lv. *P. machaon* and *xuthus*, seasonal forms of in Japan; FRITZE, pp. 153 & 154, Ber. Ges. Freiburg, viii. *P. agamemnon*, var.; SNELLEN, p. 71, pl. iii, fig. 3, Tijdschr. Ent. xxxvii. *P. xuthus*, *maackii*, *demetrius*, *alcinous*, *helenus*, *memnon*, *sarpedon*, *polytes*, peculiarities of, in the island of Okinawa; FRITZE, Zool. Jahrb. Syst. vii, pp. 873-884. *P. maremba*, figured; OBERTHUR, pl. iii, fig. 12, Etudes Ent. xix. *P. jumodi*, figured; SMITH & KIRBY, Rhop. ex. Papilio, xiv, figg. 3 & 4. *P. forbesi*, description, variation; MARTIN, p. 335-338, Natuurkr. Tijdschr. Nederl. Ind. liii. *P. antimachus*, habits; BAUMANN, Berlin. ent. Zeitschr. xxxix, S.B. p. 16. *P. payeni*, ♀, note on; FRUHSTORFER, p. 300, Ent. Nachr. xx. *P. turnus*, abnormally coloured male; HOWARD, p. 44, Insect Life, vii, cuts. *P. zolicaon*, life-history; JORDAN, p. 257, Canad. Ent. 1894. *P. homerus*, larva and pupa described; TAYLOR, p. 409, Tr. ent. Soc. London, 1894, and p. 101, Ent. News Philad. v. *P. antiphus*, larvæ, pl. i, fig. 1, p. 21, *erebus*, larvæ, fig. 2, p. 26, *agamemnon*, larva, *hageni*, full description, p. 24, HAGEN, Deutsche ent. Zeitschr. Lep. vii.
- P. pringlei*, E. Africa, SHARPE, p. 352, pl. xix, fig. 3, P. Zool. Soc. London, 1894; *P. mercutiuss*, Delagoa Bay, SMITH & KIRBY, Rhop. ex. Papilio, xiv, p. 33; *P. brunei*, Borneo, FRUHSTORFER, p. 300, Ent. Nachr. xx; *P. othello*, New Guinea, SMITH, p. 332, Nov. Zool. i; *P. leucophanes*, New Guinea, SMITH, p. 584, t. c.; *P. nubilus*, Borneo, p. 344, *septimius*, Aru I., p. 345, *sallastius*, Wetter I., p. 351, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii; *P. websteri*, New Britain, SMITH, p. 496, Ann. Nat. Hist. (6) xiii: n. spp.
- Parnassius nomion*, n. var. *nominulus*; STAUDINGER, p. 241, Deutsche ent. Zeitschr. vii. *P. delphius*, var., pl. viii, figg. 71 & 71a, *delphiuselwoesi*, fig. 72, *thibetanus*, figg. 66, 67 & 67a, figured, discussed, pp. 3 & 4; OBERTHUR, Etudes Ent. xix. *P. phæbus*, *smintheus*, distinctions; WATSON, p. 340, Entomologist, 1894. *P. clodius*, habits; LEMBERT, p. 101, Canad. Ent. 1894. *P. apollo*, habits of larva; SELMONS, Soc. Ent. ix, p. 50. *P. eversmanni*, *wosnesenskyi*, *mercurius*, *poeta*, p. 190, *thibetanus*, *szechenyi*, *orleans*, *imperator*, p. 200, notes on; AUSTAUT, Naturaliste, 1894.

PIERIDÆ.

- Extended synonymic notes on E. Indian *Pierina*; WATSON, J. Bombay Soc. viii, pp. 489-527, 2 pls: this synonymy is too complex for all the details to be reproduced here; reference must be made to the paper itself, the results being summarised on pp. 523-526.
- Phylogeny of *Pierina*, as illustrated by their wing-markings and geographical distribution; DIXEY, Tr. ent. Soc. London, 1894, pp. 249-333, pls. iii-v. A large number of genera and species are discussed.
- Classification of Pierid pupæ; TUTT, p. 214, Canad. Ent. 1894.
- Appias*: synonymy and characters of E. Indian species, *A. zelmira* varr. figured, pl. ii; WATSON, pp. 497-502, J. Bombay Soc. viii. *A. flavius*, Smith, figured; SMITH & KIRBY, Rhop. ex. Pierinæ, *Appias*, i. *A. korridona*, p. 335, *saina*, p. 336, New Guinea, SMITH, Nov. Zool. i; *A. nebo*, Burma, figg. 1 & 2, *florentia*, Solomon Is., figg. 6, 7 & 8, SMITH & KIRBY, Rhop. ex. Pierinæ, *Appias*, i; *A. (Tachyris) aurantiaca*, Sula Is., STAUDINGER, p. 352, Deutsche ent. Zeitschr. Lep. vii: n. spp.
- Baltia*: characters, &c., see *Mesapia*, *infra*.
- Belenois thysa*, var. *balangensis*; REBEL & ROGENHOFER in BAUMANN (53), p. 326. *B. infida*, p. 578, pl. xxxvii, figg. 1 & 2, *zochalia*, p. 579, fig. 3, characters and variation; BUTLER, P. Zool. Soc. London, 1894. *B. pallida*, p. 336, *dohertyana*, p. 337, New Guinea, SMITH, Nov. Zool. i, n. spp.
- Callosune hildebrandti*, ♀ described; ROGENHOFER in BAUMANN (52).
- Colias lesbia*, n. var. *andina*; STAUDINGER, p. 64, Deutsche ent. Zeitschr. Lep. vii. *C. nebulosa*, n. var. of *sifanica*; OBERTHUR, p. 8, pl. viii, fig. 65, Etudes Ent. xix. *C. hyale*, season-forms in Japan; FRITZE, p. 155, Ber. Ges. Freiburg, viii.
- Delias kuhni*, n. var. *sulana*; STAUDINGER, p. 354, Deutsche ent. Zeitschr. Lep. vii. *D. bromo*, p. 123, pl. iii, fig. 3, *dorylæa*, var. *altivaga*, pl. iv, fig. 8, p. 121, figures and descriptions; FRUHSTORFER, Ent. Zeit. Stettin, lv. *D. dorothea*, note on; SMITH, p. 335, Nov. Zool. i.
- D. karo*, p. 33, pl. 1, fig. 4, *simanabum*, p. 34, fig. 3, Sumatra, HAGEN, Deutsche ent. Zeitschr. Lep. vii; *D. mitisi*, Sula Is., p. 352, *persephone*, Waigiou, *plateni*, Halmaheira, p. 355, STAUDINGER, t. c.; *D. splendida*, *dohertyi*, Timor, p. 661, *funerea*, Halmaheira, *fasciata*, Sumba, *sambawana*, Sambawa, p. 662, ROTHSCHILD, Nov. Zool. i; *D. euphemia*, New Guinea, SMITH, p. 334, pl. xii, figg. 1 & 2, t. c.; *D. ladas*, *geraldina*, New Guinea, SMITH, p. 585, t. c.: n. spp.
- Dismorphia garleppi*, Bolivia; STAUDINGER, p. 59, Deutsche ent. Zeitschr. Lep. vii.
- Euchloë*, *Anthocharis*, and *Pieris*, generic characters; TUTT, p. 47, Canad. Ent. 1894; DYAR, t. c. p. 100; TUTT, *iterum*, t. c. pp. 166-168. *E. cardamines*, variation; TUTT, p. xxxvi, P. ent. Soc. London, 1894. *E. hesperides*, Newm., is the var. *turritis*, Ochs.; SHIPP, p. 268, Entomologist, 1894.

- Hebomoia glaucippe*, season dimorphism ; FRITZE, Zool. Jahrb. Syst. vii, p. 888.
- Huphina* : synonymy of *E. Indian* discussed, tables of characters, pp. 494-497, *phryne* and *dapha*, seasonal forms figured, pl. i ; WATSON, J. Bombay Soc. viii.
- Ivias* : synonymy and characters of *E. Indian* forms, pp. 502-508, seasonal forms figured, pl. ii, figg. 17-28 ; WATSON, J. Bombay Soc. viii.
- I. balice*, ♀ noticed ; FRUHSTORFER, p. 44, Ent. Nachr. xx. *I. balice*, ♀ figure ; FRUHSTORFER, p. 246, pl. xviii, fig. 9, Berlin. ent. Zeitschr. xxxix.
- Meganostoma cesonia*, n. var. *cesonides* ; STAUDINGER, p. 63, Deutsche ent. Zeitschr. Lep. vii.
- Mesapia peloria*, and *Baltia*, characters ; KIRBY, Entomologist, 1894, pp. 99-101 & 174 ; EDWARDS, *t. c.* pp. 126-128.
- Nepheronia octavia*, Tanak-Djampea, SNELEN, p. 68, pl. iii, fig. 2, Tijdschr. Ent. xxxvii, n. sp.
- Phulia* : descriptions of various species, some of which are probably new ; the following figured : *nymphula*, figg. 5, 10, & 12, *nymphæa* [? n. sp.], figg. 6, 13, & 15, *illimani*, figg. 8 & 14, *nysias*, figg. 9 & 17, *nymphæa* [? n. sp.], fig. 11 ; STAUDINGER, pl. i, pp. 43-56, Deutsche ent. Zeitschr. Lep. vii.
- Pieris (Huphina) julia*, pl. iii, figg. 11 & 17, *vaso*, fig. 18, *euryxanthe*, pl. ii, figg. 7 & 9, *gabia*, fig. 5, figured, discussed, pp. 5-7 ; OBERTHUR, Etudes Ent. xix. *P. napi*, temperature experiments on pupæ ; MERRIFIELD, Tr. ent. Soc. London, 1894, p. 425 : seasonal forms in Japan ; FRITZE, p. 154, Ber. Ges. Freiburg, viii.
- P. thamo*, Thibet, OBERTHUR, p. 13, pl. ii, fig. 27, Etudes Ent. xviii ; *P. dohertyi*, pl. ii, fig. 2, p. 6, *jobiana*, fig. 6, p. 7, New Guinea, OBERTHUR, *op. cit.* xix ; *P. stigmadice*, Bolivia, STAUDINGER, p. 62, Deutsche ent. Zeitschr. Lep. vii : n. spp.
- Pseudopontia cepheus*, W. Africa, EHRMANN, p. 77, J. N. York Ent. Soc. ii, n. sp.
- Tachyris laire*, n. var. *neumoegeni* ; SKINNER, p. 110, pl. iv, Ent. News Philad. v.
- Teracolus*, synonymy and characters of *E. Indian* species ; WATSON, pp. 517-523, J. Bombay Soc. viii. *T. agoye*, *opalescens*, noticed, pp. 572 & 573, *puniceus* figured, pl. xxxvi, figg. 5 & 6, *syrtinus*, ♀ noticed, p. 574 ; BUTLER, P. Zool. Soc. London, 1894. *T. ione*, p. 65, *anax*, p. 66, notes on ; TRIMEN, *t. c.*
- T. foliaceus*, p. 573, pl. xxxvi, fig. 7, *pyrrhopterus*, p. 575, figg. 8 & 9, E. Africa, BUTLER, P. Zool. Soc. London, 1894 ; *T. bipartitus*, p. 537, *chromiferus*, p. 538, E. Africa, ROTHSCHILD, Nov. Zool. i : n. spp.
- Trifurcula*, n. g., near *Colias* and *Phulia*, for *T. huanaco*, n. sp., Bolivia, pl. i, figg. 7, 16, & 18 ; STAUDINGER, p. 56, Deutsche ent. Zeitschr. Lep. vii.
- Terias* : synonymy and characters of *E. Indian* species, pp. 508-517,

- silhetana* and *hecabe*, seasonal forms figured, pl. ii, figg. 8-16 ;
 WATSON, J. Bombay Soc. viii. *T. hecabe*, varr. in Okinawa
 figured ; FRITZE, Zool. Jahrb. Syst. vii, pp. 885 & 886. *T. biformis*,
multiformis, season-forms in Japan ; FRITZE, pp. 156 & 157, Ber.
 Ges. Freiburg, viii.
T. casta, Queensland, LUCAS, p. 68, P. Soc. Queensland, viii, n. sp.

DANAIDÆ.

- Amauris hanningtoni* and *jacksoni*, noticed as varr. of *A. echeria* ; TRIMEN,
 p. 19, P. Zool. Soc. London, 1894.
Asthpa kirbyi, New Guinea, SMITH, p. 339, Nov. Zool. i ; *A. melusine*,
 New Guinea, SMITH, p. 586, t. c. : n. spp.
Caduga crowleyi, North Borneo ; WEIR, Entomologist, 1894, p. 109, cut.
Calliplœa dudgeonis, p. 344, *lucinda*, p. 345, New Guinea, SMITH, Nov.
 Zool. i, n. spp.
Chirosa tenebrosa, *lachrymosa*, p. 341, *punicea*, *buno*, *lugubris*, p. 342,
fuscosa, p. 343, New Guinea, SMITH, Nov. Zool. i, n. spp.
Danais archippus and *Anosia plexippus*, nomenclature discussed ;
 BUCKELL, pp. 1-5, Ent. Rec. v. *D. abigar*, n. var. *fuliginosa* ;
 HAGEN, p. 40, Deutsche ent. Zeitschr. vii.
Euplœa (Lontara) doretta, p. 72, *E. (Patosu) obscura*, p. 74, New Guinea,
 PAGENSTECHE, Jahrb. nassau. Ver. xlvii, n. spp.
Gamatoba melinda, New Guinea, SMITH, p. 340, Nov. Zool. i, n. sp.
Hirdapa rezia, Dinner I., New Guinea, KIRBY, p. 166, Ann. Nat. Hist. (6)
 xiii, n. sp.
Melinda mercedonia, Tropical Africa, KARSCH, p. 225, Ent. Nachr. xx,
 n. sp.
Oranasma compta, note on ; SMITH, p. 340, Nov. Zool. i.
Salatura mytilene, n. var. *jobiensis* ; SMITH, p. 339, Nov. Zool. i.
Salpinx hansemanni, variation of female ; SMITH, p. 347, Nov. Zool. i.
S. traducta, *minima*, New Guinea, SMITH, p. 346, Nov. Zool. i ; *S.*
(Euplœa) platene, Sula Is., STAUDINGER, p. 356, Deutsche ent. Zeitschr.
 Lep. vii : n. spp.
Saphara olivacea, New Guinea, SMITH, p. 343, Nov. Zool. i, n. sp.
Stictoplœa ethiopina, New Guinea, SMITH, p. 347, Nov. Zool. i, n. sp.
Tithorea harmonia, n. var. *pseudonyma* ; STAUDINGER, p. 65, pl. ii, fig. 7,
 Deutsche ent. Zeitschr. Lep. vii.
Vadebra eboraci, p. 498, *lacon*, p. 499, New Britain, SMITH, Ann. Nat.
 Hist. (6) xiii, n. spp.

ACRÆIDÆ and HELICONIIDÆ.

- Acrœa asema*, full description, pp. 24-26, pl. iv, figg. 3 & 3a, *acrita*, notice,
 p. 28, pl. iv, fig. 4 ; TRIMEN, P. Zool. Soc. London, 1894. *A. proteina*,
 noticed as probably *Planema johnstoni* ; TRIMEN, p. 30, t. c. *A. lia*,
insularis, *newtoni*, *niobe*, figured ; SMITH & KIRBY, Rhop. ex.
 Acrœa, v. *A. pudorina*, note on ; BUTLER, p. 566, P. Zool. Soc.
 London, 1894.

- A. maculiventris*, S. Africa, SMITH & KIRBY, p. 16, Nymphalidæ, Acræa, pl. v, figg. 4 & 5; *A. octobalia*, p. 222, *asbолоplinthа*, p. 223, Tropical Africa, KARSCH, Ent. Nachr. xx : n. spp.
- Alæna johannæ*, figured, pl. xix, fig. 5; SHARPE, P. Zool. Soc. London, 1894. *A. nyassa*, ♀ figured, pl. vi, fig. 15, p. 61; TRIMEN, *t. c.*
- A. caïssa*, E. Tropical Africa; REBEL & ROGENHOFER in BAUMANN (53), p. 336, n. sp.
- Heliconius penelope*, Bolivia, with var. *pelopeia* and *penelamanda*, STAUDINGER, p. 67, Deutsche ent. Zeitschr. Lep. vii, n. sp. ?
- Planema confusa*, Usambara, ROGENHOFER in BAUMANN (52), p. 329, n. sp.

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- Amnosia martini*, n. var. *baluana*; FRUHSTORFER, p. 302, Ent. Nachr. xx.
- A. decorina*, Nias I., FRUHSTORFER, p. 303, Ent. Nachr. xx, n. sp.
- Anæa schausianu*, Mexico, GODMAN & SALVIN, p. 98, Ann. Nat. Hist. (6) xiv, n. sp.
- Anæomorpha*, n. g., near *Anæa*, for *A. splendida*, n. sp., Peru; ROTHSCHILD, p. 687, Nov. Zool. i.
- Apaturina erminea*, n. var. *microps*; RÖBER, p. 365, Ent. Nachr. xx.
- Araschnia prorsoides*, n. var. *flavida*; OBERTHUR, p. 14, pl. vii, fig. 64, Etudes Ent. xix. *A. levana*, temperature experiments on pupæ; MERRIFIELD, p. 427, Tr. ent. Soc. London, 1894.
- Argynnis astarte*, pl. vii, figg. 1-4, *alberta*, with egg and larva, figg. 5-8, figures and descriptions; EDWARDS, Butt. N. Amer., 3rd ser., Argynnis, vii. *A. selene* and var. *hela*, note on; DÜBERG, Berlin. ent. Zeitschr. xxxix, SB., p. 7. *A. euphrosyne* var.; SOUTH, p. 1, fig., Entomologist, 1894. *A. euphrosyne* and *aglaia*, varr., cuts; SOUTH, *t. c.* pp. 181-183. *A. apherape*, variation, cuts; MEVES, pp. 179-189, Ent. Tidskr. xv.
- A. baumanni*, East Tropical Africa, REBEL & ROGENHOFER in BAUMANN (53), p. 329; *A. inca*, Bolivia, STAUDINGER, p. 68, pl. ii, figg. 1 & 2, Deutsche ent. Zeitschr. Lep. vii : n. spp.
- Atella philiberti*, description and figure; JOANNIS, p. 427, pl. xv, fig. 7, Ann. Soc. ent. France, 1894.
- Byblia ilythia*, n. var. *crameri*, AURIVILLIUS, p. 279, Ent. Tidskr. xv, n. sp.
- Callicore asteria*, Mexico, GODMAN & SALVIN, p. 97, Ann. Nat. Hist. (6) xiv, n. sp.
- Catacroptera*, n. g., near *Precis*, for *Papilio cloantha*, Cram.; KARSCH, p. 2, Berlin. ent. Zeitschr. xxxix.
- Catuna crithea* and allies, synonymy and characters; KARSCH, p. 3, Berlin. ent. Zeitschr. xxxix : larva and pupa; AURIVILLIUS, p. 286, pl. v, figg. 2-2b, Ent. Tidskr. xv.
- Cethosia cyane*, n. var. *sumbana*; PAGENSTECHE, p. 53, Jahrb. nassau. Ver. xlvii.

- Charaxes lasti*, ♀, pl. v, fig. 6, p. 39, *achemenes*, ♀, fig. 7, p. 41, *guderiana*, ♀, fig. 8, p. 42, figures and notices; TRIMEN, P. Zool. Soc. London, 1894. *C. athamas*, *hebe*, and allies, characters; RÖBER, pp. 290–295, Ent. Nachr. xx. *C. ethalion*, early stages; JUNOD, p. 29, Bull. Soc. Neuchatel, xx.
- C. weismanni*, Okinawa, FRITZE, p. 898, Zool. Jahrb. Syst. vii, cut; *C. tavetensis*, E. Africa, p. 535, *mixtus*, pl. xi, fig. 8, *bipunctata*, p. 536, W. Africa, ROTHSCHILD, Nov. Zool. i; *C. manica*, p. 43, pl. vi, fig. 9, *selousi*, p. 45, fig. 10, Manica, TRIMEN, P. Zool. Soc. London, 1894 (*C. selousi* is probably *whytei*, Butl.; BUTLER, t. c. p. 14); *C. jovis*, Sambawa, STAUDINGER, p. 357, Deutsche ent. Zeitschr. Lep. vii; *C. cimonides*, New Guinea, SMITH, p. 356, Nov. Zool. i : n. spp.
- Cirrochroa imperatrix*, New Guinea, SMITH, p. 348, Nov. Zool. i, n. sp.
- Orenidomimas*, n. g., for *Harna concordia*; KARSCH, p. 258, Ent. Nachr. xx.
- Crenis boisduvali*, early stages; JUNOD, p. 21, Bull. Soc. Neuchatel, xx.
- Cymothoë* sp., description and figure of ♀; KARSCH, p. 8, Berlin. ent. Zeitschr. xxxix. *C. theodosia*, Staud., ♀ = (*diphyia*, Karsch, ♀), *reinholdi*, Plötz, = (*theodora*, Staud.), p. 305, *amphicede* described; with larva and pupa, p. 307, pl. v, fig. 6; AURIVILLIUS, Ent. Tidskr. xv.
- C. theocranta*, p. 209, cut, *diphyia*, p. 211, *orphnina*, p. 213, Tropical Africa, KARSCH, Ent. Nachr. xx, n. spp.
- Cynthia pura*, E. India, SWINHOE, p. 429, Ann. Nat. Hist. (6) xiv; *C. battaka*, Sumatra, MARTIN, p. 338, Natuurk. Tijdschr. Nederl. Ind. liii : n. spp.
- Cyrestis neella*, Borneo, SWINHOE, p. 430, Ann. Nat. Hist. (6) xiv; *C. biaku*, New Guinea, SMITH, p. 355, Nov. Zool. i, n. spp.
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- Diestogyna*: the characters discussed, p. 296, *amaranta* (*nec* Karsch), pp. 298 & 312, *abasa*, Hew., = (♀ *fuliginosa*, Holl., and ♀ *sjostedti*, Auriv.), p. 298; AURIVILLIUS, Ent. Tidskr. xv.
- D. atropurpurea*, Cameroons, AURIVILLIUS, p. 313, Ent. Tidskr. xv; *D. goniogramma*, p. 5, *amaranta*, p. 6, Cameroons, KARSCH, Berlin. ent. Zeitschr. xxxix; *D. mollicella*, p. 219, *saphirina*, p. 220, Tropical Africa, KARSCH, Ent. Nachr. xx : n. spp.
- Eresia cerquita*, Loja, DOGNIN, p. 680, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Euphadra ravola*, larva and pupa, p. 290, pl. v, figg. 3 & 3b, *aureola*, larva, p. 291, pupa, pl. v, figg. 5 & 5a; AURIVILLIUS, Ent. Tidskr. xv.
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- Euryphura doralice*, ♂, = (*porphyron*, Ward); AURIVILLIUS, p. 303, Ent. Tidskr. xv.

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- E. adeona*, Borneo, SMITH & KIRBY, Rhop. ex. Nymphalidæ, Nymphalinæ, Euthalia, iv, p. 13, figg. 5 & 6, n. sp.
- Felderia japis*, figure; FRUHSTORFER, pl. xviii, fig. 7, p. 245, Berlin. ent. Zeitschr. xxxix.
- F. bottgeri*, Java, pl. xviii, figg. 5 & 6, p. 244, FRUHSTORFER, Berlin. ent. Zeitschr. xxxix; *F. böttgeri*, Java, FRUHSTORFER, p. 19, Ent. Nachr. xx : n. spp.
- Godartia wakefeldii*, larva; JUNOD, p. 25, Bull. Soc. Neuchatel, xx.
- Graptia bocki*, China, ROTHSCHILD, p. 535, pl. xi, fig. 7, Nov. Zool. i, n. sp.
- Hamamuida dædalus*, seasonal variation, teleology of coloration; TRIMEN, pp. 37 & 38, P. Zool. Soc. London, 1894.
- Harmilla*: characterised; AURIVILLIUS, p. 301, Ent. Tidskr. xv.
- Heleyra hemina*, note on; SNELLEN, p. 78, Tijdschr. Ent. xxxvii.
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- Hestina mimetica*, note and figure; SNELLEN, p. 67, pl. iii, fig. 1, Tijdschr. Ent. xxxvii.
- Hypolimnus chapmanni*, n. var. *fasciata*; AURIVILLIUS, p. 280, Ent. Tidskr. xv. *H. dinarcha*, *bartheloti*, note on, p. 280, *H. mechowi*, = (*ragiens*, Cap., and *stanleyi*, Sm.), *H. dubia*, variation, with n. var. *cerberus*, p. 281, larva and pupa, pl. iv, figg. 4 & 4b; AURIVILLIUS, Ent. Tidskr. xv. *H. missippus* in Trinidad; WRIGHT, p. 49, J. Trinidad Club, ii.
- H. panopion*, New Guinea, SMITH, p. 350, Nov. Zool. i, n. sp.
- Junonia simia* and *natalensis*, noticed; BUTLER, p. 563, P. Zool. Soc. London, 1894.
- J. iona*, New Guinea, SMITH, p. 349, Nov. Zool. i, n. sp.
- Kallima rumia*, larva and pupa; AURIVILLIUS, p. 277, p. iv, figg. 3 & 3b, Ent. Tidskr. xv.
- Limenitis albomaculata*, ♀ figured; OBERTHUR, p. 15, pl. vi, fig. 82, Etudes Ent. xviii.
- L. cleophas*, Mou-Pin, OBERTHUR, p. 16, pl. vi, fig. 83, Etudes Ent. xviii, n. sp.
- Melitæa didyma*, varr. described; HORMUZAKI, pp. 2-6, Ent. Nachr. xx.
- M. aurinia*, varr.; FROHAWK, p. 2, cuts, Entomologist, 1894.
- Messaras cyclotas*, New Guinea, SMITH, p. 349, Nov. Zool. i, n. sp.
- Mynes woodfordi*, *websteri*, *coltonis*, figured; SMITH & KIRBY, Rhop. ex. Nymphalidæ, Mynes, ii.

- M. websteri*, New Guinea, SMITH, p. 586, Nov. Zool. i; *M. schonbergi*, New Guinea, RÖBER, p. 363, Ent. Nachr. xx; *M. cottonis*, New Britain, SMITH, p. 499, Ann. Nat. Hist. (6) xiii : n. spp.
- Myscelia skinneri*, Sinaloa, MENGEL, p. 96, Ent. News Philad. v, n. sp.
- Neptis biafra*, n. var. *strigata*, p. 284, cut, *nysiades*, = (*continuata*, Holl. and *ncjo*, Karsch); AURIVILLIUS, p. 285, Ent. Tidskr. xv.
- Neptis puella*, Cameroons, AURIVILLIUS, p. 285, cut, Ent. Tidskr. xv; *N. exaleuca*, Cameroons, KARSCH, p. 9, fig. 5, Berlin. ent. Zeitschr. xxxix; *N. dejeani*, p. 15, pl. vii, fig. 61, *bieti*, p. 16, pl. viii, fig. 69, Thibet, OBERTHUR, Etudes Ent. xix; *N. satina*, pl. xii, fig. 3, p. 352, *anceps*, *ganina*, fig. 4, p. 353, *dorcas*, p. 354, New Guinea, SMITH, Nov. Zool. i : n. spp.
- Panacea prola* and *dubia*, variation and characters; STICHEL, pp. 197 & 198, Berlin. ent. Zeitschr. xxxix.
- Parthenos nella*, Borneo, SWINHOE, p. 429, Ann. Nat. Hist. (6) xiv, n. sp.
- Penthema michallati*, Tonkin; JANET, p. cclv, Bull. Soc. ent. France, 1894, n. sp.
- Peridroma fuscata*, Midway I., *evanescens*, Laysan I., ROTHSCHILD, p. 539, Nov. Zool. i, n. spp.
- Phyciodes carlota*, early stages; EDWARDS, Canad. Ent. 1894, p. 3.
- P. ursula*, Bolivia, STAUDINGER, p. 70, pl. ii, fig. 3, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Precis cloantha*, larva and pupa noticed, p. 32, *simia*, ♂ figured, pl. iv, fig. 5 (noticed as probably = *Junonia micromera*, BUTLER, p. 15), *artaxia* noticed, p. 35; TRIMEN, P. Zool. Soc. London, 1894. *P. sophia*, larva and pupa; AURIVILLIUS, p. 274, pl. iv, figg. 1 & 1d, Ent. Tidskr. xv.
- P. stygia*, = (*erythra*, Staud., nec Feisth.), Cameroons, AURIVILLIUS, p. 275, Ent. Tidskr. xv, n. sp.
- Prothoë australis*, variation of the sexes, synonymy, pp. 360-362, *franckii*, n. var. *niasica*, p. 366; RÖBER, Ent. Nachr. xx.
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- Pyrameis virginiensis*, var. *rubia*; STAUDINGER, p. 70, Deutsche ent. Zeitschr. Lep. vii. *P. cardui*, abundance and habits in the Ziban, Algeria; EATON, Ent. Mag. 1894, pp. 98 & 99 & 133.
- P. samani*, Sumatra, HAGEN, p. 358, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Salamis unacardii*, larva; AURIVILLIUS, p. 276, pl. iv, figg. 2 & 2b.
- Stibochiona coresia*, n. var. *kagnegieteri*, p. 305, *rothschildi*, p. 306; FRUITSORFER, Ent. Nachr. xx.
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- Symphædra action*, variation of female ; SMITH, p. 355, Nov. Zool. i.
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 pl. ix, Tr. ent. Soc. London, 1894. *V. levana*, *burejana*, *c-aureum*,
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 Ent. xxxvii : migratory swarm ; PAOLUCCI (794).

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- Amathusiina*, distinguished from *Morphina* ; MOORE, p. 171, Lep. Ind. ii.
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 ent. Zeitschr. xxxix, n. sp. (but cf. Zool. Rec. xxx, p. 230).
Opsiphanes quiteria, *bogotunus*, note on ; STICHEL, p. 12 ; SB. Berlin. ent.
 Zeitschr. xxxix.
O. staudingeri, Chiriqui, GODMAN & SALVIN, p. 95, Ann. Nat. Hist. (6)
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Zeuxidia dohrni, description and figures ; FRUHSTORFER, p. 116, pl. iii,
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- Arge galathea*, n. varr. *syriaca*, figg. 6 & 8, *gnophos*, fig. 73; OBERTHUR, pl. viii, p. 19, Etudes Ent. xix.
- Callerebia nirmala*, early stages; ROBSON, p. 551, J. Bombay Soc. viii.
- C. boeckii*, p. 17, pl. vi, figg. 80 & 80a, *carola*, p. 18, fig. 79, OBERTHUR, Etudes Ent. xviii, n. spp.
- Chionobas subhyalina*, *norna*, pl. viii, *semidea* and *nigra*, with varr. and early stages, pl. ix; EDWARDS, Butt. N. Amer. 3rd ser. *C. alberta*, noticed; ELWES, p. xxx, P. ent. Soc. London, 1894; EDWARDS, p. 192, Canad. Ent. 1894.
- Corades melania*, Bolivia, STAUDINGER, p. 76, Deutsche ent. Zeitschr. Lep. vii, n. sp.
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- Dichothyris* merged in *Mycalesis*, table of the species and allied forms; KARSCH, pp. 237-240, Ent. Nachr. xx.
- Drusillopsis*, n. g., for *D. dohertyi*, n. sp., pl. ii, figg. 3 & 3a, Wandesi; OBERTHUR, p. 16, Etudes Ent. xix.
- Epinephele ida*, n. var. *cecilia*; VALLANTIN, Naturaliste, 1894, p. 260.
- E. janira*, varieties; BONJOUR, p. 186, Bull. Soc. Ouest France, 1894: pupation; CHAPMAN, Entomologist, 1894, p. 102.
- E. deiphobe*, Thibet, LEECH, p. 650, pl. xliii, fig. 10, Butt. China, n. sp.
- Erebia pawlowskyi*, n. var. *sajana*; STAUDINGER, p. 244, Deutsche ent. Zeitschr. Lep. vii. *E. epiphron*, variation; BUCKELL, p. 161, Ent. Rec. v.
- E. erymnis*, East Siberia, pl. ix, fig. 2 (but on p. 376 the name altered to *erinna*), *nero*, Pamir, p. 247, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii, n. spp.
- Erites*: figures and descriptions; MOORE, pp. 113-117, pl. cxxi, Lep. Ind. ii.
- E. bedinga*, Tenasserim, MOORE, p. 114, Lep. Ind. ii, n. sp.
- Hamadryopsis*, n. g., for *H. drusillodes*, n. sp., Wandesi, pl. ii, figg. 4 & 4a; OBERTHUR, p. 17, Etudes Ent. xix.
- Hypocysta osyris*, = (*isis* and *serapis*, Stgr.); SMITH, p. 364, Nov. Zool. i.
- Lethe cybele*, Omei-shan, LEECH, p. 643, pl. xliii, fig. 8, Butt. China, n. sp.
- Melanitis*: descriptions and figures of Indian species; MOORE, Lep. Ind. ii, pp. 117-137, pl. cxxii et seqq. *M. leda*, seasonal forms, *libya*, variation, figure, pl. iv, fig. 2; TRIMEN, p. 22, P. Zool. Soc. London, 1894.
- M. kalinga*, S. India, MOORE, p. 137, pl. cxxx, figg. 2 & 2a, Lep. Ind. ii; *M. barnardi*, Queensland, LUCAS, p. 71, P. Soc. Queensland, viii; n. spp.
- Mycalesis matuta*, p. 228, *baumanni*, p. 230, *phaea*, p. 232, *teratia*, p. 234, *mesogena*, p. 236, Tropical Africa, KARSCH, Ent. Nachr. xx; *M. noblemairei*, Congo, JANET, p. cclvi, Bull. Soc. ent. France, 1894;

- M. danckelmani*, Usambara, ROGENHOFER in BAUMANN (52), p. 330 ;
M. erysichthon, W. Africa, EHRMANN, p. 77, J. N. York Ent. Soc. ii ;
M. maura, p. 500, *matho*, p. 501, New Britain, SMITH, Ann. Nat.
 Hist. (6) xiii ; *M. fulviana*, p. 360, *elia*, p. 361, *lorna*, p. 362, *comes*,
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- Neocœnyra*, discussed, p. 559, *N. duplex*, figured, pl. xxxvi, fig. 1 ;
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- N. gregorii*, E. Africa, BUTLER, P. Zool. Soc. London, 1894, p. 560,
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- Neope dejeani*, China, OBERTHUR, p. 18, pl. vii, fig. 63, Etudes Ent. xix.
- Neorhina westwoodi*, = (*saka*, Fruh.) ; FRUHSORFER, p. 24, Ent. Nachr. xx.
- Eneis nevadensis*, *gigas*, *californica*, *iduna*, *subhyalina*, and others, notes
 on characters and synonymy ; EDWARDS, p. 57, Canad. Ent. 1894 ;
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- Æ. tunga*, S. Siberia, STAUDINGER, p. 248, pl. ix, fig. 1, Deutsche ent.
 Zeitschr. Lep. vii, n. sp.
- Parantirrhœa marshalli*, figures ; MOORE, Lep. Ind. ii, pl. cxxxii, figg. 3
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- Pararge egeria* and *egerides*, intermediate forms ; BONJOUR, p. 187, Bull.
 Soc. Ouest France, 1894 : temperature experiments on pupæ ;
 MERRIFIELD, p. 426, Tr. ent. Soc. London, 1894.
- Pedaliodes ferratilis*, Butl., figured ; SMITH & KIRBY, Rhop. ex. Saty-
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- P. porima*, figg. 1 & 2, *pheretiades*, figg. 4 & 5, p. 7, *obscura*, fig. 3, p. 8,
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- Periphysia johnstoni*, noticed as probably = *Physcænura pione*, Butl., p. 15,
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- Physcænura pione*, description and figure ; TRIMEN, p. 20, pl. iv, fig. 1,
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- Rhaphiceropsis*, n. g. ; near *Neope*, for *R. pringlei*, n. sp., E. Africa, pl. xix,
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- Satyrus wyssii*, figured ; REBEL & ROGENHOFER, pl. i, fig. 1, p. 38, Ann.
 Hofmus. Wien, ix. *S. alcyone*, fig. 59, varr. *ellena*, fig. 57, *vanda-*
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- Xenica paludosa*, Tasmania, LUCAS, p. 71, P. Soc. Queensland, viii, n. sp.
- Ypsthima albida*, figured, pl. xix, fig. 4, P. Zool. Soc. London, 1894.
- Y. elwesi*, Omei-shan, LEECH, p. 645, pl. xliii, fig. 7, Butt. China, n. sp.
- Zophoessa lahillei*, Tonkin, JANET, p. cclv, Bull. Soc. ent. France, 1894,
 n. sp.

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Abisara satraps, New Guinea, SMITH, p. 545, Nov. Zool. i, n. sp.

Agrusid, n. g., for part of *Dyctis*, type *A. esaca* ; MOORE, p. 169, Lep. Ind. ii.

- Bruasa*, n. g., for part of *Elymnias*, type *B. penanga*; MOORE, p. 164, Lep. Ind. ii.
- Dicallaneura ostrina*, p. 543, *semirufa*, *princessa*, p. 544, New Guinea, SMITH, Nov. Zool. i, n. spp.
- Dodona windu*, Java, FRUHSTORFER, Ent. Nachr. xx, p. 22, and Berlin. ent. Zeitschr. xxxix, p. 241, pl. xvii, fig. 2, n. sp.
- Elymnias*: MOORE describes and figures the E. Indian species, establishing for certain of them the genera *Melynius*, *Bruasa*, and *Mimadelias*, *qq.v.*, Lep. Ind. ii, pp. 141-168. *E. (Dyctis) maheswara*, description, p. 124, figures, pl. iv, fig. 7, pl. v, fig. 10; FRUHSTORFER, Ent. Zeit. Stettin, lv. *E. thryallis*, variation of female; SMITH, p. 364, Nov. Zool. i.
- E. (Dyctis) maheswara*, Java, FRUHSTORFER, p. 21, Ent. Nachr. xx; *E. gauroides*, Java, FRUHSTORFER, p. 43, Ent. Nachr. xx, and Berlin. ent. Zeitschr. xxxix, p. 243, pl. xviii, fig. 4; *E. viridescens*, New Guinea, SMITH, p. 365, pl. xii, figg. 5 & 6, Nov. Zool. i; *E. melanippe*, p. 587, *erastus*, p. 588, New Guinea, SMITH, *t. c.*; *E. glaucopsis*, *paradoxa*, New Guinea, STAUDINGER, p. 116, Deutsche ent. Zeitschr. Lep. vii: n. spp.
- Melynius*, n. g., p. 156, for part of *Elymnias*, type *M. lais*, including *M. patnoides*, n. sp., Burma, p. 163, pl. cxli, figg. 2 & 2a; MOORE, Lep. Ind. ii.
- Mimadelias*, n. g., p. 165, for part of *Elymnias*, type *M. vasudeva*, including *M. deva*, p. 167, pl. cxlii, figg. 2 & 2a, *burmensis*, p. 168, pl. cxliii, figg. 1-1c, n. spp.; MOORE, Lep. Ind. ii.
- Stiboges nymphidia*, figured, pl. ii, fig. 19; OBERTHUR, Etudes Ent. p. 15.

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- Argiolus hollandii*, W. Africa, EHRMANN, p. 77, J. N. York Ent. Soc. ii, n. sp.
- Arhopala meander*, variation; SMITH, p. 582, Nov. Zool. i.
- A. periander*, *hylander*, p. 582, *antharita*, p. 583, New Guinea, SMITH, Nov. Zool. i; *A. leo*, New Guinea, H. H. DRUCE, p. 254, Ann. Nat. Hist. (6) xiii; *A. elopura*, Borneo, H. H. DRUCE, Ent. Mag. 1894, p. 10: n. spp.
- Castalius gregorii*, East Africa, BUTLER, p. 568, pl. xxxvi, fig. 3, P. Zool. Soc. London, 1894; *C. austini*, Damma I., HERON, p. 103, Ann. Nat. Hist. (6) xiv: n. spp.
- Chrysophanus standfussi*, figured; OBERTHUR, pl. iii, fig. 42, Etudes Ent. xviii.
- C. peculiaris*, Usambara, ROGENHOFER in BAUMANN (52), n. sp.
- Chrysorychia cruenta*, Manica, TRIMEN, p. 55, pl. vi, fig. 13, P. Zool. Soc. London, 1894, n. sp.
- Cupido bornemanni*, New Guinea, PAGENSTECHE, p. 77, Jahrb. nassau. Ver. xlvii; *C. speciosa*, p. 77, pl. ii, fig. 8, *vapa*, fig. 4, *moza*, fig. 5, p. 79, Bolivia, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii: n. spp.

- Cyaniris dammæ*, Damma I., HERON, p. 104, Ann. Nat. Hist. (6) xiv ;
C. nedda, Batchian, &c., *rona*, Ron (New Guinea), SMITH, p. 572,
 Nov. Zool. i : n. spp.
- Deudorix antalus*, metamorphoses ; TRIMEN, p. 52, P. Zool. Soc. London,
 1894.
- D. dohertyi*, New Guinea, OBERTHUR, p. 13, pl. iii, fig. 10, Etudes Ent.,
 n. sp.
- Durbania puellaris*, Manica, TRIMEN, p. 59, pl. vi, fig. 14, P. Zool.
 Soc. London, 1894, n. sp.
- Epimastidia pilumna*, New Guinea, H. H. DRUCE, p. 253, Ann. Nat.
 Hist. (6) xiii ; *E. albo-cærulea*, New Britain, SMITH, p. 501, t. c. :
 n. spp.
- Holochila marginata*, *subovata*, *harterti*, p. 579, *refusa*, *silicea*, *subrosea*,
 p. 580, *tringa*, p. 581, New Guinea, SMITH, Nov. Zool. i, n. spp.
- Horaga holothura*, Java, SWINHÖE, p. 430, Ann. Nat. Hist. (6) xiv,
 n. sp.
- Hypochrysops* : additions to the genus, p. 144 ; *scintillans*, ♀ described,
 p. 143 ; H. H. DRUCE, Tr. ent. Soc. London, 1894. *H. ribbei*,
 figured, pl. ii, fig. 8, noticed, p. 11 ; OBERTHUR, Etudes Ent. xix.
H. plotinus, *calliphon*, *thesaurus*, *scintillans*, figured ; SMITH &
 KIRBY, Rhop. ex. Lycænidæ (Oriental), i.
- H. plotinus*, p. 546, *thesaurus*, p. 547, *pretiosus*, *hermogenes*, *calliphon*,
 p. 548, *theonides*, p. 549, *theophanes*, *heros*, p. 550, *siren*, p. 551, New
 Guinea, SMITH, Nov. Zool. i ; *H. drucei*, pl. vi, fig. 47, p. 9, *felderi*,
 fig. 46, pl. x, *boisduvali*, fig. 49, p. 11, *dohertyi*, fig. 48, p. 12, New
 Guinea, OBERTHUR, Etudes Ent. xix ; *H. mirabilis* (? = *eucletus*,
 Feld.), New Guinea, PAGENSTECHE, p. 78, Jahrb. Nassau. Ver.
 xlvii : n. spp.
- Jamides purpurata*, New Guinea, SMITH, p. 574, Nov. Zool. i, n. sp.
- Lachnocnema exiguum*, figured, p. 118, pl. xxv, figg. 8 & 9 ; SMITH &
 KIRBY, Rhop. ex. Lycænidæ, xxv.
- Lampides cærulea*, = (*bochides*, Nicév.) ; H. H. DRUCE, Ent. Mag.
 1894, p. 9.
- L. allectus*, p. 576, *amphissina*, p. 577, New Guinea, SMITH, Nov. Zool. i ;
L. eclectus, New Guinea, SMITH, p. 589, t. c., n. spp.
- Liptena pseudosoyauxii*, W. Africa, HOLLAND, p. 78, J. N. York Ent.
 Soc. ii, n. sp.
- Lycana alexis*, n. var. *rufina* ; OBERTHUR, p. 14, pl. vi, fig. 52, Etudes
 Ent. xix. *L. exilis*, larva and pupa ; EDWARDS, p. 37, Canad. Ent.
 1894. *L. exiloides*, n. n. for *exilis*, Luc. ; LUCAS, p. 47, P. Soc.
 Queensland, vii.
- L. pharaonis*, p. 243, pl. ix, fig. 4, *thebana* (Boisd.), fig. 3, p. 244, Egypt,
 STAUDINGER, Deutsche ent. Zeitschr. Lep. vii ; *L. egyptiaca*,
 Alexandria, BETHUNE-BAKER, p. 33, Tr. ent. Soc. London, 1894,
 pl. i, fig. 1 ; *L. exclusa*, Manica, p. 47, pl. vi, fig. 11, *mashuna*,
 S. Africa, p. 48, TRIMEN, P. Zool. Soc. London, 1894 (*L. exclusa*
 is *Castalius hypoleucus*, Butl., BUTLER, t. c. p. 14) : n. spp.

- Lycænesthes kersteni* and *larydas*, distinguished; BUTLER, p. 568, P. Zool. Soc. London, 1894. *L. lithas*, figured; SMITH & KIRBY, Rhop. ex. Lycænidæ (African), Lycænesthes, iii.
- L. lunulata*, Manica, TRIMEN, p. 51, pl. vi, fig. 12, P. Zool. Soc. London, 1894; *L. lasti*, figg. 1 & 2, p. 109, *lucretia*, p. 111, figg. 7 & 8, *staudingeri*, p. 112, figg. 9 & 10, Tropical Africa, SMITH & KIRBY, Rhop. ex. Lycænidæ (African), Lycænesthes, iii : n. spp.
- Megisba monacha*, New Guinea, SMITH, p. 571, Nov. Zool. i, n. sp.
- Nacaduba cœlia*, p. 573, *obscura*, p. 574, New Guinea, SMITH, Nov. Zool. i, n. spp.
- Ogyris orates*, *amaryllis*, note on; LOWER, p. 116, Tr. R. Soc. S. Austral. xviii.
- Pentila* and *Tingra*, application of the names; TRIMEN, p. 56, P. Zool. Soc. London, 1894.
- P. undina*, Kuilu, SMITH & KIRBY, Rhop. ex. Lycænidæ (African), p. 117, pl. xxv, figg. 6 & 7, n. sp.
- Polyommatus phlœus*, var.; ROBSON, p. 272, Entomologist, 1894: season-forms in Japan; FRITZE, p. 159, Ber. Ges. Freiburg, viii.
- Pseuderesia debora*, figured; SMITH & KIRBY, Rhop. ex. Lycænidæ (African), pl. xxv, fig. 6.
- P. tripunctata*, Kuilu, SMITH & KIRBY, Rhop. ex. Lycænidæ (African), p. 116, pl. xxv, figg. 3 & 4, n. sp.
- Pseudonotis*, n. g., near *Thysonotis*, for *P. humboldti*, n. sp., New Guinea; H. H. DRUCE, p. 252, Ann. Nat. Hist. (6) xiii.
- Scolituntides andina*, Chili, CALVERT, p. 832, An. Univ. Chile, lxxxiv, n. sp.
- Spalgis epius*, var. from Damma I.; HERON, p. 102, Ann. Nat. Hist. (6) xiv: habits of larva, metamorphoses; AITKEN, p. 485, pl. A, J. Bombay Soc. viii.
- Spindusis nyassæ*, figured, pl. xxxvi, fig. 4, P. Zool. Soc. London, 1894.
- Teriomima freya*, E. Africa, SMITH & KIRBY, Rhop. ex. Lycænidæ (African), pl. xxv, figg. 1 & 2, p. 115, n. sp.
- Thecla arata*, season-forms in Japan; FRITZE, p. 158, Ber. Ges. Freiburg, viii. *T. acaciæ*, n. var. *gerhardi*; STAUDINGER, p. 241, Deutsche ent. Zeitschr. Lep. vii. *T. californica*, early stages; DYAR, p. 329, Ent. News Philad. v. *T. rubi*, aberration; SOUTH, Entomologist, 1894, p. 17.
- T. ? culminicola*, p. 80, pl. ii, fig. 8, *T. alihoba*, p. 81, Bolivia, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii, n. spp.
- Thestor nesimachus*, Syria, p. 14, pl. ii, fig. 30, OBERTHUR, Etudes Ent. xviii, n. sp.
- Thysonotis esme*, New Britain, SMITH, p. 501, Ann. Nat. Hist. (6) xiii; *T. hanno*, *hamilcar*, New Britain, SMITH, p. 25, op. cit. xiv; *T. hermes*, *glaucoepis*, p. 575, *caesius*, p. 576, New Guinea, SMITH, Nov. Zool. i; *T. peri*, New Guinea, SMITH, p. 590, t. c. : n. spp.
- Tingra nero*, p. 119, pl. xxv, figg. 10 & 11, *bertha*, p. 120, fig. 12, Kuilu, SMITH & KIRBY, Rhop. ex. Lycænidæ (African), n. sp.

HESPERIIDÆ.

- Importance of male characters in classification, &c. ; GODMAN & SALVIN, pp. 355 & 356, Biol. Centr.-Amer. Rhop. ii.
- The *Hesperiidæ* of China, Japan, and Korea ; LEECH (633). In this most of the species previously described by the author in Entomologist, &c., are figured.
- Abantiades*, n. n. to replace *Abantis* ; FAIRMAIRE, p. 395, Ann. Soc. ent. Belgique, xxxviii.
- Abantis amneris*, E. Tropical Africa, REBEL & ROGENHOFER in BAUMANN (53), p. 338, n. sp.
- Acleros substrigata*, W. Africa, HOLLAND, p. 28, Ent. News Philad. v, n. sp.
- Adopæa tenebrosa*, Kiukiang, LEECH, p. 591, pl. xl, figg. 6 & 9, Butt. China, n. sp.
- Ægris fuscosa*, W. Africa, HOLLAND, p. 28, Ent. News Philad. v, n. sp.
- Aeromachus piceus*, Mou-Pin, LEECH, p. 618, pl. xli, fig. 16, Butt. China, n. sp.
- Æthilla* : characters, p. 343, *Æ. echina*, pl. lxxxi, figg. 13 & 14, fig. and characters ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Anastrus* : characters, p. 377, *A. nearis*, figures, pl. lxxxiv, figg. 9-12 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Apostictopterus*, n. g., near *Astictopterus*, p. 630, for *A. fuliginosus*, n. sp., Omei-shan, p. 631, pl. xxxviii, fig. 8 ; LEECH, Butt. China.
- Arteurotia* : characters, p. 356, *A. tractipennis*, figure and note, pl. lxxxii, fig. 1, p. 357 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Augiades crataeis*, p. 603, pl. xli, figg. 9 & 11, *sylvanoides*, fig. 4, p. 604, *similis*, fig. 6, p. 605, China, LEECH, Butt. China, n. spp.
- Cabares*, n. g., p. 337, for *Thanaos potrillo*, Luc. (figured, pl. lxxx, figg. 24-26), and *C. enops*, n. sp., Mexico, p. 338, pl. lxxx, figg. 27 & 28 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Cæcina* : characters, p. 342 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- C. calanus*, Mexico, Guatemala, p. 343, pl. lxxxi, figg. 10-12, GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii, n. sp.
- Cecropterus cinctus*, figured, pl. lxxx, fig. 3, *aunus*, fig. 4 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- C. capys*, Central and S. America, p. 330, pl. lxxx, figg. 5-7, GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii, n. sp.
- Celænorrhinus* : characters, p. 382, *C. eligius*, figure, characters, pl. lxxxv, fig. 1, *chiriquensis*, p. 383, pl. lxxxv, figg. 5-7 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- C. collucens*, W. Africa, HOLLAND, p. 90, Ent. News Philad. v ; *C. macrostictus*, W. Africa, HOLLAND, p. 27, *t. c.* ; *C. pluscula*, pl. xxxix, fig. 6, *lucifera*, fig. 5, p. 571, *omeia*, pl. xxxviii, fig. 5, p. 572, W. China, LEECH, Butt. China : n. spp.

- Cocceius*, n. g., for *Eudamus pylades* and *drusius*, the former ♂ characters, &c., pl. lxxx, fig. 23, p. 336 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Cojia cajeta*, p. lxxxi, figg. 1-3, *calchas*, fig. 6, *hippulus*, pl. lxxx, figg. 29-31, figured, characters, pp. 339-341 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Coladenia dan*, n. var. *dea* ; LEECH, p. 568, pl. xxxviii, fig. 10, Butt. China.
- C. vitrea*, Ta-chien-lu, LEECH, pl. xli, fig. 15, p. 568, *t. c.*, n. sp.
- Cyclopides mineni*, male ; LA GARDE, Entomologist, 1894, p. 395.
- C. mineni*, Manica, TRIMEN, p. 72, pl. vi, fig. 16, P. Zool. Soc. London, 1894 (BUTLER considers this, *t. c.* p. 15, the same as *Ceratrachia stellata*, Mab.), n. sp.
- Cyclosæmia anastomosis*, figured, pl. lxxxiv, figg. 4-6 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- C. phidyle*, Panama, p. 376, pl. lxxxiv, figg. 7 & 8, GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii, n. sp.
- Drephalys helixus*, characters, figure, p. 349, pl. lxxxi, figg. 22-24, GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Echelatus*, n. g., p. 378, near *Anastrus*, for *E. luctuosus*, p. 379, pl. lxxxiv, figg. 17 & 18, n. sp., Central and S. America, and *A. varius*, Mab., *Ach. sempiternus*, Butl. Dr., *A. eugramma*, Mab., which are figured on pl. lxxxiv ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Entheus* : characters, p. 353, *E. matho*, figures, pl. lxxxi, figg. 28-30 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Eracon*, n. g., p. 365, for *Arteurotia biternata*, Mab., figured, pl. lxxxiii, figg. 1 & 2 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Eudamus outis*, Texas, SKINNER, p. 332, Ent. News Philad. v, n. sp.
- Gangara* ? *basistriga*, W. Africa, HOLLAND, p. 30, Ent. News Philad. v, n. sp.
- Gastrochæta mabillei*, W. Africa, HOLLAND, p. 28, Ent. News Philad. v ; *G. cybeutes*, W. Africa, HOLLAND, p. 94, *t. c.* : n. spp.
- Gorgopas*, n. g., for *Achlyodes viridiceps*, pl. lxxxiii, figg. 3-5 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Gorgophone*, n. g., near *Anastrus*, for *G. melibæa*, n. sp., Panama, pl. lxxxiv, figg. 13 & 14 ; GODMAN & SALVIN, p. 378, Biol. Centr.-Amer. Rhop. ii.
- Grais*, n. g., for *Anastrus stigmaticus*, Mab., figured, pl. lxxxiv, figg. 24-26 ; GODMAN & SALVIN, p. 381, Biol. Centr.-Amer. Rhop. ii.
- Halpe nephela*, p. 622, pl. xlii, fig. 15, *latris*, fig. 17, p. 623, *canis*, fig. 16, *subflava*, fig. 21, p. 625, China, LEECH, Butt. China, n. spp.
- Hesperia enma*, Bolivia, STAUDINGER, p. 83, pl. ii, fig. 10, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Hyalothyrsus* : characters, *H. neleus*, figure, pl. lxxxi, fig. 27, p. 351 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Hydrænomia* : characters, p. 346, *H. orcinus*, figured, pl. lxxxi, fig. 18 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Ismene gomatu*, n. var. *lara* ; LEECH, p. 635, pl. xxxix, fig. 12, Butt. China.

- Lignyostola* : characters, *L. lacydus*, figure, p. 350, pl. lxxxi, fig. 25 ;
 GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Murgaria albociliata*, figure, male characters, &c. ; GODMAN & SALVIN,
 p. 333, pl. lxxx, figg. 12-14, Biol. Centr.-Amer. Rhop. ii.
- Mycteris* : characters, p. 373, *M. cærulea*, figg., p. 374, pl. lxxxiii,
 figg. 31-33 ; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Mylon*, n. g., p. 384, including *Leucochitonea lassia*, Hew. ; GODMAN &
 SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Narga*, Mab., merged in *Celenorrhinus* ; GODMAN & SALVIN, p. 383, Biol.
 Centr.-Amer. Rhop. ii.
- Nisionades* ? *pelarge*, Nicaragua, GODMAN & SALVIN, p. 375, Biol. Centr.-
 Amer. Rhop. ii, n. sp.
- Ocybadistes*, n. g., near *Pradaona*, p. 105, for *O. walkeri*, n. sp., p. 106,
 Damma I. and Australia ; HERON, Ann. Nat. Hist. (6) xiv.
- Orneates*, n. g., p. 345, for *Eudamus ægiochus*, Hew., figured, pl. lxxxii,
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- Osmodes fun*, W. Africa, HOLLAND, p. 91, Ent. News Philad. v, n. sp.
- Pamphila phylæus*, n. var. *andina* ; STAUDINGER, p. 82, Deutsche ent.
 Zeitschr. Lep. vii. *P. morella*, description and figure ; JOANNIS,
 p. 429, pl. xv, fig. 6, Ann. Soc. ent. France, 1894.
- P. zimbazo*, p. 74, pl. vi, fig. 17, *chirala*, p. 76, fig. 18, Manica, TRIMEN,
 P. Zool. Soc. London, 1894 : *P. zimbazo* is *ranoha*, West., BUTLER,
t. c. p. 15, n. spp.
- Paradros* : characters, p. 347, *P. formosus*, figured, pl. lxxxii, figg. 19-21 ;
 GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Pardaleodes fulgens*, Mab, noticed as probably = *Pterygospidea flesus*, Fab. ;
 TRIMEN, p. 80, P. Zool. Soc. London, 1894.
- Parnara* ? *picanini*, p. 91, *mabea*, *batangæ*, p. 92, *argyrodes*, *leucophæa*,
 p. 93, *P. ? subnotata*, p. 94, W. Africa, HOLLAND, Ent. News Philad.
 v ; *P. unistriga*, p. 30, *melphis*, p. 31, W. Africa, HOLLAND, *t. c.* ; *P.*
thyone, pl. xlii, fig. 4, p. 610, *nascens*, fig. 8, *bromus*, fig. 10, p. 614,
 China, LEECH, Butt. China : n. spp.
- Fellicia* : characters, p. 367, the following figured with specific characters,
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 MAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- P. tiphys*, p. 368, pl. lxxxiii, figg. 6-10, *bromius*, p. 370, figg. 13-15,
thyestes, p. 372, figg. 26 & 27, Central America, GODMAN & SALVIN,
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- Phanus* : characters, p. 352, *P. vitreus*, figure, pl. lxxxii, fig. 26 ; GODMAN
 & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Phædinus*, n. g., for *Eudamus caicus*, and *P. aventinus*, n. sp., Mexico,
 with figg., pl. lxxx, figg. 18-22 ; GODMAN & SALVIN, Biol. Centr.-
 Amer. Rhop. ii.
- Pyrgus elma* (Karsch), note on ; TRIMEN, p. 73, P. Zool. Soc. London,
 1894.

- Pythonides*: characters, p. 358, the following figures and notices of specific characters, *cerialis*, p. 358, pl. lxxxii, fig. 2, *contubernalis*, p. 359, figg. 3-5, *lugubris*, p. 361, figg. 11-13, *zera*, p. 362, figg. 14-16, *hyacinthinus*, figg. 19-21; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- P. anicius*, Guatemala, pl. lxxxii, figg. 6 & 7, *belti*, = (*paterculus*, Hew.), Nicaragua, figg. 8-10, p. 360, *menedemus*, p. 362, figg. 17 & 18, *scybis*, figg. 22 & 23, *phila*, figg. 24 & 25, *pelopea*, figg. 26 & 27, p. 363, Central America, GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii, n. spp.
- Rhabdoides*: characters, p. 331, *R. cellus*, pl. lxxx, fig. 8, *epigona*, figg. 9-11, figured; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Rhopalocampta translucida*, Omei-shan, LEECH, p. 642, pl. xxxix, fig. 11, Butt. China, n. sp.
- Sarangesa exprompta*, *subalbida*, W. Africa, HOLLAND, p. 26, Ent. News Philad. v, n. spp.
- Spilothyrus althea*, early stages; GROSS, p. 77, Ent. Zeit. Stettin, lv.
- Spioniades*: characters, p. 364, *S. artemides*, figures, pl. lxxxii, figg. 28-30; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Taractrocera fluvoidea*, Omei-shan, LEECH, p. 590, pl. xl, figg. 10 & 11, Butt. China, n. sp.
- Thorybes mexicanus*: male characters, figure, &c., p. 334, pl. lxxx, figg. 15-17; GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii.
- Thymelicus christi*, figured, pl. i, fig. 2, p. 41; REBEL & ROGENHOFER, Ann. Hofmus. Wien, ix.
- Typhedanus*: characters; GODMAN & SALVIN, p. 341, Biol. Centr.-Amer. Rhop. ii.
- T. alladius*, Mexico, p. 342, pl. lxxxii, figg. 7-9, GODMAN & SALVIN, Biol. Centr.-Amer. Rhop. ii, n. sp.

HETEROCERA.

- Modification of classification proposed; SWINHOE, pp. 145 & 146, Tr. ent. Soc. London, 1894.
- The *Lepidoptera* of the Canary Islands; REBEL & ROGENHOFER (868).
- Spermatogenesis in silkworm, sexual organs of young larva, &c.; TOYAMA (1077).
- Instances of errors of Walker in making names for genera of moths; BUTLER, Entomologist, 1894, pp. 168 & 169.
- Moth-catching plant; BRANDICOURT, Nature (La), 1894 (2) pp. 40 & 41.
- A moth-catching plant in New Zealand; MASKELL (688).

SPHINGIDÆ.

- [*Cf.* BENTON (62), CHRISTOPH (179), DRUCE (240, 241), KIRBY (537), LUCAS (654), OBERTHUR (767), ROTHSCHILD (942-945), SWINHOE (1057).]

- ROTHSCHILD, in Nov. Zool. i, pp. 65-98, 541, 542, & 664, makes many critical and synonymical remarks on Kirby's Catalogue, *Sphingidæ*.
- KIRBY, in the same journal, pp. 99-103, gives a supplementary list of the family.
- Sphingidæ* captured at electric lights in Venezuela; ROTHSCHILD, Nov. Zool. i, p. 541.
- List of species from Khasia Hills, with remarks; SWINHOE, pp. 146-152, Tr. ent. Soc. London, 1894.
- Acherontia atropos*, habits; BENTON, P. ent. Soc. Washington, iii, pp. 61-63.
- Aleuron biovatus*, New Guinea, OBERTHUR, p. 32, pl. iii, fig. 16, Etudes Ent. xix, n. sp.
- Ambulyx staudingeri*, Philippines, ROTHSCHILD, p. 300, pl. vii, fig. 1, Deutsche ent. Zeitschr. Lep. vii; *A. amboynensis*, Amboyna, *dohertyi*, New Guinea, *japonica*, Japan, *schausi*, Rio Janeiro, p. 87, *trilineata*, Japan, p. 88, ROTHSCHILD, Nov. Zool. i : n. spp.
- Ampelophaga harterti*, Assam, ROTHSCHILD, p. 299, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Calliomma zurcheri*, Costa Rica, DRUCE, p. 352, Ann. Nat. Hist. (6) xiii; *C. drucei*, Demerara, *grisescens*, hab.?, p. 73, *ellacombei*, San Domingo, p. 74, ROTHSCHILD, Nov. Zool. i : n. spp.
- Cephanodes lifuensis, simplex*, pl. v, fig. 1, Loyalty Is., ROTHSCHILD, p. 66, Nov. Zool. i, n. spp.
- Charocampa damocrita*, p. 168, *potentia*, p. 169, Central America, DRUCE, Ann. Nat. Hist. (6) xiii, n. spp.
- Clanis gigantea*, Assam, *bicolor*, hab.?, ROTHSCHILD, p. 96, Nov. Zool. i, n. spp.
- Cocytius affinis*, Central and S. America, *magnificus*, British Guiana, pl. vii, fig. 21, ROTHSCHILD, p. 92, Nov. Zool. i, n. spp.
- Cypa olivacea*, Borneo, ROTHSCHILD, p. 70, pl. vii, figg. 6 & 6a, Nov. Zool. i; *C. mirabilis*, Assam, ROTHSCHILD, p. 541, t. c. : n. spp.
- Daphnis torenia*, n. var. *rosacea*; ROTHSCHILD, p. 85, Nov. Zool. i.
- D. lobuana*, Borneo, ROTHSCHILD, p. 299, pl. v, fig. 3, Deutsche ent. Zeitschr. Lep. vii; *D. gloriosa*, Borneo, p. 85, *chimæra*, hab.?, p. 86, pl. vi, fig. 16, ROTHSCHILD, Nov. Zool. i : n. spp.
- Darapsa schausi*, Rio Janeiro, ROTHSCHILD, p. 84, Nov. Zool. i, n. sp.
- Daremma undulosa*, larva; ROWLEY, p. 176, Ent. News Philad. v.
- Deilephila euphorbiæ*, near Biskra, EATON, Ent. Mag. 1894, p. 133. *D. tithymali*, larva noticed; REBEL & ROGENHOFER, Ann. Hofmus. Wien, ix.
- D. peplidis*, Persia, CHRISTOPH, p. 333, Ent. Nachr. xx; *D. livornicoides*, Queensland, LUCAS, p. 73, P. Soc. Queensland, viii : n. spp.
- Diodosida elegans*, Sierra Leone, ROTHSCHILD, p. 298, Deutsche ent. Zeitschr. Lep. vii; *D. uniformis*, Sierra Leone, *brunnea*, Namaqualand, ROTHSCHILD, p. 72, Nov. Zool. i : n. spp.
- Dupo domingonis*, San Domingo, ROTHSCHILD, p. 83, Nov. Zool. i, n. sp.

- Euryglottis albostigmata*, Cauca Valley, STAUDINGER, p. 301, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Eurypteryx mirabilis*, Borneo, ROTHSCHILD, p. 300, pl. vi, fig. 3, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Gonenyo irrorata*, Peru, p. 298, pl. vii, fig. 3, ROTHSCHILD, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Hemeroplanes ornatus*, Venezuela, ROTHSCHILD, p. 74, Nov. Zool. i, n. sp.
- Hypædalia butleri*, W. Africa, ROTHSCHILD, p. 69, pl. vi, fig. 4, Nov. Zool. i, n. sp.
- Lophostethus carteri*, W. Africa, ROTHSCHILD, p. 97, Nov. Zool. i, n. sp.
- Lophurum umbrinum*, pl. v, fig. 4, *brevipenne*, fig. 5, W. Africa, ROTHSCHILD, p. 297, Deutsche ent. Zeitschr. Lep. vii ; *L. pulcherrimum*, p. 70, *maculatum*, *magnificum*, pl. v, fig. 7, *inornatum*, fig. 8, *pseudopylas*, p. 71, S. Africa, ROTHSCHILD, Nov. Zool. i : n. spp.
- Macroglossa alluaudi*, description, figure, note on larva ; JOANNIS, p. 430, pl. xv, fig. 1, Ann. Soc. ent. France, 1894.
- M. kiushiuensis*, Japan, p. 66, *loochooana*, Loochoo Is., *moluccensis*, New Guinea, &c., *lifuensis*, Loyalty Is., p. 67, *dohertyi*, Amboyna, pl. v, fig. 2, p. 67, *pseudogyrans*, Flores, fig. 23, *burmanica*, Birma, pl. v, fig. 3, *similis*, Oinainissa, *inconspicua*, New Guinea, p. 68, ROTHSCHILD, Nov. Zool. i, n. spp.
- Macrosila rotundata*, hab. ?, ROTHSCHILD, p. 90, pl. vii, fig. 17, Nov. Zool. i, n. sp.
- Meganoton variegatum*, Queensland, ROTHSCHILD, p. 301, pl. vi, fig. 1, Deutsche ent. Zeitschr. Lep. vii ; *M. cocytioides*, *distinctum*, pl. vii, fig. 19, p. 89, Queensland, *lifuense*, Loyalty Is., fig. 20, *hasianum*, Assam, p. 90, ROTHSCHILD, Nov. Zool. i : n. spp.
- Metopsilus albomarginalis*, Assam, *aurantiacus*, hab. ?, ROTHSCHILD, p. 78, Nov. Zool. i, n. spp.
- Nephele aureomaculata*, Congo, ROTHSCHILD, p. 88, Nov. Zool. i ; *N. rectangulata*, Sierra Leone, ROTHSCHILD, p. 300, Deutsche ent. Zeitschr. Lep. vii : n. spp.
- Pachygonia stuarti*, Peru, ROTHSCHILD, p. 665, Nov. Zool. i, n. sp.
- Panacra natalensis*, S. Africa, pl. v, fig. 13, *rosea*, pl. vi, fig. 14, *lifuensis*, p. 79, *griseola*, Loyalty Is., *pseudovigil*, *butleri*, hab. ?, p. 80, *dohertyi*, *perakana*, Perak, *variegata*, Philippine Is., p. 81, *hamiltoni*, Assam, p. 82, ROTHSCHILD, Nov. Zool. i, n. spp.
- Perigonia jamaicensis*, Jamaica, ROTHSCHILD, p. 69, Nov. Zool. i, n. sp.
- Philampelus translineatus*, Brazil, ROTHSCHILD, p. 299, pl. vii, fig. 2, Deutsche ent. Zeitschr. Lep. vii.
- Phlegthontius harterti*, Bonaire, *indistincta*, Honduras, p. 93, *lixii*, New Guinea, p. 94, ROTHSCHILD, Nov. Zool. i ; *P. garleppi*, Peru, p. 301, pl. v, fig. 1, *manducoides*, Bolivia, p. 302, ROTHSCHILD, Deutsche ent. Zeitschr. Lep. vii : n. spp.
- Pseudoclanis*, n. g., for a part of *Clanis*, type *C. postica* ; ROTHSCHILD, p. 96, Nov. Zool. i.

- Pseudodolbina*, n. g., near *Apocalypsis*, for *P. veloxina*, n. sp., Assam, pl. vi, fig. 18; ROTHSCHILD, p. 91, Nov. Zool. i.
- Pseudosphinx crocala*, Honduras, *morelia*, Mexico, DRUCE, p. 169, Ann. Nat. Hist. (6) xiii, n. spp.
- Pterogon clementsi*, Sierra Leone, p. 69, *lasti*, Madagascar, p. 70, pl. v, fig. 5, ROTHSCHILD, Nov. Zool. i, n. spp.
- Smerinthus tilia*, var.; ROTHSCHILD, Entomologist, 1894, p. 50, cut. *S. ocellatus* and *Paonias, astylus*, hybrid; NEUMOEGEN, p. 326, Ent. News Philad. v.
- Sphinx vashti*, early stages; DYAR, p. 177, Psyche, vii. *S. luscitiosa*, early stages; KUNZE, p. 265, Ent. News Philad. v. *S. elpenor*, production of sound by larva; MÜLLER (738).
- S. fasciatus*, Loyalty Is., *cossoides*, Brazil, pl. vii, fig. 22, ROTHSCHILD, p. 94, Nov. Zool. i, n. spp.
- Theretra böttgeri*, Peru, p. 298, *pseudonessus*, Sumatra, p. 299, pl. v, fig. 2, ROTHSCHILD, Deutsche ent. Zeitschr. Lep. vii; *T. rufescens*, Guiana, pl. vi, fig. 11, *obliterata*, Sierra Leone, *catori*, Borneo, p. 75, *staudingeri*, Chiriqui, *striata*, Japan, *javanica*, Java, p. 76, *olivacea*, Brazil, *guianensis*, British Guiana, *perviridis*, pl. v, fig. 12, Venezuela, p. 77, *lifuenis*, Loyalty Is., p. 78, ROTHSCHILD, Nov. Zool. i; *T. stuarti*, Peru, ROTHSCHILD, p. 665, Nov. Zool. i : n. spp.
- Triptogon occidentalis*, larva; HEATH, p. 208, Canad. Ent. Ent. 1894.
- Unzela pronoe*, Central America, DRUCE, p. 168, Ann. Nat. Hist. (6) xiii, n. sp.

ÆGERIIDÆ.

- [Cf. BEUTENMÜLLER (81, 83), HOLLAND (436), LUCAS (655), NEUMOEGEN (748), STAUDINGER (1044).]
- Ægeria*: synonymy of the species described by H. Edwards; BEUTENMÜLLER, pp. 91-95 & 367, Bull. Amer. Mus. vi. *Æ. fraxini*, referred to *Podosesia*; BEUTENMÜLLER, p. 88, t. c.
- Æ. edwardsii*, p. 92, *deceptiva*, p. 93, Colorado, BEUTENMÜLLER, Bull. Amer. Mus. vi, n. spp.
- Albuna pyramidalis* and varr., notes on; BEUTENMÜLLER, pp. 89 & 90, Bull. Amer. Mus. vi. *A. pyramidalis*, Wlk., = (*vitrina*, Neum.); BEUTENMÜLLER, p. 367, t. c.
- Alcathæ* (sic) *caudatum*, n. var. *walkeri*; NEUMOEGEN, p. 331, Ent. News Philad. v.
- Carmenta nigra*, Utah, BEUTENMÜLLER, p. 95, Bull. Amer. Mus. vi, n. sp.
- Cicinnocnemis*, n. g., for *C. cornuta*, n. sp., W. Africa; HOLLAND, p. 181, J. N. York Ent. Soc. i.
- Cicinnoscelis*, n. g., p. 182, for *C. longipes*, n. sp., W. Africa, p. 183; HOLLAND, J. N. York Ent. Soc. i.
- Fatua palmii*, Edw., referred to *Sciapteron*; BEUTENMÜLLER, p. 366, Bull. Amer. Mus. vi.

- Melittia hampsoni*, n. n. for *grandis*, Hamps., nec Streck; BEUTENMÜLLER, p. 365, Bull. Amer. Mus. vi.
- Parharmonia*, n. n. for *Harmonia*, Edw., *Carmenta frazini* and *Sciapteron grafi* referred to it; BEUTENMÜLLER, p. 89, Bull. Amer. Mus. vi.
- Pyrrhotenia polygoni*, = (*meadii*, Edw.), *fragaria*, = (*orthocarpi*, Edw.); BEUTENMÜLLER, p. 95, Bull. Amer. Mus. vi.
- Samina excitiosa*, n. var. *luminosa*; NEUMOEGEN, p. 331, Ent. News Philad. v. *S. opulescens*, Edw. (sub *Ægeria*), = (*pacifica*, Riley); BEUTENMÜLLER, p. 366, Bull. Amer. Mus. vi.
- Sciapteron admirandus*, Edw., referred to *Tirista*; BEUTENMÜLLER, p. 88, Bull. Amer. Mus. vi.
- S. dollii*, New York, *seminole*, Florida, NEUMOEGEN, p. 330, Ent. News Philad. v, n. sp.
- Sesia dorylifomis*, n. var. *teriolensis*, p. 251, *minianiformis*, n. var. *destituta*, p. 253; STAUDINGER, Deutsche ent Zeitschr. Lep. vii.
- S. igniflua*, Queensland, LUCAS, p. 133, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Tipulamima*, n. g., for *T. flavifrons*, n. sp., W. Africa; HOLLAND, p. 183, J. N. York Ent. Soc. i.
- Trichobaptus*, n. g., for *T. sexstriata*, n. sp., W. Africa; HOLLAND, p. 184, J. N. York Ent. Soc. i.
- Triprocris lustrans*, Colorado, BEUTENMÜLLER, p. 367, Bull. Amer. Mus. vi, n. sp.
- Trochilium pacificum*, = (*californicum*, Neum.), p. 365, *tibiale*, = (*minium*, Neum.), p. 366; BEUTENMÜLLER, Bull. Amer. Mus. vi.
- Vespanima*, n. g., for *Bembecia sequoia*, Edw.; BEUTENMÜLLER, p. 87, Bull. Amer. Mus. vi.

BOMBYCES (including *Agaristidæ*, *Chalcosiidæ*, *Uraniidæ*).

- [*Cf.* AURIVILLIUS (33, 35, 36), AUSTAUT (37), BARRETT (47, 48), BETHUNE-BAKER (80), BUTLER (146), CAMBOUÉ (152), DOGNIN (231, 232, 233), DRUCE (240, 241, 242), DYAR (252, 253, 254), EHRMANN (261), FROGGATT (337), HAMPSON (401), JOANNIS (494), KARSCH (513), KIRBY (538), LOWER (651), LUCAS (654, 655), MEYRICK (706), NEUMOEGEN (747, 749), NEUMOEGEN & DYAR (750-752), NITSCHKE (759), NOGAKUSHI (761), OBERTHUR (767), PACKARD (784-788), PAGENSTECHER (791), PALM (792A), REUTER (901), ROGENHOFFER (52, 53, 868), ROTISCHILD (950), SCHAUS (967), STAUDINGER (1042, 1044), SWINHOE (1057, 1059), TOYAMA (1077), WACHTL & KORNAUTH (1113), WASMANN (1126).]

Classification of the Bombycid moths, with phylogenetic remarks; PACKARD (785).

Revision of the *Bombyces* of N. America; NEUMOEGEN & DYAR (750).

The nomenclature, generic characters of the palæarctic *Lasiocampidæ*, *Striphnopterygidæ*, and *Megalopygidæ* treated at length, with lists of

- the species ; AURIVILLIUS, pp. 121-192, pls. iii & iv, Deutsche ent. Zeitschr. Lep. vii.
- Revision of the *Notodontidæ* of North America; NEUMOEGEN & DYAR, Tr. Amer. ent. Soc. xxi, pp. 179-208.
- The larvæ of *Saturniidæ* discussed, their classification and phylogeny ; PACKARD (787).
- DOGNIN (231) figures the species recently described by him in Naturaliste.
- Achelura javana*, Java, AURIVILLIUS, p. 171, Ent. Tidskr. xv, n. sp.
- Aclytia rufiventris*, Jalapa, SCHAUUS, p. 228, P. Zool. Soc. London, 1894, n. sp.
- Actias luna*, life-history, PACKARD, pp. 87-92, P. Amer. Ac. xxviii.
- Adullia orcosaura*, Cherra Punji, SWINHOE, p. 435, Ann. Nat. Hist. (6) xiv, n. sp.
- Æmene amnea*, Shillong, SWINHOE, p. 437, Ann. Nat. Hist. (6) xiv, n. sp.
- Æthria paula*, San Paulo, SCHAUUS, p. 227, P. Zool. Soc. London, 1894, n. sp.
- Agalope dejeani*, Thibet, OBERTHUR, p. 20, pl. ii, fig. 24, Etudes Ent. xviii, n. sp.
- Agapema*, n. n. for *Saturnia galbina*, Clem. ; NEUMOEGEN & DYAR, p. 125, J. N. York Ent. Soc. ii.
- Agarista goldiei*, New Guinea, p. 21, *rheo*, Madagascar, *darna*, Timor, *cynapes*, p. 22, *prochyta*, p. 23, New Guinea, DRUCE, Ann. Nat. Hist. (6) xiv ; *A. fluitans*, Brisbane, LUCAS, p. 140, P. Linn. Soc. N. S. Wales, viii : n. spp.
- Agkonina*, n. g., near *Crambomorpha*, for *A. pega*, n. sp., Loja ; DOGNIN, p. 128, Ann. Soc. ent. Belgique, xxxviii.
- Albara erpina*, Cherra Punji, SWINHOE, p. 433, Ann. Nat. Hist. (6) xiv, n. sp.
- Alippa*, n. g., *Limacodidæ*, for *A. anomala*, n. sp., Java ; AURIVILLIUS, p. 176, Ent. Tidskr. xv.
- Alphæa obliquifascia*, E. India, HAMPSON, p. 24, Moths of India, ii, n. sp.
- Alypia mariposa*, early stages ; LEMBERT, p. 348, Canad. Ent. 1894.
- Anmatho disticha*, *epixantha*, Upper Burma, MEYRICK, p. 2, Tr. ent. Soc. London, 1894, n. spp.
- Amuria*, n. g., for *Lasiocampa dieckmanni* ; AURIVILLIUS, p. 153, Deutsche ent. Zeitschr. Lep. vii.
- Anachrostis bifasciata*, Simla ; HAMPSON, p. 100, Moths of India, ii, n. sp.
- Animula limpia*, Loja, DOGNIN, p. 241, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Antarctia venata*, Paraná, SCHAUUS, p. 233, P. Zool. Soc. London, 1894, n. sp.
- Apatelodes parvula*, Paraná, SCHAUUS, p. 233, P. Zool. Soc. London, 1894, n. sp.
- Arachnis aulea*, p. 307, *diffusa*, p. 308, early stages ; DYAR, Canad. Ent. 1894.

- A. pompeia*, Mexico, DRUCE, p. 174, Ann. Nat. Hist. (6) xiii; *A. tenebra*, Mexico, SCHAUS, p. 231, P. Zool. Soc. London, 1894; n. spp.
- Arbela phaga*, Cherra Punji, SWINHOE, p. 440, Ann. Nat. Hist. (6) xiv, n. sp.
- Arbudus thibetana*, p. 32, pl. vi, fig. 44, *syfanica*, p. 33, fig. 43, Thibet, OBERTHUR, Etudes Ent. xix, n. spp.
- Arctiidae*: figg. of numerous varieties of British species; BARRETT (418).
- Arctia maculosa*, n. var. *arragonensis*; STAUDINGER, p. 256, Deutsche ent. Zeitschr. Lep. vii.
- Ardonca* (*sic*, ? misprint for *Ardonea*) *rosada*, Loja, DOGNIN, p. 238, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Areas arginalis*, Naga Hills, HAMPSON, p. 26, Moths of India, ii, n. sp.
- Areva perpensa*, Mexico, SCHAUS, p. 241, P. Zool. Soc. London, 1894; *A. nevosa*, Loja, DOGNIN, p. 128, Ann. Soc. ent. Belgique, xxxviii: n. spp.
- Arichalca sternecki*, Usambara, ROGENHOFER in BAUMANN (52), p. 331, n. sp.
- Artace nuera*, Loja, DOGNIN, p. 241, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Artaxa (Euproctis) susanna*, Jordan Valley, STAUDINGER, p. 258, pl. ix, fig. 9, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Artona confusa*, n. var. *diffusa*; OBERTHUR, p. 30, pl. v, fig. 34, Etudes Ent. xix.
- A. delavayi*, Yunnan, pl. v, fig. 39, *dejeani*, Ta-tsien-lou, pl. vi, fig. 51, OBERTHUR, p. 29, Etudes Ent. xix, n. spp.
- Attacus hercules*, figured, pl. i, fig. 1; OBERTHUR, Etudes Ent. xix. *A. splendidus*?, larva; PACKARD, pp. 79 & 80, P. Amer. Ac, xxviii.
- A. ? cydippe*, Mexico, DRUCE, p. 178, Ann. Nat. Hist. (6) xiii; *A. condor*, Bolivia, STAUDINGER, p. 84, Deutsche ent. Zeitschr. Lep. vii: n. spp.
- Automeris randa*, Mexico, *daudiana*, Guatemala, DRUCE, p. 179, Ann. Nat. Hist. (6) xiii, n. spp.
- Auzea hyperythra*, Sikkim, HAMPSON, p. 120, Moths of India, iii, n. sp.
- Azygophleps nurella*, Cherra Punji, SWINHOE, p. 440, Ann. Nat. Hist. (6) xiv, n. sp.
- Banasa polyphron*, Mexico, DRUCE, p. 177, Ann. Nat. Hist. (6) xiii, n. sp.
- Baroa vatala*, Shillong, SWINHOE, p. 436, Ann. Nat. Hist. (6) xiv, n. sp.
- Barsine fuscifera*, *eschara*, Cherra Punji, SWINHOE, p. 438, Ann. Nat. Hist. (6) xiv, n. spp.
- Blera bolivari*, Venezuela, SCHAUS, p. 243, P. Zool. Soc. London, 1894, n. sp.
- Bombyx serrula*, n. var. *palæstinensis*, *maroccana*, *undulata*, p. 263, *B. davidis*, = (? *trifolii* var.), p. 265; STAUDINGER, Deutsche ent. Zeitschr. Lep. vii. *B. quercus*, two forms noticed; FRINGS, Soc. ent. ix, p. 25. *B. vandalaria*, Mill., note on; VÁSQUEZ, p. 182, Act. Soc. Espan. xxii. *B. trifolii*, food-plants; TURNER, Entomologist, 1894, p. 316, BUTLER, t. c. p. 317. *B. mori*, head of larva, study of anatomy and physiology; BLANC (97): spermatogenesis; NOGAKUSHI (761).

- B. crenulata*, Melbourne, LUCAS, p. 137, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Bruceia*, n. g., near *Hypoprepia*, p. 35, for *B. pulverina*; n. sp., Colorado, p. 36; NEUMOEGEN, J. N. York Ent. Soc. i.
- Brycea cynara*, Mexico, DRUCE, p. 175, Ann. Nat. Hist. (6) xiii, n. sp.
- Burgena* (sub *Eusemia*) *arruana*, Boisd., figured, p. 22, pl. v, fig. 27; OBERTHUR, Etudes Ent. xix.
- Cacyparis prunifera*, Ceylon, SWINHOE, p. 439, Ann. Nat. Hist. (6) xiv; E. India, HAMPSON, p. 127, Moths of India, ii, n. sp.
- Callhistia callimorpha*, New Guinea; OBERTHUR, p. 26, pl. iii, fig. 13, Etudes Ent. xix.
- Callidula miokensis*, New Guinea, PAGENSTECHEK, p. 79, Jahrb. Nassau. Ver. xlvii, n. sp.
- Callimorpha hera*, larva and habits, cut; STUDD, Entomologist, 1894, pp. 120-124. *C. dominula*, L., n. var. *lusitanica* and *bieli*; STAUDINGER, p. 255, Deutsche ent. Zeitschr. Lep. vii. *C. thewalli*, = (*zebra*, Rog.); ROGENHOFER, p. 339, in BAUMANN (53).
- Callosamia promethea*, life-history, p. 65, *angulifera*, life-history, pp. 70-73; PACKARD, P. Amer. Ac. xxviii.
- Campylotes minima*, Thibet, OBERTHUR, p. 25, pl. vi, fig. 54, Etudes Ent. xix, n. sp.
- Caprina calida*, New Guinea; OBERTHUR, p. 28, pl. v, fig. 26, Etudes Ent. xix.
- Carpostalagma*, n. g., *Arctiidae*, for *Caryatis viridis*, Plötz; KARSCH, p. 379, Ent. Nachr. xx.
- Caryatis holoclera*, East Africa, KARSCH, p. 378, Ent. Nachr. xx, n. sp.
- Cerura bifida*, *vinula*, protection afforded by cocoons; POULTON, Science, xxiii, p. 62. *C. scolopendrina*, life-history; DYAR, p. 159, P. Boston Soc. xxvi.
- Charotricha armandvillei*, Ceram, OBERTHUR, p. 35, pl. v, fig. 31, Etudes Ent. xix, n. sp.
- Chalcosiopsis*, n. g., *Chalcosiidae*, for *C. variata*, n. sp., Shillong; SWINHOE, p. 442, Ann. Nat. Hist. (6) xiv.
- Chamaita neuropteroides*, Assam, HAMPSON, p. 125, Moths of India, ii, n. sp.
- Charagia eximia*, *splendens*, C. sp., habits; FROGGATT, P. Linn. Soc. N. S. Wales, ix, pp. 381 & 382.
- Charidea* (*Cyanopepla*) *subgloriosa*, Bolivia, STAUDINGER, p. 83, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Chelonia miranda*, Thibet, OBERTHUR, p. 33, pl. vi, fig. 50, Etudes Ent. xix, n. sp.
- Chilena* (*Lasioc.*) *proxima*, Mesopotamia, STAUDINGER, p. 268, pl. ix, figg. 7 & 8, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Chloropsinus potentia*, Mexico, DRUCE, p. 171, Ann. Nat. Hist. (6) xiii, n. sp.
- Chondrostega* (?) *vandalicia*, imago described and figured; STAUDINGER, p. 261, pl. ix, figg. 5 & 6, Deutsche ent. Zeitschr. Lep. vii.

- C. longespinata* [Egypt ?], AURIVILLIUS, p. 136, Deutsche ent. Zeitschr. Lep. vii, n. sp. ?
- Choria separata*, Paraná, SCHAUS, p. 240, P. Zool. Soc. London, 1894, n. sp.
- Cingilia catenaria*, = (*humeralis*, Wlk.); DYAR, p. 69, Canad. Ent. 1894.
- Clethra littora*, Alexandria, BETHUNE-BAKER, p. 35, Tr. ent. Soc. London, 1894, pl. i, fig. 2, n. sp.
- Clisiocampa disstria*, *incurva*, and *fragilis*, new named varieties of ; NEUMOEGEN & DYAR, J. N. York Ent. Soc. i, pp. 29-31.
- Cnethocampa* : egg-covering scales ; NITSCHKE (759). *C. pityocampa*, explanation of mode of marching of larvæ ; JOANNIS, p. clxxxvi, Bull. Soc. ent. France, 1894.
- C. (Thaumotocampa) jordana*, Palestine, STAUDINGER, p. 269, pl. ix, figg. 10 & 12, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Colocasia rhotana*, Central America, DRUCE, p. 354, Ann. Nat. Hist. (6) xiii, n. sp.
- Comarchis pallida*, Tasmania, LUCAS, p. 74, P. Soc. Queensland, viii, n. sp.
- Copaxa denda*, Mexico, DRUCE, Ann. Nat. Hist. (6) xiii, p. 178, n. sp.
- Copidryas platensis*, note on ; GROTE, p. 8, Canad. Ent. 1894.
- Coronidia beckeri*, Mexico, DRUCE, p. 353, Ann. Nat. Hist. (6) xiii, n. sp.
- Coscinocera* to be merged in *Attacus* ; OBERTHUR, p. 34, Etudes Ent. xix.
- Cosmosoma juanita*, Cuba, NEUMOEGEN, p. 335, Canad. Ent. 1894 ; *C. zurcheri*, *pubica*, Costa Rica, DRUCE, p. 353, Ann. Nat. Hist. (6) xiii ; *C. protus*, Mexico, *O. ? cucadma*, Panama, DRUCE, p. 171, *t. c.* ; *C. tigris*, Venezuela, *plutona*, Paraná, SCHAUS, p. 226, P. Zool. Soc. London, 1894 : n. spp.
- Cosmotriche lata*, n. var. *sulphurea* ; AURIVILLIUS, p. 164, Deutsche ent. Zeitschr. Lep. vii.
- Cossula basilis*, = (*Cymatophora magnifica*, Streckler, and *Inguramorphia stlossonii*, Edw.) ; NEUMOEGEN & DYAR, p. 33, J. N. York Ent. Soc. i.
- Cossus l-nigrum*, Alexandria, BETHUNE-BAKER, p. 36, pl. i, fig. 3, Tr. ent. Soc. London, 1894, n. sp.
- Crambidia corcovada*, *petrola*, Rio Janeiro, SCHAUS, p. 240, P. Zool. Soc. London, 1894, n. spp.
- Crambomorpha tobera*, *maasseni*, p. 126, *hermanilla*, *umbrosa*, p. 127, Loja, DOGNIN, Ann. Soc. ent. Belgique, xxxviii ; *O. marcata*, Rio Janeiro, *virginia*, Paraná, SCHAUS, p. 240, P. Zool. Soc. London, 1894 : n. spp.
- Oreatonotus flavimargo*, p. 27, *negritus*, p. 28, E. India, HAMPSON, Moths of India, ii, n. spp.
- Cresera*, n. g., *Arctiidae*, for *C. annulata*, n. sp., Rio Janeiro ; SCHAUS, p. 232, P. Zool. Soc. London, 1894.
- Cyenia* (?) *raspa*, Mexico, DRUCE, p. 354, Ann. Nat. Hist. (6) xiii, n. sp.
- Dalaca sarta*, Mexico, SCHAUS, p. 236, P. Zool. Soc. London, 1894, n. sp.
- Dalmera fumata*, Paraná, SCHAUS, p. 233, P. Zool. Soc. London, 1894, n. sp.

- Daphne*, n. g., near *Gnophæla*, for *D. cyanomela*, n. sp., Cuba; NEUMOE-
GEN, p. 334, Canad. Ent. 1895.
- Darala cupreo-tincta*, Victoria, LUCAS, p. 76, P. Soc. Queensland, viii;
D. serranotata, Queensland, LUCAS, p. 138, P. Linn. Soc. N. S. Wales,
viii : n. spp.
- Dasychira pudibunda*, dark var. of larva; ROSSI, p. 100, Jahresber.
Westfal. Ver. xxii. *D. fortunata*, figures and description;
ROGENHOFER, p. 48, pl. i, figg. 4a-f, Ann. Hofmus. Wien, ix.
- Dasylophia* ? *danala*, Central America, DRUCE, p. 357, Ann. Nat. Hist.
(6) xiii, n. sp.
- Datana integerrima*, p. 59, *contracta*, p. 60, *perspicua*, p. 61, *ministra*,
angusii, p. 62, larva described; PACKARD, J. N. York Ent. Soc. i.
- D.* ? *gaveta*, Loja, DOGNIN, p. 129, Ann. Soc. ent. Belgique, xxxviii,
n. sp.
- Deiopeia pulchella*, var.; BROMILOW, Ent. Mag. 1894, p. 114.
- Deltapterum*, n. g., *Nolina*, for *D. peguense*, n. sp., E. India; HAMPSON,
p. 138, Moths of India, ii.
- Diaphone lampra*, Usambara, KARSCH, p. 376, Ent. Nachr. xx, n. sp.
- Diovanura vinula*, general and theoretical account; LATER, Rep. Epsom
Soc. v, pp. 19-23.
- Diphtheraspis*, n. g., *Arctiidae*, MEYRICK, p. 74, for *D. modicus*, n. sp.,
Brisbane, LUCAS, p. 75, P. Soc. Queensland, viii.
- Dirphia horca*, Loja, DOGNIN, p. 240, Ann. Soc. ent. Belgique, xxxviii;
D. gaujoni, Loja, DOGNIN, p. 682, t. c. : n. spp.
- Doa*, n. g., near *Haploa*, for *D. dora*, n. sp., Mexico; NEUMOEGEN &
DYAR, p. 171, J. N. York Ent. Soc. ii.
- Dohertya*, n. g., *Lithosiinae*, for *D. cymatophoroides*, n. sp., Fegu; HAMP-
SON, p. 63, Moths of India, ii.
- Drepana mecasa*, Cherrá Punji, SWINHOE, p. 434, Ann. Nat. Hist. (6)
xiv, n. sp.
- Drymonia procas*, Brazil, DRUCE, p. 358, Ann. Nat. Hist. (6) xiii,
n. sp.
- Dukinfeldia*, n. g., *Eupterotidae*, for *D. suprema*, n. sp., Paraná; SCHAUS,
p. 234, P. Zool. Soc. London, 1894.
- Dycladia cingla*, Venezuela, SCHAUS, p. 227, P. Zool. Soc. London, 1894,
n. sp.
- Edema asluta*, Central America, SCHAUS, p. 242, P. Zool. Soc. London,
1894, n. sp.
- Edwardsimemna*, n. g., *Lasiocampidae*, type *Gloveria jalapa*, Edw.;
NEUMOEGEN & DYAR, p. 152, J. N. York Ent. Soc. ii.
- Emydia cribrum*, metamorphoses; FOWLER, Entomologist, 1894, p. 307.
- Epichnopteryx*: notes on British species; BARRETT, pp. 249-251, Ent.
Mag. 1894.
- Epiphora lugardi*, Uganda, KIRBY, p. 165, Ann. Nat. Hist. (6) xiii,
n. sp.
- Episteme pagenstecheri*, figured, pl. iii, fig. 14, p. 23; OBERTHUR, Etudes
Ent. xix.

- E. staudingeri*, Borneo, pl. iii, fig. 15, p. 22, OBERTHUR, *Etudes Ent.* xix, n. sp.
- Eressa ginorea*, Cherra Punji, SWINHOE, p. 441, *Ann. Nat. Hist.* (6) xiv, n. sp.
- Eucereon casca*, p. 680, *zamora*, p. 681, Loja, DOGNIN, *Ann. Soc. ent. Belgique*, xxxviii; *E. promathides*, Mexico, *pometina*, Panama, DRUCE, p. 172, *Ann. Nat. Hist.* (6) xiii; *E. aroa*, Venezuela, *dentatum*, Mexico, SCHAUS, p. 229, *P. Zool. Soc. London*, 1894: n. spp.
- Eucheria substigmatica*, n. var. *javana*; AURIVILLIUS, p. 177, *Ent. Tidskr.* xv.
- Eudoxyza eucalypti*, *liturata*, habits, pp. 375-378, *macleayi*, p. 380; FROGGATT, *P. Linn. Soc. N. S. Wales*, ix.
- Eudryas*: application of the name; GROTE, pp. 309-312, *Canad. Ent.* 1894. *E. cypris*, note on; GROTE, p. 54, *t. c.*
- Eudule daxata*, p. 177, *rhotana*, p. 178, Mexico, DRUCE, *Ann. Nat. Hist.* (6) xiii; *E. neorina*, Loja, DOGNIN, p. 240, *Ann. Soc. ent. Belgique*, xxxviii: n. spp.
- Eugoa strigivenata*, *roseivena*, E. India, HAMPSON, p. 99, *Moths of India*, ii, n. spp.
- Euprepia (Cymbalophora) bolanderi*, life-history; DYAR, p. 153, *P. Boston Soc.* xxvi.
- Euproctis varia*, n. var. *javana*; AURIVILLIUS, p. 174, *Ent. Tidskr.* xv.
- E. (Artaxa) flavolimbata*, Java, AURIVILLIUS, p. 174, *Ent. Tidskr.* xv, n. sp.
- Eupterote calandra*, *axesta*, pl. ii, fig. 2, Khasia Hills, SWINHOE, *Tr. ent. Soc. London*, 1894, n. spp.
- Eupyra dama*, Mexico, DRUCE, p. 170, *Ann. Nat. Hist.* (6) xii, n. sp.
- Eusemia negrita*, Shan States, HAMPSON, p. 151, *Moths of India*, ii; *E. darocana*, Philippine Is., DRUCE, p. 23, *Ann. Nat. Hist.* (6) xiv: n. spp.
- Euthisanotia argentata*, Mexico, DRUCE, p. 352, *Ann. Nat. Hist.* (6) xiii, n. sp.
- Eutricha conradti*, Guatemala, *crossaea*, *denda*, Mexico, DRUCE, p. 180, *Ann. Nat. Hist.* (6) xiii, n. spp.
- Falcaria bilineata*, life-history; DYAR, p. 168, *J. N. York Ent. Soc.* ii.
- Fumea*: notes on the British species; BARRETT, pp. 265-269, *Ent. Mag.* 1894.
- Gaujonia arbosoides*, Loja, DOGNIN (231), p. 87, n. sp.
- Ghoria nigrocostata*, E. Africa, BUTLER, p. 583, pl. xxxvii, fig. 5, *P. Zool. Soc. London*, 1894, n. sp.
- Gnophria postfusca*, Himalaya, HAMPSON, p. 70, *Moths of India*, ii, n. sp.
- Graphæa*, n. g., *Arctiidae*, for *G. marmorea*, n. sp., Venezuela; SCHAUS, p. 232, *P. Zool. Soc. London*, 1894.
- Gymnelia aroa*, Venezuela, SCHAUS, p. 225, *P. Zool. Soc. London*, 1894, n. sp.
- Halias orientalis*, Nâga Hills, HAMPSON, p. 132, *Moths of India*, ii, n. sp.

- Halisidota jalapa*, Mexico, DRUCE, p. 173, Ann. Nat. Hist. (6) xiii; *H. pagana*, *lineata*, Paraná, SCHAUS, p. 230, P. Zool. Soc. London, 1894: n. spp.
- Hampsonia*, n. g., *Chalcosiidæ*, for *H. pulcherrima*, n. sp., Cheira Punji; SWINHOE, p. 443, Ann. Nat. Hist. (6) xiv.
- Harpypia dandon*, Mexico, DRUCE, p. 358, Ann. Nat. Hist. (6) xiii, n. sp.
- Hatima deba*, Mexico, DRUCE, p. 358, Ann. Nat. Hist. (6) xiii, n. sp.
- Hemileuca californica*, early stages; FRENCH, p. 293, Canad. Ent. 1894.
- H. dukinfieldi*, Paraná, SCHAUS, p. 235, P. Zool. Soc. London, 1894, n. sp.
- Hepialus humuli*, yellow male in Lanarkshire; MORTON, p. 212, Ent. Mag. 1894. *H. sylvinus*, varieties described; HORMUZAKI, pp. 6-8, Ent. Nachr. xx.
- H. thermistis*, *cyanochlora*, Queensland, LOWER, p. 77, Tr. R. Soc. S. Austral. xviii; *H. lembertii*, California, DYAR, p. 25, Ent. News Philad. v: n. spp.
- Hesperania iterata*, figure, pl. xxxvii, fig. 4, P. Zool. Soc. London, 1894.
- Heterocampa thyatiroides*, Wlk., = (*interna*, Pack.); DYAR, p. 69, Canad. Ent. 1894. *H. unicolor*, larva; PACKARD, p. 75, J. N. York Ent. Soc. i.
- H. daona*, *sagana*, *H. ? crossæa*, Mexico, DRUCE, p. 357, Ann. Nat. Hist. (6) xiii; *H. paranensis*, Castro, SCHAUS, p. 243, P. Zool. Soc. London, 1894: n. spp.
- Heteropan lycænoides*, figured, pl. v, fig. 32; OBERTHUR, Etudes Ent. xix.
- H. leis*, Shillong, SWINHOE, p. 442, Ann. Nat. Hist. (6) xiv; *H. argiolina*, Sumatra, p. 26, pl. v, fig. 33, *truncata*, New Guinea, fig. 20, p. 27, OBERTHUR, t. c.: n. spp.
- Heterusia cælestina*, Java, AURIVILLIUS, p. 170, Ent. Tidskr. xv, n. sp.
- Hierophanta*, n. n. for *Microdonta*, Dup.; MEYRICK, p. 230, Ent. Mag. 1894.
- Homœocera cincta*, Venezuela, SCHAUS, p. 225, P. Zool. Soc. London, 1894, n. sp.
- Hydrias praxithea*, p. 181, *deccana*, p. 182, Mexico, DRUCE, Ann. Nat. Hist. (6) xiii; *H. castrensis*, Paraná, SCHAUS, p. 239, P. Zool. Soc. London, 1894: n. spp.
- Hydriomena callizona*, Tasmania, LOWER, p. 78, Tr. R. Soc. S. Austral. xviii, n. sp.
- Hypparparax aurora*, stages of larvæ; PACKARD, p. 73, J. N. York Ent. Soc. i. *H. aurostriata*, n. var. *tyria*; SLOSSON, p. 198, Ent. News Philad. v.
- Hypercompa ? zebra*, Usambara, ROGENHOFER in BAUMANN (52), p. 332 (but cf. *Callimorpha thelwalli*, *suprà*), n. sp.
- Hypopacha*, n. g., *Lasiocampidæ*, type *Cnethocampa grisea*, Neum.; NEUMOEGEN & DYAR, J. N. York Ent. Soc. i, p. 29.
- Hypopta edwardi*, *ethela*, *cornelia*, Colorado, NEUMOEGEN & DYAR, p. 32 J. N. York Ent. Soc. i, n. spp.
- Hypsa contorta*, Java, AURIVILLIUS, p. 171, Ent. Tidskr. xv; *H. darsania*, Celebes, DRUCE, p. 21, Ann. Nat. Hist. (6) xiv: n. spp.

- Ichthyura inclusa*, p. 22, *vau*, p. 26, *albosigma*, p. 27, notes on life-histories ; PACKARD, J. N. York Ent. Soc. i.
- Idalus alba*, Mexico, DRUCE, p. 172, Ann. Nat. Hist. (6) xiii ; *I. dares*, Costa Rica, DRUCE, p. 354, *t. c.* ; *I. villacresi*, Loja, DOGNIN, p. 238, Ann. Soc. ent. Belgique, xxxviii ; *I. enervis*, Paraná, SCHAU, p. 229, P. Zool. Soc. London, 1894 : n. spp.
- Idopterum*, n. g., *Lithosinæ*, for *I. ovale*, Burma, p. 103, *rubrimargo*, SIKHIM, p. 104, n. spp. ; HAMPSON, Moths of India, ii.
- Imaus mundus*, Wlk., description, p. 44, figure, pl. i, fig. 5 ; PAGENSTECHE, Jahrb. Nassau. Ver. xlvii.
- Kanchia gigantea*, Java, AURIVILLIUS, p. 175, Ent. Tidskr. xv, n. sp.
- Ketteliamarginata*, Philippines, AURIVILLIUS, p. 175, Ent. Tidskr. xv, n. sp.
- Læmocharis multigutta*, Venezuela, SCHAU, p. 226, P. Zool. Soc. London, 1894, n. sp.
- Lagoa crispata*, metamorphoses, a generalised or ancestral form ; PACKARD (786).
- Lampruna*, n. g., near *Symphebia*, for *L. rosea*, n. sp., Venezuela ; SCHAU, p. 231, P. Zool. Soc. London, 1894.
- Langsdorfia dukinfeldi*, Paraná, *aroa*, Venezuela, SCHAU, p. 235, P. Zool. Soc. London, 1894, n. spp.
- Lasiocampidæ* defined, with characters of the palæartic genera and lists of the species, and tabulation of the larval generic characters ; AURIVILLIUS, pp. 124-185, Deutsche ent. Zeitschr. Lep. vii.
- Laurion syfanicum*, Thibet, OBERTHUR, p. 25, pl. vi, fig. 45, Etudes Ent. xix, n. sp.
- Lemonia (Crateronyx) pauli*, Jerusalem, STAUDINGER, p. 267, pl. ix, fig. 11 (? an *ballioni* var.), Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Leptosoma restrictum*, E. Africa, BUTLER, p. 585, P. Zool. Soc. London, 1894, n. sp.
- Leto stacyi*, habits ; FROGGATT, p. 379, P. Linn. Soc. N. S. Wales, ix.
- Leucartia acraea*, n. var. *klagesii* ; EHRMANN, p. 292, Canad. Ent. 1894.
- Leucopardus*, n. g., *Arctiinae*, for *L. tigrinus*, n. sp., E. India ; HAMPSON, p. 31, Moths of India, ii.
- Limacodes testudo*, larva, development of its spines, other *Limacodidæ* discussed ; CHAPMAN, pp. 345-349, pl. vii.
- Liparis monacha*, larval profusion ; TUBEUF, pp. 477-479, Forstl. Zeitschr. Munchen, i. *L. salicis*, its egg-parasite ; CHRÉTIEN, p. 27, Ann. Soc. ent. France, 1894.
- Lirimiris ? mephitis*, Mexico, SCHAU, p. 242, P. Zool. Soc. London, 1894, n. sp.
- Lithosia bisecta* referred to *Xylorycta*, cf. *Tineidæ*.
- Lithosia albicosta*, Canaries, ROGENHOFER, p. 45, pl. i, fig. 3, Ann. Hofmus. Wien, ix ; *L. fumidisca*, *fascicilia*, p. 80, *microxantha*, p. 81, *cubilifera*, p. 82, E. India, HAMPSON, Moths of India, ii ; *L. ? cytheraea*, Mexico, DRUCE, p. 177, Ann. Nat. Hist. (6) xiii ; *L. peruviana*, Peru, *venosa*, Paraná, SCHAU, p. 239, P. Zool. Soc. London, 1894 : n. spp.

- Lophodonta angulosa*, larva; PACKARD, p. 58, J. N. York Ent. Soc. i.
L. angulosa, life-history; DYAR, p. 162, P. Boston Soc. xxvi.
- L. ? pallida*, Venezuela, SCHAU, p. 242, P. Zool. Soc. London, 1894,
 n. sp.
- Lophoneura*, n. g., *Lithosiina*, for *L. uniformis*, n. sp., Tenasserim; HAMP-
 SON, p. 78, Moths of India, ii.
- Lyclene fruhstorferi*, Java, AURIVILLIUS, p. 172, Ent. Tidskr. xv, n. sp.
- Lycomorpha centralis*, Wlk., = (*notha*, Edw.); BEUTENMÜLLER, p. 368,
 Bull. Amer. Mus. vi.
- Lymantria strigata*, Java, p. 172, *tagalica*, Philippines, *L. ? dubiosa*, Java,
 p. 173, AURIVILLIUS, Ent. Tidskr. xv, n. spp.
- Machæraptenus*, n. g., near *Cratoplastis*, p. 228, for *M. ventralis*, n. sp.,
 Venezuela, p. 229; SCHAU, P. Zool. Soc. London, 1894.
- Macrobrochis pallens*, N. India, HAMPSON, p. 66, Moths of India, ii, n. sp.
- Macrorambus plateada*, *stercilla*, p. 122, *foyi*, *zucarina*, *nochiza*, p. 123,
zoyisa, p. 124, Loja, DOGNIN, Ann. Soc. ent. Belgique, xxxviii,
 n. spp.
- Macroptila*, n. g., placed next *Areva*, for *M. crinada*, n. sp., Loja; DOG-
 NIN, p. 129, Ann. Soc. ent. Belgique, xxxviii.
- Macrurocampa marthesia*, life-history; DYAR, p. 157, P. Boston Soc. xxvi.
- Marissa regia*, Venezuela, SCHAU, p. 227, P. Zool. Soc. London, 1894,
 n. sp.
- Massuga demena*, W. Africa, DRUCE, p. 23, Ann. Nat. Hist. (6) xiv, n. sp.
- Megalopygide*, characters; AURIVILLIUS, p. 189, Deutsche ent. Zeitschr.
 Lep. vii.
- Melanothrix atropurpurea*, Java, AURIVILLIUS, p. 175, Ent. Tidskr. xv,
 n. sp.
- Miltochrista callinoma*, *eccentropis*, *celidopa*, p. 3, *geodetis*, p. 4, Upper
 Burma, MEYRICK, Tr. ent. Soc. London, 1894; *M. strigivenata*,
 p. 107, *dentifascia*, p. 108, *nigralba*, *multistriata*, p. 109, *parallelina*,
maculifasciata, p. 110, *magna*, p. 112, *serpuncta*, *fuscifusa*, p. 113,
nubilalis, p. 115, *postuigra*, p. 118, *melanoleuca*, p. 120, E. India,
 HAMPSON, Moths of India, ii : n. spp.
- Mimeusemia albicilia*, Burma, HAMPSON, p. 160, Moths of India, ii, n. sp.
- Monocreagra ? clareta*, *zarza*, Loja, DOGNIN, p. 239, Ann. Soc. ent.
 Belgique, xxxviii, n. spp.
- Moorea*, n. n. for *Grotea*, Moore; HAMPSON, p. 32, Moths of India, ii.
- Manona*, n. g., *Arctiidae*, for *M. viridescens*, n. sp., Venezuela; SCHAU,
 p. 233, P. Zool. Soc. London, 1894.
- Naclia blandina*, p. 1, pl. i, fig. 7, *anastasia*, fig. 8, p. 2, *perpetua*, p. 3, pl. i,
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 OBERTHUR, Etudes Ent. xviii, n. spp.
- Nadata gibbosa*, life-history; PACKARD, p. 57, J. N. York Ent. Soc. i.
N. gibbosa, n. var. *rubripennis*, p. 34, *stragula*, n. var. *manitou*, p. 35;
 NEUMOEGEN & DYAR, t. c.

- Naroma* ? *punctuata*, Loja, DOGNIN, p. 241, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Neritos babosa*, Loja, DOGNIN, p. 681, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Nola* : characters of the Finnish species, with *arctica*, n. var. *obsoleta* ; REUTER, pp. 119-125, Medd. Soc. Faun. Fenn. xix.
- N. basimicans*, *erythrostigmata*, p. 139, *astigma*, p. 140, *negrita*, p. 142, E. India, HAMPSON, Moths of India, ii, n. spp.
- Norraca retrofusca*, China, JOANNIS, p. clx, Bull. Soc. ent. France, 1894, n. sp.
- Northia translucida*, figured, pl. vi, fig. 56 ; OBERTHUR, Etudes Ent. xix.
- N. ? papua*, New Guinea, p. 28, pl. v, fig. 38, *N. ignea*, Upper Burma, fig. 35, p. 29, OBERTHUR, Etudes Ent. xix, n. spp.
- Notodontu stragula*, larva described ; PACKARD, p. 63, J. N. York Ent. Soc. i.
- N. trachitso*, Thibet, OBERTHUR, p. 21, pl. iv, fig. 55, Etudes Ent. xviii ; *N. cynoptera*, Queensland, LOWER, p. 78, Tr. R. Soc. S. Austral. xviii ; *N. cinerea*, Brisbane, LUCAS, p. 78, P. Soc. Queensland, viii ; *N. (?) daves*, *N. (?) pythia*, Mexico, DRUCE, p. 356, Ann. Nat. Hist. (6) xiii : n. spp.
- Nudaria suffusa*, p. 123, *coavestis*, p. 124, Sikhim, HAMPSON, Moths of India, ii ; *N. obducta*, *barnardi*, p. 135, *mollis*, p. 136, *macilentu*, p. 137, Queensland, LUCAS, P. Linn. Soc. N. S. Wales, viii : n. spp.
- Nystalea sabella*, Mexico, DRUCE, p. 359, Ann. Nat. Hist. (6) xiii, n. sp.
- Ocha brunnea*, *falsa*, *famata*, Paraná, p. 238, *marginata*, Mexico, p. 239, SCHAUS, P. Zool. Soc. London, 1894, n. spp.
- Ocinara cyproba*, Khasia Hills, SWINHOE, p. 154, pl. ii, fig. 1, Tr. ent. Soc. London, 1894, n. sp.
- Ocneria terebynthi*, n. var. *terebynthina*, p. 259, *raddei*, n. var. *vestalina*, p. 260 ; STAUDINGER, Deutsche ent. Zeitschr. Lep. vii.
- O. dispar*, life-history ; NICHOLSON, Ent. Rec. v, pp. 236-240.
- Ocnogyua postflavida*, Kashmir, HAMPSON, p. 18, Moths of India, ii, n. sp.
- Odontocraspis*, n. g., *Lasiocampida*, for *O. hasora*, n. sp., Shillong ; SWINHOE, p. 439, Ann. Nat. Hist. (6) xiv.
- Æceticus bicolor*, Victoria, LUCAS, p. 137, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Eidemasia concinna*, early stages ; PACKARD, p. 68, J. N. York Ent. Soc. i.
- Æ. tropica*, Venezuela, SCHAUS, p. 241, P. Zool. Soc. London, 1894, n. sp.
- Enetus mirabilis*, Queensland, ROTHSCHILD, Ann. Nat. Hist. (6) xiii, p. 440, n. sp.
- Olceclostera castrona*, Paraná, p. 233, *arteca*, Mexico, p. 234, SCHAUS, P. Zool. Soc. London, 1894, n. spp.
- Olene orimba*, Shillong, SWINHOE, p. 435, Ann. Nat. Hist. (6) xiv, n. sp.
- Opharus dolens*, Mexico, DRUCE, Ann. Nat. Hist. (6) xiii, p. 174 ; *O. gemma*, Venezuela, SCHAUS, p. 230, P. Zool. Soc. London, 1894 : n. spp.

- Oplometa*, n. g., near *Gonometa*, *Lasiocampidæ*, p. 177, for *O. cornuta*, n. sp.; Sierra Leone, p. 188; AURIVILLIUS, Ent. Tidskr. xv.
- Oreta olga*, Shillong, SWINHÖE, p. 434, Ann. Nat. Hist. (6) xiv, n. sp.
- Orygia leucostigma*, notes on; HANCOCK, p. 326, cuts, Amer. Natural. 1894.
- O. nucula*, N. E. India, SWINHÖE, p. 435, Ann. Nat. Hist. (6) xiv, n. sp.
- Oxacme*, n. g., *Lithosiinæ*, for *O. dissimilis*, n. sp., Sikhim; HAMPSON, p. 94, Moths of India, ii.
- Pachypasa nasmythii*, W. Africa, EHRMANN, p. 70, Canad. Ent. 1894, n. sp.
- Pagara eudora*, Texas, DYAR, p. 198, Ent. News Philad. v, n. sp.
- Palpifer cærulescens*, Cherra Punji, SWINHÖE, p. 440, Ann. Nat. Hist. (6) xiv, n. sp.
- Paralebeda*, n. g., for *Lebeda plagifera*, Wlk.; AURIVILLIUS, p. 178, Deutsche ent. Zeitschr. Lep. vii.
- Pareuchates insula*, = (*cadaverosa*, Grote); BEUTENMÜLLER, p. 368, Bull. Amer. Mus. vi.
- Parorgyia leucophæa*, p. 135, *achatina*, p. 136, larvæ described; DYAR, Psyche, vii.
- P. atrivenosa*, Arkansas, PALM, p. 21, pl. i, fig. 5, J. N. York Ent. Soc. i, n. sp.
- Pelosia tetrasema*, Upper Burma, MEYRICK, p. 2, Tr. ent. Soc. London, 1894, n. sp.
- Pericopis gaumeri*, p. 174, *pretides*, *cydon*, p. 175, Mexico, DRUCE, Ann. Nat. Hist. (6) xiii, n. spp.
- Perola admirabilis*, Paraná, SCHAUUS, p. 237, P. Zool. Soc. London, 1894, n. sp.
- Phacusa djreuma*, Thibet, OBERTHUR, p. 21, pl. ii, fig. 31, Etudes Ent. xviii; *P. sizala*, Shillong, SWINHÖE, p. 441, Ann. Nat. Hist. (6) xiv; *P. dohertyi*, pl. v, fig. 36, *birmana*, figg. 22 & 37, Burma, *siamensis*, Renong, fig. 24, *thibetana*, Ta-t sien-lou, fig. 23, p. 31, OBERTHUR, Etudes Ent. xix : n. spp.
- Phegoptera daraba*, Mexico, *rhoda*, Guatemala, DRUCE, p. 173, Ann. Nat. Hist. (6) xiii; *P. jonesi*, Paraná, p. 230, *arpi*, p. 231, Rio Janeiro, SCHAUUS, P. Zool. Soc. London, 1894 : n. spp.
- Phalanooides dohertyi*, New Guinea, OBERTHUR, p. 24, pl. v, fig. 28, Etudes Ent. xix, n. sp.
- Phasicneus*, n. g., *Lasiocampidæ*, p. 585, for *P. gregorii*, n. sp., East Africa, p. 586, pl. xxxvii, fig. 6; BUTLER, P. Zool. Soc. London, 1894.
- Phaio*, n. g., *Zyganidæ*, near *Illipula*, p. 334, for *P. longipennis*, n. sp., Cuba, p. 335; NEUMÖEGEN, Canad. Ent. 1894.
- Phalacra nudobia*, Cherra Punji, SWINHÖE, p. 435, Ann. Nat. Hist. (6) xiv, n. sp.
- Phcosia rimosa*, life-history; PACKARD, p. 63, J. N. York Ent. Soc. i.
- Phya dela*, p. 355, *salona*, p. 356, Mexico, DRUCE, Ann. Nat. Hist. (6) xiii, n. spp.

- Pinaride* : discussed, and its genera assigned to other positions ; AURIVILLIUS, p. 126, Deutsche ent. Zeitschr. Lep. vii.
- Pinara erubescens*, Queensland, LOWER, p. 77, Tr. R. Soc. S. Austral. xviii, n. sp.
- Pisara rufescens, argyria*, p. 145, *semirufa*, p. 146, E. India, HAMPSON, Moths of India, ii, n. spp.
- Platypteryx nguldoe*, Thibet, OBERTHUR, p. 22, pl. ii, fig. 29, Etudes Ent. xviii, n. sp.
- Platysamia columbia* and *cecropia*, distinctions ; MOFFAT, Canad. Ent. 1894, pp. 281-283. *P. cecropia*, life-history, PACKARD, pp. 58-64, *gloveri*, young larva ; *P. polyommata* ?, larva noticed, p. 65, PACKARD, P. Amer. Ac. *P. cecropia*, rearing of ; HUSTON, p. 131, Psyche, vii.
- Polypoetes tiznon*, Loja, DOGNIN, p. 239, Ann. Soc. ent. Belgique, xxxviii ; *P. rufipuncta*, Paraná, SCHAUS, p. 236, P. Zool. Soc. London, 1894 : n. spp.
- Pompeon cynosura*, Malay Region, DRUCE, p. 24, Ann. Nat. Hist. (6) xiv, n. sp.
- Porthesia ?irrorata*, Melbourne, LUCAS, p. 76, P. Soc. Queensland, viii, n. sp.
- Porthetria dispar*, life-history ; DYAR, p. 155, P. Boston Soc. xxvi.
- Prabhasa*, n. g., *Lithosiine*, for *P. fimbriata*, p. 76, *plumbeomicans, fuscistriata*, p. 77, n. spp., E. India ; HAMPSON, Moths of India, ii.
- Pseudapistosia ordinaria*, Paraná, SCHAUS, p. 230, P. Zool. Soc. London, 1894, [see also *Pseudopistosia, infra*], n. sp.
- Pseudhyria*, n. g., *Uraniide*, for *rubra*, HAMPSON ; HAMPSON, p. 120, Moths of India, iii.
- Pseudohazis shastaensis*, early stages ; DYAR, p. 91, Psyche, vii.
- Pseudomicronia simplicifuscia*, Andaman Is., HAMPSON, p. 116, Moths of India, iii, n. sp.
- Pseudomya picta*, Venezuela, SCHAUS, p. 226, P. Zool. Soc. London, 1894, n. sp.
- Pseudopistosia* (sic) *trama*, Loja, DOGNIN, p. 682, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Pseudopsyche ?yarka*, Thibet, OBERTHUR, pl. iv, fig. 49, p. 42, Etudes Ent. xviii, n. sp.
- Psilura monacha*, biology ; WASMANN, Biol. Centralbl. xiv, pp. 59-64 : structure of hairs of larvæ, biology, &c. ; WACHTEL & KORNAUTH (1113) : ravages, &c. ; GAIL (354).
- Psoloptera basifulva*, Peru, SCHAUS, P. Zool. Soc. London, 1894, n. sp.
- Psyche* : notes on the British species ; BARRETT, Ent. Mag. 1894, pp. 217-219.
- P. (Manatha) hamptoni*, Alexandria, BETHUNE-BAKER, p. 36, Tr. ent. Soc. London, 1894 ; *P. cabrerai*, Canaries, REBEL, p. 46, Ann. Hofmus. Wien, ix : n. spp.
- Ptychotrichos*, n. g., *Syntomididae*, p. 227, for *P. zeus*, n. sp., Venezuela p. 228 ; SCHAUS, P. Zool. Soc. London, 1894.

- Ptyopterota*, n. g., *Lithosiinæ*, for *P. obscura*, n. sp., Teuasserim ; HAMPSON, p. 75, Moths of India, ii.
- Pydna bela*, Khasia Hills, SWINHOE, p. 159, Tr. ent. Soc. London, 1894, n. sp.
- Rhodogastria negrita*, Cherra Punji, SWINHOE, p. 436, Ann. Nat. Hist. (6) xiv, n. sp.
- Rhynchopalpus dentatus*, p. 143, *fasciatus*, p. 144, E. India, HAMPSON, Moths of India, ii, n. spp.
- Rifargia masta*, Mexico, SCHAUS, p. 242, P. Zool. Soc. London, 1894, n. sp.
- Rosema aldaba*, Loja, DOGNIN, p. 242, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Ruscino cypris*, *praxis*, *cynossema*, *prusias*, Mexico, DRUCE, p. 176, Ann. Nat. Hist. (6) xiii, n. spp.
- Salassa megastica*, Khasia Hills, SWINHOE, p. 153, Tr. ent. Soc. London, 1894, n. sp.
- Salopola vestalis*, Paraná, SCHAUS, p. 241, P. Zool. Soc. London, 1894, n. sp.
- Samia cynthia*, life-history ; PACKARD, pp. 74-79, P. Amer. Ac. xxviii. *S. gloveri*, life-history ; DYAR, p. 164, P. Boston Soc. xxvi.
- Saturnia* : notes on the larvæ ; PACKARD, pp. 55-58, P. Amer. Ac. xxviii : hybrids ; WISKOTT (1163). *S. atlantica*, n. var. *maròccana* ; AUSTAUT, p. 56, Naturaliste, 1894. *S. pyri*, oviposition, eggs ; ROCQUIGNY-ADANSON, p. 136, Rev. Sci. Bourbonnais, vii : var. described ; BONJOUR, p. 191, Bull. Soc. Ouest France, 1894. *S. oberthuri*, = (*Loepa dognini*, South.) ; SOUTHONNAX, p. 139, Echange, 1894.
- Scaptosyle integra*, Shillong, SWINHOE, p. 437, Ann. Nat. Hist. (6) xiv, n. sp.
- Scena propylea*, (= *styx*, var. Wlk.), Mexico, DRUCE, p. 170, Ann. Nat. Hist. (6) xiii, n. sp.
- Schizura ipomex*, p. 69, *leptinoides*, p. 71, larvæ described ; PACKARD, J. N. York Ent. Soc. i.
- Seleca strigivena*, *ascripta*, *nitida*, *indistincta*, E. India, HAMPSON, p. 147, Moths of India, ii, n. spp.
- Semyra cardia*, Paraná, SCHAUS, p. 236, P. Zool. Soc. London, 1894, n. sp.
- Setina leacrita*, Japan, SWINHOE, p. 438, Ann. Nat. Hist. (6) xiv, n. sp.
- Soritia lithosia*, Upper Burma, OBERTHUR, p. 26, pl. v, fig. 25, Etudes Ent. xix ; *S. costimacula*, *leptalinoides*, p. 169, *ochracea*, p. 170, Java, AURIVILLIUS, Ent. Tidskr. xv : n. spp.
- Sphecosoma simile*, Venezuela, SCHAUS, p. 225, P. Zool. Soc. London, 1894, n. sp.
- Spilosoma lubricipeda*, bred varr. ; TUGWELL, Entomologist, 1894, pp. 95 & 129, also pp. 205 & 206, with cuts. *S. latipennis*, early stages ; SOULE, p. 71, Psyche, vii. *S. mendica*, varr. ; CARADJA, Soc. ent. ix, pp. 33 & 49.
- S. vallantini*, Algeria, AUSTAUT, p. 55, Naturaliste, 1894 ; *S. erythrophleps*, p. 8, *fuscipenne*, p. 11, India, HAMPSON, Moths of India, ii : n. spp.

- Spatalia lignea*, Java, PAGENSTECHEK, p. 44, pl. i, fig. 2, Jahrb. nassau. Ver. xlvii, n. sp.
- Stilpnotia* (?) *dara*, Mexico, DRUCE, p. 355, Ann. Nat. Hist. (6) xiii, n. sp.
- Striphnopterygida*, = (*Eupterotida*), characters; AURIVILLIUS, p. 185, Deutsche ent. Zeitschr. Lep. vii.
- Stygia australis*, n. var. *rosina*; STAUDINGER, p. 257, Deutsche ent. Zeitschr. Lep. vii.
- Syfanis*, n. g., for *Agarista bieti* and *S. dejeani, giraudeaui*, pl. v, figg. 68 & 74, n. spp., Thibet; OBERTHUR, p. 19, Etudes Ent. xviii.
- S. dubernardi*, China, OBERTHUR, p. 21, pl. viii, fig. 70, Etudes Ent. xix, n. sp.
- Syntomis hilda*, p. 69, *abdominalis*, p. 70, W. Africa, EHRMANN, Canad. Ent. 1894, n. spp.
- Syntomoides quisqualis*, Shillong, SWINHOE, p. 441, Ann. Nat. Hist. (6) xiv, n. sp.
- Tagora pallida*, characters; SWINHOE, p. 155, Tr. ent. Soc. London, 1894.
- Teara farenoides*, Victoria, *pura*, Brisbane, LUCAS, p. 75, P. Soc. Queensland, viii, n. spp.
- Telea polyphemus*, life-history; PACKARD, pp. 80-86, P. Amer. Ac. xxviii.
- Teulisia obliquistria*, p. 87, *uniplaga*, p. 88, E. India, HAMPSON, Moths of India, ii, n. spp.
- Thauma*, Hy. Edwards, characters; NEUMOEGEN & DYAR, p. 34, J. N. York Ent. Soc. i.
- Thrinacia pontia, prometina*, Mexico, DRUCE, p. 172, Ann. Nat. Hist. (6) xiii; *T. salta*, Venezuela, SCHAUS, p. 226, P. Zool. Soc. London, 1894 : n. spp.
- Thyrgorina melanosoma*, India, HAMPSON, p. 15, Moths of India, ii, n. sp.
- Thysanoptyx*, n. g., *Lithosiinæ*, for *tetragona*, Wlk.; HAMPSON, p. 74, Moths of India, ii.
- Totype levana, deboma*, Mexico, DRUCE, p. 181, Ann. Nat. Hist. (6) xiii, n. spp.
- Trabala druceioides*, Loja, DOGNIN, p. 682, Ann. Soc. ent. Belgique, xxxviii; *T. rubens*, *T. ? truncata*, Paraná, SCHAUS, p. 237, P. Zool. Soc. London, 1894 : n. spp.
- Trichroa*, n. n., to replace *Trichromia*, Hubn.; FAIRMAIRE, p. 395, Ann. Soc. ent. Belgique, xxxviii.
- Trichogyia*, n. g., *Lithosiinæ*, for *T. semifascia*, n. sp., Tenasserim; HAMPSON, p. 103, Moths of India, ii.
- Tricladia papuana*, New Guinea, p. 31, pl. v, fig. 21, OBERTHUR, Etudes Ent. xix, n. sp.
- Trischalis*, n. g., *Lithosiinæ*, type *flava*, Hmpsn.; HAMPSON, p. 101, Moths of India, ii.
- Trogoptera sao, rumina*, Central America, DRUCE, p. 355, Ann. Nat. Hist. (6) xiii, n. spp.
- Tropacme*, n. g., *Lithosiinæ*, for *T. cupreimargo*, n. sp., Tenasserim Valley; HAMPSON, p. 101, Moths of India, ii.

- Trypanus perplexus*, Colorado, NEUMOEGER & DYAR, p. 31, J. N. York Ent. Soc. i, n. sp.
- Tarnaca delineivena*, Khasia Hills, SWINHÖE, p. 159, Tr. ent. Soc. London, 1894, n. sp.
- Uranidæ* : asymmetry in markings of ; GRIFFITHS, Ent. Mag. 1894, p. 9.
- Urania rhipheus*, metamorphoses ; CAMBOUÉ, Congr. Zool. 1892, ii, pp. 180-184.
- Xanthocraspeda*, n. g., *Lithosiina*, type *X. marginata*, Wlk. ; HAMPSON, p. 121, Moths of India, ii.
- Zatrephes* (?) *pronapides*, Panama, DRUCE, p. 173, Ann. Nat. Hist. (6) xiii, n. sp.
- Zeuzera tripartita*, Brisbane, LUCAS, p. 78, P. Soc. Queensland, viii ; *Z. masoni*, Mexico, SCHAUS, p. 235, P. Zool. Soc. London, 1894 : n. spp.
- Zygana* : affinities, early stages, &c. ; CHAPMAN, pp. 344 & 349, Tr. ent. Soc. London, 1894 : N. of France species ; DEMAISON, Ann. Soc. ent. France, 1894, pp. 16-18. *Z. transalpina*, n. varr. *sorrentina*, *spice* ; STAUDINGER, p. 254, Deutsche ent. Zeitschr. Lep. vii. *Z. exulans* and var. *vanadis* discussed ; TUTT, p. xxvi, P. ent. Soc. London, 1894, and pp. 258-267, Ent. Rec. v. *Z. ephialtes*, varr., note on ; HORMUZAKI, Soc. ent. viii, p. 169.

NOCTUIDÆ, including CYMATOPHORIDÆ.

- [Cf. ALPHÉRAKY (13), BETHUNE-BAKER (80), BUCKLER (142), BUTLER (146, 146A, 147), CASPARI (159, 160), DOGNIN (232), DRUCE (241), EHRMANN (262), HAMPSON (401), HOLLAND (434, 435), LUCAS (654, 655), OBERTHUR (767), PAGENSTECHEK (791), REBEL & ROGENHOFER (868), REUTER (902), ROTHSCHILD (946), SCHAUS (968), SMITH (1030), STAUDINGER (1042, 1044), SWINHÖE (1059), TUTT (1093), WISKOTT (1162).]
- Notes on the synonymy of *Noctuid* moths (continued) ; BUTLER, Entomologist, 1894, pp. 47, &c.
- Larvæ of British butterflies and moths : concluding vol. of the *Noctua* ; BUCKLER (142).
- Notes on rearing *Noctuidæ*, and on their pairing in confinement ; CASPARI (159).
- Statistics of sugaring near Rouen ; NOEL, Bull. Soc. Rouen, xxix, pp. 59-62.
- Acanthodica*, n. g., placed next *Catocala*, for *A. grandis*, Jalapa, p. 241, *xylinoides*, Ecuador, *lignaris*, Peru, p. 242, n. spp., and including *Agrotis splendens* and *Xylina drucei* ; SCHAUS, Tr. Amer. ent. Soc. xxi.
- Acanthodica chiripa*, *cabra*, Loja, DOGNIN, p. 683, Ann. Soc. ent. Belgique, xxxviii, n. spp.

- Acantholipes triangulifera*, *detersa*, *pustulata*, *catoxantha*, p. 87, *umbrosa*, *transversata*, p. 88, *argillacea*, p. 89, W. Africa, HOLLAND, Psyche, vii ; *A. bilineatus*, Sikhim, HAMPSON, p. 525, Moths of India, ii : n. spp.
- Achæa*, synonymical notes on various ; BUTLER, Entomologist, 1894, pp. 47-49. *A. lienardi*, figure ; HOLLAND, p. 59, Ent. News Philad. v. *A. faber*, W. Africa, HOLLAND, p. 69, Psyche, vii, n. sp.
- Achatodes juana*, Mexico, SCHAUUS, p. 232, Tr. Amer. ent. Soc. xxi, n. sp.
- Acontia erastroides*, early stages ; DYAR, p. 21, Canad. Ent. 1894.
- A. briola*, p. 127, *chia*, *A. ? glaphyra*, p. 128, W. Africa, HOLLAND, Psyche, vii ; *A. jalapensis*, Mexico, Paraná, SCHAUUS, p. 239, Tr. Amer. ent. Soc. xxi : n. spp.
- Acrapea*, n. g., type *prisca*, Wlk., p. 286, with *A. leucophlebia*, n. sp., E. India, p. 287 ; HAMPSON, Moths of India, ii.
- Acronycta ulni*, notes on larva ; CASPARI, Jahrb. nassau. Ver. xlvii, pp. 113-122. *A. cristifera*, synonymy ; GROTE, pp. 141-146, Canad. Ent. 1894. *A. radcliffei*, p. 17, *impleta*, p. 18, larvæ ; DYAR, Canad. Ent. 1894.
- A. paucinotata*, Kashmir, HAMPSON, p. 240, Moths of India, ii ; *A. theodora*, *velia*, Jalapa, SCHAUUS, p. 223, Tr. Amer. ent. Soc. xxi : n. spp.
- Acutipenna*, n. g., near *Nonagria*, for *A. acuminata*, n. sp., E. India ; HAMPSON, p. 287, Moths of India, ii.
- Adipsophanes egestis* (Grt.), Arizona, SMITH, p. 77, pl. v, fig. 14, Tr. Amer. ent. Soc. xxi, n. sp.
- Adrocampa*, n. g., placed near *Leucania*, for *A. pallescens* and *A. ? grisea*, n. spp., Paraná ; SCHAUUS, Tr. Amer. ent. Soc. xxi.
- Aedia costimacula*, *apicata*, p. 67, *eremita*, *scotosa*, p. 68, W. Africa, HOLLAND, Psyche, vii, n. spp.
- Agonista meekii*, Geraldton, LUCAS, p. 150, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Agrotiphila incognita*, pl. ii, fig. 9, p. 52, *maculate (sic)*, fig. 7, p. 53, British Columbia, SMITH, Tr. Amer. ent. Soc. xxi, n. spp.
- Agrotis* : criticism of Lederer's groups and remarks on various species ; ALPHÉRAKY, Deutsche ent. Zeitschr. Lep. vii, pp. 304-310. *A. prasina*, var. *albimacula* ; HORMUZAKI, p. 53, Ent. Nachr. xx. *A. murænula*, *opipara*, *islandica*, *exsertistigma*, pp. 81, 82, & 84, synonymy, *albalis*, p. 103, *semiclarata*, *docilis*, p. 104, synonymy ; GROTE, Canad. Ent. 1894.
- A. alexandriensis*, p. 37, pl. i, fig. 5, *nili*, fig. 6, p. 38, Alexandria, BETHUNE-BAKER, Tr. ent. Soc. London, 1894 ; *A. robiginosa*, Jerusalem, STAUDINGER, p. 271, Deutsche ent. Zeitschr. Lep. vii ; *A. lanzarotensis*, Canary Is., REBEL, p. 52, pl. i, fig. 5, Ann. Hofmus. Wien ; *A. olivascens*, p. 182, *brevirami*, *monticola*, p. 183, *griseivena*, p. 187, E. India, HAMPSON, Moths of India, ii ; *A. enunciatus*, Brisbane, LUCAS, p. 85, P. Soc. Queensland, viii ; *A. daunus*, Mexico, DRUCE, p. 360, Ann. Nat. Hist. (6) xiii ; *A. faticana*, Bolivia, STAUDINGER, p. 85, Deutsche ent. Zeitschr. Lep. vii : n. spp.

- Alaria felicitata*, Utah, SMITH, p. 86, pl. vi, fig. 1, Tr. Amer. ent. Soc. xxi, n. sp.
- Alibama lacruma*, Paraná, SCHAUUS, p. 229, Tr. Amer. ent. Soc. xxi, n. sp.
- Amathes temperata*, Jalapa, SCHAUUS, p. 226, Tr. Amer. ent. Soc. xxi, n. sp.
- Amphidrina agrotina*, n. var. *jordana*; STAUDINGER, p. 278, Deutsche ent. Zeitschr. Lep. vii.
- Amphigonia sinistra*, W. Africa, HOLLAND, p. 123, Psyche, vii, n. sp.
- Amphipyra albicilia*, p. 192, *himalayica*, p. 193, E. India, HAMPSON, Moths of India, ii, n. spp.
- Amyna larentica*, Nága Hills, HAMPSON, p. 252, Moths of India, ii, n. sp.
- Ancara harfordi*, p. 224, *rubra*, p. 225, *glaucochlora*, p. 226, N. India, HAMPSON, Moths of India, ii, n. spp.
- Andicola*, n. g., of uncertain position, for *A. huallatani*, n. sp., Bolivia; STAUDINGER, p. 86, pl. ii, fig. 13, Deutsche ent. Zeitschr. Lep. vii.
- Anereuthina xanthoptera*, Burma; HAMPSON, p. 510, Moths of India, ii.
- Anomis finipunctula*, W. Africa, HOLLAND, p. 34, Psyche, vii; *A. (Gonitis) defnata*, Geraldton, LUCAS, p. 146, P. Linn. Soc. N. S. Wales, viii; *A. flammea*, Mexico, SCHAUUS, p. 238, Tr. Amer. ent. Soc. xxi: n. spp.
- Antachara superba*, Costa Rica and Ecuador, DRUCE, p. 361, Ann. Nat. Hist. (6) xiii, n. sp.
- Apamea mutina*, Jalapa, SCHAUUS, p. 238, Tr. Amer. ent. Soc. xxi, n. sp.
- Aplocampa*, n. g., placed next *Leucania*, for *A. fumida*, n. sp., Paraná; SCHAUUS, p. 234, Tr. Amer. ent. Soc. xxi.
- Arachnognatha*, n. g., *Sarothripinæ*, for *A. meterythra*, n. sp., Pegu; HAMPSON, p. 373, Moths of India, ii.
- Arboricornus*, n. g., near *Caradrina*, for *A. ruber*, n. sp., Nága Hills; HAMPSON, p. 258, Moths of India, ii.
- Arcte maurus*, W. Africa, HOLLAND, p. 50, Psyche, vii, n. sp.
- Argyrothripa*, n. g., *Sarothripinæ*, type *lilacina*, with n. spp. *orbifera*, p. 380, *xanthosticta*, p. 381, *niveidisca*, p. 382, E. India; HAMPSON, Moths of India, ii.
- Bañiana lunifera*, E. India, HAMPSON, p. 515, Moths of India, ii, n. sp.
- Bareia tenebrosa*, W. Africa, HOLLAND, p. 90, Psyche, vii, n. sp.
- Basilodes mina*, Jalapa, SCHAUUS, p. 239, Tr. Amer. ent. Soc. xxi, n. sp.
- Batracharta irrorata*, Manipur, HAMPSON, p. 444, Moths of India, ii, n. sp.
- Bendis gentilis*, *fufius*, Mexico, SCHAUUS, p. 243, Tr. Amer. ent. Soc. xxi, n. spp.
- Blosyris turdipennis* and *helima*, synonymical note; BUTLER, Entomologist, 1894, p. 47.
- Bolina inconspicua*, Mexico, SCHAUUS, p. 240, Tr. Amer. ent. Soc. xxi, n. sp.
- Bombycia persimilis*, p. 206, *leucocera*, *meterythra*, *rubida*, p. 207, N. India, HAMPSON, Moths of India, ii, n. spp.
- Borsippa megastigmata*, Sikhim, HAMPSON, p. 518, Moths of India, ii, n. sp.

- Brevipecten*, n. g., *Palindiinae*, type *captatus*, Butl. ; HAMPSON, p. 361, Moths of India, ii.
- Bryophila fraudatricula*, n. var. *pallida* ; BETHUNE-BAKER, p. 37, pl. i, fig. 4, Tr. ent. Soc. London, 1894.
- B. virescens*, p. 297, *khasiana*, *albipuncta*, p. 299, *glaucostigma*, p. 300, E. India, HAMPSON, Moths of India, ii ; *B. mella*, Rio Janeiro, SCHAUUS, p. 224, Tr. Amer. ent. Soc. xxi : n. spp.
- Bryophilopsis*, n. g., *Palindiinae*, for *B. griseata*, n. sp., Simla ; HAMPSON, p. 361, Moths of India, ii.
- Calamia suffusa*, Melbourne, LUCAS, p. 142, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Culesia roseiceps*, Sikhim, HAMPSON, p. 580, Moths of India, ii, n. sp.
- Cullingura*, n. subg., for *Ingura cristatrix* ; BUTLER, p. 283, Entomologist, 1894.
- Cullopistria strigilineata*, Sikhim, HAMPSON, p. 254, Moths of India, ii ;
C. ? trespuntada, Loja, DOGNIN, p. 684, Ann. Soc. ent. Belgique, xxxviii : n. spp.
- Culocampa brucei*, Colorado, SMITH, p. 82, Tr. Amer. ent. Soc. xxi, n. sp.
- Calyminia pyralina*, var. ; HORMUZAKI, p. 54, Ent. Nachr. xx.
- C. picturata*, Mexico, SCHAUUS, p. 238, Tr. Amer. ent. Soc. xxi, n. sp.
- Cupnodes lophophora*, *ochreisparsa*, E. India, HAMPSON, p. 22, Moths of India, iii ; *C. ? hamatoessa*, p. 110, *nana*, *C. ? sideris*, p. 111, *acidulia*, p. 112, W. Africa, HOLLAND, Psyche, vii : n. spp.
- Curadrina exigua*, metamorphoses ; STEINERT, p. 333, Deutsche ent. Zeitschr. Lep. vii.
- C. mediterranea*, Alexandria, BETHUNE-BAKER, p. 42, Tr. ent. Soc. London, 1894 ; *C. ochreipuncta*, *rufescens*, *picta*, p. 263, *ochreimargo*, *pectinata*, p. 264, E. India, HAMPSON, Moths of India, ii ; *C. mantalini*, pl. v, fig. 13, *punctivena*, fig. 12, Colorado, SMITH, p. 77, Tr. Amer. ent. Soc. xxi ; *C. infirma*, Paraná, SCHAUUS, p. 236, *t. c.* : n. spp.
- Curea nitida*, p. 423, *fuscomarginata*, *albopurpurea*, p. 424, E. India, HAMPSON, Moths of India, ii, n. spp.
- Carneades siccata*, pl. ii, fig. 1, *edictalis*, fig. 3, p. 46, *segregata*, pl. iv, fig. 6, p. 47, *latificans*, fig. 3, p. 48, Colorado, *candida*, Boulder, pl. iii, fig. 4, *mitis*, fig. 10, p. 49, *collocata*, fig. 5, p. 50, *audentis*, fig. 9, *titubatis*, pl. iv, fig. 5, p. 51, Colorado, SMITH, Tr. Amer. ent. Soc. xxi ; *C. misteca*, Jalapa, SCHAUUS, p. 226, *t. c.* : n. spp.
- Catephia thricophora*, Mergui, HAMPSON, p. 483, Moths of India, ii, n. sp.
- Cutocala cerogama*, larva ; DYAR, p. 21, Canad. Ent. 1894. *C. relecta*, early stages ; FRENCH, p. 97, *t. c.*
- C. vallantini*, Algeria, p. 36, pl. vi, fig. 53, OBERTHUR, Etudes Ent. xix ;
C. hetera, Mesopotamia, STAUDINGER, p. 285, Deutsche ent. Zeitschr. Lep. vii ; *C. flavescens*, Simla, HAMPSON, p. 440, Moths of India, ii ;
C. denussa, Pennsylvania, EHRMANN, p. 152, J. N. York Ent. Soc. i ;
C. juanita, Mexico, SCHAUUS, p. 241, Tr. Amer. ent. Soc. xxi : n. spp.

- Celena diffundens*, Wlk., referred to *Eubolina*, multiple synonymy ; BUTLER, p. 392, Ann. Nat. Hist. (6) xiv.
- C. datis*, Mexico, DRUCE, p. 359, Ann. Nat. Hist. (6) xiii, n. sp.
- Celiptera* : synonymy of various species ; BUTLER, p. 266, Entomologist, 1894.
- Ceropoda*, n. g., near *Oncocnemis*, p. 68, for *C. stylata*, n. sp., Colorado, p. 69, pl. ii, fig. 4 ; SMITH, Tr. Amer. ent. Soc. xxi.
- Charceas graminis*, profusion in S. Scotland ; SERVICE, pp. 278-282, Entomologist, 1894.
- Chloridea vigasia, niveilinea*, Mexico, SCHAUS, p. 239, Tr. Amer. ent. Soc. xxi, n. spp.
- Chrysopera*, n. g., *Quadrifineæ*, type *combinans*, Wlk. ; HAMPSON, p. 493, Moths of India, ii.
- Churia lilacina, discisigna*, Sikhim, HAMPSON, p. 418, Moths of India, ii, n. spp.
- Chytonix connecta*, Texas, SMITH, p. 42, pl. iv, fig. 2, Tr. Amer. ent. Soc. xxi ; *C. kulma, morata*, Jalapa, SCHAUS, p. 226, t. c. : n. spp.
- Cingalesa*, n. g., for *strigicosta*, Hmpsn. ; HAMPSON, p. 336, Moths of India, ii.
- Cleophana oliva*, Asia Minor, p. 279, pl. ix, fig. 15, *korbi*, Murcia (? *yvanii* var.), p. 280, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii, n. spp.
- Clethrophora*, n. g., *Gonopterineæ*, type *distincta*, Leech ; HAMPSON, p. 416, Moths of India, ii.
- Clethara albonotata, variegata*, p. 384, *apicalis, triangularis, floccifera*, p. 386, E. India, HAMPSON, Moths of India, ii, n. spp.
- Cletharina*, n. g., *Sarrotkripinæ*, for *C. nitens*, n. sp., Pegu ; HAMPSON, p. 379, Moths of India, ii.
- Colbusa pentagonalis*, E. Africa, BUTLER, p. 589, pl. xxxvii, fig. 8, P. Zool. Soc. London, 1894, n. sp.
- Conservula clauda*, Jalapa, SCHAUS, p. 231, Tr. Amer. ent. Soc. xxi, n. sp.
- Copicucullia*, n. g., near *Cucullia*, p. 84, for *C. astigma*, pl. iv, fig. 8, *propinqua*, fig. 11, p. 85, n. spp., Colorado ; SMITH, Tr. Amer. ent. Soc. xxi.
- Corgatha excisa, falcatalis*, E. India, HAMPSON, p. 348, Moths of India, ii, n. spp.
- Cosmia ochracea*, Pegu, HAMPSON, p. 322, Moths of India, ii, n. sp.
- Cosmophila erosa*, variation of male antennæ ; BUTLER (146A).
- Cucullia nigrifascia, albipennis, brevipennis, stigmatophora*, E. India, HAMPSON, p. 239, Moths of India, ii ; *C. albida*, Colorado, SMITH, p. 84, pl. iv, fig. 9, Tr. Amer. ent. Soc. xxi : n. spp.
- Cyathissa violascens*, Jalapa, SCHAUS, p. 225, Tr. Amer. ent. Soc. xxi, n. sp.
- Cymatophoropsis*, n. g., *Stictopterineæ*, type *sinuata*, Moore ; HAMPSON, p. 397, Moths of India, ii.
- Dacina roma*, Mexico, DRUCE, p. 361, Ann. Nat. Hist. (6) xiii, n. sp.
- Dandaca cuculloides*, synonymy ; BUTLER, p. 240, Entomologist, 1894.
- Dargida graminea*, Paraná, SCHAUS, p. 231, Tr. Amer. ent. Soc. xxi, n. sp.

- Deinopalpus*, n. g., near *Anomis*, for *D. africana*, n. sp., W. Africa, HOLLAND, *Psyche*, vii.
- Deva speciosissima*, W. Africa, p. 141, *africana*, p. 10, W. Africa, HOLLAND, *Psyche*, vii, n. spp.
- Dichonia goliath*, referred to *Mamestra*; ALPHÉRAKY, *Deutsche ent. Zeitschr. Lep.* vii, p. 310.
- Doryodes cara*, *dukinfieldi*, Paraná, SCHLAUS, p. 235, *Tr. Amer. ent. Soc.* xxi, n. spp.
- Dyops schausii*, Loja, DOGNIN, p. 685, *Ann. Soc. ent. Belgique*, xxxviii, n. sp.
- Dysgonia neptunia*, *plutonia*, p. 84, *camerunica*, *humilis*, p. 85, W. Africa, HOLLAND, *Psyche*, vii, n. spp.
- Egnasia rectilineata*, p. 16, *tripunctata*, *ochreivena*, p. 17, E. India; HAMPSON, *Moths of India*, iii.
- Eliocraea chloroptila*, W. Africa, HOLLAND, p. 68, *Psyche*, vii, n. sp.
- Elousa albicans*, Wlk., = (*Erastria includens* and *Masebia famelica*, Wlk.); BUTLER, p. 265, *Entomologist*, 1894.
- Elwesia*, n. g., near *Xanthia*, p. 171, for *E. diplostigma*, n. sp., Sikhim, p. 172; HAMPSON, *Moths of India*, ii.
- Epidemas*, n. g., between *Feralia* and *Demas*, p. 40, for *E. cinerea*, n. sp., Colorado, p. 41; SMITH, *Tr. Amer. ent. Soc.* xxi.
- Episparis lamprina*, p. 118, *connubens*, p. 119, *hieroglyphica*, *lunata*, p. 120, *complex*, *simplex*, p. 121, W. Africa, HOLLAND, *Psyche*, vii, n. spp.
- Epunda lichenea*, var. figured; OBERTHUR, pl. vi, fig. 42, p. 35, *Etudes Ent.* xix.
- Erastria larentiformis*, n. n. for *cidarioides*, Moore; HAMPSON, p. 301, *Moths of India*, ii.
- E. glaucopsis*, *melanostigma*, E. India, HAMPSON, p. 302, *Moths of India*, ii, n. spp.
- Ercheia*, Wlk., composition and synonymy; BUTLER, p. 192, *Entomologist*, 1894.
- E. periploca*, W. Africa, HOLLAND, p. 68, *Psyche*, vii, n. sp.
- Erosia conscripta*, Geraldton, LUCAS, p. 154, *P. Linn. Soc. N. S. Wales*, viii, n. sp.
- Eublemma reducta*, E. Africa, BUTLER, p. 588, pl. xxxvii, fig. 7, *P. Zool. Soc. London*, 1894, n. sp.
- Eucapnodes*, n. g., for *Oapnodes sexmaculata*, Wlk.; HOLLAND, p. 110, *Psyche*, vii.
- Eudrapa* ? *multiscripta*, W. Africa, HOLLAND, p. 50, *Psyche*, vii, n. sp.
- Eugorna*, n. g., near *Gorna*, p. 122, for *E. vidua*, n. sp., W. Africa, p. 123; HOLLAND, *Psyche*, vii.
- Euharveya*, n. g., for *Lithophane carbonaria*, HARVEY; GROTE, p. 81, *Canad. Ent.* 1894.
- Eumestleta*: note on characters and position; BUTLER, p. 314, *Entomologist*, 1894.
- Euplexia albiplaga*, n. n. for *albonota*, Hmpsn.; HAMPSON, p. 213, *Moths of India*, ii.

- E. nubilata*, p. 208, *aurantiaca*, p. 216, *plumbeola*, p. 217, *heterocampoides*, p. 221, *cyanelinea*, p. 222, *lageniformis*, p. 223, E. India, HAMPSON, Moths of India, ii, n. spp.
- Eupatula*, n. n. for *Patula*, Gn.; RAGONOT, p. ccvii, Bull. Soc. ent. France, 1894.
- Eupolia*, n. g., near *Polia*, p. 69, for *E. licentiosa*, n. sp., Utah, p. 70, pl. iii, fig. 8; SMITH, Tr. Amer. ent. Soc. xxi.
- Eurois albicostata*, p. 228, *griseimarginata*, *flavipicta*, p. 229, E. India, HAMPSON, Moths of India, ii, n. spp.
- Eutelia* ? *strigula*, W. Africa, HOLLAND, p. 31, Psyche, vii; *E. albiceps*, p. 392, *mediifascia*, *albomaculata*, p. 393, *fulvipicta*, *apicifascia*, p. 394, E. India, HAMPSON, Moths of India, ii : n. spp.
- Facidia horrida*, W. Africa, HOLLAND, p. 143, Psyche, vii, n. sp.
- Fagitana lurida*, *mursa*, *funebriis*, Paraná, SCHAUUS, p. 236, Tr. Amer. ent. Soc. xxi, n. spp.
- Floccifera*, n. g., type *erigida*, Swinh.; HAMPSON, p. 281, Moths of India, ii.
- Focilla doctæ*, cf. *Hyalornis*, *Geometridæ*.
- Fodina juncta*, Sikhim, HAMPSON, p. 350, Moths of India, ii, n. sp.
- Gaurena solena*, Cherra Punji, SWINHÖE, p. 431, Ann. Nat. Hist. (6) xiv; *G. griseescens*, Thibet, OBERTHUR, p. 43, pl. v, fig. 65, Etudes Ent. xviii : n. spp.
- Geometrimima*, n. g., *Erebiidæ*, for *G. callista*, n. sp., W. Africa; HOLLAND, p. 142, Psyche, vii.
- Girpa inangulata*, *eriphora*, *pertendens*, *fraterna*, noted as one species; LUCAS, p. 150, P. Linn. Soc. N. S. Wales, viii.
- Glottula orientalis*, Nilgiris, HAMPSON, p. 168, Moths of India, ii, n. sp.
- Gnamptogyia*, n. g., *Quadrifineæ*, p. 478, for *G. multilineata*, n. sp., Simla, p. 479; HAMPSON, Moths of India, ii.
- Gnamptonyx*, n. g., *Quadrifineæ*, type *vilis*, Wlk.; HAMPSON, p. 480, Moths of India, ii.
- Goniocraspidum*, n. g., *Gonopterineæ*, for *G. ennomoide*, n. sp., E. India; HAMPSON, p. 416, Moths of India, ii.
- Gonitis marginata*, p. 33, *benitensis*, *punctulata*, p. 34, W. Africa, HOLLAND, Psyche, vii, n. spp.
- Gonodonta incurva*, Sepp., = (*teretimacula*, Gn., *temperata* and *velata*, Wlk.); BUTLER, p. 213, Entomologist, 1894.
- Gorna apicata*, p. 121, *partita*, p. 122, W. Africa, HOLLAND, Psyche, vii, n. spp.
- Grammodes geometrica*, synonymy; BUTLER, p. 241, Entomologist, 1894.
- G. benitensis*, p. 85, *pusilla*, p. 86, W. Africa, HOLLAND, Psyche, vii, n. spp.
- Gyrtona plumbeifascia*, Andaman Is., HAMPSON, p. 405, Moths of India, ii, n. sp.
- Hadena mendax*, referred to *Mamestra*; ALPHÉRAKY, p. 311, Deutsche ent. Zeitschr. Lep. vii. *H. evelina*, larva; DYAR, p. 20, Canad. Ent. 1894.
- H. perdentata*, Kashmir, p. 193, *elweši*, p. 200, *ferrisparsa*, *nagaensis*, *poliostigma*, p. 201, *knyvetti*, *albiceps*, p. 203, *fasciculata*, p. 204, E. India,

- HAMPSON, Moths of India, ii ; *H. triphænopsis*, Thibet, OBERTHUR, p. 43, pl. iii, fig. 39, Etudes Ent. xviii ; *H. didonea*, Colorado, pl. vi, fig. 7, p. 58, SMITH, Tr. Amer. ent. Soc. xxi ; *H. tepeca*, p. 228, *vigas*, *pusilla*, p. 229, Mexico, SCHAUS, *t. c.* : n. spp.
- Hadræcia azteca*, Jalapa, SCHAUS, p. 231, Tr. Amer. ent. Soc. xxi, n. sp.
- Hadula*, Stgr., merged in *Mamestra* ; ALPHÉRAKY, p. 311, Deutsche ent. Zeitschr. Lep. vii.
- Hecatera parens*, Jalapa, SCHAUS, p. 228, Tr. Amer. ent. Soc. xxi, n. sp.
- Heliophobus unctus*, referred to *Phlebeis* ; ALPHÉRAKY, p. 310, Deutsche ent. Zeitschr. Lep. vii. *H. (Neuronia) popularis*, habits of larval bands ; MARCHAL, pp. clvi-clix, Bull. Soc. ent. France, 1894.
- H. marsdeni*, Alexandria, BETHUNE-BAKER, p. 40, pl. i, fig. 9, Tr. ent. Soc. London, 1894, n. sp.
- Heliolithis ononis*, figured, pl. iii, fig. 41, queried as = *Meliclectoia septentrionis*, p. 44 ; OBERTHUR, Etudes Ent. xviii.
- H. dejeani*, Thibet, OBERTHUR, p. 44, Etudes Ent. xviii, n. sp.
- Herminodes sabata*, Mexico, DRUCE, p. 363, Ann. Nat. Hist. (6) xiii, n. sp.
- Heterographa* and *Nanangana*, queried as identical, systematic position ; ALPHÉRAKY, p. 311, Deutsche ent. Zeitschr. Lep. vii.
- Heterospila hecate*, p. 115, *sestia*, *cinerea*, *teniata*, p. 116, *calescens*, *umbrina*, *piperita*, p. 117, W. Africa, HOLLAND, Psyche, vii, n. spp.
- Hexeris*, Grote, referred to *Thyridide* ; BUTLER, p. 267, Entomologist, 1894.
- Homodes oblatoria*, singular larva ; LUCAS, p. 145, P. Linn. Soc. N. S. Wales, viii.
- H. violacea*, Brisbane, LUCAS, p. 144, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Homoptera pulcherrima*, W. Africa, HOLLAND, p. 48, Psyche, vii ; *H. vinosa*, E. India, HAMPSON, p. 476, Moths of India, ii : n. spp.
- Homopyralis tactus* and allies, synonymy ; BUTLER, p. 242, Entomologist, 1894.
- Hyblæa occidentalis*, W. Africa, HOLLAND, p. 33, Psyche, vii ; *H. hypocyanea*, E. India, HAMPSON, p. 372, Moths of India, ii : n. spp.
- Hydræcia unimoda*, *senilis*, p. 73, *medialis*, p. 74, Colorado, SMITH, Tr. Amer. ent. Soc. xxi ; *H. pyrria*, Guatemala, DRUCE, p. 359, Ann. Nat. Hist. (6) xiii : n. spp.
- Hyelopsis*, n. g., near *Erastria*, type *vialis*, Moore ; HAMPSON, p. 304, Moths of India, ii.
- Hyperania*, n. g., type *denticulata*, Warr. ; HAMPSON, p. 194, Moths of India, ii.
- Hyperlopha*, n. g., type *crisifera*, Wlk. ; HAMPSON, p. 19, Moths of India, iii.
- Hypodeva*, n. g., near *Deva*, for *H. barbata*, n. sp., W. Africa, HOLLAND, p. 27, Psyche, vii.
- Hypoglaucitis*, n. g., near *Leucanitis*, for *H. mores*, n. sp., Cairo, pl. ix, fig. 17 ; STAUDINGER, Deutsche ent. Zeitschr. Lep. vii.
- Hypogramma distincta*, Brisbane, LUCAS, p. 86, P. Soc. Queensland, viii, n. sp.

- Hyposemansis*, n. g., for *singha*, Gn. ; HAMPSON, Moths of India, iii, p. 2.
Hypospila bolinooides, figure ; JOANNIS, pl. xv, fig. 5, p. 433, Ann. Soc. ent. France, 1894.
H. angulilinea, p. 89, *jaculifera*, *H. ? nigribasis*, p. 90, W. Africa, HOLLAND, Psyche, vii, n. spp.
Hypothripa, n. g., *Sarrothripinae*, type *curiosa*, Swinh., with *H. cana*, n. sp., Pegu ; HAMPSON, p. 383, Moths of India, ii.
Hyppa indistincta, Mount Hood, SMITH, p. 63, pl. iv, fig. 4, Tr. Amer. ent. Soc. xxi, n. sp.
Ingura : synonymy of N. American, with n. subg. *Callingura* ; BUTLER, p. 282, Entomologist, 1894 : note on N. American ; SMITH, p. 331, t. c.
Isoura, n. g., *Quadrifine*, type *fuscicollis*, Butl. ; HAMPSON, p. 506, Moths of India, ii.
Labanda griseinigra, Sikhim, HAMPSON, p. 374, Moths of India, ii, n. sp.
Lagoptera juno, Dalm., = (*Ophiusa elegans*, Hoev., and *L. multicolor*, Gn.) ; BUTLER, p. 193, Entomologist, 1894.
L. rubricata, W. Africa, HOLLAND, p. 57, Ent. News Philad. v, n. sp.
Laphygma flavimaculata, metamorphoses ; DYAR, p. 65, Canad. Ent. 1894.
Leocyma maculata, Pegu, HAMPSON, p. 290, Moths of India, ii, n. sp.
Leucania putrescens, n. var. *canariensis* ; REBEL, p. 58, Ann. Hofmus. Wien, ix. *L. pallens* and *straminea*, note on ; TUTT, p. 227, Canad. Ent. 1894. *L. roseola*, n. var. *furcata* ; SMITH, p. 75, pl. v, fig. 9, Tr. Amer. ent. Soc. xxi.
L. rufipennis, p. 276, *nigrorenalis*, p. 277, *corrugata*, *rufula*, p. 278, *nigrofasciata*, p. 279, *proleuca*, p. 281, E. India, HAMPSON, Moths of India, ii ; *L. tubeculis*, p. 84, *linearis*, p. 85, Brisbane, LUCAS, P. Soc. Queensland, viii ; *L. exarans*, *obumbrata*, Melbourne, LUCAS, p. 141, P. Linn. Soc. N. S. Wales, viii ; *L. heterodoxa*, pl. v, fig. 7, *minorata*, fig. 11, p. 75, *imperfecta*, fig. 10, *stolata* (Grt.), fig. 8, p. 76, N. America, SMITH, Tr. Amer. ent. Soc. xxi ; *L. rodea*, Jalapa, *suffusa*, *adultera*, p. 232, *pampa*, *tinila*, *adorea*, *L. ? castra*, p. 233, Paraná, SCHAUS, t. c. : n. spp.
Leucanitis saisani, u. var. *clara* ; STAUDINGER, p. 283, Deutsche ent. Zeitschr. Lep. vii.
Lithophane : notes on N. American ; GROTE, p. 79, Canad. Ent. 1894.
Lopharthrum, n. g., type *comprimens*, Wlk. ; HAMPSON, p. 18, Moths of India, iii.
Lophoptera squammigera, Gn., = (*vittigera*, Wlk.) ; BUTLER, p. 217, Entomologist, 1894.
Luperina standfussi, Zurich, WISKOTT, p. 90, Ent. Zeit. Stettin, iv, n. sp.
Mamestra mendica, Mesopotamia, p. 272, pl. ix, fig. 13, *silenides*, Spain, p. 273, fig. 14, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii ; *M. afra*, p. 39, pl. i, fig. 7, *abbas*, p. 40, pl. i, figg. 8, 8a & b, Alexandria, BETHUNE-BAKER, Tr. ent. Soc. London, 1894 ; *M. languida*, pl. ii, fig. 6, *fuscolutea*, p. 54, *hadeniformis*, pl. v, fig. 4, p. 55, Colorado, *sejregata*, British Columbia, pl. ii, fig. 11, p. 56, SMITH, Tr. Amer.

- ent. Soc. xxi; *M. rhadata*, Mexico, DRUCE, p. 360, Ann. Nat. Hist. (6) xiii; *M. marca, infernalis, seminaria*, Jalapa, *folia*, Paraná, p. 227, *niveipuncta*, Jalapa, p. 228, SCHAUS, Tr. Amer. ent. Soc. xxi : n. spp.
- Marimatha xanthoptera*, E. India, HAMPSON, p. 324, Moths of India, ii, n. sp.
- Mecodina odontophora, albodentata*, p. 5, *oxydata, ruficeps*, p. 6, E. India, HAMPSON, Moths of India, iii, n. spp.
- Megalodes kashmirensis*, Gulmurg, HAMPSON, p. 309, Moths of India, ii, n. sp.
- Melipotis cashmirensis, fulviceps*, E. India, HAMPSON, p. 478, Moths of India, ii; *M. collustrans*, Geraldton, LUCAS, p. 146, P. Linn. Soc. N. S. Wales, viii : n. spp.
- Mestleta flavicostata, lithina, discifascia*, p. 113, *lathraea*, p. 114, W. Africa, HOLLAND, Psyche, vii, n. spp.
- Metachrostis obliquisigna, obscura*, p. 326, *rectifascia*, p. 328, *divisa*, p. 331, *semialba*, p. 332, E. India, HAMPSON, Moths of India, ii, n. spp.
- Methorasa complicata, cornuscopiae, eximia*, W. Africa, HOLLAND, p. 7, Psyche, vii, n. spp.
- Metopoceras hilaris*, Murcia, p. 275, *sacra*, Palestine, p. 281, pl. ix, fig. 16, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii, n. spp.
- Miana trilinea*, Alexandria, BETHUNE-BAKER, p. 41, pl. i, fig. 10, Tr. ent. Soc. London, 1894; *M. marmorata*, Paraná, SCHAUS, p. 224, Tr. Amer. ent. Soc. xxi : n. spp.
- Micraschus ustipennis, gemmifer*, E. India, HAMPSON, p. 353, Moths of India, ii, n. spp.
- Microcælia vesta*, Mexico, p. 223, *pictula, stelligera*, Paraná, p. 224, SCHAUS, Tr. Amer. ent. Soc. xxi, n. spp.
- Micromania*: note on; ALPHÉRAKY, pp. 312 & 376, Deutsche ent. Zeitschr. Lep. vii.
- Minucia verecunda*, W. Africa, HOLLAND, p. 58, Ent. News Philad. v; *M. despecta, david, producta*, W. Africa, HOLLAND, p. 70, Psyche, vii : n. spp.
- Moma toxozantha*, Simla; HAMPSON, p. 435, Moths of India, ii.
- Naxia tropicalis, certior, illibata, lageos*, synonymy; BUTLER, Entomologist, 1894, pp. 48 & 49.
- N. xanthodera, debilis, multilineata, infirma*, W. Africa, HOLLAND, p. 83, Psyche, vii; *N. apiciplaga*, W. Africa, HOLLAND, p. 59, pl. ii, fig. 3, Ent. News Philad. vi : n. spp.
- Neuronia popularis*, injurious in France, habits, &c.; MONIEZ, Rev. biol. Nord France, vi, p. 460.
- N. americana*, Boulder, SMITH, p. 59, pl. iii, fig. 3, Tr. Amer. ent. Soc. xxi, n. sp.
- Neothripa*, n. g., *Sarothripinæ*, for *N. punctistigma, glaucescens*, n. spp., E. India; HAMPSON, p. 382, Moths of India, ii.
- Noctua dahlii*, variation; TUTT, p. xxxvii, P. ent. Soc. London, 1894.

- N. flavotincta*, British Columbia, SMITH, p. 45, Tr. Amer. ent. Soc. xxi ;
N. totonaca, Jalapa, SCHAUS, p. 226, t. c. : n. spp.
- Nonagria robusta, fuscovirens, chloroptera*, E. India, HAMPSON, p. 285,
 Moths of India, ii, n. spp.
- Obrima rinconada*, Mexico, SCHAUS, p. 240, Tr. Amer. ent. Soc. xxi, n. sp.
- Ommatochila*, n. g., type *Thalpochares mundula*, and including *Pyralis plumbealis*, Wlk.; BUTLER, p. 315, Entomologist, 1894.
- Oncocnemis pudorata*, p. 63, pl. ii, fig. 8, *exemplaris*, pl. vi, fig. 8, *umbri-fascia*, p. 64, *refecta*, pl. vi, fig. 11, p. 65, *viriditincta*, fig. 12, *colorado* (sic), pl. ii, fig. 5, p. 66, *nigrocaput*, p. 67, *extranea*, p. 68, N. America, SMITH, Tr. Amer. ent. Soc. xxi, n. spp.
- Ophideridæ*, to be called *Othreidæ*; BUTLER, p. 213, Entomologist, 1894.
- Ophiodes*: synonymy of various; BUTLER, Entomologist, 1894, pp. 192 & 193.
- O. catocalina*, W. Africa, HOLLAND, p. 58, Ent. News Philad. v; *O. daona, raphia*, Mexico, DRUCE, p. 362, Ann. Nat. Hist. (6) xiii : n. spp.
- Ophisma mezentia, ezea*, synonymy; BUTLER, Entomologist, 1894, p. 48.
- O. tecta*, Paraná, SCHAUS, p. 243, Tr. Amer. ent. Soc. xxi, n. sp.
- Ophiusa renalis*, Sikhim, HAMPSON, p. 499, Moths of India, ii; *O. albovittata*, pl. i, fig. 12, *ochrovittata*, fig. 10, Java, PAGENSTECHER, Jahrb. nassau. Ver. xlvii : n. spp.
- Ophyx ochroptera*, Gn., = (*Ophisma resignans*, Wlk.); BUTLER, p. 266, Entomologist, 1894.
- Orrhodia vaccinii* and *ligula*, distinguished by structure of scales; RIDING, pp. 8-10, Ent. Rec. v.
- Orthodes iole, albipuncta*, Jalapa, SCHAUS, p. 237, Tr. Amer. ent. Soc. xxi, n. spp.
- Orthosia columbaris*, Melbourne, LUCAS, p. 143, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Oruza albicosta*, p. 349, *anisodoides, pallescens*, p. 350, E. India, HAMPSON; Moths of India, ii, n. spp.
- Othreis (Ophideres) iridescens*, Geraldton, LUCAS, p. 148, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Oxyenemis sectilis*, p. 86, pl. vi, fig. 3, *perfundis*, fig. 6, *nivalis*, fig. 5, p. 87, Texas, SMITH, Tr. Amer. ent. Soc. xxi, n. spp.
- Panameria rhea*, Mexico, DRUCE, p. 360, Ann. Nat. Hist. (6) xiii, n. sp.
- Pangraptia rufa*, Rio Janeiro, SCHAUS, p. 244, Tr. Amer. ent. Soc. xxi, n. sp.
- Panilla obscurissima*, p. 48, *sexmaculata, quadrimaculata, octomaculata*, p. 49, W. Africa, *major*, p. 50, HOLLAND, Psyche, vii, n. spp.
- Pantylidia sparsa*, Gn., = (*recondita*, Wlk., and *Toxocampa orthosiodes*, Wlk.), *P. metaspila*, Wlk., = (*Ophiusa pallidilinea*, Wlk., *Tox. moolla*, Swinh., and *Hyp. sordida*, Butl.); BUTLER, p. 265, Entomologist, 1894.
- P. capistrata*, Brisbane, LUCAS, p. 143, P. Linn. Soc. N. S. Wales, viii, n. sp.

- Panula inconstans*, = (*Ophiusa narrans* and *Athymra tetragona*, Wlk.); BUTLER, p. 265, Entomologist, 1894.
- Pateta* (sub *Phlegetonia*) *carbo*, Gn., = (*conspicienda*, Wlk.); BUTLER, p. 216, Entomologist, 1894.
- Penicillaria menalcas*, W. Africa, HOLLAND, p. 141, Psyche, vii ;
P. morosa, solitaria, W. Africa, HOLLAND, p. 32, Psyche, vii :
 n. spp.
- Peosina mexicana, saundersii, leontia*, (= *trifinis*, Wlk.), synonymical note;
 BUTLER, Entomologist, 1894, p. 47.
- Perciana flavifusa, viridinotata*, E. India, HAMPSON, p. 296, Moths of
 India, ii, n. spp.
- Peridroma incivis*, early stages ; DYAR, p. 18, Canad. Ent. 1894.
- P. nigra*, Colorado, SMITH, p. 43, Tr. Amer. ent. Soc. xxi, n. sp.
- Perigea veterata*, Colorado, SMITH, p. 64, pl. iii, fig. 7, Tr. Amer. ent. Soc.
 xxi ; *P. parvula*, p. 229, *parta, trilinea, P. ? transversa*, p. 230,
 Paraná, SCHAUS, Tr. Amer. ent. Soc. xxi : n. spp.
- Periplusia*, n. g., near *Plusia*, for *P. nubilicosta, cinerascens, eccleipsis*,
 n. spp., W. Africa ; HOLLAND, p. 30, Psyche, vii.
- Phiprosopus niveilinea*, Paraná, SCHAUS, p. 235, Tr. Amer. ent. Soc. xxi,
 n. sp.
- Phlogophora meticulosa*, larva on aconitum ; BUTLER, p. 317, Entomolo-
 gist, 1894 : mimicry, JOHNSON, l. c.
- Phurys moxa*, Jalapa, SCHAUS, p. 243, Tr. Amer. ent. Soc. xxi, n. sp.
- Platyja umminia*, = (*Sympis subunita*, Gn., *Cotuza drepanoides*, Wlk.,
Ginea removens, Wlk.); BUTLER, p. 213, Entomologist, 1894.
- Platyperiga* (sic), n. g., near *Perigia* (sic), for *Platyperigea* (sic) *camina*,
 pl. vi, fig. 9, p. 60, *discistriga*, pl. vi, fig. 10, *præacuta*, pl. iii, fig. 6,
 p. 61, n. spp., N. America ; SMITH, Tr. Amer. ent. Soc. xxi.
- Pleroma apposita*, British Columbia, SMITH, p. 81, Tr. Amer. ent. Soc.
 xxi, n. sp.
- Pleuirona perhamata*, n. n. for *falcata* (*Chilkasa*), Swinh. ; HAMPSON,
 p. 549, Moths of India, ii.
- Plusia* : synonymy of many species ; BUTLER, pp. 213-216, Entomolo-
 gist, 1894. *P. oxygramma*, = (*Abrostola transfixa*, Wlk., and *nubila*,
 Moore) ; ALPHÉRAKY, p. 313, Deutsche ent. Zeitschr. Lep. vii.
- P. borealis*, Finland, REUTER, p. 57, Acta Soc. Faun. Fenn. ix, No. 6 ;
P. mapongua, siculifera, p. 8, *ogovana, gorilla*, p. 9, W. Africa, HOL-
 LAND, Psyche, vii ; *P. purpureofusa*, p. 570, *aneofusa, crassipalpus*,
 p. 576, E. India, HAMPSON, Moths of India, ii ; *P. masoni*, Jalapa,
 SCHAUS, p. 238, Tr. Amer. ent. Soc. xxi ; *P. roxana*, Mexico, DRUCE,
 p. 362, Ann. Nat. Hist. (6) xiii : n. spp.
- Plusiocalpe*, n. g., near *Plusia*, for *P. pallida, prosticta*, n. spp., W. Africa ;
 HOLLAND, p. 29, Psyche, vii.
- Plusioparpa*, n. g., near *Plusia*, for *P. dichora*, n. sp., W. Africa ; HOL-
 LAND, p. 9, Psyche, vii.
- Plusiotricha*, n. g., near *Plusia*, for *P. livida*, n. sp., W. Africa ; HOL-
 LAND, p. 10, Psyche, vii.

- Poaphila* : *Phurys*, Gn., merged in, p. 267; *Phurys* and *Nymbis* discussed; p. 266; BUTLER, Entomologist, 1894. *P. ingenua*, *porrigens*, Wlk., referred to *Ophisma*; BUTLER, p. 266, t. c.
- Polia flavicincta*, larva on aconitum; MITCHELL, p. 347, Entomologist, 1894.
- P. plumbea*, Jerusalem, STAUDINGER, p. 276, Deutsche ent. Zeitschr. Lep. vii; *P. canosparsa*, p. 232, *dentata*, *microsticta*, *griseirufa*, p. 233, *junctura*, *virescens*, p. 234, E. India, HAMPSON, Moths of India, ii; *P. resoluta*, p. 70, pl. v, fig. 5, *contadina*, p. 71, pl. iii, fig. 1, *connecta*, fig. 2, p. 72, N. America, SMITH, Tr. Amer. ent. Soc. xxi : n. spp.
- Polydesmu lichenoides*, E. India, HAMPSON, p. 473, Moths of India, ii; n. sp.
- Polyploca galema*, Cherra Punji, SWINHOE, p. 431, Ann. Nat. Hist. (6) xiv, n. sp.
- Prodenia laysanensis*, Laysan I., ROTHSCHILD, p. 539, Nov. Zool. i, n. sp. S m
- Pronoctua*, n. g., near *Agrotis*, p. 44, for *P. typica*, n. sp., Colorado, p. 45, pl. iv, fig. 1, Tr. Amer. ent. Soc. xxi.
- Pseudacidalia*, n. g., type *albicosta*, Moore, and including *P. undulata*, n. sp., Pegu; HAMPSON, p. 351, Moths of India, ii.
- Pseudelydna*, n. g., *Gonopterinae*, type *rufostava*, Wlk.; HAMPSON, p. 420, Moths of India, ii.
- Pseudocalpe*, n. g., type *angulifera*, Moore; HAMPSON, p. 566, Moths of India, ii.
- Pseudogonitis*, n. g., *Gonopterinae*, type *brunnea*, Moore; HAMPSON, p. 412, Moths of India, ii.
- Pseudophia benenotata*, ♀ described; BETHUNE-BAKER, p. 43, Tr. ent. Soc. London, 1894.
- Psimada africana*, *imperatrix*, W. Africa, HOLLAND, p. 84, Psyche, vii, n. spp.
- Ptyonota*, n. g., *Gonopterinae*, p. 424, for *P. formosa*, n. sp., Tenasserim, p. 425; HAMPSON, Moths of India, ii.
- Rancora*, n. g., near *Cucullia*, for *R. strigata*, n. sp., British Columbia; SMITH, p. 83, Tr. Amer. ent. Soc. xxi.
- Raparna atrapex*, p. 25, *nigriceps*, p. 26, E. India, HAMPSON, Moths of India, iii, n. spp.
- Raphia frater*, var. *coloradensis*; DYAR, p. 17, Canad. Ent. 1894.
- Rhescipha siderosticta*, p. 32, *hypocaloides*, p. 33, W. Africa, HOLLAND, Psyche, vii, n. spp.
- Rhytia (Ophideres) crepidolata*, Geraldton, LUCAS, p. 149, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Ricla subpallescens*, W. Africa, HOLLAND, p. 115, Psyche, vii, n. sp.
- Scotogramma luteola*, p. 57, pl. ii, fig. 10, *uniformis*, fig. 12, p. 58, British Columbia, SMITH, Tr. Amer. ent. Soc. xxi, n. spp.
- Segetia? palastinensis*, Jerusalem, STAUDINGER, p. 277, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Selenis puncticosta*, *limbata*, W. Africa, HOLLAND, p. 112, Psyche, vii, n. spp.

- Semiophora ferrosticta*, p. 205, *castaneipennis*, p. 206, Kashmir, HAMPSON, Moths of India, ii, n. spp.
- Seneratia barnardi*, Geraldton, LUCAS, p. 153, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Setagrotis terrifica*, Colorado, SMITH, p. 42, pl. ii, fig. 2, Tr. Amer. ent. Soc. xxi, n. sp.
- Sphida obliqua*, synonymy; GROTE, p. 85, Canad. Ent. 1894.
- Sphingomorpha pudens*, W. Africa, HOLLAND, p. 57, Ent. News Philad. v, n. sp.
- Stibabium spumosum*, habits; MURTFELDT, Insect Life, vi, p. 301.
- Stictoptera*: synonymy of various species; BUTLER, p. 216, Entomologist, 1894.
- S. striata*, p. 402, *anthyalus*, p. 403, E. India, HAMPSON, Moths of India, ii, n. spp.
- Strabea*, n. g., placed near *Leucania*, for *S. punctulata*, n. sp., Paraná; SCHAUS, p. 235, Tr. Amer. ent. Soc. xxi.
- Swinhoya*, n. g., for *vegeta*, Swinh.; HAMPSON, p. 324, Moths of India, ii.
- Sympis parkeri*, Queensland, LUCAS, p. 152, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Symphusia*, n. g., near *Deva*, for *S. frequens*, n. sp., W. Africa; HOLLAND, p. 28, Psyche, vii.
- Syneda grandirena*, Haw., = (*limbolaris*, Hb.), *graphica*, Hb., = (*capitcola*, Wlk.); BUTLER, p. 241, Entomologist, 1894.
- Sypna equatorialis*, W. Africa, HOLLAND, p. 69, Psyche, vii; *S. marginalis*, Sikhim, HAMPSON, p. 448, Moths of India, ii: n. spp.
- Taniocampa gothica*, variation; SOUTH, p. 194, Entomologist, 1894. *T. pacifica*, larva; DYAR, p. 66, Canad. Ent. 1894.
- T. ferrigera*, Vancouver, SMITH, p. 78, pl. v, fig. 6, Tr. Amer. ent. Soc. xxi; *T. vellerea*, *mulina*, *contempta*, Jalapa, SCHAUS, p. 237, Tr. Amer. ent. Soc. xxi, n. spp.
- Tarache domina*, *mesoleuca*, W. Africa, HOLLAND, p. 128, Psyche, vii; *T. nubilosa*, *fascialis*, N. India, HAMPSON, p. 315, Moths of India, ii; *T. astydamia*, *onytes*, Paraná, SCHAUS, p. 240, Tr. Amer. ent. Soc. xxi: n. spp.
- Targallodes*, n. g., near *Targalla*, for *T. rufula*, n. sp., W. Africa; HOLLAND, p. 31, Psyche, vii.
- Tathorhynchus*, n. g., for *vinctale*, Wlk.; HAMPSON, p. 268, Moths of India, ii.
- Tatorhinia fuscata*, W. Africa, HOLLAND, p. 114, Psyche, vii, n. sp.
- Thalpochares phænissa*, n. var. *calida*; REBEL & ROGENHOFER, p. 63, Ann. Hofmus. Wien, ix; STAUDINGER, p. 283, Deutsche ent. Zeitschr. Lep. vii.
- T. sordescens*, Mesopotamia, STAUDINGER, p. 282, Deutsche ent. Zeitschr. Lep. vii; *T. dividens*, Queensland, LUCAS, p. 87, P. Soc. Queensland, viii: n. spp.

- Thermesia aurantiaca*, p. 109, *discipuncta*, p. 110, W. Africa, HOLLAND, Psyche, vii; *T. mediorufa*, *otophora*, E. India, HAMPSON, p. 536, Moths of India, ii; *T. tenebrica*, Queensland, LUCAS, p. 89, P. Soc. Queensland, viii; *T. electrica*, *lara*, Mexico, SCHAUS, p. 244, Tr. Amer. ent. Soc. xxi: n. spp.
- Thyas regia*, Geraldton, LUCAS, p. 151, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Tinosoma*, n. g., *Gonopterinea*, type *T. hyperythrum*, n. sp., Nāga Hills, including also *mirabile*, *bilinea*, Swinh.; HAMPSON, p. 426, Moths of India, ii.
- Tortriciforma*, n. g., *Gonopterinea*, for *T. viridipuncta*, n. sp., Sikkim; HAMPSON, p. 425, Moths of India, ii.
- Toxocampa atriplaga*, referred to *Pantydia*; BUTLER, p. 266, Entomologist, 1894.
- T. dedecora*, W. Africa, HOLLAND, p. 109, Psyche, vii, n. sp.
- Tracta geometroides*, p. 114, *T. ? bilinea*, p. 115, W. Africa, HOLLAND, Psyche, vii, n. spp.
- Tricholita ? variata*, Jalapa, SCHAUS, p. 231, Tr. Amer. ent. Soc. xix, n. sp.
- Trigonodes binaria*, *inornata*, W. Africa, HOLLAND, p. 86, Psyche, vii, n. spp.
- Triorbis*, n. g., *Sarröthripinea*, for *annulata*, Swinh.; HAMPSON, p. 366, Moths of India, ii.
- Trisuloides luteifascia*, E. India, HAMPSON, p. 437, Moths of India, ii; *T. pata*, Guatemala, DRUCE, p. 362, Ann. Nat. Hist. (6) xiii: n. spp.
- Tryphæna pronuba*, experiments on colour of larva in relation to food; POULTON, P. R. Soc. London, liv, pp. 417-430, pls. iii & iv.
- Valleria jocosa*, Jalapa, SCHAUS, p. 230, Tr. Amer. ent. Soc. xxi, n. sp.
- Westermannia ocellata*, Brisbane, LUCAS, p. 145, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Xanthalia*, n. n. to replace *Xanthia*, Ochs.; FAIRMAIRE, p. 395, Ann. Soc. ent. Belgique, xxxviii.
- Xanthia rectilineata*, E. India, HAMPSON, p. 171, Moths of India, ii, n. sp.
- Xanthoptera magna*, *nigridia*, E. India, HAMPSON, p. 320, Moths of India, ii, n. spp.
- Xylina oregonensis*, larva; DYAR, p. 67, Canad. Ent. 1894.
- Xyloniages perlubens*, metamorphoses; DYAR, p. 67, Canad. Ent. 1894.
- X. simplex*, larva; DYAR, p. 21, t. c.
- X. cognata*, pl. v, fig. 2, p. 78, *candida*, fig. 1, p. 79, *indurata*, pl. iv, fig. 7, p. 80, *pulchella*, pl. v, fig. 2, p. 81, N. America, SMITH, Tr. Amer. ent. Soc. xxi, n. spp.
- Zethes flavibrunnea*, *duplicilinea*, p. 8, *pictipennis*, p. 10, *punctistigma*, *vinolia*, p. 13, E. India, HAMPSON, Moths of India, iii; *Z. conscripta*, p. 88, *chordophoides*, p. 89, Queensland, LUCAS, P. Soc. Queensland, viii: n. spp.

DELTOIDIDÆ, including EPIPLEMIDÆ.

- [*Cf.* HAMPSON (401), LUCAS (654), PAGENSTECHEER (791), SWINHÖE (1057).]
 Larva found in burrows of a land tortoise ; HUBBARD, p. 305, *Insect Life*, vi.
Adrapsa abnormalis, Sikhim, HAMPSON, p. 39, *Moths of India*, iii, n. sp.
Alelimma, n. g., next *Bleptina*, for *A. pallidifusca*, *deletaria*, n. spp.,
 E. India, HAMPSON, p. 47, *Moths of India*, iii.
Arrarde parva, Alexandria, BETHUNE-BAKER, p. 44, *Tr. ent. Soc. London*,
 1894, n. sp.
Avitta ochromarginata, Java, PAGENSTECHEER, p. 50, *Jahrb. nassau. Ver.*
 xlvii, n. sp.
Bleptina apicalis, *latifasciata*, *melanosticta*, p. 43, *perfusca*, p. 44, *denti-*
linea, p. 45, *maculifuscia*, *ochreistigma*, *triangulifera*, p. 46, E. India,
 HAMPSON, *Moths of India*, iii ; *B. picta*, Java, PAGENSTECHEER, p. 48,
 pl. i, fig. 7, *Jahrb. nassau. Ver.* xlvii : n. spp.
Camptochilus, n. g., for *C. viola*, n. sp., Sikhim ; HAMPSON, p. 68, *Moths*
of India, iii.
Catada prominens, p. 61, *nigrisigna*, p. 62, *purpureotincta*, p. 63, *albolineata*,
nigribasis, p. 64, E. India, HAMPSON, *Moths of India*, iii, n. spp.
Corcobara ochrocuprea, Java, PAGENSTECHEER, p. 48, *Jahrb. nassau. Ver.*
 xlvii, n. sp.
Decetia bilineata, Burma, HAMPSON, p. 123, *Moths of India*, iii, n. sp.
Deinypena, n. g., *Herminiidae*, p. 123, for *D. lacista*, *lathetica*, p. 124, *D. ?*
ereboides, *marginepunctata*, p. 125, W. Africa, HOLLAND, *Psyche*, vii,
 n. spp.
Egnasia pellucida, Java, PAGENSTECHEER, p. 49, *Jahrb. nassau. Ver.* xlvii,
 n. sp.
Elyra gabunalis, W. Africa, HOLLAND, p. 126, *Psyche*, vii, n. sp.
Epiplema edentata, p. 125, *apicalis*, *restricta*, p. 130, E. India, HAMPSON,
Moths of India, iii ; *E. ocusta*, p. 165, *sreapa*, p. 166, Khasia Hills,
 SWINHÖE, *Tr. ent. Soc. London*, 1894 : n. spp.
Fulcimala, n. g., for *atrata*, Butl. ; HAMPSON, p. 51, *Moths of India*, iii.
Godara illustris, Brisbane, LUCAS, p. 91, *P. Soc. Queensland*, viii, n. sp.
Herbula syfanialis, Thibet, OBERTHUR, p. 45, pl. iv, fig. 61, *Etudes Ent.*
 xviii, n. sp.
Herminia delicata, Brisbane, LUCAS, p. 90, *P. Soc. Queensland*, viii, n. sp.
Heteromala, n. g., next *Adrapsa*, p. 39, for *H. thyrophora*, n. sp., Sikhim,
 p. 40 ; HAMPSON, *Moths of India*, iii.
Hydrillodes tonsivena, p. 54, *nilgirialis*, p. 55, E. India ; HAMPSON, *Moths*
of India, iii.
Hypcua damnosalis, synonymy ; SMITH, *Entomologist*, 1894, p. 15 ;
 BUTLER, *t. c.* p. 50.
H. acutalis, *duplicilinea*, p. 78, *castaneipalpis*, p. 80, *eductalis*, p. 83, *glau-*
cescens, *rufirena*, *hamata*, *uncipennis*, p. 91, E. India, HAMPSON, *Moths*
of India, iii, n. spp.
Latirostrum, n. g., p. 68, for *L. bisacutum*, n. sp., N. India, p. 69 ; HAMP-
 SON, *Moths of India*, iii.

- Lithosiopsis*, n. g., for *L. torsivena*, n. sp., Bhutan; HAMPSON, p. 34, Moths of India, iii.
- Mustigophorus duplicifascia*, Sikhim, HAMPSON, p. 48, Moths of India, iii, n. sp.
- Mecistoptera duplicilinea*, p. 102, *variegata*, p. 103, E. India, HAMPSON, Moths of India, iii, n. spp.
- Nagadeba castanealis*, p. 52, *cinerea*, *curvilineata*, p. 53, E. India, HAMPSON, Moths of India, iii, n. spp.
- Nodaria flavifusca*, p. 56, *duplicinota*, p. 58, *albapex*, p. 59, *nigripes*, p. 60, *fusca*, p. 61, E. India, HAMPSON, Moths of India, iii, n. spp.
- Orixa fascifera*, W. Africa, HOLLAND, p. 126, Psyche, vii, n. sp.
- Orthozona*, n. g., type *quadrilineata*, Moore; HAMPSON, p. 94, Moths of India, iii.
- Paradecetia*, n. g., for *albistellaria*, Wlk.; SWINHOE, p. 164, Tr. ent. Soc. London, 1894.
- Philometra*: note on the type and on *gaosalis*, Wlk.; BUTLER, p. 97, Entomologist, 1894; SMITH, t. c. pp. 164 & 165.
- Rivula propinqualis*, life-history; FELT, p. 94, Canad. Ent. 1894.
- Stenhypena*, n. g., type *adustalis*, Hmps. n.; HAMPSON, p. 93, Moths of India, iii.
- Talapa rufilineata*, *griseifusa*, p. 66, *albigutta*, p. 67, E. India, HAMPSON, Moths of India, iii, n. spp.

GEOMETRIDÆ.

- [Cf. CALVERT (151), BETHUNE-BAKER (80), BUTLER (146), CHAPMAN (166), DOGNIN (232, 233), HAMPSON (401), HULST (466), KIRBY (911), LOWER (651), LUCAS (654, 655), OBERTHUR (767), PLATEAU (852), PÜNGELER (858), REBEL & ROGENHOFER (868), REUTER (902), ROTHSCHILD (946), STAUDINGER (1042, 1044), SWINHOE (1057, 1058, 1059), THIERRY-MIEG (1063, 1064, 1065), WARREN (1124, 1125).]
- Notes on types of North American *Geometrina* in European collections; HULST, Ent. News Philad. v, pp. 302-306. For the suggestions contained in this, reference must be made to the work itself.
- WARREN in his paper gives much synonymy, but as he does not state what is new, we have mentioned below only a few of the synonyms he gives (1124).
- Dates of publication of Swinhoe's and Warren's papers last year; SWINHOE, p. 171, Tr. ent. Soc. London, 1894.
- Supposed stridulating organ in *Gandaritis flavata* and *Cidaria dotata*; HAMPSON, p. xiii, P. ent. Soc. London, 1894.
- Abraxaphantes*, n. g., type *Abraxas perampla*, Swinh.; WARREN, p. 374, Nov. Zool. i.
- Abraxas fasciaria*, Gn., n. var. *notata*; WARREN, p. 420, Nov. Zool. i. *A. capitata*, n. n. for *A. intermedia*, *infra*: *A. determinata*, *infra*, is only *intermedia*, Warr.; WARREN, Nov. Zool. i, p. 682. *A. grossulariata*, its protection discussed; PLATEAU (852).

- A. fulvosparisa*, p. 298, *lobata*, p. 299, *etridoi les*, p. 304, E. India, HAMPSON, Moths of India, iii; *A. nymphidiaria*, pl. ii, fig. 28, *tandjrinaria*, fig. 23, *djrouchiaria*, pl. iii, fig. 37, p. 34, *trachiaria*, pl. ii, fig. 21, p. 35, Thibet, OBERTHUR, Etudes Ent. xviii; *A. illuminata*, *paucinotata*, India, *suffusa*, Thibet, *intermedia*, Subathu, p. 417, *disrupta*, *determinata*, *symmetrica*, p. 418, Khasia Hills, *latifasciata*, *fulvobasalis*, *suspecta*, *deminuta*, Japan, *degener*, China, *incolorata*, Java, p. 419, *flavisinuata*, Japan, p. 420, *A. ? concinna*, Thibet, *A. membranacea*, Oinainissa, p. 421, WARREN, Nov. Zool. i : n. spp.
- Achlora*, Gn., type discussed; WARREN, p. 371, Nov. Zool. i.
- Acidalia virgularia*, hermaphrodite; HABICH, p. 131, pl. v, fig. 1, Stettin Ent. Zeit. lv.
- A. fatimata*, Granada, STAUDINGER, p. 288, pl. ix, fig. 18, Deutsche ent. Zeitschr. Lep. vii; *A. adelpharia*, Jericho, PÜNGELER, p. 76, Ent. Zeit. Stettin, lv; *A. corcularia*, Canary Is., REBEL, p. 70, Ann. Hofmus. Wien, ix; *A. latsaria*, pl. iii, fig. 35, *tchratchraria*, pl. iv, fig. 60, p. 32, Thibet, OBERTHUR, Etudes Ent. xviii; *A. leucozona*, *thricophora*, p. 439, *triangularis*, p. 441, E. India, HAMPSON, Moths of India, iii; *A. fura*, Fernando Noronha, KIRBY, p. 544, J. Linn. Soc. Zool. xx : n. spp.
- Acolutha*, n. g., type *Emmelesia pictaria*, Moore; WARREN, p. 393, Nov. Zool. i.
- Actenochroma cristata*, Indo-Malay Region, *flavibasalis*, Java, *subochracea*, p. 381, *subopalina*, p. 382, Khasia Hills, WARREN, Nov. Zool. i, n. spp.
- Agathia hilarata*, *letata*, *quinaria*, distinctions; SWINHOE, p. 173, Tr. ent. Soc. London, 1894.
- A. diversiformis*, Darjiling, WARREN, p. 388, Nov. Zool. i, n. sp.
- Agirpa*, n. g., for *Girpa*, Wlk., xxxi, p. 209; WARREN, p. 413, Nov. Zool. i.
- Agraptochlora*, n. g., p. 389, *Geometrinæ*, for *A. subaspersa*, S. Africa, *marginata*, Tiapang, n. spp., p. 390; WARREN, Nov. Zool. i.
- Alcis angulifera*, n. var. *albifera*; WARREN, p. 434, Nov. Zool. i.
- Alex*: neuration in sexes noticed, *nigrozonata*, Wlk., = (*Orgalima continuaria*, Wlk., and *Drepanodes albicoxaria*, Feld.); WARREN, p. 367, Nov. Zool. i.
- A. indica*, Khasia Hills, WARREN, p. 368, Nov. Zool. i, n. sp.
- Amorphogynia*, n. g., p. 429, type *Biston necessaria*, Zell., sexes of the type noticed, p. 430; WARREN, Nov. Zool. i.
- Anaitis roseifuscia*, p. 342, *postochrea*, p. 343, E. India, HAMPSON, Moths of India, iii, n. spp.
- Anatossa*, n. n. for *Declana niveata*, Butl.; WARREN, p. 466, Nov. Zool. i.
- Angeronia prunaria*, var.; HORMUZAKI, p. 56, Ent. Nachr. xx. *A. crocatoria*, larval hibernation; DYAR, p. 62, Ent. News Philad. v.
- Angeronopsis*, n. g., type *Hypoplectis pertextaria*, Hüb.; WARREN, p. 401, Nov. Zool. i.
- Anisoles denticulata*, E. India, HAMPSON, p. 447, Moths of India, iii; *A. hyperythra*, *discofera*, Khasia Hills, SWINHOE, p. 135, Ann. Nat. Hist. (6) xiv; *A. heydena*, p. 178, *dotilla*, p. 179, Khasia Hills, SWINHOE, Tr. ent. Soc. London, 1894 : n. spp.

- Anisogonia*, n. g., type *Paragonia deustata*, Feld. ; WARREN, p. 454, Nov. Zool. i.
- Anisopteryx japonensis*, Japan, WARREN, p. 374, Nov. Zool. i ; *A. primigena*, Samarcand, STAUDINGER, p. 291, Deutsche ent. Zeitschr. Lep. vii : n. spp.
- Antasia*, n. n. for *Darantasia*, Wlk., xxvi, p. 1743 ; WARREN, Nov. Zool. i, p. 366.
- Anticlea pendearia*, Thibet, OBERTHUR, p. 39, pl. v, fig. 69, Etudes Ent. xviii, n. sp.
- Apicia stefania, emilia*, Loja, DOGNIN, p. 130, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Aporandria*, n. g., type *specularia*, Gn. ; SWINHOE, p. 174, Tr. ent. Soc. London, 1894. *Aporandria*, n. g., type *Geometra specularia*, Gn. ; WARREN, p. 385, Nov. Zool. i.
- Archaeopseuste*, n. g., type *Abraxas amplificata*, Wlk. ; WARREN, p. 380, Nov. Zool. i : but compare p. 681 where the insect is said to belong to the genus *Terpna*.
- Archiplutodes*, n. g., type *Asthena prasina*, Swinh. ; WARREN, p. 404, Nov. Zool. i.
- Argyroplutodes*, n. g., type *Palyas limboguttata*, Feld. ; WARREN, p. 403, Nov. Zool. i.
- Argyrotome*, n. g., type *Ephyra mira*, Oberth., with *A. notata*, n. sp., Petropolis ; WARREN, p. 403, Nov. Zool. i.
- Arrhodia orthotoma*, Queensland, LOWER, p. 83, Tr. R. Soc. S. Austral. xviii ; *A. ? illidgei*, Brisbane, LUCAS, p. 139, P. Linn. Soc. N. S. Wales, viii : n. spp.
- Ascotis margarita*, Java, *sordida*, Korea, WARREN, p. 435, Nov. Zool. i, n. spp.
- Asestra izquierdii*, Chili, CALVERT, An. Univ. Chile, lxxxiv, p. 826, pl. ii, figg. 26 & 26a, n. sp.
- Aspilates canariaria*, Canary Is., ROGENHOFER, p. 74, pl. i, fig. 7, Ann. Hofmus. Wien, ix ; *A. collinaria*, Canary Is., HOLT WHITE, Butt. Teneriffe, p. 87, pl. iv, fig. 10 ; *A. hesperis*, Canaries, WARREN, p. 437, Nov. Zool. i ; *A. obliquata*, Queensland, LUCAS, p. 80, P. Soc. Queensland, viii : n. spp.
- Astatomorpha*, n. g., type *Polla virgultaria*, Feld. ; WARREN, p. 455, Nov. Zool. i.
- Asthena* : notes on larvæ of European ; CHRÉTIEN, pp. 136-138, Naturaliste, 1894. *A. anseraria*, note on ; CHRÉTIEN, t. c. p. 101 : number of generations ; DUPONT, p. cxxviii, Bull. Soc. ent. France, 1894.
- Atopophysa*, n. g., type *Scotosia indistincta*, Butl. ; WARREN, p. 394, Nov. Zool. i.
- Automolodes*, n. g., type *Bociraza vacuna*, Druce ; WARREN, p. 411, Nov. Zool. i.
- Autophylla*, n. g., *Ennomineæ*, for *A. pallida*, n. sp., S. America ; WARREN, p. 451, Nov. Zool. i.
- Axiodes*, n. g., type *Axia insciata*, Feld. ; WARREN, p. 465, Nov. Zool. i.

- Azelina cocapata*, Bolivia, STAUDINGER, p. 88, Deutsche ent. Zeitschr. Lep. vii; *A. pimienta*, *gamuza*, Loja, DOGNIN, p. 242, Ann. Soc. ent. Belgique, xxxviii; *A. exquisita*, Peru, THIERRY-MIEG, p. 57, Ann. Soc. ent. France, 1894; *A. flabellaria*, Bolivia, THIERRY-MIEG, p. xcii, Bull. Soc. ent. France, 1894; *A. messidora*, Peru, THIERRY-MIEG, p. cix, t. c. : n. spp.
- Ballantiophora innotata*, Petropolis, WARREN, p. 402, Nov. Zool. i, n. sp.
- Bapta distans*, *fedata*, Japan, *ochrilinea*, China, p. 404, *undilinea*, Petropolis, p. 405, WARREN, Nov. Zool. i, n. sp.
- Berta*? *discolor*, Padang, WARREN, p. 389, Nov. Zool. i, n. sp.
- Biclarigera*, n. g., type *Scodiona praevaria*, H.-S.; WARREN, p. 437, Nov. Zool. i.
- Biston sinuata*, Sikhim, HAMPSON, p. 246, Moths of India, iii, n. sp.
- Bithiodes*, n. g., near *Bithia*, type *Acidalia inexactata*, Wlk.; WARREN, p. 439, Nov. Zool. i.
- Blepharoctenia*, n. g., type *Amphidasys bengaliaria*, Gn., with *B. arenosa*, Java, *insularis*, Nias I., n. spp.; WARREN, p. 428, Nov. Zool. i.
- Boarmia cervina*, p. 258, *leucozona*, p. 260, *bisinuata*, p. 261, *melanosticta*, p. 266, *flavimedia*, p. 272, *albibasis*, p. 278, *lamprosticta*, p. 280, E. India, HAMPSON, Moths of India, iii; *B. ratotaria*, Khasia Hills, SWINHOE, p. 216, pl. ii, fig. 18, Tr. ent. Soc. London, 1894; *B. glaucodisca*, Khasia Hills, SWINHOE, p. 139, Ann. Nat. Hist. (6) xiv; *B. valdiviana*, Chili, CALVERT, p. 827, pl. ii, fig. 27, An. Univ. Chile, lxxxiv : n. spp.
- Bombycodes*, Gn.: note on the genus; WARREN, p. 426, Nov. Zool. i.
- Borbachodes*, n. g., type *Anisodes pardalis*, Feld.; WARREN, p. 408, Nov. Zool. i.
- Brachurapteryx*, n. g., type *Therinia breviararia*, Hüb.; WARREN, p. 399, Nov. Zool. i.
- Bupalus piniarius*, hermaphrodite; ROGENHOFER, p. 132, pl. v, fig. 2, Ent. Zeit. Stettin, lv.
- Bursada concinna*, Philippines, WARREN, p. 412, Nov. Zool. i, n. sp.
- Buzura pura*, Celebes, WARREN, p. 429, Nov. Zool. i, n. sp.
- Cacamoda*, n. g., *Geometridae*, for *viridata*, Moore; SWINHOE, p. 172, Tr. ent. Soc. London, 1894.
- Canarthria*, n. g., type *Hyperythra haturata*, Wlk.; WARREN, p. 439, Nov. Zool. i.
- Calladelyphia*, n. g., type *Dalima patnaria*, Feld.; WARREN, p. 442, Nov. Zool. i.
- Calleremites*, n. g., *Geometrinae*, p. 384, for *C. subornata*, n. sp., Sikkim, p. 385, WARREN, Nov. Zool. i.
- Callerinnys*, n. n. for *Eriinnys*, Warr.; WARREN, p. 447, Nov. Zool. i.
- C. deminuta*, Padang, WARREN, p. 447, Nov. Zool. i, n. sp.
- Callocasta*, n. g., for *similis* and *basistrigaria*, Moore; SWINHOE, p. 218, Tr. ent. Soc. London, 1894.
- Callurapteryx*, n. g., type *Urapteryx saturniaria*, H.-S.; WARREN, p. 399, Nov. Zool. i : p. 68, t. c., this is said to be a synonym of *Ratiaria*, Wlk.

- Cérige zalská*, Khasia Hills, SWINHOE, p. 185, Tr. ent. Soc. London, 1894, n. sp.
- Carpella angustilinea, innotata, C.? nubilata*, S. America, WARREN, p. 423, Nov. Zool. i, n. sp.
- Carsia perelegans*, Japan, WARREN, p. 398, Nov. Zool. i, n. sp.
- Cartaletis*, n. g., type *Aletis libyssa*, Hopf.; WARREN, p. 378, Nov. Zool. i.
- Cataclysmæ obliquilineata*, E. India, HAMPSON, p. 349, Moths of India, iii; *C. argyridia*, E. Africa, BUTLER, p. 592, pl. xxxvii, fig. 10, P. Zool. Soc. London, 1894 : n. spp.
- Catophoenissa*, n. g., type *Epimecis dibapha*, Feld.; WARREN, p. 464, Nov. Zool. i.
- Caustoloma lozonaria*, Thibet, OBERTHUR, p. 24, pl. iv, fig. 57, Etudes Ent. xviii, n. sp.
- Celerena pallidicolor*, Waigiou, *stenospila*, Amboyna, WARREN, p. 377, Nov. Zool. i, n. spp.
- Chesias oranaria*, sexes figured, pl. vi, figg. 40 & 41; OBERTHUR, Etudes Ent. xix.
- Chloroclydon*, n. g., type *Scotopteryx usneata*, Feld.; WARREN, p. 464, Nov. Zool. i.
- Chloroclystis trichophora*, p. 393, *infrazebra*, p. 394, E. India, HAMPSON, Moths of India, iii, n. spp.
- Chlorodontopera albigitata*, Padang, WARREN, p. 387, Nov. Zool. i, n. sp.
- Chloroglyphica*, n. g., type *Loxochila variegata*, Butl.; WARREN, p. 387, Nov. Zool. i.
- Chogada fuliginosa*, Engano, WARREN, p. 436, Nov. Zool. i, n. sp.
- Chrysocraspeda*, n. g., near *Acidalia*, type *abhadraca*, Wlk.; HAMPSON, p. 443, Moths of India, iii.
- C. plumbeofusa*, Khasia Hills, SWINHOE, p. 136, Ann. Nat. Hist. (6) xiv, n. sp.
- Chrysomima*, n. g., type *Gonodontis semilutearia*, Feld.; WARREN, p. 465, Nov. Zool. i.
- Cidaria corylata*, n. var. *tsérmosaria*, pl. iii, figg. 43 & 47; OBERTHUR, p. 39, Etudes Ent. xviii. *C. kirschi*, n. var. *zalmoxis*; THIERRY-MIEG, p. 53, Ann. Soc. ent. France, 1894. *C. interruptata*, figure and description; REBEL, p. 76, pl. i, fig. 8, Ann. Hofmus. Wien, ix. *C. ferrugata, spadicaria, unidentaria*, synonymy; PROUT, p. 160, Ent. Zeit. Stettin, iv. *C. alaudaria*, larva; GROSS, p. 79, t. c. *C. truncata*, second generation; SCHNABEL, Zeitschr. ent. Breslau, xix, p. xiii. *C. silaccata*, temperature experiments on pupæ; MERRIFIELD, p. 427, Tr. ent. Soc. London, 1894.
- C. femica*, Finland, REUTER, p. 75, Acta Soc. Faun. Fenn. ix, No. 6; *C. adlata*, Beyrout, STAUDINGER, p. 294, Deutsche ent. Zeitschr. Lep. vii; *C. metaria*, Thibet, OBERTHUR, pl. iv, fig. 54, p. 39, Etudes Ent. xviii; *C. fulvidorsata*, p. 351, *albapex*, p. 352, *fulvotincta*, p. 354, *mixtilineata*, p. 359, *chalcoptera*, p. 360, *fuscigrisea*, p. 363, E. India, HAMPSON, Moths of India, iii; *C. fulvidorsata*, Cherra Punji, SWINHOE, p. 432, Ann. Nat. Hist. (6) xiv; *C. subapicalis*, 1894. [VOL. XXXI.]

- Khasia Hills, SWINHOE, p. 136, *t. c.*; *C. bareconia*, Khasia Hills, SWINHOE, p. 189, Tr. ent. Soc. London, 1894; *C. flavolimbarioides*, Loja, DOGNIN, p. 686, Ann. Soc. ent. Belgique, xxxviii; *C. satanica*, p. 51, *ignifera*, p. 52, *laodice*, p. 53, Bolivia, *minois*, Cauca Valley, p. 54, THIERRY-MIEG, Ann. Soc. ent. France, 1894: n. spp.
- Cistidia*: note on the antennæ and on *Vithora agrionides*, Butl.; WARREN, p. 413, Nov. Zool. i.
- C. lucifera*, Shillong, SWINHOE, p. 211, Tr. ent. Soc. London, 1894, n. sp.
- Cleogene peletieraria*, hermaphrodite; SEEBOLD, p. 132, pl. v, figg. 3 & 4, Ent. Zeit. Stettin, lv.
- Cleorodes*, n. g., type *Cleora lichenaria*, auct.; WARREN, p. 434, Nov. Zool. i.
- Clysia gaujoni*, Loja, THIERRY-MIEG, p. 57, Ann. Soc. ent. France, 1894, n. sp.
- Collix stellata*, Khasia Hills, WARREN, p. 679, Nov. Zool. i, n. sp.
- Conolophia*, n. g., type *Panagra conscitaria*, Wlk.; WARREN, p. 369, Nov. Zool. i.
- Coremia ferrugaria* and *unidentaria*, distinctions; PROUT, p. 115, &c., Ent. Rec. v.
- Craspedia atriceps*, Simla, HAMPSON, p. 428, Moths of India, iii, n. sp.
- Craspedosis undulosa*, Celebes, WARREN, p. 412, Nov. Zool. i, n. sp.
- Crutoptera apicata*, British Guiana, WARREN, p. 457, Nov. Zool. i, n. sp.
- Crocallis heydena*, Khasia Hills, SWINHOE, p. 203, Tr. ent. Soc. London, 1894, n. sp.
- Crocapteryx*, Gn.: definition; WARREN, p. 459, Nov. Zool. i.
- Crypsicometa*, n. g., type *Phasiune incertaria*, Leech; WARREN, p. 463, Nov. Zool. i.
- Curbia*, n. g., type *Crocapteryx martiata*, Gn.; WARREN, p. 460, Nov. Zool. i.
- Dalima nubilata*, E. India, HAMPSON, p. 240, Moths of India, iii, n. sp.
- Darisa fasciata*, *interlata*, Sikkim, WARREN, p. 433, Nov. Zool. i (p. 682, *D. interlata* is said to be ♀ *Alcis vagans*, Moore), n. spp.
- Deilinea luteifrons*, Khasia Hills, SWINHOE, p. 193, pl. ii, fig. 14, Tr. ent. Soc. London, 1894; *D. ? punctata*, Japan, WARREN, p. 405, Nov. Zool. i: n. spp.
- Desmobathra plana*, Lifu, WARREN, p. 380, Nov. Zool. i, n. sp.
- Dichromodes orthogramma*, Queensland, LOWER, p. 81, Tr. R. Soc. S. Austral. xviii, n. sp.
- Dilophodes*, n. g., type *Abraxas elegans*, Butl.; WARREN, p. 416, Nov. Zool. i.
- Dindica marginata*, Celebes, WARREN, p. 382, Nov. Zool. i, n. sp.
- Dissomorpha*, n. g., near *Semiothisa*, type *australiaria*, Gn.; WARREN, p. 438, Nov. Zool. i.
- Dissoplaga*, n. g., type *Cimicodes sanguiflua*, Moore; WARREN, p. 442, Nov. Zool. i. *D. sanguiflua*, n. varr. *purpurascens*, *olivescens*; WARREN, p. 443, *t. c.*

- Dithalma mecysma*, Khasia Hills, SWINHOE, p. 179, Tr. ent. Soc. London, 1894, n. sp.
- Docirava affinis*, China and Japan, WARREN, p. 398, Nov. Zool. i, ? n. sp.
- Dolerophyle*, n. g., type *Oxydia nerisaria*, Wlk.; WARREN, p. 371, Nov. Zool. i.
- Dolichoneura*, n. g., p. 371, *Ænochrominæ*, for *D. albidentata*, *innotata*, n. spp., Demerara, p. 372, WARREN, Nov. Zool. i.
- Doobia*, n. g., type *Ennomos viridata*, Moore, WARREN, p. 388, Nov. Zool. i.
- Doroptera*, n. g., next *Palæomystis*, for *D. nicevillei*, n. sp., Sikhim, HAMPSON, p. 318, Moths of India, iii, n. sp.
- Drepanodes*: application of the name, synonymy; WARREN, p. 457, Nov. Zool. i.
- Duliophyle*, n. g., type *Boarmia agitata*, Butl.; WARREN, p. 432, Nov. Zool. i.
- Dyschoroneura*, n. g., near *Perigramma*, for *D. obsolescens*, n. sp., Santa Rosa; WARREN, p. 426, Nov. Zool. i.
- Ecliptopera*, n. g., type *Eustroma triangulifera*, Moore, with *E. rectilinea*, n. sp., Khasia Hills; WARREN, p. 679, Nov. Zool. i.
- Ectropis simplicaria*, *planaria*, Khasia Hills, SWINHOE, p. 221, Tr. ent. Soc. London, 1894; *E. grisescens*, China and Japan, WARREN, p. 434, Nov. Zool. i : n. spp.
- Egea*, Dup., is *Eremia*, H.-S.; WARREN, p. 374, Nov. Zool. i.
- Ellopia*? *compararia*, Algeria, STAUDINGER, p. 289, Deutsche ent. Zeitschr. Lep. vii, n. sp.
- Elphos albifascia*, *obliterata*, Assam, *megaspilata*, Khasia Hills, *maesta*, Gunong Ijau, p. 430, *procellosa*, Ceylon, &c., p. 431, WARREN, Nov. Zool. i, n. spp.
- Endropia hypochraria*, early stages; DYAR, p. 61, Ent. News Philad. v.
- Endropioides*, n. g., type *Macaria indictinaria*, Brem.; WARREN, p. 463, Nov. Zool. i.
- Ephemerophila*, n. g., type *Hemerophila humeraria*, Moore; WARREN, p. 434, Nov. Zool. i.
- Ephyrachrinaria*, Thibet, OBERTHUR, p. 29, pl. ii, fig. 25, Etudes Ent. xviii, n. sp.
- Epicyme atrostrigata*, Queensland, WARREN, p. 394, Nov. Zool. i, n. sp.
- Epidesmia thermistis*, S. Australia, LOWER, p. 81, Tr. R. Soc. S. Austral. xviii, n. sp.
- Epione gemela*, p. 131, *gemeloides*, p. 132, Loja, DOGNIN, Ann. Soc. ent. Belgique, xxxviii; *E. ? thermidora*, Ecuador, THIERRY-MIEG, p. cviii, Bull. Soc. ent. France, 1894 : n. spp.
- Erateina linda*, p. 90, pl. ii, fig. 14, *undulina*, p. 91, *rosina*, p. 93, fig. 16, Bolivia, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii; *E. luceria*, Bolivia, THIERRY-MIEG, p. 56, Ann. Soc. ent. France, 1894 : n. spp.
- Eriolophodes*; n. g., p. 465, *Prosopolophina*, for *E. colorata*, n. sp., without locality; WARREN, p. 466, Nov. Zool. i.

- Erythrolophus semiustus*, p. 452, *punctimargo*, *genustleucus*, p. 453, E. India, HAMPSON, Moths of India, iii; *E. semiustus*, Cherra Punji, SWINHÖE, p. 433, Ann. Nat. Hist. (6) xiv : n. spp.
- Erosina strigata*, Chili, CALVERT, An. Univ. Chile, lxxxiv, p. 821, p. ii, fig. 103, n. sp.
- Eschatarchia*, n. g., type *E. lineata*, n. sp., Japan; WARREN, p. 395, Nov. Zool. i.
- Eubolia lakearia*, Thibet, pl. iii, fig. 44, pl. iv, fig. 58, OBERTHUR, p. 40, Etudes Ent. xviii, n. sp.
- Eucaterva variaria*, early stages; DYAR, p. 63, Ent. News Philad. v. *E. varia*, larva described; TOWNSEND, p. 37, J. N. York Ent. Soc. ii.
- Euchloris (Iodis) microgyna*, p. 85, *E. goniota*, *orthodesma*, p. 86, *megaloptera*, p. 87, Queensland, LOWER, Tr. R. Soc. S. Austral. xviii, n. spp.
- Euclysia*, n. g., type *Clysia columbipennis*, Wlk., with *E. restricta*, n. sp., S. America; WARREN, p. 455, Nov. Zool. i.
- Eucrostes kafebera*, Khasia Hills, SWINHÖE, p. 177, Tr. ent. Soc. London, 1894; *E. simonyi*, Canary Is., REBEL, p. 67, Ann. Hofmus. Wien, ix : n. spp.
- Euctenachlora*, n. g., type *Achlora caenobiata*, Fold.; WARREN, p. 372, Nov. Zool. i.
- Euctenurapteryx*, n. g., type *Acena maculicaudaria*, Motsch.; WARREN, p. 399, Nov. Zool. i.
- Eucyclodes*, n. g., type *Phorodesma buprestaria*, Gn.; WARREN, p. 390, Nov. Zool. i.
- Eugonobapta*, n. g., type *Acidalia nivosaria*, Gn.; WARREN, p. 405, Nov. Zool. i.
- Euloxia*, n. g., type *Iodis fugitivaria*, Gn.; WARREN, p. 390, Nov. Zool. i.
- Eumelca degener*, Lifu, *obliquifascia*, Amboyna, WARREN, p. 375, Nov. Zool. i, n. spp.
- Eupithecia conjunctiva*, *acutangula*, *latimedia*, p. 400, *hemileuca*, *rufipicta*, p. 401, *rubridorsata*, p. 403, E. India, HAMPSON, Moths of India, iii, n. spp.
- Eupithecidia*, n. g., type *variegata*, Hmps.; HAMPSON, p. 426, Moths of India, iii.
- Eupsamma*, n. g., near *Descoreba*, for *E. pulverosa*, n. sp., Knysna; WARREN, p. 461, Nov. Zool. i.
- Eurymene fructidora*, Peru, &c.; THIERRY-MIEG, p. cix, Bull. Soc. ent. France, 1894, n. sp.
- Eurytaphria bisinuata*, Sikhim, HAMPSON, p. 188, Moths of India, iii, n. sp.
- Eusarca*: application of the name; WARREN, p. 457, Nov. Zool. i.
- Euschema cyane*, var.; PAGENSTECHEK, p. 79, Jahrb. nassau. Ver. xvii.
- Eustroma reticulata*, hair-tufts, &c.; CHAPMAN, p. 5, Ent. Rec. v.
- Eutomopepla*, n. g., type *Semiothisa annulipes*, Fold.; WARREN, p. 456, Nov. Zool. i.

- Fascellina porphyreofusa*, Sikkim, HAMPSON, p. 227, Moths of India, iii ;
F. cyanifera, Khasia Hills, SWINHOE, p. 201, pl. ii, fig. 13, Tr. ent.
 Soc. London, 1894 ; *F. hypochlora*, p. 137, *hypochriseis*, p. 138,
 Khasia Hills, SWINHOE, Ann. Nat. Hist. (6) xiv ; *F. albidiscata*,
inconspicua, Padang, *rectimarginata*, Khasia Hills, WARREN, p. 446,
 Nov. Zool. i : n. spp.
- Fidonia megiaria*, n. var. *obscuraria* ; BETHUNE-BAKER, p. 45, pl. i, fig. 12,
 Tr. ent. Soc. London, 1894.
- Galactopteryx*, n. g., near *Gonorthus*, for *G. curvistriga*, Rio Janeiro,
penicillata, Cayennè, *G. ? nigricornis*, Bogota, n. spp. ; WARREN,
 p. 400, Nov. Zool. i.
- Gamoruna amula*, S. Africa, WARREN, p. 368, Nov. Zool. i, n. sp.
- Gandaritis maculata*, Japan, SWINHOE, p. 433, Ann. Nat. Hist. (6) xiv,
 n. sp.
- Garcus albipunctatus*, p. 234, *muscorarius*, p. 235, E. India, HAMPSON,
 Moths of India, iii, n. spp.
- Gasterocome*, n. g., type *Cleora pannosaria*, Moore ; WARREN, p. 435, Nov.
 Zool. i.
- Gelasma irregularis*, Bhutan, WARREN, p. 392, Nov. Zool. i, n. sp.
- Geolada*, n. g., near *Alex*, for *G. helicola*, Khasia Hills, n. sp. ; SWINHOE,
 p. 184, Tr. ent. Soc. London, 1894.
- Geolyces*, n. n. for *Lyces*, Wlk., xx, p. 249 ; WARREN, p. 441, Nov. Zool. i.
- Gnophos sacrararia*, Jerusalem, STAUDINGER, p. 292, Deutsche ent. Zeitschr.
 Lep. vii, n. sp.
- Gonioptero-loba*, n. g., type *zalska*, Swinh. ; HAMPSON, p. 339, Moths of
 India, iii.
- Gonodela albipuncta*, Gunong Ijau, WARREN, p. 439, Nov. Zool. i, n. sp.
- Gyadroma*, n. g., for *testacearia*, Moore ; SWINHOE, p. 220, Tr. ent. Soc.
 London, 1894.
- Halesa* : application of name ; WARREN, p. 458, Nov. Zool. i.
- Halias adzearia*, Thibet, OBERTHUR, p. 33, pl. iv, fig. 62, Etudes Ent.
 xviii, n. sp.
- Halthia couaggaria*, Gn., note on ; WARREN, p. 414, Nov. Zool. i.
- Hemerophila tchraparia*, Thibet, OBERTHUR, p. 25, pl. v, fig. 63, Etudes
 Ent. xviii ; *H. subpilosa*, Khasia Hills, WARREN, p. 434, Nov. Zool. i ;
H. lignata, Khasia Hills, WARREN, p. 680, t. c. : n. spp.
- Hemigymnodes*, n. g., p. 377, *Orthostixineæ*, for *H. nitida*, n. sp., Costa Rica,
 p. 378 ; WARREN, Nov. Zool. i.
- Hemithea aquamarina*, E. India, HAMPSON, p. 491, Moths of India, iii ;
H. rubrifrons, Bhutan, WARREN, p. 393, Nov. Zool. i : n. spp.
- Herbiza* : diagnosis augmented ; WARREN, p. 456, Nov. Zool. i.
- Heterabraxas*, n. g., for *Abraxas spontaneata*, Wlk. ; WARREN, p. 416,
 Nov. Zool. i.
- Heteralex*, n. g., *Cenochrominæ*, for *H. aspersa*, n. sp., Padang Rengas ;
 WARREN, p. 369, Nov. Zool. i.
- Heteroectenia*, n. g., type *Sabulodes pectinicornata*, Gn. ; WARREN, p. 461,
 Nov. Zool. i.

- Heterolocha stulta*, n. var. *notata*; WARREN, p. 449, Nov. Zool. i.
H. incolorata, Subathu, *subroseata*, Japan, WARREN, p. 449, Nov. Zool. i,
 n. spp.
Heterostegane aurantiaca, Khasia Hills, *hyriaria*, Japan, *quadrilineata*,
 Borneo, WARREN, p. 406, Nov. Zool. i, n. spp.
Hibernia defoliaria, in America; FLETCHER, Canad. Ent. 1894,
 pp. 22-24.
Himera pennaria, emergence of the sexes; SEARANCKE, Entomologist,
 1894, p. 19.
Holorista, n. g., type *Sauris proboscitaria*, Wlk.; WARREN, p. 397,
 Nov. Zool. i.
Homæocenia, n. g., near *Panisala*, type *Xandrames subflavata*, Feld.;
 WARREN, p. 442, Nov. Zool. i.
Hoplosauris cinereus, Chili, CALVERT, p. 824, An. Univ. Chile, lxxxiv,
 n. sp.
Hyalinetta, n. g., for *megaspila*, Moore, SWINHÖE, p. 202, Tr. ent. Soc.
 London, 1894.
Hyalornis, n. g., type *Focilla docta*, Sch. & Clem.; WARREN, p. 445, Nov.
 Zool. i.
Hyalospila, n. g., type *hyalaria*, H.-S., with *H. distans*, n. sp., Santos;
 WARREN, p. 425, Nov. Zool. i.
Hyalostenela, n. g., p. 412, type *Stenele lutescens*, Butl., with *H. oleagina*,
 n. sp., Colombia, p. 413; WARREN, Nov. Zool. i.
Hydrelia purpuraria, p. 413, *distorta*, *rhodoptera*, p. 414, *plumbeolineata*,
 p. 415, E. India, HAMPSON, Moths of India, iii, n. spp.
Hygrochroa punctifera, hab. ?, *versicolor*, Padang, WARREN, p. 444, Nov.
 Zool. i, n. spp.
Hyphenorhynchus, n. g., type *erectilineatum*, Moore; HAMPSON, p. 340,
 Moths of India, iii.
Hyperythra miegii, figure, note; JOANNIS, p. 435, pl. xv, fig. 4, Ann. Soc.
 ent. France, 1894.
Hyphedyle, n. g., type *Phellinodes rubedinaria*, Wlk.; WARREN, p. 375,
 Nov. Zool. i.
Hyphenophora, n. g., type *Pulyas perlimbata*, Gn., with *H. palumbata*,
 n. sp., Niger Riv.; WARREN, p. 402, Nov. Zool. i.
Hypochroma quadrilinea, Queensland, LUCAS, p. 80, P. Soc. Queensland,
 viii, n. sp.
Hypochrosis, Gn., composition and type; WARREN, p. 447, Nov. Zool. i.
H. venusa, Khasia Hills, SWINHÖE, p. 197, Tr. ent. Soc. London, 1894;
H. pulchra, Assam, ROTHSCHILD, p. 540, pl. xii, fig. 10, Nov.
 Zool. i : n. spp.
Hyprolectis ? *macronata*, Algeria, STAUDINGER, p. 290, Deutsche ent.
 Zeitschr. Lep. vii, n. sp.
Hyposidra taluca, n. var. *khasiana*; WARREN, p. 681, Nov. Zool. i.
H. violescens, Sikhim; HAMPSON, p. 213, Moths of India, iii.
Hypulia, n. g., type *dirempta*, Wlk.; SWINHÖE, p. 205, Tr. ent. Soc.
 London, 1894.

- Hyria marginata*, Khasia Hills, SWINHÖE, p. 182, Tr. ent. Soc. London, 1894, n. sp.
- Icterodes fasciata*, Khasia Hills, SWINHÖE, p. 211, pl. ii, fig. 11, Tr. ent. Soc. London, 1894, n. sp.
- Inca*, n. g., type *Nephodia oreades*, Druce; WARREN, p. 426, Nov. Zool. i.
- Iodis quieta*, Brisbane, LUCAS, p. 79, P. Soc. Queensland, viii; *I. fascians*, Queensland, LUCAS, p. 138, P. Linn. Soc. N. S. Wales, viii : n. spp.
- Iotaphora*, n. g., type *Panæthia iridicolor*, Butl.; WARREN, p. 384, Nov. Zool. i. *Iotaphora*, n. g., *Orthostysidæ*, for *iridicolor*, Butl.; SWINHÖE, p. 168, Tr. ent. Soc. London, 1894.
- Iridopsis*, n. g., type *syrriararia*, Gn.; WARREN, p. 436, Nov. Zool. i.
- Isochromodes*, n. g., type *Apicia extimaria*, Wlk.; WARREN, p. 461, Nov. Zool. i.
- Isosauris*, n. g., type *Oporabia hastigera*, Butl.; WARREN, p. 398, Nov. Zool. i.
- Iulotrichia*, n. g., near *Buzura*, for *I. buzurata*, n. sp., Timor; WARREN, p. 429, Nov. Zool. i.
- Krananda diversa*, Sikhim, WARREN, p. 440, Nov. Zool. i. *K. olivca-marginata*, Khasia Hills, SWINHÖE, p. 139, Ann. Nat. Hist. (6) xiv : n. spp.
- Laciniodes*, n. g., type *Somatina plurilinearia*, Moore; WARREN, p. 393, Nov. Zool. i. *Laciniodes*, n. g., for *plurilinearia*, Moore; SWINHÖE, p. 188, Tr. ent. Soc. London, 1894.
- Laggyra flaccida*, Geraldton, LUCAS, p. 154, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Larentia ustipennis*, p. 367, *homophana*, p. 369, *combusta*, p. 370, *hypolopha*, *abraxidia*, p. 372, *dentifasciata*, p. 379, E. India, HAMPSON, Moths of India, iii; *L. combusta*, Cherra Punji, SWINHÖE, p. 432, Ann. Nat. Hist. (6) xiv; *L. adjrouaria*, pl. iv, fig. 59, *neurbouaria*, pl. v, fig. 77, p. 36, *chimakaleparia*, pl. iii, fig. 33, p. 37, *tonchignearia*, pl. v, figg. 66 & 67, p. 38, OBERTHUR, Etudes Ent. xviii : n. spp.
- Lasiochlora*, n. g., type *Geometra diducta*, Wlk.; WARREN, p. 389, Nov. Zool. i.
- Leptaletis*, n. g., type *Aletis variabilis*, Butl., with *L. pallida*, n. sp., Sierra Leone; WARREN, p. 379, Nov. Zool. i.
- Leptesthes*, n. g., type *Laggyra megaspila*, Moore; WARREN, p. 445, Nov. Zool. i.
- Leptoctenista*, n. g., type *Gynopteryx calexaria*, Wlk.; WARREN, p. 372, Nov. Zool. i.
- Leptodontopera*, n. g., type *Selenia decorata*, Moore; WARREN, p. 445, Nov. Zool. i.
- Leuctæra*, n. g., near *Bapta*, type *Acidalia inamata*, Wlk.; WARREN, p. 405, Nov. Zool. i.
- Leuciris*, n. g., for a part of *Chrysocestis*; WARREN, p. 402, Nov. Zool. i.
- Leucoglyphica*, n. g., type *Geometra pallescens*, Hmps. ; WARREN, p. 391, Nov. Zool. i.

- Limbatochlamys*, n. g., near *Calleremites*, for *L. rosthorni*, n. sp., China, pl. xii, fig. 9; ROTHSCHILD, p. 540, Nov. Zool. i.
- Lissolica*, n. g., near *Maxates*, for *polygrapharia*, Wlk.; SWINHÖE, p. 172, Tr. ent. Soc. London, 1894.
- Lissopluga*, n. g., type *Fidonia edmondsii*, Butl.; WARREN, p. 438, Nov. Zool. i.
- Lissopsis*, n. g., type *Siona columba*, Butl.; WARREN, p. 398, Nov. Zool. i.
- Lithostege duroata*, Madrid, THIERRY-MIEG, p. xci, Bull. Soc. ent. France, 1894, n. sp.
- Lobopalta*, n. g., type *Azelina latrata*, Gn.; WARREN, p. 451, Nov. Zool. i.
- Lophochlora*, n. g., type *Thalera cristifera*, Wlk.; WARREN, p. 389, Nov. Zool. i.
- Lophocrita*, n. g., type *Thalera undifera*, Wlk.; WARREN, p. 389, Nov. Zool. i.
- Loxorhombia*, n. g., type *Panagra idea*, Swinh.; WARREN, p. 369, Nov. Zool. i.
- Luxiaria fulvifuscia*, Sumatra, WARREN, p. 440, Nov. Zool. i, n. sp.
- Lycaugidia*, n. g., type *albata*, Swinh.; HAMPSON, p. 424, Moths of India, iii.
- Lygris mardinata*, Mesopotamia, STAUDINGER, p. 293, pl. ix, fig. 19, Deutsche ent. Zeitschr. Lep. vii; *L. ? coarctata*, Bolivia, STAUDINGER, p. 89, pl. ii, fig. 11, t. c. : n. spp.
- Lyrcea*, to be placed in *Enochromide*, synonymy of *alectoraria* and allies discussed; WARREN, p. 366, Nov. Zool. i.
- Macaria oliva*, Khasia Hills, SWINHÖE, p. 207, pl. ii, fig. 16, Tr. ent. Soc. London, 1894; *M. octolinearia*, Khasia Hills, SWINHÖE, p. 138, Ann. Nat. Hist. (6) xiv; *M. ziczucaria*, New Guinea, OBERTHUR, p. 37, pl. v, fig. 30, Etudes Ent. xix : n. spp.
- Maxates xanthochlora*, Khasia Hills, SWINHÖE, p. 135, Ann. Nat. Hist. (6) xiv, n. sp.
- Medasina mauraria* and *parisnatei*, distinguished; SWINHÖE, p. 217, Tr. ent. Soc. London, 1894.
- M. pulverulenta*, p. 284, *lampasaria*, p. 288, *albidior*, p. 290, E. India, HAMPSON, Moths of India, iii, n. spp.
- Megabiston*, n. g., type *Boarmia dorriesiuria*, Christ.; WARREN, p. 429, Nov. Zool. i.
- Megaspilates*, n. g., type *M. mundataria*, Cram.; WARREN, p. 437, Nov. Zool. i.
- Melanippe kezonmetaria*, pl. iv, fig. 48, *ouanguemetaria*, fig. 52, Thibet, OBERTHUR, Etudes Ent. xviii, n. spp.
- Merocausta*, n. g., near *Pyrinia*, p. 458, for *M. elfina*, n. sp., Brazil, p. 459; WARREN, Nov. Zool. i.
- Mesastrape*, n. g., type *Erebomorpha consors*, Butl.; WARREN, p. 432, Nov. Zool. i.
- Metabraxas clerica*, n. var. *inconfusa*; WARREN, p. 415, Nov. Zool. i.
- Metarranthis*, n. g., type *Epirranthis obfirmaria*, Hüb.; WARREN, p. 436, Nov. Zool. i.

- Meticulodes obfuscata*, S. America, WARREN, p. 461, Nov. Zool. i, n. sp.
- Metroxydia delineata*, Gunong Ijau, WARREN, p. 442, Nov. Zool. i, n. sp.
- Microclysia philippii*, p. 828, *paulseni*, p. 829, Chili, CALVERT, An. Univ. Chile, lxxxiv, n. spp.
- Microloba*, n. n., for *Tyloptera*, Christ.; HAMPSON, p. 405, Moths of India, iii.
- Mimaletis*, n. g., type *Aletis postica*, Wlk., with *M. humilis*, n. sp., Gaboon; WARREN, p. 378, Nov. Zool. i.
- Mimochroa*, n. g., type *Endropia basipuncta*, Moore, with *M. viridescens*, n. sp., Khasia Hills; WARREN, p. 443, Nov. Zool. i.
- Mimomiza*, n. g., type *Cimicodes cruentaria*, Moore; WARREN, p. 444, Nov. Zool. i.
- Mixolophia*, n. g., *Geometrinae*, for *M. ochrolauta*, n. sp., Bhutan; WARREN, p. 391, Nov. Zool. i.
- Monocentia odontias*, p. 83, *orthodesma*, Queensland, *cyanoptera*, S. Australia, p. 84, *M. ? xanthastis*, Queensland, p. 85, LOWER, Tr. R. Soc. S. Austral. xviii; *M. turneri*, p. 82, *punctunculus*, p. 84, Brisbane, LUCAS, P. Soc. Queensland, viii : n. spp.
- Monotaxia*, n. g., type *Cassyma rectilineata*, Gn.; WARREN, p. 370, Nov. Zool. i.
- Myrmecophantes*, n. g., type *Genussa albifascia*, Mssn.; WARREN, p. 426, Nov. Zool. i.
- Myrteta subvitrea*, Sikhim, HAMPSON, p. 152, Moths of India, iii; *M. fuscolineata*, Khasia Hills, SWINHÖE, p. 137, Ann. Nat. Hist. (6) xiv : n. spp.
- Naxa textilis*, *hugeli*, distinguished; SWINHÖE, p. 168, Tr. ent. Soc. London, 1894.
- N. guttulata*, Borneo, WARREN, p. 377, Nov. Zool. i, n. sp.
- Naxidia*, n. g., type *punctata*, Butl.; HAMPSON, p. 334, Moths of India, iii.
- Nearcha ursaria* and *buffalaria*, note on; WARREN, p. 366, Nov. Zool. i.
- N. didymochroa*, Queensland, LOWER, p. 80, Tr. R. Soc. S. Austral. xviii, n. sp.
- Nearthria*, n. g., type *Aspilates lacticina*, Butl.; WARREN, p. 437, Nov. Zool. i.
- Neorumia gigantea*, p. 822, pl. ii, fig. 104, *lutea*, *N. ? gracilis*, p. 823, Chili, CALVERT, An. Univ. Chile, lxxxiv, n. spp.
- Nepheloleuca semiplaga*, Corcovado, WARREN, p. 450, Nov. Zool. i, n. sp.
- Nephodia styracaria*, no locality, WARREN, p. 424, Nov. Zool. i, n. sp.
- Neuromelia*, n. g., type *Scoria selectata*, Gn., with *N. sericea*, *N. ? fumosa*, *obfuscata*, n. spp., S. America; WARREN, p. 427, Nov. Zool. i.
- Ninodes*, n. g., type *Ephyra splendens*, Butl.; WARREN, p. 407, Nov. Zool. i.
- Nipteria grisescens*, *vulgaris*, *munda*, Brazil, WARREN, p. 424, Nov. Zool. i, n. spp.
- Nothomiza*, n. g., type *Cimicodes costalis*, Moore; WARREN, p. 443, Nov. Zool. i.

- Ochrognesia*, n. g., type *Comibæna difficta*, Wlk.; WARREN, p. 391, Nov. Zool. i.
- Ochyria ferrugata*, synonymy; PROUT, p. 173, Canad. Ent. 1894.
- Omiza nundata*, Feld., description; WARREN, p. 448, Nov. Zool. i.
- Omizodes*, n. g., *Ennominae*, for *O. ocellata*, n. sp., S. Africa; WARREN, p. 448, Nov. Zool. i.
- Omophyseta*, n. g., type *triseriaria*, H.-S., with *O. albiplaga*, n. sp., Celebes; WARREN, p. 414, Nov. Zool. i: p. 681, *t. c.*, this is said to be a synonym of *Potera*, Moore.
- Omphacodes*, n. g., type *Nemoria directa*, Wlk.; WARREN, p. 396, Nov. Zool. i.
- Onychodes euchrysa*, Queensland, LOWER, p. 82, Tr. R. Soc. S. Austral. xviii, n. sp.
- Ophthalmophora* and *Opisthoxia*, use of discussed; WARREN, p. 404, Nov. Zool. i.
- O. bellaoides*, Loja, DOGNIN, p. 686, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Opisthotia*, n. g., type *Geometra tumidilinea*, Moore; WARREN, p. 386, Nov. Zool. i.
- Orbasia*, n. g., type *spurcaturia*, Wlk.; SWINHOB, p. 222, Tr. ent. Soc. London, 1894.
- Orygiodes*, Feld.: characters; WARREN, p. 437, Nov. Zool. i.
- Ornithospila*, n. g., type *Geometra avicularia*, Gn.; WARREN, p. 386, Nov. Zool. i.
- Orthochlydon*, n. g., type *Acidalia præfectata*, Wlk.; WARREN, p. 393, Nov. Zool. i.
- Ortholitha monosticta*, E. Africa, BUTLER, p. 592, pl. xxxvii, fig. 9, P. Zool. Soc. London, 1894, n. sp.
- Orychodes multicolora*, Australia, LUCAS, p. 81, P. Soc. Queensland, viii, n. sp.
- Osteosema*, n. g., type *Comibæna sanguilineata*, Moore; WARREN, p. 392, Nov. Zool. i.
- Oxymacaria*, n. g., type *Azata palliata*, Hmps. n.; WARREN, p. 438, Nov. Zool. i.
- Palæaspilates*, n. g., for *P. inoffensa*, n. sp., Cape Colony; WARREN, p. 370, Nov. Zool. i.
- Palæomystis*, n. g., type *Urapteryx fulcaturia*, Moore; WARREN, p. 379, Nov. Zool. i.
- Panagropsis*, n. g., type *Panagra æquitaria*, Wlk.; WARREN, p. 370, Nov. Zool. i.
- Panaethia atramentaria*, Engano, WARREN, p. 411, Nov. Zool. i, n. sp.
- Panthera conglomerata*, Bogotá, WARREN, p. 422, Nov. Zool. i, n. sp.
- Panulia*, n. g., *Enochrominae*, p. 372, for *P. achloraria*, n. sp., Celebes, p. 373; WARREN, Nov. Zool. i.
- Paradarisa*, n. g., type *Tephrosia comparataria*, Wlk.; WARREN, p. 433, Nov. Zool. i.
- Paralcis*, n. g., type *Menophra conspicuata*, Moore; WARREN, p. 435, Nov. Zool. i.

- Paramaxates*, n. g., type *Macaria vagata*, Wlk., of which n. varr. *celebensis* and *khasiana* are described; WARREN, p. 387, Nov. Zool. i.
- Paraptychodes*, n. g., type *Aletis tenuis*, Butl.; WARREN, p. 379, Nov. Zool. i.
- Parasynegia macularia*, Sikkim, *purpurascens*, Ichang, p. 410, *submissa*, Khasia Hills, p. 411, WARREN, Nov. Zool. i, n. spp.
- Pareclipsis*, n. g., type *Endropia gracilis*, Butl.; WARREN, p. 463, Nov. Zool. i.
- Pareilicrinia*, n. g., type *Noreia flava*, Moore; WARREN, p. 462, Nov. Zool. i.
- Parepione*, n. g., type *Epione grata*, Butl.; WARREN, p. 463, Nov. Zool. i.
- Pareuchloris*, n. g., type *vernaria*, L.; WARREN, p. 386, Nov. Zool. i.
- Pareumelea*, n. g., type *fimbriata*, Cram.; WARREN, p. 401, Nov. Zool. i.
- Patalene*: synonymy; WARREN, p. 459, Nov. Zool. i.
- Patruissa sternaria*, n. var. *ocellata*; WARREN, p. 448, Nov. Zool. i.
- Pellonia florera*, Loja, DOGNIN, p. 132, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Penthophlebia*, n. g., type *Genussa radiata*, Feld.; WARREN, p. 425, Nov. Zool. i.
- Peratophyga*, n. g., type *Acidalia arata*, Moore; WARREN, p. 407, Nov. Zool. i. *Peratophyga*, n. g., for *arata*, Moore; SWINHOE, Tr. ent. Soc. London, 1894, p. 204.
- Percnia tincta*, Sikkim, HAMPSON, p. 307, Moths of India, iii; *P. confusa*, India, WARREN, p. 415, Nov. Zool. i; *P. corynetta*, Khasia Hills, SWINHOE, p. 213, Tr. ent. Soc. London, 1894: n. spp.
- Petrodava albosignata*, hab. Bathurst; WARREN, p. 439, Nov. Zool. i.
- Phasiane irrorata*, early stages; DYAR, p. 63, Ent. News Philad. v.
- Phellinodes hedyllaria*, S. America, WARREN, p. 376, Nov. Zool. i, n. sp.
- Phibalapteryx hyperythra*, E. India, HAMPSON, p. 347, Moths of India, iii, n. sp.
- Photoscotosia stigmatica*, Darjeeling, WARREN, p. 680, Nov. Zool. i, n. sp.
- Phrudoplaga*, n. g., type *Acidalia argentifilata*, Feld.; WARREN, p. 394, Nov. Zool. i.
- Phrygionis* and *Eulepidotis*, nomenclatorial note; WARREN, p. 399, Nov. Zool. i.
- Phthonandria*, n. g., type *Hemerophila atrilineata*, Butl.; WARREN, p. 434, Nov. Zool. i.
- Phthonoloba*, n. g., type *Sauris decussata*, Moore, with *P. curvistriga*, n. sp., Gunong Ijau; WARREN, p. 397, Nov. Zool. i.
- Phthonosema*, n. g., type *Amphidasis tendinosaria*, Brem.; WARREN, p. 428, Nov. Zool. i.
- Phyllo-donta*, n. g., *Ennominae*, type *Azelina caminata*, Gn., with *P. furcata*, p. 452, *informis*, p. 453, n. spp., Brazil; WARREN, Nov. Zool. i.
- Physetobasis*, n. g., type *annulata*, Hmpsn., p. 385, with *P. dentifascia*, n. sp., Dharmasála, p. 386; HAMPSON, Moths of India, iii.
- Physo-teganía*, n. g., type *Stegania pustularia*, Gn.; WARREN, p. 406, Nov. Zool. i.

- Pingasa candidaria*, *cinerea*, p. 382, Australia, *javensis*, Java, *latifascia*, Batchian, *rubicunda*, Khasia Hills, *subdentata*, Celebes, p. 383, *venusta*, Sikkim, p. 384, WARREN, Nov. Zool. i, n. spp.
- Pityjeu pura*, hab. ?, WARREN, p. 401, Nov. Zool. i, n. sp.
- Placotome*, n. g., type *Polynesia truncapex*, Swinh. ; WARREN, p. 395, Nov. Zool. i.
- Plutodes costatus*, variation and synonymy ; SWINHOE, p. 196, Tr. ent. Soc. London, 1894.
- P. lamisca*, Khasia Hills, SWINHOE, p. 196, t. c., n. sp.
- Pacilasthena*, n. g., type *Acidalia pulchraria*, Dbld. ; WARREN, p. 394, Nov. Zool. i.
- Pogonopygia*, n. g., type *Abrazas khasiana*, Swinh. ; WARREN, p. 416, Nov. Zool. i ; but at p. 681 *P. nigralbata*, n. sp., E. Asia and Japan, is made the type of the genus, the supposed *A. khasiana* having been wrongly identified as such.
- Polla*, H.-S., composition ; WARREN, p. 456, Nov. Zool. i.
- Polyomma*, n. g. of doubtful position, for *P. phlevaria*, n. sp., Bolivia, pl. ii, fig. 9, STAUDINGER, p. 98, Deutsche ent. Zeitschr. Lep. vii.
- Pomasia reticulata*, Mergui, HAMPSON, p. 387, Moths of India, iii, n. sp.
- Prionia nullidentata*, Nias, WARREN, p. 449, Nov. Zool. i, n. sp.
- Prionotetraxis*, n. g., for *P. latistrigata*, sp. ined. ; WARREN, p. 461, Nov. Zool. i.
- Probitia*, n. g., type *Bithia exclusa*, Wlk. ; WARREN, p. 440, Nov. Zool. i.
- Probole amicaria*, larva ; DYAR, p. 62, Ent. News Philad. v.
- Pseudaleucis oyarzuni*, Chili, CALVERT, An. Univ. Chile, lxxxiv, p. 826, pl. ii, fig. 5, n. sp.
- Pseudasthena ochracea*, Khasia Hills, p. 395, *P. ? plumbacea*, New Guinea, p. 396, WARREN, Nov. Zool. i, n. spp.
- Pseuderythra*, n. g., for *phœnix* and *khasiana*, Swinh. ; SWINHOE, p. 204, Tr. ent. Soc. London, 1894.
- Pseudechlora*, n. g., for *kafēbera*, Swinh. ; HAMPSON, p. 333, Moths of India, iii.
- Pseudomicronia simpleifuscia*, Andaman Is., SWINHOE, p. 431, Ann. Nat. Hist. (6) xiv, n. sp.
- Psilaspilates*, n. g., type *Lozogramma butyroza*, Butl. ; WARREN, p. 438, Nov. Zool. i.
- Psilocambogia hyriaria*, St. George's, WARREN, p. 396, Nov. Zool. i, n. sp.
- Psilotagma*, n. g., *Pseudoterpnine*, for *P. decorata*, n. sp., Bhotan ; WARREN, p. 678, Nov. Zool. i.
- Psodos gnophosaria*, Thibet, OBERTHUR, p. 28, pl. iii, fig. 45, Etudes Ent. xviii, n. sp.
- Psyru chiachiaria*, Thibet, OBERTHUR, p. 27, pl. v, fig. 64, Etudes Ent. xviii, n. sp.
- Pycnoœura*, n. g., type *Achlora oxypteraria*, Gn. ; WARREN, p. 373, Nov. Zool. i.

- Pyrinia brunneata*, Amazons, p. 459, *fulvata*, S. America, *signifera*, Nov. Friborgo, p. 460, WARREN, Nov. Zool. i, n. spp.
- Racotis boarmiararia*, n. varr., *obliterata*, *plenifasciata*; WARREN, p. 432, Nov. Zool. i.
- R. sinuosa*, N. India, WARREN, p. 433, Nov. Zool. i, n. sp.
- Rambara efla*, Khasia Hills, SWINHÖE, p. 168, Tr. ent. Soc. London, 1894, n. sp.
- Remodes cinerosa*, Nilgiri Hills, WARREN, p. 397, Nov. Zool. i, n. sp. vel n. var.
- Rhodochlora*, n. g., type *Achlora roseipalpis*, Feld., with *R. brunneipalpis*, n. sp., Demarara; WARREN, p. 385, Nov. Zool. i.
- Rhodostrophia hamatozona*, Sikhim, HAMPSON, p. 457, Moths of India, iii.
- Rhomboptila*, n. g., *Ennomina*, type *brantsiata*, Snell., with *R. delicata*, p. 453, *siccifolia*, p. 454, n. spp., Brazil; WARREN, Nov. Zool. i.
- Rhopalodes esmeralda*, Chili, CALVERT, An. Univ. Chile, lxxxiv, p. 825, n. sp.
- Rhynchobapta*, n. g., type *cervinaria*, Moore; HAMPSON, p. 194, Moths of India, iii.
- Rhyparia idaria*, pl. v, fig. 73, *rongaria*, pl. ii, fig. 22, Thibet, OBERTHUR, Etudes Ent. xviii, p. 35, n. spp.
- Rumia irrorata*, E. India, HAMPSON, p. 184, Moths of India, iii, n. sp.
- Ruttelerona*, n. g., for *cessaria*, Wlk., and *figlina*, Swinh.; SWINHÖE, p. 220, Tr. ent. Soc. London, 1894.
- Sabulodes dositheata*, early stages, DYAR, p. 60, Ent. News Philad. v.
- S. mimula*, Bolivia, p. 54, *mima*, Peru, p. 55, THIERRY-MIEG, Ann. Soc. ent. France, 1894 : n. spp.
- Sarcinodes punctata*, Borneo, WARREN, p. 367, Nov. Zool. i, n. sp.
- Sauris normis*, p. 408, *postalba*, p. 409, *perfasciata*, *mirabilis*, p. 411, E. India, HAMPSON, Moths of India, iii, n. spp.
- Scordylia quadruplicaria*, n. var. *laticor*, p. 56, *latissima*, p. 57; THIERRY-MIEG, Ann. Soc. ent. France, 1894.
- S. cyclopata*, p. 94, *morvula*, p. 95, *merula*, *jacintina*, Bolivia, *merla*, Peru, p. 96, *S. (Heterusia) fidoniata*, p. 97, pl. ii, fig. 12, *cruciata*, p. 98, Bolivia, STAUDINGER, Deutsche ent. Zeitschr. Lep. vii, n. spp.
- Scotosia albosignata*, Bolivia, STAUDINGER, p. 88, Deutsche ent. Zeitschr. Lep. vii; *S. seseraria*, Thibet, OBERTHUR, p. 37, pl. v, fig. 71, Etudes Ent. xviii : n. spp.
- Seleniopsis*, n. g., type *Endropia evanescens*, Butl.; WARREN, p. 462, Nov. Zool. i.
- Selidosema juturnaria*, early stages; DYAR, p. 63, Ent. News Philad. v.
- Semiothisa granitata*, early stages; DYAR, p. 63, Ent. News Philad. v.
- Sicya obscurissima*, Peru, THIERRY-MIEG, p. xcii, Bull. Soc. ent. France, 1894, n. sp.
- Sicyodes*, n. g., type *Sicya cambojiaria*, Gn.; WARREN, p. 450, Nov. Zool. i.
- Simopteryx*, n. g., type *Cimicodes torquataria*, Wlk., with *S. ? cervina*, n. sp., Madagascar; WARREN, p. 457, Nov. Zool. i.

- Sinameda*, n. g., type *Hemerophila basistrigaria*, MOORE; WARREN, p. 432, Nov. Zool. i.
- Siona naseraria*, Thibet, OBERTHUR, pl. v, fig. 72, Etudes Ent. xviii; *S. alba*, Chili, CALVERT, p. 824, An. Univ. Chile, lxxxiv: n. spp.
- Somatina cana*, E. India, HAMPSON, p. 463, Moths of India, iii; *S. rosacea*, Khasia Hills, SWINHOE, p. 182, Tr. ent. Soc. London, 1894: n. spp.
- Spilopera hepaticata*, Khasia Hills, SWINHOE, p. 200, Tr. ent. Soc. London, 1894, n. sp.
- Stegania perulba*, Khasia Hills, SWINHOE, p. 195, pl. ii, fig. 5, Tr. ent. Soc. London, 1894, n. sp.
- Stenele obsoleta*, S. America, WARREN, p. 412, Nov. Zool. i, n. sp.
- Stenoleuca*, n. g., *Scardaminea*, for *S. distorta*, n. sp., hab. ?; WARREN, p. 403, Nov. Zool. i.
- Stenorumia*, n. g., next *Loxaspilates*, p. 182, type *ablunata*, Guen., with *S. duplicilinea*, n. sp., E. India, p. 182; HAMPSON, Moths of India, iii.
- Sterrha sacraria*, varr. *sanguinaria* and *oranaria*, note on; BETHUNE-BAKER, p. 45, Tr. ent. Soc. London, 1894.
- Sibaractis*, n. g., type *Genussa dioptis*, Feld.; WARREN, p. 425, Nov. Zool. i.
- Synchlora excurvaria*, early stages; DYAR, p. 62, Ent. News Philad. v.
- Synegia gopterana*, Khasia Hills, SWINHOE, p. 206, Tr. ent. Soc. London, 1894, n. sp.
- Syntaracta*, n. g., type *Anisodes palassa*, Butl., with *S. annula*, Ceylon, *obscura*, Nilgiri Hills, *ocellata*, Gunong Ijau, p. 408, *omissa*, Japan, *varians*, with var. *lineata*, Gunong Ijau, p. 409, n. spp.; WARREN, Nov. Zool. i.
- Syssaura*: synonymy; WARREN, p. 458, Nov. Zool. i.
- Syzeuxis*, n. g., type *trinotaria*, Moore; HAMPSON, p. 339, Moths of India, iii.
- Tanaoctenia*, n. g., type *Geometra haliaria*, Wlk.; WARREN, p. 464, Nov. Zool. i.
- Tanaorrhinus fulcatus*, Sikhim, HAMPSON, p. 494, Moths of India, iii, n. sp.
- Tastu sectinota*, Pegu, HAMPSON, p. 154, Moths of India, iii, n. sp.
- Tephrina atmala*, Khasia Hills, SWINHOE, p. 210, Tr. ent. Soc. London, 1894, n. sp.
- Tephrosia tamararia*, pl. v, fig. 78, *tindzinaria*, fig. 75, p. 26, *pongaria*, p. 27, pl. iv, fig. 53, Thibet, OBERTHUR, Etudes Ent. xviii, n. spp.
- Thalerura*, n. g., near *Euchloris*, for *goniaria*, Feld., and *urapteraria*, Wlk.; SWINHOE, p. 175, Tr. ent. Soc. London, 1894.
- T. veninotata*, Khasia Hills, WARREN, p. 678, Nov. Zool. i; *T. marginata*, *prasina*, Bhutan, WARREN, p. 392, t. c.: n. spp.
- Thinopteryx citrina*, N. India, WARREN, p. 401, Nov. Zool. i, n. sp.
- Tinandra correspondens*, E. India, HAMPSON, p. 459, Moths of India, iii, n. sp.
- Tosaura* ? *pallida*, Japan, WARREN, p. 380, Nov. Zool. i, n. sp.
- Toxopaltes*, n. g., type *Tomopteryx botulata*, Feld.; WARREN, p. 398, Nov. Zool. i.

- Trichoptleura undulosa*, figured, pl. iv, fig. 56; OBERTHUR, Etudes Ent. xviii.
- T. dejeani*, p. 40, pl. iv, fig. 51, *moniliferaria*, pl. v, fig. 76, p. 41, *penguionaria*, pl. v, fig. 70, p. 42, Thibet, OBERTHUR, Etudes Ent. xviii, n. spp.
- Trichopterigia*, n. g., type *decorata*, Moore; HAMPSON, p. 403, Moths of India, iii.
- Trigonoptila*, n. g., type *Krananda latimarginaria*, Leech; WARREN, p. 441, Nov. Zool. i.
- Triptila*, n. g., for *Tomopteryx virescens*, Phil.; WARREN, p. 398, Nov. Zool. i.
- Tristrophis obtusicauda*, Japan, WARREN, p. 399, Nov. Zool. i, n. sp.
- Trotopera*, n. g., type *Metrocampa maranharia*, Feld.; WARREN, p. 456, Nov. Zool. i.
- Tycoonina*, n. g., *Catopyrrhinæ*, for *T. obliqua*, n. sp., Japan; WARREN, p. 439, Nov. Zool. i.
- Urapteryx fulvinervis*, Padang, WARREN, p. 399, Nov. Zool. i; *U. kernaria*, Thibet, OBERTHUR, p. 23, pl. ii, fig. 20, Etudes Ent. xviii: n. spp.
- Urospila*, n. g., type *Geometra lineata*, Moore; WARREN, p. 387, Nov. Zool. i.
- Veniliodes*, n. g., type *Lomaspilis pantheraria*, Feld., with *V. inflammata*, n. sp., S. Africa; WARREN, p. 422, Nov. Zool. i.
- Venusia tchrvaria*, p. 29, pl. iii, fig. 32, *naparia*, fig. 36, *laria*, fig. 34, p. 30, *kioudjrouaria*, p. 46, p. 31, Thibet, OBERTHUR, Etudes Ent. xviii, n. spp.
- Xandrames curvistriga*, Khasia Hills, WARREN, p. 431, Nov. Zool. i, n. sp.
- Xanthabraxas*, n. g., type *Abraxas hemoniata*, Gn.; WARREN, p. 422, Nov. Zool. i.
- Xanthorhoe* (?) *platydesma*, Queensland, p. 79, *X. pelochroa*, Victoria, p. 80, LOWER, Tr. R. Soc. S. Austral. xviii, n. spp.
- Xanthotype*, n. g., near *Angerona*, type *crocataria*, Fab.; WARREN, p. 463, Nov. Zool. i.
- Xenagia*, n. g., type *Hyperythra vitticostata*, Wlk.; WARREN, p. 407, Nov. Zool. i.
- Xenographia semifusca*, E. India, HAMPSON, p. 190, Moths of India, iii, n. sp.
- Xenomusa tetramera*, Victoria, LOWER, p. 82, Tr. R. Soc. S. Austral. xviii, n. sp.
- Xenoplia*, n. g., type *Percnia foraria*, Gn., p. 415, with *X. sulfumida*, n. sp., Khasia Hills, p. 416, WARREN, Nov. Zool. i.
- Xenosuma rubra*, Queensland, LUCAS, p. 81, P. Soc. Queensland, viii, n. sp.
- Xyloscia*, n. g., type *Heimerophila subsersata*, Feld.; WARREN, p. 462, Nov. Zool. i.
- Zanclopera*, n. g., near *Krananda*, for *Z. falcata*, n. sp., Khasia Hills; WARREN, p. 441, Nov. Zool. i.
- Zeronepsis*, n. g., type *leopardina*, Feld.; WARREN, p. 422, Nov. Zool. i.
- Zola*, n. g., type *Ozola terranea*, Butl.; WARREN, p. 393, Nov. Zool. i.
- Zomia purpurascens*, Engauo, WARREN, p. 450, Nov. Zool. i, n. sp.

PYRALIDÆ.

[*Cf.* BETHUNE-BAKER (79, 80), FELT (300), FERNALD (302), FYLES (346), HEDEMANN (416), HOWARD (455), LOWER (651), LUCAS (654, 655), MEYRICK (706, 707), MOORE (731), OBERTHUR (767), POUJADE (854), RAGONOT (862), SCUDDER (993), SNELLEN (1033, 1034), SWINHOE (1058).]

For a great many corrections and observations on Staudinger & Wocke's Catalogue, see RAGONOT, pp. 163-177, *Ann. Soc. ent. France*, 1894.

Pyralidæ, *Crambidae*, and *Phycidæ* of Madeira; BETHUNE-BAKER, *Tr. ent. Soc. London*, 1894, pp. 581-586.

Pyralids of Danish W. Indies; HEDEMANN (416).

Pyralidina and *Pterophorina*, affinity denied; TUTT, p. 208, *Ent. News Philad.* v; HULST, *t. c.* p. 279.

Acharana subalbescens, Khasia Hills, SWINHOE, p. 147, *Ann. Nat. Hist.* (6) xiv, n. sp.

Addæa probolopis, p. 477, *syndesma*, p. 478, Borneo, MEYRICK, *Tr. ent. Soc. London*, 1894, n. spp.

Ædiodes ciliata, Khasia Hills, SWINHOE, p. 206, *Ann. Nat. Hist.* (6) xiv, n. sp.

Agriope, n. g. or subg., for *Aglossa brabanti*; RAGONOT, p. 163, *Ann. Soc. ent. France*, 1894.

Agrotera discinotata, Khasia Hills, SWINHOE, p. 207, *Ann. Nat. Hist.* (6) xiv, n. sp.

Ambia instrumentalis, Khasia Hills, SWINHOE, p. 209, *Ann. Nat. Hist.* (6) xiv, n. sp.

Analthes pyrrhocosma, Borneo, MEYRICK, p. 460, *Tr. ent. Soc. London*, 1894, n. sp.

Anerastia seeboldi, Cadiz, RAGONOT, p. 177, *Ann. Soc. ent. France*, 1894, n. sp.

Anisoctena, n. g., near *Margaronia*, p. 455, for *A. synomotis*, n. sp., Celebes, p. 456; MEYRICK, *Tr. ent. Soc. London*, 1894.

Anonæpestis, n. g., p. 106, near *Heterographis*, for *A. bengalella*, n. sp., Calcutta, p. 107, RAGONOT, *Indian Mus. Notes*, iii.

Antigastra longipalpis, Khasia Hills, SWINHOE, p. 208, *Ann. Nat. Hist.* (6) xiv, n. sp.

Anydraula xanthobathra, Borneo, MEYRICK, p. 474, *Tr. ent. Soc. London*, 1894, n. sp.

Argyria nivalis, life-history; FELT, p. 96, *Canad. Ent.* 1894.

Aripa glaucias, Borneo, MEYRICK, p. 459, *Tr. ent. Soc. London*, 1894, n. sp.

Autocharis amethystina, Khasia Hills, SWINHOE, p. 149, *Ann. Nat. Hist.* (6) xiv, n. sp.

Balanotis euryptera, Sambawa, MEYRICK, p. 476, *Tr. ent. Soc. London*, 1894; *B. ferruginea*, Brisbane, LUCAS, p. 156, *P. Linn. Soc. N. S. Wales*, viii : n. spp.

- Botyodes maculalis*, Khasia Hills, SWINHOE, p. 198, Ann. Nat. Hist. (6) xiv, n. sp.
- Botys*: application of the name; FERNALD, p. 314, Canad. Ent. 1895.
- B. maderensis*, *atlanticum*, Madeira, BETHUNE-BAKER, p. 584, Tr. ent. Soc. London, 1894; *B. ochreocapitalis*, p. 165, *B. (Phlyctania) caliginosalis*, p. 166, Amurland, RAGONOT, Ann. Soc. ent. France, 1894; *B. urticaloides*, Quebec, FYLES, p. 184, Canad. Ent. 1894 (FERNALD, p. 344, t. c., says that this is *Melrea ostreonalis*, Gr.); *B. pantoppidani*, p. 284, *flavaginalis*, p. 285, St. Croix, HEDEMANN, Ent. Zeit. Stettin, lv : n. spp.
- Calamochrous chilonalis*, note on; HEDEMANN, p. 288, Ent. Zeit. Stettin, lv.
- Cataclysta myctopis*, Borneo, MEYRICK, p. 475, Tr. ent. Soc. London, 1894; *C. mesorpha*, Upper Burma, MEYRICK, p. 10, t. c. : n. spp.
- Celerena lerna*, Boisid, (sub *Callimorpha*), figured, p. 36, pl. v, fig. 29; OBERTHUR, Etudes Ent. xix.
- Ceratarcha*, n. g., for *C. umbrosa* and *C. ? clathralis*, n. spp., Khasia Hills; SWINHOE, p. 200, Ann. Nat. Hist. (6) xiv.
- Chabulá vedonalis*, Khasia Hills, SWINHOE, p. 197, Ann. Nat. Hist. (6) xiv, n. sp.
- Charema subalbidalis*, p. 201, *fuscipennis*, *carbonalis*, p. 202, *annubilata*, *pernitescens*, p. 203, Khasia Hills, SWINHOE, Ann. Nat. Hist. (6) xiv, n. spp.
- Chilo dubia*, Alexandria, BETHUNE-BAKER, p. 48, pl. i, fig. 19, Tr. ent. Soc. London, 1894, n. sp.
- Circobotys acutangulatis*, Khasia Hills, SWINHOE, p. 143, Ann. Nat. Hist. (6) xiv, n. sp.
- Cnaphalocrocis similis*, St. Croix, HEDEMANN, p. 287, Ent. Zeit. Stettin, lv, n. sp.
- Crambi* of Ithaca, description, characters, natural history, male characters, origin of species; FELT, Bull. Cornell Exp. Stat. lxiv.
- Crambus topiarius*, habits, metamorphoses; SCUDDER, Insect Life, vii, pp. 1-5, cuts.
- C. alexandriensis*, p. 48, pl. i, fig. 19, *afra*, p. 49, fig. 20, Alexandria, BETHUNE-BAKER, Tr. ent. Soc. London, 1894, n. spp.
- Crasigenes*, n. g., allied to *Trichophysetis*, p. 476, for *C. microspila*, n. sp., Sambawa, p. 477; MEYRICK, Tr. ent. Soc. London, 1894.
- Crocidophora distinctalis*, *discolorata*, Khasia Hills, SWINHOE, p. 144, Ann. Nat. Hist. (6) xiv, n. spp.
- Crypsityja*, n. g.; near *Pyrausta*, for *nereidalis*, Ld.; MEYRICK, p. 463, Tr. ent. Soc. London, 1894.
- Cyclarcha*, n. g., near *Deuterarcha* (sic), p. 203, for *C. atristrigalis*, *flavinervis*, n. spp., Khasia Hills, p. 204; SWINHOE, Ann. Nat. Hist. (6) xiv.
- Cymoriza albicomma*, Shillong, SWINHOE, p. 210, Ann. Nat. Hist. (6) xiv, n. sp.

- Dasyscopa*, n. g., near *Scoparia*, for *D. homogena*, n. sp., Sambawa ; MEYRICK, p. 464, Tr. ent. Soc. London, 1894.
- Diasemia litterata*, early stages ; JOURDHEUILLE, pp. 25-29, Ann. Soc. ent. France, 1894.
- Diatraea saccharalis*, notes on the moth and larva ; HEDEMANN, p. 298, Ent. Zeit. Stettin, lv.
- Dichogama gudmanni*, St. Jan, HEDEMANN, p. 299, Ent. Zeit. Stettin, lv, n. sp.
- Diplolyla meekii*, Geraldton, LUCAS, p. 159, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Donacaula chlorosema*, Upper Burma, MEYRICK, p. 11, Tr. ent. Soc., London, 1894, n. sp.
- Ebulea intensalis*, Khasia Hills, SWINHOE, p. 43, Ann. Nat. Hist. (6) xiv, n. sp.
- Endographis*, n. g., *Pyraustidæ*, p. 464, for *E. acrochlora*, n. sp., Borneo, p. 465 ; MEYRICK, Tr. ent. Soc. London, 1894.
- Endotricha orthotis*, Sambawa, MEYRICK, p. 476, Tr. ent. Soc. London, 1894, n. sp.
- Ennychia manialis*, Thibet, OBERTHUR, p. 37, pl. vi, fig. 55, Etudes Ent. xix, n. sp.
- Ephestia elutella*, larva and life-history ; BIGNELL, Ent. Mag. 1894, p. 185.
- Epicrocis terebrans*, metamorphoses ; OLLIFF, Agric. Gaz. N.S.W. v, p. 513, pl.
- E. seminigra*, Brisbane, LUCAS, p. 93, P. Soc. Queensland, viii, n. sp.
- Epimetusia*, n. g., for *Metasiodes* (*cf. infra*) ; RAGONOT, p. 226, Ann. Soc. ent. France, 1894.
- Epischmia banksiella*, larva ; RICHARDSON, p. 66, P. Dorset Club, xv.
- E. castillella*, Spain, RAGONOT, p. 176, Ann. Soc. ent. France, 1894, n. sp.
- Eulepte concordalis* and *gastralis*, discussed ; HEDEMANN, p. 289, Ent. Zeit. Stettin, lv.
- Euzophera nellicella*, Algeria, RAGONOT, p. 177, Ann. Soc. ent. France, 1894, n. sp.
- Galleria mellonella*, in Australia, with plate of metamorphoses ; OLLIFF, Agric. Gaz. N.S.W. v, p. 253.
- Glyphodes terealis* referred to *Chabula* ; SWINHOE, p. 197, Ann. Nat. Hist. (6) xiv.
- G. crudis*, Khasia Hills, SWINHOE, p. 148, Ann. Nat. Hist. (6) xiv ; *G. jaculalis*, Java, SNELLEN, p. 177, Tijdschr. Ent. xxxvii ; *G. lineata*, Geraldton, LUCAS, p. 158, P. Linn. Soc. N. S. Wales, viii : n. spp.
- Goossenia cinnamomealis*, Salawatti, p. 74, pl. iii, figg. 5 & 6, *lutealis*, Obi, p. 75, figg. 7 & 8, SNELLEN, Tijdschr. Ent. xxxvii, n. spp.
- Herculia psamathopis*, Upper Burma, MEYRICK, p. 11, Tr. ent. Soc. London, 1894, n. sp.
- Heringia*, n. g., near *Pileocera*, p. 293, for *H. mendica*, n. sp., St. Thomas, p. 294 ; HEDEMANN, Ent. Zeit. Stettin, lv.

- Heterographis insularella*, description and figure ; JOANNIS, p. 437, pl. xv, fig. 2, Ann. Soc. ent. France, 1894.
- Homæosoma* ? *albocostalis*, Brisbane, LUCAS, p. 93, P. Soc. Queensland, viii, n. sp.
- Hyalobathra dialychna*, Upper Burma, MEYRICK, p. 7, Tr. ent. Soc. London, 1894, n. sp.
- Hydrocampa* (*Nymphula*) *distinctalis*, *sultschana*, Amurland, RAGONOT, p. 174, Ann. Soc. ent. France, 1894 ; *H. oxygona*, Sambawa, MEYRICK, p. 470, Tr. ent. Soc. London, 1894 : n. spp.
- Hypolia bilinea*, Alexandria, BETHUNE-BAKER, p. 46, pl. i, fig. 15, Tr. ent. Soc. London, 1894, n. sp.
- Ischnoscopa*, n. g., near *Scoparia*, for *I. chalcozona*, n. sp., Sambawa ; MEYRICK, p. 464, Tr. ent. Soc. London, 1894.
- Leucocraspeia nissoralis*, Khasia Hills, SWINHOE, p. 145, Ann. Nat. Hist. (6) xiv, n. sp.
- Lineodes* : suggested as possibly *Pterophorid* ; HEDEMANN, p. 292, Ent. Zeit. Stettin, lv.
- Loxocorys*, n. g., for *Scopula sericea*, Butl. ; MEYRICK, p. 6, Tr. ent. Soc. London, 1894.
- Loxostege sticticalis*, life-history ; HOWARD, Insect Life, vi, pp. 369-373.
- L. oberthuralis*, Arizona, *flavalis*, *linealis*, California, FERNALD, p. 255, Insect Life, vi, n. spp.
- Margaronia warrenalis*, Khasia Hills, SWINHOE, p. 148, Ann. Nat. Hist. (6) xiv ; *M. callizona*, Upper Burma, MEYRICK, p. 5, Tr. ent. Soc. London, 1894 ; *M. sphenocosma*, Borneo, p. 456, MEYRICK, t. c. : n. spp.
- Merotoma*, n. g., *Pyraustida*, for *dairalis*, Wlk. ; MEYRICK, p. 460, Tr. ent. Soc. London, 1894.
- Metasia inustalis*, p. 169, *virginalis*, Mesopotamia, *ibericalis*, p. 170, *cucucalis*, Spain, *corsicalis*, France and Corsica, p. 171, RAGONOT, Ann. Soc. ent. France, 1894 ; *M. zanclogramma*, Upper Burma, MEYRICK, p. 8, Tr. ent. Soc. London, 1894 ; *M. hilarodes*, Borneo ?, MEYRICK, p. 465, t. c. ; *M. argalis*, p. 256, *quadririgalis*, p. 257, California, FERNALD, Insect Life, vi : n. spp.
- Metasiodes*, n. g., near *Metasia*, for *M. heliaula*, n. sp., Upper Burma ; MEYRICK, p. 8, Tr. ent. Soc. London, 1894.
- Metasiodes*, n. g., for *M. achromatias*, p. 465, *tholeropta*, Sambawa, *calliophis*, Borneo, p. 466, n. spp. ; MEYRICK, Tr. ent. Soc. London, 1894.
- Metasiodes*, n. g., p. 172 [changed, p. 226, to *Epimetasia*], for *M. vestalis*, Mesopotamia, *rhodobaphialis*, Saniarcand, n. spp., p. 173 ; RAGONOT, Ann. Soc. ent. France, 1894.
- Meloportha*, n. g., for *dolopsalis*, Wlk. ; MEYRICK, p. 463, Tr. ent. Soc. London, 1894.
- Micromania*, n. g., *Pyralina*, for *M. stigmatalis*, n. sp., Khasia Hills ; SWINHOE, p. 141, Ann. Nat. Hist. (6) xiv.
- Mimasartha*, n. g., near *Metaxneste*, for *niveifascialis*, Rag. ; RAGONOT, p. 164, Ann. Soc. ent. France, 1894.

- Muesixena quadripunctata*, p. 45, pl. i, fig. 13, *bella*, fig. 14, p. 46, Alexandria, BETHUNE-BAKER, Tr. ent. Soc. London, 1894, n. spp.
- Nagia flavispila*, p. 204, *incomitata*, p. 205, Khasia Hills, SWINHOE, Ann. Nat. Hist. (6) xiv.
- Nausinoc conchylia*, Borneo, MEYRICK, p. 468, Tr. ent. Soc. London, 1894 ;
N. marmorata, Brisbane, LUCAS, p. 92, P. Soc. Queensland, viii :
n. spp.
- Nosophora scotaula*, Borneo, MEYRICK, p. 459, Tr. ent. Soc. London, 1894,
n. sp.
- Notarcha compsogramma*, p. 461, Sambawa, *pyranthes*, *homomorpha*,
iophanes, Borneo, p. 462, MEYRICK, Tr. ent. Soc. London, 1894,
n. spp.
- Nymphula nigriplaga*, Khasia Hills, SWINHOE, p. 209, Ann. Nat. Hist. (6)
xiv ; *N. fusco-marginata*, Alexandria, BETHUNE-BAKER, p. 48, pl. i,
fig. 17, Tr. ent. Soc. London, 1894 : n. spp.
- Oligernis*, n. g., near *Nymphula*, for *O. endophthalma*, p. 470, *leucochrysa*,
p. 471, n. spp., Borneo ; MEYRICK, Tr. ent. Soc. London, 1894.
- Oligostigma ceratucha*, p. 471, *endosaris*, Borneo, *orthoteles*, Sambawa,
idiotis, Celebes, p. 472, *melanodes*, Borneo, *argyropis*, Celebes, p. 473,
basilissa, Sambawa, p. 474, MEYRICK, Tr. ent. Soc. London, 1894,
n. spp.
- Omiodes hiracia*, Borneo, *eyrthrias*, Celebes, MEYRICK, p. 457, Tr. ent.
Soc. London, 1894, n. spp.
- Omphalomia*, n. g., near *Omphalocera*, for *O. accersita*, n. sp., Khasia
Hills ; SWINHOE, p. 140, Ann. Nat. Hist. (6) xiv.
- Opsibotys bencolata*, Khasia Hills, SWINHOE, p. 142, Ann. Nat. Hist. (6)
xiv, n. sp.
- Orobena frumentalis*, n. var. *asiaticalis* ; RAGONOT, p. 168, Ann. Soc. ent.
France, 1894.
- O. plumbofascialis*, Malaga, RAGONOT, p. 168, Ann. Soc. ent. France,
1894, n. sp.
- Orphanostigma fulcistriga*, Khasia Hills, SWINHOE, p. 206, Ann. Nat.
Hist. (6) xiv, n. sp.
- Pagyda discolor*, Khasia Hills, SWINHOE, p. 197, Ann. Nat. Hist. (6) xiv,
n. sp.
- P'aliga fuscicostalis*, Khasia Hills, SWINHOE, p. 146, Ann. Nat. Hist. (6)
xiv, n. sp.
- Paraponyx pulica*, Geraldton, LUCAS, p. 157, P. Linn. Soc. N. S. Wales,
viii, n. sp.
- Perisyntrocha*, n. g., near *Nausinoc*, for *alienalis*, Wlk. ; MEYRICK, p. 469,
Tr. ent. Soc. London, 1894.
- Piloptila*, n. g., near *Opsibotys*, for *P. nigricornalis*, n. sp., Khasia Hills ;
SWINHOE, p. 142, Ann. Nat. Hist. (6) xiv.
- Platamonia ptochura*, Borneo, MEYRICK, p. 468, Tr. ent. Soc. London,
1894, n. sp.
- Pleone tesa planialis*, Khasia Hills, SWINHOE, p. 208, Ann. Nat. Hist. (6)
xiv, n. sp.

- Prasinoxena*, n. g., *Galleriadae*, p. 479, for *P. monospila*, Borneo, *hemisema*, Sambawa, p. 480, n. spp.; MEYRICK, Tr. ent. Soc. London, 1894.
- Prionopallis subdentalis*, Khasia Hills, SWINHOE, p. 147, Ann. Nat. Hist. (6) xiv, n. sp.
- Prorodes*, n. g., near *Coptobasis*, for *P. mimica*, n. sp., Khasia Hills; SWINHOE, p. 205, Ann. Nat. Hist. (6) xiv.
- Prosaris*, n. g., *Pyralidida*, for ? *pernigralis*, Rag., which is redescribed; MEYRICK, p. 12, Tr. ent. Soc. London, 1894.
- Protonoceras humilis, nictitans*, Khasia Hills, SWINHOE, p. 146, Ann. Nat. Hist. (6) xiv, n. spp.
- Pyralis plumbealis*, referred to *Ommatochila*; BUTLER, p. 315, Entomologist, 1894.
- Rapona*, n. g., near *Ceratoclasia*, p. 292, for *R. tristis*, n. sp., St. Thomas, p. 293; HEDEMANN, Ent. Zeit. Stettin, lv.
- Ravanoa strigulosa*, Shillong, SWINHOE, p. 201, Ann. Nat. Hist. (6) xiv, n. sp.
- Rehimena divisa*, Geraldton, LUCAS, p. 160, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Sagariphora*, n. g., near *Agrotera*, p. 460, for *S. heliochlena*, n. sp., Sambawa, p. 461; MEYRICK, Tr. ent. Soc. London, 1894.
- Saroscelis*, n. g., near *Notarcha*, for *nicoalis*, Wlk.; MEYRICK, p. 461, Tr. ent. Soc. London, 1894.
- Schaenobius celidias*, Borneo, MEYRICK, p. 475, Tr. ent. Soc. London, 1894, n. sp.
- Scirpophaga mnesidora*, Sambawa, MEYRICK, p. 475, Tr. ent. Soc. London, 1894, n. sp.
- Scoparia wollastoni*, Madeira, BETHUNE-BAKER, p. 583, Tr. ent. Soc. London, 1894, n. sp.
- Siculodes? lucidulina*, Mou-Pin, POUJADE, p. clxxxvi, Bull. Soc. ent. France, 1894; *S. ancyllosema, chalcosidera*, p. 478, *platyntis, moehlias*, p. 479, Borneo, MEYRICK, Tr. ent. Soc. London, 1894 : n. spp.
- Spilodes pallidulalis*, Khasia Hills, SWINHOE, p. 141, Ann. Nat. Hist. (6) xiv, n. sp.
- Striglina hyalospila*, Queensland, LOWER, p. 87, Tr. R. Soc. S. Austral. xviii, n. sp.
- Stericta aruginosa*, Brisbane, LUCAS, p. 155, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Sylepta nigriflava, venustalis*, Khasia Hills, SWINHOE, p. 199, Ann. Nat. Hist. (6) xiv, n. spp.
- Symmoracina*, n. g., near *Nausinoc*, for *S. spodinopa*, n. sp., Sambawa; MEYRICK, p. 469, Tr. ent. Soc. London, 1894.
- Synclera minima*, St. Thomas, HEDEMANN, p. 295, Ent. Zeit. Stettin, lv, n. sp.
- Syntomodora*, n. g., near *Tabidia*, for *thoasalis*, Wlk.; MEYRICK, p. 467, Tr. ent. Soc. London, 1894.
- Syntonarcha vulnerata*, Brisbane, LUCAS, p. 157, P. Linn. Soc. N. S. Wales, viii, n. sp.

- Tabidia craterodes*, Borneo, MEYRICK, p. 467, Tr. ent. Soc. London, 1894, n. sp.
- Talis afro*, Alexandria, BETHUNE-BAKER, p. 47, pl. i, fig. 16, Tr. ent. Soc. London, 1894, n. sp.
- Titanio proximalis*, California, FERNALD, p. 256, Insect Life, vi, n. sp.
- Trichoptychodes*, n. g. (placed next *Ædiodes*), for *T. delicata*, n. sp., Khasia Hills; SWINHOE, Ann. Nat. Hist. (6) xiv.
- Tylostega*, n. g., near *Aripuna*, p. 457, for *T. chrysanthes*, *mesodora*, *photias*, *schematicus*, n. spp., Borneo, p. 458; MEYRICK, Tr. ent. Soc. London, 1894.

TORTRICIDÆ.

- [Cf. FERNALD (301), LOWER (651), MURTFELDT (739), NICKERL (754), RAGONOT (862), REBEL & ROGENHOFFER (868), WALSHINGHAM (1121).] Additions to and notes on the *Microlepidoptera* of the Canary Is.; REBEL & ROGENHOFFER (868).
- Notes on *Microlepidoptera* of the I. of St. Thomas; HERING (425).
- RAGONOT makes a large number of additions to, and corrections of details of, Staudinger & Wocke's Catalogue, Ann. Soc. ent. France, 1894, pp. 178-226. We give below only the new genera and species contained in this paper.
- Tortricide* of Denmark; HEDEMANN, Ent. Meddel. iv, pp. 258-262.
- Tortricide* of Madeira; WALSHINGHAM, pp. 539-541, Tr. ent. Soc. London, 1894.
- Bactra furfurana*, larva and habits; THURNALL, Ent. Mag. 1894, p. 183, and correction, p. 211.
- Carpocapsa saltitans*, notes and figures; Nature (La), 1894 (1), pp. 282-286: food-plant, &c.; RAMIREZ (864, 865).
- Carposinu atlanticella*, Canaries and Madeira, REBEL, p. 92, Ann. Hofmus. Wien, ix, n. sp.
- Conchylis aureopunctana*, Syria, *amasiana*, Asia Minor, p. 189, *cremonana*, Syria, p. 194, *palpana*, Asia Minor, p. 195, *mongolicana*, Touran, *meridionalana*, *tamerlana*, Turkestan, p. 196, RAGONOT, Ann. Soc. ent. France, 1894, n. spp.
- Dichelia constanti*, Canary Is., REBEL, p. 85, Ann. Hofmus. Wien, ix; *D. cosmopsis*, Victoria, LOWER, p. 87, Tr. R. Soc. S. Austral. xviii: n. spp.
- Epibactra*, n. g., for *Bactra sareptana*; RAGONOT, p. 208, Ann. Soc. ent. France, 1894.
- Grapholitha terstrigana*, Mediterranean, RAGONOT, p. 217, Ann. Soc. ent. France, 1894, n. sp.
- Heterognomon coriacanus*, Canary Is., REBEL, p. 84, Ann. Hofmus. Wien, ix, n. sp.
- Melissopus* (*Carpocapsa*) *latiferrreana*, habits, larva described; MURTFELDT, p. 321, Insect Life, vi.
- Pandemis persimilana*, *bracatana*, Canary Is., REBEL, p. 82, Ann. Hofmus. Wien, ix, n. spp.

- Penthina vicinana*, Amurland, RAGONOT, p. 200, Ann. Soc. ent. France, 1894, n. sp.
- Polychrosis*, n. g., for *Eudemis*, Wocke, nec Hb.; RAGONOT, Ann. Soc. ent. France, 1894.
- Retinia resinana*, its cells; KNAGGS, p. 316, Entomologist, 1894.
- Sericoris mengeluna*, N. Greenland, FERNALD, p. 131, Ent. News Philad. v, n. sp.
- Steganoptycha rufimitrana*, injurious to conifers in Switzerland; FANKHÄUSER, pp. 129-134, Forstl. Zeitschr. Munchen, ii.
- Tortrix paleana*, life-history, ravages in Finland; REUTER (900). *T. murinana*, injurious in Switzerland; FANKHÄUSER, p. 129, t. c. *T. pronibana*, notes on; BONJOUR, p. 189, Bull. Soc. Ouest France, 1894.
- T. sarthana*, France, p. 180, *siciliana*, Sicily, p. 182, pl. i, fig. 2, RAGONOT, Ann. Soc. ent. France, 1894, n. spp.

TINEIDÆ.

- [Cf. BANKES (46), CALVERT (151), HERING (425), HOFMANN (431), LOWER (651), LUCAS (655), MEYRICK (706), RAGONOT (861, 862), REBEL & ROGENHOFER (868), SCHØYEN (980), STAUDINGER (1042), TURNER (1092), WALSINGHAM (1121, 1122), WOOD (1164, 1165).]
- Tineide* of Denmark; HEDEMANN, pp. 262-275, Ent. Meddel. iv: of Madeira; WALSINGHAM, pp. 541-556, Tr. ent. Soc. London, 1894.
- Adela cuprella*, habits; CHRÉTIEN, p. cxxviii, Bull. Soc. ent. France, 1894.
- A. satrapodes*, Upper Burma, MEYRICK, p. 26, Tr. ent. Soc. London, 1894, n. sp.
- Agriophara cremnopsis*, Queensland, LOWER, p. 93, Tr. R. Soc. S. Austral. xviii, n. sp.
- Anacampsis wollastoni*, Madeira, WALSINGHAM, p. 545, Tr. ent. Soc. London, 1894; *A. scutata*, Upper Burma, MEYRICK, p. 14, t. c.: n. spp.
- Antialpha*, n. g., *Gracilariidae* (near *Gracilaria*), for *A. hemiconis*, n. sp., Upper Burma; MEYRICK, p. 25, Tr. ent. Soc. London, 1894.
- Arctoscelis*, n. g., *Blastobasida*, p. 22, for *A. epinyctia*, n. sp., Upper Burma, p. 23; MEYRICK, Tr. ent. Soc. London, 1894.
- Blabophanes monachella*, Hb., = (*longella*, Wlk.); MEYRICK, p. 27, Tr. ent. Soc. London, 1894. *B. lombardica*, = (*heringi*, Rich.), and *truncicollata*, notes on; SNELLEN, pp. 14-19, Tijdschr. Ent. xxxvii. *B. ferruginella*, habits of larva, HERING, p. 89, Ent. Zeit. Stettin, lv.
- B. ? heterogama*, Queensland, LOWER, p. 110, Tr. R. Soc. S. Austral. xviii, n. sp.

- Blastobasis* (sub *Cecophora*) *fuscomaculella*, Rag., = (*seeboldiella*, Kreithn.), *B.* (sub *Pterolonche*) *desertarum*, Woll., = (*maderensis*, Stn.), p. 549, *B. desertarum*, n. var. *radiata*, p. 550; WALSINGHAM, Tr. ent. Soc. London, 1894. *B. glandulella*, habits and larva; MURTFELDT, p. 323, Insect Life, vi.
- B. lavernella*, p. 547, *lignea*, p. 550, with var. *adustella*, p. 551, Madeira, WALSINGHAM, Tr. ent. Soc. London, 1894, n. spp.
- Batalis grandipennis*, note on; BANKES, p. 112, Ent. Mag. 1894.
- Caesya euchrysa*, p. 99, *heliophanes*, *opsiphanes*, *heterozona*, p. 100, Queensland, *ochrochroa*, Victoria, p. 101, LOWER, Tr. R. Soc. S. Austral. xviii, n. spp.
- Callizyga*, n. g., *Cecophoride*?, for *C. dispar*, n. sp., Brisbane; TURNER, p. 132, Tr. R. Soc. S. Austral. xviii.
- Cataplectica*, n. g., for part of *Heydenia*, Hfm., p. 199, figg., with *C. furreni*, n. sp., England, p. 200; WALSINGHAM, Ent. Mag. 1894.
- Catoryctis nonolinea*, *mediolinea*, Queensland, LUCAS, p. 165, P. Linn. Soc. N. S. Wales, viii, n. spp.
- Cerostoma*: note on; SNELLEN, p. 22, Tijdschr. Ent. xxxvii.
- Cladodes arotroa*, Upper Burma, MEYRICK, p. 15, Tr. ent. Soc. London, 1894, n. sp.
- Cleodora meliphanes*, S. Australia, LOWER, p. 107, Tr. R. Soc. S. Austral. xviii, n. sp.
- Coleophora*: genital appendages of ♂ and ♀; HOFMANN, Verh. Ges. deutsch. Naturf. lxx, p. 140.
- Comocritis*, n. g., *Hyponomeutide* (allied to *Octu*), for *C. olympia*, n. sp., Upper Burma; MEYRICK, p. 24, Tr. ent. Soc. London, 1894.
- Coriscium norvegiellum*, Norway, SCHUYEN, p. 52, No. 13, Forh. Selsk. Christian. 1893, n. sp.
- Cryptophaga lurida*, n. var. *asemanta*, *C. epigramma*, Meyr., referred to *Xylorycta*; LOWER, p. 91, Tr. R. Soc. S. Austral. xviii.
- C. nubila*, p. 161, *intermedia*, p. 162, *flavicosta*, p. 163, Queensland, LUCAS, P. Linn. Soc. N. S. Wales, viii; *C. stenoleuca*, p. 89, *cephalochrysa*, *platypedimela*, p. 90, Queensland, *monoleuca*, N. S. Wales, p. 91, LOWER, Tr. R. Soc. S. Austral. xviii: n. spp.
- Enomia pyrochrysa*, *callianthes*, Queensland, LOWER, p. 111, Tr. R. Soc. S. Austral. xviii, n. spp.
- Epermenia*, Hb., to be used in place of *Chauliodus*, Tr.; MEYRICK, Ent. Mag. 1894, p. 230.
- Eochrois polydesma*, Australia, LOWER, p. 94, Tr. R. Soc. S. Austral. xviii, n. sp.
- Eomystis acribes*, Brisbane, TURNER, p. 135, Tr. R. Soc. S. Austral. xviii, n. sp.
- Epistetus*, n. g., *Blastobasine*, p. 552, with *E. divisus*, p. 552, and *E. ? pica*, p. 553, n. spp., Madeira; WALSINGHAM, Tr. ent. Soc. London, 1894.
- Erioccephala* to be a separate family; *E. calthella*, larva and habits described; CHAPMAN, pp. 335-344, pl. vi. *E. calthella*, larval dermal appendages; CHAPMAN, Ent. Rec. v, pl. E, fig. 3.

- Eulechria cephalochrysa*, Queensland, LOWER, p. 95, Tr. R. Soc. S. Austral. xviii, n. sp.
- Euphiltra thermozona, angustior*, Brisbane, TURNER, p. 137, Tr. R. Soc. S. Austral. xviii, n. spp.
- Eupselia holoxantha*, S. Australia, LOWER, p. 105, Tr. R. Soc. S. Austral. xviii, n. sp.
- Eurypelta*, n. g., p. 135, *Æcophoridae*, for *E. epiprepes*, n. sp., Brisbane, p. 136, TURNER, Tr. R. Soc. S. Austral. xviii.
- Gelechia brunnea*, Norway, SCHØYEN, p. 51, No. 13, Forh. Selsk. Christian. 1893; *G. strophiopea*, Victoria, *anthracephala*, p. 105, *microspiloplaça*, N. S. Wales, *epimela*, Queensland, p. 106, *nana*, *hamaspila*, *mesochra*, S. Australia, p. 107, LOWER, Tr. R. Soc. S. Austral. xviii : n. spp.
- Gracilaria syringella*, habits of larva; CHARBONNIER, P. Bristol Soc. (n.s.), vii, p. 132. *G. kollariella, ononidis*, synonymy; BANKES, p. 112, Ent. Mag. 1894. *G. ida*, n. var. *rosea*; TURNER, p. 126, Tr. R. Soc. S. Austral. xviii.
- G. chalcantes*, Upper Burma, MEYRICK, p. 25, Tr. ent. Soc. London, 1894; *G. polyplaca, heteropsis*, Queensland, LOWER, p. 112, Tr. R. Soc. S. Austral. xviii; *G. albospersa, chlorella*, p. 121, *eurycnema, euglypta*, p. 122, *xylophanes, octopunctata, trapezoides*, p. 123, *irrorata*, p. 124, *albomaculella, obscurella*, p. 125, *enclamyda*, p. 126, *aurora, fluorescens*, p. 127, *nitidula, microta*, p. 128, *pyrochroma, albistriatella*, p. 129, *parallela, tristania*, p. 130, *unilincata, plebeia*, Brisbane, p. 131, TURNER, Tr. R. Soc. S. Austral. xviii : n. spp.
- Guestia peladelpa*, S. Australia, LOWER, p. 101, Tr. R. Soc. S. Austral. xviii, n. sp.
- Hemibela*, n. g., *Æcophoridae*, for *H. trispora*, n. sp., Brisbane; TURNER, p. 136, Tr. R. Soc. S. Austral. xviii.
- Hierangela*, n. g., *Gelechiadæ*, p. 14, for *H. erythrogramma*, n. sp., Upper Burma, p. 15; MEYRICK, Tr. ent. Soc. London, 1894.
- Holcogon sophroniellus*, Canary Is., REBEL, p. 89, Ann. Hofmus. Wien, ix, n. sp.
- Homosaces*, n. g., *Depressariidæ*, near *Phcosaces*, p. 20, for *H. anthocoma*, n. sp., Upper Burma, p. 21; MEYRICK, Tr. ent. Soc. London, 1894.
- Hoplitica eugramma*, Queensland, LOWER, p. 93, Tr. R. Soc. S. Austral. xviii, n. sp.
- Hyponomeuta bakeri*, Madeira, WALSINGHAM, p. 542, Tr. ent. Soc. London, 1894, n. sp.
- Laverna decolorella* referred to *Blastobasis*; characters and variation; WALSINGHAM, p. 548, Tr. ent. Soc. London, 1894.
- Laverna rebeli*, Madeira, WALSINGHAM, p. 554, Tr. ent. Soc. London, 1894, n. sp.
- Leithocera pachyntis*, Upper Burma, MEYRICK, p. 17, Tr. ent. Soc. London, 1894, n. sp.

- Lepididarsa chryscrythra* (sic), p. 134, *leucella*, p. 135, Brisbane, TURNER, Tr. R. Soc. S. Austral. xviii, n. spp.
- Lita suadella* and allies, habits of larvæ; RICHARDSON, pp. 65 & 66, P. Dorset Club, xv. *L. instabilella* and allies, synonymy, variation, larvæ, &c.; BANKES (46).
- Lithocolletis faginella*, var. = (*triguttella*); BANKES, p. 30, Ent. Mag. 1894.
- Macrobathra micropis*, Queensland, *heterocera*, p. 102, *dasyplaca*, *asemanta*, p. 103, Tasmania, *gonoloma*, *diplochrysa*, Queensland, p. 104, LOWER, Tr. R. Soc. S. Austral. xviii, n. spp.
- Maroga undosa*, Brisbane, LUCAS, p. 164, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Melasina*, Bdv., = (*Alavona*, Walk.); MEYRICK, Tr. ent. Soc. London, 1894, p. 26.
- M. ochrocoma*, Upper Burma, MEYRICK, p. 26, Tr. ent. Soc. London, 1894, n. sp.
- Micropteryx purpurella*, pupa-skin, figure; Ent. Rec. v, pl. E.
- Nemophora metaxella*, habits; CHRÉTIEN, p. cxxix, Bull. Soc. ent. France, 1894.
- Nepticula*: earlier stages described, anatomy, habits of larvæ, &c.; WOOD (1164).
- N. confusella*, England, WALSHINGHAM, p. 272, Ent. Mag. 1894, n. sp.
- Œcozeis guyonella*, note on; is Reaumur's gallicolous Lep.; RAGONOT, p. ccxli, Bull. Soc. ent. France, 1894.
- Œcophora pentochra*, W. Australia, LOWER, p. 102, Tr. R. Soc. S. Austral. xviii, n. sp.
- Ocystola oxyptera*, Victoria, LOWER, p. 101, Tr. R. Soc. S. Austral. xviii, n. sp.
- Onebala*, Walk. (*Gelechiidae*), amended characters; MEYRICK, p. 15, Tr. ent. Soc. London, 1894.
- Palparia subrosea*, Brisbane, TURNER, p. 134, Tr. R. Soc. S. Austral. xviii; *P. callimorpha*, Queensland, LOWER, p. 93, t. c.: n. spp.
- Paltodora*, n. n. for *Cleodora*, Curt.; MEYRICK, p. 230, Ent. Mag. 1894.
- Pedois neurosticha*, Victoria, LOWER, p. 112, Tr. R. Soc. S. Austral. xviii, n. sp.
- Peltophora psammochroa*, p. 97, *panxantha*, Queensland, *holocyclus*, *eugramma*, Victoria, p. 98, LOWER, Tr. R. Soc. S. Austral. xviii, n. spp.
- Periacma*, n. g., *Depressariidae*, for *P. ferialis*, p. 21, *orthiodes*, *chlorodesma*, p. 22, Upper Burma, n. spp.; MEYRICK, Tr. ent. Soc. London, 1894.
- Pheosaces torrida*, Upper Burma, MEYRICK, p. 20, Tr. ent. Soc. London, 1894, n. sp.
- Philobota isoceliphora*, Queensland, LOWER, p. 97, Tr. R. Soc. S. Austral. xviii, n. sp.
- Piloprepes lophoptera*, Queensland, LOWER, p. 96, Tr. R. Soc. S. Austral. xviii, n. sp.

- Pilostibes tecta*, Queensland, LUCAS, p. 161, P. Linn. Soc. N. S. Wales, viii, n. sp.
- Plucoptila*, n. g., *Elachistide*, near *Cosmopteryx*, for *P. electrica*, n. sp., Upper Burma; MEYRICK, p. 23, Tr. ent. Soc. London, 1894.
- Pleurota stenodesma*, S. Australia, LOWER, p. 99, Tr. R. Soc. S. Austral. xviii, n. sp.
- Pogonius* ? *heliodora*, Queensland, *trissodesma*, p. 108, *P. heliotricha*, *capnopa*, Victoria, *porphyrescens*, S. Australia, p. 109, LOWER, Tr. R. Soc. S. Austral. xviii, n. spp.
- Ptochoryctis*, n. g., *Xyloryctide*, near *Cryptophasa*, for *P. eremopa*, n. sp., Upper Burma; MEYRICK, p. 19, Tr. ent. Soc. London, 1894.
- Saridoscelis*, n. g., *Tineidæ*, near *Calantica*, for *S. sphenias*, n. sp., Upper Burma; MEYRICK, p. 28, Tr. ent. Soc. London, 1894.
- Scardia mediterranea*, Alexandria, BETHUNE-BAKER, p. 50, pl. i, fig. 21, Tr. ent. Soc. London, 1894; *S. tholerodes*; Upper Burma, MEYRICK, p. 27, t. c. : n. spp.
- Simæthis nemorana*, habits of larva; DECAUX, C.R. Ac. Sci. cxix, p. 695.
- Scorpiopsis*, n. g., p. 132, *Geophorida* ?, for *S. superba*, n. sp., Brisbane, p. 133; TURNER, Tr. R. Soc. S. Austral. xviii.
- Sphirelata dichroa*, Queensland, LOWER, p. 95, Tr. R. Soc. S. Austral. xviii, n. sp.
- Stenolechia*, n. n. for *Pocilia*, Hein.; MEYRICK, p. 230, Ent. Mag. 1894.
- Telecrates heliomacula*, Queensland, LOWER, p. 92, Tr. R. Soc. S. Austral. xviii, n. sp.
- Thisizima*, Walk., *Tineidæ*, recharacterised; MEYRICK, p. 26, Tr. ent. Soc. London, 1894.
- T. antiphænes*, Upper Burma, MEYRICK, p. 27, Tr. ent. Soc. London, 1894, n. sp.
- Tinagma perdicellum*, habits; CHRÉTIEN, p. cxxx, Bull. Soc. ent. France, 1894.
- Tinea semifulvella*, habits; HERING, p. 88, Ent. Zeit. Stettin, iv.
- T. platyntis*, *Uomorpha*, Upper Burma, MEYRICK, p. 28, Tr. ent. Soc. London, 1894, n. spp.
- Tineola* ? *culminicola*, Bolivia, STAUDINGER, p. 99, pl. ii, fig. 15, Deutsche ent. Zeitschr. Lop. vii, n. sp.
- Tipha*, Walk., *Gelechiidæ*, redescribed; MEYRICK, p. 18, Tr. ent. Soc. London, 1894.
- T. helioclina*, Upper Burma, MEYRICK, p. 19, Tr. ent. Soc. London, n. sp.
- Torodora*, n. g., *Gelechiidæ*, near *Lecithocera*, for *T. characteris*, p. 16, *parallactis*, *ancylota*, p. 17, n. spp., Upper Burma; MEYRICK, Tr. ent. Soc. London, 1894.
- Trachypepla callidesma*, Tasmania, LOWER, p. 96, Tr. R. Soc. S. Austral. xviii, n. sp.
- Trichernis*, n. g., *Xyloryctide*, for *T. centrias*, n. sp., Upper Burma; MEYRICK, p. 20, Tr. ent. Soc. London, 1894.
- Trichophaga*, n. g., *Tineidæ*, p. 123, for *T. coprobiella*, n. sp., Obock, p. 121, including also *Tinea tapetzella* and *bipartitella*; RAGONOT, Ann. Soc. ent. France, 1894. *T.* (sub *Tinea*) *abruptella*, Woll., = (*bipartitella*, Rag.); WALSHINGHAM, p. 541, Tr. ent. Soc. London, 1894.

- Tritymba xanthocoma, dasybathra*, S. Australia, LOWER, p. 110, Tr. R. Soc. S. Austral. xviii, n. spp.
- Uzucha hypoxantha*, Queensland, LOWER, p. 88, Tr. R. Soc. S. Austral. xviii, n. sp.
- Wockia asperipunctella*, Bruand (sub *Patula*), = (*funebrella*, Hein.); RAGONOT, p. ccvi, Bull. Soc. ent. France, 1894: larva and pupa described; BROWN, t. c. p. ccvi.
- Xylorycta porphyrinella*, = (*Lithosia bisecta*, Lucas); LOWER, p. 91, Tr. R. Soc. S. Austral. xviii.
- X. homoleuca*, p. 91, *sigmophora*, p. 92, Queensland, LOWER, Tr. R. Soc. S. Austral. xviii; *X. tinctoria*, p. 163, *stercorata*, p. 164, Queensland, LUCAS, P. Linn. Soc. N. S. Wales, viii : n. spp.
- Zalithia*, n. g., *Gelechiidae*, for *Z. uranopsis*, n. sp., Upper Burma; MEYRICK, p. 18, Tr. ent. Soc. London, 1894.
- Zonopetala? zygophora*, Queensland, LOWER, p. 95, Tr. R. Soc. S. Austral. xviii, n. sp.

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- Trichoptilus? inclitus*, Brisbane, LUCAS, p. 94, P. Soc. Queensland, viii n. sp.

(D.) *DIPTERA.*

[Cf. ALDRICH (9), ARRIBALZAGA (22), BANKS (45), BECKER (55, 56), BERGROTH (65), BEZZI (87), BLANGHARD (98), BRAUER (126), BRAUER & BERGENSTAMM (127), CARPENTER (158), CHEVREL (168), CHILD (169), CIACCIO (180), COUILLETT (199-204, 220, 912), COUCKE, E. & L. (207), COUCKE, L. (208), EATON (255), GADEAU (347), GIGLIO-TOS (367), GIRSCHNER (374, 375), HARTIG (410), JOHNSON (496), KESSLER (524), KIEFFER (526-532), KÖNIG (565), KOWARZ (581), KUNTZE (620), LABOULBÈNE (626), MAGELHAES (665), MARCHAL (671), MEADE (693), MEUNIER (699, 700, 702, 703, 704), MIK (710-717), NORRIS (765), OSTEN SACKEN (778-782), PANDELLÉ (793), RAILLIET (863), RÜDER (937, 938), RÜBSAAMEN (952, 953, 954), SAJÓ (958), SCHMIDT (974), SCUDDER (990), SNOW (1035), STROBL (1053, 1054, 1055), SWAINSON (1056), TOWNSEND (1073, 1074, 1076), VERHOEFF (1108), VERRALL (1109), VINE (1111), WACHTL (1112), WANDOLLECK (1123), WASMANN (1127), WILLISTON (1160, 1161).]

Myrmecophilous and termitophilous *Diptera*, list of; WASMANN, pp. 173-175, Verzeichniss.

Decussate setæ, origin of the term; MIK, p. 24, Wien. ent. Zeit. xiii.

Organs of smell in *Diptera*; NAGEL, Bibl. Zool. xviii, p. 116.

Notes relating to Osten Sacken's criticisms on Brauer's classification of *Diptera*; BRAUER (126).

Osten Sacken's 1893 paper on *Bugonia*, reproduced in Rep. Smithson. Inst. 1893, pp. 487-500.

CECIDOMYIIDÆ.

Cecidomyiid gall on *Euphorbia palustris*; MIK, p. 297, pl. iv, Wien. ent. Zeit. xiii: on *Bigelovia*, although only "apparently cecidomyiidan" this is named *C. bigelovia-strobiloides*; TOWNSEND, p. 176, Psyche, vii: on *Eucalyptus*; RÜBSAAMEN, p. 225, pl. xi, fig. 4, Berlin. ent. Zeitschr. xxxix.

The subfamilies distinguished and the genera of *Heteropezinae* tabulated, pp. 200 & 201: the larvæ discussed and those of the genera of *Heteropezinae* and *Lestremineae* tabulated, pp. 201-206; KIEFFER, Wien. ent. Zeit. xiii.

Function of the sternal spatula; KIEFFER, Ann. Soc. ent. France, 1894, pp. 36-44, and p. 187, Feuille Natural. xxiv.

Cecidomyia: breast-bone, orismology; MIK, p. 164, Wien. ent. Zeit. xiii: notes on and criticism of Giard's recent papers; RÜBSAAMEN (954).

- Aprionus*, n. g., *Lestremiæ*, larva only, no species; KIEFFER, p. 205, Wien. ent. Zeit. xiii.
- Apriona*, n. g., with *A. bidentata*, *spinigera*, *digitata*, n. spp.; KIEFFER, p. clxxvi, Bull. Soc. ent. France, 1894.
- Campylomyia*, n. g., pp. 313 & 323, for *C. binotata*, p. 324, *pallida*, p. 326, *innotata*, p. 329, *concolor*, p. 331, *Bitche*, n. spp., in addition to various already known species; KIEFFER, Ann. Soc. ent. France, 1894.
- C. erythromma*, larva described; KIEFFER, p. 86, cuts, Feuille Natural. xxiv.
- Campylomyza* sp., larva described; KIEFFER, p. 185, Feuille Natural. xxiv.
- Cecidomyia destructor*, notes on; GIARD, p. cxi, Bull. Soc. ent. France, 1891: formation of puparium; LABOULBÈNE, C.R. Ac. Sci. cxix, p. 297: queried dimorphism of larva; MARCHAL, p. 497, *t. c.*: in S. Devon; THEOBALD, Brit. Natural. 1894, pp. 179-183: in Hungary; SAJÓ (958). *C. abietiperda*, note on; HARTIG, p. 274, Forstl. Zeitschr. Munchen, ii. *C. pini*, habits; CHOLODKOVSKY, p. 380, *t. c.* *C. betule*, galls; KOWARZ (581). *C.* sp., structure of gall on *Populus euphratica* in Syria; FOCKEU, pp. 219-223, Rev. biol. Nord France, vi. *C. fagi*, fossil; MARTY, p. 173, Feuille Natural. xxiv.
- C. ? piceæ*, Bavaria, HARTIG, p. 6, Forstl. Zeitschr. Munchen, ii, n. sp.
- Clinodiplosis cilicrus*, larva described; KIEFFER, p. 120, cuts, Feuille Natural. xxiv.
- Clinorhiza*, n. g., p. 313, for *C. citrina*, n. sp. (not described), p. 340; KIEFFER, Ann. Soc. ent. France, 1894.
- Coprodiplosis cryphali*, n. sp., larva described; KIEFFER, p. 119, cuts, Feuille Natural. xxiv.
- Diallactes*, n. g., p. 313, for *D. crocea*, n. sp. (not described), p. 347; KIEFFER, Ann. Soc. ent. France, 1894.
- Diplosis pini*, larva described; KIEFFER, p. 147, cuts, Feuille Natural. xxiv.
- Epidosis* and allies, revised, with many notes, descriptions of larvæ, &c.; KIEFFER, Ann. Soc. ent. France, 1894, pp. 311-350.
- E. lineata*, p. 320, *citrina*, p. 321, *Bitche*, KIEFFER, Ann. Soc. ent. France, 1894, n. spp.
- Eudiplosis*, n. g., for *sorbi* and *brizæ* (undescribed); KIEFFER, p. xxviii, Bull. Soc. ent. France, 1894.
- Frivrenia*, n. g., *Heteropezineæ*, pp. 201 & 204, for *F. tenella*, n. sp., *Bitche*; KIEFFER, Wien. ent. Zeit. xiii.
- Holoneura*, n. g., p. 312, for *H. cincta*, n. sp. (not described), p. 316; KIEFFER, Ann. Soc. ent. France, 1894.
- Joannisia*, n. g., *Lestremiæ*, larva only, no species; KIEFFER, p. 205, Wien. ent. Zeit. xiii. *Joannisia*, n. g., with *J. aurantiaca*, *sanguinea*, n. spp.; KIEFFER, p. clxxv, Bull. Soc. ent. France, 1894.
- Lepidomyia*, n. g., *Heteropezineæ*, p. 201, for *L. lugens*, n. sp., *Bitche*, p. 211; KIEFFER, Wien. ent. Zeit. xiii.

- Leptodiplosis*, n. g., for some undescribed species; KIEFFER, p. xxviii, Bull. Soc. ent. France, 1894.
- Leptosyna*, n. g., *Heteropezinae*, p. 201, for *L. acutipennis*, n. sp., Bitche; KIEFFER, Wien. ent. Zeit. xiii.
- Octodiplosis*, n. g., cf. *Oligotrophus*, *infra*.
- Oligotrophus*: note, with new group *Octodiplosis*; GIARD, p. cxl, Ann. Soc. ent. France, 1894, and KIEFFER, *t. c.* p. clxxiv.
- Peromyia*, n. g., *Lestremineæ*, larva only, no species; KIEFFER, p. 205, Wien. ent. Zeit. xiii. *Peromyia*, n. g., with *P. levcillei*, n. sp.; KIEFFER, p. clxxv, Bull. Soc. ent. France, 1894.
- Prionella*, n. g., *Lestremineæ*, larva only, no species; KIEFFER, p. 205, Wien. ent. Zeit. xiii.
- Prionota*, n. g., with *P. pini*, *præcox*, n. spp.; KIEFFER, p. clxxvi, Bull. Soc. ent. France, 1894.
- Rubsamenia*, n. g.; p. 313, with *R. ruficornis*, p. 334, *flava*, p. 335, n. spp., Bitche; KIEFFER, Ann. Soc. ent. France, 1894. *R. flava*, larva described; KIEFFER, p. 83, cuts, Feuille Natural. xxiv.
- Stictodiplosis*, n. g., for two undescribed species; KIEFFER, p. xxviii, Bull. Soc. ent. France, 1894.
- Winnertzia rubra*, p. 343, *proxima*, p. 344, *obscura*, p. 345, Bitche; KIEFFER, Ann. Soc. ent. France, 1894, n. spp.

MYCETOPHILIDÆ.

- N. g. in amber, cf. PALÆONTOLOGY, p. 99.
- Bolitophila luminosa*, habits of larva; NORRIS, p. 202, Ent. Mag. 1894.
- Ceroplatus pentophthalmus*, its ocelli as five, queried; MIK, p. 25, Wien. ent. Zeit. xiii.
- C. fasciola*, Washington, COQUILLET, p. 126, Ent. News Philad. v, n. sp.
- Ditomyia pallida*, *zonata*, *mexicana*, referred to *Plesiastina*; MIK, p. 26, Wien. ent. Zeit. xiii.
- Hybosciara*, n. g., for *H. gigantea*, n. sp.; Columbia; RÜBSAAMEN, p. 28, Berlin. ent. Zeitschr. xxxix.
- Metangela*, n. g., near *Sciara*, for *M. calliptera*, n. sp., Brazil; RÜBSAAMEN, p. 24, Berlin. ent. Zeitschr. xxxix.
- Odontomyx*, n. g., near *Sciara*, for *O. fruhstorferi*, Java, p. 25, *helveolus*, Porto Rico, p. 27, n. spp., and *Sciara nigra*, Wiedem.; RÜBSAAMEN, Berlin. ent. Zeitschr. xxxix.
- Plesiastina annulata*, = (*Ditomyia pallida*, G. T.); MIK, p. 26, Wien. ent. Zeit. xiii.
- Rhynchosciara*, n. g., for *R. villosa*, p. 29, *brevicornis*, p. 30, n. spp., Venezuela; RÜBSAAMEN, Berlin. ent. Zeitschr. xxxix.
- Sciara*: the following new names proposed, *walkeri*, = (*longipes*, Wlk.), *holmgreni*, = (*frigida*, Holm.), *africana*, = (*tristis*, Big.), *meigeni*, = (*atrata*, Bel.), *chilensis*, = (*pallipes*, Gay), *thomsoni*, = (*macrens*, Th.), *grzegorzeki*, = (*confusa*, Grz.); RÜBSAAMEN, p. 23, Berlin. ent. Zeitschr. xxxix. S. sp., larvæ forming ropes of maggots; WILLISTON and others, pp. 66, &c., &c., Science, 1894.

S. cingulata, p. 31, *picea*, p. 32, Georgia, *moebiusi*, Columbia, *pruinosa*, Borneo, p. 33, *rotunda*, Himalaya, p. 34, *singhalensis*, Ceylon, *nigrina*, p. 35, *aqualis*, Columbia, *brevis*, Facatativa, p. 36, *striata*, Mexico, p. 37, *aethiops*, *quadrimaculata*, Madagascar, p. 38, RÜBSAAMEN, Berlin. ent. Zeitschr. xxxix, n. spp.

Trichosia melanocephala, wing figured, description; RÜBSAAMEN, p. 23, Berlin. ent. Zeitschr. xxxix.

BIBIONIDÆ, CULICIDÆ.

Fossil *Bibionide*, cf. MEUNIER, PALÆO-ENTOMOLOGY, p. 99.

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Culex: discussion of European species; FICALBI, pp. 66-75 & 315-320.

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The *Chironomide* of Argentina; ARRIBALZAGA, Bol. Ac. Cordoba, xiii.

Notes on *Corethra*, *Chironomus*, *Thalassomyia*, larvæ; SWAINSON, Brit. Nat. 1894, pp. 207, &c.

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C. syzygialis, Calvados, marine species, CHEVREL, Arch. Zool. exp. 1894, p. 584, ? var. of *marinus* or n. sp.

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Pericoma meridionalis, Delagoa Bay, EATON, p. 194, Ent. Mag. 1894, n. sp.

Psychoda cinerica, *nigra*, *minuta*, p. 331, *superba*, p. 332, *marginalis*, *bicolor*, p. 333, New York, BANKS, Canad. Ent. 1894, n. spp.

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- Tipulidæ* in amber, cf. Palæo-entomology, p. 100.
- Fossil *Tipulidæ* discussed, with descriptions of many new Tertiary forms from Colorado, cf. SCUDDER, Palæo-entomology, p. 99. In this the name *Rhamphidini* is proposed, p. 205, in place of *Limnobina anomala*, Osten Sacken.
- Critical notes and suggestions on classification of the *Tipulidæ*; OSTEN SACKEN, Berlin. ent. Zeitschr. xxxix, pp. 69-76.
- Dactylolabis denticulata*, metamorphosis; MIK, p. 261, pl. ii, Wien. ent. Zeit. xiii.
- Dicranomyia autumnalis*, *stigmatica*, p. 250, *pubipennis* and *pilipennis*, p. 254, synonymical discussion; OSTEN SACKEN, Berlin. ent. Zeitschr. xxxix.
- Erioptera trivialis*, synonymy; OSTEN SACKEN, p. 257, Berlin. ent. Zeitschr. xxxix.
- Liogma glabrata*, ex. with abnormal wings; OSTEN SACKEN, p. 267, Berlin. ent. Zeitschr. xxxix.
- Pedicia rivosa*, note on larva; REUTER, p. 24, Medd. Soc. Faun. Fenn. xix.
- Tipula ocellaris*, synonymical history; OSTEN SACKEN, pp. 260-263, Berlin. ent. Zeitschr. xxxix.
- Trochobola annulata*, synonymy; OSTEN SACKEN, p. 255, Berlin. ent. Zeitschr. xxxix.
- T. dohrni*, p. 264, *venusta*, p. 265, *tessellata* (White), p. 266, New Zealand, OSTEN SACKEN, Berlin. ent. Zeitschr. xxxix, n. spp.

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- Note on the changing colours and refractive media of the eyes of *Tabanidæ*; CIACCIO (180).
- Chaetosargus*, n. g., for *Sargus hirticornis*, Wied.; RÖDER, p. 169, Wien. ent. Zeit. xiii.
- Nemotelus flavicornis*, Jamaica, JOHNSON, p. 272, P. Ac. Philad. 1894, n. sp.
- Silvius silvester*, Queensland, BERGROTH, p. 71, Ent. Zeit. Stettin, iv, n. sp.
- Atherix ibis*, habits; LATZEL (630).
- Chrysopila jamaicensis*, Port Antonio, JOHNSON, p. 273, P. Ac. Philad. 1894, n. sp.
- Psammorycter vermileo*, Schrank, synonymical note; MIK, p. 165, Wien. ent. Zeit. xiii.
- Symphoromyia modesta*, *limata*, *johnsoni*, p. 54, *cruenta*, *trucis*, p. 55, *fera*, *pullata*, p. 56, N. America, COQUILLET, J. N. York Ent. Soc. ii, n. spp.

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- Thlipsogaster syndesmus*, *ater*, N. America, COQUILLET, p. 108, Tr. Amer. ent. Soc. xxi, n. spp.

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- Structure of head, antennæ, and mouth of *Henopia*; WANDOLLECK, pp. 92-97, SB. Ges. naturf. Berlin, 1894.
- Ogcodes*: larva described and figured; KÖNIG, p. 163, pl. vii, Verh. Ges. Wien, xlv. *O. pallipes*, habits; GIARD, p. cliii, Bull. Soc. ent. France, 1894.
- Cænophanes* [*Cænophanes*] *appendiculatus*, Beirut, RÖDER, p. 174, Ent. Nachr. xx, n. sp.
- Metaphragma*, n. g. (*Therevidæ*), type *Xestomyza planiceps*, COQUILLET, p. 97, J. N. York Ent. Soc. ii.
- Nebritus*, n. g., for *N. pellucidus*, n. sp., California, COQUILLET, p. 98, J. N. York Ent. Soc. ii.
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- Tachysta styriaca*, Styria, STROBL, Mt. Ver. Steiermark, xxix, n. sp.
- Xiphidicera*: note on the characters of; MEUNIER, p. ix, Bull. Soc. ent. France, 1894.

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- Peculiar antenna in a Dipteron in amber allied to *Dolichopus*; MEUNIER, p. cxi, Bull. Soc. ent. France, 1894.
- Courtship, brief notes on; ALDRICH, Amer. Natural. 1894, pp. 35-37.
- Chrysotus alpicola*, Styria, STROBL, p. 144, Mt. Ver. Steiermark, xxix, n. sp.

SYRPHIDÆ, CESTRIDÆ.

- Aphidivorous habits of *Syrphidæ*; VINE, pp. 337-350, Int. J. Micr. (3) iv.)
- Calotarsa*, n. g., p. 50, for *C. ornatipes*, n. sp., Illinois, p. 52, (Canad. Ent. 1894; placed in *Syrphidæ*, but t. c. p. 102, WILLISTON, p. 116, and BANKS, p. 88, t. c., say this belongs to *Platypozide*.
- Chilosia*, monograph of the genus; BECKER, Acta Ac. German, lxii, pp. 195-522, pls. xi-xxiii.
- O. varians*, p. 329, *alpestris*, p. 333, *parvicornis*, p. 340, Switzerland, *nasutula*, E. Europe, p. 342, *recens*, Admont, p. 343, *sibirica*, Siberia, p. 344, *impudens*, p. 348, *loewi*, p. 349, *grisella*, p. 350, *sahlbergi*, Finland, p. 354, *lewis*, p. 361, *marginata*, p. 362, *faucis*, *pilifer*, p. 364, *signaticornis*, p. 365, *flavissima*, p. 371, *conops*, p. 385, *granulata*, p. 388, *hypena*, p. 389, Europe, *angustigenis*, Lapland, p. 393, *marocana*, Marocco, p. 395, *metallina*, France, p. 398, *superba*, Amurland, p. 399, *nudisetata*, Askold I., p. 407, *langhofferi*, p. 411, *stupida*, p. 413, *lanigulosa*, p. 416, *brunnipennis*, p. 417, *sareptana*, p. 418, *strobli*, p. 425, *trisulcata*, p. 426, *zetterstedti*, p. 430, *pascuorum*, p. 433, *gemina*, p. 434, *braueri*, *planifacies*, p. 438, Europe, *lapponica*, p. 440, *semifasciata*, p. 443, *siciliana*, p. 447, *pini*, p. 450, Europe, *songarensis*, Songarei, p. 451, *pedestris*, p. 452, *umbrsquama*, p. 453, *rotundiventris*, p. 459, *ruficollis*, p. 461, *bergenstammi*, p. 462, *lenis*, p. 463, *confinis*, p. 465, *omissa*, p. 466, *longifila*, p. 471, *æstivalis*, p. 472, *rufimana*, p. 473, *brevipennis*, p. 474, *plumbella*, p. 475, *naso*, p. 476, Europe, *gerstückeri*, hab. ?, p. 477, *lenta*, p. 478, *curvitibia*, p. 479, *christophori*, p. 480, *mixta*,

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- p. 481, *longiventris*, p. 482, *angustipennis*, p. 483, *curvinervis*, p. 484, *tumidilabris*, p. 485, *correcta*, p. 488, *acutilabris*, p. 491, Europe, *pollinosi*, p. 494, Askold, *psilophthalma*, p. 495, *globulipes*, p. 496, *bigoti*, Europe, *schnabli*, Caucasus, p. 498, *uviformis*, p. 499, *gibbosa*, p. 500, *polita*, p. 501, *strigillata*, p. 502, Europe, BECKER, Acta Ac. German. xlii, n. spp.
- Criorhina* (*Cynorhina*) *johnsoni*, Washington, COQUILLET, p. 125, Ent. News Philad. v, n. sp.
- Eristalis tenax*: Bugonia, enlarged edition; OSTEN SACKEN (778).
- E. vitripennis*, Styria, STROBL, p. 187, Mt. Ver. Steiermark, xxix;
E. roderi, Queensland, BERGROTH, p. 72, Ent. Zeit. Stettin, lv : n. spp.
- Dermatobia*: attacks of, on man in S. America; BLANCHARD, pp. 142-160, Ann. Soc. ent. France, 1894.
- Gastrophilus equi*: in stomach of dog, note on; RAILLIET (863).

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For n. g. *Calotarsa*, cf. *Syrphidæ*.

- Platypeza* and allied genera, characters; SNOW, pp. 142 & 143, Kansas quart. iii.
- P. calceata*, p. 146, *umbrosa*, p. 148, *teniata*, *pulchra*, p. 149, *egregia*, *cinerea*, p. 150, Kansas, SNOW, Kansas quart. iii, n. spp
- Callomyia venusta*, p. 151, *aldrichii*, p. 152, Kansas, SNOW, Kansas quart. iii, n. spp.

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- Classification of *Muscidæ* discussed at length, with synopses of the division; PANDELLÉ, pp. 1-31, Rev. Ent. franc. xiii.
- Criticism of Girschner's divisions, *Calypteræ* and *Acalypteræ*, with study of the *Macrochetæ*; BECKER, pp. 191-196, Berlin. ent. Zeitschr. xxxix.
- Diptera* attacking man in Tropical America; MÄGELHAES (665).
- Mexican *Diptera*, 3rd part; GIGLIO-TOS (367). The plate consists of numerous profiles of the heads.
- Detailed criticism of Pokorny's article (729, Zool. Rec. xxx); STROBL, Wien. ent. Zeit. xiii, pp. 65-76.
- Allophora*: orthography; MIK, p. 49, Wien. ent. Zeit. xiii.
- Anthomyia zœæ* (by error for *Phorbia fuscipes*), habits, metamorphoses; FORBES, p. 16, pls. ii & iii, Rep. Ins. Illinois, xviii. *A. cana*, habits, KÜNCKEL, p. 1359, C.R. Ac. Sci. cxviii. *A. ceparum*, date of appearance; NEWSTEAD, p. 280, P. Chester Soc. iv.
- Aporotachina*, n. subg. for part of *Tachina*; MEADE, p. 109, Ent. Mag. 1894.
- Argyrophylax* (sub *Masicera*) *schizuræ*, generic position queried; MIK, p. 22, Wien. ent. Zeit. xiii.
- Aricia floralis*, metamorphoses, p. 21, cuts, *villipes*, p. 23; LAMPA, Ent. Tidskr. xv.
- Bithia cinerea*, Europe, MEADE, p. 71, Ent. Mag. 1894, n. sp.

- Brachycoma davidsoni*, Los Angeles; COQUILLET, p. 172, with note on habits by DAVIDSON, p. 181, Ent. News Philad. v.
- Culliphora vomitoria*, spread in New Zealand; SMITH, Ent. Mag. 1894, p. 54: the species occurs in profusion in the Falkland Is., and is really *C. erythrocephala*; MEADE, *t. c.* p. 136.
- Chaetopeteletaria*, n. g., for *Echinomyia popelii*; MIK, p. 100, Wien. ent. Zeit. xiii.
- Chortophila insularis*, Borkum, KUNTZE, p. 335, Deutsche ent. Zeitschr. 1895, n. sp.
- Compsilura*: note on its application and validity; MIK, p. 52, Wien. ent. Zeit. xiii.
- Degeeria dalii*, England, MEADE, p. 159, Ent. Mag. 1894, n. sp.
- Disjunctio*, n. g., *Dexiinae*; PANDELLÉ, p. 56, Rev. Ent. franc. xiii.
- Dysthrixa*, n. g., *Tachininae*; PANDELLÉ, p. 47, Rev. Ent. franc. xiii.
- Echinosomea* and *Platyichira*, synonymical note; MIK, p. 51, Wien. ent. Zeit. xiii.
- Eudora friedrichii*, Hungary, WACHTL, p. 143, Wien. ent. Zeit. xiii, n. sp.
- Exorista excavata*, foreign hairs on body of this and other *Diptera*; GIARD, Bull. Soc. ent. France, 1894, p. xxix, and *t. c.* p. cvi; also GAZAGNAIRE, *t. c.* p. cvii, and GIARD, p. clxxix.
- Glossina morsitans*, note on; Nature (La) 1894 (1), p. 286; and note on, DE GUERNE, C.R. Soc. Philom. 1894, No. 12, p. 2.
- Idia lunata*, habits; KÜNCKEL, C.R. Ac. Sci. cxviii, p. 1360.
- Lispa leucomelena*, ♂ described; STROBL, p. 75, Wien. ent. Zeit. xiii.
- Lucilia sylorum* (sic) killing toads; KNAUTHE, Zeitschr. Naturw. lxvii, p. 119.
- Macquartia affinis*, bred from larva of *Chrysomela varians*; DALE, Entomologist, 1894, p. 196.
- Microtropesa skusei*, Queensland, BERGROTH, p. 73, Ent. Zeit. Stettin, lv, n. sp.
- Mikiella*: note on its validity; MIK, p. 50, Wien. ent. Zeit. xiii.
- Myobia distracta*, Tarbes, p. 98, *pisciventrifera*, Landes, p. 101, *tentaculata*, N. France, p. 103, PANDELLÉ, Rev. Ent. franc. xiii, n. spp.
- Nemoræa quadraticornis*, England, MEADE, p. 160, Ent. Mag. 1894, n. sp.
- Nowickia*, n. g., type *Echinomyia regalis*, Rond.; WACHTL, p. 142, Wien. ent. Zeit. xiii.
- Ocypterosiphia*, n. g. (*Ocypterinae*), for *O. willistoni*, n. sp., S. Domingo; TOWNSEND, p. 79, J. N. York Ent. Soc. ii.
- Pareudora*, n. g., type *Echinomyia præceps*, Mg.; WACHTL, p. 141, Wien. ent. Zeit. xiii.
- Peleteria*: the Italian species revised, with synonymy, &c., and new subgenera; BEZZI, pp. 242-261, Bull. Soc. ent. Ital. xxvi.
- Pelatachina*, n. n. for *Hyria*, Dsv.; MEADE, p. 109, Ent. Mag. 1894.
- Phania incrassata*, Htes. Pyrénées, PANDELLÉ, p. 70, Rev. Ent. franc. xiii, n. sp.
- Phorbia brassicae*, metamorphoses; SLINGERLAND, Bull. Cornell. Exp. Stat. lxxviii, pp. 490-493, cuts: the fly figured, pl. i. *P. fuscipes*, see *Anthomyia*.

Phorocera concinnata, &c., note on chitinous ovipositor; HEIM, p. 32, Ann. Soc. ent. France, 1894, and GIARD, p. civ, Bull. Soc. ent. France, 1894.

Phyto aperta, diagnosis; STROBL, p. 50, Mt. Ver. Steiermark, xxx.

Platycenosia, n. g., *Anthomyiidae*, for *P. mikii*, n. sp., Central Europe; STROBL, p. 72, Wien. ent. Zeit. xiii.

Popelia, n. subg. of *Peleteria*; BEZZI, p. 256 (said, p. 260, to be same as *Chatopeleteria*, Mik, *suprà*), Bull. Soc. ent. Ital. xxvi.

Pseudolimnophora to be used in place of *Strobilia*, Pok.; MIK, p. 54, Wien. ent. Zeit. xiii.

Pseudopyrellia, Girsch., is *Euphoria*, R. Desv.: doubtful whether the latter is available; MIK, p. 26, Wien. ent. Zeit. xiii.

Salia, Rob. Desv.: note on this genus; MIK, p. 50, Wien. ent. Zeit. xiii.

Sarcophaga davidsoni, habits; DAVIDSON, p. 269, Insect Life, vi. *S. clathrata* destroying locusts; KÜNCKEL, p. 1106, C.R. Ac. Sci. cxviii.

Siphona grandistylum, Htes. Pyrénées, *oculata*, Dantzig, PANDELLÉ, p. 108, Rev. Ent. franc. xiii, n. spp.

Sphyrocera, n. subg. of *Peleteria*; BEZZI, p. 257, Bull. Soc. ent. Ital. xxvi. *Sphyrocera*, n. g., for *Echinomyia sphyricera*, Macq.; BEZZI, p. 173, Wien. ent. Zeit. xiii.

Spilogaster meudæi, note on; MEUNIER, p. cciii, Bull. Soc. ent. France, 1894.

S. fuscitarsis, Queensland, BERGROTH, p. 74, Ent. Zeit. Stettin, lv, n. sp.

Subclytia, n. g., *Miltoigrammes*, p. 96, for *Clytia rotundiventris*, Fall.; PANDELLÉ, Rev. Ent. franc. xiii.

Succingulum, n. g., *Devixine*; PANDELLÉ, p. 52, Rev. Ent. franc. xiii.

Tachina jugorum, Strobl, diagnosis; STROBL, p. 39, Mt. Ver. Steiermark, xxx.

Thryptocera discicornis, Tarbes, p. 109, *selecta*, Hyères, p. 112, *exaculeata*, Prussia, p. 113, PANDELLÉ, Rev. Ent. franc. xiii, n. spp.

Trichopoda subcilipes, S. Domingo, TOWNSEND, p. 78, J. N. York Ent. Soc. ii, n. sp.

Xysta rufitibia, Styria, STROBL, p. 47, Mt. Ver. Steiermark, xxx, n. sp.

We have not attempted to give the synonymy or classification included in part iii of BRAUER & BERGENSTAMM's work on *Muscaria schizometopa*, but the following are apparently the new genera and species contained therein, viz. :—

Angioneura, n. g., for *Myobia vetusta*, Stein, p. 79.

Craspedothrix, n. g., p. 150, for *C. vivipara*, n. sp., Austria, p. 209.

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Echinodexia, n. n. for *Hystriisiphona*, B. & B. *olim.*, p. 182.

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Janthinomyia, n. g., p. 141, for *J. felderi*, E. India.

Masistylum, n. g., for *Pachystylum arcuatum*, Mik, pp. 125 & 138.

- Meigeniopsis*, n. g., for *M. dubiosa*, Silesia, p. 115.
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Synthesiomyia, n. g., pp. 96, 110, 159, & 178, for *S. brasiliانا*, n. sp.,
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Trafoia, n. g., pp. 142 & 193, for *T. monticola*, Tyrol.
Wulpia, n. g., pp. 128 & 188, for *W. aperta*, Mexico.

MUSCIDÆ ACALYPTRATÆ.

- Revision of Northern and Central European *Scatomyzidæ*, including
Cordyluridæ and *Hydromyzidæ*; BECKER, pp. 77-196, Berlin. ent.
 Zeitschr. xxxix.
- Acanthocnema*, n. g., p. 136, type *Cordylura nigrimana*, Zett., with *A.*
latipennis, n. sp., Silesia, p. 138; BECKER, Berlin. ent. Zeitschr. xxxix.
- Acerocnema*, n. g., p. 154, type *Cordylura breviseta*, Zett., with *A. trefsi*,
 n. sp., Europe, p. 155; BECKER, Berlin. ent. Zeitschr. xxxix.
- Amaurosoma*, n. g., type *Cordylura flavipes*, Fall., with *A. puberula*, p. 114,
minuta, p. 116, *articulata*, p. 117, *mensurata*, *inermis*, p. 119, *nigri-*
frontata, *nutans*, p. 120, n. spp., Europe; BECKER, Berlin. ent.
 Zeitschr. xxxix.
- Blepharoptera duplisciseta*, Styria, STROBL, p. 84, Mt. Ver. Steiermark,
 xxx, n. sp.
- Bostrichopyga*, n. g., type *Cordylura crassipes*, Zett.; BECKER, p. 142,
 Berlin. ent. Zeitschr. xxxix.
- Calobata pleuritica*, Jamaica, JOHNSON, p. 279, P. Ac. Philad. 1894, n. sp.
- Camarota flavitarsis*, metamorphoses; MARCHAL, p. 498, C.R. Ac. Sci. cxix.
- Chlorops nigrithorax*, Styria, STROBL, p. 114, Mt. Ver. Steiermark, xxx,
 n. sp.
- Clidogastra nigriceps*, St. Moritz, BECKER, p. 181, Berlin. ent. Zeitschr.
 xxxix, n. sp.
- Cochliarium*, n. g., p. 183, type *Cordylura cuneiventris*, Zett., and including
C. lasiostoma, p. 184, *castunipes*, p. 189, n. spp., St. Moritz; BECKER,
 Berlin. ent. Zeitschr. xxxix.

- Coniosternum*, n. g., p. 176, type *Cordylura obscura*, Fall., including *C. tinctinervis*, n. sp., Europe, p. 178; BECKER, Berlin. ent. Zeitschr. xxxix.
- Cordylura socialis*, p. 90, *aberrans*, *rubrifrontata*, p. 91, *flavovenosa*, p. 92, Europe, BECKER, Berlin. ent. Zeitschr. xxxix, n. spp.
- Cosmetopus*, n. g., type *Cordylura dentimana*, Zett.; BECKER, p. 146, Berlin. ent. Zeitschr. xxxix.
- Diopsis ichneumonea*, variation; MUELLER, p. 133, Verh. Ges. deutsch. Naturf. lv (2). *D. ferruginea*, note on; STENDEL, t. c. p. 134.
- Drosophila balleata*, *bellula*, Queensland, BERGROTH, p. 75, Ent. Zeit. Stettin, lv, n. spp.
- Ernoneura*, n. g., *Hydromyzinæ*, type *Scatomyza argus*, Zett.; BECKER, p. 135, Berlin. ent. Zeitschr. xxxix.
- Gonarcticus*, n. g., type *Scatomyza antennata*, Zett.; BECKER, p. 103, Berlin. ent. Zeitschr. xxxix.
- Gymnomyza*, n. g., for *Heteromyza hilarella*, Zett.; STROBL, p. 85, Mt. Ver. Steiermark, xxx.
- Hexamitocera*, n. g., type *Cordylura lowocerata*, Zett.; BECKER, p. 107, Berlin. ent. Zeitschr. xxxix.
- Lascioscelus*, n. g., type *Cordylura clavata*, Zett.; BECKER, p. 143, Berlin. ent. Zeitschr. xxxix.
- Megaphthalma*, n. g., type *Scatomyza pallida*, Fall.; BECKER, p. 105, Berlin. ent. Zeitschr. xxxix.
- Microprosopa*, n. g., type *Cordylura hæmorrhoidalis*, Meig.; BECKER, p. 147, Berlin. ent. Zeitschr. xxxix.
- Micropselapha*, n. g., type *Cordylura filiformis*, Zett.; BECKER, p. 108, Berlin. ent. Zeitschr. xxxix.
- Neottiophilum præustum*, note on habits; MIK, p. 166, Wien. ent. Zeit. xiii.
- Norellia lesigæ*, Caucasus, BECKER, p. 129, Berlin. ent. Zeitschr. xxxix, n. sp.
- Orthacheta*, n. g., type *Cordylura pilosa*, Zett.; BECKER, p. 101, Berlin. ent. Zeitschr. xxxix.
- Oscinis frit*, *rustator*, *pusilla*; RÖHRIG (940).
- Parallelomma*, n. g., p. 94, type *Cordylura albipes*, Fall., and including *P. media*, n. sp., Silesia, p. 96; BECKER, Berlin. ent. Zeitschr. xxxix.
- Phora*: note on frontal setæ; MIK, p. 22, Wien. ent. Zeit. xiii.
- Pselaphephila*, n. g., *Scatomyzidæ*, p. 122, for *P. loewi*, n. sp., Europe, p. 123; BECKER, Berlin. ent. Zeitschr. xxxix.
- Sapromyzinæ*: tabulation of genera, with synonymical remarks on various species; WILLISTON, p. 197, Ent. News Philad. v.
- Sapromyza barnardi*, Queensland, BERGROTH, p. 74, Ent. Zeit. Stettin, lv, n. sp.
- Scatophaga ordinata*, Switzerland, p. 168, *mollis*, Siberia, p. 171, *dasythrix*, N. Europe, p. 173, *islandica*, Iceland, p. 175, *dalmatica*, Dalmatia, p. 176, BECKER, Berlin. ent. Zeitschr. xxxix, n. spp.
- Scoliaphleps*, n. g., type *Cordylura ustulata*, Zett.; BECKER, p. 98, Berlin. ent. Zeitschr. xxxix.

- Spathephilus*, n. g., type *Cordylura breviventris*, Lw.; BECKER, p. 121, Berlin. ent. Zeitschr. xxxix.
- Spathiophora fascipes*, Europe, BECKER, p. 160, Berlin. ent. Zeitschr. xxxix, n. sp.
- Trypeta amabilis*, full description, the locality is Peru not Mexico; RÖDER, p. 97, Wien. ent. Zeit. xiii. *T. cardui*, metamorphoses; KESSLER, p. 28, pl., Ber. Ver. Kassel, xxxix. *T. solidaginis*, galls and parasites; FYLES, p. 120, Canad. Ent. 1894.
- T. (Acidia) tortile*, *T. (Rhagoletis) formosa*, p. 71, *T. (Aciura) aplopappi*, *T. (Carphotricha) cultaris*, p. 72, *T. (Neaspilota) signifera*, *T. (Tephritis) baccharis*, *T. (Euaresta) californica*, p. 73, *araneosa*, *stelligera*, p. 74, *tapetis*, p. 75, North America, COQUILLET, Canad. Ent. 1894, n. spp.

PUPIPARA.

- Braula cæca*, note on claws; ZIMMERMANN, p. 21, SB. Verh. Ver. Brunn, xxxii.
- Nycteribia antrozoi*, New Mexico; TOWNSEND, p. 79, J. N. York Ent. Soc. i, n. sp.

APHANIPTERA.

- [*Cf.* BLANDFORD (103), PACKARD (789, 790), SÁNCHEZ (959), SKUSE (1018), WAGNER (1116).]
- Structure of *Siphonaptera* (fleas) and their larvæ, and affinities of the group; PACKARD (789).
- Some points of structure and habits discussed, P. ent. Soc. Washington, iii, pp. 38 & 39.
- Larvæ of fleas living on Angora cats; NEUMANN, p. xxxix, Bull. Soc. hist. nat. Toulouse, xxvi.
- Pulex imperator*, note on this supposititious insect; TASCHENBERG, Ent. Nachr. xx, p. 97; MCLACHLAN, t. c. p. 161. *P. pallidus*, Tasch., noticed; WAGNER, p. 440, Horæ Soc. ent. Ross. xxviii.
- Rhynchoprion penetrans*, in Mexico; SÁNCHEZ (959), pp. 150-157, pls. vii, viii, & ix.
- Sarcopsylla gallinacea*, in Florida; PACKARD, Insect Life, vii, p. 23, cuts: description of sexes; WAGNER, p. 440, cuts, Horæ Soc. ent. Ross. xxviii. *S. penetrans*?, in China; BLANDFORD (103).
- Stephanocircus*, n. g., for *S. dasyuri*, n. sp., Australia; SKUSE, p. 78, Rec. Austral. Mus. ii.

(E.) *RHYNCHOTA*.

HEMIPTERA-HETEROPTERA.

[Cf. BERG (63), BERGROTH (66-69, 71, 72, 73), BRUYANT (140A), CARLINI (155), CARPENTER (156), GIGLIO-TOS (368), HORVATH (449, 450), HUEBER (462, 463), JAKOWLEFF (481), KARSCH (514), KIRBY (911), LÉON (637), LETHIERRY & SEVERIN (639), MONTANDON (728, 729), NASSONOFF (744), OSCHANINE (777A), PUTON (859), REUTER (903-907), RILEY (918), SAUNDERS (962), SCHLECHTENDAL (972), UHLER (1095, 1096, 1097), VERHOEFF (1107) WALLENGREN (1119), WICKHAM (1154).]

Labial palpi : note on ; LÉON, Zool. Anz. xvii, p. 398.

Comparative anatomy of abdomen in female of *Heteroptera* and *Homoptera* ; VERHOEFF (1107).

Structure of abdomen of *Velia currens*, ♂ ; PEYTOUREAU (808).

Observations on senses ; NAGEL, pp. 123 & 124, Bibl. Zool. xviii.

Myrmecophilous *Rhynchota*, list of ; WASMANN, Verzeichniss, pp. 179-189. Subregions of the Palæarctic Region ; OSCHANINE (777A).

Rhynchota of Porto Rico ; GUNDLACH, pp. 274-287, An. Soc. Espan. xxii. *Heteroptera* of Grenada ; UHLER, P. Zool. Soc. London, 1894, pp. 167-224.

PENTATOMIDÆ.

Anacanthopus, n. g., p. 639, near *Eusthenes*, for *A. flavolimbatus*, n. sp., Philippines, p. 640 ; MONTANDON, Ann. Soc. ent. Belgique, xxxviii.

Aplosterna, West., and *Encosternum*, Spin., distinctions ; MONTANDON, p. 643, Ann. Soc. ent. Belgique, xxxviii.

Arctocoris, n. g., *Pentatominae*, near *Bucrocoris*, for *A. dentifer*, n. sp., Brazil ; BERG, p. 16, An. Mus. Montevid. i.

Aspavia acuminata, Guinea, p. 630, *nigricosta*, Natal, &c., p. 631, MONTANDON, Ann. Soc. ent. Belgique, xxxviii, n. spp.

Aspongopus monticola, Cameroons, KARSCH, p. 101, Ent. Zeit. Stettin, lv, n. sp.

Astirocoris, n. g., near *Leprosoma*, p. 130, for *A. intermittens*, n. sp., Turkestan, p. 132 ; JAKOWLEFF, Horæ Soc. ent. Ross. xxviii.

Banasa lenticularis, Grenada, UHLER, p. 174, P. Zool. Soc. London, 1894, n. sp.

Brachyplatys truncaticeps, Congo, p. 248, *capito*, Otahiti, p. 249, MONTANDON, Ann. Soc. ent. Belgique, xxxviii, n. spp.

- Brochymena annulata*, figures, habits ; *Insect Life*, vii, p. 47.
- Caura orata*, Cameroons, KARSCH, p. 112, *Ent. Zeit. Stettin*, lv, n. sp.
- Coptosoma atenes*, description and figure ; KARSCH, p. 99, pl. i, fig. 10, *Ent. Zeit. Stettin*, lv.
- C. flavescens*, E. India, p. 251, *signatum*, Philippines, p. 252, *dilutum*, Cape York, p. 253, *intricatum*, Philippines, p. 255, *abesum*, p. 256, *sparsum*, p. 257, N. India, *parviceps*, China, p. 258, *capitulatum*, Java, *howathi* [altered to *horvathi* on p. 357], China, p. 260, *insignitum*, p. 262, *aculiceps*, p. 263, Philippines, *immaculatum*, *abbreviatum*, p. 265, E. India, *variolosum*, p. 267, *apiatum*, p. 268, *cyanescens*, p. 270, W. Africa, *bisoculatum*, N. India, p. 271, *bilineatum*, China ?, p. 274, *aurivillianum*, S. E. Africa, p. 275, *junodi*, Mozambique, p. 276, *libidinosum*, E. India, p. 277, *notabile*, China, p. 278, *anticum*, E. India, p. 280, MONTANDON, *Ann. Soc. ent. Belgique*, xxxviii, n. spp.
- Coquerelidea viridipes*, = (*Pentatoma nossibeana*, Branc.) ; BERGROTH, p. 546, *Ann. Soc. ent. Belgique*, xxxviii.
- Corimelena obtusa*, Lower California, UHLER, p. 225, *P. Calif. Ac.* iv, n. sp.
- Cryptadius*, n. n. to replace *Crypsinus*, Dohrn ; FAIRMAIRE, p. 395, *Ann. Soc. ent. Belgique*, xxxviii.
- Cyclogastridea equatoria*, referred to *Liphaemus* ; MONTANDON, p. 645, *Ann. Soc. ent. Belgique*, xxxviii.
- Dalsira albopunctulata*, Gaboon, BERGROTH, p. 535, *Ann. Soc. ent. Belgique*, xxxviii, n. sp.
- Dolycoris baicalensis*, Irkutsk, JAKOWLEFF, p. 135, *Horæ Soc. ent. Ross.* xxviii, n. sp.
- Durmia obtusa*, Sign., referred to *Carbula* ; BERGROTH, p. 546, *Ann. Soc. ent. Belgique*, xxxviii.
- Edessa carnosu*, *lineata*, characters ; BERG, p. 19, *An. Mus. Montevid.* i. *E. bifida*, = (*cornuta*), variation discussed ; UHLER, p. 176, *P. Zool. Soc. London*, 1894.
- E. rugulosa*, Grenada, UHLER, p. 177, *P. Zool. Soc. London*, 1894, n. sp.
- Elvisura voeltzkowi*, Madagascar, BERGROTH, p. 357, *Ent. Nachr.* xx, n. sp.
- Eurostus moutoni*, p. 636, *ochraceus*, p. 638, China, MONTANDON, *Ann. Soc. ent. Belgique*, xxxviii, n. spp.
- Euschistus aceratos*, Brazil, BERG, p. 17, *An. Mus. Montevid.* i, n. sp.
- Eusthenes touchei*, described at length ; BERGROTH, p. 152, *Rev. Ent. franc.* xiii.
- Gabonia*, n. g., near *Brachyplatys*, p. 243, for *G. irradiata*, n. sp., Africa, p. 244 ; MONTANDON, *Ann. Soc. ent. Belgique*, xxxviii.
- Leptoglossus argentinus*, La Plata, BERGROTH, p. 165, *Rev. Ent. franc.* xiii, n. sp.
- Liphaemus* : note on ; MONTANDON, p. 645, *Ann. Soc. ent. Belgique*, xxxviii.
- Livingstonisca*, n. g., near *Coptosoma*, p. 626, for *L. rugatissima*, n. sp., S. Africa, p. 627 ; MONTANDON, *Ann. Soc. ent. Belgique*, xxxviii.

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- Mecocephala rubripes*, Paraguay, BERG, p. 18, An. Mus. Montevid. i, n. sp.
- Notopomus*, n. g., *Tesseratominæ*, p. 641, for *N. isidorei*, n. sp., Pulo-Penang, p. 642; MONTANDON, Ann. Soc. ent. Belgique, xxxviii.
- Oplomus chalybæus*, Paraguay, BERG, p. 15, An. Mus. Montevid. i, n. sp.
- Patanocnema ovata*, description and figure; KARSCH, p. 100, pl. i, fig. 9, Ent. Zeit. Stettin, lv.
- Pegala levis*, New Caledonia, BERGROTH, p. 152, Rev. Ent. franc. xiii, n. sp.
- Peribalus peltatus*, Askhabad, JAKOWLEFF, p. 134, Horæ Soc. ent. Ross. xxviii, n. sp.
- Phimodera testudo*, Mongolia, JAKOWLEFF, p. 128, Horæ Soc. ent. Ross. xxviii, n. sp.
- Piezodorus guildingi*, variation; UHLER, P. Zool. Soc. London, 1894, p. 175.
- Placosternum obtusum*, Mysore, MONTANDON, p. 633, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Plataspis flavosparsa*, Congo, p. 622, *tenuipicta*, E. Africa, p. 623, MONTANDON, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Scaptocoris minor*, Brazil, BERG, p. 14, An. Mus. Montevid. i, n. sp.
- Schizometopus*, n. g., near *Brachyplatys*, p. 245, for *S. obscurus*, n. sp., New Guinea, p. 246; MONTANDON, Ann. Soc. ent. Belgique, xxxviii.
- Sciocoris boris* referred to *Erachteus*, the habitat is Cameroons; BERGROTH, p. 546, Ann. Soc. ent. Belgique, xxxviii.
- S. ogivus*, Borshom, JAKOWLEFF, p. 133, Horæ Soc. ent. Ross. xxviii, n. sp.
- Shirus dubius*, habits; XAMBEU, p. 141, Soc. Pyrenees-or. xxxv. *S. biguttatus*, n. var. *fallax*; PUTON, p. 114, Rev. Ent. franc. xiii.
- Selenyenum*, n. g., p. 645, near *Encosternum*, for *S. piriforme*, p. 647, *contractum*, p. 648, n. spp., W. Africa; MONTANDON, Ann. Soc. ent. Belgique, xxxviii.
- Severiniella*, n. g., *Plataspidinæ*, p. 619, for *S. haasi*, n. sp., Congo, p. 620; MONTANDON, Ann. Soc. ent. Belgique, xxxviii.
- Tessaratoma miscella*, Congo, MONTANDON, p. 634, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Tyoma verrucosa*, Niger, MONTANDON, p. 628, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Zangis guineensis*, figure, KARSCH, p. 100, Ent. Zeit. Stettin, lv, n. sp.

COREIDÆ.

General catalogue of the family; LETHIERRY & SEVERIN (639).

- Acanthocoris terreus*, Sierra Leone, BERGROTH, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Allocara*, n. g., near *Cipiu*, p. 536, for *A. vitticollis*, n. sp., Gaboon, p. 537; BERGROTH, Ann. Soc. ent. Belgique, xxxviii.

- Alydus (Megalotomus) latifascia*, Paraguay, BERG, p. 25, An. Mus. Montevid. i, n. sp.
- Apidaurus triguttatus*, Paraguay, BERG, p. 24, An. Mus. Montevid. i, n. sp.
- Carlisis tenuicornis*, Cameroons, BERGROTH, p. 537, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Cebrenis latifrons*, Brazil, BERG, p. 23, An. Mus. Montevid. i, n. sp.
- Colpura*, n. n. for *Lybas*, Dall.; BERGROTH, p. 154, Rev. Ent. franc. xiii.
- Daladeropsis*, n. g., *Daladerides*, no sp. given; KARSCH, p. 104, Ent. Zeit. Stettin, lv.
- Elasmocnema limpidipennis*, description and figure; KARSCH, p. 102, pl. i, fig. 2, Ent. Zeit. Stettin, lv.
- Hormambogaster expansus*, figure and description; KARSCH, p. 103, pl. i, fig. 1, Ent. Zeit. Stettin, lv.
- Latimbus karschii*, Gaboon; BERGROTH, p. 538, Ann. Soc. ent. Belgique, xxxviii.
- Liaspis*, n. g., for *Mictis insolita*, Wlk.; BERGROTH, p. 154, Rev. Ent. franc. xiii.
- Mictis distincta* referred to *Anoplocnemis*; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.
- Phyllomorpha laciniata*, stridulation, mode of carrying eggs; BOLIVAR, pp. 43 & 44, Feuille Natural. xxiv.
- Plectropoda*, n. n. for *Plectrocnemia*, Stål; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.
- Serinetha*, cf. *Astacops* in *Lygæidæ*.
- Spathocera laticornis*, stridulation; HORVATH, p. 90, Feuille Natural. xxiv.
- Sphictyrtus bugabensis*, note on; UHLER, p. 235, P. Calif. Ac. iv.
- Zulubius*, n. n. for *Trichocnemus*, Stål; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.

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- General catalogue of the family; LETHIERRY & SEVERIN (639).
- Melacanthus capitatus*, Grenada, UHLER, p. 181, P. Zool. Soc. London, 1894, n. sp.

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- Allocentrum*, n. n. for *Phoroneus*, Stål; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.
- Aphanus fuentei*, Spain, PUTON, p. 114, Rev. Ent. franc. xiii; *A. filicornis*, Madagascar, BERGROTH, p. 358, Ent. Nachr. xx : n. spp.
- Astacops mutilatus*, Gerst., referred to *Serinetha*; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.

- Cænocoris montandoni*, Java, BERGROTH, p. 155, Rev. Ent. franc. xiii, n. sp.
- Camptotelus parallelus*, Erivan, HORVATH, p. 181, Rev. Ent. franc. xiii, n. sp.
- Caridops*, n. g., p. 158, near *Daerlac*, for *C. gibbus*, n. sp., E. India ; BERGROTH, p. 159, Rev. Ent. franc. xiii.
- Cnemodus sobrius*, Lower California, UHLER, p. 241, P. Calif. Ac. iv ;
C. multifarius, Bolivia, BERG, p. 26, An. Mus. Montevid. i : ù. spp.
- Eucosmetus*, n. g., near *Erlacda*, p. 156, for *E. formosus*, n. sp., Java, p. 157 ; BERGROTH, Rev. Ent. franc. xiii.
- Hæreus variegatus*, Fernando Noronha, KIRBY, p. 547, J. Linn. Soc. xx, n. sp.
- Hyginus auricomus*, Java, BERGROTH, p. 159, Rev. Ent. franc. xiii, n. sp.
- Ischnodemus macrotomus*, Borneo, BERGROTH, p. 156, Rev. Ent. franc. xiii, n. sp.
- Ischnorhynchus privignus*, Kvirili, HORVATH, p. 180, Rev. Ent. franc. xiii, n. sp.
- Ligyrocoris bipunctatus*, Fernando Noronha, KIRBY, p. 547, J. Linn. Soc. xx, n. sp.
- Lispolophus*, n. n. for *Androgeus*, Stål ; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.
- Lygæus turcicus* and *kalmii* one species ; HEIDEMAN and others, P. ent. Soc. Washington, iii, p. 106.
- L. rufoculis*, Fernando Noronha, KIRBY, p. 546, J. Linn. Soc. xx, n. sp.
- Macropes annamita*, Hué, BERGROTH, p. 155, Rev. Ent. franc. xiii, n. sp.
- Melanocoryphus rubicollis* (sic), Lower California, UHLER, p. 244, P. Calif. Ac. iv, n. sp.
- Nysius angustatus*, noticed ; COCKERELL, New Mexico, Entomologist, 1894, No. 2.
- N. strigosus*, Lower California, UHLER, p. 238, P. Calif. Ac. iv ; *N. providus*, p. 182, *inæqualis*, p. 183, Grenada, UHLER, P. Zool. Soc. London, 1894 : n. spp.
- Oncopeltus bueanus*, figure and description ; KARSCII, p. 105, pl. i, fig. 8, Ent. Zeit. Stettin, iv.
- Opistholeptus*, n. n. for *Opisthostenus*, Reut. ; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.
- Ozophora unicolor*, Lower California, UHLER, p. 242, P. Calif. Ac. iv, n. sp.
- Pamera platana*, La Plata, BERGROTH, p. 166, Rev. Ent. franc. xiii, n. sp.
- Ptochiomera annulicollis*, Brazil, BERG, p. 26, An. Mus. Montevid. i, n. sp.
- Pygæus*, n. g., near *Ptochiomera*, for *P. pallidus*, n. sp., Grenada ; UHLER, p. 187, P. Zool. Soc. London, 1894.
- Scolopostethus*, note on N. American ; DÜZEE, p. 108, Ent. News Philad. v.
- Tropidothorax*, n. n. for *Melanospilus*, Stål ; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.

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- General catalogue of the families ; LETHIERRY & SEVERIN (639).
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D. annuliger, Grenada, UHLER, p. 189, P. Zool. Soc. London, 1894, n. sp.
Melamphaus agnatus, Cambodia, BERGROTH, p. 161, Rev. Ent. franc. xiii, n. sp.
Myrmoplasta vittiventris, Tropical Africa, CARLINI, p. 471, Bull. Soc. ent. Ital. xxvi, n. sp.
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- Cantacader tener*, Madagascar, BERGROTH, p. 167, Rev. Ent. franc. xiii, n. sp.
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Dictyonota (Elina) sicardi, Tunis, PUTON, p. 115, Rev. Ent. franc. xiii, n. sp.
Phyllonochila flabilis, Madagascar, BERGROTH, p. 167, Rev. Ent. franc. xiii, n. sp.
Phymata angulata, Grenada, UHLER, p. 204, P. Zool. Soc. London, 1894, n. sp.

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- Aneurus breviscutatus*, Madagascar, BERGROTH, p. 116, Ent. Tidskr. xv, n. sp.
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Artabanus quadrispinosus, Sumatra, BERGROTH, p. 101, Ent. Tidskr. xv, n. sp.
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HYDROMETRIDÆ.

- Gerris najas*, larva and habits; BUDGEN & GOODMAN, p. 83, P. Croydon Club, 1893-94.
Halobates wullerstorffi, habits; WICKHAM, pp. 33-35, Ent. News Philad. v. *H. flaviventris*, n. var. *kudrini*, with account of anatomy; NASSONOFF (744).
Hebrus concinnus, p. 221, *consolidus*, p. 222, Grenada, UHLER, P. Zool. Soc. London, 1894, n. spp.
Hymenobates, n. g., for *H. imitator*, n. sp., Grenada; UHLER, p. 214, P. Zool. Soc. London, 1894.
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Microvelgia signata, Lower California, UHLER, p. 288, P. Calif. Ac. iv; *M. robusta, longipes*, p. 219, *modesta*, p. 220, Grenada, UHLER, P. Zool. Soc. London, 1894: n. spp.
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Trepobates, n. n., with description, for *Stephania*, B. White; UHLER, p. 213, P. Zool. Soc. London, 1894.

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- Allæorhynchus armatus*, Grenada, UHLER, p. 207, P. Zool. Soc. London, 1894, n. sp.

- Antiopula*, n. n., for *Antiopa*, Stål ; BERGROTH, p. 163, Rev. Ent. franc. xiii.
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- Authenta*, n. n. for *Archilochus*, Stål, with *A. flaviventris*, n. sp., Gaboon ; BERGROTH, p. 540, Ann. Soc. ent. Belgique, xxxviii.
- Callilestes secundus*, Gaboon, BERGROTH, p. 542, Ann. Soc. ent. Belgique, xxxviii, n. sp.
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- Centrogopius*, n. n. for *Vellejus*, Stål ; BERGROTH, p. 163. Rev. Ent. franc. xiii.
- Ceromastix*, n. n. for *Masticocerus*, Reut. ; BERGROTH, p. 163, Rev. Ent. franc. xiii.
- Cleptria stali*, Gaboon ; BERGROTH, p. 543, Ann. Soc. ent. Belgique, xxxviii.
- Conorhinus protractus*, p. 284, *rubidus*, p. 285, *maximus*, p. 286, Lower California, UHLER, P. Calif. Ac. iv, n. spp.
- Coriscus signatus*, Grenada, UHLER, p. 205, P. Zool. Soc. London, 1894, n. sp.
- Endochus binotatus*, Gaboon, BERGROTH, p. 541, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Harpactor rufigenus*, redescribed ; BERGROTH, p. 543, Ann. Soc. ent. Belgique, xxxviii.
- H. gilviventris*, Madagascar, BERGROTH, p. 359, Ent. Nachr. xx, n. sp.
- Hexamerocerus*, Reut., = (*Pirena*, Stål) ; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.
- Holotrichius* : monograph ; REUTER, Acta Soc. Sci. Fenn. xix, No. 3.
- H. spinicollis*, Greece, p. 8, pl. i, figg. 1 & 2, *ochraceus*, Syria, p. 12, fig. 5, *farinator*, Damaraland, p. 17, fig. 10, *tibialis*, Nubia, p. 19, pl. ii, fig. 16, *albicans*, Turcomenia, p. 22, *laevigatus*, Egypt, p. 23, pl. i, fig. 11, *bergrothii*, S. Russia, p. 27, pl. ii, fig. 17, *sibiricus*, Siberia, p. 30, pl. ii, figg. 18 & 19, *fedtschenkoi*, Turkestan, p. 32, pl. ii, figg. 21 & 22, *mæstus*, Turkestan, p. 34, pl. ii, figg. 23 & 24, *tibialis*, Obock, p. 37, REUTER, Acta Soc. Sci. Fenn. xix, No. 3, n. spp.
- Marcenaspis typhlops*, description and figure ; KARSCH, p. 110, pl. i, fig. 5, Ent. Zeit. Stettin, lv.
- Mastigonomus*, n. g., near *Pantoleistes*, p. 541, for *M. umbonatus*, n. sp., Gaboon, p. 542 ; BERGROTH, Ann. Soc. ent. Belgique, xxxviii.
- Miomerocerus scopaceus*, description and figure ; KARSCH, p. 109, pl. i, fig. 11, Ent. Zeit. Stettin, lv.
- Oncerothachelus conformis*, Grenada, UHLER, p. 211, P. Zool. Soc. London, 1894, n. sp.
- Pirates gerstückeri*, n. n. for *brachypterus*, Gerst. ; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.

- P. gangeticus*, India, *trimaculatus*, Borneo, BERGROTH, p. 162, Rev. Ent. franc. xiii, n. spp.
- Rasahus*, *Ectomocoris*, &c., synonymical note; BERGROTH, p. 166, Rev. Ent. franc. xiii.
- Reduvius*: monograph; REUTER, Acta Soc. Sci. Fenn. xix, No. 15.
- R. festa*, Lebanon, GIGLIO-TOS, Boll. Mus. Torino, ix, No. 169, p. 8;
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- Rhochmogaster dimerus*, figure and description; KARSCH, p. 110, pl. i, fig. 3, Ent. Zeit. Stettin, lv.
- Saica annulipes*, Grenada, UHLER, p. 210, P. Zool. Soc. London, 1894, n. sp.
- Santosia semistriata*, description and figure; KARSCH, p. 111, pl. ii, fig. 7, Ent. Zeit. Stettin, lv.
- Sinea undulata*, Lower California, UHLER, p. 282, P. Calif. Ac. iv, n. sp.
- Sphedanolestes fenestriculatus*, description and figure; KARSCH, p. 108, pl. i, fig. 13, Ent. Zeit. Stettin, lv.
- Sycanus lividicollis*, Fairm., position certified; BERGROTH, p. 547, Ann. Soc. ent. Belgique, xxxviii.
- Tapinus*, Lap., = (*Sminthus*, Stål); BERGROTH, p. 163, Rev. Ent. franc. xiii.
- Veledella*, n. n. for *Veleda*, Stål; BERGROTH, p. 163, Rev. Ent. franc. xiii.
- Velidia*, n. g., *Nabidæ*, p. 206, for *V. berytoides*, n. sp., Grenada, p. 207; UHLER, P. Zool. Soc. London, 1894.

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- Cardiastethus elegans*, Grenada, UHLER, p. 201, P. Zool. Soc. London, 1894, n. sp.
- Lasiochilus pictus*, St. Vincent and Grenada, UHLER, p. 157, P. Zool. Soc. London, 1894, n. sp.
- Acanthia inodora*, habits, nymph; TOWNSEND, p. 40, P. ent. Soc. Washington, iii.

CERATOCOMBIDÆ.

- Monograph of the family; REUTER, Acta Soc. Sci. Fenn. xix, No. 6.
- Ceratocombus minutus*, Grenada, UHLER, p. 196, P. Zool. Soc. London, 1894; *C. (Leptonannus) biguttulus*, Ashanti, p. 5, pl. i, fig. 1, *C. (Trichotonannus) setulosus*, Nangkovri, p. 6, fig. 2, *C. brasiliensis*, Bahia, p. 7, fig. 3, *C. (Xylonannus) boliviensis*, p. 9, Bolivia, REUTER, Acta Soc. Sci. Fenn. No. 6: n. spp.
- Cryptostenma fasciatum*, Grenada, UHLER, p. 197, P. Zool. Soc. London, 1894, n. sp.
- Hypselosoma*, n. g., p. 26, for *H. oculata*, n. sp., New Caledonia, p. 27, pl., fig. 16; REUTER, Acta Soc. Sci. Fenn. xix, No. 6.

- Lasiochilus varicolor*, p. 198, *fraternus*, p. 199, *nebulosus*, p. 200, Grenada, UHLER, P. Zool. Soc. London, 1894, n. spp.
- Leptonannus*, n. subg. of *Ceratocombus*, *q.v.*
- Ommaides*, n. g., for *O. insignis*, n. sp., St. Vincent; UHLER, p. 159, P. Zool. Soc. London, 1894.
- Oncerodes*, n. g., p. 159, for *O. robusta*, n. sp., St. Vincent, p. 160, UHLER, P. Zool. Soc. London, 1894.
- Ptenidiophyes*, n. g., p. 25, for *P. mirabilis*, n. sp., Brazil, p. 26, pl., fig. 15; REUTER, Acta Soc. Sci. Fenn. xix, No. 6.
- Schizoptera scutellata*, p. 157, *capitata*, p. 158, St. Vincent, UHLER, P. Zool. Soc. London, 1894; *S. reitteri*, Brazil, p. 22, pl., fig. 12, *S. (Naumocoris) nebulifera*, Bolivia, *tuberculifera*, Venezuela, fig. 13, p. 23, REUTER, Acta Soc. Sci. Fenn. xix, No. 6 : n. spp.
- Trichotonannus*, n. subg. of *Ceratocombus*, *q.v.*
- Tropistostrochrus*, n. g., p. 15, for *T. ampliaticornis*, n. sp., Brazil, p. 16, pl., fig. 9; REUTER, Acta Soc. Sci. Fenn. xix, No. 6.
- Xylonannus*, n. subg. of *Ceratocombus*, *q.v.*

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- Fourth volume of *Hemiptera gymnocerata Europæ*, containing divisions *Boopidocoraria*, *Camptotyluria*, *Cremnorrhinaria*, *Laboparia*, *Hypselæcaria*, *Myrmecophyaria*, and *Pilophoraria*; REUTER (903).
- Capsidæ* of Germany; HÜEBER (463).
- Amblytylus tarsalis*, S. W. Europe, REUTER, p. 142, Rev. Ent. franc. xiii, n. sp.
- Calocoris hispanicus*, n. var. *bimaculatus*; REUTER, p. 133, Rev. Ent. franc. xiii.
- C. porphyropterus*, Algeria, REUTER, p. 133, Rev. Ent. franc. xiii;
- C. vigena*, Lower California, UHLER, p. 255, P. Calif. Ac. iv : n. spp.
- Compsocercocoris roseus*, Lower California, UHLER, p. 253, P. Calif. Ac. iv, n. sp.
- Criocoris nigripes*, ♀, = (*tarsalis*, Reut.); HORVATH, p. 192, Rev. Ent. franc. xiii. *C. crassicornis*, n. var. *fulvicornis*; REUTER, p. 146, Rev. Ent. franc. xiii.
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- Deræocoris punctum*, n. var. *pseudoschach*; REUTER, p. 135, Rev. Ent. franc. xiii.
- D. cerachates*, Lower California, UHLER, p. 265, P. Calif. Ac. iv, n. sp.
- Dicyphus separatus*, N. America and Grenada; UHLER, p. 194, P. Zool. Soc. London, 1894.
- Dimorphocoris*, n. g. for part of *Labops* and *Orthocephalus*; REUTER, Hem. gymn. iv, p. 83. *D. schmidtii*, sexes described; PUTON, p. 116, Rev. Ent. franc. xiii.
- Dionconotus*, n. n. for *Dioncus*, Fieb.; REUTER, p. 129, Rev. Ent. franc. xiii.

- Diphinctus vittiscutis*, Java, BERGROTH, p. 163, Rev. Ent. franc. xiii, n. sp.
- Epimecellus*, n. n. for *Epimecis*, Reut.; REUTER, p. 135, Rev. Ent. franc. xiii.
- Fulvius lunulatus*, Grenada; UHLER, p. 192, P. Zool. Soc. London, 1894, n. sp.
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- Halticus rugosus*, Syria, REUTER, p. 136, Rev. Ent. franc. xiii, n. sp.
- Helopeltis theivora*, ♂ described; WATERHOUSE, p. 31, Tr. ent. Soc. London, 1894.
- Hypselæcus*, n. g., for *Sthenarus visci*; REUTER, p. 104, Hem. gymn. iv.
- Læmocoris costæ*, Egypt, REUTER, p. 134, Hem. gymn. iv, n. sp.
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- Lopidea marginata*, Lower California, UHLER, p. 249, P. Calif. Ac. iv, n. sp.
- Lopus militaris*, Grenada, UHLER, p. 190, P. Zool. Soc. London, 1894, n. sp.
- Lygus kalmii*, n. var. *frenatus*; HORVATH, p. 182, Rev. Ent. franc. xiii: n. var. *picea*; REUTER, p. 135, t. c. *L. pratensis*, habits; COCKERELL, New Mexico, Entomologist, 1894, No. 2.
- L. vividus*, Lower California, UHLER, p. 260, P. Calif. Ac. iv, n. sp.
- Macrotylus paykulli*, n. var. *nigriceps*; REUTER, p. 143, Rev. Ent. franc. xiii.
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- Pachytomella*, n. n., to replace *Pachytoma*, Costa; REUTER, p. 37, Hem. gymn. iv.
- P. nitens*, Alicante, REUTER, p. 137, Rev. Ent. franc. xiii, n. sp.
- Pachyzypus lineellus*, n. var. *obscuratus*; REUTER, p. 142, Rev. Ent. franc. xiii.
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- Pithanus marshalli*, ♀, macropterous form; REUTER, p. 128, Rev. Ent. franc. xiii.
- Plagiognathus albus*, Spain, REUTER, p. 147, Rev. Ent. franc. xiii, n. sp.
- Pacilocapsus marmoratus*, Lower California, UHLER, p. 236, P. Calif. Ac. iv, n. sp.
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- P. tibialis*, Spain, REUTER, p. 144, Rev. Ent. franc. xiii; *P. biguttulatus*, Lower California, UHLER, p. 275, P. Calif. Ac. iv; *P. politus*, Grenada, UHLER, p. 195, P. Zool. Soc. London, 1894: n. spp.
- Schaenocoris*, n. g., for *Pachytoma flavomarginatus*, Costa; REUTER, p. 66, Hem. gymn. iv.
- Scirtetellus*, n. g., for *Labops brevipennis*, Reut.; REUTER, p. 67, Hem. gymn. iv.
- Solenozypus parvulus*, Sarepta, REUTER, p. 141, Rev. Ent. franc. xiii, n. sp.
- Stiphrosoma atrata*, Lower California, UHLER, p. 268, P. Calif. Ac. iv, n. sp.
- Systellonotus albofasciatus*, distinguished and described; HORVATH, p. 191, Rev. Ent. franc. xiii.
- S. discoidalis*, Sarepta, HORVATH, p. 190, Rev. Ent. franc. xiii, n. sp.
- Thyrillus*, n. g., for *Rhopalotomus pacificus* and *brachycerus*; UHLER, p. 267, P. Calif. Ac. iv.
- Tuponia apicalis*, Bucharest, REUTER, p. 148, Rev. Ent. franc. xiii, n. sp.

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- Fossil *Notonectidæ*; SCHLECHTENDAL (972).
- Belostoma* and *Benacus*, distinctions, sexes; RILEY, pp. 83-88, P. ent. Soc. Washington, iii.
- Arctocorisa*, n. subg. of *Corisa*, for *variegata*, Wallengr., and *carinata*, Sahlb.; WALLENGREN, p. 159, Ent. Tidskr. xv.

- Corisa* : revision of the Scandinavian species of ; WALLENGREN, pp. 129-164, Ent. Tidskr. xv. *Corixa* : stridulation ; THOMPSON, Irish Natural. iii, p. 114 ; CARPENTER, t. c. pp. 253-255. *C. selecta*, Fieb., = (*stâli*, D. & S.); EDWARDS, p. 101, Ent. Mag. 1894.
- Corisa inscripta*, Lower California, UHLER, p. 294, P. Calif. Ac. iv, n. sp.
- Notonecta chinensis*, described at length ; BERGROTH, p. 164, Rev. Ent. franc. xiii.
- N. shooterii*, Lower California, UHLER, p. 292, P. Calif. Ac. iv, n. sp.
- Sigara minutissima*, stridulation ; BRUYANT, C.R. Ac. Sci. cxviii, p. 299.

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- [Cf. BERGROTH (70), DUZEE (249, 250), EDWARDS (258, 259), FOWLER (319, 377), HORVATH (449), KARSCH (514, 515), KESSLER (523, 524), KIRBY (539), MARLATT (675), MASKELL (686), RILEY (919, 920), RÜBSAAMEN (953), VERHOEFF (1107) : also *Aphididæ*, p. 363, and *Coccidæ*, p. 364.]
- Fossil Homoptera of the primary epoch classified, with figures ; BRONGNIART (136), pp. 445-452.

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- Cicada septendecim*, points in life-history ; RILEY, pp. 115-118, P. ent. Soc. Washington, iii: on Staten I. ; DAVIS, pp. 38 & 96, J. N. York Ent. Soc. ii.
- Graptosaltria tianta*, China, KARSCH, p. 57, Ent. Nachr. xx, n. sp.

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- A. basilactea*, Cameroons, p. 115, pl. ii, fig. 3, KARSCH, Ent. Zeit. Stettin, lv, n. sp.
- Delphax psylloides*, Ceylon, LETHIERRY, p. 105, Indian Mus. Notes, iii, n. sp.
- Flata dohrni*, Cameroons, KARSCH, p. 116, pl. ii, fig. 5, Ent. Zeit. Stettin, lv, n. sp.
- Hemitropis fasciata*, p. 183, *modesta*, p. 184, Aralikh, HORVATH, Rev. Ent. franc. xiii, n. spp.
- Liburnia thoulessi*, England, EDWARDS, Hem.-Hom. Brit. p. 39, n. sp.

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- Locris halurga*, Cameroons, KARSCH, p. 114, Ent. Zeit. Stettin, lv, n. sp.
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- Membracidæ* of Central America ; FOWLER, Biol. Centr.-Amer. Homop. ii.
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- Ceresa bubalus*, habits, life-history ; HOWARD, Insect Life, vii, pp. 8-14, cuts. *C. bubalus* and *taurina*, oviposition discussed and figured ; RILEY, pp. 88-92.
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- Tylopelta*, n. g., type *Tropidoscyta gibbera*, Stål ; FOWLER, p. 15, pl. ii, fig. 1, Biol. Centr.-Amer. Homop. ii.
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- Psyllid galls on *Eucalyptus* ; RÜBSAAMEN, p. 229, Berlin. ent. Zeitschr. xxxix.
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A. spireæ, England, DOUGLAS, p. 73, Ent. Mag. 1894, n. sp.
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- [*Cf.* BUCKTON (143), COCKERELL (183-192), FROGGATT (332, 333, 334), GIARD (364, 365, 366), GUERCIO (389), HOWARD (452, 458), MASKELL (684, 685, 687), NEWSTEAD (753), RILEY (917), RILEY & HOWARD (923), RÜBSAAMEN (953), SASAKI (961), SLINGERLAND (1020), TOZZETTI (1078), TRYON (1083).]
- Mode of hibernation, effects of severe cold, viviparity, remedies; RILEY, pp. 65-71, P. ent. Soc. Washington, iii.
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- Coccid-galls of Australia, with figures of galls and insects; RÜBSAAMEN (953).
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- Scale insects on orange in Queensland; TRYON (1083).
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- List of *Coccidæ* of Africa; COCKERELL, p. 178, *Psyche*, vii.
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- insect in situ; SLINGERLAND, p. 680, Bull. Cornell Exp. Stat. lxxxiii. *A. uwe* and *furfurus*, parasites; HOWARD, p. 5, Insect Life, vii.
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- Asterolecanium*, systematic position discussed; MASKELL, p. 94, Entomologist, 1894.
- A. urichi*, Trinidad, COCKERELL, p. 308, J. Trinidad Club, i, n. sp.
- Bergrothia steelii*, New Mexico, COCKERELL & TOWNSEND, pp. 263 & 282, Ent. News Philad. v, n. sp.
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- Diaspis lanatus*, history, natural history, injuries, &c.; RILEY & HOWARD, Insect Life, vi, pp. 287-295, illustrations: report on; RILEY, Rep. Secr. Agric. 1893, pp. 222-225. *D. bromeliæ*, characters, development; GUERCIO, pp. 152-158, Natural. Sicil. xiii. *D. cacti*, = (*opunticola*, Newst.); COCKERELL, p. 127, Canad. Ent. 1894.
- D. patelliformis*, Japan, with natural history, SASAKI, Bull. Coll. Agric. Tokyo, ii, pp. 107-121, pls. i & ii, n. sp.
- Eriococcus coccineus*, greenhouse, Lincoln, Nebraska, COCKERELL, p. 204, Ent. News Philad. v, n. sp.

- Exeretopus*, n. g., near *Lichtensia*, for *E. formiceticola*, n. sp., Guernsey ; NEWSTEAD, p. 204, Ent. Mag. 1894.
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- L. rubellum*, Jamaica, COCKERELL, pp. 378 & 379, J. Inst. Jamaica, i [omitted from Zool. Rec. xxx] ; *L. perforatum*, Palm-house, Kew, NEWSTEAD, p. 233, Ent. Mag. 1894 ; *L. phoradendri*, Arizona, COCKERELL, p. 14, Ann. Nat. Hist. (6) xiv ; *L. urichi*, Trinidad, COCKERELL, p. 203, Ent. News Philad. v : n. spp.
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- M. vitium*, Chili, GIARD, p. 126, C.R. Soc. Biol. 1894, n. sp.
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Termitophilous insects ; WASMANN (1127).

Termitidæ and fungoid deposit in E. India ; SHARPE, p. 228, J. Bombay Soc. ix.

Anoplotermes and *Eutermes*, habits of nest construction ; JHERING, Congr. internat. Zool. 1892, i, pp. 248 & 249.

Termes taprobanae, various forms figured, Indian Mus. Notes, iii, p. 140.

T. lucifugus, foundation of colonies ; PEREZ, C.R. Ac. Sci. cxix, p. 805 : swarms ; PEREZ, *t. c.* p. 866. *T. flavipes*, habits in New York ; JOUTEL, pp. 89 & 90, J. N. York Ent. Soc. i.

PSOCIDÆ.

[Cf. ASHMEAD (31), REUTER (909).]

Monograph of the *Psocidæ* of Finland ; REUTER (909).

Cerobasis muraria, Kolbe, description ; REUTER, p. 46, fig. 9, Acta Soc. Faun. Fenn. ix.

Cæcilius piceus, n. var. *megastylus* ; REUTER, p. 45, Acta Soc. Faun. Fenn. ix, No. 4.

Elipsocus brevistylus, Finland, REUTER, p. 44, fig. 6, Acta Soc. Faun. Fenn. ix, No. 4, n. sp.

Leptella, n. g., p. 45, *Clothillinae*, for *L. fusciceps*, n. sp., Finland, p. 46, fig. 8 ; REUTER, Acta Soc. Faun. Fenn. ix, No. 4.

Myopsocus novæ-zelandiæ, = (*Psocus zealandicus*, Huds.); MCLACHLAN, p. 270, Ent. Mag. 1894.

Psocus hirticornis, fig. 1, *contrarius*, fig. 3, Finland, REUTER, p. 42, Acta Soc. Faun. Fenn. ix, No. 4 ; *P. gossypii*, N. America, ASHMEAD, p. 29, Insect Life, vii : n. spp.

Teratopsocus, n. g., p. 43, *Stenopsocaria*, for *T. maculipennis*, n. sp., Helsingfors (under cover), p. 44, fig. 5 ; REUTER, Acta Soc. Faun. Fenn. ix, No. 4.

PERLIDÆ.

Notes on senses ; NAGEL, pp. 117-121, Bibl. Zool. xviii.

Perlidæ, resident in Scotch but not Swiss lakes ; EATON, Ent. Mag. 1894, p. 87.

Nemoura : revision of Palæarctic ; MORTON, Tr. ent. Soc. London, 1894.

Includes descriptions and figures of male characters ; for the complex synonymy reference must be made to the paper itself.

N. avicularis, N. Europe, p. 562, *dubitans*, p. 565, Central Europe, *præcox*, Britain, p. 566, *borealis*, Finland, p. 571, MORTON, Tr. ent. Soc. London, 1894, n. spp.

EPHEMERIDÆ.

Ephemera : want of sense-organs on antennæ ; NAGEL, p. 118, Bibl. Zool. xviii.

E. pictiventris, W. China, MCLACHLAN, p. 428, Ann. Nat. Hist. (6) xiii ; *E. hudsoni*, New Zealand, MCLACHLAN, p. 270, Ent. Mag. 1894 : n. spp.

ODONATA.

- [*Cf.* BRONGNIART (136), CALVERT (150, 921), KARSCH (516), KIRBY (540-545), MCLACHLAN (661, 663), MARTIN (683), SELYS-LONGCHAMPS (997), WALLENGREN (1120), WIEDEMANN (1159).]
- Cannibal dragon-flies ; ROBERTS, *J. Bombay Soc.* ix, pp. 225 & 226.
 Note on senses ; NAGEL, p. 118, *Bibl. Zool.* xviii.
 Faunistic and descriptive paper on the *Odonata* of Schwaben & Neuburg ; WIEDEMANN (1159).
 Notes on the *Odonata* of Cyprus ; MARTIN, *Bull. Soc. zool. France*, xix, pp. 135-138.
 Catalogue of the *Odonata* of Ceylon ; KIRBY, *J. Linn. Soc.* xxiv.
 Notes on nymphs of British dragon-flies ; NUNNEY, pp. 80, &c., *Sci. Gossip*, i.
 Paper, in Russian, by RODZIANKO on *Libellula quadrimaculata*, *Trudni St. Peterb. Obshch.* xxiii, pp. 58-64.
Æschna clepsydra and *crenata*, identity, variation ; CALVERT, pp. 9-13.
Agrion johanssoni, n. n., = (*concinnum*, Joh.) ; WALLENGREN, p. 267, *Ent. Tidskr.* xv.
Anisogomphus occipitalis, ♂ described ; SELYS, p. 171, *Ann. Soc. ent. Belgique*, xxxviii.
Aphylla dentata, tenuis, descriptions ; SELYS, p. 178, *Ann. Soc. ent. Belgique*, xxxviii.
Archineura, n. g., near *Sapho*, p. 84, for *A. basilactea*, n. sp., Foo Chow, p. 86, fig., p. 85 ; KIRBY, *Ann. Nat. Hist.* (6) xiii.
A.: the genus queried ; KARSCH, p. 84, *Ent. Nachr.* xx. *A. incarnata*, Karsch, = (*basilactea*, Kirby, *infra*) ; MCLACHLAN, p. 434, *Ann. Nat. Hist.* (6) xiii.
Brachydiplax australis, Queensland, KIRBY, p. 18, *Ann. Nat. Hist.* (6) xiv, n. sp.
Brachytron pratense, nymph ; LUCAS, *Sci. Gossip*, i, p. 272, cut.
Bradinyopyga, n. g., near *Hemistigma*, for *B. stigmata*, n. sp., Ceylon, pl. xli, fig. 3 ; KIRBY, p. 553, *J. Linn. Soc.* xxiv.
Brechmorhoga, n. g., near *Macrothemis*, p. 264, for *B. grenadensis*, n. sp., I. of Grenada, p. 265 ; KIRBY, *Ann. Nat. Hist.* (6) xiv.
Caliphæa, = (*Notholestes*, McLach.), *C. confusa*, = (*N. elwesi*, McLach.) ; MCLACHLAN, p. 435, *Ann. Nat. Hist.* (6) xiii.
C. consimilis, W. China, MCLACHLAN, *Ann. Nat. Hist.* (6) xiii, p. 434, n. sp.
Calopteryx oberthuri, W. China, MCLACHLAN, p. 433, *Ann. Nat. Hist.* (6) xiii, n. sp.
Camacinta gigantea, note on ; KIRBY, p. 111, *Ann. Nat. Hist.* (6) xiv.
Cannacria smithii, St. Vincent and Grenada, KIRBY, p. 266, *Ann. Nat. Hist.* (6) xiv, n. sp.
Cordulegaster brevistigma, sexes described, p. 179 ; SELYS, *Ann. Soc. ent. Belgique*, xxxviii. *C. pekinensis*, noticed ; MCLACHLAN, p. 432, *Ann. Nat. Hist.* (6) xiii.

- Cyanogomphus ? demerarae*, S. America, SELYS, p. 173, Ann. Soc. ent. Belgique, xxxviii, n. sp.
- Davidius nanus*, ♂ described; SELYS, p. 173, Ann. Soc. ent. Belgique, xxxviii.
- Diplax dilatata*, St. Helena, CALVERT, p. 582, P. U. S. Mus. xvi, n. sp.
- Disparoneura oculata*, p. 562, *sita*, p. 563, Ceylon, KIRBY, J. Linn. Soc. xxiv, n. sp.
- Dythemis broadwayi*, Trinidad, KIRBY, p. 227, Ann. Nat. Hist. (6) xiv;
D. multipunctata, St. Vincent, KIRBY, p. 265, *t. c.* : n. spp.
- Echo incarnata*, = (*Archineura basilactea*, Kirb.); KARSCH, p. 84, Ent. Nachr. xx.
- Erythromma tinctipennis*, W. China, MCLACHLAN, p. 436, Ann. Nat. Hist. (6) xiii, n. sp.
- Gomphoides fuliginosa*, p. 175, *audax*, p. 176, redescribed; SELYS, Ann. Soc. ent. Belgique, xxxviii.
- Hydrobasileus extraneus*, description, p. 548, figure, pl. xli, fig. 1; KIRBY, J. Linn. Soc. xxiv.
- Lestes decipiens*, Ceylon, KIRBY, p. 565, J. Linn. Soc. xxiv, n. sp.
- Libellula quadrimaculata*, swarm; TRYBOM, p. 178, Ent. Tidskr. xv. *L.* (*Orthetrum*) *caffra*, *L.* (*Cacergates*) *unifasciata*, *leucosticta*, *L.* (*Crocothemis*) *erythraea*, *L.* (*Urothemis*) *edwardsii*, male characters; CALVERT, pp. 584-586, cuts, P. U. S. Mus. xvi.
- L.* (*Orthetrum*) *capensis*, S. Africa, CALVERT, p. 584, P. U. S. Mus. xvi;
L. basilinea, W. China, MCLACHLAN, p. 430, Ann. Nat. Hist. (6) xiii : n. spp.
- Micrathyria ? pruinosa*, Grenada, KIRBY, p. 267, Ann. Nat. Hist. (6) xiv, n. sp.
- Micromacromia camerunica*, ♂ characters, cuts; KARSCH, p. 15, Berlin. ent. Zeitschr. xxxviii.
- Nymphetria*, n. g., for *Thermorthemis defecta*, Karsch; KARSCH, p. 14, Berlin. ent. Zeitschr. xxxix.
- Onychogomphus modestus*, ♀ described; SELYS, p. 170, Ann. Soc. ent. Belgique, xxxviii.
- O. flavifrons*, Madagascar, p. 164, *O. ? circularis*, p. 165, *O. annularis*, p. 167, *maclachlani*, p. 168, Burma, *M. flavum*, Darjeeling, p. 169, SELYS, Ann. Soc. ent. Belgique, xxxviii, n. spp.
- Orthetrum japonicum*, n. var. *internum*, W. China; MCLACHLAN, p. 431, Ann. Nat. Hist. (6) xiii. *O. bramineum*, male described; KIRBY, p. 20, *op. cit.* xiv. *O. obliquum*, ♀ figured; KIRBY, pl. xlii, fig. 3, J. Linn. Soc. xxiv. *O. chrysostigma*, ♂ characters, cuts; KARSCH, p. 15, Berlin. ent. Zeitschr. xxxix.
- O. tricolor*, Ceylon, KIRBY, p. 555, J. Linn. Soc. xxiv; *O. nicevillei*, Burma, KIRBY, p. 112, Ann. Nat. Hist. (6) xiv; *O. nigrifrons*, Queensland, KIRBY, p. 19, *t. c.* : n. spp.
- Ortholestes* : characters of the genus; CALVERT, p. 377, P. Ac. Philad. 1893, cut.
- O. abbotti*, Hayti, CALVERT, P. Ac. Philad. 1893, p. 382, n. sp.

- Palpopleura portia*, ♂ characters, cuts, KARSCH, p. 11, Berlin. ent. Zeitschr. xxxix.
- Platyscelus*, n. n. for *Platynemis*; WALLENGREN, p. 262, Ent. Tidskr. xv.
- Platysticta apicalis*, Ceylon, KIRBY, p. 561, pl. xlii, fig. 1, J. Linn. Soc. xxiv, n. sp.
- Pseudagrion serrulatum*, Cameroons, KARSCH, p. 16, Berlin. ent. Zeitschr. xxxviii, n. sp.
- Pseudophæa carissima*, with var. *viridissima*, Ceylon, KIRBY, p. 559, pl. xlii, fig. 4, J. Linn. Soc. xxiv, n. sp.
- Rhythemis lankana*, Ceylon, KIRBY, p. 549, J. Linn. Soc. xxiv; *R. chloë*, p. 15, *princeps*, p. 16, *turneri*, p. 17, Queensland, KIRBY, Ann. Nat. Hist. (6) xiv : n. spp.
- Sympetrum bipunctatum*, n. var. *novæ-zealandiæ*; MCLACHLAN, p. 271, Ent. Mag. 1894.
- Tetrathemis yerburii*, Ceylon, KIRBY, p. 556, pl. xli, fig. 4, J. Linn. Soc. xxiv, n. sp.
- Thecadiplax ardens*, W. China, MCLACHLAN, p. 429, Ann. Nat. Hist. (6) xiii, n. sp.
- Tramea erythræa*, Brauer, generic position; KARSCH, p. 382, Ent. Nachr. xx.
- Trithemis arteriosa*, ♂ characters, cuts; KARSCH, p. 12, Berlin. ent. Zeitschr. xxxix.
- T. nuptialis*, Cameroons, KARSCH, p. 12, Berlin. ent. Zeitschr. xxxix; *T. cyprica* (Hagen), Cyprus, SELYS, p. 136, Bull. Soc. zool. France, xix : n. spp.
- Urothemis vittata*, Ceylon, KIRBY, p. 552, pl. xlii, fig. 2, J. Linn. Soc. xxiv, n. sp.

THYSANOPTERA.

- [*Cf.* ASHMEAD (31), JABLONOWSKI (468, 469), PERGANDE (248), TRYBOM (1082).]
- Observations on the habits of numerous species; TRYBOM, pp. 41-58, Ent. Tidskr. xv.
- Aptinothrips rufa*, ♀ described and figured; JABLONOWSKI, p. 98, pl. iv, figg. *l, m*, Termes. Fuzetek, xvii.
- Chirothrips manicata*, = (*longipennis*, Burm., and *antennatus*, Osborn); JABLONOWSKI, p. 47, Termes. Fuzetek, xvii.
- Limothrips denticornis*, = (*Thrips secalina*, Lind., and *kollari*, Heeg.); JABLONOWSKI, p. 47, Termes. Fuzetek, xvii. *L. cerealium*, sexes, and early stages described; JABLONOWSKI, *t. c.* pp. 95-97, pl. iv, figg. *f-k*.
- L. angulicornis*, Armenia, JABLONOWSKI, p. 45, pl. iii, fig. *h*, Termes. Fuzetek, xvii, n. sp.
- Phlæothrips statices*, = (*frumentarius*, Beling); JABLONOWSKI, p. 47, Termes. Fuzetek, xvii.

- P. crassipes*, Hungary, JABLONOWSKI, p. 44, pl. iii, fig. a, Termes. Fuzetek, xvii, n. sp.
Thrips ornata, Hungary, JABLONOWSKI, p. 93, Termes. Fuzetek, xvii ;
T. trifasciatus, North America, ASHMEAD, p. 27, Insect Life, vii ; *T.*
6-maculata, North America, PERGANDE, p. 539, Tr. Ac. St. Louis, v ;
 n. spp.

APTERA.

THYSANURA and COLLEMBOLA.

[Cf. HARVEY (413, 414), LEVANDER (640), MACGILLIVRAY (656),
 MCLACHLAN (659), MONIEZ (722, 724, 727), RIDLEY (911), SCHAEFF-
 ER (966), SCHÖTT (978, 979).]

List of myrmecophilous and termitophilous *Aptera* ; WASMANN, Verzeich-
 niss, pp. 189-192.

Thysanura.

- † *Dasypletus lucasi* discussed ; BRONGNIART (136), pp. 443 & 444.
Japyx saussurii ?, in Fernando Noronha ; RIDLEY, p. 556, J. Linn. Soc.
 xx.
Lepisma foreli, p. 212, *wasmanni*, p. 213, Oran, MONIEZ, Rev. biol. Nord
 France, vi ; *L. lei*, p. 557, *corticola*, p. 558, Fernando Noronha,
 RIDLEY, J. Linn. Soc. xx : n. spp.
Lepismodes inquilina, Newm., note on ; MCLACHLAN, p. 85, Ent. Mag. 1894.
Thermobia furnorum, note on ; MCLACHLAN, Ent. Mag. 1894, p. 52 ;
 BERGROTH, t. c. p. 111, and SHARP, t. c. p. 84. *T. domestica*, note
 on, = (*furnorum*, Rov.) ; PACKARD, p. 155, Ent. Mag. 1894.

Collembola.

- Systematic revision of Palearctic *Collembola*, with descriptions and figures ;
 SCHÖTT (978).
 North American *Entomobryidæ*, *Smynthuridæ*, *Papiriidæ* ; MACGILLIVRAY,
 pp. 105-110, Canad. Ent. 1894.
 Query as to validity of some names of genera ; COCKERELL, p. 116, Canad.
 Ent. 1894.
Achorutes trybomi, Preobrascheni I., p. 82, pl. vii, figg. 9 & 10, *navicularis*,
 Siberia, p. 83, pl. vii, figg. 11 & 12, SCHÖTT, Svenska Ak. Handl. xxv,
 No. 11 ; **A. pluvialis*, Switzerland, VÖGLER (cf. Mt. Schweiz. ent.
 Ges. ix, p. 160) : n. spp.
Campylothorax, n. g., *Entomobryidæ*, p. 18, for *C. longicornis*, n. sp.,
 Cameroons, p. 20, pl. vi ; SCHÖTT, Bih. Svenska Ak. xix, No. 2.
Dicranocentrus, n. g., *Entomobryidæ*, p. 21, for *D. gracilis*, n. sp.,
 Cameroons, p. 23, pl. vii, figg. 1-6 ; SCHÖTT, Bih. Svenska Ak. xix.
Drepanura brachycephala, New Zealand, MONIEZ, p. 208, Rev. biol. Nord
 France, vi, n. sp.
Entomobrya multifasciata, characters ; MONIEZ, p. 206, Rev. biol. Nord
 France, vi.

- E. dissimilis*, N. America, MONIEZ, Rev. biol. Nord France, p. 207; *E. bauciana*, Baux, near Arles, MONIEZ, p. 481, Rev. biol. Nord France, vi : n. spp.
- Isotoma bidenticulata*, redescribed; SCHAEFFER, Zool. Jahrb. Syst. viii, p. 129.
- I. hiemalis*, Sweden, p. 70, pl. vi, figg. 16-18, *reuteri*, Tschuktsch-land, p. 71, figg. 28-30, *clavata*, p. 73, figg. 35-37, *litoralis*, p. 75, Sweden, SCHÖTT, Svenska Ak. Handl. xx, No. 11; *I. pallida*, S. Brazil, MONIEZ, p. 354, Rev. biol. Nord France, vi : n. spp.
- Lepidocyrtus maximus*, p. 11, pl. iii, *ferrugineus*, p. 13, Cameroons, SCHÖTT, Bih. Svenska Ak. xix, No. 2; *L. cephalopurpureus*, Maine, HARVEY, p. 324, figg., Ent. News Philad. v : n. spp.
- Lipura incerta*, New Zealand, *disjuncta*, Linz-à-Rh., MONIEZ, p. 211, Rev. biol. Nord France, n. spp.
- Macgillivraya*, n. n. for *Tricna*, Macg.; GROTE, p. 54, Canad. Ent. 1894.
- Orchesella melanocephala*, *spectabilis* var., note on; MONIEZ, pp. 209 & 210, Rev. biol. Nord France, vi.
- Papirius purpurescens*, New York, p. 109, *olympius*, Washington, p. 110, MACGILLIVRAY, Canad. Ent. 1894, n. spp.
- Paronella*, n. g., *Entomobryidae*, p. 14, for *P. fusca*, n. sp., Cameroons, p. 16, pl. iv, SCHÖTT, Bih. Svenska Ak. xix, No. 2.
- Pseudachorutes carulescens*, Cameroons, SCHÖTT, p. 24, pl. vii, figg. 7-10, Bih. Svenska Ak. xix, No. 2, n. sp.
- Pseudosira*, n. g., *Entomobryidae*, p. 10, for *P. elegans*, n. sp., Cameroons, p. 11, pl. ii, figg. 9-11; SCHÖTT, Bih. Svenska Ak. xix, No. 2.
- Salina*, n. g., for *S. banksii*, n. sp., Florida; MACGILLIVRAY, p. 107, Canad. Ent. 1894.
- Seira buskii*, characters; HARVEY, p. 160, Psyche, vii.
- S. mimica*, Maine, HARVEY, p. 159, Psyche, vii. *S. musarum*, Fernando Noronha, RIDLEY, p. 559, J. Linn. Soc. xx, n. sp.
- Sminthurus apicalis*, copulation, structure of springing organ; LEVANDER, Acta Soc. Faun. Fenn. ix, No. 9. *S. fuscus*, var., from Cameroons, SCHÖTT, p. 6, Bih. Svenska Ak. xix, No. 2.
- S. maculatus*, p. 6, pl. i, figg. 1-5, *minimus*, p. 7, figg. 6-8, *piluliferus*, p. 9, pl. ii, figg. 4-8, Cameroons, SCHÖTT, Bih. Svenska Ak. xix, No. 2.
- S. marginatus*, Sweden, SCHÖTT, p. 25, pl. i, figg. 11-14, Svenska Ak. Handl. xxv, No. 11; *S. minutus*, New York, MACGILLIVRAY, p. 109, Canad. Ent. 1894 : n. spp.
- Strongylynotus*, n. g., for *S. summersii*, n. sp., Venezuela; MACGILLIVRAY, p. 107, Canad. Ent. 1894.
- Tomocerus arcticus*, Tschuktsch-land, SCHÖTT, p. 43, pl. iii, figg. 8 & 9, Svenska Ak. Handl. xxv, No. 2, n. sp.
- Trichorypha*, n. g., *Entomobryidae*, p. 16, for *T. atrofusciata*, n. sp., Cameroons, p. 18, pl. v; SCHÖTT, Bih. Svenska Ak. xix, No. 2.

(G.) ORTHOPTERA.

- [Cf. BECQUEREL & BRONGNIART (57), BEUTENMÜLLER (82, 84, 85), BLATCHLEY (104), BOLIVAR (105, 106), BRONGNIART (136), BRUNER (140, 912), DOMINIQUE (234, 236, 237), FAURE (291), FINOT (303), FUENTE (345), GIGLIO TOS (369, 370), HANCOCK (404), HANSEN (406), HEYMONS (427, 428), HOWARD (457), HURBARD (460), KARSCH (517), KIRBY (911), KOWALEWSKY (579, 580), KÜNCKEL (614-619), MORSE (734, 735, 736), NIETSCH (758), OSBORN (777), REDTENBACHER (869), RODZIANKO (939), SAHLBERG (957), SAPPEY (960), SAUSSURE & ZEHNTNER (377), SCUDDER (991, 992), SCHULTHESS-RECHBERG (982), TEPPER (1062), WASMANN (1127), WERNER (1152).]
- Wing-structure discussed at length, with numerous figures; BRONGNIART (136), pp. 221-255. The *Orthoptera* and *Neuroptera* distinguished; pp. 256-269, *t. c.*
- Fossil *Orthoptera* of the primary epoch, classified and figured; BRONGNIART (136), pp. 413-442.
- Length of alimentary canal in carnivorous and phytophagous *Orthoptera*; WERNER (1152).
- Heart of *Orthoptera*, its relation with malpighian tubes, &c.; KOWALEWSKY (580).
- Formation of Endoderm, Mesoderm, and Ectoderm in various *Orthoptera*; HEYMONS (428).
- Myrmecophilous and termitophilous *Orthoptera*, list of; WASMANN, pp. 175-177, Verzeichniss.
- Descriptive catalogue of the *Orthoptera* of New York; BEUTENMÜLLER (84).

[Position unknown to Recorder.]

Dorycephalus platyrhynchus, Nebraska, OSBORN, p. 216, *Canad. Ent.* 1894, n. sp.

FORFICULIDÆ, HEMIMERIDÆ.

- Senses; NAGEL, pp. 121 & 122, *Bibl. Zool.* xviii.
- Forficula auricularia*, habits, oviposition, maternal instinct; HEYMONS, *SB. Ges. naturf. Berlin*, 1894, pp. 65 & 66.
- Observations on the structure and habits of *Hemimerus*, showing the insect to be parasitic on mammals, and to form a family allied to *Forficulidæ*; HANSEN, *Ent. Tidskr.* xv, pp. 65-93, pls. ii & iii: notes on Hansen's paper; BERGROTH, *Wien. ent. Zeit.* xiii, p. 193, and SHARP, *Ent. Mag.* 1894, p. 256.

BLATTIDÆ.

- Supplement to Tepper's monograph of the *Blattidæ* of Australia, recorded last year; TEPPER, Tr. R. Soc. S. Austral. xviii, pp. 169-189.
- Anamesia? fulvornata*, Victoria, TEPPER, p. 177, Tr. R. Soc. S. Austral. xviii, n. sp.
- Aphlebia algerica*, ♂ described; BOLIVAR, p. 84, Act. Soc. Espan. xxiii.
- A. janeri*, Tangier, BOLIVAR, p. 83, Act. Soc. Espan. xxiii, n. sp.
- Blatta incommoda*, Fernando Noronha, KIRBY, J. Linn. Soc. xx, p. 533, n. sp.
- Epilampra tatei*, Australia, TEPPER, p. 174, Tr. R. Soc. S. Austral. xviii, n. sp.
- Geoscapheus giganteus*, N. Queensland, TEPPER, p. 176, Tr. R. Soc. S. Austral. xviii, n. sp.
- Heterogamia rugosa*, Somaliland, SCHULTHESS-RECHBERG, Zool. Jahrb. Syst. viii, p. 68, n. sp.
- Leptozosteria secunda*, Queensland, TEPPER, p. 183, Tr. R. Soc. S. Austral. xviii, n. sp.
- Loboptera maroccana*, p. 84, *minor*, p. 85, N. Africa, BOLIVAR, Act. Soc. Espan. xxiii, n. spp.
- Oniscosoma castanea*, varietal note; TEPPER, p. 186, Tr. R. Soc. S. Austral. xviii.
- Paraphoraspis? castanea*, Victoria, TEPPER, p. 173, Tr. R. Soc. S. Austral. xviii, n. sp.
- Phyllodromia borellii*, Paraguay, GIGLIO-TOS, p. 2, Boll. Mus. Torino, ix, No. 184, n. sp.
- Platyzosteria subzonata*, p. 181, *P. ? picta*, *P. exaspera*, p. 182, Australia, TEPPER, Tr. R. Soc. S. Austral. xviii, n. spp.
- Polyzosteria frenchii*, Victoria, TEPPER, p. 178, Tr. R. Soc. S. Austral. xviii, n. sp.

MANTIDÆ.

- Tribes defined; SAUSSURE & ZEHNTNER, Biol. Centr.-Amer. Orthopt. pp. 123 & 124.
- Acanthops godmani*, British Honduras, SAUSSURE & ZEHNTNER, p. 181, pl. vi, fig. 3, Biol. Centr.-Amer. Orthopt., n. sp.
- Achlina crypsichroma*, description and figure; KARSCH, pp. 271 & 272, pl. xix, fig. 2, Berlin. ent. Zeitschr. xxxix.
- Acontista*: synopsis of the species, p. 132; SAUSSURE & ZEHNTNER, Biol. Centr.-Amer. Orthopt.
- A. westwoodi*, = (*truncata*, Westw.), p. 134, Colombia, *paraensis*, Brazil, *mexicana*, Mexico, p. 135, *fraterna*, Costa Rica, *cayennensis*, Guiana, p. 136, *vitrea*, Central America, p. 138, pl. vi, fig. 9, SAUSSURE & ZEHNTNER, Biol. Centr.-Amer. Orthopt., n. spp.

- Ameles aptera*, Spain, FUENTE, p. 137, Act. Soc. Espan. xxii, n. sp.
- Amorphoscelis annulipes*, Karsch, figure and description; KARSCH, p. 269, pl. xix, fig. 6, Berlin. ent. Zeitschr. xxxix.
- A. laxereticis*, Tropical Africa, KARSCH, Berlin. ent. Zeitschr. xxxix, p. 270, n. sp.
- Angela*: synopsis of species, p. 155, *A. perpulchra*, figured, pl. viii, fig. 1; SAUSSURE & ZEHNTNER, Biol. Centr.-Amer. Orthopt.
- A. championi*, Guatemala, SAUSSURE & ZEHNTNER, Biol. Centr.-Amer. Orthopt. p. 158, n. sp.
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- Bolivaria dolichopectera*, Somaliland, SCHULTHESS-RECHBERG, Zool. Jahrb. Syst. viii, p. 71, n. sp.
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- Chiropacha modesta*, Somaliland, SCHULTHESS-RECHBERG, Zool. Jahrb. Syst. viii, p. 69, n. sp.
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- Coptopteryx gayi*, description; GIGLIO-TOS, p. 4, Boll. Mus. Torino, ix, No. 184.
- Hagiomantis*, n. g., for *Mantis ornata*, Stoll; SAUSSURE & ZEHNTNER, p. 159, Biol. Centr.-Amer. Orthopt.
- Hagiotata*, n. g., near *Vates*, for *H. hofmanni*, n. sp., Brazil, pl. viii, fig. 5, p. 197; SAUSSURE & ZEHNTNER, Biol. Centr.-Amer. Orthopt.
- Harpagonyx*, n. g., SAUSSURE, p. 122, Soc. ent. 1892, and Biol. Centr.-Amer. Orthopt. p. 175.
- H. gryps*, pl. viii, fig. 4, *dohrnianus*, *maya*, Central America, SAUSSURE & ZEHNTNER, p. 176, Biol. Centr.-Amer. Orthopt., n. spp.
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- L. giraffa*, Cameroons, KARSCH, p. 277, Berlin. ent. Zeitschr. xxxix, n. sp.
- Litaneutria ocularis*, figured and described, p. 154, pl. viii, fig. 3; SAUSSURE & ZEHNTNER, Biol. Centr.-Amer. Orthopt.
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- Green colouring matter of *Phyllium* ; BECQUEREL & BRONGNIART (57).
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Bacillus gallicus, habits, eggs described and figured ; DOMINIQUE, Bull. Soc. Ouest France, 1894, pp. 29 & 30.

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- Grylloides* sp., peculiar burrows of, in Florida ; SCUDDER, Psyche, vii, p. 4.
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- Gryllotalpa borealis*, habits ; SCUDDER, Psyche, vii, p. 3. *G. vulgaris*, habits ; DECAUX, pp. 14-16, Naturaliste, 1894.
- Gryllus longicaudatus*, Somaliland, SCHULTHESS-RECHBERG, Zool. Jahrb. Syst. viii, p. 82 ; *G. (Miogryllus) tucumanensis*, Tucuman, GIGLIO-TOS, p. 41, Boll. Mus. Torino, ix, No. 184 : n. spp.
- Nemobius lineolatus, silvestris*, distinctions ; DOMINIQUE, Bull. Soc. Ouest France, 1894, p. 31.
- N. affinis*, New York, BEUTENMÜLLER, p. 249, Bull. Amer. Mus. vi, n. sp.
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- Tridactylus terminalis*, habits ; SCUDDER, p. 3, Psyche, vii.

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- Anabrus simplex* and other migratory Locustids; REDTENBACHER (869).
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- Ateloplus*, n. g., *Decticides*; SCUDDER, p. 182, Canad. Ent. 1894.
- Atlanticus*, n. g., *Decticides*, p. 179, with *A. gibbosus*, n. sp., p. 180; SCUDDER, Canad. Ent. 1894.
- Cacopterus*, n. g., *Decticides*; SCUDDER, p. 181, Canad. Ent. 1894.
- Ceuthophilus latibuli*, Florida, in burrows of land tortoise; SCUDDER, p. 313, Insect Life, vi, n. sp.
- Clinopleura*, n. g., for *Steiroxys melanopleura*, Scudd.; SCUDDER, p. 182, Canad. Ent. 1894.
- Conocephalus vernalis*, with var. *frater*, Fernando Noronha, KIRBY, J. Linn. Soc. xx, n. sp.
- Copiophora borellii*, Paraguay, GIGLIO-TOS, p. 40, Boll. Mus. Torino, ix, No. 184, n. sp.
- Ctenodecticus masferrerii*, Monserrat, BOLIVAR, p. 87, Act. Soc. Espan. xxiii, n. sp.
- Decticus albifrons*, habits and ravages in Algeria; KÜNCKEL, p. 137, Ann. Soc. ent. France, 1894.
- Drymadusa fallaciosa*, Algeria, FINOT, p. xiii, Bull. Soc. ent. France, 1894, n. sp.
- Eremopedes*, n. g., *Decticides*; SCUDDER, p. 181, Canad. Ent. 1894.
- Festella*, n. g., for *Ctenodecticus festæ*, GIGLIO-TOS, p. 3, Boll. Mus. Torino, ix, No. 191.
- Idionotus*, n. g., *Decticides*; SCUDDER, p. 182, Canad. Ent. 1894.
- Isophya borellii*, *hamata*, *pulchella*, Paraguay, GIGLIO-TOS, p. 37, Boll. Mus. Torino, ix, No. 184, n. spp.
- Locusta viridissima*, tracheal system; NIETSCH, Verh. Ges. Wien, p. 1, pl. i, and SB. p. 21.
- Meroncidius viridinervis*, Fernando Noronha, KIRBY, p. 536, J. Linn. Soc. xx, n. sp.
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- Peranabrus*, n. g., for *Thamnotrizon scabricollis*, Thom.; SCUDDER, p. 181, Canad. Ent. 1894.
- Pornotrips ruspolti*, Somaliland, SCHULTHESS-RECHBERG, Zool. Jahrb. Syst. viii, p. 81, pl. iv, fig. 4, n. sp.
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- Steiroxys borealis*, N. America, SCUDDER, p. 182, Canad. Ent. 1894, n. sp.
- Stenopelmatus*: anatomy of trophi, asymmetry of maxillæ; HOWARD, p. 102, P. ent. Soc. Washington, iii.
- Zulphidea*, n. n. to replace *Zulphis*, Wlk.; FAIRMAIRE, p. 395, Ann. Soc. ent. Belgique, xxxviii.

ACRIDIIDÆ.

- Migratory locusts ; REDTENBACHER (869).
 Destructive locusts ; RILEY, Rep. Secr. Agric. 1891, pp. 246-252.
 Mode of oviposition ; KÜNCKEL, C.R. Ac. Sci. cxix, p. 244.
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- Osmilia coriacea*, Paraguay, GIGLIO-TOS, p. 18, Boll. Mus. Torino, ix, No. 184, n. sp.
- Ossa*, n. g., *Pyrgomorphides*, for *O. bimaculata*, n. sp., Argentine Republic; GIGLIO-TOS, p. 15, Boll. Mus. Torino, ix, No. 184.
- Oxybleptella*, n. g., near *Leptysmia* and *Mastusia*, for *O. sagitta*, n. sp., Paraguay; GIGLIO-TOS, p. 33, Boll. Mus. Torino, ix, No. 184.
- Pachytylus migratoroides*, at Sierra Leone; MITFORD, p. 2, P. Zool. Soc. London, 1894.
- Paracornops*, n. g., for *Cornops*, Stål, *nec* Scudder; GIGLIO-TOS, p. 31, Boll. Mus. Torino, ix, No. 184.
- Paradichroplus brunneri*, p. 25, *bipunctatus*, p. 26, *borellii*, p. 27, *aberrans*, p. 28; Paraguay, GIGLIO-TOS, Boll. Mus. Torino, ix, No. 184, n. spp.
- Petasia oberthuri*, Togoland, BOLIVAR, p. clxiii, Bull. Soc. ent. France, 1894, n. sp.
- Procolpia minor*, Paraguay, GIGLIO-TOS, p. 17, Boll. Mus. Torino, ix, No. 184, n. sp.
- Prosarthria borellii*, Paraguay, GIGLIO-TOS, p. 4, Boll. Mus. Torino, ix, No. 184, n. sp.
- Pezotettix obovatipennis*, Indiana, BLATCHLEY, p. 241, Canad. Ent. 1894; *P. cheiopodii*, N. America, BRUNER, p. 41, Insect Life, vii : n. spp.
- Pyrgomorpha agarena*, Larache, BOLIVAR, p. 36, Act. Soc. Espan. xxiii; *P. debilis*, Algeria, FINOT, p. 12, Bull. Soc. ent. France, 1894 : n. spp.
- Schistocerca peregrina*, habits, copulation, oviposition; KÜNCKEL, C.R. Ac. Sci. cxix, p. 863. *S. americana*, metamorphoses, &c.; HOWARD, Insect Life, vii, pp. 220-229, cuts.
- Scopas*, n. g., p. 28, *Pezotettigides*, for *S. obesus*, n. sp., Paraguay, p. 29; GIGLIO-TOS, Boll. Mus. Torino, ix, No. 184.
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- Scyllina borellii*, Paraguay, GIGLIO-TOS, p. 14, Boll. Mus. Torino, ix, No. 184, n. sp.
- Sphingonotus sefræ*, Algeria, FINOT, p. xii, Bull. Soc. ent. France, 1894, n. sp.
- Sphodromerus decoloratus*, Algeria, FINOT, p. xiii, Bull. Soc. ent. France, 1894; *S. inconspicuus*, Somaliland, SCHULTHESS-RECHBERG, p. 78, Zool. Jahrb. Syst. viii : n. spp.
- Tettigidea polymorpha* and *lateralis*, distinctions queried; MORSE, p. 54, Psyche, vii. *T. lateralis*, migration; HANCOCK, Amer. Natural. 1894, pp. 483-487.
- Tettix* : characters of the Finland species and forms; SAHLBERG (957) : variation in N. American species, synonymy; MORSE, p. 54, Psyche, vii.
- Thisoicetrus grossus*, Somaliland, SCHULTHESS-RECHBERG, Zool. Jahrb. Syst. viii, p. 79, n. sp.
- Tropidonotus modestus*, *insignis*, Argentine Republic, GIGLIO-TOS, p. 16, Boll. Mus. Torino, ix, No. 184, n. spp.

XIV. ECHINODERMA.

BY

F. A. BATHER.

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INTRODUCTION.

I. TITLES	Analysis of dates.
2	from publications of 1887.
1	" " " 1888.
1	" " " 1889.
2	" " " 1890.
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3	" " " 1892.
10	" " " 1893.
20	anterior to 1894.
113	from publications of 1894.

133 Total recorded.

Of these books and papers 7 have not been seen, although, with possibly two exceptions, they occur in publications that should have been

accessible before the work was closed. The Recorder has also been unable to see, as yet, the three papers (138, 142, 277) that were the only ones unseen in the Record for 1893. There is good reason to believe that many publications anterior to 1895, and containing Echinoderm literature, remain unrecorded. These facts alone are enough to show the impossibility of preparing a complete Record for any one year, under the present system.

Under each title, references are given to such Abstracts and Reviews as seem of importance to the student of Echinoderms. References are also given to similar Abstracts and Reviews published in 1894, but dealing with previously recorded literature. Such are entered under the name of the authors reviewed, and are neither numbered in the series nor indexed.

The figures in square brackets that follow each title are cross-references to the divisions of the Subject- and Systematic Indices. For instance, [II, B, ii, d, 1] informs the reader that a reference to the paper will be found in Division II, BIOLOGY; Section (B), MORPHOLOGY; Subject (ii) VARIATION; Special case (d), Meristic variation; (1) Variation from pentamerous symmetry. References to the Systematic Index (IV) are only given when new genera and species are described or alterations made in nomenclature. By this system, those who wish to learn the contents of a paper can easily do so; while those who do not wish such information can pass by without complaint.

II. BIOLOGY. This Index has been drawn up on the same lines as last year, and for the present it has been thought advisable to employ the same catch-numerals to number the respective subjects. Since there is much less biological work to record this year, several of these catch-numerals are absent. It is hoped that the apparent inconsequence thus introduced will help those who use consecutive volumes for a special point, and will not puzzle those who refer to a single volume.

III. DISTRIBUTION. The small number of items in this Index, as compared with last year, has enabled a change to be made in the arrangement of Section A, Geographical Distribution. It is unfortunate that neither the Star-fish and Sea-urchins themselves, nor the people that dredge for them, will limit their range to the areas of the text-book.

IV. SYSTEMATIC. This index is complete, with certain exceptions noted in List of Titles. Used in combination with the above-mentioned cross-references, it will put the student on the track of everything said about any species that has been alluded to in the year's literature.

This Index contains 240 new species, and 26 new genera, distributed as follows:—*Holothurioidea*, genera 7, species 32; *Echinoidea*, genera 2, species 60; *Asteroidea*, genera 12, species 63; *Ophiuroidea*, genera 1, species 21; *Crinoidea*, genera 2, species 56; *Cystidea*, genera 2, species 8. There are also many new varieties, and the usual *nomina nuda*.

The new *Holothurioidea* are mostly from E. Central Pacific; the new

Echinoidea, from the Cretaceous and Tertiary rocks of France; the new *Asteroidea*, from the E. Atlantic; the new *Ophiuroidea*, from the Indian Ocean; the new *Crinoidea* and *Cystidea*, from the Carboniferous rocks of N. America.

The exactitude of this list is probably vitiated by the vagaries of those authors who are unable to tell us, or to tell us truly, whether the species they describe are old or new, and who delight to throw their readers off the scent by following a different method of quotation and description on every page. Among these bugbears of the recorder are to be reckoned two of the most eminent living writers on Echinoderms.

The arrangement of the Systematic Division, and indeed of the whole Echinoderm Record, follows the plan already laid down by previous recorders and editors. It is capable of great improvement, but changes must be gradual. Meanwhile they who desire a grouping under Orders and Families, may be asked how they would put, let us say, Perrier's new wine, No. 92, into Sladen's old bottles; or whether they think a blending with the Rhenish of Stürtz, No. 115, would make the mixture more easy on the stomach. Should they further complain that the Recorder does not take it on himself to decide which are genera and which subgenera, they may be asked whether, in their classification of the species of *Cidarida*, they would follow Schlueter (236, Zool. Rec. 1893), Lambert (57), Cotteau (23), or, possibly, Jeffrey Bell (16, Zool. Rec. 1893). There are enough critics; a recorder's business is to record.

I.—TITLES.*

ALCOCK, A. (5) Zool. Rec. 1893. Abstract, J. R. Micr. Soc. 1894 (Aug.), p. 439.

1. —. A guide to the zoological collections exhibited in the Invertebrate gallery of the Indian Museum. 155 pp., 1 folding plate. Calcutta, 8vo. [*Ech. Ast. Oph. Crin. Hol.* II, B, i : D, i.]
2. —. Illustrations of the Zoology of the Royal Indian Marine surveying steamer Investigator Echinoderma 1. pls. i-iii. Calcutta, 4to.

Gives figures of the previously described—*Pararchaster huddlestonii*, *P. violaceus*, *Dytaster anacanthus*, *Pentagonaster pulvinus*, *Zoroaster zea*, *Persephonaster rhodopeplus*, *P. celochiles*, *Anthenoides sarissa*, *Pontaster hispidus*, *Pseudarchaster mosaicus*, and *Dipsacaster pentagonalis*.

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

3. ANDERSON, A. R. S. Natural History notes from H.M. Indian Marine survey steamer "Investigator," Commander C. F. Oldham, R.N., commanding. Series II, No. 16. On the Echinoidea collected during the season 1893-1894. *J. Asiat. Soc. Bengal*, lxiii (ii), pp. 188-195. [II, D, v, c. III, A, iii. IV, c.]
Abstract, by LUDWIG, *Zool. Centralbl.* ii, p. 197 (May, 1895).
4. ANDREAE, A. Das Vorkommen von Ophiuren in der Trias der Umgebung von Heidelberg. *Mt. Badisch. Geol. Landesanst.* iii, pp. 1-10. [III, B, ii, e : iv, b. IV, E.]
Abstracts,—by BENECKE, N. *Jahrb. Min.* 1895, i, pp. 205 & 206 ; by A. BITTNER, *Verh. geol. Reichsanst.* iii, p. 130 ; by LUDWIG, *Zool. Centralbl.* ii, p. 145 (April, 1895).
5. ANON. Autotomy in Echinoderms. *Nat. Sci.* v, p. 4 (July). [II, D, vii.]
Discusses CHADWICK, H. *Zool. Rec.* 1891, and DANIELSEN, D. C. (61) *Zool. Rec.* 1893.
6. BATESON, W. Materials for the study of variation treated with especial regard to discontinuity in the origin of species. xv & 598 pp. London, 8vo. [*Echinoderma*, pp. 421, 429, & 432-447. II, B, ii.]
7. BELL, F. J. On the Echinoderms collected during the voyage of H.M.S. "Penguin," and by H.M.S. "Egeria," when surveying Macclesfield Bank. *P. Zool. Soc. London*, 1894, pp. 392-413, pls. xxiii-xxvii (May). [II, B, i, a, d, f; ii, b, d : D, vii: F, iii; iv, b. III, A, iv. IV, C, D, E, F.]
Abstracts,—*Nat. Sci.* v, pp. 327 & 328 (Nov.) ; *J. R. Micr. Soc.* 1894 (Dec.), pp. 688 & 689.
8. BIELZ, E. A. Miocänes Petrefactenlager von Michelsberg. *Verh. Siebenb. Ver.* xliiii, pp. 92 & 93. [III, B, ii.]
BITTNER, A. *Zool. Rec.* 1891. Abstract by T. EBERT, *N. Jahrb. Min.* 1894, i, pp. 203 & 204.
9. ——. Einige Bemerkungen zu Gauthier's Besprechung meiner Mittheilung "Ueber *Parabrissus* und einige andere alttertiäre Echinidengattungen." *Verh. geol. Reichsanst.* xi, pp. 258-261 (Sept. 1893). [IV, C.]
10. BOAS, J. E. V. *Lehrbuch der Zoologie, für Studierende und Lehrer.* Zweite vermehrte und verbesserte Auflage. x & 603 pp., 427 figures in text, mostly original. Jena, 8vo (May). [II, B, i.]
BOEHM, G. (22) *Zool. Rec.* 1893. Abstract in LUDWIG (69).
11. BÜSE, E. *Geologische Monographie der Hohenschwangauer Alpen.* *Geognost. Jahresh.* vi, pp. 1-48. [III, B, iv, b.]

12. BOTTO-MICCA, L. Fossili degli "strati a *Lioceras opalinum* Rein. e *Ludwigia murchisonae* Sow." Della croce di Valpore (M. Grapa) provincia di Treviso. Boll. Soc. geol. Ital. xii, pp. 143-193, pl. i (1893). [III, B, iii.]
13. BOURGEAT (Abbé). Remarques sur la faune du Gault dans le Jura. Bull. Soc. geol. France, 3 ser., xxii, pp. 355-358 (Aug.). [III, B, iii.]
14. BOYLE, C. B. A catalogue and bibliography of North American Mesozoic Invertebrata. Bull. U. S. Geol. Surv., No. 102 (1893). [II, E, iii.]
15. BRAEM, F. Ueber den Einfluss des Druckes auf die Zellteilung und über die Bedeutung dieses Einflusses für die normale Eifurchung. Biol. Centralbl. xiv, pp. 340-353 (May). [II, F, vii.]
16. BRIVE, A. Terrains Miocènes de la région de Carnot (Algérie). Bull. Soc. geol. France, 3 ser., xxii, pp. 17-29 (April). [III, B, ii.]
17. CAPELLINI, G. *Rhizocrinus santagatai* e *Bathysiphon filiformis*. Rend. Acc. Lincei, iii (iv), pp. 211-218 (March). [IV, F.]
Abstract, J. R. Micr. Soc. 1894 (June), p. 349.
18. CAPRIA, A. Appunti anatomici sull' *Astrophyton arborescens*, Müller et Troschel. Riv. ital. Sci. Nat. xiii, pp. 115-118 (Oct. 1893). [II, B, i, c.]
19. CATTANEO, G. Gli amoebociti dei Cefalopodi e loro confronto con quelli d'altri invertebrati. Atti Univ. Genova, xi, pp. 1-50, pls. i-iv (1892). [II, B, i, a, c.]
CHADWICK, H. Zool. Rec. 1891. Abstract, Nat. Sci. v, p. 4 (July). (30, 31) Zool. Rec. 1893. Abstract in LUDWIG (69).
20. CHERNUISHEV, TH. Zamyetka o gherzinskoi faune vostochnago sklona Urala. (Note sur la faune hercynienne du versant oriental de l'Oural.) Bull. Com. geol. St. Petersb. xi, pp. 117-134 (1892). [III, B, iv. IV, F.]
CLARK, W. B. (36) Zool. Rec. 1893. Review by W[ARREN] U[PHAM], Amer. Geol. xiv, pp. 329 & 330 (Nov.).
COLE, A. H. (15) Zool. Rec. 1892. Abstract by V. GAUTHIER, Annuaire geol. 1892, p. 876.
COLLIN, A. See MEISSNER, M., & COLLIN, A.
21. COOPER, J. G. Catalogue of Californian fossils. Bull. Calif. Mining Bureau, No. iv (Sept.). [III, B, ii.]
COTTEAU, G. H. (43) Zool. Rec. 1893. Abstract by C. VÉLAIN, Rev. Trav. sci. xiv, pp. 518-520. (44) Zool. Rec. 1893. Abstract by C. VÉLAIN, Rev. Trav. sci. xiv, pp. 517 & 518; and in Rev. Scient. (4) i, p. 120. (46) Zool. Rec. 1893. Abstract by E. OUSTALLET, Rev. Trav. sci. xiv, pp. 1059 & 1060.

22. [COTTEAU, G. H.] Sur quelques espèces d'Échinides du Liban. C.R. Ass. Franc. (1893) pp. 346-360. [*Cf.* (47) Zool. Rec. 1893. Is "F. COTTEAU" the same author?] [III, B, iii. IV, C.]
23. ——. Éocène, Échinides. T. II. Pal. franc. Terrains Tertiaires :— Livr. 32, April, 1894, pp. 673-720, pls. cclxv-cclxxvi; Livr. 33, May, 1894, pp. 721-788, pls. cclxxvii-cclxxxiv. [III, B, ii. IV, C.]
Abstract in Rev. Scient. (4) i, pp. 633 & 634, and ii, pp. 24 & 25.
24. CRAGIN, F. W. The Choctaw and Grayson Terranes of the Arietina. Colorado Coll. Studies, v, pp. 40-48. [III, B, iii. IV, C.]
25. ——. Descriptions of Invertebrate fossils from the Comanche series in Texas, Kansas and Indian Territory. Colorado Coll. Studies, v, pp. 49-68. [III, B, iii. IV, C.]
26. °——. A contribution to the Invertebrate palæontology of the Texas Cretaceous. Rep. Geol. Surv. Texas, iv.
Abstract by J. BOEHM, N. Jahrb. Min. 1894, i, p. 371.
CRETY, C. (52) Zool. Rec. 1893. Abstract,—Arch. ital. Biol. xxii, pp. 147 & 148 (Oct.).
27. ——. Contribuzione alla conoscenza dell' ovo ovarico. Ric. Lab. Anat. Roma, iv, pp. 261-281, pl. xiv. [II, F, ii, vi.]
28. CUÉNOT, L. Über Hemispeiropsis antedonis Cuén., ein an den Comatulen lebendes Infusorium. Zool. Anz. xvii, p. 316 (Aug.). [II, D, viii.]
29. DANTZ, C. Der Kohlenkalk in der Umgebung von Aachen. Zeitschr. deutsch. geol. Ges. xlv, pp. 594-638, pls. xxvi-xxviii. (Dated 1893, published 1894.) [III, B, iv.]
DARTON, N. H. (17) Zool. Rec. 1892. Abstract by H. BEHRENS, N. Jahrb. Min. 1894, i, p. 123.
DRIESCH, H. (69, 70) Zool. Rec. 1893. Abstract in LUDWIG (69).
ETHERIDGE, R. (Jun.). (76) Zool. Rec. 1893. Abstract in GAUTHIER (38), pp. 874-876.
30. FARQUHAR, H. Description of a new species of *Ophiuride*. Tr. N. Zealand Inst. xxvi, pp. 109-111, pl. ix (May). [II, D, vii. IV, E.]
FIELD, G. W. (83) Zool. Rec. 1893. Abstract in LUDWIG (69).
31. FORTIN, R. Notes de géologie Normande. I. Sur l'existence du *Micraster normannæ*, E. Buc. à Bonsecours, près Rouen. Bull. Soc. Rouen, xxix, pp. 85-88. [III, B, iii.]
32. FREYSTEDT, A. Oelheim. Ein Beitrag zur Kenntniss des Erdölvorkommens in Norddeutschland. Beitr. Geol. Braunschweig. i, pp. 103-194, with iv pls. [III, B, iii.]
33. FUTTERER, K. Beiträge zur Kenntniss des Jura in Ost-Afrika. Zeitschr. deutsch. geol. Ges. xlvi, pp. 1-49, pls. i-vi. [III, B, iii.]

34. GARSTANG, W. On some Bipinnariæ from the English Channel. Quart. J. Micr. Sci. (n.s.) xxxv, pp. 451-460, pl. xxviii (Jan.). [II, F, i, iv.]
Abstract in J. R. Micr. Soc. 1894 (April) p. 207; by LUDWIG, Zool. Centralbl. i, p. 633.
35. —. Preliminary note on a new theory of the phylogeny of the Chordata. Zool. Anz. xvii, pp. 122-126 (April). [II, F, i.]
Abstract, J. R. Micr. Soc. 1894 (Aug.) pp. 438 & 439.
36. —. Faunistic notes at Plymouth during 1893-4. With Observations on the breeding seasons of Marine animals, and on the periodic changes of the floating fauna. J. Mar. Biol. Ass. iii, pp. 210-235 (Oct.). [II, F, i, d.]
37. GAUTHIER, V. Notes sur les Échinides Crétacés recueillis en Tunisie par M. Aubert, &c. Annexe de la Carte géologique de la Tunisie, 52 pp., iv pls. Paris, 8vo (1892). [II, B, ii, b, d, III, B, iii, IV, C.]
Abstract in GAUTHIER (38) p. 851.
38. —. Échinodermes. Annuaire geol. ix, pp. 847-876 (June, 1894). [*Ech. Crin. Ast.*]
Gives critical abstracts of COTTEAU (42, 44) Zool. Rec. 1893; GAUTHIER (37) this Record; LAMBERT (145) Zool. Rec. 1893; PARENT (206) Zool. Rec. 1893; SCHLUETER (236) Zool. Rec. 1893; BITTNER (21) Zool. Rec. 1893; GREGORY (22, 24) Zool. Rec. 1892.
GREGORY, J. W. (4) Zool. Rec. 1891. Abstract by T. EBERT, N. Jahrb. Min. 1894, ii, pp. 176-181. (22) Zool. Rec. 1892. Abstract by W[ARREN] U[PHAM], Amer. Geol. xiv, pp. 329 & 330 (Nov.); and in GAUTHIER (38) pp. 869-873. (23) Zool. Rec. 1892. Abstract in GAUTHIER (38) pp. 873 & 874. (24) Zool. Rec. 1892. Abstract in GAUTHIER (38) pp. 868 & 869; and by EBERT, N. Jahrb. Min. 1894, i, p. 519.
GRIEG, J. A. (105, 106) Zool. Rec. 1893. Abstracts,—in LUDWIG (69); and by LUDWIG, Zool. Centralbl. i, pp. 102 & 103.
39. GRIFFITH, C. *Marsupites* in the Isle of Wight. Nature, i, p. 8 (May 3). [III, B, iii.]
GURLEY, W. F. E. See MILLER, S. A., & GURLEY, W. F. E.
40. *HAECKER, V. Das Keimbläschen, seine Elemente und Lageveränderungen. 2 Theil: Ueber die Function des Hauptnucleolus und ueber das Aufsteigen des Keimbläschens. Arch. mikr. Anat. xlii, pp. 279-310, pls. xix & xx. [II, B, i, c.]
HALFAR, A. (111A) Zool. Rec. 1893. Abstract by KAYSER, N. Jahrb. Min. 1894, ii, p. 360.

41. HAMBACH, G. A preliminary catalogue of the fossils occurring in Missouri. Bull. Geol. Surv. Missouri, i, pp. 60-85 (April, 1890). [III, B, iv.]
42. HENNIG, A. Om Åhussandstenen. Geol. Foren. Stockholm Forh. xvi, pp. 492-530, pl. ii. [III, B, iii. IV, C.]
- HERBST, C. (117) Zool. Rec. 1893. Abstract in LUDWIG (69).
- HÉROUARD, E. (121) Zool. Rec. 1893. Abstracts,—in LUDWIG (69); and by LUDWIG, Zool. Centralbl. i, pp. 15 & 16.
43. HICKSON, S. J. The fauna of the deep sea. xvi & 169 pp., London, 8vo. [*Crin. Ech. Ast. Hol.* pp. 98-108. III, A, i.]
- HILL, B. H. See WILLISTON, S. W., & HILL, B. H.
- JAEKEL, O. (2) Zool. Rec. 1891. Abstract by A. ANDREAE, N. Jahrb. Min. 1894, ii, pp. 181-183. (125) Zool. Rec. 1893. Abstracts,—in LUDWIG (69); in Naturw. Rundschau, ix, pp. 189-191; by ANDREAE, N. Jahrb. Min. 1894, ii, pp. 360-363. (126) Zool. Rec. 1893. Abstract by LUDWIG, Zool. Centralbl. i, pp. 632 & 633.
44. ——. Die Morphogenie und Phylogenie der Crinoiden. S.B. Ges. naturf. Berlin. 1894, pp. 101-121 (May). [II, A : B, i, f, g. IV, F.]
- Abstracts,—in Zool. Anz. xvii, p. 253; by LUDWIG, Zool. Centralbl. i, pp. 553 & 554.
45. ——. Oberjurassische Fossilien aus Usambara. Zeitschr. deutsch. geol. Ges. xlv, pp. 507 & 508. [III, B, iii, c.]
46. ——. "Eine Kelehddecke von *Encrinus Carnalli*." Zeitschr. deutsch. geol. Ges. xlvi, p. 306. [II, B, i, f.]
47. ——. Eine Platte mit *Encrinus Carnalli*. S.B. Ges. naturf. Berlin. 1894, pp. 155-162 (June). [II, B, i, f.]
- Abstract in Zool. Anz. xvii, p. 305.
48. JAHN, J. J. Ueber das Tejřovicer Cambrium. (Böhmen.) Verh. geol. Reichsanst. xii, pp. 267-273 (Oct. 1893). [III, B, iv.]
49. JIMBŌ, K. Beiträge zur Kenntniss der Fauna der Kreideformation von Hokkaidō. Pal. Abh. (n.s.) ii, pp. 149-194, pls. xvii-xxv. [III, B, iii. IV, C.]
50. KIESOW, J. Die Coelosphaeridiengesteine und Backsteinkalke des westpreussischen Diluviums, ihre Versteinerungen und ihr geologisches Alter. Schr. Ges. Danzig, viii, pp. 67-96, pls. i & ii. [III, B, iv.]
- KILIAN, W. See TERMIER, P., & KILIAN, W.
51. KISHINOUE, K. Note on the development of a Holothurian spicule. Zool. Anz. xvii, pp. 146 & 147 (April). [II, B, i, b.]
- See also LUDWIG (68).

52. KNIPOWITSCH, N. Einige Worte ueber die Fauna und physikalisch-geographischen Verhältnisse der Bucht Dolgaja Guba (Solowetskijs-Insel). *Rev. Sci. St. Petersb.* 1893, pp. 54-57 (1893). [III, A, v.]
53. KOCH, A. Uj Paläontologiai adatok erdély ifjabb harmadkori Hépzödményeiböl. Neue paläontologische Daten aus den jüngeren Tertiärbildungen Siebenbürgens. *Orv.-Term. Ert. Erdel. Mus.* xiv, pp. 140-152 (1889). [III, B, ii.]
54. —. Die Tertiärbildungen des Beckens der Siebenbürgischen Landestheile. I. Paläogene Abtheilung. *Mt. Ungar. geol. Anstalt*, x, pp. 179-397, pls. vi-ix. [III, B, ii.]
55. KOEHLER, R. Une excursion zoologique à Cette. 8 pp. Lyon, 8vo. [II, D, v, c; viii. III, A, ii.]
56. —. Echinodermes recueillis à La Ciotat pendant l'été 1894. *Mem. Soc. zool. France*, vii, pp. 405-426. [II, B, ii: D, i, v, viii; E, ii. III, A, ii. IV, B, C, D, E.]
Review by LUDWIG, *Zool. Centralbl.* ii, p. 20 (Feb. 1895).
- 56A. KOENIG, A. *Hemisperiopsis comatula*, eine neue Gattung der Urceolariiden. *SB. Ak. Wien*, ciii (1) pp. 55-60. [II, D, viii.]
LAMBERT, J. (145) *Zool. Rec.* 1893. Abstract by C. VÉLAIN, *Rev. Trav. sci.* xiv, pp. 520 & 521.
57. —. Étude comparative sur la répartition des Échinides Crétacés dans L'Yonne et dans l'Est du bassin de Paris. *Bull. Soc. Yonne*, xlviii, pp. 3-84, pls. i & ii. [II, B, i, c: F, iii. III, B, iii. IV, C.]
58. LANG, A. Ambulacralfurchen, Nerven und Epineuralkanäle der Echinodermen. *Act. Soc. Helvet.* 1894, pp. 98 & 99; also in French, *C.R. Soc. Helvet.* lxxvii, pp. 92 & 93. [II, A: B, i, f.]
59. —. Lehrbuch der vergleichenden Anatomie Vierte Abtheilung. Vergleichende Anatomie der Echinodermen und Enteropneusten. Pp. i-xvi, 871-1198, 251 text-figg. Jena, 8vo. [*Echinoderma*, pp. 871-1154. II, A: B, i, a: D, vii: E, iii: F. IV, A.]
Reviews,—by E. RAY LANKESTER, *Nature*, li, p. 289 (24 Jan. 1895); by LUDWIG, *Zool. Centralbl.* ii, pp. 38-40 (Feb. 1895); by F. A. BATHER, *Nat. Sci.* vi, pp. 405-423 (June, 1895).
60. LA TOUCHE, J. D. "Notes" on "the Church Hill Quarry." *Tr. Woolhope Club*, 1890-92, p. 35 (1893). [III, B, iv, g.]
61. LAUR, A. In der oberen Kreide der Insel Rügen gesammelten Versteinerungen. *SB. Ges. Isis*, 1894, pp. 6 & 7. [II, B, ii, d; iii.]
LEIPOLDT, F. (148) *Zool. Rec.* 1893. Abstract in LUDWIG (69).
62. LINSTOW, O. VON. Die Giftthiere und ihre Wirkung auf den Menschen. Ein Handbuch für Mediciner. iv & 148 pp., Berlin, 8vo [*Ech. Ast.* pp. 135-137. II, C, v.]

- 62A. LOEB, J. Ueber eine einfache Methode, zwei oder mehr zusammen-
gewachsene Embryonen aus einem Ei hervorzubringen. Arch. ges.
Physiol. iv, pp. 525-530. [II, F, vii.]
63. LOHEST, M. Sur l'âge du calcaire de Lens et de la dolomie de
Cambron. Ann. Soc. geol. Belgique, xxi, pp. xxiv-xxvi. [III, B, iv.]
- LORIOU, P. DE. (3) Zool. Rec. 1891. Review, Geol. Mag., Dec.
iv, i, pp. 228 & 229 (May). (154) Zool. Rec. 1893. Abstract by
LUDWIG, Zool. Centralbl. i, pp. 521 & 522.
64. —. Catalogue raisonné des Échinodermes recueillis par M. V.
de Robillard à l'Île Maurice. III. Ophiurides, Astrophytides et
Crinoides. Mem. Soc. Geneve, xxxii (1), No. 3, pp. 1-64, pls. xxiii-
xxv. (Dated 1893 & 1894, author's copy received 30 March, 1894.)
[III, A. IV, C, D, E, F.]
Abstracts,—by LUDWIG, Zool. Centralbl. i, p. 522 (Aug.);
J. R. Micr. Soc. 1894 (June), p. 349.
65. —. Notes pour servir à l'étude des Échinodermes, IV. Rev.
Suisse Zool. ii, pp. 467-497, pls. xxii-xxiv. [II, B, i, f. III, B, iii.
IV, C, D, F.]
Abstract by LUDWIG, Zool. Centralbl. ii, p. 143 (April, 1895).
66. LOVISATO, D. Il Devoniano nel Gerrei (Sardegna). Rend. Acc.
Lincei, iii, pp. 131-135 (Feb.). [III, B, iv.]
67. LUDWIG, H. Ueber Tiefsee-Holothurien und über eine pelagische
Holothurie. Verh. deutsch. Zool. Ges. III. Jahresversammlung,
pp. 35 & 36 (Jan. 1894.) [Title only, with discussion by JAEKEL,
PFEFFER, DE GUERNE, EHLERS, and the author. II, D, iii.]
68. —. Notiz über die von K. Kishinouye beschriebenen Holothurien-
Kalkkörper. Zool. Anz. xvii, pp. 278 & 279 (July).
See KISHINOUE (51).
69. —. *Echinoderma*. Zool. Jahresber. for 1893 (1894).
Gives Literature, and Abstracts of BOEHM (22), CHADWICK (30,
31), DRIESCH (69, 70), FIELD (83), GRIEG (105, 106), HERBST
(117), HÉROUARD (121), JAEKEL (125), LEIPOLDT (148),
MACBRIDE (161), MARENZELLER (164, 165), MORGAN (196),
MORTENSEN (197), PERRIER (212), SACCO (233), all in Zool.
Rec. 1893; also of STÜRTZ (115) this Record.
70. —. Reports on an exploration off the west coasts of Mexico,
Central and South America, and off the Galapagos Islands, in
charge of Alexander Agassiz, by the U. S. Fish Commission Steamer
"Albatross," during 1891, Lieut. Commander Z. L. Tanner, U. S. N.,
commanding. XII. The Holothurioidea. Mem. Mus. Harvard, xvii,
No. 3, 183 pp., xix pls. (Oct.) [II, B, i, b; ii, a, e: D, v, vii:
F, ii. III, A. IV, B.]
A slip correcting the figure on p. 142 was issued in June, 1895.
Abstract by LUDWIG, Zool. Centralbl. i, pp. 677-683.

71. [LUDWIG, H.] Echinodermen (Stachelhäuter). II. Klasse. Asteroidea, Seeesterne. Bronn's Klassen und Ordnungen des Thier-Reichs. II. Abth. 3. Lief. 17 & 18, pp. 461-540. [II, B, i, d : E, iii.]
Abstract in J. R. Micr. Soc. 1894 (Dec.) p. 689.
MACBRIDE, E. W. (161) Zool. Rec. 1893. Abstract in LUDWIG (69).
72. —. The organogeny of *Asterina gibbosa*. P. R. Soc. London, liv, pp. 431-436. (Feb.). [*Ast. Crin.* II, B, i : F, iv.]
A preliminary note. Abstracts,—in J. R. Micr. Soc. 1894 (April), pp. 206 & 207; by LUDWIG, Zool. Centralbl. i, pp. 632 & 633.
73. —. A Review of Professor Spengel's Monograph on *Balanoglossus*. Quart. J. Micr. Sci. (n.s.) xxxvi, pp. 385-420, pls. xxix & xxx (July). [II, B, i, a : F, i, e.]
74. —. Variations in the Larva of *Asterina gibbosa*. P. Cambridge Soc. viii, pp. 214-216 (Dec.). [II, B, i, a ; ii, e : F, iv, a.]
Abstracts,—Nature, 1, p. 143 (June 7) ; J. R. Micr. Soc. 1895 (Feb.), p. 59. Review by LUDWIG, Zool. Centralbl. ii, p. 196 (May, 1895).
- MARENZELLER, E. VON. (164, 165) Zool. Rec. 1893. Abstract in LUDWIG (69), and by LUDWIG, Zool. Centralbl. i, pp. 57 & 58.
75. —. Zoologische Ergebnisse. I. Echinodermen, gesammelt 1890, 1891 und 1892. Beig. Ber. d. Comm. f. Erforsch. d. öst. Mittelmeeres, v. Denk. Ak. Wien, lx, pp. 1-24, pls. i-iv. [II, B, i, b : D, v, b ; vii. III, B, ii. IV, B, C, D, E, F.]
Abstracts,—J. R. Micr. Soc. 1894 (June), pp. 348 & 349 ; by LUDWIG, Zool. Centralbl. i, pp. 12-15.
76. MÁRTONFI, L. Adatok Bujtur fossil faunájához. Beiträge zur fossilen Fauna von Bujtur. Orv.-Term. Ert. Erdel. Mus. xviii, pp. 141-158 (1893). [III, B, ii.]
77. MAYER-EYMAR, K. Systematisches Verzeichniss der Kreide- und Tertiär-Versteinerungen der Umgegend von Thun nebst Beschreibung der neuen Arten. Beitr. géol. Karte Schweiz, xxiv, Theil ii, Beilage, xxviii & 128 pp., vi pls. (1887). [This previously unrecorded paper contains a n. sp., *Diademopsis heretica*, and detailed lists of species and horizons. III, B, ii, iii. IV, C.]
78. MAZZETTI, G. Catalogo degli Echini del Mar Rosso e descrizione di sp. n. Atti Soc. Modena, xii, pp. 238-243. [Said to be reprinted from MAZZETTI (79). II, B, ii, a. III, A, iii. IV, C.]
79. —. Gli Echinidi del Mar Rosso. Mem. Acc. Modena (2) x, pp. 211-228. [See (78).]
Abstract by LUDWIG, Zool. Centralbl. ii, p. 196 (May, 1895).
80. MEISSNER, M., & COLLIN, A. Beiträge zur Fauna der südöstlichen und östlichen Nordsee. II. Echinodermen. Wiss. Meeresuntersuch. (n.s.) i, pp. 329-345. [II, B, ii, c, d, e : D, ix. III, A, ii.]

- MILLER, S. A., & GURLEY, W. F. E. (188) Zool. Rec. 1893. Review, Amer. Geol. xiii, pp. 356 & 357 (May).
81. — & —. Upper Devonian and Niagara Crinoids. Bull. Illinois Mus., No. 4, 37 pp., iii pls. (Oct.). [II, B, i, f. III, B, iv. IV, F.]
82. — & —. New genera and species of Echinodermata. Bull. Illinois Mus., No. 5, 53 pp., v pls. (Dec.). [II, B, i, g. III, B, iv. IV, F, G.]
Abstract by LUDWIG, Zool. Centralbl. ii, p. 20 (Feb. 1895).
83. MIQUEL, J. Note sur la géologie des terrains primaires du Département de l'Hérault Saint-Chinian à Coulouma. Bull. Soc. Beziers, xvi, pp. 100-126. [III, B, iv.]
84. M'KNIGHT, F. Abstracts from notes on the Silurian beds of Moonee Ponds. Tr. geol. Soc. Austral. i, p. 90 (1888). [See (178) Zool. Rec. 1893. III, B, iv.]
- MORGAN, T. H. (196) Zool. Rec. 1893. Abstract in LUDWIG (69).
- MORTENSEN, T. (197) Zool. Rec. 1893. Abstracts,—in LUDWIG (69), and by LUDWIG, Zool. Centralbl. i, pp. 103 & 104.
85. —. Zur Anatomie und Entwicklung der *Cucumaria glacialis* (Ljungman.). Zeitschr. wiss. Zool. lvii, pp. 704-732, pls. xxxi & xxxii (May). [II, B, i, a, b. F, ii.]
Abstracts,—in Zool. Anz. xvii, Litt. p. 188; by LUDWIG, Zool. Centralbl. i, pp. 468 & 469; and in J. R. Micr. Soc. 1894 (Aug.), pp. 456 & 457.
86. NAGEL, W. A. Vergleichend physiologische und anatomische Untersuchungen ueber den Geruchs- und Geschmackssinn und ihre Organe mit einleitenden Betrachtungen aus der allgemeinen vergleichenden Sinnesphysiologie. Bibl. Zool. Heft. 18. Echinodermen, pp. 175-179. [II, C.]
Preliminary notice, in Biol. Centralbl. xix, pp. 543-555.
87. NECHAEV, A. Fauna permskikh otlozhenii vostochnoi polos'i Evropeiskoi Rossii. Die Fauna der permischen Ablagerungen des östlichen Theils des europäischen Russlands. Trudui Kazan. Univ. xxvii (iv), 503 & xii pp., with xii pls. [III, B, iv.]
- NETSCHAJEW, A. See NECHAEV, A.
- NEVIANI, A. (199) Zool. Rec. 1893. Abstract by BENECKE, N. Jahrb. Min. 1894, ii, p. 474.
88. NOETLING, F. Preliminary notice on the Echinoids from the Upper Cretaceous system of Baluchistán. Rec. Geol. Surv. India, xxvii, pp. 115-153. [III, B, iii. Nomina nuda in IV, C.]
- OEHLERT, D. P. (1, 2) Zool. Rec. 1891. Abstracts, Bull. Lab. geol. Caen, ii, pp. 54 & 55 (June, 1892).
89. PARONA, C. F. Revisione della fauna Liasica di Gozzano in Piemonte. Mem. Acc. Torino, xliii, pp. 1-59, pls. i & ii (1893). [III, B, iii. IV, C, F.]

90. PAVLOVIĆ, P. Addenda à la faune tertiaire de la Serbie. Ann. geol. Balkan. iv, pp. 171-175. [III, B, ii.]
91. PENECKE, K. A. Das Grazer Devon. Jahrb. geol. Reichsanst. xliii, pp. 567-616, pls. vii-xii (Feb.). [III, B, iv.]
- PERRIER, J. O. E. (212) Zool. Rec. 1893. Abstract in LUDWIG (69).
92. —. Échinodermes. Première Partie. Stellérides. Expéd. du Travailleur et du Talisman. (iv) & 431 pp., xxvi pls. Paris, 4to. [II, B, i, d; ii, d, 2: F, iv, b, c. III, A, ii. IV, D.]
Abstracts,—by LUDWIG, Zool. Centralbl. i, pp. 403-407; J. R. Micr. Soc. 1894 (April), pp. 205 & 206.
93. PFEFFER, G. Echinodermen von Ost-Spitzbergen nach der Ausbeute der Herren Prof. W. Kükenthal und Dr. Alfr. Walter im Jahre 1889. Zool. Jahrb. Syst. viii, pp. 100-127 (Nov.). [II, B, ii, b. III, A, v.]
94. —. Fische, Mollusken und Echinodermen von Spitzbergen, gesammelt von Herrn. Prof. W. Kükenthal im Jahre 1886. Zool. Jahrb. Syst. viii, pp. 91-99 (Nov.). [II, B, ii, d. III, A, v.]
95. REPELIN, —. Sur la constitution géologique du massif des Soumata et d'Hamman Rirha (Algérie). Bull. Soc. geol. France, 3 ser., xxii, pp. 7-16, pl. i (April). [III, B, ii.]
96. REYNOLDS, S. H. Fossils from the Lower Palæozoic rocks of Yorkshire. Geol. Mag., Dec. iv, vol. i, pp. 103-111 (March). [III, B, iv. IV, G.]
97. RICHE, A. Esquisse de la partie inférieure des Terrains Jurassiques du département de l'Ain. Ann. Soc. Linn. Lyon, xli, pp. 1-104. [III, B, iii.]
98. —. Étude stratigraphique sur le Jurassique inférieur du Jura méridional. Ann. Univ. Lyon, vi (iii), pp. 1-396, pls. i & ii. [III, B, iii.]
99. RODGER, A. Preliminary account of natural history collections made on a voyage to the Gulf of St. Lawrence and Davis Straits. P. Soc. Edinb. xx, pp. 154-163. [III, A, v.]
100. ROEBUCK, W. D. Bibliography: Papers and records published with respect to the natural history and physical features of the North of England. Echinodermata, 1884 to 1892. Naturalist, 1894, pp. 363-367 (Dec.). [II, E, iii.]
ROTHPLETZ, A. (43) Zool. Rec. 1892. Reprinted with plates, Jaarb. Mijm. Ned. Oost-Ind. xxiii, pp. 5-98, pls. i-vi.
101. ROVASENDA, L. DE. I Fossili di Gassino. Boll. Soc. geol. Ital. xi, pp. 409-424. [III, B, ii.]
102. ROWLEY, R. R. New species of Crinoids and Brachiopods from the Missouri Hamilton. Amer. Geol. xiii, pp. 151-154 (March). [II, B, i, f. III, B, iv. IV, F.]

103. **RUSO, A.** Contribuzione alla genesi degli organi negli Stelleridi. Rend. Acc. Napoli (2) viii, pp. 14 & 15.
 Sunto dell' autore. Not further indexed. See also in *Monit. Zool. ital.* v, p. 116.
104. —. Echinodermi raccolti nel Mar Rosso degli Ufficiali della R. marina italiana. *Boll. Soc. Napoli*, vii, pp. 159-163. [III, A, iii. IV, D.]
105. —. Specie di Echinodermi poco conosciuti e nuovi viventi nel golfo di Napoli. *Atti Acc. Napoli*, vi, No. 1, 9 pp., i pl. [II, D, viii. III, A, ii. IV, C, D, E.]
106. * —. Studii anatomici sulla famiglia Ophiiothrichidæ del golfo di Napoli. *Ric. Lab. Anat. Roma*, iv, pp. 157-180, pls. ix & x.
 Abstract by **LUDWIG**, *Zool. Centralbl.* ii, pp. 143-145 (April, 1895).
107. * —. Sul sistema genitale e madreporico degli Echinidi regolari. *Boll. Soc. Napoli*, viii, pp. 90-109, i pl.
 Abstracts,—*J. R. Micr. Soc.* 1895 (April), p. 183; by **LUDWIG**, *Zool. Centralbl.* i, pp. 752 & 753.
SACCO, F. (233) *Zool. Rec.* 1893. Abstract in **LUDWIG** (69).
108. **SCHERREN, H.** The deposition of ova by "*Asterina gibbosa*." *Nature*, l, p. 246 (July 12). [II, F, iv.]
109. **SEELIGER, O.** Giebt es geschlechtlich erzeugte Organismen ohne mütterliche Eigenschaften? *Arch. Entwicklmech.* i pp. 203-223, pls. viii, ix (Dec.). [II, F, vii.]
 Abstracts,—in *Amer. Natural.* xxix, pp. 286 & 287 (March, 1895); in *J. R. Micr. Soc.* 1895 (June), p. 318.
110. * **SHTUKENBERGH, A.** Kurs paleontologhiï, chîŭannuiï studentam Kazanskago Univercîteta. [Cours de paléontologie lu aux étudiants de l'Université de Kazan.] *Mem. Scient. de l'Université de Kazan*, 1886, pp. 97-160 (1888).
 Reference from *Bibl. geol. Russie*, 1892, p. 59 (1893).
- SLADEN, W. P.** (2) *Zool. Rec.* 1891. Abstract by **O. JAEKEL**, *N. Jahrb. Min.* 1894, i, p. 205.
111. **SLUITER, C. P.** Holothurien. In **SEMON**, "Zool. Forschungsreisen in Australien, &c." *Denk. Ges. Jena*, viii, pp. 101-106. [III, A, iv. IV, B.]
 Abstract by **LUDWIG**, *Zool. Centralbl.* ii, p. 79 (March, 1895).
112. **STÉFANI, C. DE.** Découverte d'une faune paléozoïque à l'île d'Elbe. *Bull. Soc. geol. France*, 3 ser., xxii, pp. 30-33 (April). [III, B, iv.]
113. **STEINMANN, G.** Ueber das Ambulacralfeld von *Pentremites*. *N. Jahrb. Min.* 1894, ii, pp. 79-85 (June). [II, B, i, h.]
 Abstracts,—in *Zool. Anz.* xvii, p. 253; by **LUDWIG**, *Zool. Centralbl.* i, p. 632.

114. STEARNS, F. List of the Asteroidea, Ophiuroidea, Echinoidea, and Crustacea, at present in the private collection of Frederick Stearns, Detroit, Michigan, U.S.A. Pp. i-viii, 8vo (1891). Privately issued by F. Stearns, with a reprint of IVES (1), Zool. Rec. 1891. [III, A, ii, iii, iv.]
STUCKENBERG, see SHITUKENBERGH.
115. STÜRTZ, B. Ueber versteinerte und lebende Seesterne. Verh. Ver. Rheinland, 1, pp. 1-92, pl. i. (1893). [II, B, i, d, e. IV, D, E.]
Abstracts,—in LUDWIG (69); J. R. Micr. Soc. 1894 (April), pp. 204 & 205; by LUDWIG, Zool. Centralbl. i, pp. 269-272 (June).
116. TATE, R. Unrecorded genera of the older Tertiary fauna of Australia, including diagnoses of some new genera and species. J. R. Soc. N.S.W. xxvii, pp. 167-197, pls. x-xiii. [III, B, ii. IV, C.]
117. —. Note on the Tertiary fossils from Hall Sound, New Guinea. P. Linn. Soc. N. S. Wales, ix, pp. 213 & 214 (Dec.). [III, B, ii. IV, C.]
118. TERMIER, P., & KILIAN, W. Sur un gisement d'Ammonites dans le Lias Calcaire de l'Oisans. Bull. Soc. geol. France, 3 ser., xxi, pp. 273-277 (Feb.). [III, B, iii.]
THÉEL, H. (260) Zool. Rec. 1893, partly quoted under title "Rearing the larvæ of Echinoids from the egg." Int. J. Micr. xxiii, pp. 272-274 (July).
119. —. Notes on the formation and absorption of the skeleton in the Echinoderms. Ofv. Ak. Forh. 1894, pp. 345-354 (Oct.). [II, F, i, e, f.]
Abstracts,—Nat. Sci. vi, pp. 77 & 78 (Feb. 1895); by LUDWIG, Zool. Centralbl. ii, p. 19 (Feb. 1895); J. R. Micr. Soc. 1895 (April) p. 182.
120. THURSTON, E. Preliminary report on the Marine fauna of Râmeswaram and the neighbouring islands. Government Central Museum, Madras. Science Series, No. 1. 41 pp., vi pls., 8vo (1887). [III, A, iii.]
121. —. Notes on the Pearl and Chank fisheries and Marine fauna of the Gulf of Manaar. 116 pp., vi pls. Government Central Museum, Madras, 8vo (1890). [III, A, iii.]
122. —. Pearl and Chank fisheries of the Gulf of Manaar. Bull. Madras Govt. Mus. i. [II, D, iii. III, A, iii.]
123. *TOMMASI, —. Rivista della Fauna raibliana del Friuli. Ann. Ist. tecnico Udine, 2 ser., viii, iv pls. (1890). [III, B, iv.]
124. TORNQUIST, A. Vorläufige Mittheilung über neue Fossilfunde im Untercarbon des Ober-Elsass. Mt. geol. Landesanst. Elsass, iv, pp. 97-104. [III, B, iv. IV, C, F.]
TSCHERNYSCHEW, see CHERNUISHEV.

125. VERRILL, A. E. Descriptions of new species of Starfishes and Ophiurans, with a revision of certain species formerly described; mostly from the collections made by the United States Commission of Fish and Fisheries. P. U. S. Mus. xvii, pp. 245-297. [II, B, i, b, d, e: F, iv. III, A, ii. IV, D, E.]
Abstracts,—in J. R. Micr. Soc. 1895 (April), pp. 182 & 183; by LUDWIG, Zool. Centralbl. ii, pp. 40-42 (Feb. 1895).
126. WADDINGTON, H. J. The rearing of Starfishes in confinement. J. Mar. Zool. i, pp. 25 & 26 (Feb.). [II, E, i: F, vii.]
WAGNER, R. (51) Zool. Rec. 1892. Abstract by E. W. BENECKE, N. Jahrb. Min. 1894, ii, pp. 140 & 141.
WHITFIELD, R. P. (271) Zool. Rec. 1893. Abstracts,—Amer. Geol. xiii, pp. 124 & 125 (Feb.); Geol. Mag., Dec. iv, vol. i, pp. 174 & 175 (April).
127. WILLEY, A. On the evolution of the præoral lobe. Anat. Anz. ix, pp. 329-332 (Feb.). [II, F, i.]
128. WILLISTON, S. W., & HILL, B. H. Notes on *Uintacrinus socialis*, Grinnell. Kansas Quart. iii, pp. 19-21 (July). [II, B, i, f. III, B, iii.]
129. WINCKWORTH, C. A. Abnormal Starfish. Sci. Gossip (n.s.) i, p. 92 (June). [II, B, ii, d, 2.]
130. WÖHRMANN, S. VON. Die Raibler Schichten nebst kritischer Zusammenstellung ihrer Fauna. Jahrb. geol. Reichsanst. xliii, pp. 617-768, pl. xiii (Feb.). [III, B, iv.]
131. WOODWARD, H. B. The Jurassic rocks of Britain. Vol. iv. The Lower Oolitic rocks of England (Yorkshire excepted). Mem. geol. Surv. U. K. [Lists of horizons and localities, pp. 66, 71, 83, 86, 114, 118, 167, 175, 270, 317, 345, 353, 357, 359, 363, 384, 434, 437, 438, 440, 445, 454, 456, & 586-590. III, B, iii.]
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II.—BIOLOGY.

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Evolution of the *Crinoidea*; JAEKEL (44).

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(vii) **Autotomy and Regeneration**:—General account of, in Echinoderms; LANG (59) pp. 1093–1096.—Autotomy, its relation to genital system discussed; ANON (5).

Autotomy of *Asterias richardi*, from 6-armed young to 5-armed adult; MARENZELLER (75) p. 10.

Evisceration and regeneration of disc in *Amphiura*; FARQUHAR (30).—Regeneration of arms by budding in *Patiria briareus*; BELL (7) p. 404.—Regeneration of dorsal papillæ in *Deima*; LUDWIG (70) p. 66.

(viii) **Parasites and Commensals**:—Annelid (*Hermadium pelucidum*) commensal with and mimicking *Ophiothrix echinata*; KOEHLER (56) p. 416.—*Ophiothrix echinata* commensal with sponge *Esperia lorenzii*; RUSSO (105) p. 7.—Parasitic castration of *Amphiura* by Ortho-nectidæ; KOEHLER (55) p. 4.

Hemispeiropsis parasitic on *Antedon*; CUÉNOT (28) and KOENIG (56A).

(ix) **Echinoderms as food for Fish**:—*Echinocyamus pusillus* as food for Haddock; MEISSNER & COLLIN (80) p. 341.

(E.) MISCELLANEOUS.

(i) **Preservation** :—of young *Asterina* ; WADDINGTON (126).

(ii) **Economics** :—Conjunctive tissue of *Cucumaria* as bait ; KOEHLER (56) p. 425.

(iii) **Bibliography** :—List of chief works on *Echinoderma* ; LANG (59) pp. 1147–1154.—Papers on *Echinoderma* of N. of England, many of which have not been quoted in Zool. Rec. ; ROEBUCK (100).—Bibliography and Literary History of *Asteroidea* ; LUDWIG (71) pp. 467–497.—Mesozoic *Echinoderma*, N. America ; BOYLE (14).

(F.) AUXOLOGY.

(i) **ECHINODERMA** :—(b) General Embryology :—Ontogeny of *Echinoderma* and of the extant classes ; LANG (59) pp. 1096–1139.

(d) **Oviposition** :—Breeding seasons of *Echinoderma* at Plymouth, and dates of occurrence of larvæ ; GARSTANG (36) p. 228 and passim.

(e) **Larval stages** :—Præoral lobe of Echinoderm larva ; GARSTANG (34) : compared with that of *Vertebrata* ; WILLEY (127) p. 331 : its muscles compared with anterior unpaired muscles of *Balanoglossus* larva ; MACBRIDE (73) p. 404.—Relations of Echinoderm larva to larva of ancestral Chordata ; GARSTANG (35).—Relations of *Enteropneusta* to *Echinoderma* ; MACBRIDE (73) p. 414.

Skeleton of larva as reserve-material ; THEEL (119) p. 352.

(f) **Tissue-formation** :—Formation and absorption of stereom ; THEEL (119).

(ii) **HOLOTHURIOIDEA** :—(a) Spermatogenesis in *Cucumaria glacialis* (p. 715), early development of fertilized ovum (p. 721) ; MORTENSEN (85).—Ova of *Holothuria tubulosa*, *H. poli*, *Synapta inharens* ; CRETY (27) pp. 261–264.

(b) **Larval stages** :—Broodsac and direct development in *Cucumaria glacialis*, specially development of genital organs ; MORTENSEN (85) pp. 716, 721 *et seq.*

(c) **Tissue-formation** :—Growth of spicules in *Latmophasma* ; LUDWIG (70) p. 91.

(d) **Brephic stage** of *Psolus* sp. ; LUDWIG (70) p. 140.

(iii) **ECHINOIDEA** :—Young and growth-stages,—in *Glyphocyphus* (p. 57) and *Hemiaster* (p. 75) ; LAMBERT (57).—Measurements of neanic *Tripneustes gratilla*, and changes in growth of *Laganum decagonale* ; BELL (7) p. 411.

(iv) **ASTEROIDEA** :—(a) **Oviposition** of *Asterina gibbosa* ; SCHERREN (108).

(b) **Larval stages and origin of organs** :—Organogeny of *Asterina*

gibbosa, especially water-vascular system, axial sinus, dorsal organ, præoral lobe as fixing organ compared with that of Crinoids; MACBRIDE (72).—*Bipinnarie* from English Channel, described, compared with *Bipinnaria asterigera*, Sars, and with *Tornaria*; GARSTANG (34).—Variations, especially in development of right hydrocœle, in larva of *Asterina*; MACBRIDE (74).

(c) Brepheic and Neanic stages:—Brepheic stage of *Culcita*, plates figured; BELL (7) p. 404.—Epiproctal appendage in young of *Psilaster andromeda*, and in *Porcellanasteridæ*; PERRIER (92) pp. 196, 201.—Full description of *Echinaster sepositus* (?) with $R = 5$ mm., $r = 2$ mm. (p. 148), young individuals of *Dorigona* carefully described (p. 367), later growth-stages of *Pentagonaster perrieri* (p. 391); PERRIER (92).—Young of *Plutonaster agassizi* (p. 249), stages of *Pseudarchaster concinnus* (p. 253), young of *Bathybiaster robustus* (p. 256), *Pteraster hexactis* (p. 277); VERRILL (125).

(v) *OPHIUROIDEA*:—Brepheic stages of *Ophiothrix fragilis*; MEISSNER & COLLIN (80) p. 336.

(vi) *CRINOIDEA*:—Ova of *Antedon rosacea*; CRETY (27) p. 264.

(vii) Experimental investigation:—Of ova of *Echinus* and *Sphærechinus*, and criticism of BOVERI (25) Zool. Rec. 1893; SEELEGER (109).—Production of two or more fused embryos from a single Echinoid egg; LOEB (62A).—Segmentation of ovum in *Synapta digitata* under pressure; BRAEM (15).—Rearing of *Asterina gibbosa* in confinement; WADDINGTON (126).

III.—DISTRIBUTION.

A.—GEOGRAPHICAL.

(i) GENERAL.

Deep sea generally; HICKSON (43).

(ii) ATLANTIC AND ADJACENT SEAS.

Geographic and Bathymetric distribution of *Asteroidea* collected by "Travailleur" and "Talisman," from 26 to 5005 metres, Mediterranean and Eastern Atlantic, southwards to Cape Verde and westwards to Azores (see also under the different genera); there are scattered at random a few species from other localities, such as the Antilles; PERRIER (92), pp. 1-3, 30-41.

North Sea, S.E. and E. portions, *Oph.*, *Ast.*, *Ech.*, and *Hol.*, in all 29 spp., with stations, depths, and bottom recorded; MEISSNER & COLLIN (80).

Coast of U. S. A., *Asteroidea* and *Ophiuroidea*; VERRILL (125).—Bahamas, W. Indies, *Asteroidea*, *Echinoidea*, *Ophiuroidea*; STEARNS (114).

Mediterranean,—La Ciotat, Echinoderms from the shore to 80 metres; habitats; *L. sarsi* recorded; KOEHLER (56).—Cette, Echinoderm fauna; KOEHLER (55).—G. of Naples, *Echinaster*, *Cyibrella*, *Opiothrix*, and *Sphaerechinus roseus*, n. sp.; RUSSO (105).—Eastern Mediterranean, *Echinoderma* collected; MARENZELLER (75).

(iii) INDIAN OCEAN AND ADJACENT SEAS.

Red Sea,—list of *Echinoidea*, with *Tennechinus scilla*, *Echinocyamus crispus*, *E. elegans*, *Laganum delicatum*, and *Linthia assabensis*, n. spp.; MAZZETTI (78).—*Echinoderma* collected, comparative localities, *Linckia costæ*, n. sp.; RUSSO (104).

Echinoidea from Ceylon, E. coast, Colombo (*Dorocidaris tiara*, n. sp.), Coromandel coast, Laccadive Sea (*Dorocidaris alcocki*, n. sp.), Malabar coast, Maldive atoll, Palk Straits, Trincomallie harbour; ANDERSON (3).

G. of Manaar, Rámésvaram, habitats and occurrence of *Echinoderma*; THURSTON (120) pp. 14–16, 33 & 34; (121) pp. 77–80, and inserted slip; (122) p. 27.

Mauritius,—*Asteroidea*, *Ophiuroidea*, *Echinoidea*; STEARNS (114).—*Ophiuroidea* with n. spp. of *Ophiopezella*, *Pectinura*, *Ophiarachna*, *Ophiarthrum*, *Ophiothrix*, *Ophiomyxa*, also *Antedon carinata* and *Echinaster sladeni*, n. spp.; LORIOI (64).

(iv) PACIFIC OCEAN AND ADJACENT SEAS.

Japan, *Asteroidea*, *Ophiuroidea*, *Echinoidea*; STEARNS (114).

China Sea,—Macclesfield Bank, list of Holothurians, Crinoids (*Eudocrinus granulatus*, *Antedon inopinata*, *A. bassett-smithi*, *A. vicaria*, *A. brevicirra*, *A. flavomaculata*, *A. moorei*, *A. fieldi*, *Actinometra peregrina*, n. spp.), Asteroids (*Archaster tenuis*, young *Culcita*, *Patiria briareus*, *Chaetaster moorei*, n. spp.), Ophiuroids (*Pectinura elegans*, *Ophiocrene ænigma*, n. spp.), and Echinoids (*Salmacis rufa*, n. sp.), with notes and descriptions; BELL (7) p. 396.

Arafura and Banda Seas, list of Crinoids, Asteroids, Ophiuroids, and Echinoids; BELL (7) p. 395.—Ambon, N. W. Borneo, Holothurians; SLUITER (111).

N.W. Australia, list of Holothurians, Crinoids, Asteroids, Ophiuroids, and Echinoids; BELL (7) p. 394.—Thursday Is., Holothurians with *Mülleria lubrica*, n. sp.; SLUITER (111).

California, Mexico, and W. coast America, *Asteroidea*, *Ophiuroidea*, *Echinoidea*; STEARNS (114).—West coast of Central and S. America, Mexico, and Galapagos Is., from 0 to 2300 fms., Holothurians including 30 n. spp.; LUDWIG (70).

(v) ARCTIC OCEAN AND ADJACENT SEAS.

Spitzbergen, *Echinoderma*, with comparative distribution; PFEFFER (93 & 94.)

White Sea, Solowetskij Is., *Holothuria*, *Ophiuroidea*, *Asteroidea*, *Echinoidea*, no new occurrences; KNIPOWITSCH (52) p. 55.

Arctic, Davis Str., Coutt's Inlet, *Antedon eschrichti* (p. 160), Erick Pt., *Astropecten tenuispinus* (p. 161), *Strongylocentrotus droebachiensis*, nov. var. (p. 173), Exeter Harbour, *Antedon proluxa* and *A. n. sp.* (p. 162); RODGER (99).

B.—GEOLOGICAL.

(ii) CAINOZOIC.

(a) **General**:—*Echinoidea* from Bujtur; MARTONFI (76).—*Echinoidea* of Siebenbürge; KOCH (53) pp. 147, 148 & 152.—Voilovo, Servia, *Echinolampas*; PAVLOVIĆ (90) p. 173.

(b) **Quaternary**:—S. Nicholas Is., California, *Strongylocentrotus droebachiensis*; COOPER (21) p. 32.

Pleistocene, Hall Sound, New Guinea, *Temnechinus macleayi*; TATE (117).

(c) **Miocene**:—Michelsberg in Siebenbürge, *Echinoidea*; BIELZ (8) p. 93.—Australia, *Arachnoides incisa*, *Laganum platymodes*, n. spp., and other *Echinoidea*; TATE (116).—(Cartennien), Algeria, *Clypeaster*; BRIVE (16) p. 20: *Clypeaster* and *Echinolampas*; REPELIN (95) p. 10.

(d) **Eocene**:—France, Tunis and Algeria, n. spp. of *Brissopsis*, *Linthia*, *Schizaster*, *Pericosmus*, *Echinoneus*, *Oriolampas*, *Cassidulus*, *Pygorhynchus*, *Echinanthus*, *Echinolampas*, *Echinocyamus*, and *Cidaris*; COTTEAU (23).—Australia, *Sismondia murravica*, *Conoclypeus rostratus*, n. spp., and other *Echinoidea*; TATE (116).—(Palæogene), Siebenbürgen, lists of *Echinoderma*; KOCH (54) pp. 228, 241, 280, 287, 297, 302, 314, 327, & 348.—(Parisian and Bartonian), near Thun, Switzerland, lists of *Echinoderma*; MAYER-EYMAR (77) pp. 81, 87 & 120.—(Bartonian), Gassino, lists of *Echinoidea*, *Asteroidea*, and *Crinoidea*; ROVASENDA (101) pp. 416, 418, 420 & 422.

(iii) MESOZOIC.

(b) **Cretaceous**:—Tunis, *Echinoidea* with *Periaster thulensis*, *Cyphosoma auberti*, *Hemiaster subverrucosus*, *Lambertiaster douvillei*, *L. auberti*, *Ovulaster auberti*, *Homoeaster discrepans*; GAUTHIER (37).—Lebanon, *Echinoidea*; COTTEAU (22).—Hokkaido, Japan, *Ananchytinarum*, sp. indet.; JIMBŌ (49) p. 191.

Upper Cretaceous.—(Sphenodiscus beds = Danien), Baluchistan, Echinoid-fauna compared with that of S. India and Europe; NOETLING (88).—Upper Chalk of Rügen, *Echinoidea*, *Asteroidea*, *Crinoidea*; LAUB

(61).—(Senonian).—I. of White, *Marsupites* first recorded; GRIFFITH (39) : (Upper Campanian), Courgeac (Charente) and Talmont (Charente-Inf.), *Antedon arnaudi*, n. sp. ; LORIOU (65) p. 479 : (Coniacian), Rouselières (Charente), *Antedon carentonensis*, n. sp. ; LORIOU (65) p. 483 : (Åhussandsten), S. Sweden, Echinoids including *Catopygus rotundus* and *C. minor*, n. spp. ; HENNIG (42) p. 501 : (Lower Senonian), Bonsecours, near Rouen, *Micraster normannica* ; FORTIN (31).—(Cenomanian).—Yonne, Aube, and Marne, horizons and localities of *Echinoidea*, with n. spp. of *Typocidaris*, *Salenia*, *Epiaster*, and *Hemiaster* ; LAMBERT (57) : Le Havre, *Pentagonaster picteti*, n. sp. ; LORIOU (65) p. 476.—Choctaw and Grayson Terranes of *Exogyra arictina* Marl, Texas, lists of *Echinoidea*, with *Holectypus charltoni*, and *Hemipedina charltoni*, n. spp. ; CRAGIN (24 & 25).

Lower Cretaceous.—(Niobrara Chalk), *Uritacrinus* ; WILLISTON (128).—(Albiau).—Yonne, Aube, and Marne, horizons and localities of *Echinoidea*, with *Hemiaster cossignyi*, n. sp. ; LAMBERT (57) : Gault of Lains and Viry in French Jura, *Echinoidea* ; BOURGEAT (13) pp. 356 & 357.—(Rhodanian), Perte du Rhône, *Hemipygus rochali*, n. sp. ; LORIOU (65) p. 469.—(Urgonian), Kislovsk, Caucasus, *Peltastes favrei*, n. sp. ; LORIOU (65) p. 471.—(Valenginian, Neocomian, Urgonian), near Thun, Switzerland, lists of *Echinoderma* ; MAYER-EYMAR (77) pp. 69, 74, 77 & 79.

(c) **Jurassic** :—(Sequanian), Nantua (Haute-Vienne), *Glypticus sulcatus* ; LORIOU (65) p. 468.—(Rauracian), Champlitte (Hte.-Saône), *Apiocrinus champlittensis* (p. 485), and Beaune (Côte-d'Or), *Millericrinus burgundicus* (p. 487), and *M. beluensis* (p. 489), n. spp. ; also at Beaune, *M. mespiliformis* (p. 491) ; LORIOU (65).—(Oxfordian).—E. Africa, Usambara, *Cidaris glandifera* ; JAEKEL (45) p. 507 : Mkusi near Tanganyika, *Cidaris glandifera* ; FUTTERER (33) p. 35.

Lower Jurassic.—Dept. de l'Ain, lists of *Echinoderma* ; RICHE (97) pp. 61, 62, 68, 71, 72, 75, 76, 82, 83, 84, 85, 93, 94, 98.—S. Jura, lists of species with remarks ; RICHE (98) pp. 71, 99, 172, 193, 198, 219, 228, 239, 286, 313, 329, 352.—Petroleum-borings in N. Germany, *Pentacrinus cristagalli* ; FREYSTEDT (32) pp. 129, 136.—(Lower Oolites), England, lists of Crinoids (p. 586), Echinoids (p. 587), Ophiuroids, Asteroids, and Holothuroids (p. 590), and other pp. quoted in § I ; WOODWARD (131).—(Bajocian) Allonal, near St. Amour, Jura, *Astropecten carroni*, n. sp. ; LORIOU (65) p. 474.

(d) **Lias** :—Of Piedmont, *Echinoidea*, *Cidaris terrenzii*, n. sp., *Crinoidea*, *Millericrinus gemmatus*, n. sp. ; PARONA (89) Mem. Acc. Torino, xliii, p. 54.—(Upper Lias) Murchisonæ beds, Treviso, Italy, *Pentacrinus*, *Rhabdocidaris* ; BOTTO-MICCA (12) p. 193.—(Lower Lias) Malatra (Isère), *Pentacrinus* ; TERMIER & KILIAN (118) p. 276.

(e) **Rhaetic** :—Of Malsch, near Wiesloch, Ophiuroids ; ANDREAE (4).

(iv) PALÆOZOIC.

(a) **General**:—List of *Crinoidea*, *Blastoidea*, and *Echinoidea*, of Missouri, with horizons and localities; HAMBACH (41) pp. 66-68.

(b) **Trias**:—(Raibler beds),—*Crinoidea*, *Asteroidea*, *Echinoidea*, detailed list with localities and horizons; WÜHRMANN (130) p. 641: Friuli, *Echinoidea* recorded; TOMMASI (123).—(Untere Nodosus-kalk), Maner near Heidelberg, *Acroura coronæformis* and other Ophiurids; ANDREAE (4).—(Muschelkalk, Partnachsichten, and Wettersteinkalk), Hohenschwangau, *Encrinus*, *Traumatocrinus*, *Cidaris*; BÖSE (11) pp. 4, 6, 7.

(c) **Permian**:—East Russia-in-Europe, *Crinoidea*; NECHAEV (87) p. 116.

(e) **Carboniferous**:—(Carboniferous Limestone), Fossey near Aachen, *Platycrinus*; DANTZ (29) p. 623.—(Calcaire de Lens), Belgium, composed of Palechinoid plates; LOHST (63).—(Lower Carboniferous), Elsass, *Palæchinus*, *Archæocidaris*, *Perischodomus magnus*, n. sp.; TORNQUIST (124) pp. 100 & 101.

(Kaskaskia Group), n. spp. of *Agelacrinus*, *Zeacrinus*, *Batocrinus*; MILLER & GURLEY (82). (Warsaw Group), n. spp. of *Alloprosallocrinus*, *Batocrinus*; MILLER & GURLEY (82). (Keokuk Group), n. spp. of *Poteriocrinus*, *Zeacrinus*, *Barycrinus*, *Symbathocrinus*, *Ichthyocrinus*, *Actinocrinus*, *Dorycrinus*; MILLER & GURLEY (82). (Kinderhook Group), n. spp. of *Agelacrinus*, *Poteriocrinus*; MILLER & GURLEY (82). (Chouteau Limestone), n. sp. of *Platycrinus*; MILLER & GURLEY (82).

(f) **Devonian**:—(Hamilton Group),—n. spp. of *Dolatocrinus*, *Megistocrinus*; MILLER & GURLEY (81): of *Dolatocrinus*; MILLER & GURLEY (82): Missouri, *Melocrinus tersus*, *M. lylii*, n. spp.; ROWLEY (102). (Upper Devonian), Sardinia, stems of *Ctenocrinus* and other Crinoids, *Protocystis*, *Mimocystis*; LOVISATO (66): Elba, *Actinocrinus*; STÉFANI (112) p. 32.—Graz, Austria, distribution of *Crinoidea*; PENECKE (91) p. 609. (Hercynian), Ural, *Crinoidea*; CHERNUISHEV (20) pp. 121, 123 & 129.

(g) **Silurian**:—Erratic blocks of W. Prussia, *Pentacrinus* said to occur; KIESOW (50) p. 82.—Australia, *Protaster*; M'KNIGHT (84). (Lower Ludlow) Church Hill, Shropshire, *Asteroidea*, popular notes; LA TOUCHE (60). (Niagara Group),—n. sp. of *Lecanocrinus*; MILLER & GURLEY (81): n. spp. of *Holocystis*, *Caryocrinus*; MILLER & GURLEY (82).

(h) **Ordovician**:—(Trenton Group), n. spp. of *Belemnocystis*, *Archæocrinus*, *Mirocrinus*, *Porocrinus*, *Carabocrinus*, *Aesiocystis*, *Retiocrinus*, *Glyptocrinus*, *Calceocrinus*; MILLER & GURLEY (82).—(Bala Beds), Wharfe, Yorkshire, *Atelecystis*; REYNOLDS (96) p. 109.

(i) **Cambrian**:—Coulouma (P'Hérault), *Trochocystis*; MIQUEL (83) p. 106. (Paradoxides Beds), Bohemia, *Trochocystis* and new Cystid genus; JAHN (48) p. 271.

IV.—SYSTEMATIC.†

(A.)—ECHINODERMA IN GENERAL.

Systematic review of *Echinoderma* and of classes; LANG (59) pp. 871-901.

(B.)—HOLOTHURIOIDEA.

- Ankyroderma danielsseni*, an Antarctic form found N. of Equator, fully described; LUDWIG (70) p. 164. *A. jeffreysi*; PFEFFER (93) p. 122.
- A. spinosum*, E. Central Pacific, 905-1793 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 171, n. sp.
- Benthodytes gelatinosa*, Walsh, referred to *Pætopatides* (p. 19), and Walsh's imperfect description mournfully reprehended (p. 96); *B. sanguinolenta*, G. of Panama, fully described (p. 54); LUDWIG (70).
- B. incerta*, E. Central Pacific, 1322 & 1879 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 60, n. sp.
- Capheira*, n. g., with type *C. sulcata*, E. Central Pacific, 1573 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 100, n. sp.
- Caudina californica*, G. of California, 1588 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 155, n. sp.
- Chiroadota laevis*; PFEFFER (93) p. 122.
- Colochirus cucumis* (p. 105), *C. doliolum* (p. 104), *C. quadrangularis* (p. 105); SLUITER (111).
- Cucumariidae*, this family name preferred to *Dendrochirote*; LUDWIG (70) pp. 7 & 122.
- Cucumaria abyssorum*, described, var. *hyalina* considered as young, and var. *grandis* as adult; LUDWIG (70) p. 122. *C. frondosa*; PFEFFER (93) p. 123. *C. glacialis*; *l. c.*; anatomy and early development; MORTENSEN (85). *C. minuta* (Fabr.) non Stuxb.; PFEFFER (93) pp. 109 & 123. *C. pentactes*; MEISSNER & COLLIN (80) p. 344. *C. planci*; KOEHLER (56) p. 425; at Cette; KOEHLER (55) pp. 4 & 7.
- Deima*, rediagnosed (p. 70); *D. pacificum*, E. Central Pacific, from 885 to 1360 fms. (p. 63); LUDWIG (70) Mem. Mus. Harvard, xvii, 3, n. sp.

† A dagger prefixed to the trivial name of a species indicates that it is fossil; prefixed to the name of the author, it denotes that the reference is to the species in a fossil state; prefixed to the name of a genus, it indicates that all species of the genus here recorded are fossil, and the † is therefore not repeated before each name. The abbreviations *l. c.* and *op. cit.* refer only to the place or work quoted immediately before.

A name and reference quoted without further statement (e.g., *Chiroadota laevis*, above) indicate that the original author's statement refers merely to locality or some question of slight importance. Further information can usually be gleaned from the cross-references under TITLES.

Deimatina, key to genera; LUDWIG (70) p. 104.

Epidiidae, family name to replace the old *Elasipoda*; LUDWIG (70) pp. 7 & 39.

Euphronides tanneri, N. of Cape San Francisco, 1573 fms. (p. 39);
E. verrucosa, near C. San Francisco and Galapagos Is., 1573
& 1322 fms. (p. 44): LUDWIG (70) Mem. Mus. Harvard, xvii, 3:
n. spp.

Eupyrigus scaber; PFEFFER (93) p. 123.

Georisia ornata, Perrier, referred to *Psolidium*; LUDWIG (70) p. 136.

Holothuriidae, rediagnosed and divided into subfamilies, *Holothurinae* and
Synallactinae, with key to genera; LUDWIG (70) p. 37.

Holothuria atra, and var. *amboinensis*; SLUITER (111) p. 103. *H. edulis*;
l. c. H. forskali, littoral and deep-water vars., synonymy;
KOEHLER (56) p. 423; at Cette, discussion of name and validity
of species; KOEHLER (55) p. 4. *H. fuscopunctata*; SLUITER (111)
p. 104. *H. impatiens*; *op. cit.*, p. 104; KOEHLER (56) p. 422. *H.*
intestinalis; MARENZELLER (75) p. 15. *H. klünzingeri*; SLUITER
(111) p. 103. *H. languens*; LUDWIG (70) p. 7. *H. maculata*; *l. c.*
H. marenzelleri; *op. cit.*, p. 8; SLUITER (111) p. 104. *H. marmorata*;
op. cit., p. 103. *H. monocaria*; *l. c. H. olivacea*; *op. cit.*, p. 104. *H.*
pardalis; LUDWIG (70) p. 7; includes *H. insignis*, *H. lineata*, *H. pere-*
grina, and perhaps *H. subdivita*; SLUITER (111) p. 104. *H. pervicax*;
l. c. H. poli, ova described; CRETY (27) p. 262; distinguished from
H. tubulosa of same locality; KOEHLER (56) p. 422. *H. pyxis*; SLUITER
(111) p. 103. *H. scabra*; *l. c. H. tubulosa*, ova described; CRETY (27)
p. 261. *H. vagabunda*; SLUITER (111) p. 103; range extended to
E. Pacific; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 8. *H. ver-*
rilli, referred to *Synallactinae*; *op. cit.*, p. 26.

Kolga ludwigi, between Cerigo and Candia, 755 to 943 metres, and S.E.
of C. Malea, 1292 metres; MARENZELLER (75) Denk. Ak. Wien, lx
(v), p. 20, n. sp.

Laetmogone theeli, Galapagos Is., 1322 fms; LUDWIG (70) Mem. Mus.
Harvard, xvii, 3, p. 79, n. sp.

Laetmophasma, n. g., with type *L. fecundum*, E. Central Pacific, 660 to
905 fms., development of spicules fully described; LUDWIG (70)
Mem. Mus. Harvard, xvii, 3, p. 85, n. sp.

Meseres, n. g., with type *M. macdonaldi*, near Cocos and Malpelo Is., 1175
and 899 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 34, n. sp.

Mesothuria, n. g., with type *M. multipes*, near Galapagos, from 885 to 1270
fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 31, n. sp. [This
is the *Mesites* of Ludwig's preliminary notice.]

Muelleria echinites, *M. lecanora*, *M. miliaris*; SLUITER (111) p. 104.

M. lubrica, Thursday Id.; SLUITER (111) Denk. Ges. Jena, viii, p. 104,
n. sp.

Myriotrochus rinki; PFEFFER (93) pp. 109 & 122.

Oncirophanta mutabilis, near Malpelo Id., and Acapulco, redescribed;
LUDWIG (70) p. 70.

- O. affinis*, near Malpelo Id., 1772 & 1823 fms., with dorsal papillæ in double rows; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 72, n. sp.
- Pælopatides*, rediagnosed; LUDWIG (70) p. 21. *P. confundens*, redescribed with internal anatomy, held to include *P. agassizi*; LUDWIG (70) p. 14.
- P. suspecta*, Gulf of Panama, 1270 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 20, n. sp.
- Pannychia*, cf. *moseleyi*, spicules; KISHINOUE (51), and LUDWIG (68).
- P. moseleyi*, n. var. *henrici*, E. Central Pacific, 770 to 1421 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 95.
- Pelagothuria*, a free-swimming pelagic Holothurian; LUDWIG (67). *P. natatrix* [introduced as n. g., n. sp., but see Zool. Rec. 1893], fully described and figured; LUDWIG (70) p. 114.
- Pelagothuriidae*, the family diagnosed; LUDWIG (70) p. 121.
- Peniagone vitrea*, var. *setosa*, fully described; LUDWIG (70) p. 105.
- P. intermedia*, E. of Galapagos, 1322 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 108, n. sp.
- Phyllophorus urna*; MARENZELLER (75) p. 23; at Cetto; KOEHLER (55) p. 7.
- P. aculeatus*, Panama; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 128, n. sp.
- Pseudocucumis acicula*; SLUITER (111) p. 105.
- Pseudostichopus*, rediagnosed; LUDWIG (70) pp. 10 & 14. *P. mollis*, range extended N. of Equator, redescribed; LUDWIG (70) p. 8.
- P. occultatus*, Eastern Mediterranean, 415-1445 metres, protected by covering of foreign objects; MARENZELLER (75) Denk. Ak. Wien, lx (v) p. 15, n. sp.
- Psolidium*, rediagnosed, key to species; LUDWIG (70) p. 135. *P. dorsipes*, discussed; *op. cit.*, p. 131.
- P. gracile*, Gulf of Panama, 1270 fms. (p. 132); *P. panamense*, Gulf of Panama, 1270 fms., an intermediate form between *Cucumaria* and *Psolus* (p. 129); LUDWIG (70) Mem. Mus. Harvard, xvii, 3 : n. spp.
- Psolus*, evolution of genus (p. 131); *P. sp.*, juv., Gulf of Panama (p. 140); LUDWIG (70). *P. fabricii*; PFEFFER (93) pp. 110 & 123. *P. phantapus*; *ll. c.* *P. squamatus*; MEISSNER & COLLIN (80) p. 345.
- P. digitatus*, Gulf of Panama, 695 fms., peculiar tentacles (p. 138); *P. diomedea*, Cocos Id., 66 fms. (p. 136); *P. pauper*, S. of Las Tres Marias, W. of Mexico, 676 fms., perhaps only a var. of *P. fabricii* (p. 139); LUDWIG (70) Mem. Mus. Harvard, xvii, 3 : n. spp.
- Psychropotes dubiosa*, off Ecuador, 1823 fms. (p. 52); *P. raripes*, N. W. of C. San Francisco, 1573 fms. (p. 48); LUDWIG (70) Mem. Mus. Harvard, xvii, 3 : n. spp.

- Scotoanassa gracilis*, N.W. of Galapagos, 1360 fms.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 111, n. sp.
- Scotodeima*, n. g., with type *S. setigerum*, Cocos Id.; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 74, n. sp.
- Sphaerothuria*, n. g., with type *S. bitentaculata*, E. Pacific, 676-2232 fms., full anatomical description, relations to other Holothurians discussed; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 141, n. sp.
- Stichopus chloronotus*; SLUITER (111) p. 104. *S. régalis*; KOEHLER (56) p. 425; MARENZELLER (75) p. 15; at Cette; KOEHLER (55) p. 7. *S. selenka*, referred to *Holothuria forskali*; KOEHLER (56) p. 424. *S. variegatus*; SLUITER (111) p. 104.
- Synallactes*, n. g., with type *S. alexandri*, near Mariato Pt., and at Galapagos Is., 322 & 551 fms. (p. 21); *S. ænigma*, near Malpelo Id. and Galapagos, 1823 & 1322 fms. (p. 26): LUDWIG (70) Mem. Mus. Harvard, xvii, 3: n. spp.
- Synapta abyssicola*, var. *pacifica*, more fully described; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 174. *S. beselii*; SLUITER (111) p. 105. *S. digitata*; MARENZELLER (75) p. 23; segmentation of ovum; BRAEM (15). *S. glabra*; SLUITER (111) p. 105. *S. godefroyi*; l. c. *S. grisea*, n. var. *alba*, Thursday Is.; l. c. *S. indivisa*, maintained distinct from *S. reciprocans*; l. c. *S. inhaerens*; MEISSNER & COLLIN (80) p. 344; ova described; CRETY (27) p. 264. *S. lefersteinii*, with rudimentary calcareous deposits; SLUITER (111) p. 105. *S. serpentina*; l. c. *S. similis* (?); l. c.
- Theelia*, rediagnosed; LUDWIG (70) Mem. Mus. Harvard, xvii, 3, p. 135.
- Thyone aurantiacus*, at Cette; KOEHLER (55) p. 7. *T. fusus*; MEISSNER & COLLIN (80) p. 345. *T. inermis*; MARENZELLER (75) p. 23.
- Thyonidium pellucidum*; PFEFFER (93) pp. 109 & 123. *T. rigidum*; SLUITER (111) p. 105.
- Trochostoma thomsoni*; PFEFFER (93) p. 122. *T. violaceum* (Studer), an Antarctic form found N. of Equator; LUDWIG (70) p. 157.
- T. granulatum*, E. Central Pacific, 1471-2232 fms. (p. 158); *T. intermedium*, G. of Panama and California, 730-995 fms. (p. 161): LUDWIG (70) Mem. Mus. Harvard, xvii, 3: n. spp.

(C).—ECHINOIDEA.

- † *Arosalenia spinosa*; RICHE (97) p. 75, and (98) p. 219. *Agassizia*, discussed; BITTNER (9).
- † *Ananchytinarum*, sp. indet., figured; JIMBÖ (49) p. 191.
- † *Aniaster*:—*A. confusus*, Pomel, syn. of *A. gibberulus* (p. 703); *A. gibberulus*, priority-squabbles (p. 702); COTTEAU (23).
- Arachnoides placenta*; BELL (7) p. 412.
- † *A. incisa*, Miocene, Gippisland Lakes; TATE (116) T. R. Soc. N. S. W. xxvii, p. 192, n. sp.
- † *Arachniopleurus arcnatus*; COTTEAU (23) p. 762.

- † *Archæocidaris urii* ? ; TORNQUIST (124) p. 102.
Astropyga radiata ; ANDERSON (3) p. 192.
† *Atelospatangus transilvanicus* ; KOCH (54) p. 280.
† *Botriopygus zumoffeni*, Cretaceous of Lebanon ; COTTEAU (22) C.R. Ass. Franc. 1893, p. 356, n. sp.
Brissoopsis distinct from *Toxobrissois* ; BITTNER (9). *B. luzonica*, *B. oldhami* ; ANDERSON (3) p. 195. *B. lyrifera*, abnormality ; MEISSNER & COLLIN (80) p. 344.
B. dollfusi, Middle Eocene, La Hougue near Orglandes (Manche) ; COTTEAU (23) Pal. franc. Eoc. ii, p. 677, n. sp.
† *Caratomus peltiformis* ; HENNIG (42) p. 502.
† *Cardiaster subtrigonatus*, redescribed from Tunis, doubling of posterior ambulacrum ; GAUTHIER (37) p. 34.
† *Cassidaria diadema* ; KOCH (54) p. 229.
† *Cassidulus* :—*C.* sp. ; HENNIG (42) p. 504. *C. testudinarius*, redescribed and figured from Middle Eocene, Fresville (Manche) ; COTTEAU (23) p. 717.
C. casselensis, Middle Eocene, Cassel (Nord) ; COTTEAU (23) Pal. franc. Eoc. ii, p. 720, n. sp.
† *Catopygus rotundus*, *C. minor*, n. sp., Åhussandsten, Sweden ; HENNIG (42) p. 503, n. sp.
Centrostephanus longispinus, first recorded from Tamaris and Toulon ; KOEHLER (56) p. 417.
Cidaris. See also under *Doro-*, *Gonio-*, *Hemi-*, *Leio-*, *Poro-*, *Rhabdo-*, *Stereo-*, *Tylo-*, and *Typo-* *cidaris*: † *C. armata* ; PARONA (89) p. 55. † *C. asperula*, discussed, includes *C. berthelini*, Cotteau ; LAMBERT (57) p. 42. † *C. bielzi* ; KOCH (54) p. 287. † *C. bowerbanki*, Forbes, referred to *Tylocidaris* ; LAMBERT (57) p. 42. † *C. cenomanensis*, discussed ; *op. cit.*, p. 29. † *C. claviphænix* ; COTTEAU (22) p. 347. † *C. cucumifera* ; RICHE (98) p. 99. *C. curvatispinis* ; LORIOLE (64) p. 60. † *C. dissimilis*, localities in la Marne ; LAMBERT (57) p. 25. † *C. cf. dorsata*, spine only ; BÖSE (11) p. 6. † *C. felicia*, redescribed and figured ; COTTEAU (23) p. 756. † *C. gaultina*, spines figured from Albian of Pernes-en-Artois ; LAMBERT (57) p. 17. † *C. gibberula*, Agass., referred to *Tylocidaris* ; *op. cit.*, p. 42. † *C. glandifera*, from E. Africa ; FUTERER (33) p. 35 ; JAEKEL (45) p. 507. † *C. hautevillensis*, Cott., syn. of *C. leptacantha* ; COTTEAU (23) p. 754. † *C. hirudo*, discussed ; LAMBERT (57) p. 29. † *C. leptacantha*, redescribed and figured ; COTTEAU (23) p. 754. † *C. martini* ; PARONA (89) p. 55. † *C. moorei* ; *op. cit.*, p. 56. † *C. perforata*, Roem., probably = *C. gaultina* ; LAMBERT (57) p. 18. † *C. portsesdisensis*, † *C. cf. pileccensis* (p. 287), † *C. subacicularis* (pp. 297, 314), † *C. subularis* (pp. 287, 302, 314) ; KOCH (54). † *C. suleimani*, nom. nud. ; NOETLING (88) p. 126. *C. tribuloides* ; RUSSO (104) p. 160. † *C. uniformis*, spines figured from Albian of Ste-Menehould (p. 18), † *C. velifera*, Schlueter, = *Tylocidaris bowerbanki* (p. 42), † *C. velifera*, Bronn non Schlueter

- (p. 40), †*C. vesiculosa*, Goldfuss, sensu lato, with its various subdivisions discussed in full (pp. 29–40) [see also under *Typocidaris*]; LAMBERT (57). †*C. zschokkei*; RICHE (98) p. 99.
- †*C. blaicherei*, Middle Eocene, Mt. Alaric à la Bourdanne (Aude); COTTEAU (23) Pal. franc. Eoc. ii, p. 752. †*C. terrenzii*, Middle Lias, Piedmont and Umbria, spines only; PARONA (89) Mem. Acc. Torino, xliii, p. 54. †*C. trezensis*, Cenomanian, St.-Parres; LAMBERT (57) Bull. Soc. Yonne, xliii, p. 44 : n. spp.
- †*Clypeanthus*, n. g., with type *Toxaster pentagonalis*, Fraas, Cretaceous of Lebanon; COTTEAU (22) C.R. Ass. Franc. 1893, p. 354.
- †*Clypeaster acuminatus*; KOCH (53) p. 148. †*C. bunopetalus*; REPELIN (95) p. 10. †*C. cranicostatus*, †*C. cf. folium*, †*C. cf. gibbosus*, †*C. herepeyi*; KOCH (53) p. 148. *C. humilis*; ANDERSON (3) p. 194. †*C. petalodes*; BRIVE (16) p. 20. †*C. pyramidalis*; KOCH (53) p. 148. *C. subdepressus*; RUSSO (104) p. 159.
- †*Clypeolampas*:—*C. helios*, nom. nud., *C. vishnu*, nom. nud.; NOETLING (88) p. 126. [See also *Echinolampas alienus*.]
- †*Clypeus altus*; RICHE (97) p. 68, and (98) p. 193.
- Coelopleurus*:—*C. cf. delbosi*; KOCH (54) p. 348. *C. equis*; *op. cit.*, pp. 280 & 298.
- †*Collyrites*:—*C. analis*; RICHE (97) pp. 68, 71, 72, 75 & 76, and (98) pp. 194, 198, 220, 228 & 239. *C. elliptica*; RICHE (97) pp. 82, 83, 84 & 85, and (98) pp. 287 & 313. *C. ovalis*; RICHE (97) pp. 68 & 71, and (98) pp. 194, 220 & 239. *C. ringens*; RICHE (97) p. 68, and (98) p. 194.
- †*Conoclypeus*:—*C. ackneri*; KOCH (54) p. 287. *C. conoideus*; *l. c.*; young individual, very conical, Montfört (Landes); COTTEAU (23) p. 747. *C. marginatus*, conical var.; *l. c.* *C. plagiosomus*; KOCH (53) p. 148.
- C. rostratus*, Eocene, Table Cape, Tasmania; TATE (116) J. R. Soc. N. S. W. xxvii, p. 194, n. sp.
- †*Coptosoma rousseli*; COTTEAU (23) p. 757.
- Cyclaster*, discussed; BITTNER (9).
- †*Cyphosoma*:—*C. sp.*; NOETLING (88) p. 126. *C. colliciare* (p. 23), *C. maresi*, modifications in large individuals (p. 22); GAUTHIER (37).
- C. auberti*, Santonian, near Dj. M'rilah, Tunis; *op. cit.*, p. 23, n. sp.
- †*Diademopsis heretica*, Valenginian, Höllgraben, Switzerland; MAYER-EYMAR (77) Beit. geol. Karte Schweiz. xxiv, pt. ii, p. 1.
- †*Diplopodia*:—*D. variolaris*; GAUTHIER (37) p. 15; synonymy; LAMBERT (57) p. 52.
- D. zumoffeni*, Cretaceous of Lebanon; COTTEAU (22) C.R. Ass. Franc. 1893, p. 348, n. sp.
- †*Discoidea* (or *Discoides*):—*D. conicus*; LAMBERT (57) p. 19. *D. cylindrica*; GAUTHIER (37) p. 15; apical system; LAMBERT (57) p. 59. *D. forgemoli*; GAUTHIER (37) p. 14. *D. subuculus*, Klein; LAMBERT (57) p. 58.
- †*Ditremaster nux* (Desor), large, elongate var.; COTTEAU (23) p. 708.

- †*Dorocidaris*, discussed; LAMBERT (57) p. 26 [Species of this genus or subgenus must also be sought under *Cidaris*]. †*D. essenensis*, Schlueter, referred to *Typocidaris*; *op. cit.*, p. 37. *D. papillata*; MARENZELLER (75) p. 12; RUSSO (104) p. 160; synonymy; KOEHLER (56) p. 417. †*D. subvesiculosa*; HENNIG (42) p. 501.
- D. alcocki*, Laccadive Sea, 636 fms. (p. 191); *D. tiara*, Colombo, 142-400 fms., varies in shape with age (p. 188); ANDERSON (3) J. Asiat. Soc. Bengal, lxiii (ii) : n. spp.
- †*Dysaster moeschi*; RICHE (98) p. 313.
- †*Echinanthus*:—*E. delbosi*, var. from Eocene of Montfort (Landes); COTTEAU (23) p. 727. *E. desmoulinsi*, young specimen; *op. cit.*, p. 730. *E. griesbachi*, nom. nud.; NOETLING (88) p. 126. *E. inflatus*; KOCH (54) p. 302. *E. issyaviensis*; COTTEAU (23) p. 729. *E. pellati*; KOCH (54) p. 287. *E. scutella*; KOCH (53) p. 148, and (54) pp. 280 & 297; ROVASENDA (101) p. 418. *E. sopitanus*; *l. c.*
- E. arnaudi*, Upper Eocene, Dax (Landes); COTTEAU (23) Pal. franc. Eoc. ii, p. 728, n. sp.
- †*Echinobrissus*:—*E. amplus*; RICHE (98) p. 220. *E. angustior*; GAUTHIER (37) p. 14. *E. clunicularis*; RICHE (97) pp. 76 & 83, and (98) pp. 220, 228, 239 & 287. *E. djelfensis*; GAUTHIER (37) p. 21. *E. goybeti*, and allied form; COTTEAU (22) p. 353. *E. meslei*; GAUTHIER (37) p. 49. *E. orbicularis*; RICHE (97) p. 76, and (98) p. 220. *E. pseudominimus*; GAUTHIER (37) p. 21. *E. sitifensis*; *op. cit.*, p. 49.
- Echinocardium cordatum*; MEISSNER & COLLIN (80) p. 343; Mediterranean form distinguished from Atlantic form and from *E. mediterraneum*; KOEHLER (56) p. 420. *E. flavescens*; MEISSNER & COLLIN (80) p. 342; synonymy; KOEHLER (56) p. 421.
- †*Echinoconus*:—*E. gigas*; NOETLING (88) p. 126. *E. marginalis*; GAUTHIER (37) p. 50.
- †*Echinocorys* sp.; GAUTHIER (37) p. 34.
- †*Echinocyamus biarritzensis*, redescription and refiguring of type; COTTEAU (23) Pal. franc. Eoc. ii, p. 749. †*E. dumasi*; *l. c.* *E. pusillus*; MEISSNER & COLLIN (80) p. 341; synonymy; KOEHLER (56) p. 420.
- †*E. blancheti*, Upper Eocene, Biarritz; COTTEAU (23) Pal. franc. Eoc. ii, p. 751. *E. crispus* (p. 239), *E. elegans* (p. 240), Red Sea; MAZZETTI (78) Atti Soc. Modena, xii : n. spp.
- Echinodiscus biforis*; ANDERSON (3) p. 194.
- †*Echinolampas*:—*E. cf. abbreviatus*; REPELIN (95) p. 10. *E. affinis*; COTTEAU (23) p. 746. *E. cf. affinis*; KOCH (54) p. 297. *E. africanus*, redescrbed and figured, from Tunis; COTTEAU (23) p. 743. *E. (Clypeolampas) alienus*; KOCH (54) p. 287. *E. beaumonti*; COTTEAU (23) p. 745; ROVASENDA (101) p. 418. *E. coquandi*; COTTEAU (23) p. 741. *E. ellipsoidalis*; *op. cit.*, p. 742. *E. escheri* (pp. 297 & 302), *E. giganteus* (p. 280), *E. cf. globulus* (p. 287); KOCH (54). *E. hemisphaericus*; PAVLOVIC (90) p. 173; var. *rodi*;

- MARTONFI (76) p. 153. *E. laurillardii*; KOCH (53) p. 148. *E. politus*; COTTEAU (23) p. 741. *E. cf. silensis* (p. 280), *E. cf. studeri* (p. 327); KOCH (54). *E. suessii*; ROVASENDA (101) p. 418.
- E. bigadanensis*, [ascribed to "Cotteau, 1893," but apparently n. sp.], Middle Eocene (Calcaire de St.-Estèphe), Bourdieu near Bégadan (Gironde) (p. 739), *E. dollfusi*, Middle Eocene, Saillancourt near Meulan (Seine-et-Oise) (p. 733), *E. falloti*, Middle and Upper Eocene, Blaye (Gironde) and Biarritz (p. 737), *E. lamberti*, Middle Eocene, Fréville (Manche) (p. 763), *E. rostratus*, Middle Eocene, Liancourt-St.-Pierre (Oise) (p. 731), *E. touzini*, Upper Eocene, Meynieu (Gironde) (p. 735); COTTEAU (23) Pal. franç. Eoc. ii : n. spp.
- Echinometra lucunter*; ANDERSON (3) p. 193. *E. subangularis* (p. 160), *E. viridis* (p. 159); RUSSO (104).
- Echinoneus*, diagnosed; COTTEAU (23) p. 712. *E. cyclostomus*; ANDERSON (3) p. 194.
- † *E. michaleti*, Upper Eocene, Biarritz; COTTEAU (23) Pal. franç. Eoc. ii, p. 714, n. sp.
- † *Echinospatagus*:—*E. africanus* and *E. cordiformis*; GAUTHIER (37) p. 6. *E. dieneri* (Loriol); COTTEAU (22) p. 358.
- Echinostrephus molare*; ANDERSON (3) p. 193.
- Echinothrix desori* and *E. turcarum*; RUSSO (104) p. 160.
- Echinus acutus*; KOEHLER (56) p. 418; breeding season; GARSTANG (36) p. 228; at Cette, distinguished from *E. melo*; KOEHLER (55) p. 7. *E. elegans*; MEISSNER & COLLIN (80) p. 340. *E. esculentus*; PFEFFER (93) p. 117; MEISSNER & COLLIN (80) p. 340; blood; CATTANEO (19) p. 31. *E. melo*; MARENZELLER (75) p. 14; distinguished from *E. acutus* by pedicellaria; KOEHLER (56) p. 418. *E. microtuberculatus*, experiments on ova; SEELIGER (109). *E. miliaris*; MEISSNER & COLLIN (80) p. 340; breeding season; GARSTANG (36) p. 228. *E. norvegicus*, in Mediterranean, distinguished from *E. melo*; MARENZELLER (75) p. 13.
- † *Enallopneustes* discussed with figures of *E. jullieni* and *E. meslei*; GAUTHIER (37) p. 45.
- † *Enallaster*:—*E. delgadoi* (p. 357), *E. syriacus* (p. 358); COTTEAU (22). *E. tissoti*; GAUTHIER (37) p. 7.
- † *Epiaster*:—*E.* sp. indet.; l. c. *E. crassissimus* (p. 72), *E. distinctus*, discussed (p. 67); LAMBERT (57). *E. hemiasterinus*, maintained; CRAGIN (24) p. 45. *E. restrictus*; GAUTHIER (37) p. 7. *E. trigonalis*; LAMBERT (57) p. 68.
- E. matronensis*, Upper Cenomanian, Vitry-le-François; LAMBERT (57) Bull. Soc. Yonne, xliii, p. 69, n. sp.
- † *Euspatangus*:—*E. crassus* and *E. elongatus* (p. 280), *E. cf. elongatus* (p. 298), *E. haynaldi* (p. 228), *E. pavayi* (pp. 298, 327 & 348); KOCH (54).
- Fibularia ovulum* (p. 193), *F. volva* (p. 194); ANDERSON (3).
- Gyaria*, Duncan, and all spp. thereof syn. of *Orthechinus*, Gauthier; COTTEAU (23) p. 758.

- † *Galerites* sp., 4- and 6-rayed; LAUR (61) p. 6.
- † *Galerolampas sorigneti*; COTTEAU (23) p. 730.
- † *Glyphocyphus radiatus*, synonymy discussed, variations in apical system, description of ambulacra; LAMBERT (57) p. 53.
- † *Glypticus sulcatus*, Sequanian, Nantua; LORIOI (65) p. 468.
- Goniocidaris*, discussed; LAMBERT (57) p. 28 [Species of this genus or subgenus must also be sought under *Cidaris*].
- † *Goniopygus*, cf. *menardi*; COTTEAU (22) p. 353.
- † *Gualteria heberti*; COTTEAU (23) p. 674.
- † *Hebertia parisensis*, traces of colour; COTTEAU (23) p. 762.
- † *Hemiaster*:—*H. ameliae*, details of ambulacra; GAUTHIER (37) p. 9.
H. asterias, two species under this name; LAMBERT (57) p. 23. *H. auberti* (p. 25), *H. aumalensis* (p. 8), *H. batnensis* (p. 12); GAUTHIER (37). *H. blanfordie*, nom. nud.; NOETLING (88) p. 126. *H. bourguignati*; GAUTHIER (37) p. 12. *H. bufo*; BOURGEAT (13) p. 357; LAMBERT (57) p. 72. *H. calvini*, Clark, referred to *Epiaster hemiasterinus*; CRAGIN (24) p. 45. *H. fourneli*; GAUTHIER (37) pp. 18 & 25. *H. griepenkerli*; LAMBERT (57) p. 73. *H. heberti* (p. 11), *H. latigrunda* (p. 18); GAUTHIER (37). *H. luynesi*; COTTEAU (22) p. 360. *H. minimus*; BOURGEAT (13) p. 356. *H. nux*; KOCH (54) pp. 280, 297 & 314. *H. oblique-truncatus*; GAUTHIER (37) p. 17. *H. oldhami*, nom. nud.; NOETLING (88) p. 126. *H. ricordeanus*; BOURGEAT (13) p. 356; d'Orb., name rectified to *H. ricordeaui* [without reason given], and species distinguished from *Epiaster ricordeaui*, Cotteau; LAMBERT (57) p. 22.
- H. cossignyi*, Lower Albian, Courcelles-sur-Seine (Aube); LAMBERT (57) Bull. Soc. Yonne, xlviii, p. 21. *H. icaunensis*, Cenomanian, Seignelay, stages of growth, and figures of ambulacra and apical system; *op. cit.*, p. 73. *H. subverrucosus*, Senonian, Sidi-Mahomed-el-Nauli, S.E. of Tunis; GAUTHIER (37) p. 26 : n. spp.
- † *Hemicidaris herbichi*; KOCH (54) p. 314.
- † *Hemipedina*:—*H. charltoni*, Choctaw Limestone, Texas; CRAGIN (25) Colorado Coll. Studies, v, p. 50. *H. libanotica*, Cenomanian of Lebanon; COTTEAU (22) C.R. Ass. Franc. 1893, p. 350 : n. spp.
- † *Hemipneustes*:—*H. compressus*, nom. nud., *H. leymeriei*, and *H. pyrenai-cus*; NOETLING (88) p. 126.
- † *Hemipygus rochati*, Rhodanian, Perte du Rhône; LORIOI (65) Rev. Suisse Zool. iv, p. 469, n. sp.
- † *Heterodiadema libycum*; GAUTHIER (37) p. 15.
- † *Holaster*:—*H. laevis*; BOURGEAT (13) p. 357; distinguished from *H. nodulosus*, at least as a mutation (p. 20), *H. latissimus* (p. 19), *H. nodulosus*, synonymy and localities (p. 60), *H. subglobosus* (p. 61), *H. trecensis*, maintained distinct from *H. nodulosus* (p. 63); LAMBERT (57).
- † *Holactypus*:—*H. baluchistanensis*, nom. nud.; NOETLING (88) p. 126. *H. depressus*; RICHE (97) pp. 63, 71, 72, 75, 76, 82, 83 & 84, and (98) pp. 193, 198, 219, 239, 286 & 313. *H. punctulatus*; RICHE

- (97) pp. 82 & 83, and (98) pp. 286 & 313. *H. serialis*; GAUTHIER (37) p. 21.
- H. charltoni*, Choctaw Limestone, Texas; CRAGIN (24) Colorado Coll. Studies, v, p. 41, footnote, n. sp. [?]
- †*Homoeaster*, discussed (p. 44), *H. tunetanus*, redescribed and figured (p. 45); GAUTHIER (37).
- H. discrepans*, Senonian, Djebel Ahmar, Tunis; GAUTHIER (37) p. 48, n. sp.
- †*Hyboclypeus gibberulus*; RICHE (97) pp. 68, 71 & 76, and (98) pp. 193, 220 & 287.
- †*Hypsaster*, discussed; COTTEAU (22) p. 359. *H. vatounei*; genus discussed; GAUTHIER (37) p. 8.
- †*Hypsospatangus lefebvrei* (Lor.), redescribed from Tunis; COTTEAU (23) p. 676.
- Laganum decagonale*, young forms probably include *L. orbiculare*; BELL (7) p. 411. *L. depressum*; ANDERSON (3) p. 194. †*L. transilvanicum*; KOCH (54) p. 297.
- L. delicatum*, Red Sea, the name supersedes the nom. nud. *L. fragile*; MAZZETTI (78) Atti Soc. Modena, xii, p. 241. *L. platymodes*, Miocene, E. of St. Vincent Gulf, S. Australia; TATE (116) T. R. Soc. N. S. W. xxvii, p. 193 : n. spp.
- †*Lambertiaster*, n. g., with type *L. douvillei*, Upper Senonian, Djebel Eïdous, Tunis (p. 28), *L. auberti*, Senonian, Djebel Ahmar, N. of Tunis (p. 32); GAUTHIER (37) : n. spp.
- †*Leiocidaris itala*; KOCH (54) pp. 297 & 314.
- †*Leiopedina samusi*; KOCH (54) p. 280.
- Leucaster*, validity of; BITTNER (9).
- †*Linthia arthonensis*, redescribed and figured (p. 689), †*L. leymeriei*, redescribed and figured (p. 686), †*L. orbignyi*, large var. (p. 681); COTTEAU (23). †*L. payeni*; GAUTHIER (37) p. 28. †*L. subglobosa*, depressed form (p. 678), †*L. vilanova*, redescribed from Aude (p. 684); COTTEAU (23).
- †*L. assabensis*, Red Sea; MAZZETTI (78) Atti Soc. Modena, xii, p. 242. †*L. bergeroni*, [ascribed to "Cotteau, 1893," but apparently n. sp.], Middle Eocene, Montagne d'Alaric (Aude); COTTEAU (23) Pal. franc. Eoc. ii, p. 681. †*L. gillioti*, Middle Eocene, Rigni, near Montlaur (Aude); *op. cit.*, p. 679. †*L. savini*, Middle Eocene, Aude; *op. cit.*, p. 687 : n. spp.
- Lovenia elongata*; ANDERSON (3) p. 195.
- †*Macropneustes hofmanni*; KOCH (54) pp. 280 & 298.
- Maretia alta*, yellow var., and *M. planulata*; ANDERSON (3) p. 195.
- Metalia sternalis*; ANDERSON (3) p. 195.
- †*Micraster*:—*M. brevis*; GAUTHIER (37) p. 19. *M. normannia*; FORTIN (31).
- Miotaxaster* rejected; COTTEAU (22) p. 359.
- †*Opissaster*:—*O. thagastensis*, redescribed and figured (p. 706), *O. thebensis* (Lor.), redescribed and figured from Tunis (p. 704); COTTEAU (23).

- †*Oriolampas rousseli*, Middle Eocene, Conques, Montagne Noire (Aude); COTTEAU (23) Pal. franc. Eoc. ii, p. 715, n. sp.
- †*Orthechinus*, Gauthier, preferred to *Gagaria*, Duncan, and *O. pegoti*, var. from near Carcassonne (p. 758); *O. tunetanus*, redescribed and figured; COTTEAU (23) Pal. franc. Eoc. ii, p. 759.
- †*Orthopsis*:—*O. miliaris*; GAUTHIER (37) p. 21. *O. perlata*, nom. nud.; NOETLING (88) p. 126.
- O. zumoffeni*, Cretaceous of Lebanon; COTTEAU (22) C.R. Ass. Franc. 1893, p. 352, n. sp.
- †*Ovulaster*, discussed, and *O. signoanus*, redescribed; GAUTHIER (37) p. 40.
- O. auberti*, Senonian, Djebel Ahmar, Tunis; GAUTHIER (37) p. 42, n. sp.
- †*Palechinus elegans*, and †*P. ellipticus*?; TORNQUIST (124) pp. 100 & 103. *Parabrissus*, discussed; BITTNER (9).
- †*Parapygus cassiduloides*; GAUTHIER (37) p. 49.
- †*Pedinopsis torrendi*, Cenomanian of Lebanon; COTTEAU (22) C.R. Ass. Franc. 1893, p. 351, n. sp.
- †*Peltastes*:—*P. clathratus*; LAMBERT (57) p. 44.
- P. favrei*, Cretaceous, Kislovosk (Caucasus); LORIOU (65) Rev. Suisse Zool. iv, p. 471, n. sp.
- †*Periaster*:—*P. charmesi* (p. 18), *P. fischeri* (p. 13); GAUTHIER (37). *P. (vel Linthia) kochi*; KOCH (53) p. 147.
- P. thalensis*, Turonian (?), N. of Thala, Tunis; GAUTHIER (37) p. 16, n. sp.
- †*Pericosmus*:—*P. nicaisci*, redescribed and figured; COTTEAU (23) p. 709.
- P. elongatus*, Eocene, Nousse (Landes); COTTEAU (23) Pal. franc. Eoc. ii, p. 711, n. sp.
- †*Perischodonus magnus*, Devonian, Cornwall and Elsass, based on Phillips' fig. of *Adelocrinus hystrix*, Pal. foss. Cornwall, pl. xvi, fig. 42; TORNQUIST (124) Mt. geol. Landesanst. Elsass, iv, p. 103, n. sp.
- Phormosoma bursarium* and *P. luculentum*; ANDERSON (3) p. 192.
- Phyllacanthus annulifera*; ANDERSON (3) p. 188.
- †*Phymosoma* sp.; HENNIG (42) p. 502.
- †*Plesiaster*, discussed; BITTNER (9). *P. cotteaudi* (p. 28), *P. peini* (p. 20); GAUTHIER (37).
- †*Pliolampas gourdoni*; COTTEAU (23) p. 748.
- †*Polydiadema tenue*; LAMBERT (57) p. 51.
- †*Porocidaris pseudoserrata*; COTTEAU (23) p. 757; KOCH (54) pp. 287 & 298.
- †*Poropeltaris sculptopunctata*, redescribed; LORIOU (65) p. 472.
- Pourtalesia jeffreysii*; PFEFFER (93) pp. 101 & 117.
- †*Prenaster*, discussed; BITTNER (9). *P. alpinus*; KOCH (54) p. 280.
- †*Protechinus paucituberculatus*, nom. nud.; NOETLING (88) p. 126.
- †*Psammechinus duciei*; KOCH (53) p. 148. †*P. gravesi*; KOCH (54) p. 228. *P. microtuberculatus*; KOEHLER (56) p. 418; at Cette; KOEHLER (55) pp. 4 & 7. †*P. monilis*; KOCH (53) p. 147. †*P. cf. monilis*; MARTONFI (76) p. 153.

- †*Pseudodiadema* :—*P. albense*, Albian of l'Yonne (p. 19), *P. schluteri*, Lor., referred to *Tiaronina* (p. 51); LAMBERT (57).
P. libanoticum, Cenomanian of Lebanon; COTTEAU (22) C.R. Ass. Franc. 1893, p. 347, n. sp.
- †*Pygorhynchus* :—*P. desnoyersi* (p. 722), a marked var. from Fréville (Manche) (p. 764), *P. grignonensis*, remarkable var., from Yenable (Eure) (p. 721), *P. gregoirei*, specimens from Cambon (Loire-Inférieure) approaching *P. grignonensis* (p. 722); COTTEAU (23).
P. barroisi, Middle Eocene, Monze, Montagne d'Alaric (Aude) (p. 723), *P. savini*, Middle Eocene, Barroubio, near St. Chinan (Hérault) (p. 725); COTTEAU (23) Pal. franc. Eoc. ii : n. spp.
- †*Pygurus depressus*; RICHE (97) pp. 68, 71, 76 & 83, and (98) pp. 193, 219, 239 & 287.
- †*Pyrina* :—*P.* sp. indet., Cretaceous, Ghazin; COTTEAU (22) p. 354. *P. ataxensis*; NOETLING (88) p. 126. *P. bleicheri*; GAUTHIER (37) p. 49. *P. gigantea*, nom. nud.; NOETLING (88) p. 126.
- †*Rachiosoma peroui*; GAUTHIER (37) p. 25.
- †*Rhabdocidaris* :—*R.* sp.; BOTTO-MICCA (12) p. 193. *R. horrida*; RICHE (98) p. 71.
- †*Rhynchopygus marmini*; HENNIG (42) p. 504.
- †*Runa desori*; ROVASENDA (101) p. 418.
- †*Salenia* :—*S. areolata*; HENNIG (42) p. 501. *S. austeni*, Forbes in Woodward, rediagnosed, Cenomanian, Seignelay (Yonne); LAMBERT (57) p. 44. *S. fraasi*; COTTEAU (22) p. 353. *S. nutrix*; GAUTHIER (37) p. 50. *S. petalifera*, discussed; LAMBERT (57) pp. 46 & 47.
- S. colleti*, Cenomanian, Givry-en-Argonne; LAMBERT (57) Bull. Soc. Yonne, xliii, p. 47, n. sp.
- Salmacis dussumieri* and *S. sulcata*; ANDERSON (3) p. 193.
S. rufa, Macclesfield Bank, 30-44 fms.; BELL (7) P. Zool. Soc. London, 1894, p. 411, n. sp.
- †*Schizaster africanus*, redescribed and figured from Tunis; COTTEAU (23) p. 697. †*S. ambulacrum* (p. 298), †*S. archiaci* (p. 280); KOCH (54); COTTEAU (23) p. 691. *S. canaliferus*; KOEHLER (56) p. 421; at Cette; KOEHLER (55) p. 7. †*S. dumasi*, redescribed and figured; COTTEAU (23) p. 694. *S. gibberulus*; ANDERSON (3) p. 194. †*S. cf. karreri*; KOCH (53) p. 148. †*S. leymeriei*, inflated var. from St.-Vallier-de-Thiery; COTTEAU (23) p. 702. †*S. lucidus*; KOCH (54) pp. 298 & 314. †*S. rousseli*, var. from Ariège (p. 694), †*S. thebensis*, Lor., referred to *Opissaster* (p. 704); COTTEAU (23). †*S. vicinialis*; KOCH (54) pp. 280 & 298.
- †*S. julieni*, Eocene, Grignon (Seine-et-Oise) (p. 629), †*S. trozzensis*, [ascribed to "Gauthier, 1894," but apparently n. sp.], Middle Eocene, Djebel Trozza in Tunis (p. 700); COTTEAU (23) Pal. franc. Eoc. ii : n. spp.
- †*Scutellina* :—*S. lenticularis*; COTTEAU (23) p. 748. *S. nummularia*; KOCH (54) p. 241. *S. obovata*; COTTEAU (23) p. 748. *S. rotunda*; KOCH (54) p. 280.

- †*Scutella*:—*S. subtrigona*; KOCH (54) p. 348. *S. vindobonensis*; KOCH (53) p. 148; MARTONFI (76) p. 153.
- †*Sismondia*:—*S. occitana* (pp. 228 & 287), *S. rosacea* (pp. 297 & 302); KOCH (54).
- S. murravica*, Eocene, R. Murray Cliffs; TATE (116) T. R. Soc. N. S. W. xxvii, p. 193, n. sp.
- Solaster papposus*, Forbes, poison; LINSTOW (62) p. 136.
- Sphærechinus granularis*, synonymy; KOEHLER (56) p. 419; experiments on ova; SEELIGER (109).
- S. roseus*, G. of Naples, 30–100 metres; RUSSO (105), Atti Acc. Napoli, vi, No. 1, p. 8, n. sp.
- †*Spatangus austriacus*; KOCH (53) pp. 148 & 152. †*S. murchisoni*, Mantell, referred to *Epiaster*; LAMBERT (57) p. 71. †*S. purpureus*; MEISSNER & COLLIN (80) p. 343; KOEHLER (56) p. 420; MARENZELLER (75) p. 15.
- †*Stenonia*, discussed (p. 37), *S. tuberculata*, redescribed and figured from Tunis (p. 38); GAUTHIER (37).
- Stereocidaris*, discussed; LAMBERT (57) p. 28 [Species of this genus or subgenus or sub-subgenus must also be sought under *Cidaris* and *Tylocidaris*].
- †*Stirechinus minimus*, Bartonian, Gassino; ROVASENDA (101) p. 418.
- †*Stomechinus bigranularis*; RICHE (97) p. 68, and (98) p. 193.
- Stomopneustes variolaris*; ANDERSON (3) p. 193.
- Strongylocentrotus droebachiensis*; COOPER (21) p. 32; PFEFFER (94) pp. 98, 101 & 117; MEISSNER & COLLIN (80) p. 341; var. with enormous pedicellariæ, Davis Str.; RODGER (99) p. 163. *S. lividus*, competition with *Sphærechinus*; KOEHLER (56) p. 419; poison; LINSTOW (62) p. 135; blood; CATTANEO (19) p. 31; at Cette; KOEHLER (55) p. 4.
- †*Temnechinus*:—*T. macleayi*, Ten.-Woods, either a *Paradoxechinus* or a *Psammechinus*; TATE (117).
- T. scillæ*, Red Sea; MAZZETTI (78) Atti Soc. Modena, xii, p. 238, n. sp.
- Temnopleurus bothryoides*, probably includes *Pleurechinus variabilis* and *P. ruber*, Doed.; BELL (7) p. 410. *T. reynaudi*; l. c. *T. toreumaticus*; ANDERSON (3) p. 192.
- Tiarella*, *Pomel pars*, referred to *Tiaromma*; LAMBERT (57) p. 49.
- †*Tiaromma*, discussed (p. 49), *T. schluteri* (p. 51); LAMBERT (57).
- †*Toxaster*:—*T. dieneri*, Loriol, referred to *Echinospatangus*; COTTEAU (22) p. 358. *T. pentagonalis*, see *Clypeanthus*.
- †*Toxobrissus*, distinct from *Brissopsis*; BITNER (9). *T. cf. crescenticus*; KOCH (53) p. 147. *T. lorioli*; KOCH (54) p. 280.
- Toxopneustes lividus*, see *Strongylocentrotus*.
- Tripneustes gratilla*, young; BELL (7) p. 411.
- †*Tylocidaris bowerbanki* (Forbes); LAMBERT (57) p. 42.
- †*Tylocidaris*, discussed; LAMBERT (57) p. 26 [Species of this genus or subgenus must also be sought under *Cidaris*]. *T. essensis*, discussed; op. cit., pp. 30 & 37. *T. vesiculosa*, s. str., fully discussed; op. cit., pp. 29 & 36.

T. prochirudo, Upper Cenomanian, Neuvy-Sautour (Yonne) and St.-Parres (Aube); LAMBERT (57) Bull. Soc. Yonne, xliii, pp. 30 & 38, n. sp.

(D.)—ASTEROIDEA.

Classification of *Asteroidea* discussed, following proposed:—Order, Forcipulata (Brisingidæ, Pedicellasteridæ, Heliasteridæ, Asteridæ, Zoroasteridæ, Stichasteridæ); Order, Spinulosa (Echinasteridæ, Mithrodidæ, Solasteridæ, Asterinidæ, Ganeriidæ); Order, Velata (Myxasteridæ, Pythonasteridæ, Pterasteridæ); Order, Paxillosa (Astropectinidæ, Porcellanasteridæ, Archasteridæ); Order, Valvata (Linckiidæ, Pentagonasteridæ, Gymnasteridæ, Antheneidæ, Penta-cerotidæ); PERRIER (92). Classification into Suborders, Families, and Genera, with special reference to fossils; STÜRTZ (115) pp. 38–86.

Acantharchaster, n. g., type *A. dawsoni* (olim *Archaster*); VERRILL (125) P. U. S. Mus. xvii, p. 268.

Anthenooides sarissa, figured; ALCOCK (2)

Aplroditaster, Sladen, rejected; PERRIER (92) p. 341.

Archaster americanus, Verrill, referred to *Astropecten* (p. 255), *A. bairdi*, type of n. g. *Isaster* (p. 258), *A. dawsoni*, type of n. g. *Acantharchaster* (p. 268); VERRILL (125). *A. echinulatus*, Perrier, referred to *Cheiraster* (p. 278), *A. efflorescens*, Perrier, referred to *Plutonaster* (p. 322); PERRIER (92). *A. flora*, Verrill, referred to *Psilaster* (p. 255), *A. formosus*, Verrill, referred to *Paragonaster* (p. 257); VERRILL (125). *A. insignis*, Perrier, referred to *Dytaster*; PERRIER (92) p. 299. *A. mirabilis*, Perr., referred to *Cheiraster coronatus*, *C. vincenti*, *C. mirabilis*, and *Pontaster oligoporus*, quos vide; *op. cit.* *A. parelii*, Verrill, non D. & K., syn. of *Pseudarchaster intermedius*; VERRILL (125) p. 249. *A. pulcher*, Perrier, referred to *Plutonaster* (p. 322), *A. rigidus*, Perrier nom. nud. in Filhol, referred to *Dytaster* (p. 304); PERRIER (92). *A. sepitus*, referred to *Pontaster*; VERRILL (125) p. 247. *A. simplex*, Perrier, referred to *Pararchaster*; PERRIER (92) p. 254. *A. tenuispinus*, Verrill non auctt., referred to *Pontaster hebitus* and *P. forcipatus*; VERRILL (125) p. 247. *A. typicus*, variation in spines; BELL (7) p. 402.

A. tenuis, Macclesfield Bank, 35 fms.; BELL (7) P. Zool. Soc. London, 1894, p. 402, n. sp.

Archasteridæ, discussed, diagnosed, key to subfamilies and genera; PERRIER (92) pp. 237–252; limits discussed; VERRILL (125) p. 266.

†*Archasterias rhenana*, discussed; STÜRTZ (115) pp. 42 & 58.

Aspidosoma, discussed; STÜRTZ (115) pp. 38 & 55.

†*Asterias acuminatus*, Sim., possibly a *Ræmeraster*; STÜRTZ (115) p. 53.

A. glacialis; MEISSNER & COLLIN (80) p. 338; littoral and deep-water varieties; KOELLER (56) p. 407; senses of smell and taste; NAGEL (86) p. 177; at Cette, distinction between littoral and deep-sea types; KOELLER (55) pp. 4 & 6. *A. grønlandica* (pp. 105 &

- 119), *A. gunneri* (pp. 106 & 120); PFEFFER (93). *A. muelleri*; MEISSNER & COLLIN (80) p. 338. *A. panopla*; PFEFFER (93) p. 120. *A. richardi*, redescribed and figured, 6-armed young, by fission, produce 5-armed adult; MARENZELLER (75) p. 8. *A. rubens*, variations; MEISSNER & COLLIN (80) p. 338; breeding season; GARSTANG (36) p. 228. *A. stellionura*; PFEFFER (93) p. 120. *A. tenuispina*, schizogony in young not in adult; KOEHLER (56) p. 408. *A. volsellata*; BELL (7) p. 405.
- Asteriidae*, discussed, diagnosed, key to genera; PERRIER (92) p. 105.
- Asterina cepha*; RUSSO (104) p. 162. *A. gibbosa*, organogony; MACBRIDE (72); variation in larva; MACBRIDE (74); oviposition; SCHERREN (108); breeding season; GARSTANG (36) p. 228; at Cette; KOEHLER (55) p. 4; synonymy, includes *A. panceri* (Gasco); KOEHLER (56) p. 408.
- Astrella simplex*, redescribed and figured, possibly a young *Luidia*; PERRIER (92) p. 193.
- Astrogonium*, diagnosed, structure of ventral surface, distribution of species (p. 338), *A. aphrodite*, discussed (p. 354), *A. elongatum*, Perrier, referred to *Paragonaster* (p. 362), *A. fallax*, redescribed and figured, with n. var. *africanus*, N. of Banc d'Arguin (p. 347); PERRIER (92).
- A. annectens*, Gulf of Gascony, 900 metres (p. 343), *A. hystrix*, coast of Morocco, 840 metres (p. 345), *A. necator*, Azores, 1257 metres (p. 350); PERRIER (92) : n. spp.
- Astropecten americanus*; VERRILL (125) p. 255. *A. aurantiacus*; KOEHLER (56) p. 409; at Cette; KOEHLER (55) p. 6. *A. bispinosus*; KOEHLER (56) p. 409; at Cette; KOEHLER (55) p. 6. *A. irregularis*, variation; MEISSNER & COLLIN (80) p. 337. *A. pentacanthus*; MARENZELLER (75) p. 3; at Cette; KOEHLER (55) p. 6. †*A. poritoides*; ROVASENDA (101) p. 418. †*A. schluetieri*, discussed; STÜRTZ (115) pp. 51 & 71. *A. spinulosus*; KOEHLER (56) p. 410. *A. squamatus*, variation; l. c. *A. tenuispinis*, far north; RODGER (99) p. 161.
- †*A. carroni*, Bajocian, Allonal, near St. Amour, Jura; LORIOU (65) Rev. Suisse Zool. iv, p. 474. *A. ibericus*, B. of Cadiz, C. Blanc, 99-120 metres; PERRIER (92) p. 196 : n. spp.
- Astropectinidae*, limits discussed; VERRILL (125) p. 266; discussed, divided into *Luidinae* and *Astropectininae*; PERRIER (92) p. 193.
- Bathybiaster pallidus*; PFEFFER (93) p. 117. *B. robustus*, young = *Phoxaster pumilus*; VERRILL (125) p. 256.
- Bdellacoma*, discussed; STÜRTZ (115) pp. 46 & 63.
- Benthopecten*, systematic position; VERRILL (125) p. 268. *B. spinosus*, includes *Pararchaster armatus* and *P. semisquamatus*, var. *occidentalis*, variations and 4-rayed form described; *op. cit.*, p. 245.
- Benthopectininae*, new subfam.; l. c.
- Brisinga*, diagnosed, distribution of species; PERRIER (92) pp. 61 & 62. *B. americana*, Verrill, referred to *Odinia*; VERRILL (125) p. 279.

- B. coronata*, discussed; PERRIER (92) p. 68; var. in E. Mediterranean; MARENZELLER (75) p. 10. *B. costata*, redescribed; VERRILL (125) p. 280. *B. elegans*, Verrill, referred to *Freyella*; *op. cit.*, p. 283. *B. elegans*, Perrier, referred to *Odinia*; PERRIER (92) p. 71. *B. endecacnemus*, redescribed and figured, variations from type correlated with distribution (p. 62), *B. mediterranea*, discussed (p. 70), *B. robusta*, Perrier, referred to *Odinia* (p. 78), *B. semicoronata*, Perrier, referred to *Odinia* (p. 75); PERRIER (92). *B. verticillata*; VERRILL (25) p. 283.
- B. hirsuta*, from Norway to Banc d'Arguin, 2030 metres; PERRIER (92) p. 66. *B. multicosata*, George's Bank and Martha's Vineyard, 1742 & 1137 fms.; VERRILL (125) P. U. S. Mus. xvii, p. 280; n. spp.
- Brisingidae*, discussed, morphology of skeleton, diagnosis and key to genera; PERRIER (92) pp. 43-61.
- Caulaster*, maintained and diagnosed (p. 203), *C. pedunculatus*, redescribed and figured (p. 204); PERRIER (92).
- C. cladeni*, coast of Morocco, 1435 metres; PERRIER (92) p. 208, n. sp.
- Chaetaster longipes*, Atlantic, 1100 metres; PERRIER (92) p. 329.
- C. moorei*, Macclesfield Bank, 30-40 fms.; BELL (7) P. Zool. Soc. London, 1894, p. 404, n. sp.
- Cheiraster*, Stüder, emend. Perrier, described, distribution of species (p. 269), *C. coronatus*, redescribed (p. 271), *C. echinulatus* (p. 278), *C. folini*, Perrier, referred to *Pararchaster* (p. 256), *C. mirabilis*, redescribed (p. 276), *C. vincenti*, discussed (p. 275); PERRIER (92).
- Cheiropteraster*, redescribed; STÜRTZ (115) pp. 49 & 68.
- Coronaster*, diagnosed, distribution of species; PERRIER (92) p. 92.
- C. antonii*, coast of Morocco, 717 metres (p. 96), *C. parfaiti*, C. Verde Is., 250 metres (p. 93); PERRIER (92): n. spp.
- Crenaster marionis*, referred to *Pontaster* (p. 290), *C. mollis*, redescribed and figured (p. 310); PERRIER (92).
- C. semispinosus*, 5000 metres (p. 307), and *C. spinulosus*, 4255 metres (p. 309), Gulf of Gascony; PERRIER (92): n. spp.
- Cribrella*, referred to *Echinaster*; RUSSO (105) p. 4; diagnosed, distribution of species; PERRIER (92) p. 143. *C. oculata*; PFEFFER (93) pp. 105 & 119; compared with *Echinaster sepositus*; RUSSO (105) p. 3.
- C. abyssulis*, coast of Morocco, 1105 metres; PERRIER (92) p. 144. *C. pectinata*, Eastport, Me., "shallow water"; VERRILL (125) P. U. S. Mus. xvii, p. 278: n. spp.
- Crossaster affinis*; PFEFFER (93) pp. 103 & 118. *C. papposus*; MEISSNER & COLLIN (80) p. 339; PFEFFER (94) pp. 98 & 118.
- C. helianthus*, George's Bank, "deep water"; VERRILL (125) P. U. S. Mus. xvii, p. 274, n. sp.
- Cryptaster*, n. g., with type *C. personatus*, Azores, 2995 metres; PERRIER (92) p. 191, n. sp.
- Ctenaster*, diagnosed (p. 154), *C. spectabilis*, redescribed (p. 155); PERRIER (92).

- Ctenodiscus corniculatus*, Linck. ; PFEFFER (94) p. 98 ; (= *C. crispatus*, Retz.) ; PFEFFER (93) pp. 102 & 117.
- Culcita* sp., brephic stage figured ; BELL (7) p. 403. *C. coriacea* ; RUSSO (104) p. 162.
- Dipsacaster pentagonalis*, figured ; ALCOCK (2).
- Dorigona*, diagnosed, note on young individuals, sp. indet. (p. 365), *D. arenata*, redescribed and figured (p. 379), *D. subspinosa*, redescribed (p. 375), *D. ternalis*, redescribed (p. 371) ; PERRIER (92).
- D. jacqueti*, Canaries, C. Spartel, &c., 550-1238 metres ; PERRIER (92) p. 383, n. sp.
- Dytaster*, diagnosed, distribution of species ; PERRIER (92) p. 298. *D. anacanthus*, figured ; ALCOCK (2). *D. grandis*, young, and 4-rayed ; VERRILL (125) p. 248. *D. insignis*, redescribed ; PERRIER (92) p. 299. *D. madreporifer*, Sladen, is young of *D. grandis* ; VERRILL (125) p. 248.
- D. agassizii*, 4060 metres (p. 302), and *D. rigidus*, 4787-5005 metres (p. 304), near Azores ; PERRIER (92) : n. spp.
- Echinaster*, diagnosed, distribution of species ; PERRIER (92) p. 146 ; generic characters discussed ; RUSSO (105) p. 2. *E. sepositus*, description of young ; PERRIER (92) p. 148 ; sense of smell and taste ; NAGEL (86) p. 177 ; at Naples ; RUSSO (105) p. 2 ; at Cette ; KOEHLER (55) p. 6 ; littoral and deep-water varieties ; KOEHLER (56) p. 408.
- E. sladeni*, Mauritius ; LORIOI (64) Mem. Soc. Geneve, xxxii (1), p. 61, n. sp.
- Echinasterella*, discussed ; STÜRTZ (115) pp. 53 & 73.
- Echinasteridæ*, discussed, with key to subfamilies and genera ; PERRIER (92) p. 141.
- Forcipulata*, key to families ; PERRIER (92) p. 42.
- Freyella*, diagnosed, distribution of species ; PERRIER (92) p. 81. *F. americana*, Sladen, referred to *Odinia* ; VERRILL (125) p. 279. *F. bractiata*, Sladen, syn. of *F. elegans* ; *op. cit.*, p. 283. *F. edwardsi*, redescribed and figured ; PERRIER (92) p. 82. *F. elegans* (olim *Brisinga*), redescribed ; VERRILL (125) p. 283. *F. scurdiata*, redescribed and figured ; PERRIER (92) p. 89. *F. spinosa*, n. var. *abyssicola*, N.E. of Azores, 4060 metres ; *op. cit.*, p. 85.
- F. aspera*, Chesapeake Bay, 1917 fms. (p. 285), *F. microspina*, Martha's Vineyard, 1054 fms. (p. 286) ; VERRILL (125) P. U. S. Mus. xvii. *F. spinosa*, Soudan, 2300 metres ; PERRIER (92) p. 85 : n. sp.
- Fromia narcissia*, C. Verde Is., 75 metres, perhaps young *Narcissia* ; PERRIER (92) p. 331, n. sp.
- Ganeriidæ*, discussed, diagnosed, key to genera ; PERRIER (92) p. 171.
- Gastraster*, n. g., with type *G. margaritaceus* (olim *Pedicellaster*) ; PERRIER (92) p. 103.
- Gnathaster*, discussed ; VERRILL (125) p. 262.
- G. mediterraneus*, W. of Milo, 834 metres ; MARENZELLER (75) Denk. Ak. Wien, lx (v), p. 6, n. sp.

- † *Goniaster impressæ* ; RICHIE (97) p. 98, and (98) p. 352.
Goniopecten, diagnosed ; PERRIER (92) p. 294 ; restricted ; VERRILL (125) p. 249. *G. demonstrans*, redescribed (p. 295), *G. edwardsi*, Perrier, referred to *Plutonaster* (p. 314), *G. inermis*, Perrier, referred to *Plutonaster* (p. 319), *G. intermedius*, Perrier, referred to *Plutonaster* (p. 316), *G. subtilis*, Perrier, referred to *Paragonaster* (p. 358) ; PERRIER (92).
Hoplaster, diagnosed (p. 323), *H. spinosus*, redescribed (p. 324) ; PERRIER (92).
Hydrasterias ophidion, "structural characters appear worthy of generic rank" ; VERRILL (125) p. 279.
H. richardi, off Corsica and C. Verde Is., 540 & 225 metres ; PERRIER (92) p. 109, n. sp.
Hymenaster, diagnosed, distribution of species ; PERRIER (92) p. 183. *H. modestus*, redescribed ; VERRILL (125) p. 277. *H. pellucidus* ; PFEFFER (93) pp. 105 & 119.
H. giboryi, N.E. of Azores, 4060 metres (p. 189), *H. rex*, coast of Senegal, 1139-2285 metres (p. 186) ; PERRIER (92) : n. sp.
Hypphalaster, diagnosed, distribution of species ; PERRIER (92) p. 227.
H. antonii, Azores, 2995 metres (p. 232), *H. parvultii*, G. of Gascony, 4787 metres (p. 229) ; PERRIER (92) : n. spp.
Isaster, n. g., with type *I. bairdii* (olim *Archaster*), variations and 6-rayed ; VERRILL (125) P. U. S. Mus. xvii, p. 257.
Korethraaster, diagnosed, distribution of species ; PERRIER (92) p. 159.
K. setosus, Gulf of Gascony, 392-1226 metres ; PERRIER (92) p. 159, n. sp.
Lasiaster hispidus ; PFEFFER (93) p. 118.
Lepidaster, discussed ; STÜRTZ (115) pp. 52 & 72.
Leptoptychaster arcticus, variations in length of rays ; VERRILL (125) p. 255.
Linckia diplax (p. 162), *L. guildingii* (p. 163), *L. miliaris* (p. 162), *L. pacifica* (p. 162) ; RUSSO (104).
L. costæ, Daret Id., Red Sea ; RUSSO (104) Boll. Soc. Napoli, vii, p. 163, n. sp.
Linckiidæ, discussed, key to subfamilies and genera ; PERRIER (92) p. 327.
Lophaster furcifer ; PFEFFER (93) pp. 104 & 119.
† *Loriolaster* and *L. mirabilis*, discussed ; STÜRTZ (115) pp. 47 & 63.
Luidia ciliaris ; MEISSNER & COLLIN (80) p. 336 ; 120 metres, La Ciotat ; KOEHLER (56) p. 410. *L. sarsi* ; PERRIER (92) p. 195 ; first noted in Mediterranean, distinguished from *L. ciliaris* ; KOEHLER (56) p. 411.
L. paucispina, W. of Candia, 755 metres, and S.E. of C. Malea, 1292 metres ; MARENZELLER (75) Denk. Ak. Wien, lx (v), p. 3, n. sp.
Lytaster, n. g., with type *L. inæqualis*, Str. of Bocayna, 30-259 metres ; PERRIER (92) p. 98, n. sp.
Machairaster, Perrier, syn. of *Styracaster* ; PERRIER (92) p. 218.

- Mammaster*, n. g., with type *M. sigsbeeii* (olim *Zoroaster*) redescribed ; PERRIER (92) p. 125.
- Marginaster*, diagnosed, distribution of species ; PERRIER (92) p. 164.
M. capreensis (Gasco), redescribed and figured ; MARENZELLER (75) p. 6. *M. echinulatus*, redescribed (p. 169), *M. pectinatus*, redescribed (p. 167), *M. pentagonus*, redescribed and figured (p. 165) ; PERRIER (92).
- Medusaster*, discussed ; STÜRTZ (115) pp. 54 & 73.
- Myxaster*, n. g., with type, *M. sol*, coast of Senegal and R. Ouro, 1400-1550 metres ; PERRIER (92) p. 177, n. sp.
- Myxasteridae*, n. fam. ; PERRIER (92) p. 177.
- Narcissia canariensis*, discussed ; PERRIER (92) p. 330. *N. teneriffæ*, Gray, syn. of *N. canariensis* ; l. c.
- Nardoia ægyptiaca* ; LORIOL (64) p. 62.
- Neomorphaster*, diagnosed (p. 133), *N. eustichus*, Sladen, syn. of *N. talismani* (Perrier) (p. 134), *N. talismani*, redescribed and figured (p. 134) ; PERRIER (92).
- N. forcipatus*, George's Bank and Martha's Vineyard, 852-990 fms. ; VERRILL (125) P. U. S. Mus. xvii, p. 269, n. sp.
- Nymphaster*, Sladen, syn. of *Dorigona* ; PERRIER (92) p. 365.
- Odinia*, diagnosed ; PERRIER (92) p. 71. *O. americana*, not a *Freyella* ; VERRILL (125) p. 279. *O. elegans* (p. 71), *O. robusta* (p. 78), and *O. semi-coronata* (p. 75), redescribed and figured ; PERRIER (92).
- Odontaster*, diagnosed and compared with *Gnathaster* (p. 262), *O. hispidus*, redescribed, 6-rayed (p. 263) ; VERRILL (125).
- Ophidiaster attenuatus*, distinguished from *O. ophidianus* ; KOEHLER (56) p. 412. *O. helichostichus* ; BELL (7) p. 405. *O. ophidianus* ; PERRIER (92) p. 330.
- Palæwaster*, discussed ; STÜRTZ (115) pp. 41 & 58.
- † *Palænectria devonica*, vide sub *Palæostella solida*.
- Palæocoma*, discussed ; STÜRTZ (115) pp. 45 & 62.
- † *Palæostella*, discussed (pp. 42 & 58), *P. solida*, a fresh specimen figured and described, if not identical with type, which author cannot see because it is in British Museum, it is to form type of *Palænectria devonica*, n. g. et sp. (p. 8) ; STÜRTZ (115).
- Palasterina*, discussed ; STÜRTZ (115) pp. 43 & 60.
- Palasteriscus*, discussed ; STÜRTZ (115) pp. 44 & 61.
- Palmipes membranaceus* ; MARENZELLER (75) p. 8 ; KOEHLER (56) p. 409 ; at Cette ; KOEHLER (55) p. 7.
- Paragonaster*, diagnosed, discussed, distribution of species ; PERRIER (92) p. 355. *P. cylindricus*, Sladen, probable syn. of *P. formosus* ; VERRILL (125) p. 257. *P. elongatus*, redescribed and figured ; PERRIER (92) p. 362. *P. formosus* ; VERRILL (125) p. 257. *P. subtilis*, redescribed and figured ; PERRIER (92) p. 358.
- P. strictus*, between Dakar and La Praya, 3655 metres, perhaps young of *P. subtilis* ; PERRIER (92) p. 363, n. sp.
- Purarchaster*, diagnosed, discussed, distribution of species ; PERRIER (92)

- p. 252. *P. armatus*, Sladen, syn. of *Benthopecten spinosus*; VERRILL (125) p. 245. *P. folini*, redescribed and figured, abnormality in pedicellariæ, internal skeleton described; ALCOCK (2) p. 256. *P. huddlestonii*, figured; ALCOCK (2). *P. semisquamatus*, var. *occidentalis*, Sladen, syn. of *Benthopecten spinosus*; VERRILL (125) p. 245. *P. simplex*, redescribed from Martinique; PERRIER (92) p. 254. *P. violaceus*, figured; ALCOCK (2).
- P. fischeri*, Pilonces, 1056-1435 metres; PERRIER (92) p. 263, n. sp.
- Patiria briareus*, Macclesfield Bank, 30-46 fms., regeneration of arms; BELL (7) P. Zool. Soc. London, 1894, p. 404, n. sp.
- Paxillosa*, diagnosed, key to families; PERRIER (92) p. 192.
- Pectinaster*, diagnosed, distribution of species (p. 278), *P. filholi*, redescribed and figured, compared with *P. forcipatus* and *P. mimicus* (p. 280), *P. insignis*, Perrier, pars, referred to *Dytaster* (p. 302); PERRIER (92).
- Pedicellaster*, diagnosed, distribution of species (p. 99), *P. margaritaceus*, Perrier, is type of n. g. *Gastraster* (p. 103), *P. sexradiatus*, redescribed and figured (p. 100); PERRIER (92). *P. typicus*, M. Sars (*paleocrystallus*, Sladen); PFEFFER (93) p. 119.
- Pedicellasteridæ*, discussed, diagnosed, key to genera; PERRIER (92) p. 90.
- Pentaceros dorsatus*; PERRIER (92) p. 406. *P. muricatus*; RUSSO (104) p. 162.
- Pentagonaster*, diagnosed, distribution of species (p. 389), *P. alexandri*, Perrier, type of n. g. *Rosaster* (p. 387), *P. arenatus*, Perrier, referred to *Dorigona* (p. 379), *P. grandis*, Perrier, syn. of *P. perrieri* (p. 391), *P. granularis*, var. *deplasi*, (olim *P. deplasi*), redescribed and figured (p. 401), *P. perrieri*, redescribed, individuals of different sizes (p. 391); PERRIER (92). *P. pulvinus*, figured; ALCOCK (2). *P. semilunatus*, Linck, type of n. g. *Phaneraster* (p. 388), *P. subspinosus*, Perrier, referred to *Dorigona* (p. 375), *P. ternalis*, Perrier, referred to *Dorigona* (p. 371); PERRIER (92).
- P. eximius*, La Have Bank and Nova Scotia, 120 & 80 fms.; VERRILL (125) P. U. S. Mus. xvii, p. 264. *P. gosselini*, Canaries to Morocco, 946-1440 metres; PERRIER (92) p. 399. *P. haesitans*, C. Ghir, 2210 metres; PERRIER (92) p. 397. *P. hystericis*, N. of Benghazi, 680 metres, N.W. of Candia, 943 metres, and S. of Cerigo, 946 metres; MARENZELLER (75) Denk. Ak. Wien, lx (v), p. 4. †*P. picteti*, Cenomanian, Le Havre; LORIOU (65) Rev. Suisse Zool. iv, p. 476. *P. vincenti*, Canaries and near Mazaghan, 946 & 1105 metres; PERRIER (92) p. 396 : n. spp.
- Pentagonasteridæ*, discussed, diagnosed, key to subfamilies and genera; PERRIER (92) p. 333; limits discussed; VERRILL (125) p. 266.
- Persephonaster caelochiles*, and *P. rhodopeplus*, figured; ALCOCK (2).
- Petraster*, Bill., syn. of *Paleaster*; STÜRTZ (115) p. 41.
- Phaneraster*, n. g., with type *P. semilunatus* (olim *Pentagonaster*); PERRIER (92) p. 387.

- Phoxaster punilus*, Sladen, is young of *Bathybiaster robustus*; VERRILL (125) p. 256.
- Plutonaster*, diagnosed, discussed, distribution of species; PERRIER (92) p. 312. *P. agassizii*, variations, and 6-rayed; VERRILL (125) p. 248. *P. bifrons*; MARENZELLER (75) p. 3; discussed; PERRIER (92) p. 314. *P. edwardsi*, diagnosed; l. c. *P. efflorescens*, discussed (p. 322), *P. inermis*, redescribed (p. 319), *P. intermedius*, redescribed, compared with *P. rigidus* (p. 316), *P. notatus*, variations from type (p. 318), *P. pulcher*, discussed (p. 322); PERRIER (92). *P. rigidus*, and var. *semiarinata*, Sladen, syn. of *P. agassizii*; VERRILL (125) p. 248.
- Pontaster*; diagnosed, distribution of species; PERRIER (92) p. 286. *P. hebitus*, compared with *P. tenuispinus*; VERRILL (125) p. 247. *P. hispidus*, figured; ALCOCK (2). *P. forcipatus*; VERRILL (125) p. 247. *P. marionis*, redescribed and figured; PERRIER (92) p. 290. *P. sepius*, redescribed; VERRILL (125) p. 247. *P. tenuispinus*; PFEFFER (93) pp. 101 & 117. *P. venustus*, variations from type, with n. var. *trispinosa*, Azores; PERRIER (92) p. 287.
- P. oligoporus*, Antilles, 274 metres; PERRIER (92) p. 293. *P. perplexus*, C. Blanc, N. of Banc d'Arguin, 2330 metres; *op. cit.*, p. 288 : n. spp.
- Pontasterinae*, new subfam.; VERRILL (125) p. 246.
- Poraniidae*, discussed, diagnosed, key to genera; PERRIER (92) p. 163.
- Porcellanaster*, diagnosed, distribution of species; PERRIER (92) p. 210. *P. granulatus*, coast of Morocco, 2320-3200 metres; PERRIER (92) p. 216. *P. inermis*, Azores, 2995 metres; *op. cit.*, p. 212 : n. spp.
- Porcellanasteridae*, discussed, genera diagnosed, epiproctal appendage; PERRIER (92) p. 197.
- Prognaster*, n. g., with type *P. longicauda*, C. Verde Is., Azores, &c., 1260 to 3526 metres; PERRIER (92) p. 120, n. sp.
- Protasteracanthion*, discussed; STÜRTZ (115) pp. 54 & 75.
- Pseudarchaster intermedius*; VERRILL (125) p. 249. *P. mosaicus*, figured; ALCOCK (2).
- P. concinnus*, off George's Bank and elsewhere, 123-1255 fms., variations; VERRILL (125) P. U. S. Mus. xvii, p. 250, n. sp.
- Pseudaster*, diagnosed, and *P. cordifer*, redescribed and figured; PERRIER (92) p. 235.
- Psilaster andromeda*, young with epiproctal appendage; PERRIER (92) p. 195. *P. flora*; VERRILL (125) p. 255.
- Pteraster*, diagnosed, distribution of species; PERRIER (92) p. 181. *P. militaris*, and *P. pulvillus*; PFEFFER (93) pp. 104 & 119.
- P. alveolatus*, Azores, 4060 metres; PERRIER (92) p. 183. *P. (Temnaster) hexactis*, Newfoundland Bank, 57 fms., with young; VERRILL (125) P. U. S. Mus. xvii, p. 275. *P. sordidus*, coast of Morocco, 1139 metres; PERRIER (92) p. 182 : n. spp.
- Pterasteridae*, discussed, diagnosed, key to genera; PERRIER (92) p. 180.
- Radiaster*, diagnosed (p. 172), *R. elegans*, redescribed (p. 173); PERRIER (92).

- Remaster*, n. subgen., with type *Korethraster (Remaster) palmatus*, which is redescribed; PERRIER (92) p. 161.
- Rhegaster tumidus*, variation in marginal plates; PFEFFER (93) pp. 102 & 118.
- Rhipidaster vannipes*; BELL (7) p. 405.
- Rhopalocoma*, discussed, probably a subgenus of *Bdellacoma*; STÜRTZ (115) pp. 46 & 63.
- Roemeraster*, discussed; STÜRTZ (115) pp. 52 & 73.
- Rosaster*, n. g., with type *R. alexandri* (olim *Pentagonaster*); PERRIER (92) p. 386.
- Salteraster*, discussed; STÜRTZ (115) pp. 42 & 58.
- Schaenaster*, discussed; STÜRTZ (115) p. 44.
- Solaster endeca*; PFEFFER (94) pp. 99, 104 & 118; MEISSNER & COLLIN (80) p. 339.
- S. benedicti*, George's Bank and Martha's Vineyard, 956-1081 fms. (p. 273), *S. syrtensis*, Cape Cod, Nova Scotia, and elsewhere, 45-101 fms. (p. 271); VERRILL (125) P. U. S. Mus. xvii : n. spp.
- Solasteridæ*, discussed, divided into *Solasterinæ* and *Korethrasterinæ*, key to genera; PERRIER (92) p. 151.
- Spinulosa*, the order discussed, with key to families; PERRIER (92) p. 138.
- †*Stenaster*, discussed (pp. 40 & 56), *S. salteri*, Bill., referred to *Urasterella* (p. 41); STÜRTZ (115).
- Stephanaster*, diagnosed (p. 402), *S. bourgeti*, C. Verde Is., 410-470 metres (p. 403); PERRIER (92), n. sp.
- Stichaster albulus*, 6-armed; PFEFFER (94) pp. 98, 103 & 118. *S. talismani*, Perrier, referred to *Neomorphaster*; PERRIER (92) p. 134.
- S. suteri*, New Zealand; LORIOU (65) Rev. Suisse Zool. iv, p. 477, n. sp.
- Stichasteridæ*, discussed, diagnosed, key to genera; PERRIER (92) p. 128.
- Stolasterias glacialis*; PERRIER (92) p. 109. See also *Asterias*.
- Styracaster*, diagnosed, distribution of species; PERRIER (92) p. 218.
- S. edwardsi*, C. Verde Is., 3655 metres (p. 220), *S. spinosus*, Azores, 2995 metres (p. 233); PERRIER (92) : n. spp.
- Telhyaster*, raised to generic rank (p. 322), *T. subinermis* (p. 323); PERRIER (92).
- Tylaster willei*; PFEFFER (93) p. 118.
- †*Uraster hirudo* and †*U. ruthveni*, Forbes, referred to *Stenaster*; STÜRTZ (115) p. 40. †*U. obtusus*, Forbes, possibly a *Urasterella*; *op. cit.*, p. 41. *U. rubens*, divided ray; WINCKWORTH (129).
- Urasterella*, discussed; STÜRTZ (115) pp. 40 & 56.
- Valvata*, discussed, defined, key to families; PERRIER (92) p. 326.
- Velata*, discussed, key to families; PERRIER (92) p. 176.
- †*Xenaster*?—*X. margaritatus*, discussed (pp. 51 & 71), *X. simplex*, discussed (pp. 50 & 71); STÜRTZ (115).
- Zoroaster*, diagnosed, distribution of species (p. 115), *Z. ackleyi*, redescribed (p. 117), *Z. fulgens* (p. 116), *Z. sigsbeeii*, Perrier, is type of n. g. *Mammaster* (p. 125); PERRIER (92). *Z. zea*, figured; ALCOCK (2).
- Zoroasteriide*, discussed, diagnosed, key to genera; PERRIER (92) p. 113.

(E.)—OPHIUROIDEA.

Classification into Suborders, Families, and Genera, with special reference to fossils; STÜRTZ (115) pp. 16–32.

† *Acrouria*, validity of genus, and list of species, discussed, *A. coroniformis*, Muschelkalk, discussed and described; ANDREAE (4) p. 6.

Amphiura chiajei; MARENZELLER (75) p. 12; MEISSNER & COLLIN (80) p. 334. *A. elegans*; *op. cit.*, p. 335. *A. filiformis*; *op. cit.*, p. 334; MARENZELLER (75) p. 12. *A. squamata*, synonymy; KOEHLER (56) p. 413; breeding season; GARSTANG (36) p. 228; at Cette, parasitic castration by *Orthoectidae*; KOEHLER (55) p. 4. *A. sundevallii*; PFEFFER (93) pp. 107 & 121.

A. rosea, Wellington Harbour, 10–15 fms., evisceration of disc; FARQUHAR (30) Tr. N. Zealand Inst. xxvi, p. 109, n. sp.

Astrophyton arborescens; KOEHLER (56) p. 416; anatomical details; CAPRIA (18). *A. clavatum*; LORIOI (64) p. 56. *A. eucnemis*; PFEFFER (93) pp. 108 & 121.

Asteroschema rousseaui; redescribed from Mauritius; LORIOI (64) p. 55.

A. clavigera, George's Bank, 956 fms., on a *Paramuricea*, variations; VERRILL (125) P. U. S. Mus. xvii, p. 295, n. sp.

† *Bundenbachia beneckeii* and *B. grandis* compared; STÜRTZ (115) pp. 21 & 22.

Eucladia, discussed; STÜRTZ (115) p. 30.

Eugaster, discussed; STÜRTZ (115) p. 20.

Furcaster, discussed; STÜRTZ (115) p. 25.

† *Helianthaster*, discussed (p. 30), *H. rhenanus*, description corrected, new figure (p. 12); STÜRTZ (115).

Onychaster, discussed; STÜRTZ (115) p. 30.

Ophiacantha bidentata; PFEFFER (93) pp. 108 & 121, and (94) p. 99.

O. setosa; MARENZELLER (75) p. 12; KOEHLER (56) p. 414.

Ophiactis savignyi, *O. sexradiata*, and *O. virens*; RUSSO (104) p. 161.

Ophiarachna armata, Trosch., referred to *Pectinura*; LORIOI (64) p. 13.

O. mauritiensis (p. 32), and *O. robillardii* (p. 31), Mauritius; LORIOI (64) Mem. Soc. Geneve, xxxii (1) : n. spp.

Ophiarthrum lymani, Mauritius; *op. cit.*, p. 34, n. sp.

Ophiocoma alternans, Martens, not young but var. of *O. scolopendrina*;

LORIOI (64) p. 25. *O. brevipes*, redescribed from Mauritius, includes

O. insularia and *O. ternispina*; *l. c.* *O. crassispina*, and *O. echinata*;

RUSSO (104) p. 161. *O. erinaceus*, distinguished from *O. scolopendrina*

(p. 21), *O. lineolata* (p. 28), *O. scolopendrina*, discussed (p. 23),

O. valentiae, redescribed from Mauritius (p. 29); LORIOI (64).

Ophioconis forbesi; KOEHLER (56) p. 412.

Ophiocrene, n. g., with type *O. anigma*, Macclesfield Bank, 45 fms., an

Astrophytoid with calycinal system; BELL (7) P. Zool. Soc. London,

1894, p. 408, n. sp.

Ophiocten abyssicolum [sic], redescribed and figured; MARENZELLER (75) p. 11. *O. sericeum*; PFEFFER (93) pp. 106 & 121, and (94) p. 99.

- † *Ophioderma? asteriformis*, discussed (p. 5), † *O. hauchecorni*, discussed (p. 4); ANDREAE (4). *O. longicauda*; KOEHLER (56) p. 412.
- Ophioglypha affinis*; MEISSNER & COLLIN (80) p. 333. *O. albida*; *op. cit.*, p. 330; variations in direction of *O. affinis* and *O. grubei*; KOEHLER (56) p. 413. *O. bullata*, variations described; VERRILL (125) p. 295. *O. carnea*, a N. Atlantic sp. found S.W. of Cerigo; MARENZELLER (75) p. 11. *O. ciliata*; MEISSNER & COLLIN (80) p. 332. *O. lacertosa*, at Cette; KOEHLER (55) p. 7. *O. nodosa*; PFEFFER (93) pp. 106 & 120, and (94) p. 99. *O. robusta*; PFEFFER (93) pp. 106 & 120, and (94) p. 99. *O. sarsi*; PFEFFER (93) p. 120; MEISSNER & COLLIN (80) p. 334. *O. stuwitzii*; PFEFFER (93) p. 120. *O. texturata*, synonymy; KOEHLER (56) p. 412.
- O. grandis*, George's Bank, 1742 fms. (p. 293), *O. saurura*, George's Bank and Grand Bank, 677 & 471 fms., with variations (p. 288), *O. tessellata*, E. Coast U. S. A., 39° 35'–41° 47' N., 400–2033 fms., with variations (p. 290); VERRILL (125) P. U. S. Mus. xvii : n. spp.
- Ophiolepis annulosa*; RUSSO (104) p. 161; redescribed from Mauritius; LORIOLO (64) p. 10. *O. cincta*; RUSSO (104) p. 162; vars. from Mauritius; LORIOLO (64) p. 9.
- Ophiomyxa pentagona*; KOEHLER (56) p. 416.
- O. robillardi*, Mauritius; LORIOLO (64) Mem. Soc. Geneve, xxxii (1) p. 53, n. sp.
- Ophionereis dubia*, redescribed from Mauritius, distinguished from *O. crassispina*; LORIOLO (64) p. 19.
- Ophiopiza fallax*, redescribed and figured from Mauritius; LORIOLO (64) p. 4.
- Ophiopezella*, discussed and maintained; LORIOLO (64) p. 6.
- O. dubiosa*, Mauritius; LORIOLO (64) Mem. Soc. Geneve, xxxii (1), p. 7, n. sp.
- Ophiopleura borealis*; PFEFFER (93) pp. 107 & 121.
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- Ophiopholis aculeata*; MEISSNER & COLLIN (80) p. 335; PFEFFER (93) pp. 108 & 121, and (94) p. 99.
- Ophiopsila aranea*; KOEHLER (56) p. 414.
- Ophiopteron elegans*; BELL (7) p. 408.
- Ophioscolex glacialis*; PFEFFER (93) pp. 107 & 121.
- Ophiothela isidicola* (p. 52), compared with *O. verrilli* (p. 53); LORIOLO (64).
- Ophiothrix*, variation discussed; BELL (7) p. 407; the species of the Mediterranean discussed; KOEHLER (56) p. 415. *O. alopecurus*, Lyman, maintained; RUSSO (105) p. 6. *O. cataphracta*; RUSSO (104) p. 160. *O. echinata*; *op. cit.*, p. 161; commensal with sponge; RUSSO (105) p. 7; commensal annelid, and species maintained; KOEHLER (56) p. 416; at Cette; KOEHLER (55) p. 17. *O. fragilis*; RUSSO (104) p. 160; variation, young; MEISSNER & COLLIN (80) p. 336; synonymy and diagnosis; RUSSO (105) p. 6; at Cette;

- KOEHLER (55) pp. 4 & 7. *O. longipeda*; RUSSO (104) p. 160; description corrected; LORIOLO (64) p. 36. *O. lusitanica*, discussed; RUSSO (105) p. 7. *O. (? pentaphyllum)*, breeding season; GARSTANG (36) p. 228. *O. suensonsii*; RUSSO (104) p. 160. *O. trilineata* (p. 43), and *O. triloba* (p. 41), redescribed from Mauritius; LORIOLO (64). *O. violacea*; RUSSO (104) p. 161.
- O. fallax* (p. 47), *O. lepidus* (p. 45), *O. mauritiensis* (p. 38), *O. picturatus* (p. 49), *O. robillardii* (p. 39), and *O. tristis* (p. 50), Mauritius; LORIOLO (64) Mem. Soc. Geneve, xxxii (1) : n. spp.
- Ophiura annulosa* Lam., probably *Ophiocoma scolopendrina*; LORIOLO (64) p. 12. †*O. decheni* Stürtz (p. 28), †*O. primigena* Stürtz (p. 27), and *O. zitteli* Stürtz (p. 27), discussed; STÜRTZ (115).
- †*O. rhenana*, Lower Devonian, Bundenbach; STÜRTZ (115) Verh. Ver. Rheinland, I, pp. 7 & 29, n. sp.
- †*Ophiurella griesbachii*, discussed; STÜRTZ (115) p. 90.
- Ophiurina*, redescribed; STÜRTZ (115) p. 24.
- Palaephiura*, rediagnosed; STÜRTZ (115) p. 21.
- Pectinura armata*, redescribed from Mauritius; LORIOLO (64) p. 13.
- P. elegans*, Macclesfield Bank, 13-35 fms.; BELL (7) P. Zool. Soc. London, 1894, p. 406. *P. sphenisci*, Holothuria Bank, N.W. Australia, 15 fms.; l. c. *P. venusta*, Mauritius, with slight variations; LORIOLO (64) Mem. Soc. Geneve, xxxii (1) p. 16 : n. spp.
- Protaster*, discussed; STÜRTZ (115) pp. 18-20 & 25.
- Taeniaster*, discussed; STÜRTZ (115) p. 20.

(F.)—CRINOIDEA.

- General classification on phylogenetic basis; JAEKEL (44).
- Acrochordocrinus*, vide sub *Cyclocrinus*.
- †*Actinocrinus* :—*A. tenuistriatus*; STÉFANI (112) p. 32.
- A. monticuliferus*, Keokuk Group, Tennessee; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 46, n. sp.
- Actinometra* sp., with unusual syzygies; BELL (7) p. 402.
- A. peregrina*, Macclesfield Bank, 55 fms.; BELL (7) P. Zool. Soc. London, 1894, p. 402, n. sp.
- †*Adelocrinus hystrix* Phillips; see *Perischodomus magnus*, IV, c.
- †*Alloprosallocrinus celsus*, Warsaw Group, Tennessee; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 47, n. sp.
- Antedon*, præoral lobe, homologies with *Asteroidea*; MACBRIDE (72) p. 433. *A. carinata*, from Mauritius and Rio Janeiro; LORIOLO (64) p. 57. *A. eschrichti*; PFEFFER (93) pp. 108 & 122; RODGER (99) p. 160. *A. palmata*, habitat; THURSTON (122) p. 27. *A. phalangium*; KOEHLER (56) p. 425; MARENZELLER (75) p. 3. *A. proliza*; PFEFFER (93) pp. 109 & 122; RODGER (99) p. 162. *A. rosacea*; MARENZELLER (75) p. 3; KOEHLER (56) p. 426; at Cette; KOEHLER (55) p. 4; senses of smell and taste; NAGEL (86) p. 177; parasitic infusorian; CUÉNOT (28); ova described; CRETY (27)

- p. 264; breeding season; GARSTANG (36) p. 228. *A. tenella*; PFEFFER (93) pp. 109 & 122.
- A. n. sp. indesc.*; RODGER, P. Soc. Edinb. (99) p. 162. †*A. arnaudi*, Upper Campanian, Courgeac (Charente) and Talmont (Charente Inférieure); LORIOL (65) Rev. Suisse Zool. iv, p. 479. *A. bassett-smithi*, Macclesfield Bank, 13-16 fms., irregular syzygies; BELL (7) P. Zool. Soc. London, 1894, p. 399. *A. brevicirra*, Macclesfield Bank, 30-35 fms.; *op. cit.*, p. 400. †*A. carentouensis*, Coniacian, Rousselières (Charente); LORIOL (65) Rev. Suisse Zool. iv, p. 483. *A. fieldi*, 22-30 fms. (p. 401), *A. flavomaculata*, 13 fms. (p. 400), *A. inopinata*, 31 fms. (p. 398), *A. moorei*, 13 fms. (p. 401), and *A. vicaria*, 30-40 fms. (p. 400), Macclesfield Bank; BELL (7) P. Zool. Soc. London, 1894: n. spp.
- †*Apiocrinus champlittensis*, Rauracian, Champlitte (Hte.-Saône); LORIOL (65) Rev. Suisse Zool. iv, p. 485, n. sp.
- †*Archaeocrinus*:—*A. asperatus* (p. 19), *A. parvus* (p. 21), and *A. peculiaris* (p. 17), Trenton Group, Knox co., Tenn.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5: n. spp.
- Articulata*, restricted and defined as suborder; JAEKEL (44) p. 120.
- Articulosa*, new suborder; JAEKEL (44) p. 118.
- †*Balanocrinus pentagonalis*; RICHE (98) p. 352.
- †*Barycrinus expansus*, Keokuk Group, Tennessee; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 41, n. sp.
- †*Batocrinus*:—*B. copiosus*, Kaskaskia Group, Little Barren River; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 51. *B. sacculus*, Warsaw Group, Washington co., Ind.; *op. cit.*, p. 53: n. spp.
- †*Bourgueticrinus*:—*B. ellipticus*; KOCH (54) pp. 298 & 314. *B. italicus* (p. 418), *B. thorenti* (p. 422), *B. zignoi* (p. 422); ROVASENDA (101).
- †*Calceocrinus kentuckiensis*, Trenton Group, Mercer co., Ky. [This is a *Castocrinus*, as the authors admit]; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 29, n. sp.
- †*Callicrinus uralicus*, nom. nud.; CHERNUISHEV (20) p. 123.
- †*Carabocrinus ovalis*, Trenton Group, Mercer co., Ky.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 25, n. sp.
- †*Castocrinus*, see *Calceocrinus*.
- Cladocrinoidea*, new order; JAEKEL (44) pp. 110 & 113.
- Comatula*, see *Antedon*.
- Condylocrinus verrucosus*; CHERNUISHEV (20) p. 123.
- †*Conocrinus*:—*C. cylindricus*? (nom. nud.) (p. 422), *C. piriformis* (p. 420); ROVASENDA (101). *C. thorenti*; *op. cit.*, pp. 420 & 422; KOCH (54) p. 298.
- Costata*, new suborder; JAEKEL (44) p. 117.
- †*Cyathocrinus*, cf. *ramosus*, Schloth., described and figured, Permian, East Russia-in-Europe; NECHAEV (87) p. 116.
- †*Cyclocrinus*:—*C. amalthei* (p. 57), *C. hausmanni* (Roem.) (p. 56); PARONA (89). *C. macrocephalus*; RICHE (97) pp. 82, 93 & 94, and (98) pp. 287 & 329.

- †*Dolatocrinus*, structure discussed (p. 30), *D. lacus*, redescribed (p. 9), *D. marshi*, redescribed (p. 11), *D. ornatus*, now first figured (p. 18), *D. ornatus*, var. *asperatus*, n. var., Hamilton Group, Charleston, Ind. (p. 16); MILLER & GURLEY (81).
- D. amplus*, Hamilton Group, Charleston, Ind.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 45. *D. approximatus*, Louisville, Ky. (p. 25), *D. aureatus*, Charleston, Ind. (p. 24), *D. bulbaceus*, Charleston Ind. (p. 22), *D. grandis*, Louisville, Ky. (p. 14), *D. greenei*, Louisville, Ky. (p. 28), *D. lineolatus*, Charleston, Ind. (p. 27), *D. magnificus*, Falls of Ohio (p. 5), *D. spinosus*, Charleston, Ind. (p. 8), *D. stellifer*, Louisville, Ky., and Charleston, Ind. (p. 20), and *D. venustus*, Charleston, Ind. (p. 23), Hamilton Group; MILLER & GURLEY (81) Bull. Illinois Mus., No. 4 : n. spp.
- Dorycrinus greenei*, Keokuk Group (Knobstone), Button Knobs, Ky.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 48, n. sp.
- Encrinida*, systematic position; JAEKEL (47) p. 162.
- †*Encrinus*:—*E. carnalli*, tegmen; JAEKEL (46); tegmen and anal tube; JAEKEL (47) p. 158. *E. gracilis*; BÖSE (11) p. 4. *E. cf. liliiformis*; l. c. *E. schlothemi*, tegmen; JAEKEL (46), and (47) p. 160.
- Eudiocrinus granulatus*, Macclesfield Bank, 30-40 fms.; BELL (7) P. Zool. Soc. London, 1894, p. 397, n. sp.
- †*Eugeniocrinus mayalis*; PARONA (89) p. 58.
- Fistulata* redefined; JAEKEL (41) p. 115.
- †*Glyptocrinus mercerensis*, Trenton Group, Mercer co., Ky.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 28, n. sp.
- †*Gyssocrinus* [sic] (?) *borealis*, nom. nud.; CHERNUISHEV (20) p. 123.
- †*Ichthyocrinus*:—*I. clarkensis*, Keokuk or Warsaw Group, Clark co., Ind.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 43. *I. spinosulus*, Keokuk Group (Knobstone), Clark co., Ind.; *op. cit.*, p. 44 : n. spp.
- †*Lahuseniocrinus*, n. g., with type *L. tirlensis*, n. sp., Hercynian, Oural, nom. nud.; CHERNUISHEV (20) Bull. Com. geol. St. Petersb. pp. 123 & 133.
- Larvata*, new suborder; JAEKEL (44) p. 116.
- †*Lecanocrinus oswegoensis*, Niagara Group, Oswego, Ill.; MILLER & GURLEY (81) Bull. Illinois Mus., No. 4, p. 33, n. sp.
- †*Marsupites*, first recorded from I. of Wight; GRIFFITH (39).
- †*Megistocrinus expansus*, Hamilton Group, Louisville, Ky.; MILLER & GURLEY (81) Bull. Illinois Mus., No. 4, p. 35, n. sp.
- †*Melocrinus*:—*M. lyliei* (p. 152), *M. tersus* (p. 151), Hamilton Group, Callaway co., Mo.; ROWLEY (102) Amer. Geol. xiii : n. spp.
- †*Millericrinus*:—*M.* sp.; RICHE (97) p. 82, and (98) p. 287. *M.* sp. ind.; PARONA (89) p. 58. *M. cf. adneticus*; l. c. *M. cf. granulatus*; RICHE (98) p. 287. *M. granulatus*, p. 329; *op. cit.*, and (97) p. 94. *M. hausmanni*, referred to *Cyclocrinus* (p. 56), *M. marginatus*, figured (p. 57); PARONA (89). *M. mespiliformis*, Rauracian, Beaune (Côte-d'Or), first occurrence in France; LORIOU (65) p. 491.

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Mitrocrinus, n. g., with type *M. wetherbyi*, Trenton Group, Knox co., Tenn.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 22, n. sp.

Pentacrinoidea, new order; JAEKEL (44) pp. 110 & 114.

† *Pentacrinus*:—*P.* sp.; BOTTO-MICCA (12) p. 193; RICHE (98) p. 99; said to occur in Silurian; KIESOW (50) p. 82. *P. bajocensis*; RICHE (97) pp. 61 & 62, and (98) pp. 71 & 172. *P. basaltiformis*; PARONA (89) p. 56. *P. cristagalli*; FREYSTEDT (32) pp. 129 & 136; RICHE (91) p. 71. *P. didactylus*; KOCH (54) p. 287; ROVASENDA (101) pp. 418 & 422. *P. jurensis*; PARONA (89) p. 56. *P. nicoleti* (p. 239), *P. oxyseularis* (p. 352); RICHE (98). *P. pentagonalis*; RICHE (97) p. 98. *P. tuberculatus*; TERMIER & KILIAN (118) p. 276.

P. leuthardi, Bathonian, Sichtern near Basle, with infrabasalia; LORIOLO (65) p. 494, n. sp.

† *Platycrinus*:—*P.* sp.; DANTZ (29) p. 623.

P. cortina, Chouteau Limestone, Sedalia, Mo.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 40, n. sp.

Porocrinidae, n. fam., *op. cit.*, p. 24.

† *Porocrinus kentuckiensis*, Trenton Group, Mercer co., Ky.; *l. c.*, n. sp.

† *Poteriocrinus*:—*P. quenstedti*, Golowkinsky, columnal described and figured, Permian, East Russia-in-Europe; NECHAEV (87) p. 117. *P. scape*, additional figures; MILLER & GURLEY (82) p. 33.

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† *Retiocrinus alveolatus*, Trenton Group, Mercer co., Ky.; *op. cit.*, p. 26, n. sp.

† *Rhizocrinus santagatai*, Menegh., no crinoid but a foraminifer, *Bathysiphon*; CAPELLINI (17).

† *Synbathocrinus angularis*, Keokuk Group, Button Mould Knob, Ky.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 42, n. sp.

† *Taxocrinus concavus*, arm-characters described; ROWLEY (102) p. 153

† *Traumatocrinus gracilis*; BÖSE (11) p. 7.

† *Uintacrinus socialis*, details of structure, and new locality; WILLISTON (128).

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- Agelacriniæ*, a new genus found, not described; JAHN (48) p. 271.
- Agelacrinus legrandensis*, Kinderhook Group, Le Grand, Iowa (p. 15), *A. pulaskiensis*, Kaskaskia Group, Pulaski co., Ky. (p. 16); MILLER & GURLEY (82) Bull. Illinois Mus., No. 5 : n. spp.
- Atelecystis*?, sp. indet., Bala Beds, Yorkshire; REYNOLDS (96) p. 110.
- Belemnocystites*, n. g., with type *B. wetherbyi*, Trenton Group, Mercer co., Ky.; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5, p. 8, n. sp.
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- Holocystites gyrinus*, Jefferson co., Ind. (p. 5), and *H. splendens*, Madison, Ind. (p. 7), Niagara Group; MILLER & GURLEY (82) Bull. Illinois Mus., No. 5 : n. spp.
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(H.)—†BLASTOIDEA.

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† All extinct.

XV. VERMES.

BY

FLORENCE BUCHANAN, B.Sc.

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I.—TITLES.*

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2. ANDREWS, E. A. Some abnormal Annelids. Quart. J. Micr. Sci. xxxvi, pp. 435-460, pls. xxxii-xxxiv.
3. APÁTHY, S. Das leitende Element in den Muskelfasern von *Ascaris*. Arch. mikr. Anat. xliii, pp. 886-911, pl. xxxvi.
Reply to RONDE, *q v*.
4. ASKANAZY, M. Zur Lehre von der Trichinosis. Centrbl. Bakter. xv, pp. 225-227.
5. AUGSTEIN, O. *Strongylus filaria*, R. Arch. Naturg. lx, pp. 255-304, pls. xiii & xiv.
6. BANCROFT, T. L. On the Whip-worm of the rat's liver. J. R. Soc. N. S. W. xxvii (1893), pp. 86-90, pls. vii & viii.
7. BARROIS, T. Contribution à l'étude de quelques lacs de Syrie. Rev. biol. Nord France, vi, pp. 224-312, 3 figg.
Discussion of the origin of the lakes, as determined by the fauna. Abstract by MATZDORF, Helios, xii, pp. 99, 100, & 117-120.
8. BARROIS, T., & DADAY, V. Contribution à l'étude des Rotifères de Syrie et description de quelques espèces nouvelles. *T. c.* pp. 391-410, pl. v, and 15 figg. in text.
9. — & —. Adatok az Aegyptonii, Palaestinaies, Syriai Rotatoriák ismeretéhez. Math. term. Ertes. Magyar Ak. xii, pp. 222-242, pl. vii.
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10. BEARD, J. The nature of the hermaphroditism of *Myzostoma*. Zool. Anz. xvii, pp. 399-404.
Criticism of WHEELER (245).
BEAUMONT, W. I. [See VANSTONE & BEAUMONT (230).]
11. BEDDARD, F. E. A contribution to our knowledge of the *Oligochaeta* of Tropical Eastern Africa. Quart. J. Micr. Sci. xxxvi, pp. 201-270, pls. xvi & xvii.
12. —. On two new genera, comprising three new species of Earthworms from Western Tropical Africa. P. Zool. Soc. London, 1894, pp. 379-390, 3 figg.
13. —. Preliminary notice of South American *Tubificidae* collected by Dr. Michaelsen, including the description of a branchiate form. Ann. Nat. Hist. xiii, pp. 205-210.

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

14. [BEDDARD, F. E.] Recent progress in our knowledge of Earth-worms and their allies. *Nat. Sci.* v, pp. 45-52.
15. —. Some new or little-known *Oligochaeta*. *P. Phys. Soc. Edinb.* pp. 31-45, 3 figg.
16. BENHAM, W. B. On *Benhamia caecifera*, n. sp., from the Gold Coast. *Quart. J. Micr. Sci.* xxxvii, pp. 103-112, pl. xii.
17. —. Notes on the clitellum of the Earthworm. *Zool. Anz.* xvii, p. 53.
Criticism of COLE's paper in *Zool. Anz.* xvi, p. 440, answered by COLE, *q.v.*, xvii, p. 285.
18. —. On the blood of *Magelona*. *Rep. Brit. Ass. Oxford*, p. 696.
19. —. On the classification of the *Polychæta*. *T. c.* pp. 696 & 697.
20. BÉRANECK, E. Quelques stades larvaires d'un Chétopète. *Rev. Suisse Zool.* ii, pp. 377-402, pl. xv.
21. BERGENDAL, D. Berichtigung. *Zool. Anz.* xvii, p. 95.
To his paper recorded last year (*Vermes*, p. 3, No. 18); and showing that the specific names of his two species of *Gastroschiza* had been transposed.
22. BIDENKAP, O. Undersøgelser over *Annulata Polychæta* omkring Hårdangerfjordens udløb sommeren 1893. *Arch. Naturv. Christian.* xvii, pp. 1-11.
23. BILFINGER, L. Zur Rotatorienfauna Württembergs. 2^{ter} Beitrag. *Jahresh. Ver. Wurttemb.* 1, pp. 35-65, pls. ii & iii.
91 species, 2 new.
24. BLANCHARD, R. Revision des Hirudinées du Musée de Dresde. *Abh. Mus. Dresden*, 1892-93, No. 4; and, separately, Berlin (R. Friedländer & Sohn): 1894, 4to, 8 pp., 1 pl.
12 species, 3 new, including 2 new genera and 1 new family.
25. —. Viaggio di Leonardo Fea in Birmania, &c. LVII. Hirudinées. *Ann. Mus. Genova* (2) xiv, pp. 113-118.
4 species, 1 new.
26. —. Hirudinées de l'Italie continentale et insulaire. *Boll. Mus. Torino*, ix, No. 192, 81 pp., 30 figg. in text.
27. —. Courtes notices sur les Hirudinées. *Bull. Soc. zool. France*, xix, pp. 85-88.
xix, Sur les *Branchellion* des mers d'Europe.
28. —. Sur quelques Cestodes monstrueux. *Progrès médical* (2) xx, 31 pp., 11 figg.

29. [BLANCHARD, R.] Sur le *Tænia brandti*, Cholodkowsky. C.R. Soc. Biol. vi, pp. 418 & 419.
See CHOLODKOWSKY (59).
30. —. Notices sur les parasites de l'homme. 2^{me} ser.
III. À propos de la *Fasciola hepatica*. T. c. pp. 461 & 462.
IV. Sur le *Krabbea grandis*, et remarques sur la classification des Bothriocéphalinés. T. c. pp. 699-702.
31. BOLSUS, H. Le sphincter de la néphridie des Gnathobdellides. La Cellule, x, pp. 335-345, 1 pl.
32. —. A word of reply to Mr. Bourne's "Review: The Nephridia of Leeches." Anat. Anz. ix, pp. 182-191, pls. iv & v.
33. —. Sur certains détails de l'anatomie d'*Astacobdella branchialis*. Ann. Soc. Bruxelles, xviii, pp. 27-32.
34. —. Sur l'anatomie de la *Branchiobdella parasita* et de la *Mesobdella gemmata*. T. c. pp. 57-61, 4 figg.
35. —. Sur les organes ciliés des *Glossiphonides*. T. c. pp. 112-115.
36. —. Contributions à l'anatomie des *Glossiphonides* (*Clepsinides*). Zool. Anz. xvii, pp. 292-295, 2 figg.
37. BÖMMEL, A. VON. Ueber Cuticular-bildungen bei einigen Nematoden. Arb. Inst. Würzburg, x, pp. 189-211, pl. xi.
38. BOSANQUET, W. C. Notes on a Gregarine of the Earthworm (*Lumbricus herculeus*). Quart. J. Micr. Sci. xxxvi, pp. 421-434, pl. xxxi.
39. BOURNE, A. G. On certain points in the development and anatomy of some Earthworms. Quart. J. Micr. Sci. xxxvi, pp. 11-34, pls. ii-v; see also Amer. Natural. xxviii, pp. 710 & 711.
40. —. On *Moniligaster grandis*, A. G. B., from the Nilghiris, South India; together with descriptions of other species of the genus *Moniligaster*. Quart. J. Micr. Sci. xxxvi, pp. 307-384, pls. xxii-xxviii.
41. BOUVIER, E. L. Nouveau cas de commensalisme: association de polypes madréporaires, avec un Géphyrien du genre *Aspidosiphon* et un Mollusque bivalve. C.R. Ac. Sci. cxix, pp. 96-98. See also Naturaliste, viii, pp. 171-173, 3 figg.
42. BRANDES, G. *Fridericianella ovicola*, n. g., n. sp. Ein neuer monogenetische Trematod. Abh. Ges. Halle, xx, pp. 305-308, pl. xix.
43. BRAUN, M. *Distomum sibiricum*, n. sp., *Monostomum hepaticum suis*, n. sp. Zool. Anz. xvii, pp. 128 & 129.
44. —. Zur Entwicklungsgeschichte der *Holostomiden*. Nach den Untersuchungen der Herren Alfr. u. Osc. Ehrhardt. T. c., pp. 165-167.

45. [BRAUN, M.] Helminthologische Notizen.
 3. *Cysticercus tenuicollis*, Rud., und *C. acanthotrias*, Weinkl., beim Menschen, Centrbl. Bakter. xv, pp. 409-413.
 4. Zur Entwicklungsgeschichte der *Holostomiden*. *T. c.* pp. 680-682.
46. ——. Ueber ein für den Menschen neues *Distomum* aus der Leber. *T. c.* pp. 602-606.
47. ——. Bronn's Klassen und Ordnungen des Thier-reichs. Bd. iv. Würmer. Leipzig: 8vo. Continuation: Parts xxxi-xxxvi, pp. 926-1166, pls. xxxv-xxxvii.
Cestodes: Bibliography, pp. 926-1132; list of species, pp. 1132-1146;
Cestodaria, pp. 1146-1166.
48. BRYCE, D. Macrotrachelous *Callidinidae*. J. Quekett Club, v, pp. 436-455, pls. xxiii & xxiv.
 Criticising JANSON [Zool. Rec. 1893, *Vermes*, p. 11, No. 132]; 5 new species, and 5 others new to Britain.
49. BÜRGER, O. Neue Beiträge zur Entwicklungsgeschichte der Hirudineen. Zur Embryologie von *Hirudo medicinalis* und *Aulastomum gulo*. Zeitschr. wiss. Zool. lviii, pp. 440-459, pls. xxvi-xxviii.
50. ——. Ueber die Exkretionsorgane, das Coelom und die Blutgefäße der Hirudineen. Zool. Centrbl. i, pp. 661-668, 1 fig.
51. ——. Ueber den Stiletapparat der Nemertinen. Zool. Anz. xvii, pp. 390-392.
 Answer to MONTGOMERY (167).
52. CALKINS, G. A. On the history of the Archoplasm mass in the spermatogenesis of *Lumbricus*. Tr. N. York Ac. xiii, pp. 135-139, 11 figg.
53. CAMERANO, L. Viaggio del dottor Alfredo Borelli nella Repubblica Argentina e nel Paraguay. I. *Gordii*. Boll. Mus. Torino, ix, No. 175.
54. ——. Sopra due specie di *Gordius* raccolte in Sumatra dal Dott. Elio Modigliani. Ann. Mus. Genova (2) xiv, pp. 410-412.
55. CERFONTAINE, P. Note sur un nouveau Tristomien: *Merizocotyle diaphanum*, n. g., n. sp. Bull. Ac. Belgique, xxvii, pp. 936-948, 6 figg., and pp. 870-873.
56. ——. (2) Note sur l'existence de fibres musculaires striées chez un Trématode. *T. c.* pp. 949-954, 3 figg., and pp. 874-875.
57. CHATIN, J. Du développement et de la formation des canaux excréteurs chez la Cercaire herissée. C.R. Ac. Sci. cxviii, pp. 1356-1358.

58. CHOLODKOWSKY, N. Ueber eine neue Species von *Tenia*.
Centrbl. Bakter. xv, pp. 552-554, 2 figg.
See BLANCHARD (29).
59. —. Nochmals uber *Tenia brandti*. *Op. cit.* xvi, pp. 953-955.
See STILES (33).
60. CLAUS, C. Bemerkungen über *Pedalion mira*, Hudson. Arb. Inst.
Wien, xi, pp. 13-16.
61. COLE, F. C. Notes on the clitellum of the Earthworm. A few
words in reply. [To Dr. Benham]. Zool. Anz. xvii, pp. 285
& 286.
62. COSMOVICI, L. C. Organisation de l'extrémité cephalique des
Rotifères. Mem. Soc. zool. France, vii, pp. 246-251, 4 figg.
63. COUPIN, H. Sur l'alimentation de deux commensaux (*Nereilepas* et
Pimnotheres). C.R. Ac. Sci. cxix, pp. 540-543.
64. DADAY, E. v. Ujabb adatok a Balaton mikrofaunájának
ismeretéhez (*Nematoda*, *Rotatoria*, *Entomostraca*). Math. term.
Ertés. Magyar Ak. xii, pp. 122-145.
[New contributions to the knowledge of the microfauna of Lake
Balaton.]
65. —. Az *Anuraeidae* Rotatoria-család revisioja. *T. c.* pp. 364-377,
pl. xii.
[Revision of the Rotifer family *Anuraeidae*.]
See also BARROIS & DADAY (8, 9).
66. DENDY, A. Further notes on the Land Planarians of Tasmania
and South Australia. Rep. Australas. Ass. v, pp. 420-423.
67. —. Notes on some Land Planarians collected by Thos.
Steel, Esq., F.L.S., in the Blue Mountains, N.S.W. P. Linn. Soc.
N. S. Wales, ix, pp. 729-734.
68. *DEUPSER, C. Experimentelle Untersuchungen über die Lebens-
geschichte der *Filaria papillosa*, Rud. Inaug. Diss. Breslau,
(R. Galle), 1894, 8vo, 44 pp.
69. DIAMARE, V. Il genere *Dipylidium*, Lt. Atti Acc. Napoli
(2) vi, No. 7, 31 pp., 3 pls.
70. —. Bemerkungen über Dipylidienlarven. Centrbl. Bakter. xvi,
pp. 565 & 566, 1 fig.
71. DIXON-NUTTALL, F. R. *Copeus pachyurus* (Male). J. Quekett
Club, v, pp. 233 & 234, pl. xv.
72. EBERT, R. Ueber *Allantonema mirabile*, *Spherularia bombi*, and
Heterodera schachtii. SB. Ges. Isis, 1894, pp. 18-21.

73. EISEN, G. On California *Eudrilidæ*. Mem. Calif. Ac. ii, pp. 21-62, pls. xii-xxix.
Full paper, of which the abstract was recorded in Zool. Rec. 1893, Vermes, p. 7.
74. FISCHER, W. Ueber kiemenartige Organe einiger *Sipunculus*-Arten. Zool. Anz. xvii, pp. 333-335.
75. ——. Die Gephyreen des Naturhistorischen Museums zu Hamburg. Abh. Ver. Hamburg, xiii, pp. 1-24, pl. i.
76. FOOT, K. Preliminary note on the maturation and fertilisation of the egg of *Allolobophora foetida*. J. Morphol. ix, pp. 475-484, 8 figg.
77. FRANCÉ, R. H. Adatok Budapest *Rotatoria* faunájához. Termes. Fuzetek, xvii, pp. 112-129, pls. v & vi : and in German, pp. 166-184. Contributions to a knowledge of the *Rotifera* of Buda Pest.
78. FRANCOTTE, P. Quelques essais d'embryologie pathologique expérimentale. [Preliminary communication.] Bull. Ac. Belgique, xxvii, pp. 382-391, 1 pl.
79. FRIEDLÄNDER, B. Altes und Neues zur Histologie des Bauchstranges des Regenwurms. Zeitschr. wiss. Zool. Iviii, pp. 661-693, pl. xl.
80. ——. Beiträge zur Physiologie des Centralnervensystems und des Bewegungsmechanismus der Regenwürmer. Arch. ges. Physiol. Iviii, pp. 168-206.
81. FRIEND, H. A new Irish Earthworm [*Allolobophora georgii*, Mich.]. Irish Natural. iii, pp. 39-41.
82. FRITSCH, A., & VAVRA, V. Untersuchungen über die Fauna der Gewässer Böhmens. iv. Die Thierwelt des Unterpocernitzer und Gatterchlager Teiches als resultat der Arbeiten an der übertragbaren zoologischen Station. Arch. Landesf. Bohmen, ix, No. 2.
Full paper, of which abstract was recorded in Zool. Rec. 1892, Vermes, p. 11.
83. FUHRMANN, O. Die Turbellarien der Umgebung von Basel. Rev. Suisse Zool. ii, pp. 215-290, pls. x & xi. Abstract, Zool. Anz. xvii, pp. 133-135.
39 species, 10 new.
84. GAMBLE, F. W. *Rhynchodemus terrestris* in England. Nature, li, p. 33.
85. GARBINI, —. Appunti per una limnobiota italiana. Zool. Anz. xvii, p. 297.
86. GARSTANG, W. Faunistic notes at Plymouth during 1893-94. J. Mar. Biol. Ass. iii, pp. 217-219, 224 & 225.

87. GIARD, A. Sur un nouveau ver de terre de la famille des *Phreoryctidæ* (*Phreoryctes endeka*, Gd.). C.R. Ac. Sci. cxviii, pp. 811-814. Abstracts in Rev. Sci. (4) i, p. 504, and C.R. Soc. Biol. vi, pp. 310-312.
88. ——. Contributions à la faune du Pas-de-Calais et de la Manche. C.R. Soc. Biol. vi, pp. 245-247.
89. GILSON, G. The Nephridial duct of *Owenia*. Anat. Anz. x, pp. 191-194, 5 figg.
90. ——. Les glandes filières de l'*Owenia fusiformis*, D. Ch. (*Ammonochara ottonis*, Gr.). La Cellule, x, pp. 299-331, 1 pl.
91. GILSON, G., & PANTEL, J. Sur quelques cellules musculaires de l'*Ascaris*. Anat. Anz. ix, pp. 724-727, 2 figg.
92. GÖLDI, E. A. Relatorio sobre a molestia do Coffeieiro na Provincia do Rio de Janeiro. Arch. Mus. Rio Jan. viii (1892) pp. 9-121, pls. i-iv, 1 map.
93. * ——. Breve noticia acerca de alguns vermes interessantes do Brazil. Bol. Mus. Paraense, i, pp. 39-44.
Chordodes, Bipalium, Schizocardium, Temnocephala, Hæmentaria.
94. GOTO, S. Studies on the Ectoparasitic Trematodes of Japan. J. Coll. Japan, viii, pp. 1-273, pls. i-xxvii, and 1 fig. in text.
95. GRAF, A. The sphincter of the terminal vesicle of *Hirudo medicinalis*. J. Morphol. ix, pp. 485-487, 10 figg.
Answer to BOLSIUS (31).
96. ——. The funnels and vesiculæ-terminales of *Nepheleis, Aulastoma*, and *Clepsine*. Tr. N. York Ac. xiii, pp. 239-241.
Preliminary note.
97. GRAFF, L. v. Viaggio del dott. Alfredo Borelli nella Repubblica Argentina e nel Paraguay. v. Landplanarien. Boll. Mus. Torino, ix, No. 182.
98. ——. Description d'une Planaire terrestre du Tonkin. Bull. Soc. zool. France, xix, pp. 100 & 101, 1 fig.
99. ——. Die von Dr. E. Modigliani in Sumatra gesammelten Landplanarien. Ann. Mus. Genova (2) xiv, pp. 524 & 525.
100. *GURIN, G. J. Parazit'i yboinagho skota dann'im Moskovskikh ghorodskikh boei [Parasites of Food-animals according to the reports of the public slaughter-houses in Moscow]. Tagebl. zool. Abth. Ges. Freunde d. Naturw. Moskau, ii, pp. 14 & 15.
101. HÄCKER, V. Die spätere Entwicklung der *Polynoë*-Larve. Zool. Jahrb. Anat. viii, pp. 245-288, pls. xiv-xvii. Preliminary Notice, Ber. Ges. Freiburg, ix, pp. 131-136, 1 fig.

102. [HÄCKER, V.] Ueber generative und embryonale Mitosen. Arch. mikr. Anat. xliii, pp. 759-787, pl. xxxii.
103. HALLEZ, P. Sur un Rhabdocœlide nouveau de la famille des Proboscidés (*Schizorhynchus cæcus*, nov. gen., nov. sp.). Rev. biol. Nord France, vi, pp. 315-320, pl. iii.
104. —. Le genre *Hydrolimax*, Haldeman. T. c. pp. 321 & 322.
105. —. Sur la presence dans le détroit du Pas-de-Calais de l'*Acrorhynchus bivittatus*, Ulianine. T. c. pp. 323 & 324.
106. —. Description d'un nouveau Triclade terrestre de Cayenne *Dolichoplana joubini*. Op. cit. vii, pp. 1-5.
HASSALL, A. [See STILES & HASSALL (224).]
107. HERDMAN, W. A. Interesting marine animals. Nature, l, pp. 475 & 476. See also Rep. Brit. Ass. Oxford, pp. 318-334.
108. HESSE, R. Die Geschlechtsorgane von *Lunbriculus variegatus*, Gr. Zeitschr. wiss. Zool. lviii, pp. 355-363, pl. xxii, and Tübinger Zool. Arbeiten, i, No. 1, 1894.
109. —. Zur vergleichenden Anatomie der Oligochæten. T. c. pp. 394-439, pls. xxiv & xxv, 3 figg. in text.
110. —. Ueber die Septaldrüsen der Oligochæten. Zool. Anz. xvii, pp. 317-321, 1 fig.
111. HILL, J. P. A contribution to a further knowledge of the Cystic Cestodes. P. Linn. Soc. N. S. Wales, ix, pp. 49-84, pls. iii-v.
112. —. On a new species of *Enteropneusta* from the coast of New South Wales. (Abstract). T. c. pp. 736 & 737.
113. HOOD, J. On *Floscularia cucullata*, sp. n. J. Quekett Club, v, pp. 335-337, pl. xvi.
114. HORST, R. Descriptions of Earthworms. VIII. On a large Earthworm from Borneo. Notes Leyden Mus. xvi, pp. 137-144, pl. vii.
115. LJIMA, I., & KURIMOTO, T. On a new human Tapeworm (*Bothriocephalus* sp.). J. Coll. Japan, vi, pp. 371-385, pl. xviii.
116. JÄGERSKIÖLD, L. A. Beiträge zur Kenntnis der Nematoden. Zool. Jahrb. Anat. vii, pp. 449-532, pls. xxvi-xxviii.
117. —. Ueber zwei baltische Varietäten der Gattung *Anuraea*. Zool. Anz. xvii, pp. 17-20, 2 figg.
Including continuation of discussion as to priority in the renaming of *Euchlanis lynceus*, Ehrb. Answer to WIERZEJSKI & ZACHARIAS, Zool. Anz. xvi, p. 312.
118. —. Ueber den Bau des *Ogmogaster* [n. g.] *plicatus* [Creplin] (*Monostomum plicatum*, Creplin). Svenska Ak. Handl. xxiv, No. 7, 32 pp., 2 pls.

119. *JAMMES, L. Recherches sur l'organisation et le développement des Nématodes. Thesis. Paris (Schmidt): 1894, 8vo, 209 pp.
120. JANET, C. Etudes sur les Fourmis. 4^{me} Note. *Pelodera* des glandes pharyngiennes de *Formica rufa*, L. Mem. Soc. zool. France, vii, pp. 45-62, 11 figg.
121. JENNINGS, H. S. A list of the *Rotatoria* of the Great Lakes and of some of the inland Lakes of Michigan. Bull. Michigan Fish Comm., No. 3, 34 pp., 1 pl.
122 species, 6 new. Abstracts, Zool. Centrbl. i, pp. 756-758; Amer. Natural. xxviii, pp. 809 & 810; Biol. Centralbl. xiv, pp. 494 & 495.
122. —. Rotifers related to *Euchlanis lynceus*, Ehrb. Zool. Anz. xvii, pp. 55 & 56.
123. JOBERT, M. Recherches pour servir à l'histoire du parasitisme. C.R. Soc. Biol. vi, pp. 519 & 520.
124. JOUBIN, L. Faune Française. Les Nemertines. Paris (Société d'éditions scientifiques): 1894, 8vo, 235 pp., 4 pls., and 22 figg. in text. Abstracts, Zool. Centrbl. i, pp. 409 & 410; J. R. Micr. Soc. p. 571; and Rev. Scient. liii, p. 596.
125. KAMPMANN, K. Ueber das Vorkommen von Klappenapparaten in den Excretionsorganen der Trematoden. Rev. Suisse Zool. ii, pp. 443-462, pls. xix & xx.
126. KATHARINA, L. Die Gattung *Gyrodactylus*, v. Nrdm. Arb. Inst. Würzburg, X₂, pp. 125-164, pls. vii-ix.
127. KELLER, —. Die Ungeschlechtliche Fortpflanzung der Süßwasserturbellarien. Jena Zeitschr. xxviii, pp. 370-407, pls. xxvi-xxix. Abstract, with 1 figure, Vierteljahrschr. Ges. Zurich, xxxix, pp. 337-344.
128. *KERTÉSZ, K. Budapest es környékének *Rotatoria*faunája. Inaug. Dissert. Budapest, 1894.
129. KNOCH, K. Topographie des Exkretions-Apparates und Nervensystems von *Distomum lanceolatum*. Inaug. Dissert. Würzburg (Köhl & Hecker'sche Buchdruckerei): 1894, 18 pp., 2 figg.
130. KNOLL, P. Ueber die Blutkörperchen bei wirbellosen Thieren. SB. Ak. Wien (Abth. iii), cii, pp. 440-478, 2 pls. *Polychæta*, pp. 454-458.
131. KÖHLER, E. Der Klappenapparat in den Excretionsgefäßen der Tænien. Zeitschr. wiss. Zool. lvii, pp. 385-401, pls. xvii & xviii, 2 figg.
132. *KOWALEWSKY, M. Studya helmintologiczne, I, 1 pl.
Abstract in Bull. Ac. Cracovie, pp. 278-280.

133. KULAGHIN, N. M. Mat'erial'ì po estestvennoï istorii dozhdev'ikh chervei (Sem. Lumbricidæ Vejd.). Izv. Obshch. Moskov. Iviii, pt. 2, 1889, 65 pp., 3 pls., and 37 figg. in text.
[Contributions to the natural history of Earthworms.] 12 species dealt with, 3 new. Full anatomy and histology, but all in Russian only.
134. LAMPERT, —. Einige Parasiten der Teichmuschel. Jahresh. Ver. Württemb. 1, pp. lxxix & lxxx.
135. LANGDON, F. E. The sense-organs of *Lumbricus agricola*, Hoffm. Anat. Anz. x, pp. 114-117.
Preliminary notice.
136. LAUTERBORN, R. (1) Ueber die Winterfauna einiger Gewässer der Oberrheinebene. Biol. Centralbl. xiv, pp. 390-394.
137. * —. (2) Beiträge zur Meeresfauna von Helgoland: Die pelagischen Protozoen und Rotatorien Helgolands. Wiss. Meeresunters. Comm. z. Unters. deutsch. Meere, pp. 207-213, 1894.
138. * —. (3) Beiträge zur Süßwasser fauna der Insel Helgoland. T. c. pp. 217-221.
LEGRAIN, E. [See VUILLEMIN & LEGRAIN (237).]
139. *LEVANDER, K. M. Beiträge zur Kenntnis der *Pedalion*-Arten. Acta Soc. Faun. Fenn. xi, No. 1, 33 pp., 1 pl., and, separately, Helsingfors: 1894, 8vo.
The 2 known species compared.
140. —. Kleine Beiträge zur Kenntniss des Thierlebens unter dicker Eiskecke in einigen Gewässern Finlands. Medd. Soc. Faun. Fenn. xx, pp. 66-71.
141. LINSTOW, VON. *Heterakis sonsinoi*. Centrbl. Bakter. xv, pp. 733-735, 3 figg.
142. *LIST, T. Beiträge zur Entwicklungsgeschichte der Nematoden. Inaug. Diss. Jena. Frommann: 1894, 8vo, 32 pp.
143. LOEB, J. Beiträge zur Gehirnphysiologie der Würmer. Arch. ges. Physiol. lvi, pp. 247-269, 4 figg.
144. LÖNNBERG, E. Ueber eine neue *Tetrabothrium*species und die Verwandtschaftsverhältnisse der Icthyotänien. Centrbl. Bakter. xv, pp. 801-803.
145. LOOSS, A. Die Distomen unserer Fische und Frösche. Neue Untersuchungen über Bau und Entwicklung des Distomenkörpers. Bibl. Zool. xvi, 296 pp., 9 pls.
146. —. Ueber den Bau von *Distomum heterophyes*, v. Sieb. und *D. fraternum*, n. sp. Kassel (Th. Fisher & Co.): 1894, 8vo, 59 pp., 2 pls. Abstracts, Zool. Centrbl. i, pp. 825-828, and Centrbl. Bakter. xvii, pp. 213-218.

147. [LOOSS, A.] Bemerkungen zur Lebensgeschichte der *Bilharzia hematobia* im Anschlusse an G. Sandison Brock's Arbeit über denselben Gegenstand. Centrbl. Bakter. xvi, pp. 286-292 & 340-346.
148. LORTET, —, & VIALLETON, —. Étude sur le *Bilharzia hematobia* et la Bilharziose. Ann. Univ. Lyon, ix, part 1, 111 pp., 8 pls., and 8 figg. in text. Abstract by LOOSS, Centrbl. Bakter. xvii, pp. 265-269.
149. *LOVELAND, A. E. On the anatomy of *Tenia crassicolis*, Rud., with a supplementary note by C. W. Stiles. J. comp. anat. Med. & Vet. Arch. pp. 67-89, 4 pls.
- The note by Stiles is on the transformation of the muscles of the strobila into those of the scolex.
150. LÜHE, M. Beiträge zur Kenntnis des Rostellums und der Scolex-Musculatur der Tenien. Vorläufige Mittheilung. Zool. Anz. xvii, pp. 279-282.
151. *——. Zur Morphologie des *Tenia scolex*. Inaug. Diss. Königsberg: 1894, 133 pp., 12 figg. Abstract, see Zool. Centrbl. i, p. 693 & ii, p. 44.
152. LUTZ, A. Beobachtungen über die als *Tenia nana* und *flavopunctata* bekannten Bandwürmer des Menschen. Centrbl. Bakter. xvi, pp. 61-67.
153. MACBRIDE, E. W. A review of Professor Spengel's Monograph on *Balanoglossus*. Quart. J. Micr. Sci. xxxvi, pp. 385-420, pls. xxix & xxx.
- Upholding Bateson's views with regard to the affinities of the *Enteropneusta* as opposed to Spengel's.
154. MCINTOSH, W. C. A contribution to our knowledge of the *Annelida*.—On some points in the structure of *Euphrosyne*. On certain young stages in *Magelona* and on Claparède's unknown larval *Spio*. T. c. pp. 53-76, pls. vi-viii.
155. MAGALHÃES, P. S. DE. Notes d'helminthologie brésilienne. Bull. Soc. zool. France, xix, pp. 152-155.
3. Sur *Hymenolepis diminuta*, Rudolphi.
4. Sur *Heterakis spumosa*, Schneider.
5. Sur le *Coccidium oviforme*, Leuckart, et le *Cysticercus fasciolaris*, Rudolphi.
156. ——. Ueber einen *Strongylus* in der Niere des Schweines (*Sclerostomum pinguicola*, Verr., *Stephanurus dentatus*, Dies.). Centrbl. Bakter. xvi, pp. 292-297 & 821, 1 fig.
157. MALAQUIN, G. Annelides polychètes du voyage de la goëlette 'Melita.' Rev. biol. Nord France, vi, pp. 411-418.
158. MAN, J. G. DE. Note supplémentaire sur la *Rhabditis janeti*, Lac.-Duth. Mem. Soc. zool. France, vii, pp. 363-370, pl. v.

159. MASTERMAN, A. T. Noté on the food of *Sagitta*. Ann. Nat. Hist. xiii, pp. 440 & 441, 2 figg.
160. MEAD, A. D. Preliminary account of the cell-lineage of *Amphitrite* and other Annelids. J. Morphol. ix, pp. 465-473, 8 figg.
161. MERRILL, H. B. Preliminary note on the eye of the Leech. Zool. Anz. xvii, pp. 286-288, 1 fig.
162. *MEYER, E. Die Organisation des Serpuliden und Hermelliden als Folge ihrer feststehenden Lebensweise. Trudui Kazan. Univ. xxvi, part 3.
163. MEYER, O. Celluläre Untersuchungen an Nematoden-Eiern. Jena. Zeitschr. xxix, pp. 391-410, pls. x & xi.
164. MICHAELSEN, W. Die Regenwurm-Fauna von Florida und Georgia. Zool. Jahrb. Syst. pp. 177-194.
165. ——. Lumbriciden. Semon's Zoologische Forschungsreisen in Australien und dem Malayischen Archipel. v. Systematik und Tiergeographie. Deuk. Ges. Jena viii, pp. 99 & 100.
166. *MINGAZZINI, P. Ricerche sul parassitismo. Rend. nel Lab. di Anat. norm. della R. Univ. di Roma ed in altri Laboratori biol. iii, 1893, pp. 205-219, 1 pl. Abstract in Zool. Centrbl. i, pp. 810 & 811.
167. MONTGOMERY, T. H. Ueber die Stilette der Hoplonemertinen. Zool. Anz. xvii, pp. 298-300, 301 & 302, 3 figg.
168. *———. *Stichostemma eilhardi*, nov. gen., nov. spec. Ein Beitrag zur Kenntnis der Nemertinen. Inaug. Diss. Berlin (G. Schade): 8vo, 1894, 75 pp.
169. MONTICELLI, F. S. Si mangiano le Ligule in Italia? Boll. Soc. Napoli, viii, pp. 40-43. Continued as: Ancora delle Ligule che si mangiano in Italia. T. c. pp. 110 & 111.
170. *MOORE, J. P. Descriptions of 3 new *Polychaeta* from the New Jersey coast. Contrib. zool. Lab. Univ. Pennsylv. i, pp. 1-58.
171. ——. *Pterodrilus*, a remarkable Discodrilid. P. Ac. Philad. 1894, pp. 449-454, pl. xiii.
172. MORGAN, T. H. The development of *Balanoglossus*. J. Morphol. ix, pp. 1-86, pls. i-vi.
173. MOSLER, F., & PEIPER, E. Tierische Parasiten. Wien: 8vo, 1894, 345 pp., 124 figg. Critical abstract by Braun in Centrbl. Bakter. xvi, pp. 753-755.
174. MÜLLER, A. Helminthologische Beobachtungen an bekannten und unbekanntem Entozoen. Arch. Naturg. lx, pp. 113-128, pl. vii.
175. MÜLLER, P. E. Influence des lombrics sur la végétation des plantes à rhizome, surtout dans les forêts de hêtre. Ov. Dänsek Selsk. pp. xii-xxvii.

176. NAGEL, W. A. Vergleichend physiologische und anatomische Untersuchungen über den Geruchs- und Geschmackssinn und ihre Organe mit einleitende Betrachtungen aus der allgemeinen vergleichenden Sinnesphysiologie. *Bibl. Zool.* xviii, Würmer, pp. 143-153.
177. —. Ein Beitrag zur Kenntniss des Lichtsinnes augenloser Tiere. *Biol. Centrbl.* xiv, p. 811.
178. NORMAN, —. A month on the Trondhjem Fjord. *Gephyrea.* *Ann. Nat. Hist.* xiii, pp. 150 & 151.
179. NUSBAUM, J. Sprawozdanie z poszukiwán nad fauna robaków dokonanych w lecie. *Sprawozd. Kom. Krajo.* xxx, pp. 41-44.
[Oligochaet Fauna of Galicia. Preliminary communication.]
180. NYHOLM, E. T. Rotatoriefaanen i Borgå skärgård sommaren 1893. *Medd. Soc. Faun. Fenn.* xx, pp. 41-43.
181. OKA, A. Beiträge zur Anatomie der *Clepsine*. *Zeitschr. wiss. Zool.* lviii, pp. 79-151, pls. iv-vi.
PANTEL, J. [See GILSON & PANTEL (91).]
182. PARONA, C. L'elmintologia italiana da suoi primi tempi all' anno 1890. *Storia, sistematica, corologia e bibliografia.* *Atti Univ. Genova*, xiii, 733 pp., 1 map.
PEIPER, E. [See MOSLER & PEIPER (173).]
183. PERRONCITO, E. Ueber die Entwicklung der *Tenia mediocanellata*. *Centrbl. Bakter.* xv, pp. 800 & 801.
184. PINTNER, T. Studien an *Tetrarhynchen* nebst Beobachtungen an anderen Bandwürmern, I. Mittheilung. *S.B. Ak. Wien*, Abth. i, cii, pp. 605-650, 4 pls. Abstract by Author in *Zool. Centrbl.* i, pp. 272 & 273.
185. *PISAŘOVIC, K. PŘispěvek k poznání nervové soustavy Lumbricidů. *Pracé cenou počtená.* Prag, 1894 (Rivnáč in Comm.): 8vo, 15 pp., 2 pls. Résumé in German, pp. 10-14. [Extract from *SB. Bohmisch. Ges.* 1894, No. 22.]
186. PLATE, L. Mittheilungen über zoologische Studien an der chilenischen Küste. VIII. Ueber *Temnocephala chilensis*, Blanch. *S.B. Ak. Berlin*, ix, No. xxix, pp. 527-531, or *Mt. Ak. Berlin*, pp. 187-191.
187. POSSINSKIÏ, D. M. Materiali k poznaniyu faunû bezpozvonoch-nuikh Moskvín ryeki. *Izv. Obshch. Moskov.* lxxvii, 1892, *Vermes*, pp. 7-12.
188. RACOVITZA, E. G. Sur les amibocytes Pövogénese et la ponte chez la *Micronereis variegata* (Claparède). *C.R. Ac. Sci.* cxviii, pp. 153-155.
189. —. Sur le lobe céphalique des *Euphrosines*. *Op. cit.* cxix, pp. 1226-1228. Abstract and remarks by Ehlers in *Zool. Centrbl.* ii, pp. 26 & 27.

190. RATZ, I. A Dochmius-férgekröl. Potfuz. Termes. Kozl. xxvi, pp. 153-159.
191. REIGHARD, J. E. A biological examination of Lake St. Clair. A preliminary account of work done during the summer of 1893 by the party maintained by the Michigan Fish Commission. Bull. Michigan Fish Comm., No. 4, 1894, 60 pp., pls., and a map.
Worms, chiefly parasitic.
192. RETZIUS, G. Die Smirnow'schen freien Nervenendigungen im Epithel des Regenwurms. Anat. Anz. x, pp. 117-123, 7 figg.
193. RICHARD, J. Sur quelques animaux inférieurs des eaux douces du Tonkin. Mem. Soc. zool. France, vii, pp. 237-243.
194. RINGER, S., & PHEAR, A. G. Saline media in *Tubifex rivulorum*. J. Physiol. xvii, pp. xxiii-xxvii.
195. RITTER, W. E. On a new *Balanoglossus*-larva from the coast of California, and its possession of an Endostyle. Zool. Anz. xvii, pp. 24-30, 2 figg.
196. ROHDE, E. Apáthy als Reformator der Muskel- und Nervenlehre. T. c. pp. 38-47, 2 figg.
197. ROSA, D. *Allolobophora ganglbaueri* and *A. oliveira*, nuove specie di Lumbricidi europei. Boll. Mus. Torino, ix, No. 170, 3 pp.
198. ——. *Perechetini* nuove o meno noti. Torino (C. Clausen): 1894, 8vo. Atti Ac. Torino, xxix, pp. 762-766, pl. xxix.
199. ROSSETER, T. B. On *Cysticercus quadricurvatus* (Rosseter). J. Quekett Club, v, pp. 338-343, pl. xvii.
200. ROUSSELET, C. F. On *Cyrtonia tuba*, = *Notommata tuba* (Ehrenberg). T. c. pp. 433-435, pl. xx.
201. RUSSO, A. Sull' apparecchio genitale del *Syndesmis echinorum*, François. Boll. Soc. Napoli, viii, pp. 134-146.
202. SABUSSOW, H. *Microstomida*, O. Schm., okrestnosti gh. Kazani. Trudui Kasan. Univ. xxvii, No. 5, 36 pp., 1 pl. [*Microstomida* of neighbourhood of Kasan.]
Entirely in Russian.
203. SAINT-JOSEPH, — DE. Les annélides polychètes des côtes de Dinard. Troisième Partie. Ann. Sci. nat. (7) xvii, pp. 1-395, pls. i-xiii.
204. SAINT-LOUP, R. Histoire naturelle de la France. 16^e partie. Vers. Paris: 12mo, 248 pp., 203 figg.
205. SCHARFF, R. T. *Rhynchodesmus terrestris* in Ireland. Nature, 1, p. 617.
206. ——. *Bipalium kewense* (Moseley) in Ireland. Irish Natural. iii, p. 242.

207. SCHEWIAKOFF, W. Ein abnormgebauter weiblicher Genitalapparat von *Ascaris lumbricoides*, L. Centrbl. Bakter. xv, pp. 473-476.
208. SCHIMKEWITSCH, W. Ueber die excretorische Thätigkeit des Mitteldarmes der Würmer. Biol. Centrbl. xiv, pp. 838-841.
209. SCHMIDT, J. E. Die Entwicklungsgeschichte und der anatomische Bau der *Tenia anatina* (Krabbe). Arch. Naturg. lx, pp. 65-112, pl. vi.
210. SCHUBERG, A. Zur Histologie der Trematoden. Arb. Inst. Würzburg, X₂, pp. 165-188, pl. x.
211. SCOTT, T. On the occurrence of *Cerebratulus angulatus* (O. F. Müller) in the Firth of Forth. Ann. Scott. Nat. Hist. iii, pp. 118 & 119.
212. SERVICE, R. A bifid Worm [*Lumbricus foetidus*]. Zoologist (3) xviii, and Ann. Scott. Nat. Hist. 1894, p. 185.
213. SETTI, E. Osservazioni sul "*Distomum gigas*, Nardo." Atti Soc. Ligustica, v, pp. 360-376, pl. xxviii.
214. SHIPLEY, A. E. Notes on Nematode parasites from the animals in the Zoological Gardens, London. P. Zool. Soc. London, 1894, pp. 531-535, pl. xxxv.
215. SKORIKOW, A. S. Predvaritel' n'ii otchet ob izslyedovanii *Rotatoria* i *Thysanura* okrestnostei Khar'kova. Trudui Kharkov. Univ. xxvii, Prilosheniya, pp. xxvii-xxxiii.
- [Preliminary report of observations on the *Rotifers* and *Thysanura* of the neighbourhood of Kharkow.] 33 species, 1 new, with Latin translation of the diagnosis; otherwise in Russian only.
216. SMIRNOW, A. Ueber freie Nervenendigungen im Epithel des Regenwurms. Anat. Anz. ix, pp. 570-578, 3 figg.
217. SMITH, F. A preliminary account of two new *Oligochæta* from Illinois. Bull. Illinois Lab. iv, pp. 138-148.
218. SMITH, W. W. Further notes on New Zealand Earthworms. Tr. N. Zealand Inst. xxvi (n.s. ix), pp. 155-175.
- Abstracts of papers by Beddard and Benham, with additional notes on the localities and habits of the worms, and of anomalies in their structure.
219. SONSINO, P. Entozoi di camaleonte e di anfiibi raccolti nel Sud della Tunisia. Atti Soc. Toscana, ix, pr. verb., pp. 110-116.
220. —. Confronto tra gli Entozoi dell'uomo in Egitto e in Tunisia. Riv. Int. d'Igiene, vi, fasc. 4 & 5, 4 pp.
221. STADELMANN, H. Ueber *Strongylus circumcinctus*, einen neuen Parasiten aus dem Labmagen des Schafes. SB. Ges. naturf. Berlin, pp. 142-146, 2 figg.

222. STÉCK, T. Beiträge zur Biologie des grossen Moosseedorfsees. Mt. Ges. Bern, 1893 (1894), pp. 20-73.
223. STILES, C. W. Notes sur les Parasites.
21. Une nouvelle espèce de Douve, *Distomum (Dicrocoelium) complexum*, trouvés chez les chats des Etats-Unis. Bull. Soc. zool. France, xix, pp. 89-21. [Full paper, with bibliography and diagnoses of allied forms, and with 19 figg., Veterin. Mag. Philadelphia, 1894, pp. 413-433.]
 22. *A case of *Echinococcus* in a camel [*E. polymorphus*]. Veterin. Mag. Philadelphia, 1894, p. 430.
 23. *An interesting anomaly in *Moniezia planissima*. T. c. p. 432.
 25. La grande Douve américaine (*Fasciola magna*), (avec tableau des quatre espèces connues). Bull. Soc. zool. France, xix, pp. 91-94. [Full paper, with 8 pls. and 8 figg. in text and Bibliography in J. Comp. Med. Vet. Arch. New York, 1894].
 26. *Distoma (Mesogonimus) westermanni*, discovery of a parasite of man new to the United States. Bull. J. Hopk. Hospital, xl, 5 pp., 1 pl.
 27. Experimental Trichinosis in *Spermophilus 13-lineatus*. Centrbl. Bakter. xvi, pp. 777-778.
 29. Nouvelle espèce de Douve intestinale (*Distomum tricolor*) chez le lapin à queue cotonneuse (*Lepus sylvaticus*, Bachman), et chez le lièvre du Nord (*L. americanus*, Erxleben), 2 pls. Résumé in Bull. Soc. zool. France, xix, pp. 160-162, 1 fig.
 30. *Distomum (Polyorchis) molle* (Leidy, 1853), (Stiles & Hassall, 1894), 1 pl. Résumé, t. c. pp. 162 & 163, 1 fig.
 31. Une phase précoce des Ténias du Lapin. Résumé, t. c. pp. 163-165. [Full paper promised, with figures, in Bureau of Animal Industry.]
 33. On the identity of *Tenia brandti*, Cholodkowsky, 1894, with *Tenia giardi*, Moniez, 1879, and *Tenia ovilla*, Ricolta, 1878. Centrbl. Bakter. xvii, pp. 254-256. [Answered by CHOLODKOWSKY on p. 258.]
 34. On the presence of adult Cestodes in hogs. T. c. pp. 356 & 357.
224. *STILES, C. W., & HASSALL, A. A preliminary catalogue of the parasites contained in the collections of the United States Bureau of Animal Industry, U. S. Army Medical Museum, Biol. Dept. of the University of Pennsylvania, and in Coll. Stiles and Coll. Hassall. Veterin. Mag. Philadelphia, 1894, pp. 245-253 & 331-354.
225. STRASSEN, O. ZUR. Ueber das rohrenförmige Organ von *Oncholaimus*. Zeitschr. wiss. Zool. lviii, pp. 460-474, pl. xxix.
226. STRICKLAND, W. The Rotifer in Melbourne. Victorian Natural. xi, pp. 100-104 & 111-117, 17 figg.
1894. [VOL. XXXI.]

227. *STRÜSE, —. Ueber eine Anchylostomularve (*Anchylostomum* s. *Dochmius bovis*, n. sp.) im Dünndarm des Rindes. Zeitschr. f. Tiermed. u. vergl. Path. xxi, pp. 110-114, 1 pl.
228. SUMNER, J. C. Description of a new species of Nemertine. Ann. Nat. Hist. xiv, p. 114.
229. VAŇHA, J. J. Onových hlístech repních, jejich škůdnosti a rozšíření. [On new Root Nematodes, their harmfulness and distribution.] SB. Bohmisch. Ges. 1892, pp. 311-323, pl. vii.
230. VANSTONE, J. H., & BEAUMONT, W. I. Report upon the Nemertines found in the neighbourhood of Port Erin, Isle of Man. P. Liverp. Biol. Soc. viii, pp. 135-139.
231. VAULLEGARD, A. Note sur la présence du *Bucephalus haimeanus* (Lacaze Duthiers), dans le *Tapes decussatus* et dans le *Tapes pullastra*. Bull. Soc. Normand. (4) viii, pp. 8-14.
- VAVRA, V. [See FRITSCH & VAVRA (82).]
232. VEJDOWSKY, F. (1) Organogenie der Gordiiden (Zugleich ein Beitrag zur Kenntnis der Metamorphose und Biologie der Zelle). Zeitschr. wiss. Zool. lvii, pp. 642-703, pls. xxvii-xxx, 3 figg. in text. Also in SB. Bohmisch. Ges. 1893, xv, 39 pp.; and Abstract, by the author, in Zool. Centrbl. i, pp. 223-226.
233. —. (2) Description du *Dero tonkinensis*, n. sp. Mem. Soc. zool. France, vii, pp. 244 & 245, 1 fig. in text.
234. —. (3) Können die *Enchytraiden* eine Rübenkrankheit verursachen? Zeitschr. Zucherind. Böhmen, xvi, & Zeitschr. Naturw. lxvii, pp. 276 & 277.
- VIALLETON, —. [See LORTET & VIALLETON (148).]
235. VOIGT, W. Die ungeschlechtliche Fortpflanzung der Turbellarien. Biol. Centrbl. xiv, pp. 745-751 & 771-777.
236. —. *Planaria gonocephala* als Eindringling in das Verbreitungsgebiet von *Planaria alpina* und *Polycelis cornuta*. Zool. Jahrb. Syst. viii, pp. 131-176, pls. v-vii, & maps.
237. VUILLEMIN, P., & LEGRAIN, E. Symbiose de *Heterodera radicola* avec les plantes cultivées au Sahara. C.R. Ac. Sci. cxviii, pp. 549-551.
238. WARD, H. B. Ueber das Vorkommen von *Distoma westermanni* in den Vereinigten Staaten. Centrbl. Bakter. xv, pp. 362-364.
239. —. On the parasites of the Lake fish. I. Notes on the structure and life-history of *Distoma opacum*, n. sp. P. Amer. Micr. Soc. xv, pp. 173-182, 1 pl.
240. WATSON, A. T. On the habits of the *Amphictenidae*. Ann. Nat. Hist. xiv, pp. 43 & 44, 1 fig.

241. WESTERN, G. Some foreign Rotifers. *J. Quekett Club*, v, pp. 420-426.
Several species shown to be British.
242. ——. *Distyla spinifera*. *T. c.* pp. 427 & 428, pl. xxi.
243. WHEELER, W. M. *Synccelidium pellucidum*, a new Marine Triclad. *J. Morphol.* ix, pp. 167-194, pl. viii.
244. ——. *Planocera inquilina*, a Polyclad inhabiting the branchial chamber of *Sycotopus canaliculatus*, Gill. *T. c.* pp. 195-201, 2 figg.
245. ——. Protandric Hermaphroditism in *Myzostoma*. *Zool. Anz.* xvii, pp. 177-182.
Criticism by BEARD (10).
246. WHITMAN, C. O. Breeding habits of the three Triclads of *Limulus*. *Amer. Natural.* xxviii, pp. 544 & 545.
Bdelloura propinqua and *candida*, and *Synccelidium pellucidum*.
247. WIERZEJSKI, A. *Rotatoria* (Wrotki) Galicyi. *Rozpr. Ak. Krakow* (2) vi (1893), pp. 160-265, pls. iv-vi.
161 species, 4 new, but previously mentioned in a résumé [*Zool. Rec.* 1892, *Vermes*, pp. 29, 82, 86 & 87].
248. WILLIAMSON, H. C. On a bifid Earthworm (*Lumbricus terrestris*). *Ann. Nat. Hist.* xiii, pp. 217-224, pl. x.
249. WINOGRADOFF, K. Ueber ein neues *Distomum* aus der menschlichen Leber; ein zweiter Fall von *D. sibiricum*; über Würmer welche im menschlichen Körper parasitieren; (nach den Ergebnissen der Sektionen bei der Universität Tomsk.) *Nachr. Univ. Tomsk.* iv, 1891 (2), 13 pp. Abstract (critical) in German, by M. BRAUN, in *Zool. Centrbl.* i, pp. 314-317.
250. WOODWORTH, W. McM. Report on the *Turbellaria*. *Bull. Mus. Harvard*, xxv, pp. 49-52, 1 pl. Report ix, of the Reports on the dredging operations off the West coast of Central America: to the Galapagos, to the West coast of Mexico, and in the Gulf of California, in charge of Alex. Agassiz, carried on by the U. S. Fish Commission Steamer 'Albatross,' during 1891, Lieut.-Commander Q. L. Tanner, U.S.N., commanding.
251. ZACHARIAS, O. Faunistische Mittheilungen. 2^{te} Forschungsber. *Biol. Stat. Plön.* vi, pp. 57-90.
Leeches, pp. 66-69, 2 figg.; Rotifers, pp. 69, 83 & 84; Nemertines, pp. 85-87.
252. ——. Beobachtungen am Plankton des Gr. Plöner Sees. *Op. cit.* vii, pp. 91-137, and *Rev. biol. Nord France*, vi, pp. 185-194.
253. ZELINKA, C. Ueber die Organisation von *Echinoderes*. *Verh. deutsch. Zool. Ges.* iv, pp. 46-49.

II.—BIOLOGICAL.

1. GENERAL.

Review of Spengel's Monograph on *Balanoglossus*; MACBRIDE (153).

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Laurer's canal : discussion of its homology and function ; LOOSS (145), GOTO (94).

Tubular organ in different species of *Oncholaimus* and discussion of its probable function ; z. STRASSEN (225). Three peculiar cells outside the rectal sphincter of *Ascaris transfuga* ; SHIPLEY (214).

10. EXCRETORY SYSTEM.

Nephridia of *Euphrosyne* ; MCINTOSH (154). Longitudinal nephridial duct in *Owenia* ; GILSON (89). Provisional nephridia of *Polynoë* ; HÄCKER (101). Peculiar nephridia in *Millsonia* ; BEDDARD (12). Development of nephridia in Earthworms, plectonephric condition not to be regarded as primitive ; BOURNE (39). Nephridia of *Clepsine* ; OKA (181) : of other Leeches ; BOLSIUS (31, 32, 35), GRAF (95, 96), BÜRGER (50), the two latter confirming Bourne's observations as opposed to those of Bolsius.

Valvular apparatus in excretory vessels of Cestodes ; KÜHLER (131) : of Trematodes ; KAMPMANN (125). Excretory apparatus of *Distomum lanceolatum* ; KNOCH (129) : its development in cercaria of *D. echinatum* ; CHATIN (37). Excretory pore of Cestodes ; PINTNER (184).

Anatomy and histology of excretory organs of different species of *Ascaris* ; JÄGERSKIÖLD (116).

11. NERVOUS SYSTEM.

Of Earthworms, old and new observations ; FRIEDLÄNDER (79) : variability in arrangement of nerves ; PISAROVIK (185) : free nerve-endings in epidermis ; SMIRNOW (216), RETZIUS (192), LANGDON (135).

Giant-fibres in Cestodes ; PINTNER (184). Nervous system of *Distomum lanceolatum* ; KNOCH (129), SCHUBERG (210) : of other species of *Distomum* ; LOOSS (145).

Nematodes ; SHIPLEY (214). *Gordius* ; VEJDOWSKY (232).

12. SENSE ORGANS.

Organs of sight in eyeless animals (*Spirographis*) ; NAGEL (177). Eye of Leech ; MERRILL (161).

Organs of taste and smell ; in Earthworms ; NAGEL (176), LANGDON (135) : in Leeches, and in certain Polychæta ; NAGEL (176).

Integumental sense organs in *Lumbricidæ* ; HESSE (109) : in Trematodes ; SCHUBERG (210).

13. GENITAL SYSTEM.

Of *Lumbriculus variegatus* ; HESSE (108). Gonads of a *Moniligaster* like those of lower Oligochaets in position ; BOURNE (40). Ovogenesis in *Micronereis* ; RACOVITZA (188). Spermatogenesis in *Lumbricus* and

history of archoplasm ; CALKINS (52). Transition from coelomic sacs to spermathecae in *Heliodrillus* ; BEDDARD (11). Ovaries of *Myzostoma* ; WHEELER (245). Rudimentary gonads in *Polynoë* larva ; HÄCKER (101). Genital apparatus of Cestodes ; DIAMARE (69), LOVELAND (149). Abnormalities therein ; DIAMARE (69). Gonads of *Distomum* ; LOOSS (145) : of ectoparasitic Trematodes ; OKA (181) : of *Planocera inquilina* ; WHEELER (244) : of a new marine Triclad ; WHEELER (243). Development of genital apparatus in a Turbellarian ; RUSSO (201).

Structure of eggs of Nematodes ; MEYER (163). Development of spermatozoa in *Gordius* ; VEJDOWSKY (232).

14. REPRODUCTION.

Sexual differences in *Micronereis variegata* and modifications in the female after the laying of the eggs ; RACOVITA (188). Hermaphroditism of *Myzostoma* ; WHEELER (245), BEARD (10).

Asexual multiplication in *Turbellaria* ; VOIGT (235), KELLER (127), SABUSSOW (202).

15. DEVELOPMENT AND LIFE-HISTORY.

Development and anatomy of the *Tornaria* from the islands of Bahama and Bemini ; MORGAN (172).

Larval stages of *Polynoë* ; HÄCKER (101) : of *Chaetopterus* ; BÉRANECK (20) : of *Magelona*, and of a *Spio* ; MCINTOSH (154). Cell-lineage of *Amphitrite* and other Annelids, and comparison with that of *Nereis* ; MEAD (160). Notes on development of Earthworms ; BOURNE (39) : of Leeches ; BÜRGER (49).

Development of *Tenia anatina* ; SCHMIDT (209) : of *T. crassicollis* ; LOVELAND (149).

Life-history of 2 species of *Holostomum* and 2 of *Hemistomum* ; BRAUN (44) : of *Bilharzia hæmatobia* ; LOOSS (148).

Development of Nematodes ; JAMMES (119), LIST (142). Life-history of Nematodes ; DEUPSER (68), EBERT (72).

16. VARIATIONS IN SYMMETRY, NUMBER, POSITION, &C.

In position and mode of formation of the proboscis pore in a new species of *Bulanoglossus* ; HILL (112).

Bifid Earthworms ; ANDREWS (2), WILLIAMSON (248), SERVICE (212). Bifid *Podarke* ; ANDREWS (2). Forking of scolex in Cestodes ; BLANCHARD (28).

Variations in number of segments in Earthworms ; SMITH, W. W. (218). Variations in symmetry in a *Perichæta* ; ROSA (198) : a *Geodrilus* ; MICHAELSEN (164) ; in *Limnobdella* ; BLANCHARD (24). Spiral segmentation in Leeches ; BLANCHARD (26, 28).

Abnormal arrangement of eyes, and of nephridial and sexual pores, in Leeches; BLANCHARD (26): of genital organs of Cestodes; DIAMARE (69), KOWALEWSKY (132), BLANCHARD (28), STILES (223) No. 23: of hooks and suckers in Cestodes; KOWALEWSKY (132), BLANCHARD (28). Single ovary in an *Ascaris*; SCHEWIAKOFF (207).

Variations in colour of Earthworms; SMITH, F. (217): of Cestodes; BLANCHARD (28).

Asymmetrical variations in length of posterior spines of Rotifers; BARROIS & DADAY (8).

17. HABITS, &C.

Of *Amphictenidae*; WATSON (240). Influence of sessile life in the organisation of *Serpulidae* and *Hermellidae*; MEYER (163). Tubes of *Panthalis ørstedii*; HERDMAN (107): of *Melicerta ringens*; ANDREW (1).

Habits of Earthworms; KULAGHIN (133): their influence, direct and indirect, on the vegetation in beech forests; MÜLLER, P. E. (175): a blood-sucking Earthworm, ?; Nat. Sci. iv, p. 325.

Habits of British *Gephyrea*, *Polychata*, and *Turbellaria*; GARSTANG (86).

Breeding habits of *Triclad*s; WHITMAN (246).

Food of *Sagitta*; MASTERMAN (159).

18. THEIR PARASITES.

A Gregarine of the Earthworm; BOSANQUET (38).

A Nematode in *Aphrodite*, 2 species of *Distoma* in *Sagitta*; PARONA (182).

19. METHODS.

Lactic acid for preserving *Tornaria*; MORGAN (172). Ferrous sulphate for killing Nematodes; VANSTONE & BEAUMONT (230). Application of a modification of Golgi's method for showing free nerve-endings in Earthworms; SMIRNOW (216). Other methods for same purpose; RETZIUS (192). Application of Methylene blue method in Trematodes; SCHUBERG (210). Czokor's alum-cochineal for staining nervous system of Turbellarians; WHEELER (243).

20. CLASSIFICATION.

Of *Polychata*; BENHAM (19).

Of *Bothriocephalinae*; BLANCHARD (30). Of the *Ichthyotenuidae*; LÖNNBERG (144). Of monogenetic Trematodes; CERFONTAINE (55), KATHARINA (126).

Of Rotifer family *Anuraeidae*; DADAY (65). Relationship of *Pedalion* to Arthropods denied; CLAUS (60).

21. PHYSIOLOGY AND EXPERIMENTAL OBSERVATIONS.

Of central nervous system of Earthworms, showing that the ventral nerve-cord serves for the transmission of reflexes from segment to segment, Leydig's fibres for those reactions which concern the worm as a whole; FRIEDLÄNDER (80). Of cerebral ganglion of Planarians, Nemeritines, Leeches, and Chætopods; LOEB (143). Of sense organs (taste and smell) of Chætopods and Leeches; NAGEL (176). Effects of light and shade on eyeless Chætopods; NAGEL (177). Probable influence in secretory, as well as in sensory functions, of free nerve-endings in Earthworms; SMIRNOW (216).

Excretory function of mesenteron in certain Gephyrea, Chætopods, Nemeritines, and Nematodes; SCHIMKEWITSCH (208).

Calciferous gland of an Earthworm, probably functioning as a spleen, and change of function in the coelomic sacs; BEDDARD (11).

Influence of saline media in supporting life in *Tubifex*; RINGER & PHEAR (194).

Property of eggs of *Leptoplana* normally to digest or excrete microbes injected into the animal; FRANCOU (78). Experiments on parasitism, not confirmatory of Metschnikoff's views; MINGAZZINI (166).

Experiments with the eggs of *Bilharzia*, their inoculation into molluscs, guinea-pigs, rabbits, and monkeys; LORTET & VAILLETON (148).

Experimental Trichinosis in *Spermophilus 13-lineatus*; STILES (223) No. 27.

22. MEDICAL NOTES.

Parasites of food-animals in Russia; GURIN (100). Development of *Tænia mediocanellata* in host; PERRONCITO (183). Trichinosis; ASKANAZY (4). *Ligula* not used as a food in Italy, as Leuckart and others have maintained; MONTICELLI (169). Diseases caused by parasites; MOSLER & PEIPER (173).

23. DISTRIBUTION OF PARASITIC, COMMENSAL, AND SYMBIOTIC FORMS ACCORDING TO THEIR HOSTS.

a. General.

Animal parasites; MOSLER & PEIPER (173). Catalogue of parasites in collections of U. S. Bureau of Animal Industry; STILES & HASSALL (224). Animals infected by worms in Italy; PARONA (182).

b. *Man.*

Royal Commission for Nomenclature of Diseases ; Animal Parasites, pp. 1-3: (London, Eyre and Spottiswoode.)

Notes on human parasites ; BLANCHARD (30), WINOGRADOFF (249) : in Paris and Egypt ; SONSINO (220). Human Tapeworms in Japan ; IJIMA & KURIMOTO (115), BLANCHARD (30) : 2 species, rare in man, in Brazil ; LUTZ (152). 2 species of *Cysticercus* in man ; BRAUN (45). New liver flukes ; BRAUN (46), WINOGRADOFF (249) ; fluke new to U. S. ; STILES (223) No. 26. The large American fluke ; STILES (223) No. 25.

c. *Other Mammals.*

Russian food-animals ; GURIN (100). Cattle : larva of an *Anchylostomum* ; STRÖSE (227). Sheep ; *Strongylus filaria* ; AUGSTEIN (5), *S. circumcinctus* ; STADELMANN (221). Rabbits and Hares : a new species of *Distomum* ; STILES (223) No. 29 ; a precocious stage of *Tenia* ; STILES (223) No. 31 ; a Nematode ; MÜLLER (174). Rat : 2 Nematodes and a *Cysticercus* in Brazil ; MAGALHÃES (155) ; Nematode of liver BANCROFT (6). Camel : an *Echinococcus* ; STILES (223) No. 22. Pig : adult Cestodes ; STILES (223) No. 34 ; Nematodes ; MAGALHÃES (155). Dog : a *Iiiorhynchus* ; MÜLLER (174). Cat : of U. S. A., a new species of *Distomum* ; STILES (223) No. 21 : the Asiatic *D. westermanni* ; WARD (238).

d. *Birds and Reptiles.*

Distomum of Pelican in Egypt ; LOOSS (146) : of *Vidua paradisica* in Africa ; MÜLLER (174). Nematodes of hen ; KOWALEWSKY (132).

Cysticercoids of *Dipylidium* in *Zamenis*, *Seps*, and *Ascalobotes* ; DIAMARE (70). *Cysticercus* in *Coluber viridiflavus* ; MINGAZZINI (166). A new species of *Strongylurus* in lizard, W. Coast of Africa ; MÜLLER (174). A Nematode of Chameleon ; SONSINO (219). *Tetrabothrium* in Tortoise, Florida ; LÖNNBERG (144).

e. *Amphibians.*

Nematodes of Amphibians of S. Tunis ; SONSINO (219). 8 species of *Distomum* in Frog ; LOOSS (145).

f. *Fish.*

6 species of *Distomum* in fish ; LOOSS (145). 2 species of *Gyrodactylus* ; KATHARINA (126). *Echinorhynchus* of *Exocoetus* ; MÜLLER (174). A poly-

clad in branchial chamber of *Sycotopus*; WHEELER (244). A new Tristomid on gills of *Raia batis*, from Ostend; CERFONTAINE (55). Ectoparasitic Trematodes of Japanese fish; GOTO (94). On eggs of *Arion*: a new genus of monogenetic Trematode; BRANDES (42).

g. Molluscs.

In *Tapes decussata* and *pallustra*: REDIAS and Cercaria; JOBERT (123); BUCEPHALUS; VAULLEGARD (231). In *Anodon*: an advanced Cercaria; LAMPERT (134).

h. Insects.

Nematode of pharyngeal gland of ants; JANET (120). *Feronia vulgaris* as intermediate host of *Gordius preslii*; VEJDOWSKY (232).

i. Crustacea and Arachnida.

New Cysticercus in *Cyclops agilis*; ROSSETER (199). *Nereilepus* not only commensal, but parasitic, in *Pagurus*; COUPIN (63). Triclad of *Limulus*; WHEELER (143).

j. Vermes.

Aphrodite: a Nematode, *Sagitta*. 2 species of *Distoma*; PARONA (182).

k. Cœlenterata.

Commensalism of Gephyreans on Madreporarian Corals; BOUVIER (41).

l. Porifera.

Two freshwater Oligochæts and two Rotifers on sponge; GARBINI (85).

m. Plants.

Coffee Plant: Nematodes and disease caused by them in Brazil; GÖLDI (92). Culinary roots and tubers: new Nematodes, their harmfulness and distribution; VAÑIIA (229); Enchytræids as cause of a disease therein; VEJDOWSKY (234).

Symbiosis of *Heterodera radicola* with cultivated plants in the Sahara; VUILLEMIN & LEGRAIN (237).

III.—FAUNISTIC.

1. MARINE FORMS.

a. *Arctic Ocean.*

[Nothing.]

b. *Atlantic Ocean.*

East Side.

North Sea.—Trondhjem Fjord: Gephyreans (4 species); NORMAN (178). Hardanger Fjord: Polychæts (33 species); BIDENKAP (22). Firth of Forth: *Cerebratulus angulatus*; SCOTT (211). Heligoland: Rotifers; LAUTERBORN (137).

Baltic.—2 varieties of genus *Anuræa*; JÄGERSKIÖLD (117). Finland: (under ice), 3 Rotifers, a Rhabdocœl, and a Nematode; LEVANDER (140). Borga: Rotifers; NYHOLM (180).

Straits of Dover and Channel.—3 Turbellarians (including *Fecampia*), 5 Polychæts; GIARD (88). A new species of *Phreocyctes*; GIARD (87). A new Rhabdocœl; HALLEZ (103). *Acrorhynchus bivittatus*, hitherto only known from Bay of Sebastopol; HALLEZ (105). Dinard: Polychæts; SAINT-JOSEPH (203). Plymouth: *Turbellaria*, *Polychata*, *Gephyrea*; GARSTANG (86). Fowey: a new Nemertine, habits and seasons; SUMNER (228).

Coasts of France.—Nemertines, 95 species; JOUBIN (124).

Irish Sea.—Polychæts; HERDMAN (107). Isle of Man.—Nemertines, 15 species; VANSTONE & BEAUMONT (230).

Mediterranean.—Leeches of shores of Italy; BLANCHARD (26).

W. coast of Africa.—Gephyreans; FISCHER (75). Near Madeira and Canaries and coast of Senegal: Polychæts; MALAQUIN (157).

West Side.

New Jersey coast.—3 new species Polychæts; MOORE (170). Vineyard Sound: new species of *Planocera* in branchial cavity of *Sycotopus*; WHEELER (144).

Bahamas.—Bahamas Is. and Bemini Is.: each a new *Tornaria*; MORGAN (172).

c. *Indian Ocean.*

S. Africa: Angulhas Bank, a *Phascolion*; FISCHER (75).

d. *Pacific Ocean.*

West Side.

New South Wales coast.—New species of *Enteropneusta*; HILL (112).
 Samoa.—A new species of *Phascolosoma*; FISCHER (75).

e. *Pacific Ocean.*

East Side.

Coast of California.—New larva of one of *Enteropneusta*; RITTER (195). Gulf of California: a new Pelagic Polyclad; WOODWORTH (250).

West coast of Central America.—*Planocera pellucida*, so far known only in Indian Ocean and N. and S. Atlantic, and therefore now shown to have the widest distribution known of any Pelagic Planarian; WOODWORTH (250).

West coast of Panama: new species? of Polyclad; WOODWORTH (250).

Coast of Ecuador: a new variety of *Sipunculus* with branchiæ; FISCHER (74, 75).

2. LAND AND FRESHWATER FORMS.

a. *Palaearctic Region.*

British Isles.—Rotifers new to Britain; WESTERN (241). British *Callidinidæ*; BRYCE (48). *Rhynchodemus terrestris*; GAMBLE (84). South England: Putney Heath, a *Distyla*; WESTERN (242); Staines and Hertford Heaths, *Cyrtonia tuba*; ROUSSELET (200); Minster Marshes, Thanet, Rotifers; PITTOCK, Sci. Gossip, p. 173; Sussex, *Callidinidæ*; BRYCE (48). Scotland.—Perthshire: *Floscularia cucullata*, n. sp.; HOOD (113). Ireland.—Land Planarians; SCHARFF (210, 211); *Allolobophora georgii*, Mich. (only found before in Spain); FRIEND (81), and Irish Natural. iii, p. 39.

Middle Europe.—North Germany: Heligoland, freshwater Rotifers; LAUTERBORN (138); freshwater Lake of Plön, distribution of Rotifers; ZACHARIAS (251, 252). France: Worms in general; SAINT-LOUP (204); Nemertines; JOUBIN (124). Jura Lakes: Rotifers, Turbellarians, Gordius, Oligochæts, Leeches; ZSCHOKKE, Die Tierwelt der Juraseen, Rev. Suisse Zool. pp. 349-376: Lake of Geneva, littoral region (Anière), 2 Turbellarians and a *Rhynchoscolex*, all blind; DU PLESSIS, Arch. Sci. Nat. xxxii, p. 327. Great Moosseedorfsee: 8 species lacustrine Rotifers, Leeches, Turbellarians, and Oligochæts; STECK (222). Lake of Zurich: Turbel-

larians; KELLER (127). Neighbourhood of Basle: 33 Rhabdocœl and 5 Dendrocœl Turbellarians, 4 new species *Mesostomum*, several new forms of *Vortex*, and *Emea lacustris*; FUHRMANN, Rev. Suisse Zool. ii. Upper Rhine: winter and summer Rotifers; LAUTERBORN (136). Rhine country: Siebengebirge, Feldberg im Taunus, Bacharach, distribution of Planarians; VOIGT (235). Württemberg: Rotifers; BILFINGER (23). Bohemia: Unterpocernitzer Teich at Běchovic, 5 Turbellarians, 1 Nematode, 6 Oligochæts, 4 Leeches, 19 Rotifers; Gatterchlagler Teich at Neuhaus, 9 Turbellarians, 1 Nematode, 6 Oligochæts, 3 Leeches, 15 Rotifers, 1 Chætonotus; FRITSCH & VAVRA (82); Laerberg mud-pools, *Pedalion mira*; CLAUS (60). Carniola: a new species of Earthworm; ROSA (197). Lake Balaton: 36 species of Nematodes (16 new), and 29 species of Rotifers; DADAY (64); Rotifers; FRANCÉ, Biol. Centralbl. xiv, p. 34. Budapest, Rotifers; KERTÉSZ (128), FRANCÉ (77). Galicia: Rotifers, 161 species; WIERZEJSKI (247); Oligochæts; NUSBAUM (179).

Eastern Europe.—Russia: Earthworms, 3 new species; KULAGHIN (133): Kharkow, 33 species of Rotifers; SKORIKOW (215): Kasan, *Microstomida*; SABUSSOW (202): neighbourhood of Moscow (river and pools), 6 Oligochæts, 6 Leeches, 5 Turbellarians, 3 Nematodes, and 9 Rotifers; POSSINSKII (187). Finland (under ice): 9 Rotifers and 1 Rhabdocœl; LEVANDER (140): Borga, Rotifers; NYHOLM (180).

S. Europe and Countries round Mediterranean.—Portugal: a new species of Earthworm; ROSA (197). Italy: freshwater Leeches; BLANCHARD (26): distribution of parasites; PARONA (182). Egypt: new species of *Perichæta*; ROSA (198). Syrian Lakes: Rotifers, Leeches (30 species, 8 new, and 1 new genus), Planarians (3 species, 1 probably new), 1 Nematode, and 1 freshwater Oligochæt; BARROIS (7), and BARROIS & DADAY (9).

Eastern Asia.—Japan: ectoparasitic Trematodes; GOTO (94).

b. *Oriental Region.*

Tonkin.—7 Rotifers; RICHARD (193): new species of *Dero*; RICHARD (193), VEJDOWSKY (233): new species of *Bipalium*; GRAFF (98).

Burma, &c.—4 species Leeches; BLANCHARD (25).

India.—Naduvatum (Nilghiris), 6000 feet, 1 new species; Nilambur, near sea-level, another new species of *Moniligaster*; Ootacamund, 4 species (3 new); BOURNE (40).

Ceylon.—2 new species of *Megascolex*; ROSA (198): a new species of *Limnabdella*; BLANCHARD (24).

Java.—4 Earthworms; MICHAELSEN (165).

Sumatra.—2 species of *Gordius*; CAMERANO (53): 2 new species of *Bipalium*; GRAFF (99): a new species of *Limnabdella*; BLANCHARD (24).

- Timor.—A new species of *Limnobdella*; BLANCHARD (24).
 Celebes.—A new genus and species of Leech; BLANCHARD (24).
 W. Borneo.—A new Earthworm; HORST (114).
 Philippines.—Leeches, 1 new genus and species; BLANCHARD (24):
 1 new species of *Megascolex*; ROSA (198).

c. Australian Region.

- New South Wales.—Blue Mountains, Blackheath and Wentworth Falls:
 Land Planarians; DENDY (67).
 Tasmania and S. Australia.—Land Planarians; DENDY (66).
 Melbourne: Rotifers; STRICKLAND (226).
 New Zealand.—2 new species of Earthworms; BEDDARD (15): habits
 of Earthworms; SMITH, W. W. (218).

d. Ethiopian Region.

- Eastern Tropical Africa.—Distribution of 13 species (8 new) of
Eudrilide in Zanzibar and Mombasa; BEDDARD (11).
 Western Tropical Africa.—New species of *Milsonia* and of *Nannodrilus*
 from Lagos; BEDDARD (12). Gold Coast, Axim: *Benhumia cæcifera*,
 n. sp.; BENHAM (16).

e. Neotropical Region.

- South America.—5 species and 1 new genus of *Tubificidæ*; BEDDARD
 (13). French Guiana: Cayenne, a new terrestrial *Triclad*; HALLEZ
 (106). Argentine Republic and Paraguay: 5 species of *Gordius*;
 CAMERANO (53); 6 species of *Geoplana* and 2 of *Rhynchodemus*; GRAFF
 (97). Brazil: *Chordodes*, *Bipalium*, *Schizocardium*, *Temnocephala*,
 and *Hæmentaria*; GÖLDI (93); Manaus: new species *Perichæta*;
 ROSA (198).
 West Indies.—Jamaica: new species of Earthworm; BEDDARD (15).

f. Nearctic Region.

- United States.—Florida and Georgia: Earthworms, 7 species described,
 all distinctly N. American, and not West Indian, forms; MICHAELSEN
 (164). Illinois: 2 new Oligochæts; SMITH, F. (217). Michigan: Roti-
 fers of large lakes and of some inland lakes, 110 species in Lake St.
 Claire, 19 pelagic, of which 12 not known to be so in Europe, 122 alto-
 gether, with 6 new; JENNINGS (121). Lake St. Clair: worms, chiefly
 parasitic; REIGHARD (191).

IV.—SYSTEMATIC.

1.—HEMICHORDATA.

Review of Spengel's Monograph of the *Enteropneusta*; MACBRIDE (153).
Ptychodera australiensis, n. sp., coast of N. S. Wales, HILL, P. Linn. Soc.
 N. S. Wales, ix, p. 736.

New larva of *Balanoglossus* from coast of California, with tentacles on the longitudinal ciliated bands, and with an endostyle; RITTER, Zool. Anz. xvii, pp. 24–30.

A new *Tornaria* from the island of Bemini defined and figured; MORGAN, J. Morphol. ix, p. 25.

2.—ANNELIDA.

A.—GEPHYREA.

a. PHORONIS.

[Nothing.]

b. UNARMED GEPHYREANS.

Aspidosiphon heteropsammarium and *A. michelini*, n. spp., commensal on Madreporarian polypes from Aden; BOUVIER, C.R. Ac. Sci. cxix, p. 98. Description of 2 other known species; FISCHER (75).

Cleosiphon: description of 1 species; FISCHER (75).

Dendrostoma, description of 2 species; FISCHER (75).

Phascolion abnorme, n. sp., Cape Agulhas Bank, and *P. hupferi*, n. sp., W. Africa, FISCHER, Abh. Ver. Hamburg, xiii, pp. 15 & 16.

Phascolosoma lagense, n. sp., Lagos, and *P. lobostomum*, n. sp., Samoa, FISCHER, t. c. pp. 13 & 14.

Phymosoma: description of 5 species; FISCHER, l. c.

Sipunculus, description of *S. mundanus* (Sel. & Bul.) var., *branchiatus*, n. var., Ecuador, and of *S. titubans* (Sel. & Bul.) var., *diptychus*, n. var., W. Africa, and of 5 other species; FISCHER, t. c. p. 7.

c. ARMED GEPHYREANS.

Thalassema pellucidum, n. sp., W. Africa (Whydah), and *T. hupferi*, n. sp., W. Africa (River Nyango), and 4 other species; FISCHER, Abh. Ver. Hamburg, xiii, pp. 19 & 20.

B.—CHÆTOPODA.

a. POLYCHÆTA.

- Acholoë astericola*, D. Ch., from coast of Senegal, remarks on setæ, &c. ;
MALAQUIN, Rev. biol. Nord France, vi, pp. 412-414.
- Armandia dollfusi*, n. sp., Dinard ; SAINT-JOSEPH, Ann. Sci. nat. xvii,
p. 114.
- Circeis*, n. g. of *Serpulidæ*, with *C. armoricana*, n. sp., Dinard ; SAINT-
JOSEPH, t. c. p. 350.
- Clymenella elongata*, n. sp., New Jersey ; MOORE, Contr. zool. Lab.
Pennsylv. i.
- Eracia brevicornis*, n. sp., New Jersey ; MOORE, t. c.
- Eulalia lobulata*, n. sp., New Jersey ; MOORE, t. c.
- Fullacia pantherina*, Risso, distinguished from *F. (Hesione) sicula*, Clp. ;
(*F. intertexta*, Gr.), = *F. pantherina*, Risso ; MALAQUIN, Rev. biol.
Nord France, vi, p. 417.
- Heterocirrus caput esocis, flavo-viridis, and marioni*, n. spp., Dinard ;
SAINT-JOSEPH, Ann. Sci. nat. xvii, pp. 53-56.
- Jasmineira elegans*, n. sp., Dinard ; SAINT-JOSEPH, t. c. p. 316.
- Leiochone clypeata*, n. sp., Dinard ; SAINT-JOSEPH, t. c. p. 139.
- Lipobranchus intermedius*, n. sp., Dinard ; SAINT-JOSEPH, t. c. p. 113.
- Maldane (?) cincta*, n. sp., Dinard ; SAINT-JOSEPH, t. c. p. 142.
- Mera*, n. g. of *Serpulidæ*, with *M. pusilla*, n. sp., Dinard ; SAINT-JOSEPH,
t. c. p. 351.
- Myxicola dinardensis*, n. sp., Dinard ; SAINT-JOSEPH, t. c. p. 324.
- Nerine floræensis*, n. sp., Dinard ; SAINT-JOSEPH, t. c. p. 77.
- Owenia fusiformis*, D. Ch., nephridial duct and spinning glands ; GILSON
(89, 90).
- Phyllodoce* sp. ?, with a girdle of cilia to each segment, Plymouth ;
GARSTANG, J. Mar. Biol. Ass. p. 218.
- Polycirrus denticulatus*, n. sp., Dinard ; SAINT-JOSEPH, Ann. Sci. nat. xvii,
p. 242.
- Polydora pusilla*, n. sp., Dinard ; SAINT-JOSEPH, t. c. p. 65.
- Pygospio minutus*, n. sp., Wimereux, in deep water ; GIARD, C.R. Soc. Biol.
vi, p. 246.
- Thelepus antarcticus*, McInt., probably to be referred to *T. cincinnatus* ;
MALAQUIN, Rev. biol. Nord France, vi, p. 418.

b. OLIGOCHÆTA.

- Allolobophora lönnbergi*, n. sp., Georgia, *A. beddardi*, n. sp., Florida ;
MICHAELSEN, Zool. Jahrb. Syst. viii, pp. 179-182. *A. ganglbaueri*,
in Julian Alps, Carniola, 4000 feet above sea level, and *A. oliveiræ*,
Guarda, Portugal, n. spp. (the latter ? = a species of *Dendrobæna*) ;
ROSA, Boll. Mus. Torino, ix, No. 170.

- Alluroides*, n. g. of *Eudrilidae*, with *A. pordagei*, n. sp., E. coast of Africa ;
BEDDARD, Quart. J. Micr. Sci. xxxvi, pp. 244-252.
- Benhamia cæcifera*, n. sp., Axim, W. Africa, with peculiar digitiform
coecæ from intestine, and with peculiar copulatory pits and ventral
field ; BENHAM, Quart. J. Micr. Sci. xxxvii, p. 103.
- Bothrioneuron* (?) *americanum*, n. sp., Buenos Ayres ; BEDDARD, Ann. Nat.
Hist. xiii, p. 206.
- Cryptodrilus spatulifer*, Mich., description ; BEDDARD, P. Phys. Soc.
Edinb. xii, p. 31. (*C. insularis*), Rosa, referred to genus *Pontodrilus* ;
BEDDARD, t. c. p. 40.
- Deltania* : genus shown to include all those species of *Microscolex* with
a deltoid arrangement of ventral chætæ round the gonopores ; EISEN,
Mem. Calif. Ac. ii.
- Dendrobena caucasica*, *bogdanowii*, and *nassonovii*, n. spp., Russia ;
KULAGHIN, Izv. Obsch. Moskov. Iviii (2) pp. 13 & 14. See also
under *Allolobophora*.
- Dero tonkinensis*, n. sp., Tonkin ; VEJDOWSKY, Mem. Soc. zool. France, vii,
p. 244.
- Diplocardia riparia*, n. sp., Illinois ; SMITH, Bull. Illinois Lab. iv,
p. 138.
- Eudrilidae* : division of family provisionally into the two subfamilies
Eudrilinae (with calciferous glands, integumental sense-organs,
and funnels of sperm-duct dilated proximally), and *Pareudrilinae*
(calciferous gland absent or much modified, integumental sense-
organs rare, no dilation of sperm-duct) ; BEDDARD, Quart. J.
Micr. Sci. xxxvi, p. 267. See also under *Alluroides* and
Deltania.
- Eudriloides cotterilli*, p. 204, *brunneus*, p. 212, n. spp., E. coast of Africa ;
BEDDARD, Quart. J. Micr. Sci. xxxvi.
- Fridericia antarctica*, n. sp., Ashburton, N. Z. ; BEDDARD, P. Phys. Soc.
Edinb. xii, p. 41.
- Geodrilus eiseni*, n. sp., Florida and Georgia ; MICHAELSEN, Zool. Jahrb.
Syst. viii, pp. 184-191.
- Gordiodrilus zanzibaricus*, n. sp., Zanzibar ; BEDDARD, Quart. J. Micr. Sci.
xxxvi, p. 252.
- Hesperodrilus*, n. g. of *Tubificidae*, for *H. branchiatus*, *niger*, *albus*, and
pellucidus, n. spp., from Valdivia, Port Stanley, and Uschuaia,
S. America ; BEDDARD, Ann. Nat. Hist. xiii, pp. 206-210.
- Lumbriculus variegatus*, Gr., gonads ; HESSE (108).
- Mahbenus*, n. g. of *Perichatidae*, with *M. imperatrix*, n. sp. ; BOURNE,
Quart. J. Micr. Sci. xxxvi, p. 12.
- Megascolex pharetratus* and *lorenzi*, n. spp., Ceylon, and *M. mazarredi*,
Phillipines ; ROSA, Atti Acc. Torino, xxix, pp. 762-766.
- Microscolex novæ-zelandiæ*, n. sp., New Zealand ; BEDDARD, P. Phys. Soc.
Edinb. xii, p. 33.
- Millsonia*, n. g. of *Cryptodrilidae*, with *M. rubens* and *M. nigra*, n. spp.,
W. Africa ; BEDDARD, P. Zool. Soc. London, 1894, pp. 382-385.

- Moniligaster* : systematic account of genus, pp. 352-363, with detailed description of *M. grandis*, pp. 307-352, and definition of and remarks on *M. naduatomensis*, n. sp., p. 361, *M. nilamburensis*, n. sp., p. 362, *M. pellucida*, n. sp., p. 363, *M. chlorina*, n. sp., p. 364, *M. ophidoides*, n. sp., p. 366, *M. parva*, n. sp., p. 371, and 10 other species all from the Nilghiris; BOURNE, Quart. J. Micr. Sci. xxxvi. *M. cæruleus*, n. sp., Borneo; HORST, Notes Leyden Mus. xvi, p. 137.
- Nannodrilus*, n. g. of *Cryptodrilidæ*, with *N. africanus*, n. sp., common in West Africa; BEDDARD, P. Zool. Soc. London, 1894, p. 388.
- Pareudrilus*, n. g., with *P. stagnalis*, n. sp., E. coast of Africa; BEDDARD, Quart. J. Micr. Sci. xxxvi, pp. 221-230.
- Perichata amazonica*, n. sp., Manaos, and *P. guarini*, n. sp., Egypt, and relation between *P. musica*, Horst, and *P. longa*, Mich.; ROSA, Atti Acc. Torino, xxix, p. 762. *P. martensi*, Mich., var. *javana*, n. var., Buitenzorg; MICHAELSEN, Denk. Ges. Jena. viii, p. 99. Specimens of *P. indica*, Horst, from Florida, Georgia, and New York, with degeneration of prostate gland, and suggestion that *P. nipponica*, Beddard, from Japan, is the same species; MICHAELSEN, Zool. Jahrb. Syst. viii, pp. 191-194.
- "*Perichata*" *pellucida*, n. sp., probably the type of a new genus; BOURNE, Quart. J. Micr. Sci. xxxvi, p. 13.
- Phreoryctes endeka*, n. sp., near Boulogne, with no chætæ after the 11th segment; key to the genus: GIARD, C.R. Ac. Sci. cxviii, pp. 811-814.
- Polytorentus violaceus*, p. 230, *fini*, p. 241, *kilindinensis*, p. 236, n. spp., E. coast of Africa; BEDDARD, Quart. J. Micr. Sci. xxxvi.
- Pontodrilus hesperidum*, n. sp., Jamaica; BEDDARD, P. Phys. Soc. Edinb. xii, p. 37. Two species from Florida (sea-shore); MICHAELSEN, Zool. Jahrb. Syst. viii, p. 183.
- (*Rhododrilus*), Bed., = *Microscolex*; BEDDARD, P. Phys. Soc. Edinb. xii, p. 36.
- Sparganophilus eiseni*, n. sp., Illinois River and Lakes; SMITH, Bull. Illinois Lab. iv, p. 142.

c. MYZOSTOMIDÆ.

Myzostoma : Hermaphroditism; WHEELER (245), BEARD (10).

C.—ARCHIANNELIDA.

- Astacobdella branchialis*, anatomy; BOLSIVS (33).
- Bdellodrilus manus*, n. sp. (referred to only); MOORE, P. Ac. Philad. p. 454.
- Branchiobdella parasita*, anatomy; BOLSIVS (34).

Pterodrilus, n. g. of *Discodrilidae*, with paired dorsal appendages on certain segments; *P. alcornus* and *P. distichus*, n. spp., from 2 species of *Cambarus* from Johns River (Watanga Count.) and Western New York respectively; MOORE, P. Ac. Philad. 1894, pp. 450 & 453.

D.—HIRUDINEA.

Branchellion (*orbiniensis*, Qfg.) and (*rhombi*, v. Ban.) both = *B. torpedinis*, Sav., the 3 known European species thus being one and the same; BLANCHARD, Bull. Soc. zool. France, xix, p. 85.

(*Callobdella*) = *Trachelobdella*; BLANCHARD (27), p. 69.

Clepsine: comparative anatomy of the 7 species round Leipzig; OKA (181).

Hæmadipsidae, new family for *Hæmadipsa*, *Mesobdella*, *Phytobdella*, n. g., and *Planobdella*, n. g.; BLANCHARD, Abh. Mus. Dresden, 1892-93, No. 4, p. 4.

Hæmadipsa (*japonica*), Whitman, = *H. zeylanica*, Moq. Tand.; BLANCHARD, t. c. p. 5.

Hæmopsis birmanica, n. sp., Burmah; BLANCHARD, Ann. Mus. Genova (2) xiv, p. 113.

Linnobdella grandis, n. sp., Timor, Sumatra, and Ceylon; BLANCHARD, Abh. Mus. Dresden, 1892-93, No. 4, p. 7.

Mesobdella gemmata, anatomy; BLANCHARD, t. c.

Phytobdella, n. g., with *P. meyeri*, n. sp., Luzon; BLANCHARD, t. c. p. 6.

Planobdella, n. g., with *P. modesta*, n. sp., Mt. Klabat, N. of Celebes; BLANCHARD, t. c. p. 6.

3.—PLATYHELMINTHES.

A.—CESTODA.

Adult Forms.

Amphitretus, n. g., for *Bothriocephalus wageneri*, Mont., and *B. lonchinobothrium*, Mont., of fish; BLANCHARD, C.R. Soc. Biol. vi, p. 699

Bothriocephalus genus divided into 5 n. genera, viz:—*Bothriotania*, Raill., *Bothriocephalus*, Bremser, *Ptychobothrium*, Lönnb., *Krabbea*, n. g., Blanch., and *Amphitretus*, n. g., Blanch.; BLANCHARD, t. c. *Bothriocephalus* sp.?, with double genital ducts and openings in each proglottid, in a Japanese; IJIMA & KURIMOTO, J. Coll. Japan, vi, p. 371; see *Krabbea grandis*, n. g., n. sp., *infra*.

- Bothrioplana*, n. sp. ?, Lake of Geneva, DU PLESSIS, Arch. Sci. Nat. xxxii, p. 328.
- Dipylidium*: the 4 species of the genus; DIAMARE (69): Cysticeroids; DIAMARE (70).
- Ichthyotania*: Cestodes of freshwater-fish which have been ascribed to this genus shown to be only species of *Tetrabothrium* with the scolex not fully developed; LÖNNBERG, Centrbl. Bakter. xv, p. 803.
- Krabbea*, n. g., for *K. (Bothriocephalus) variabilis*, Krabbe, and *K. grandis*, n. sp., Blanch., for "*Bothriocephalus* sp.," Ij. & Kur., *suprà*; BLANCHARD, C.R. Soc. Biol. vi, p. 702.
- Synbothrium*: development of scolex; HILL, J. Linn. Soc. N. S. Wales, ix, p. 75.
- Temnocephala chilensis*, Blanch., anatomy and histology; PLATE (186).
- Tetrabothrium trionychinum*, n. sp., intestine of *Trionyx ferox*, from Florida; LÖNNBERG, Centrbl. Bakter. xv, p. 801.
- Tetrarhynchus smaridum*, Pintner, detailed anatomy, and comparison with other species; PINTNER (184).
- Tenia krabbea*, n. sp., for a *Tenia* described by Krabbe from the goose; KOWALEWSKY, Bull. Ac. Cracovie, p. 278. *T. brandti*, n. sp., from intestine of cattle, sheep, and pigs; CHOŁODKOWSKY, Centrbl. Bakter. xv, p. 552, = *Thysanosoma giardi*, Moniez, of Stiles; BLANCHARD, C.R. Soc. Biol. vi, pp. 418 & 419; agreed to by CHOŁODKOWSKY *op. cit.* xvi, p. 953, though maintaining that it is a new species; see STILES (223) No. 33, and CHOŁODKOWSKY, *op. cit.* xvii, p. 258.
- T. anatina*, detailed account of anatomy and development; SCHMIDT, Arch. Naturg. ix, pp. 65-112.

Young Forms.

- Cysticercus Tenia ocellate*, n. sp., from intestine of perch, *C. phoxini*, n. sp., from intestine of *Leuciscus phoxinus*, and *C. fallax*, n. sp., from muscles of ventricle of *Lota vulgaris*; OLSSON, Svenska Ak. Handl. xxv, pp. 26-31. *C. quadricurvatus*, n. sp., from body-cavity of *Cyclops agilis*; ROSSETER, J. Quekett Club, v, p. 338. *C. rostratus*, n. sp., mesentery of *Coluber viridiflavus*; MINGAZZINI, Rend. Lab. Anat. Roma, iii, p. 205. *C. fasciolaris*, Rud., from rat, Brazil; MAGALHÃES (155).
- Monocercus didymogasteris*, n. sp., encysted in the earthworm *Didymogaster*; HILL, J. Linn. Soc. N. S. Wales, ix, p. 70.
- Piestocystis hoplocephali*, n. sp., encysted in copper-headed snake, p. 49, *P. lialis*, n. sp. (proliferating), from the lizard *Lialis*, p. 61; the genus shown to be intermediate between Cysticeri proper and Cysticeroids; HILL, J. Linn. Soc. N. S. Wales, ix.

B.—TREMATODA.

Adult Forms.

- Azine heterocera*, *aberrans*, and *triangularis*, n. spp., gills of fishes, Japan; GORO, J. Coll. Japan, viii, pp. 196-200.
- Calicotyle mitsukurii*, n. sp., cloaca of *Rhina*, Japan; GOTO, t. c. p. 227.
- Diclidophora elongata*, *sessilis*, *tetrodonis*, n. spp., from mouth-cavity or gills of fish, Japan, and *D. smaris*, Ij., Gulf of Naples; GOTO, t. c. pp. 207-215.
- (*Diplostomum volvens*, v. Nordm.) = *Hemistomum spathaceum*, Dies; BRAUN, Zool. Anz. xvii, p. 165.
- Distomum deliciosum*, n. sp.; OLSSON, Svenska Ak. Handl. xxv, p. 10.
- D. fraternum*, n. sp., from intestine of pelican, Egypt; and detailed anatomy of *D. heterophyes*, v. Sieb.; LOOSS (146). *D. isoporum*, n. sp., for (*Fasciola longicollis*) Froel. or (*Distoma globiporum*) Ols., p. 49; and *D. confusum*, n. sp., frog, for (*D. clavigerum*, Duj.), pp. 83 & 101; LOOSS, Bibl. Zool. xvi. *D. (Brachycaelium) opacum*, n. sp., intestine of freshwater-fish in Lake Michigan, cyst stage in *Cambarus propinquus*, Ger.; WARD, P. Amer. Soc. Micr. xv, p. 173.
- D. sanguineum* and *D. tacapense*, n. spp., from intestine of *Chamaeleo vulgaris* (the latter also from intestine of edible frog and toad); SONSINO, Atti Soc. Toscana, ix, pp. 110-116. *D. segmentatum*, n. sp., from intestine of *Vidua paradisica*, Africa; MÜLLER, Arch. Naturg. lx, p. 125. *D. (Dicrocoelium) complexum*, n. sp., from United States cats, and *D. longissimum* var. *corvinum*, n. var., or ? n. sp.; STILES, Bull. Soc. zool. France, xix, p. 89. *D. tricolor*, n. sp., from United States rabbits and hares; STILES, t. c. p. 160. *D. (sibiricum)*, n. sp., from liver of man and cat, Siberia; WINOGRADOFF, Nachr. Univ. Tomsk, iv; = *D. felineum*, Riv.; BRAUN, Zool. Anz. xvii, p. 128.
- D. gigas*, Nardo., anatomy and histology, and variations in arrangement of gonads; SETTI (213). *D. tereticolle*, Rud., p. 5, *D. folium*, v. Olf., p. 18, *D. perlatum*, v. Nordm., p. 24, *D. nodulosum*, Zed., p. 33, *D. globiporum*, Rud., p. 41, from fish; and *D. cygnoides*, Zed., p. 56, *D. cylindraceum*, Zed., p. 64, *D. variegatum*, Rud., p. 71, *D. endolobum*, Duj., p. 84, *D. clavigerum*, Rud., p. 91, *D. medians*, Ols., p. 105, *D. ovocaudatum*, Vulp., p. 109; detailed account of anatomy; LOOSS, Bibl. Zool. xvi. *D. westermanni* in U. S. A.; WARD (238), STILES (223) No. 26. *D. lanceolatum*, excretory apparatus and nervous system; KNOCH (129). See also under *Polyorchis*.
- Epibdella ishikawae* and *ovata*, n. spp., gills of fish, Japan; GOTO, J. Coll. Japan, viii, pp. 233-237.
- (*Fasciola appendiculata*), Froel., = *Distomum froelichi*, Kow.; KOWALEWSKY. (*F. longicollis*), Froel., = *D. isoporum*, n. sp.; LOOSS (145). *F. hepatica*; BLANCHARD (30). *F. magna* and the three other species; STILES (223) No. 25.

- Fridericianella*, n. g., of *Monogenea*, with *F. ovicola*, n. sp., from eggs of *Arius commersoni*, in Rio Grande do Sul, Brazil; BRANDES, Abh. Ges. Halle, xx, p. 305.
- Gyrodactylus*: anatomy and biology; *G. medius* and *gracilis*, n. spp., on carp and other fish; KATHARINA, Arb. Inst. Wurzburg, X₂, p. 158.
- Hexacotyle acuta* and *grossa*, n. spp., gills of fish (*Thynnus*), Japan; GOTO, J. Coll. Japan, viii, pp. 215-222.
- Merizocotyle*, n. g. of Tristomid, belonging to the family *Monocotylides*, with *M. diaphanum*, n. sp., from gills of *Raia batis* of Ostend; CERFONTAINE, Bull. Ac. Belgique, pp. 936-948.
- Microcotyle caudata*, *sebastis*, *elegans*, *reticulata*, *truncata*, *fusiformis*, *chiri-scienæ*, n. spp., Japan, gills of fish; GOTO, J. Coll. Japan, viii, pp. 186-196.
- Monocotyle ijimæ*, n. sp., mouth-cavity of *Trygon*, Japan; GOTO, *t. c.* p. 230.
- Octocotyle major* and *minor*, n. spp., gills of fish, Japan; GOTO, *t. c.* pp. 201-207.
- Onchocotyle spinacis*, n. sp., gill of *Spinax*, Japan; GOTO, *t. c.* p. 224.
- Polyorchis*, n. g., or subg., of *Distomum*, for *D. polyorchis*, Stossich, and *D. (Monostomum, Leidy) molle*; STILES (223) No. 30.
- (*Tetracotyle ovata*) = *Holostomum variegatum*; (*T. colubri*) v. Linst., = *H. variabile*; BRAUN, Zool. Anz. xvii, pp. 165-167.
- Tristomum sinuatum*, *ovale*, *rotundum*, *foliaceum*, *nozawæ*, *biparasiticum*, n. spp., ectoparasitic on fish, Japan; GOTO, J. Coll. Japan, viii, pp. 237-253.

Young Forms.

- Bucephalus*: historical review of different species; *B. haimeanus* in *Tapes*; VAULLEGARD, Bull. Soc. Normand. viii, p. 8.
- Rhopalocerca tardigrada*, probably the Cercaria of *Distomum tereticolle*, in *Anodon*, from Aalkistensee; LAMPERT (134).

C.—NEMERTINEA.

- Amphiporus* sp.?, Marseilles, figured (by Saint-Loup); JOUBIN (124) p. 144.
- Stichostenma*, n. g., with *S. eilhardi*, n. sp.; MONTGOMERY,° Inaug. Diss. Berlin.
- Tetrastemma maculatum*, n. sp., from Fowey; SUMNER, Ann. Nat. Hist. xiv, p. 114.

D.—TURBELLARIA.

- Acrorhynchus bivittatus*, Ulj., in Straits of Dover, diagnosis; HALLEZ, Rev. biol. Nord France, vi, pp. 323 & 324.
- Bdellourida*, n. fam. of marine ectoparasitic Triclad, for *Bdelloura candida*, Gir., and *B. propinqua*, n. sp., and for *Syncoelidium pellucidum*, n. g. & sp.; WHEELER, J. Morphol. ix, p. 167.
- Bdelloura propinqua*, n. sp., parasitic on *Limulus*, with remarks on *B. candida*, Gir.; WHEELER, t. c. p. 167.
- Bipatium rigaudi*, n. sp., Lao-kay (Tonkin); GRAFF, Bull. Soc. zool. France, xix, p. 100. *B. modiglianii* and *gestroi*, n. spp., Sumatra; GRAFF, Ann. Mus. Genova, xiv, p. 524.
- Derostomum caecum*, n. sp., Basle; FUHRMANN, Rev. Suisse Zool. ii, p. 276.
- Dolichoplana joubini*, n. sp., Cayenne; HALLEZ, Rev. biol. Nord France, vii, p. 1.
- Fecampia erythrocephala*, Gir., at Plymouth; GARSTANG, J. Mar. Biol. Ass. iii, p. 217; also at Port Erin; Rep. Brit. Ass. 1894, section D, p. 318, & c.
- Geoplana langi*, n. sp., Brazil and Paraguay; GRAFF, Boll. Mus. Torino, ix, No. 182, p. 3. *G. fletcheri* var. *borealis*, n. var., Blackheath, N. S. W.; DADAY, P. Linn. Soc. N. S. Wales, ix, p. 731.
- Hydrolimax*: abolition of genus, (*H.*) *griseus*, Hald., being referred to the family *Plagiostomidae*, and probably to the genus *Plagiostoma*, and (*H.*) *brunneus*, Gir., to the Triclad genus *Dendrocoelum*; HALLEZ, Rev. biol. Nord France, vi, pp. 321 & 322.
- Mesostomum minimum*, p. 243, *perspicuum*, p. 245, *segne*, p. 246, *armatum*, p. 250, n. spp., Basle; FUHRMANN, Rev. Suisse Zool. ii, pp. 243-246.
- Microstomidae*: revision of family, the 2 genera *Microstomum* and *Stenostomum* only recognized; their anatomy; SABUSSOW (202).
- Microstomum canum*, n. sp., Basle; FUHRMANN, Rev. Suisse Zool. ii, p. 232. *M. inerme*, n. sp., Gt. Lake of Plön; ZACHARIAS, Forschungsber. Stat. Plön, p. 83. (*M. plicatum*), Creplin, referred to n. g. *Ogmogaster*; JÄGERSKIÖLD (118).
- Ogmogaster*, n. g., for (*Monostomum plicatum*), Creplin; JÄGERSKIÖLD, Svenska Ak. Handl. xxiv, No. 7.
- Planaria gonocephala* intruding on regions of *P. alpina* and *Polycelis cornuta*; VOIGT (236).
- Planocera inquilina*, n. sp., Vineyard Sound, on *Sycotypus canaliculatus*; WHEELER, J. Morphol. ix, pp. 195-201.
- Prosthecreus panamensis*, ? a n. sp., littoral, from reef off Panama; WOODWORTH, Bull. Mus. Harvard, xxv, p. 51.
- Rhynchodemus stenopus*, Venezuela and San Pablo, Argentine Republic, and *R. borellii*, Paraguay, n. spp., GRAFF, Boll. Mus. Torino, ix, No. 182, p. 4. *R. victorie* var. *steelii*, n. var., Wentworth Falls, N. S. W.; DENDY, P. Linn. Soc. N. S. Wales, ix, p. 733.

- Schizorhynchus*, n. g. of *Proboscidea*, with *S. cæcus*, n. sp., 2 miles from Portel, at depth of from 13-14 m. ; HALLEZ, Rev. biol. Nord France, vi, pp. 315-320.
- Stenostomum*; SABUSSOW. *S. langi*, n. sp., Lake of Zurich ; KELLER, Vierteljahrschr. Ges. Zurich, p. 337. *S. agile*, Sill., at Basle, for first time in Europe ; FUHRMANN (83).
- Stylochoplana californica*, n. sp., pelagic, G. of California ; WOODWORTH, Bull. Mus. Harvard, xxv, p. 50.
- Syncalidium*, n. g., with *S. pellucidum*, n. sp., from gill-books of *Limulus polyphemus*, with apparent metamerism in nervous system, and double uterus with independent external openings ; WHEELER, J. Morphol. ix, p. 167.
- Syndesmis echinorum*, Franc., genital apparatus ; RUSSO (201).
- Vortex fuscus*, p. 261, *triqueter*, p. 265, *ruber*, p. 271, *infundibuliformis*, p. 272, n. spp., Basle ; FUHRMANN, Zool. Anz. xvii, pp. 133-135, and Rev. Suisse Zool. ii, pp. 261-272.

4.—NEMATODA, ACANTHOCEPHALA, AND CHÆTOGNATHA.

A.—NEMATODA [including *Gordius*].

- An undetermined Nematode from intestine of *Chamaeleo vulgaris*; SONSINO, Atti Soc. Toscana, ix, p.-v. pp. 110-116.
- Alaimus filiformis*, n. sp.; L. Balaton ; DADAY, Math. term. Ertés. Magyar Ak. xii, p. 128.
- Allantonema mirabile*, notes on life-history ; EBERT (72).
- Anchylostomum (Dochmius) bovis*, n. sp., small intestine of cattle, Göttingen ; STRÖSE, Zeitschr. Tiermed. xxi, p. 110.
- Anguillula* sp. ?, near Moscow ; POSSINSKIY (187) p. 9.
- Aphanolaimus aquaticus*, n. sp., L. Balaton ; DADAY, Math. term. Ertés. Magyar Ak. xii, p. 128.
- Cephalobus loczyi*, n. sp., L. Balaton ; DADAY, t. c. p. 137.
- Chromadora bathybia, bulbosa, and balatonica*, n. spp., L. Balaton ; DADAY, t. c. pp. 131-134.
- Desmolaimus balatonicus*, n. sp., L. Balaton ; DADAY, t. c. p. 131.
- Diplogaster lacustris*, n. sp., L. Balaton ; DADAY, t. c. p. 136.
- Dochmius*; RATZ (190). See also *Anchylostomum*.
- Dorylaimus condanni* and *D. incertus*, n. spp., from culinary roots ; VAŇHÁ, SB. Bohmisch. Ges. (1892) pp. 313-323, pl. vii. *D. striatus*, n. sp., and *D. bastiani*, Bütsch. var. *longicaudatus*, n. var., L. Balaton ; DADAY, Math. term. Ertés. Magyar Ak. xii, pp. 139 & 140.
- Filaria (Spiroptera) gastrophila*, n. sp. ?, alimentary canal of cat ; MÜLLER, Arch. Naturg. lx, p. 113.

- Gordius alfredi* and *G. peraccae*, n. spp., S. Pablo, Tucuman, and *G. danielis*, n. sp., S. Louis; CAMERANO, Boll. Mus. Torino, ix, No. 175. *G. aestivalis*, ♂ only, p. 644, *vacteri*, ♀ only, p. 646, provisional n. spp., from beetles; VEJDOWSKY, Zeitschr. wiss. Zool. lvii, p. 642, &c.
- Heterakis sonsinoi*, n. sp., from intestine of *Chamaeleo vulgaris*, from North Africa; v. LINSTOW, Centrbl. Bakter. xv, p. 733. *H. spumosa*, Schn., from rat, Brazil; MAGALHÃES (155).
- Heterodera schachtii*, notes on life-history; EBERT (72). *H. radicola*, symbiotic on cultivated plants in the Sahara; VUILLEMIN & LEGRAIN (237).
- Hymenolepis diminuta*, Rud., from rat, Brazil; MAGALHÃES (155).
- Ichthyonema pellucidum*, n. sp., ♀ only, from body-cavity of *Tetrodon stillatus*, Java; JÄGERSKIÖLD, Zool. Jahrb. Anat. vii, pp. 490-500.
- Ironus entzii*, n. sp., L. Balaton; DADAY, Math. term. Ertes. Magyar Ak. xii, p. 135.
- Meloidogyne*, n. g. of *Anguillulidæ*, with *M. exigua*, n. sp., anatomy and life-history, coffee plant, Brazil; GÖLDI, Arch. Mus. Rio Jan. viii, p. 68.
- Monouchus macrostoma*, Bast., var. *armatus*, n. var., L. Balaton; DADAY, Math. term. Ertes. Magyar Ak. xii, p. 134.
- Oncholaimus pristiurus*, n. sp., Naples, and other species, especially with regard to the tubular organs of de Man; ZUR STRASSEN, Zeitschr. wiss. Zool. lviii, p. 461.
- Oxyurus flagelloides*, n. sp., from cæcum of *Atherura armata*, Cameroons; JÄGERSKIÖLD, Zool. Jahrb. Anat. vii, pp. 500-525.
- Pelodera janeti*, Lac.-Duth., anatomy and development; JANET, Mem. Soc. zool. France, vii, pp. 45-62.
- Peritrachelius*: genus provisionally united with *Ascaris*; JÄGERSKIÖLD, Zool. Jahrb. Anat. vii.
- Rhabditis janeti*, Lac.-Duth., note on; DE MAN (158).
- Rhabdolaimus balatonicus*, n. sp., L. Balaton; DADAY, Math. term. Ertes. Magyar Ak. xii, p. 138.
- Sphaerularia bombi*, notes on life-history; EBERT (72). (*Stephanurus dentatus*, Dies) = *Strongylus pingucicola*; MAGALHÃES (156).
- Strongylurus brevicaudata*, n. sp., from the lizard *Agama colonum*, W. coast of Africa; MÜLLER, Arch. Naturg. 1x, p. 116.
- Strongylus circumcinctus*, n. sp., from sheep, Germany; STADELMANN, SB. Ges. naturf. Berlin, p. 142. *S. filaria*, R., of sheep, detailed description; AUGSTEIN (5).
- Symplocostoma lacustris*, n. sp., L. Balaton; DADAY, Math. term. Ertes. Magyar Ak. xii, p. 138.
- Trichocephalus hepaticus*, provisional n. sp., liver of rat; BANCROFT, J. R. Soc. N. S. Wales, xxvii, p. 89.

- Trichosoma dubium*, cœcum of hen, and *T. gallinossa*, duodenal epithelium of hen, n. spp.; KOWALEWSKY (132).
Trilobus tenuicaudatus, n. sp., L. Balaton; DADAY, Math. term. Ertes. Magyar Ak. xii, p. 135.
Tripyla dentata, n. sp., Lake Balaton; DADAY, t. c. p. 130.

B.—ACANTHOCEPHALA.

[No new species.]

C.—CHÆTOGNATHA.

[No new species.]

5.—ROTIFERA (INCLUDING ECHINODERES).

- Adactyla*, n. g. of *Hydatinidae*, with *A. verrucosa*, n. sp., Lake Hötteleh, Syria; BARROIS, Rev. biol. Nord France, vi, pp. 300, 396 & 397.
Anuræa aculeata, var. *asymmetrica*, n. var.; DADAY, Math. term. Ertes. Magyar Ak. xii, p. 376: *A. aculeata*, var. *platei*, and *A. cochlearis*, var. *recurvispina*, n. varr., Baltic; JÄGERSKIÖLD, Zool. Anz. xvii, p. 17. *A. valga*, Ehrb., var. *monstrosa*, n. var., Syria; BARROIS & DADAY, Rev. biol. Nord France, vi, p. 397.
Asplanchna syriax, Ehrb., in Lakés Tiberias and Homs, Syria; BARROIS, t. c. p. 393.
Brachionus margoï, *budapestinensis*, *quadristriatus*, *bidentatus*, *quadridentatus*, *granulatus*, *reticulatus*, n. spp., Budapest; KERTÉSZ, Inaug. Diss. Budapest. *B. entzii*, p. 166, and *pentacanthus*, p. 172, n. spp., Budapest, and *B. quadratus*, new to Hungary; FRANCÉ, Termes. Fuzetek, xvii. *B. bursarius*, n. sp., Lake Abbádi, pp. 404 & 405, *B. obesus*, n. sp., pools in Syria, pp. 406 & 407, *B. pyriformis*, n. sp., Lake Abbádi, pp. 407 & 408, *B. melhemi*, n. sp., Lake Yamotneh, pp. 237 & 400-404, and *B. caudatus*, n. sp., Lakes Hötteleh and Homs, pp. 302, 310, 405 & 406, Syria; BARROIS, and BARROIS & DADAY, Rev. biol. Nord France, vi. *B. cluniorbicularis*, n. sp., River Udis, S. Russia; SKORIKOW, Trudui Kharkov. Univ. xxvii, p. xxxiii.
Callidina fusca, *plena*, *habita*, *angusta*, and *eremita*, n. spp., near Bognor, pp. 448-452, and 5 other species new to Britain, pp. 440-448; BRYCE, J. Quekett Club, v.
Copeus pachyurus, ♂; DIXON-NUTTALL, J. Quekett Club, v, p. 333.
Cyrtonia, n. g., for *C. (Notommata) tuba*, Ehrb.; ROUSSELET, J. Quekett Club, v, p. 435.

- Distyla spinifera*, n. sp., Putney Heath ; WESTERN, J. Quekett Club, v, p. 427.
- Echinoderes*, anatomy ; ZELIŃKA (253).
- (*Euchlanis lynceus*) Ehrb., = (*Gastroschiza lynceus*), Berg., = (*Gastropus ehrenbergi*), Imhof., = *Ploesoma lynceus*, Herrick ; JENNINGS, Zool. Anz. xvii, p. 55.
- Floscularia brachyura*, n. sp., Lake Hoûleh, Syria, and another species from Lake Homs ; BARROIS, Rev. biol. Nord France, pp. 300, 393 & 394. *F. cucullata*, n. sp., in a marsh pool, Perthshire ; HOOD, J. Quekett Club, v, p. 335. *F. libera*, n. sp., Great Lake of Plön ; ZACHARIAS, Forschungsber. Stat. Plon, p. 83.
- (*Gastropus ehrenbergi*), Imh., and (*G. stylifer*), Imh., referred to genus *Ploesoma* ; JENNINGS (122).
- Gastroschiza* ; BERGENDAL (21), JÄGERSKIÖLD (117) ; (*G.*) *lynceus*, Berg., (*G. flexilis*) Jäg., referred to genus *Ploesoma* ; JENNINGS (122).
- Mastigocerca lata*, n. sp., Lake St. Clair ; JENNINGS, Bull. Michigan Fish Comm., No. 3, p. 19. *M. dubia*, provisional n. sp., off Heligoland ; LAUTERBORN (137).
- (*Metopideu*) *bractea*, Huds. & Gosse, = *Squamella bractea* ; FRANCÉ (77).
- Notholca orientalis*, n. sp., Lake Homs, Syria ; BARROIS, Rev. biol. Nord France, vi, pp. 310 & 398.
- Notommata monopus* and *truncata*, n. spp., Lake St. Clair, JENNINGS, Bull. Michigan Fish Comm., No. 3, pp. 14 & 16. (*N.*) *tuba*, Ehrb., referred to a new genus *Cyrtonia* ; ROUSSELET (200).
- Notops laurentinus*, n. sp., Lake St. Clair ; JENNINGS, Bull. Michigan Fish Comm., No. 3, p. 12. *N. macrourus*, n. sp., Lake Hoûleh, Syria ; BARROIS, Rev. biol. Nord France, pp. 300, 395 & 396.
- œcistes syriacus*, n. sp., Lakes Hoûleh and Homs, Syria, and another species in Lakes Tiberias and Homs ; BARROIS, Rev. biol. Nord France, vi, pp. 300, 394 & 395.
- Pedalion* : relationships of genus ; CLAUUS (60). *P. fenicum*, detailed account ; LEVANDER, Acta Soc. Faun. Fenn. xi.
- Ploesoma*, Herrick, 4 species recognized, namely, *P. (Euchlanis, Ehrb.) lynceus*, *P. (Gastroschiza, Berg.) tricanthrum*, *P. hudsoni* for (*Bipalpus vesiculosus*, W. & Z.) and (*Gastroschiza flexilis*, Jäg.), and a fourth species for (*Gastropodus stylifer*, Imh.), and (*Hudsonella picta*, Zach.) ; JENNINGS, Zool. Anz. xvii, p. 55.
- Proales caudata*, n. sp., Württemberg ; BILFINGER, Jahresh. Ver. Wurttemb. I, p. 46.
- Rattulus sulcatus*, n. sp., Lake St. Clair ; JENNINGS, Bull. Michigan Fish Comm., No. 3, p. 20.
- Rotifer forficatus*, n. sp., Lake Hoûleh, Syria ; BARROIS, Rev. biol. Nord France, vi, pp. 300 & 362.
- Salpina macrocera*, n. sp., Chipewa Lake ; JENNINGS, Bull. Michigan Fish Comm., No. 3, p. 22.

- Squamella* (*Metopidea*, Huds. & Gosse) *bractea*, in Hungary, anatomy;
FRANCÉ (77), p. 176.
- Stephanops emarginatus*, n. sp., Würtemberg; BILFINGER, Jahresh.
Ver. Wurttemb. 1, p. 52.
- Syncheta triophthalma*, n. sp., off Heligoland; LAUTERBORN (137).

6.—MESOZOA.

[Nothing]

XVI. CŒLENTERATA.

[The Record of the literature of this group during 1894 will be given, in conjunction with that of 1895, in Vol. xxxii.—EDITOR.]

XVII. SPONGIÆ.

BY

R. HANITSCH, Ph.D.

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INTRODUCTION.

THE following report includes all papers which have come under the Recorder's notice up to the end of May, 1895.

Amongst the publications on the Anatomy and Taxonomy of Marine Sponges, TOPSENT'S paper (46), on the *Tetractinellida* of France, is the most important. It forms the first instalment of a monograph of French Sponges, and, when completed, will no doubt be equally welcome to English students, as it will naturally include the majority of British Sponges, and form, so to speak, a new edition of Bowerbank's monograph.

In Embryology, WILSON (52), gives a detailed account of his observations on the gemmule and egg-development of Marine Sponges, of which he published a preliminary notice three years ago. He still differs in many points from Maas and others who have worked on the embryology of Sponges, and what he regards as gemmule formation, will probably by them be taken for the segmentation of the ovum.

In Physiology, MASTERMAN (31) describes the nutritive and excretory processes in *Porifera*, and points out their strong resemblance to the corresponding processes in the *Choanoflagellata*. LETELLIER (28, 29), and TOPSENT (44) discuss the boring action of *Cliona*.

Zoologists may congratulate themselves that no new classification of sponges has been proposed this year. TOPSENT (46), in his monograph, adopts, with trifling alterations, Sollas's classification of the *Tetractinellida*. Under this head we may mention TOPSENT'S (45) useful revision of Bowerbank's nomenclature, drawn up on similar lines to that proposed by Hanitsch in the previous year.

Papers on the geographical distribution of Marine Sponges are TOPSENT'S monograph (46) of French *Tetractinellida*, DENDY'S Catalogue (7) of Non-Calcareous Sponges from Port Phillips Heads, and WELTNER'S report (50) on the Sponges from the Eastern and South-eastern North Sea. In Freshwater Sponges, WELTNER'S account (51) of the distribution of all known species of the globe will be of the greatest value. HANITSCH (16) describes the freshwater Sponges of Ireland, and announces the occurrence of two or three American forms in that country. PETR'S account (37) of European *Spongillidæ* would no doubt have been much more useful, if it had not been written entirely in Bohemian.

In Fossil Sponges, we are glad to have now before us Part III of HINDE'S Monograph (19), treating of the Sponges of the Jurassic Strata of Britain, which are chiefly calcareous. RAUFF (39) has continued his "Palæospongiologie," but the Recorder is sorry not to have been able to see the work.

I.—TITLES.*

1. BERGHAUS, —. Korallen- und Schwammfischerei in Italien im Jahre 1891. *Mt. Deutsch. Fisch. Ver.* 1893, pp. 47-49.
2. BARROIS, TH. Contribution à l'étude de quelques lacs de Syrie. *Rev. biol. Nord France*, vi, pp. 224-312. Abstract in *Zool. Anz. (Lit.)* xvii, pp. 185 & 186.
Spongillidæ, pp. 280, 281, 289, 299, & 302.
3. BIDDER, G. P. *Porifera*. *Zool. Jahresber.* 1893, 14 pp.
4. CREIGHTON, R. H. *Spongilla lacustris* at Ballyshannon. *Irish Natural.* ii, No. 12, p. 322.
5. DEECKE, W. Eocäne Kieselschwämme als Diluvialgeschiebe in Vorpommern und Mecklenburg. *Mt. Ver. Vorpomm.* xxvi, pp. 166-170, 1 pl.

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

6. DENDY, A. Comparative anatomy of sponges. *J. R. Micr. Soc.* 1894, pp. 461 & 462. Abstract of paper in *Q. J. Micr. Sci. (n.s.)*, No. 142, pp. 127-142. [See *Zool. Rec.* 1893.]
7. —. Catalogue of Non-calcareous sponges collected by J. Bracebridge Wilson, Esq., M.A., in the neighbourhood of Port Phillip Heads. Part I. *P. Soc. Victoria*, 1894, pp. 232-260.
1 new genus, 17 new species.
8. DOLLFUS, G. F. Spongiaires. *Annuaire geol.* ix, pp. 897-909.
9. DUERDEN, J. E. Notes on the Marine invertebrates of Rush, County Dublin. *Irish Natural.* iii, No. 11, pp. 230-233.
Spongia, p. 231; 7 species; none new.
10. FRIČ, A. Studien im Gebiete der Böhmisches Kreideformation. Paläontologische Untersuchungen der einzelnen Schichten. v. Priesener Schichten. *Arch. Landesdf. Bohmen*, ix, No. 1, pp. 1-135, 194 figg.
Fossil sponges, pp. 8, 14, 23, 61, & 115.
11. GARBINI, A. Contributo alla studio delle Spongille italiane. *Accad. Agricoltura, Verona* (3) lxx (1894), 23 pp., 3 figg. Abstract in *Zool. Anz. (Lit.)* xvii, pp. 371 & 372.
12. —. Appunti per una limnobiota italiana. I. *Protozoa, Porifera e Cœlenterata* del Veronese. *Zool. Anz.* xvii, pp. 295-298.
13. HANITSCH, R. Generic nomenclature of Bowerbank's British sponges. *J. R. Micr. Soc.* 1894, p. 576, and *Nature*, I, p. 275. Abstracts of paper in *P. Liverp. biol. Soc.* viii, pp. 173-206. [See *Zool. Rec.* 1893.]
14. —. *Amphite*, eine neue Gattung heterocœler Kalkschwämme. *Zool. Anz.* xvii, p. 433. Abstract in *J. R. Micr. Soc.* 1895, p. 185.
1 new genus.
15. —. American freshwater sponges in Ireland. *Nature*, li, p. 511.
16. —. The freshwater sponges of Ireland, with remarks on the general distribution of the group. *Irish Natural.* iv, No. 5, pp. 122-131, pl. iv. Abstract in *Nature*, lii, p. 85.
17. HEIDER, A. R. VON. Liste der Schmidt'schen Spongien in der zoologischen Abtheilung des steiermärkischen Landes-Museums. *Mt. Ver. Steiermark*, 1894, 10 pp.
224 species.
18. HEIDER, K. Berichtigung. *Zool. Anz.* xvii, pp. 392-395.
Reply to Lendenfeld's criticism of the author's paper on the metamorphosis of *Oscarella lobularis*, O. S.
19. HINDE, G. J. A monograph of the British fossil sponges. Part III. Sponges of Jurassic Strata. *Pal. Soc. Mon.* 1893, pp. 189-254, pls. x-xix.

20. [HINDE, J. G.] O novoï iskopaemoï ghubkye iz éotzenovuikh otlozheniï vostochnagho sklona Urala. With translation: On a new fossil sponge from the Eocene of the E. Oural. *Izv. Geol. Kom. xii* (1893), Nos. 8 & 9, pp. 253-257, 1 fig.
21. IJIMA, I. Notice of New *Hexactinellida* from Sagami Bay. I. *Zool. Anz.* xvii, pp. 365-369. Abstract in *J. R. Micr. Soc.* 1894, p. 691.
5 new species.
22. KIRK, H. B. Contribution to a knowledge of the New Zealand sponges. *Tr. N. Zealand Inst.* xxvi, pp. 175-179, pl. xxii.
1 new species.
23. LENDENFELD, R. VON. *Tetranthella* oder *Crambe*. *Zool. Anz.* xvii, No. 451, pp. 243-246.
Crambe, Vosmar, has to be dropped.
24. —. Entwicklung und Nahrungsaufnahme der *Oscarella*: kritische Bemerkungen. *Op. cit.* xviii, pp. 17-19.
25. —. *Papillina*, *Osculina* und ihre Beziehungen unter einander und zu Bohrschwämmen. *T. c.* pp. 149-151.
26. —. Ergebnisse neuerer Untersuchungen über Spongienepithelien. *Zool. Centralbl.* i, No. 13, pp. 506-510.
27. —. Eine neue *Pachastrella*. *SB. Ak. Wien*, ciii, No. 1, pp. 439-442, 1 pl.
28. LETELLIER, A. Une action purement mécanique permet d'expliquer comment les Cliones creusent leurs galeries dans les valves des huîtres. *Bull. Soc. geol. Normand.* (4) viii, pp. 149-166.
29. —. Une action purement mécanique suffit aux Cliones pour creuser leurs galeries dans les valves des huîtres. *C.R. Ac. Sci.* cxviii, pp. 986-989. Abstracts in *Rev. Scient.* (4) i, p. 599, in *Zool. Anz.* (Lit.) xvii, p. 187, and in *Naturw. Rundschau*, ix, pp. 384 & 385.
30. MALFATTI, P. Silicospongiæ plioceniche. *Atti Acc. Lincei*, iv, pp. 116-121.
2 new species.
31. MASTERMAN, A. T. On the nutritive and excretory processes in *Porifera*. *Ann. Nat. Hist.* xiii (1894), pp. 485-496, 6 figg. Abstracts in *J. R. Micr. Soc.* 1894, p. 461, in *Zool. Anz.* (Lit.) xvii, pp. 250 & 251, and in *Zool. Centralbl.* i, p. 676.
32. —. On the nutritive and excretory processes of *Porifera*. *Ann. Nat. Hist.* (6) xiv, pp. 48 & 49.
33. MINCHIN, E. A. Embryology of *Porifera*. *J. R. Micr. Soc.* 1894, p. 461. Abstract of paper in *Science Progress*, i, No. 3, pp. 208-233. [See *Zool. Rec.* 1893.]

34. MOLLER, A. F. Esponjas des S. Thomé. Ann. Sci. Nat. Porto, i, No. 4, pp. 202 & 203.
35. NÖLDEKE, B. Die Metamorphose des Süßwasserschwammes. Zool. Jahrb. Anat. viii, pp. 152-189, 2 pls. Abstracts in Zool. Anz. (Lit.) xvii, p. 519, in Zool. Centralbl. i, Nos. 21 & 23, pp. 818-822, and in J. R. Micr. Soc. 1895, p. 60.
36. PÉREZ, J. Sur l'homologie des feuilletts blastodermiques des éponges. Act. Soc. Bordeaux, xlvii, pp. 322-327.
37. PETR, F. Evropske Houby Sladkovodní. [European *Spongillida*.] Chrudim; tisk St. Pospíšilova zete, 1894, 32 pp., 2 pls.
38. PINTNER, TH. Ueber Conservirung von Seethieren in Formaldehyd. SB. Ges. Wien, xlv, No. 1, p. 8.
39. *RAUFF, H. Palæospongiologie. 2 Theil, 1 Hälfte. Palæontogr. xl, lief. 5 & 6, pp. 233-346, 17 pls.
4 new genera, 8 new species.
40. SCHARFF, R. F. *Spongilla fluviatilis* in the Barrow. Irish Natural. ii, No. 10, p. 277.
41. SCHULZE, F. E. Ueber die Ableitung der Hexactinelliden-Nadeln vom regulären Hexactine. Naturw. Rundschau, ix, pp. 129 & 130. Abstract of paper in Mt. Ak. Berlin, 1893, pp. 607-613. [See Zool. Rec. 1893.]
42. —. Aus Hexactinelliden hergestellte Artefacte von der Philippinen-Insel Cebu. SB. Ges. naturf. Berlin, 1894, No. 5, pp. 137-141, 2 figg.
43. THURSTON, F. Rámésvaram island and fauna of the Gulf of Manaar. Bull. 3, Madras Government Museum. Madras: 1895, *Porifera*: pp. 102-105.
List of 34 species, described by A. Dendy in Ann. Nat. Hist. 1887 & 1889.
44. TOPSENT, E. Sur le mécanisme de la perforation des Clones. Arch. Zool. exp. (S. 3), ii (1894), pp. x-xiii. Abstract in Zool. Centralbl. i, Nos. 21-23, p. 818.
45. —. Étude sur la faune des Spongiaires du Pas-de-Calais suivie d'une application de la nomenclature actuelle à la monographie de Bowerbank. Rev. biol. Nord France, vii, No. 1, pp. 6-28. Abstract in Zool. Centralbl. i, Nos. 21-23, p. 818.
1 new species.
46. —. Étude monographique des Spongiaires de France. i. *Tetractinellida*. Arch. Zool. exp. (S. 3), ii, No. 3, pp. 259-400, pls. xi-xvi. Abstract in Zool. Centralbl. i, Nos. 21-23, p. 817.
47. TRAXLER, L. Spongilliden der Umgebung von Jaransk. Zool. Anz. xvii, pp. 363 & 364.

48. VOSMAER, G. C. J. *Tetractinellide* of Naples. J. R. Micr. Soc. 1894, p. 691. Abstract of paper in Tijdschr. Nederland. Dierk. Ver. (2) iv, pp. 269-286. [See Zool. Rec. 1893.]
49. WALTHER, J. Einleitung in die Geologie als historische Wissenschaft. 2 Theil. Die Lebensweise der Meeresthiere. Beobachtungen über das Leben der geologisch wichtigen Thiere. Jena (G. Fischer): 1893, 8vo, pp. 199-530.
Spongie, pp. 245-266.
50. WELTNER, W. Spongien. In: Beiträge zur Fauna der südöstlichen und östlichen Nordsee. Ber. Komm. deutsch. Meere (N.F.) i, pp. 325-328.
51. —. Spongillenstudien. III. Katalog und Verbreitung der bekannten Süßwasserschwämme. Arch. Naturg. 1895, i, pp. 114-144.
12 new species.
52. WILSON, H. V. Observations on the gemmule and egg development of Marine sponges. J. Morphol. ix, No. 3, pp. 277-406, pls. xiv-xxv. Abstracts in Zool. Anz. (Lit.) xviii, p. 4, and in Amer. Natural. xxix, pp. 64 & 65.
1 new genus, 3 new species.
53. * —. [Embryology of *Porifera*.] Amer. Natural. xxviii, pp. 439-441. Abstract in J. R. Micr. Soc. 1894, p. 461.

II.—MORPHOLOGY, EMBRYOLOGY, PHYSIOLOGY, AND GENERAL.

A. ANATOMY, HISTOLOGY, AND GENERAL.

VON LENDENFELD (25), speaking of boring Sponges, shows that at least three species of them may occur in the free, solid form, viz., *Papillella suberea*, O. S., *Vioa viridis*, O. S., and Bowerbank's *Raphyrus* (= *Cliona*). He further says that he accepts Vosmaer's proposal to change O. Schmidt's *Papillina* into *Papillella*; that *Cliona dissimilis*, Ridley and Dendy, is probably synonymous with *P. suberea*, O. S., and that *Papillina nigricans*, O. S., *Cliona subulata*, Sollas, *Vioa carteri*, Ridley, *Cliona caribbea*, Carter, and *Osculina polystomella*, O. S., are all synonymous with *Vioa viridis*, O. S.

VON LENDENFELD (26) gives a résumé of recent investigations on the epithelia of Sponges.

TOPSENT (46) gives an account of the structure of *Tetractinellida* in general, and of those of France in detail. For the list of the described forms, see under "Systematic."

B. EMBRYOLOGY.

VON LENDENFELD (24) makes some critical remarks on the development of *Oscarella*.

NÖLDEKE (35) describes the metamorphosis of *Spongillida*. According to him, they form a typical gastrula, but the epiblast degenerates after the larva has become fixed, and takes no part in the future development. Thus the Sponges have nothing in common with other *Metuzoa* in the developmental stages beyond the gastrula.

PÉREZ (36) has a short paper on the homology of the germinal layers of Sponges, criticizing the views of Delage, Barrois, and others.

WILSON (52, 53) gives a detailed account of the gemmule and egg development of Marine Sponges, agreeing essentially with his preliminary notice on the same subject, published three years ago. [See *Zool. Rec.* 1891, *Spongia*, p. 18, where a long abstract is given.] He describes the adult structure and gemmule development of *Esperella fibretilis*, n. sp., and of *Tedania brucei*, n. sp., the adult structure and egg development of *Tedania foetida*, n. g. & sp., the early stages in the egg development of *Hircinia acuta*, and concludes by making some general remarks on the morphology of Sponges and their gemmule development.

C. PHYSIOLOGY.

VON LENDENFELD (24) offers some critical remarks on the nutrition of *Oscarella*.

LETELLIER (28, 29) attempts to explain the boring action of *Cliona* as a purely mechanical process, viz., as a pulling action on the part of the contractile cells of the Sponge, which removes minute particles of the nacreous layer. TOPSENT (44) states his objections to this hypothesis.

MASTERMAN (31) has studied the nutritive and excretory processes of *Porifera*, especially of *Grantia compressa*. He finds that the choanocytes, after having taken up the food particles, are transformed into amoeboid cells, and migrate as such into the interior of the Sponge, where intracellular digestion takes place. Solid food particles are excreted by amoeboid cells which burst through the ectoderm. The strong resemblance between these and the corresponding processes in *Choanoflagellata* are pointed out.

D. METHODS OF PRESERVATION.

PINTNER (33) recommends Formol for the preservation of Sponges.

III.—DISTRIBUTION.

A. FAUNISTIC.

For the general distribution of *Spongillida* see HANITSCH (16), and especially WELTNER (51).

St. Thomé: MOLLER (34).

Europe, generally: *Spongillida*; PETR (37).

Ireland, East Coast: DUERDEN (9).—*Spongillida*, with 2 or 3 American species; HANITSCH (15, 16).

- France, Pas de Calais : TOPSENT (45).—*Tetractinellida* ; TOPSENT (46).
 North Sea, eastern and south-eastern part : WELTNER (50).
 Russia, Jaransk : *Spongillidæ* ; TRAXLER (47).
 Italy : *Spongillidæ* ; GARBINI (11, 12).
 Syria : *Spongillidæ* ; BARROIS (2).
 India, Gulf of Manaar : THURSTON (43).
 Japan, Sagami Bay : *Hexactinellida* ; IJIMA (21).
 Australia, Port Phillip Heads : *Non-Culcareæ* ; DENDY (7).
 New Zealand : KIRK (22).

B. GEOLOGICAL.

- Jura.—British Isles, HINDE (19).
 Cretaceous.—Bohemia, FRIČ (10).
 Eocene.—Pommerania, DEECKE (5) ; Ural Mountains, HINDE (20).
 Pliocene.—Italy, MALFATTI (3C).

IV.—SYSTEMATIC.

A. CLASSIFICATION.

TOPSENT (46) gives a revised classification of the *Tetractinellida*.

B. DESCRIPTIVE.

1. CALCAREA.

- Amphiute*, n. g., with *A. paulini*, n. sp., Sines, Portugal ; HANITSCH,
 Zool. Anz. xvii, p. 433.
 †*Blastinia costata*, Goldfuss, redescribed, pp. 246 & 247, pl. xix, figg.
 5 & 5c. *B. aspersa*, n. sp., Coral Rag, Scarborough, p. 247, pl. xix,
 figg. 6 & 6d ; HINDE, Pal. Soc. Mon. 1893.
 †*Corynella lycoperdioides*, Lamouroux, p. 220, pl. xv, figg. 3 & 3h, re-
 described. †*C. elegans*, Great Oolite, Bath, p. 222, pl. xv,
 figg. 4 & 4b, *punctata*, Inferior Oolite, Cheltenham and Gloucester,
 p. 222, pl. xvi, figs. 3 & 3c, *langtonensis*, Coral Rag, Langton Wold,
 Yorkshire, p. 222, pl. xvi, figg. 2 & 2a, *chadwicki*, Corallian, Malton
 and Yorkshire, p. 223, pl. xv, figg. 6 & 6a, pl. xvi, figg. 1 & 1d,
cribrata, Great Oolite, Bath, p. 224, pl. xvi, figg. 4 & 4f, HINDE,
 Pal. Soc. Mon. 1893, n. spp.
 †*Diaplectia auricula*, Hinde, p. 245, pl. xix, figg. 3 & 3a, redescribed.
D. infundibulum, n. sp., p. 245, pl. xix, figg. 4 & 4a, HINDE, Pal.
 Soc. Mon. 1893.
 †*Elasmostoma palmatum*, Great Oolite, Bath, pp. 243 & 244, pl. xvii,
 figg. 9 & 9c, pl. xviii, figs. 1 & 1a, HINDE, Pal. Soc. Mon. 1893,
 n. sp.
 †*Eudea pisum*, Quenstedt, redescribed, p. 242, pl. xix, figg. 2 & 2b. *E.*
waldfordi, n. sp., Inferior Oolite, Bridport, pp. 241 & 242, pl. xix,
 figg. 1 & 1c, HINDE, Pal. Soc. Mon. 1893.

- † *Eusiphonella prolifera*, Great Oolite, Bath, p. 219, pl. xv, figg. 5 & 5*a*, HINDE, Pal. Soc. Mon. 1893, n. sp.
- † *Holcospongia*, n. g., for *H. floriceps*, Phillips, p. 226, pl. xvi, figg. 6 & 6*c*, pl. xvii, fig. 2, *glomerata*, Quenstedt, p. 228, pl. xvii, figg. 1 & 1*c*, *liasica*, Quenstedt, p. 231, pl. xvii, figg. 5 & 5*c*, redescribed. *H. polita*, Great Oolite, Bath, p. 228, pl. xvi, figg. 5 & 5*e*, *sulcata*, Inferior Oolite, Shipton Gorge, and Burton Bradstock, Dorset, p. 229, pl. xvii, figg. 3 & 3*a-h*, *contorta*, Inferior Oolite, Shipton Gorge, Dorset, p. 230, pl. xvii, figg. 4 & 4*d*, *bella*, Inferior Oolite, Shipton Gorge, p. 232, pl. xvii, figg. 6 & 6*e*, *mitrata*, Inferior Oolite, Shipton Gorge, and Bradford Abbas, Dorset, HINDE, Pal. Soc. Mon. 1893, n. spp.
- † *Leucandra walfordi*, Hinde, redescribed; HINDE, Pal. Soc. Mon. 1893, pp. 248-250, pl. xix, figg. 8 & 8*x*.
- † *Lymnorea mamilosa*, Lamx., pp. 235 & 236, pl. xviii, figg. 2 & 2*c*, *inclusa*, Hinde, pp. 236 & 237, pl. xviii, figg. 3 & 3*d*, *pygmæa*, Sollas, p. 238, pl. xviii, figg. 4 & 4*b*, *micula*, Hinde, pp. 239 & 240, redescribed. *L. ramosa*, n. sp., Inferior Oolite, Cheltenham, pp. 238 & 239, pl. xviii, figg. 6 & 6*b*, HINDE, Pal. Soc. Mon. 1893.
- † *Myrmecium biretiforme*, Sollas, redescribed; HINDE, Pal. Soc. Mon. 1893, pp. 233 & 234, pl. xvii, fig. 8.
- † *Oculospongia minuta*, Hinde, redescribed; HINDE, Pal. Soc. Mon. 1893, pp. 240 & 241, pl. xix, figg. 7 & 7*b*.
- † *Peronidella pistilliformis*, Lamouroux, p. 213, pl. xiv, figg. 1 & 1*d*, *tenuis*, Hinde, p. 215, pl. xiv, figg. 2 & 2*a*, *metabronnii*, Sollas, p. 215, pl. xiv, figg. 4 & 4*f*, *nana*, Hinde, p. 218, pl. xv, figg. 2 & 2*g*, redescribed. *P. waltoni*, Great Oolite, Bath, p. 216, pl. xiv, figg. 3 & 3*c*, *recta*, Corallian, Suffield, near Scarborough, p. 217, pl. xv, figg. 1 & 1*c*, HINDE, Pal. Soc. Mon. 1893, n. spp.

2. HEXACTINELLIDA.

- † *Botroclonium spasskii*, Siliceous clay of the lower eocene (?), Ural, HINDE, Izv. Geol. Kom. 1893, xii, p. 253, n. sp.
- † *Calathiscus variolatus*, Sollas, redescribed; HINDE, Pal. Soc. Mon. 1893, p. 197, pl. xi, figg. 1, 1*a*—1*c*.
- † *Craticularia clathrata*, Goldfuss, p. 198, pl. xi, fig. 5, *foliata*, Quenstedt, p. 199, pl. x, figg. 6 & 6*b*, redescribed; HINDE, Pal. Soc. Mon. 1893.
- † *C. razzorei*, Pliocene, Sestri Ponente, Italy, MALFATTI, Atti Acc. Lincei, iv, p. 116, n. sp.
- † *Donatispongia patellaris*, Pliocene, Sestri Ponente, Italy, MALFATTI, Atti Acc. Lincei, iv, p. 116, n. sp.
- Euplectella imperialis*, Sagami Bay, IJIMA, Zool. Anz. xvii, p. 365, n. sp.
- Hyalonema reflexum*, pp. 366 & 367, *H. owstoni*, pp. 367 & 368, *H. clathratum*, pp. 368 & 369, *H. pellucidum*, p. 369, Sagami Bay, IJIMA, Zool. Anz. xvii, n. spp.
- † *Stauroderma explanatum*, Inferior Oolite, Burton Bradstock, Dorset, p. 202, pl. x, figg. 5 & 5*a*, HINDE, Pal. Soc. Mon. 1893, n. sp.

- † *Tremadictyon sparsum*, p. 195, pl. x, figg. 1 & 1a, *incertum*, p. 196, pl. x, figg. 2 & 4, Inferior Oolite, Burton Bradstock, Dorset, HINDE, Pal. Soc. Mon. 1893, n. spp.
- † *Verrucocœlia whidborni*, Sollas, p. 200, pl. xi, figg. 2 & 2a, *elegans*, Sollas, p. 201, pl. xi, figg. 3 & 3a, *major*, Sollas, p. 201, pl. xi, fig. 4, redescribed; HINDE, Pal. Soc. Mon. 1893.

3A. TETRACTINELLIDA.

- Caminus vulcani*, Schmidt, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 319-321, pl. xii, figg. 2 & 3, pl. xvi, fig. 7.
- Craniella cranium*, Müller, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 388-393, pl. xv, figg. 6-14.
- Cydonium conchilegum*, Schmidt, pp. 326-330, pl. xi, fig. 6, pl. xvi, fig. 13, *C. gigas*, Schmidt, pp. 330-333, pl. xi, figg. 7 & 8, pl. xvi, figg. 14-16, *C. mülleri*, Fleming, pp. 333-336, redescribed; TOPSENT, Arch. Zool. exp. (3) ii.
- Desmanthus incrustans*, Topsent, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 311-315, pl. xi, fig. 1.
- Erylus stellifer*, Topsent, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 315-319, pl. xii, fig. 1, pl. xvi, figg. 17-19.
- † *Geodites*, sp. (a), Portland Beds, I. of Portland, p. 209, pl. xiii, fig. 5; sp. (b), Inferior Oolite, Burton Bradstock, Dorset, p. 210, pl. xiii, fig. 5a; HINDE, Pal. Soc. Mon. 1893.
- Isops intuta*, Topsent, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 336-339, pl. xi, figg. 2 & 3, pl. xvi, figg. 8, 9, 20 & 21.
- Pachastrella monilifera*, Schmidt, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 380-383, pl. xiv, fig. 4.
- † *P. antiqua*, Moore, p. 208, pl. xiii, figg. 3 & 4, redescribed; HINDE, Pal. Soc. Mon. 1893.
- Pachymatisma johnstonia*, Bowerbank, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 321-326, pl. xi, figg. 4 & 5, pl. xvi, figg. 1-5.
- Penares helleri*, Schmidt, pp. 357 & 358, pl. xii, fig. 4, *P. candidata*, Schmidt, pp. 358-361, pl. xii, fig. 5, pl. xvi, figg. 10 & 11, redescribed; TOPSENT, Arch. Zool. exp. (3) ii.
- Pilochrota lactea*, Carter, pp. 340-343, pl. xiv, figg. 1 & 2, *P. mediterranea*, Topsent, pp. 343-345, pl. xiv, fig. 3, redescribed; TOPSENT, Arch. Zool. exp. (3) ii.
- Pocillastra compressa*, Bowerbank, pp. 384-387, pl. xiv, figg. 6-9, *P. saxicola*, Topsent, pp. 387 & 388, pl. xiv, fig. 10, redescribed; TOPSENT, Arch. Zool. exp. (3) ii.
- † *Rhaxella perforata*, Hinde, p. 210, pl. xiii, figg. 7 & 7a-f, redescribed; HINDE, Pal. Soc. Mon. 1893.
- Sanidastrella coronata*, Topsent, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 361-365, pl. xiii, figg. 1-3.
- Seiriola compacta*, Hanitsch, stated to be probably synonymous with *Stryphnus ponderosus*, var. *rudis*; TOPSENT, Arch. Zool. exp. (3) ii, p. 368.

- Stelletta grubei*, Schmidt, pp. 345-349, pl. xiii, figg. 7 & 8, *S. dorsigera*, Schmidt, pp. 349-351, pl. xiii, figg. 5 & 6, *S. hispida*, Buccich, pp. 351-354, pl. xiii, fig. 9, *S. stellata*, Topsent, pp. 354-356, pl. xiii, fig. 4, redescribed; TOPSENT, Arch. Zool. exp. (3) ii.
- Stryphnus ponderosus*, Bowerbank, pp. 365-367, pl. xii, figg. 6 & 7, pl. xvi, fig. 6, *S. ponderosus*, var. *rudis*, pp. 368-370, pl. xii, figg. 7 & 8, *S. mucronatus*, Schmidt, pp. 370-374, pl. xii, fig. 10, pl. xvi, fig. 12; TOPSENT, Arch. Zool. exp. (3) ii.
- Thenea muricata*, Bowerbank, redescribed; TOPSENT, Arch. Zool. exp. (3) ii, pp. 375-380, pl. xv, figg. 1-5.

3B. LITHISTIDA.

- † *Leiödorella contorta*, Inferior Oolite, Burton Bradstock, Dorset, p. 206, pl. xii, figg. 1 & 1a, HINDE, Pal. Soc. Mon. 1893, n. sp.
- † *Melonella ovata*, Sollas, p. 207, pl. xiii, figg. 1, & 1a-c, redescribed; HINDE, Pal. Soc. Mon. 1893.
- † *Platychonia brodiei*, Sollas, p. 204, pl. xii, figg. 4 & 4a, *elegans*, Sollas, p. 204, pl. xii, figg. 2-2b, redescribed. *P. tenuis*, p. 205, Inferior Oolite, figg. 6 & 6a, *affinis*, p. 205, pl. xii, figg. 5 & 5a, Inferior Oolite, Burton Bradstock, Dorset, HINDE, Pal. Soc. Mon. 1893, n. spp.

4. MONAXONIDA.

- Chalina viridis*, Port Phillip Heads, Australia, DENDY, P. Soc. Victoria, 1894, p. 244, n. sp.
- Chondropsis*, Carter, redefined; DENDY, P. Soc. Victoria, 1894, p. 250.
- C. wilsoni*, p. 252, *columnifer*, *topsentii*, p. 254, *carteri*, p. 256, Port Phillip Heads, Australia, DENDY, P. Soc. Victoria, 1894, n. spp.
- Ephydatia facunda*, Rio Grande do Sul, Brazils, pp. 140 & 141, *E. fortis*, Libmanan River, Luzon, p. 141, *E. subtilis*, Lake Kissimmee, Florida, pp. 141 & 142, WELTNER, Arch. Naturg. 1895, i, n. spp.
- Esperella fibrexilis*, wharf piles, Woods Holl, Mass., WILSON, J. Morphol. ix, p. 279, pls. xiv-xviii, n. sp.
- Eumastia schmidtii*, Port Phillip Heads, Australia, DENDY, P. Soc. Victoria, 1894, p. 240, n. sp.
- Gellius phillipensis*, Port Phillip Heads, Australia, DENDY, P. Soc. Victoria, 1894, p. 247, n. sp.
- Halichondria arenacea*, Port Phillip Heads, Australia, DENDY, P. Soc. Victoria, 1894, p. 239, n. sp.
- Hymedesmia hallezi*, Roscoff, Luc, Le Portel, TOPSENT, Rev. biol. Nord France, vii, p. 5, n. sp.
- Lissomyxilla*, Hanitsch, stated to be synonymous with *Tethyspira*, Topsent; TOPSENT, Rev. biol. Nord France, vii, p. 12.
- Oceanapia mollis*, p. 248, *imperfecta*, *phillipensis*, p. 249, Port Phillip Heads, Australia, DENDY, P. Soc. Victoria, 1894, n. spp.

- Parmula cristata*, Rio Tabajos, Brazils, WELTNER, Arch. Naturg. 1895, i, pp. 143 & 144, n. sp.
- Reniera clathrata*, *longimanus*, *proxima*, p. 237, *fryetti*, p. 238, Port Phillip Heads, Australia, DENDY, P. Soc. Victoria, 1894, n. spp.
- Siphonochalina bispiculata*, Port Phillip Heads, Australia, DENDY, P. Soc. Victoria, 1894, p. 246, n. sp.
- Spongilla biseriata*, Cairo, p. 138, *S. loricata*, Africa (exact locality unknown), p. 140, *S. permixta*, Bibisande, German East Africa, p. 140, *S. sansibarica*, Sansibar, p. 140, WELTNER, Arch. Naturg. 1895, i, n. spp.
- †*S. purbeckensis*, Young, p. 212, pl. xiii, figg. 6 & 6a, redescribed; HINDE, Pal. Soc. Mon. 1893.
- Stylotrichophora*, n. g., with *S. rubra*, n. sp., Port Phillip Heads, Australia; DENDY, P. Soc. Victoria, 1894, p. 259.
- Tedania brucei*, Green Turtle Cay, Bahamas, WILSON, J. Morphol. ix, p. 320, pls. xix-xxi, n. sp.
- Tedanione*, n. g., with *T. fetida*, n. sp., Green Turtle Cay, Bahamas; WILSON, J. Morphol. ix, p. 338, pls. xxii & xxiii.
- Tubella multidentata*, Burnett River, Queensland, pp. 142 & 143, *T. pottsi*, Chiloango, North of the Congo, p. 143, WELTNER, Arch. Naturg. 1895, i, n. spp.
- Uruguayana amazonica*, Amazon, WELTNER, Arch. Naturg. 1895, i, p. 144, n. sp.

XVIII. PROTOZOA.

BY

R. HANITSCH, Ph.D.

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INTRODUCTION.

AGAIN there has been an increase in the number of titles, although less marked than in the two previous years, due not so much to purely zoological papers as to papers relating to human pathology, chiefly cancer and malaria. An idea of the extent of work on this subject may be obtained by referring to page 26.

Under Anatomy, the most important papers of the year appear to be those by RHUMBLER on *Foraminifera*. GOULD confirms Greeff's observations as to the foam-like structure of the protoplasm. ZACHARIAS returns to the views of Ehrenberg and Saville Kent, abandoned for some time, regarding the structure of *Volvox*. Under Embryology we may draw special attention to BRAUER'S account of the encystation of *Actinosphaerium*. Under Physiology, there are some valuable papers on digestion and digestive ferments by HARTOG & DIXON and GREENWOOD & SAUNDERS. RYDER'S experiments on *Euglena viridis*, under abnormal conditions, when growing, but restrained to two dimensions of space, have led to interesting results.

I.—TITLES.*

1. ADAMKIEWICZ, —. Zur Krebsparasitenfrage. Wien. klin. Wochenschr. 1894, No. 18, p. 406. Abstract in Centrbl. Bakter. xv, p. 962.
2. ADLER, J. *Protozoa* and Carcinoma. Amer. J. Med. Sci. cvii, 1894, p. 63.
3. °AMANN, —. Notiz über einen Plasmodien-Befund in einem atypischen Falle von Malaria. Schweiz. Wochenbl. Chem. Pharm. 1894. Abstract in Centrbl. Bakter. xv, p. 384.
4. ANDREÆ, A. Die Foraminiforen-Fauna in Septarienthon von Frankfurt-a-M., und ihre vertikale Verteilung. Ber. Senckenberg. Ges. 1894, pp. 43-51, 2 woodcuts.
72 species, 2 of which are new.
5. BABES, V., & GHEORGHIU, D. Etude sur les différentes forms du parasite de la malaria en rapport avec les différentes manifestations des éléments figurés du sang dans cette maladie. Arch. med. exp. 1893, pp. 186-226. Abstract in Centrbl. Bakter. xv, pp. 81 & 82.
6. BACCELLI, A. Due nuovi casi di febbre malarica sperimentale. Lavori Congr. med. internat. 1892. Milano : 1893, pp. 356-362.
7. BAGINSKY, A. Ueber die Coccidienkrankheit der Kaninchen. Arch. Physiol. 1893, pp. 192 & 193.
8. °BANTI, G. Sui parassiti del Carcinoma. Riforma med. Napoli, ix, 3, pp. 361-364. Abstract in Centrbl. Bakter. xv, p. 381.
9. BARABAN, L., & SAINT-REMY, G. Le parasitisme des Sarcosporidies chez l'homme. Bibliog. Anat. 1894, No. 2, pp. 79-82, 5 figg. Abstracts in Centrbl. Bakter. xvi, p. 536, and in Zool. Anz. (Lit.) xvii, p. 303.
10. BARGONI, E. Di un Foraminifero parassita nelle Salpe (*Salpicola amyloacea*, n. g., n. sp.) e considerazioni sui corpuscoli amilacei dei Protozoi superiori. Ric. labor. Anat. Roma, iv, pp. 43-64, 2 pls. Abstract in Zool. Anz. (Lit.) xvii, p. 303.
1 new genus, 2 new species.
11. BARROIS, T. Contribution à l'étude des quelques lacs de Syrie. (Suite.) Rev. biol. Nord France, vi, pp. 224-312. Abstract in Zool. Anz. (Lit.) xvii, pp. 185 & 186.
Protozoa, p. 284.
12. BASTIANELLI, —, & BIGNAMI, —. Ueber den Bau der Malaria-parasiten der Sommer- und Herbstfieber. Centrbl. Bakter. xvi, pp. 357 & 358. Abstract in J. R. Micr. Soc. 1894, p. 700.

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

13. BAUMGARTEN, P. Jahresbericht über die Fortschritte in der Lehre von den pathogenen Mikroorganismen, umfassend Bakterien, Pilze und Protozoen. Unter Mitwirkung von Fachgenossen bearbeitet. viii (1892). Braunschweig (Bruhn) : 1894, 807 pp.
14. BENNIE, J. The raised Sea Bottom of Fillyside. With lists of the *Foraminifera* and *Ostracoda*. By D. ROBERTSON. P. Phys. Soc. Edinb. xii, pt. 1, pp. 26-28.
Foraminifera, pp. 27 & 28, none new.
15. BEYERINCK, M. W. Notiz über den Nachweis von Protozoen und Spirillen in Trinkwasser. Centrbl. Bakter. xv, pp. 10-15.
Oikomonas termo, &c.
BIGNAMI, —. [See BASTIANELLI, —, & BIGNAMI, — (12).]
16. °BITSCH, J. P. Om Molluscum contagiosum i patologisk-anatomisk Henseende. Nord. Med. Arkiv. 1892. Abstract in Centrbl. Bakter. xiv, p. 255.
17. BLOCHMANN, F. Studies on *Protozoa*. J. Micr. Soc. 1894, p. 210. Abstract of paper in Biol. Centralbl. xiv, pp. 82-91. [See Zool. Rec. 1893.]
18. —. Ueber *Dimorpha mutans*. Naturw. Rundschau, ix, pp. 359 & 360, and in J. R. Micr. Soc. 1894, p. 463. Abstracts of paper in Biol. Centralbl. xiv, pp. 197-199. [See Zool. Rec. 1893.]
19. —. Ueber die Kerntheilung bei *Euglena*. Naturw. Rundschau, ix, pp. 359 & 360; Zool. Centralbl. i, pp. 586 & 587; J. R. Micr. Soc. 1894, p. 577. Abstracts of paper in Biol. Centralbl. xiv, pp. 194-197. [See Zool. Rec. 1893.]
20. BONGHI, P. Prima ricerca intorno ai Protisti del distretto di Belluna e suoi contorni. Atti Soc. L'gustica, v, No. 1, 15 pp.
21. °BORREL, A. Evolution cellulaire et parasitisme dans l'épithélioma. Montpellier : 1892.
22. BOSANQUET, W. C. Notes on a Gregarine of the Earthworm (*Lumbricus herculeus*). Quart. J. Micr. Sci. xxxix, pp. 421-433, 1 pl. Abstract in J. R. Micr. Soc. 1894, p. 577.
1 new species.
23. °BOUZIAN, A. K. O. Recherches sur l'hématozoaire du paludisme faites à l'hôpital civil de Mustapha-Alger. Montpellier : 1892, 47 pp. Abstract in Centrbl. Bakter. xv, p. 384.
24. BOYCE, R. Some points in the etiology of cancer. Lancet, 1894, pp. 200 & 201.
25. BRAUER, A. Ueber die Encystirung von *Actinosphaerium eichhorni*, Ehrbg. Zeitschr. wiss. Zool. lviii, pp. 189-221, pls. x & xi. Abstract in Zool. Anz. (Lit.) xvii, p. 371.
BRÖWN, J. [See STEVEN, J. L., & BROWN, J. (247).]

26. BRUNON, —. Le cancer en Normandie. Presse méd. Paris, 1894, p. 17.
27. BUCHANAN, R. M. The *hamatozoa* of malaria. Glasgow Med. Journ. 1894, pp. 41-49.
28. BUSSE, O. Ueber parasitäre Zelleinschlüsse und ihre Züchtung. Centrbl. Bakter. xvi, pp. 175-180, 4 figg.
29. *CAMPANA, R. Il parassita del mollusco contagioso. Riforma med. Napoli, ix, 2, pp. 531-534.
30. CAPELLINI, G. Di alcuni fossili controversi riferiti a Crinoidi, Foraminiferi, Vermi e Corallari. Atti Acc. Pont. Lincei, iii, pp. 362-365.
31. CARAZZI, D. Il fenomeno dell'acque rossa nel golfo di Spezia. Atti Soc. Ligustica, iv, 5 pp.
32. CARTER, F. B. *Radiolaria* Classification (contin.). Amer. Micr. J. xv, pp. 112-121.
33. CATTANEO, G. A proposito dell' *Anophrys maggi*. Atti Soc. Ligustica, iv, 5 pp., pl. xv.
34. CATTLE, C. H. Do parasites exist in cancerous tumours? Brit. Med. Journal, 1893, pp. 179 & 180.
35. —. Observations on the cell enclosures met with in carcinoma. T. c. p. 857. Abstract in Centrbl. Bakter. xiv, p. 811.
36. — & MILLAR, J. On certain *Gregarinidae* and the possible connection of allied forms with tissue-changes (cancer) in man. Lancet, ii, pp. 1236-1240, and in Brit. Ass. Rep. lxiii, pp. 809 & 810. Abstract in Centrbl. Bakter. xv, p. 329.
37. CAYEUX, L. Sur la présence de restes de Foraminifères dans les terrains précambriens de Bretagne. C.R. Ac. Sci. cxviii, No. 25, pp. 1433-1435, 6 figg. Abstract in Rev. Scient. (2) ii, No. 1, p. 24.
38. CAZIN, M. Des origines et des modes de transmission du cancer. Soc. d'édit. scient. Paris, 1894, 95 pp. Abstract in Centrbl. Bakter. xvi, pp. 138 & 139.
39. * —. L'hématozoaire du paludisme. Gaz. Hôpit. 1893, pp. 390-397.
40. — & DUPLAY, —. Der Parasitismus beim Krebse. Centrbl. Bakter. xvi, p. 696.
41. CELLI, A., & FIOCCA, R. Beiträge zur Amöbenforschung. Erste vorläufige Mitteilung. Centrbl. Bakter. xv, pp. 470-473. Abstract in J. R. Micr. Soc. 1894, pp. 354 & 355.
42. — & —. Beiträge zur Amöbenforschung. 2. Vorläufige Mitteilung. Ueber die Klassifikation der Amöben und einige gezüchtete Species. Centrbl. Bakter. xvi, pp. 329-330. Abstract in J. R. Micr. Soc. 1894, p. 694.
- 4 new species.

43. [CELLI, A., & FIOCCA, R.] Contributo alla conoscenza sulla vita delle Amebe (Nota prevent.). *La Riforma Medica*, x (1894), No. 68, p. 8, and No. 87, p. 20. Abstract in *J. R. Micr. Soc.* 1894, p. 694.
44. CHAPMAN, F. The *Foraminifera* of the Gault of Folkestone. Part v. *J. R. Micr. Soc.* 1894, pp. 153-163, pls. iii & iv, and Part vi, *t. c.* pp. 421-427, pl. viii.
9 new species, 2 new varieties.
45. *CLÆSSEN, J. Ein Beitrag zur Frage über die in Carcinomzellen gefundenen Einschlüsse. *Beitr. Path. Anat. Ziegler*, xiv. Abstract in *Centrbl. Bakter.* xiv, p. 810.
46. CLARKE, J. J. Observations on the Histology of Cancer. *Centrbl. Bakter.* xvi, pp. 281-285, pl. iii. Abstract in *J. R. Micr. Soc.* 1894, p. 699.
47. —. *Sporozoa* in Sarcoma. *Centrbl. Bakter.* xvi, pp. 809-814, 11 figg.
48. —. On parasitic microorganisms in Cancer. *Tr. path. Soc. London*, 1892-93, pp. 188-207.
49. *CORONADO, T. V. Reproducción experimental del hematozoario de Laveran. *Laveranea limnhémica*. *Cron. med. Quir. Habana*, 1892. Abstract in *Centrbl. Bakter.* xiii, pp. 396-399.
50. * —. *Laveranea limnhémica*; contribución al estudio de la etiología del paludismo. *Cron. med. Quir. Habana*, 1892, pp. 374-380.
51. CUÉNOT, L. Ueber *Hemispeiropsis antedonis*, Cuénot, ein an den Comatulen lebendes Infusorium. *Zool. Anz.* xvii, p. 316.
52. *DANGEARD, P. A. [Notes on *Polysporella kützingii*.] *Botaniste*, (3. s.) v (1893), pp. 205-214, 1 pl. Abstract in *J. R. Micr. Soc.* 1894, p. 212.
53. DANILEWSKY, W. Ueber die Hämatozoen bei Tieren, welche analog den Malaria-Hämatozoen beim Menschen sind. V. Pirogow. *Kongress russ. Aerzte*, Dec. 27, 1893—Jan. 3, 1894. Abstract in *Centrbl. Bakter.* xv, pp. 480 & 481.
54. *DANSAC, M. Cancer et psorospermies. *Gaz. Hebd. med. Chir.* ii, pp. 498-502, & 510-513.
55. DE AMICIS, G. A. La fauna a Foraminiferi del pliocene inferiore di Bonfanello presso Termini-Imerese (Sicilia). *Atti Soc. Toscana*, ix, pp. 117-119. Abstract in *J. R. Micr. Soc.* 1894, p. 577.
56. DE ANGELIS MANGANO, G. Sul parassita del mollusco contagioso. *Riforma med. Napoli*, ix, 2, pp. 823 & 824.
57. DÉLÉPINE, S., & COOPER, P. R. A few facts concerning psorospermiosis or gregarinosis. *Brit. Med. Journ.* 1893, p. 834.
DIXON, A. E. [See HARTOG, M., & DIXON, A. E. (104).]
1894. [VOL. XXXI.] H 2

58. DÖCK, G. Ueber Parasiten der tropischen Malaria. Arch. path. Anat. cxxxi, pp. 181 & 182.
59. —. Pernicious malarial fever. Amer. J. Med. Sci. 1894, pp. 379-398.
60. DOLLFUS, G. F. Protozoaires. Annuaire geol. ix, pp. 911-924.
61. —. Radiolaires. *T. c.* pp. 925-933.
62. *DORIA, T. R. Ueber das Vorhandensein von Protozoen bei der Endometritis chronica glandularis. Arch. Gynækol. xlvii, pp. 1-11. Abstracts in Centrbl. Bakter. xvi, p. 465, and in J. R. Micr. Soc. 1894, pp. 696 & 697.
63. DUERDEN, J. E. Notes on the Marine Invertebrates of Rush, County Dublin. Irish Natural. iii, No. 11, pp. 230-233.
Haliphysema and *Folliculina*, p. 231.
DUPLAY, —. [See CAZIN, —, & DUPLAY, — (40).]
64. EBERLEIN, R. Ueber die im Wiederkäuermagen vorkommenden ciliaten Infusorien. Inaug. Diss. Berlin (O. Vogt), 1894, 8vo, 69 pp. Abstract in Zool. Anz. xvii, (Lit.) p. 519.
2 new species.
65. EDWARDS, W. A., & WATERMAN, J. S. Hepatic abscess, report of a case with remarks upon the *Amœba coli*. Pacif. med. Journal, 1892, pp. 129-141.
66. EGGER, J. G. Foraminiferen aus Meeresgrundproben der "Gazelle." Zool. Centralbl. i, pp. 465 & 466, and in J. R. Micr. Soc. 1894, p. 354. Abstracts of paper in Abh. Bayer. Ak. xviii, pp. 195-458. [See Zool. Rec. 1893.]
67. EPSTEIN, A. *Monocercomonas hominis* and *Amœba coli*. J. R. Micr. Soc. 1894, p. 212. Abstract of paper in Prag. med. Wochenschr. 1893. [See Zool. Rec. 1893.]
68. FABRE-DOMERGUE, —. Discussion de l'origine coccidienne du cancer. Ann. Microgr. 1894, pp. 39-67 & 97-101.
69. FABRY, J. Ueber Psorospermien bei Hautkrankheiten. (Bericht über einen typischen Fall von sog. Darier'scher Psorospermose.) Arch. Dermatol. Syphilis, 1894, pp. 373-391.
70. FELETTI, R. Sul modo di distinguere i parassiti malarici dalle alterazioni degli elementi sanguigni. Lavori Congr. med. int. 1892; Milano, 1893, pp. 379-384.
71. FELSENTHAL, S., & STAMM, C. Die Veränderungen in Leber und Darm bei der Coccidienkrankheit der Kaninchen. Arch. path. Anat. cxxxii, pp. 36-49, pl. ii. Abstract in Centrbl. Bakter. xv, p. 82.
72. FERRONI, E., & MASSARI, G. Sulla pretesa scoporta del Guarnieri riguardo la infezione vaccinica e variolosa. Riforma med. Napoli, ix, 2, pp. 602-604.

- FERRONI, E. [See MASSARI, G., & FERRONI, E. (167).]
- FIOCCA, R. [See CELLI, A., & FIOCCA, R. (41, 42, 43).]
73. FISCHER, A. Ueber die Geisseln einiger Flagellaten. Jahrb. wiss. Bot. xxvi (1894), pp. 187-235, 2 pls. Abstract in J. R. Micr. Soc. 1894, p. 580.
- FISCHER, J. [See WINKLER, F., & FISCHER, J. (268).]
74. FOÀ, P. Zur Ätiologie des Carcinoms. Mitteil. xi. Internat. med. Kongress, Rom. Abstracts in Wien. med. Wochenschr. 1894, pp. 655-658, in Centrbl. Bakter. xv, pp. 816 & 817, and in J. R. Micr. Soc. 1894, pp. 698 & 699.
75. *—. Sur les parasites et sur l'histologie pathologique du cancer. Arch. sc. med. xvii, pp. 253-278, and in Arch. ital. Biol. xx, pp. 44-66, 4 pls.
76. *—. Sui parassiti del carcinoma. Riforma med. Napoli, ix, 3, pp. 267-269.
77. FORBES, S. A. A preliminary report on the aquatic invertebrate fauna of the Yellowstone National Park, Wyoming, and the Flathead region of Montana. Bull. U. S. Fish Comm. xi (1891), pp. 207-256.
1 new variety: *Stentor igneus*, var. *fuliginosus*, p. 256.
78. *FOWLER, G. R. Origin of Carcinoma through the medium of a specific micro-organism. Tr. Med. Soc. New York and Philadelphia, 1893, pp. 219-228.
79. FRANČE, R. Die Polytomeen, eine morphologisch-entwicklungsgeschichtliche Studie. Jahrb. wiss. Bot. xxvi (1894), pp. 295-378, 4 pls., 9 figg. Abstract in J. R. Micr. Soc. 1894, p. 579.
1 new genus.
80. FRIČ, A. Studien im Gebiete der Böhmisches Kreideformation. Paläontologische Untersuchungen der einzelnen Schichten. v. Priesener Schichten. Arch. Landesdf. Bohmen, ix, No. 1, pp. 1-135, 194 figg.
Fossil *Foraminifera*, pp. 62-64; pp. 116-127; 91 species, of which 1 new. Fossil *Radiolaria*, pp. 64, 127 & 128; 11 species, none new.
81. — & VAVRA, V. Untersuchungen über die Fauna der Gewässer Böhmens. iv. Die Thierwelt des Unterpočernitzer und Gätter-schlager Teiches als Resultat der Arbeiten an der übertragbaren zoologischen Station. Arch. Landesdf. Bohmen, ix, No. 2, 124 pp., 80 woodcuts.
Protozoa, pp. 41-43, 94, 97 & 98. 1 new species: *Acineta*? *crassipes*.
82. GALLOWAY, J. Observations on parasitic organisms in Carcinoma. Tr. Path. Soc. London, 1892-93, p. 208.

83. [GALLOWAY, J.] The parasitism of *Protozoa* in Carcinoma. Brit. Med. Journ. 1893, pp. 217-222.
84. GARBINI, A. Appunti per una limnobotica italiana. I. *Protozoa, Porifera e Calenterata* del Veronese. Zool. Anz. xvii, pp. 295-298.
GHEORGHIU, D. [See BABES, V., & GHEORGHIU, D. (5).]
85. GIBBES, H. On the parasitic nature of Cancer. Tr. Ass. Amer. Physicians, 1893, pp. 289-297; and in Amer. Journ. Med. Sc. 1893, pp. 1-7. Abstract in Centrbl. Bakter. xv, p. 770.
86. GOËS, A. A Synopsis of the Arctic and Scandinavian recent marine *Foraminifera* hitherto discovered. Stockholm (P. A. Norstedt & Söner): 1894, 4to, 127 pp.
2 new genera, 12 new species.
87. GOLGI, C. Sulle febbri malariche estivo-autunnali di Roma. Riforma med. Napoli, ix, 4, pp. 781-783.
88. GOULD, L. J. Notes on the minute structure of *Pelomyxa palustris* (Greeff). Quart. J. Micr. Sci. xxxvi, No. 2, pp. 295-304 & 305 & 306, 2 pls. Abstracts in Zool. Anz. (Lit.) xvii, p. 250, and in J. R. Micr. Soc. 1894, pp. 463 & 464.
89. GRASSI, B., & SANDIAS, A. Costituzione e sviluppo della società dei Termitidi. Osservazioni sui loro costumi. Con un'appendice sui Protozoi parassiti dei Termitidi e sulla famiglia delle Embidine. Atti Acc. Gioen. (4), vi & vii, 150 pp., 5 pls.
90. GREENWOOD, M. Food-vacuoles of *Infusoria*. J. R. Micr. Soc. 1894, p. 353. Abstract of paper in P. R. Soc. London, liv, pp. 466-472. [See Zool. Rec. 1893.]
91. — & SAUNDERS, E. R. On the rôle of acid in protozoan digestion. J. Physiol. xvi (1894), pp. 441-467, 1 pl. Abstract in J. R. Micr. Soc. 1894, p. 462.
92. GREGORY, J. W., & JOHNSTON-LAVIS, H. J. Eozonal structure of the ejected blocks of Monte Somma. Tr. R. Dublin Soc. (2), v, No. 7, pp. 259-278, pl. xxx-xxxiv. Abstract in Nature, li, p. 251.
93. GRIMM, F. Ueber einen Leberabscess und einen Lungenabscess mit Protozoen. Laugenbeck's Arch. Chirurg. xlvi, hft. 2, pp. 478-482. Abstracts in Centrbl. Bakter. xvi, p. 534, and in J. R. Micr. Soc. 1894, p. 700.
94. GRUBER, A. Microscopic vivisection. J. R. Micr. Soc. 1894, p. 210. Abstract of paper in Ber. Ges. Freiburg, vii, pp. 47-67. [See Zool. Rec. 1893.]
95. —. Amöben Studien. Biol. Centralbl. xiv, No. 9, p. 314. Abstract of paper in Ber. Ges. Freiburg, viii, pp. 24-34. [See Zool. Rec. 1893.]

96. *GUARNIERI, G. Ricerche sulla patogenesi ed etiologia dell'infezione vaccinica e variolosa. Arch. Sc. Med. xvi (1892). Abstract in Arch. ital. Biol. xix, pp. 195-209.
97. *GUEYNATZ, —. [Parasites of Sarcoma.] Wratsch : 1894, Nos. 8 & 9, Abstract in Ann. Microgr. vi (1894), pp. 289-293, and in J. R. Micr. Soc. 1894, p. 698.
98. GUILLEBEAU, A. Ueber das Vorkommen von *Coccidium oviforme* bei der roten Ruhr des Rindes. Schweiz. Arch. Tierheilk. xxxvi, No. 4, pp. 169-171. Abstract in J. R. Micr. Soc. 1894, p. 577. [See also Zool. Rec. 1893.]
99. GURLEY, R. R. On the Classification of the *Myxosporidia*, a group of protozoan parasites infesting fishes. Centrbl. Bakter. xv, pp. 86-88, and in J. R. Micr. Soc. 1894, p. 465. Abstracts of paper in Bull. U. S. Fish Comm. xi, pp. 407-420. [See Zool. Rec. 1893.]
100. —. The *Myxosporidia*, or Psorosperms of fishes, and the epidemics produced by them. Rep. U. S. Fish Comm. xviii (1892), pp. 65-304, pls. i-xlvii.
102 species, of which 1 new.
101. HÆCKEL, E. Systematische Phylogenie. Entwurf eines natürlichen Systems der Organismen auf Grund ihrer Stammesgeschichte. i. Theil. Protisten und Pflanzen. Berlin (G. Reimer) : 1894, xv & 400 pp.
102. HALKYARD, E. "Plans of growth" and form in the *Foraminifera*. Tr. Manchester Micr. Soc. 1893, pp. 32-47, pls. i & ii.
103. HANSEMANN, D. Kritische Bemerkungen über die Aetiologie der Carcinome. Berlin. klin. Wochenschr. 1894, pp. 11-16, & 103.
104. HARTOG, M., & DIXON, A. E. On the digestive ferments of a large Protozoon. Rep. Brit. Ass. lxiii, pp. 801 & 802.
105. HAYCRAFT, J. B. Artificial *Amœba* and protoplasm. Nature, xlix, p. 79.
106. *HÉHIR, P. The *Amœba coli*. Its relations to dysentery and tropical suppurative hepatitis. Indian Med. Gaz. 1892, pp. 321-323.
107. * —. Microscopical observations on the *Hæmatozoa* of Malaria. Indian Med. Rec. 1893, pp. 207, 241, & 273.
108. HOWCHIN, W. On the occurrence of *Foraminifera* in the Permian-Carboniferous Rocks of Tasmania. Rep. Austral. Ass. v (Adelaide), pp. 344-348, 2 pls.
1 new variety.
109. —. A census of the fossil *Foraminifera* of Australia. T. c. pp. 348-373.
273 species, none new.

110. ISHIKAWA, C. Ueber die Kerntheilung bei *Noctiluca*. Biol. Centralbl. xiv, p. 314, and J. R. Micr. Soc. 1894, p. 464. Abstracts of paper in Ber. Ges. Freiburg, viii, pp. 54-69. [See Zool. Rec. 1893.]
111. —. Studies of reproductive elements. II. *Noctiluca miliaris*, Sur.; its division and spore-formation. J. Coll. Japan, vi, pt. 4, pp. 297-334, pls. xi-xiv. Abstract in J. R. Micr. Soc. 1894, pp. 693 & 694.
112. ISRAEL, O. Ueber eine eigenartige Contractions-erscheinung bei *Pelomyxa palustris*, Greeff. Arch. mikr. Anat. xlv, pp. 228-236.
113. JENSEN, P. Ueber den Geotropismus niederer Organismen. Arch. ges. Phys. liii, pp. 428-480, 13 figg.
114. JOHANSEN, H. *Actinocephalus goronowitschi*, eine anscheinend neue Gregarinenform. Zool. Anz. xvii, pp. 140-145, 4 figg.
1 new species.
115. JOHNSON, H. P. The plastogamy of *Actinosphaerium*. J. Morphol. ix, No. 2, pp. 269-276, 4 figg. Abstracts in Zool. Anz. (Lit.) xvii, p. 250, and in J. R. Micr. Soc. 1894, p. 577.
JOHNSTON-LAVIS, H. J. [See GREGORY, J. W., & JOHNSTON-LAVIS, H. J. (92).]
116. JONES, T. R. Dimorphism in the *Miliolinae* and in other *Foraminifera*. Ann. Nat. Hist. (6) xiv, pp. 401-407.
117. JULIN, C. Le corps vitellin de Balbiani et les éléments de la cellule des Métazoaires qui correspondent au macronucléus des Infusoires. Zool. Centralbl. i, p. 464. Abstract of paper in Bull. Sci. France, Belgique, xxv, pp. 295-345. [See Zool. Rec. 1893.]
118. KAHANE, M. Ueber das Vorkommen lebender Parasiten im Blute und in Geschwulstzellen bei Carcinomatösen. Centrbl. Bakter. xv, pp. 413-418. Abstract in J. R. Micr. Soc. 1894, p. 580.
119. —. Weitere Mittheilungen über das Vorkommen lebender Parasiten im Blute und in den Geschwulstzellen bei Carcinomatösen. Centrbl. Bakter. xv, p. 629.
120. KELLICOTT, D. S. On certain marine *Infusoria* observed at Woods Holl, Mass. Ann. Rep. Ohio St. Acad. Sc. ii, pp. 10 & 11.
3 new species.
KILBORNE, F. L. [See SMITH, T., & KILBORNE, F. L. (242, 243).]
121. KÖNIG, A. *Hemispeiroopsis comatulæ*, eine neue Gattung der Urceolariden. SB. Ak. Wien, ciii, pp. 55-60, 6 figg.
1 new genus.
122. KÖNIGS, A. Verzeichniss von Petrefakten des marinen Oberoligo-cäns aus der Umgegend von Crefeld. Verh. Ver. Rheinland, 1, 2 Hälfte, pp. 519-523.
Foraminifera, p. 523; none new.

123. KÖEPPEN, N. *Amœbophrya stycholonchæ* [misprint for "*sticholonchæ*"], nov. gen. et sp. ("Corps spiral," de Fol). Communication préliminaire. Zool. Anz. xvii (1894), pp. 417-424.
1 new genus, 2 new species.
124. KOPFSTEIN, W. Erwiderung auf Prof. Adamkiewicz Aufsatz "Ueber den Krebsparasiten." Wien. med. Wochenschr. 1894, pp. 471 & 472.
125. *KOVÁCS, —. [Ueber parasitische Amœben.] Zeitschrift f. Heilkunde, 1893. Abstract in MOSLER & PEIPER, Thierische Parasiten, p. 23.
126. KROMEYER, —. [Molluscum contagiosum.] CB. Nat. Ver. Sachs. Thür. 1893, pp. 49 & 50.
127. KRUSE, W., & PASQUALE, A. Eine Expedition nach Egypten zum Studium der Dysenterie und des Leberabscesses. Deutsch. med. Wochenschr. 1893, Nos. 15 & 16, 8 pp.
128. — & —. Untersuchungen über Dysenterie und Leberabscess. Zeitschr. Hygiene, xvi (1894), No. 1. Abstract in Centrbl. Bakter. xvi, pp. 81-84.
129. KURLOFF, M. G. Zur Lehre von den Carcinomparasiten. Centrbl. Bakter. xv, pp. 341-349, pl. ii. Abstract in J. R. Micr. Soc. 1894, pp. 355 & 356.
130. *— . [On Cancer Parasites.] Wratsch : 1894, pp. 5-8 [Russian]. From Centrbl. Bakter. xvi, p. 676.
131. LABBÉ, A. Dimorphisme dans le développement des hémospories. Centrbl. Bakter. xv, pp. 773 & 774. Abstract of paper in C.R. Ac. Sci. cxvi, pp. 1209 & 1210. [See Zool. Rec. 1893.]
132. —. *Coccidium delagei*, Coccidie nouvelle parasite des tortues d'eau douce. Centrbl. Bakter. xv, p. 827. Abstract of paper in Arch. Zool. exp. (3) i (1893), pp. 267-280. [See Zool. Rec. 1893.]
133. —. Sur les Coccidies des oiseaux. Centrbl. Bakter. xv, p. 773. Abstract of paper in C.R. Ac. Sci. cxvi, pp. 1300-1303. [See Zool. Rec. 1893.]
134. —. Sur les parasites endoglobulaires du sang de l'alouette. C.R. Soc. Biol. (9) v, pp. 739-741.
135. —. Sur la signification des formes à flagella de la malaria de l'Homme et des Oiseaux. T. c. pp. 867-871.
136. —. A propos des formes à flagella des hématozoaires malariques. Réponse à M. le Dr. Laveran. T. c. pp. 980-982.
137. —. Sur la coexistence, chez la même hôte, d'une Coccidie monosporée et d'une Coccidie polysporée. C.R. Ac. Sci. cxix, pp. 537-539. Abstracts in Rev. Scient. (4) ii, p. 442, in Zool. Anz. (Lit.) xvii, p. 414, and in J. R. Micr. Soc. 1894, p. 696.
1 new genus.

138. [LABBÉ, A.] Sur la morphologie et la classification des Coccidies. C.R. Ac. Sci. cxix, pp. 1019 & 1020.
139. —. "Untersuchungen über den Krebs. Die Zellerkrankungen und die Geschwulstbildungen durch Sporozoen." Par le docteur Ludwig Pfeiffer. Arch. Zool. exp. (s. 3), ii (1894), pp. v-viii.
140. —. Recherches zoologiques et biologiques sur les Parasites endoglobulaires du sang des Vertébrés. Arch. Zool. exp. (3) ii, No. 1, pp. 55-258, pls. i-x. Abstracts in Zool. Anz. (Lit.) xvii, p. 302, in Rev. Scient. (4) iii, pp. 80-83, and in J. R. Micr. Soc. 1894, p. 578.
6 new genera ; 8 new species.
141. LAUTERBORN, R. Die pelagischen Protozoen und Rotatorien Helgolands. Ber. Komm. deutsch. Meere (N. F.) i, No. 1, pp. 207-213.
33 species of *Protozoa*, none new.
142. —. Ueber die Winterfauna einiger Gewässer der Oberrheinebene. Mit Beschreibung neuer Protozoen. Biol. Centralbl. xiv, pp. 390-398. Abstract in Zool. Anz. (Lit.) xvii, p. 249.
4 new genera, 7 new species.
143. LAVERAN, A. Etiologie de la dysenterie. La Semaine méd. 1893, p. 508. Abstract in Centrbl. Bakter. xv, p. 26.
144. —. Au sujet de l'hématozoaire du paludisme. C.R. Soc. Biol. (9) v, pp. 312 & 313.
145. —. Contribution à l'étude de l'étiologie de la dysenterie. *T. c.* pp. 875-879.
146. —. Remarques sur la dernière communication de M. Labbé. *T. c.* pp. 1004-1006.
147. LE DANTEC, F. Études comparatives sur les Rhizopodes lobés et réticulés d'eau douce. C.R. Ac. Sci. cxix, pp. 1279-1282.
148. —. Du rapport de la forme générale à la composition du corps chez les Protozoaires. *Op. cit.* cxx, pp. 335-337. Abstracts in Rev. Scient. (4) iii, p. 244, and in Zool. Anz. (Lit.) xviii, p. 57.
149. LÉGER, L. New Gregarine in Algerian *Acrididae*. J. R. Micr. Soc. 1894, p. 212. Abstract of paper in C.R. Ac. Sci. cxvii, pp. 811-813. [See Zool. Rec. 1893.]
150. —. Sur une nouvelle Grégarine de la famille des Dactylophorides parasite des Geophiles. C.R. Ac. Sci. cxviii, pp. 1285-1288. Abstracts in Rev. Scient. (4) i, p. 760, in Zool. Anz. (Lit.) xvii, p. 303, and in J. R. Micr. Soc. 1894, p. 466.
1 new genus, 1 new species.
151. LENDENFELD, R. VON. Einige neuere Arbeiten über die Verdauung bei Infusorien und Plasmodien. Biol. Centralbl. xiv, pp. 277-279.

152. LEVANDER, K. M. Liste über im Finnischen Meerbusen in der Umgebung von Helsingfors beobachteten Protozoen. Zool. Anz. xvii, pp. 209-212. Abstract in J. R. Micr. Soc. 1894, p. 462.
117 species, of which 6 new.
153. —. Beiträge zur Kenntniss einiger Ciliaten. Akademische Abhandlung. Helsingfors (J. Simelii): 1894, 8vo, 87 pp., 3 pls. Abstract in Zool. Anz. (Lit.) xvii, p. 130.
3 new genera, 5 new species.
154. —. *Peridinium catenatum*, n. sp., eine kettenbildende Peridinee im finnischen Meerbusen. Act. Soc. Faun. Fenn. ix, No. 10, 18 pp., 1 pl. Abstracts in Zool. Anz. (Lit.) xvii, p. 130, and in J. R. Micr. Soc. 1894, p. 580.
1 new species.
155. LINDNER, G. Parasitic *Vorticellæ*. J. R. Micr. Soc. 1894, p. 211. Abstract of paper in Deutsch. med. Zeit. pp. 349-353, &c. [See Zool. Rec. 1893.]
156. —. Die künstliche Erzeugung von Hautkrankheiten am Thierkörper durch eine specifische Protozoenart. Monatschr. prakt. Dermat. xvi (1892), pp. 1-11. Abstract in J. R. Micr. Soc. 1894, p. 692.
157. —. Die krankheitserregende Wirkung gewisser Vorticellen. Deutsch. med. Zeit. 1894, pp. 587-589. Abstract in Centrbl. Bakter. xvi, p. 535.
158. LISTER, J. J. Contributions to the Life-History of the *Foraminifera*. P. R. Soc. London, lvi, No. 337, pp. 155-160. Abstracts in Zool. Anz. (Lit.) xvii, p. 413, and in J. R. Micr. Soc. 1894, pp. 694 & 695.
159. *LÜPKE, —. *Coccidium oviforme* als Krankheitsursache. Berlin. thierärztl. Wochenschr. 1893, pp. 502 & 503.
160. LUNDBERG, C. Protozoerna såsom sjukdomsorsaker. Lakarefor. Forh. Upsala, xxviii, pp. 169-192.
161. MAGGI, L. Coloranti e Protisti (contin.). Boll. scient. xvi, No. 1, pp. 22-32, No. 2, pp. 55-61, No. 3, pp. 80-89.
162. —. Sull' *Urocentrum turbo* Ehr. Nota. Rend. Ist. Lombardo (2), viii, fasc. 2, 8 pp.
163. MALASSEZ, L. Sur les parasites du cancer. C.R. Soc. Biol. (9), v, pp. 443 & 444.
164. MANSON, P. A clinical lecture on the parasite of malaria and its demonstration. Lancet, 1894, No. 1, vol. 1, pp. 6-9.
165. MARCHAND, F. Ueber das Vorkommen von *Trichomonas* im Harn eines Mannes, nebst Bemerkungen über *Trichomonas vaginalis*. Centrbl. Bakter. xv, pp. 709-720, pl. iii. Abstract in J. R. Micr. Soc. 1894, p. 697.

166. [MARCHAND, F.] Bemerkung zu der vorstehenden Arbeit. [MIURA, K., *Trichomonas vaginalis*, &c. (172).] Centrbl. Bakter. xvi, p. 74.
167. MASKE, H. Gregarinen im Labmagen des Schafes. Zeit. Fleisch-Milchhyg. 1893-94, pp. 28 & 29.
168. MASSARI, G., & FERRONI, E. Supposed Cancer parasites. J. R. Micr. Soc. 1894, p. 213. Abstract of paper in La Rif. med. 1893, No. 154. [See Zool. Rec. 1893.]
 MASSARI, G. [See FERRONI, E., & MASSARI, G. (72)]
169. MASSART, J. Irritability of *Noctiluca*. J. R. Micr. Soc. 1894, p. 354. Abstract of paper in Bull. Sci. France, Belgique, xxv, pp. 59-76. [See Zool. Rec. 1893.]
170. MENDELSSOHN, M. Ueber den Thermotropismus einzelliger Organismen. Arch. ges. Phys. lx, pp. 1-27.
 MILLAR, J. [See CATTLE, C. H., & MILLAR, J. (36).]
171. MILLER, C. O. Ueber aseptische Protozoenkulturen und die dazu verwendeten Methoden. Centrbl. Bakter. xvi, pp. 273-280.
172. MILLER, W. Ueber die Krebsparasiten bei Carcinoma uteri. v. Pirogow. Kongress russ. Aerzte, 27 Dec. 1893-3 Jan. 1894. Abstract in Centrbl. Bakter. xv, p. 487.
173. MIURA, K. *Trichomonas vaginalis* im frischgelassenen Urin eines Mannes. Centrbl. Bakter. xvi, pp. 67-73, 4 woodcuts.
174. MOORE, J. E. T. On the morphological value of the Attraction-Sphere. Science Progress, ii, No. 10, pp. 319-330, 7 figg.
175. MORPURGO, B. Corps colorables dans les cellules de carcinome. Arch. ital. Biol. xxi, pp. 146 & 147.
176. MOSLER, F., & PEIPER, E. Thierische Parasiten. [Band VI of "Specielle Pathologie und Therapie" by H. Nothnagel.] Wien (Alfred Hölder): 1894, 8vo, xii + 345 pp., 124 woodcuts. Abstract in Centrbl. Bakter. xvi, pp. 752-755.
Protozoa, pp. 1-23.
177. NIESSEN, M. VAN. Der Krebserreger. Centralbl. med. Wissensch. 1894, pp. 369-371.
178. NITSCHKE, P., & WELTNER, W. Ueber einen neuen Hautparasiten (*Tetramitus nitschkei*) an Goldfischen. Centrbl. Bakter. xvi, No. 1, pp. 25-30, 4 woodcuts. Abstract in J. R. Micr. Soc. 1894, p. 699.
 1 new species.
179. NÖGGERATH, —. Beiträge zur Structur und Entwicklung des Carcinoms. Wiesbaden, 1892. Abstract in Centrbl. Bakter. xv, pp. 244 & 245.
180. OHLMACHER, A. P. *Myxosporidia* in the common Toad, with preliminary observations on two chromophile substances in their spores. J. Amer. Med. Ass. 1893, pp. 561-567.

181. *OZZARD, A. S. Bemerkungen über Malariafieber in Britisch-Guiana. Br. Guiana Med. Annals, 1893, pp. 87-113.
182. PARK, R. The parasitic theory of the etiology of Carcinoma. Tr. Med. Soc. New York, 1893, pp. 185-196.
183. *PASQUALE, A. Spedizione scientifica Kruse-Pasquale per lo studio della dissenteria e dell' ascesso epatico in Egitto. Giorn. Med. R. Eserc. Mar. Roma, 1893, pp. 176-189.
- . [See KRUSE, W., & PASQUALE, A. (127 & 128).]
184. *PAWLOFF, —. Zur Frage der sog. Psorosperme folliculaire végétante Darier. Arch. Derm. Syph. 1893, Erg. Heft 2. Abstract in Centrbl. Bakter. xiv, p. 464.
185. PAWLOWSKY, A. D. Ueber parasitäre Zelleinschlüsse in sarcomatösen Geweben. Arch. path. Anat. cxxxiii, pp. 464-480, pl. xiii. Abstracts in Centrbl. Bakter. xiv (1893), p. 810, and in J. R. Micr. Soc. 1894, p. 213.
- PEIPER, E. [See MOSLER, F., & PEIPER, E. (176).]
186. PES, O. Un casa di febbre malarica a lunghi intervalli connessa di parassiti della terzana. Riforma med. Napoli, ix, 2, pp. 759 & 760.
187. *PFEIFFER, L. Protozoi quali agenti patogeni, nonchè il loro parassitismo dentro le cellule ed i nuclei cellulari nelle malattie infettive non batteriche dell' Uomo. [Translated from the German by A. Solaro. See Zool. Rec. 1892, *Protozoa*, No. 120.] Milano, vii + 250 pp., 91 figg.
- PLIMMER, H. G. [See RUFFER, A., & PLIMMER, H. G. (213 & 214).]
188. PODWYSSOZKY, W. Entwicklungsgeschichte des *Coccidium oviforme* im Zusammenhange mit der Lehre von den Krebsparasiten. v. Pirogow. Kongress russ. Aerzte, Dec. 27, 1893—Jan. 3, 1894. Abstracts in Centrbl. Bakter. xv, pp. 481-485, and in J. R. Micr. Soc. 1894, p. 355.
189. POTEAT, W. L. *Ooramæba*. Nature, l, p. 79.
190. PRZESMYCKI, M. Ueber die Zellkörnchen bei den Protozoen. Biol. Centralbl. xiv, pp. 620-626. Abstracts in Zool. Anz. (Lit.) xvii, p. 413, and in J. R. Micr. Soc. 1894, pp. 691 & 692.
191. QUINCKE, G. Artificial Amœbæ and Protoplasm. Nature, xlix, pp. 5 & 6.
192. QUINCKE, H., & ROOS, E. Ueber Amœben-Enteritis. Berlin. klin. Wochenschr. 1893, pp. 1089-1094. Abstract in Centrbl. Bakter. xv, pp. 26 & 27.
- QUINCKE, —. [See ROOS, —, & QUINCKE, —. (206).]
193. RAILLIET, A. Traité de zoologie médicale et agricole. 2e Éd. fasc. I. Paris: 1893, 736 pp., 494 figg.

194. RAUFF, H. Ueber die Natur des *Eozoon canadense*. SB. niederrhein. Ges. 1, 2 Hälfte, p. 76.
195. REMOUCHAMPS, E. Over een vorm van *Amœba malarie* in Zeeland. Nederl. Tijdschr. Geneesk. 1893, ii, pp. 849-854.
196. RHUMBLER, L. Beiträge zur Kenntniss der Rhizopoden. II. *Saccamina spherica*, M. Sars. 1 Theil : Zeitschr. wiss. Zool. lvii, pp. 433-586, pls. xxi-xxiv ; 2 Theil : *ibid.* pp. 587-617, pl. xxv. Abstracts in Zool. Anz. (Lit.) xvii, pp. 149, 150, & 187, and in J. R. Micr. Soc. 1894, p. 695.
5 new genera, 5 new species.
197. —. Eine Doppelfärbung zur Unterscheidung von lebenden Substanzen und von abgestorbenen oder unorganischen Substanzen nach ihrer Conservirung. (Im Anschluss hieran einige Mittheilungen über Rhizopoden.) Zool. Anz. xvi, pp. 57-62.
198. —. Die Herkunft des *Globigerina* Einschlusses bei *Orbulina universa*, d'Orb. *Op. cit.* xvii, pp. 196-202, 1 fig. Abstracts in Zool. Anz. (Lit.) xvii, p. 250, in Naturw. Rundschau, ix, p. 422, and in J. R. Micr. Soc. 1894, pp. 464 & 465.
199. —. Die Perforation der Embryonalkammer von *Peneroplis pertusus*, Forskål. Zool. Anz. xvii, pp. 335-342, 2 figg. Abstracts in Zool. Anz. (Lit.) xvii, p. 414, in Feuille Natural. (3) xxv, p. 16, and in Zool. Centralbl. i, Nos. 21-23, pp. 815 & 816.
200. RIBBERT, —. Die neueren Untersuchungen über Krebsparasiten. Deutsch. med. Wochenschr. 1894, No. 15. Abstracts in Centrbl. Bakter. xv, pp. 962-964, and in J. R. Micr. Soc. 1894, p. 699.
201. RICHARD, J. Sur quelques animaux inférieures des eaux douces du Tonkin (Protozoaires, Rotifères, Entomostracés). Mem. Soc. zool. France, vii, pp. 237-243.
202. *RITTER, W. E. [Parasite of *Perophora annectens*.] P. Calif. Ac. iv (1893), pp. 57-59, 2 figg. Abstract in J. R. Micr. Soc. 1894, p. 692.
203. ROMPEL, J. *Kentrochona nebalice*, n. g., n. sp., ein neues Infusor aus der Familie der Spirochoninen, zugleich ein Beitrag zur Lehre von der Kerntheilung und dem Centrosoma. Zeitschr. wiss. Zool. lviii, pp. 618-635, 1 pl. Abstract in Zool. Anz. (Lit.) xvii, p. 474.
1 new genus, 1 new species.
204. *ROOS, E. Ueber Infusoriendiarrhœe. Deutsch. Arch. Klin. Med. li, pp. 505-526. Abstracts in Centrbl. Bakter. xv, pp. 610 & 611, and in J. R. Micr. Soc. 1894, p. 463.
205. —. Zur Kenntniss der Amöben-enteritis. Arch. exp. Path. und Pharm. xxxiii, No. 6, pp. 389-406.

206. *ROOS, —, & QUINCKE, —. [Amœba-Enteritis.] Arch. exp. Path. and Pharm. xxxiii (1894), No. 6, 2 pls. Abstracts in Centrbl. Bakter. xvi, pp. 465 & 466, and in J. R. Micr. Soc. 1894, p. 696.
207. *ROSIN, H. Einfluss von Chinin und Methylenblau auf lebende Malariaparasiten. Deutsch. med. Wochenschr. 1893, pp. 1068–1070. Abstract in Centrbl. Bakter. xv, pp. 207 & 208.
208. *ROSS, R. The true nature of the Plasmodium, and of some other parasitic appearances in blood. Ind. Med. Gaz. 1893, pp. 329–336.
209. * —. The third element of the blood and the Malaria parasite. *Op. cit.* 1894, pp. 5–14.
210. RUFFER, A. On *Protozoa* and Cancer. Tr. Path. Soc. London, 1892–93, pp. 209–216.
211. —. Recent researches on *Protozoa* and disease. Brit. Med. Journ. 1893, p. 825. Abstract in Centrbl. Bakter. xiv, pp. 809 & 810.
212. * —. [Notes on Cancer.] Mt. xi. Internat. med. Kongr. Rom. Centrbl. Bakter. xvi, pp. 460 & 461. Abstract in J. R. Micr. Soc. 1894, p. 699.
213. RUFFER, A., & PLIMMER, H. G. Sur le mode de reproduction des parasites du cancer. C.R. Soc. Biol. (9) v, pp. 384 & 385, and in C.R. Ac. Sci. cxvi, pp. 836 & 837.
214. — & —. Researches on Vaccinia and Variola. Brit. Med. Journ. 1894, i, pp. 1412 & 1413. Abstract in J. R. Micr. Soc. 1894, pp. 697 & 698.
215. RUNEBERG, J. W. Ett nytt fall af *Balantidium coli*. Finsk. Läk-aresällsk. Handl. 1893, pp. 434–441.
216. RYDER, J. A. The growth of *Euglena viridis*, when constrained principally to two dimensions of space. Contr. Zool. Lab. Univ. Pennsylv. i, No. 1, pp. 37–50. Abstracts in Zool. Anz. (Lit.) xvii, p. 351, and in J. R. Micr. Soc. 1894, pp. 692 & 693.
217. —. On a new method of entrapping, killing, embedding and orienting *Infusoria* and other very small objects for the microtome. Amer. Natural. xxviii, pp. 194–198, 1 fig.
218. SACHAROFF, N. Zur Biologie der Malariaparasiten. Protokolle d. Kaukas. med. Ges. 1893–94, No. 7. Abstract in Centrbl. Bakter. xv, p. 962.
219. —. Ueber die Struktur des Kernes bei den halbmondförmigen Malariaparasiten des Menschen. Kaukas. med. Ges. 1893–94, No. 12. Abstracts in Centrbl. Bakter. xv, p. 962, and in J. R. Micr. Soc. 1894, p. 466.
220. —. Recherches sur les hématozoaires des Oiseaux. Ann. Inst. Pasteur, vii, pp. 801–811, 1 pl. Abstract in J. R. Micr. Soc. 1894, pp. 357 & 358.

221. [SACHAROFF, N.] Ueber den Einfluss der Kälte auf die Lebensfähigkeit der Malariaparasiten. *Centrbl. Bakter.* xv, pp. 158–162. Abstract in *J. R. Micr. Soc.* 1894, p. 357.
 SAINT-REMY, G. [See BARABAN, L., & SAINT-REMY, G. (9).]
 SANDIAS, A. [See GRASSI, B., & SANDIAS, A. (89).]
 SAUNDERS, E. R. [See GREENWOOD, M., & SAUNDERS, E. R. (91)]
222. SAWTSCHENKO, J. Weitere Untersuchungen über die Krebsparasiten (zur Entwicklungsgeschichte derselben). v. Pirogow. *Kongress russ. Aerzte*, Dec. 27, 1893—Jan. 3, 1894. Abstracts in *Centrbl. Bakter.* xv, pp. 485–487. and in *J. R. Micr. Soc.* 1894, pp. 356 & 357.
223. SCHAUDINN, F. Die systematische Stellung und Fortpflanzung von *Hyalopus*, n. g. *Naturw. Wochenschr.* ix, pp. 169–171, and in *Zool. Centralbl.* i, pp. 519 & 520. Abstracts of paper in *SB. Ges. naturf. Berlin*, 1894, pp. 14–22. [See *Zool. Record*, 1893.]
 1 new genus.
224. —. Reproduction of *Foraminifera*. *J. R. Micr. Soc.* 1894, p. 353, in *Amer. Natural.* xxviii, p. 413, and in *Zool. Centralbl.* i, pp. 674 & 675. Abstracts of paper in *Biol. Centralbl.* xiv, pp. 161–166. [See *Zool. Rec.* 1893.]
225. —. Untersuchungen an Foraminiferen. I. *Calcituba polymorpha*, *Roboz.* *Zool. Centralbl.* i, pp. 671–674. Abstract of *Inaug. Diss.* [See *Zool. Rec.* 1893.]
226. —. *Myxotheca arenilega*. *J. R. Micr. Soc.* 1894, p. 212. Abstract of paper in *Zeitschr. wiss. Zool.* lvii, pp. 18–31. [See *Zool. Rec.* 1893.]
227. —. Ueber Kerntheilung mit nachfolgender Körpertheilung bei *Amœba crystalligera*, Gruber. *MT. Ak. Berlin*, 1894, hft. vii, pp. 457–464, 10 figg; and in *SB. Ak. Berlin*, 1894, hft. xxxviii, pp. 1029–1036.
228. —. *Camptonema nutans*, nov. gen., nov. spec., ein neuer mariner Rhizopode. *MT. Ak. Berlin*, 1894, hft. x, pp. 621–630, pl. iv.
 1 new genus, 1 new species.
229. SCHEWIAKOFF, W. So-called Excretory Granules of Infusorians. *J. R. Micr. Soc.* 1894, pp. 352 & 353. Abstract of paper in *Zeitschr. wiss. Zool.* lvii, pp. 32–56. [See *Zool. Rec.* 1893.]
230. —. Ueber die Natur der sogenannten Exkretkörner der Infusorien. *Zool. Centralbl.* i, pp. 147 & 148. Abstract of paper in *Zeitschr. wiss. Zool.* lvii, pp. 32–56. [See *Zool. Rec.* 1893.]
231. —. Ueber die geographische Verbreitung der Süßwasser-Protozoen. *Zool. Centralbl.* i, Nos. 21–23, pp. 813–815. Abstract of paper in *Mem. Ac. St. Petersb.* (7) xli. [See *Zool. Rec.* 1893.]

232. [SCHEWIAKOFF, W.] Ueber die Ursache der fortschreitenden Bewegung der Gregarinen. *Zeitschr. wiss. Zool.* lviii, pp. 340-354, pls. xx & xxi. Abstracts in *Centrbl. Bakter.* xvi, pp. 534 & 535, in *Zool. Anz. (Lit.)* xvii, pp. 370 & 371, and in *Zool. Centralbl.* i, pp. 675 & 676.
233. SCHLUMBERGER, G. Monographie des Miliolidées du golfe de Marseille. *Zool. Centralbl.* i, No. 8, pp. 309 & 310. Abstract of paper in *Mem. Soc. zool. France*, vi, pp. 57-80. [See *Zool. Rec.* 1893.]
234. SCHLUMBERGER, C. Note sur les Foraminifères des mers arctiques russes. *Mem. Soc. zool. France*, vii, pp. 252-258, 1 pl.
6 new species.
235. SCHNEIDER, A. The contractile vesicle of *Paramœcium*. *Amer. Micr. J.* xiv, pp. 80-83.
SCHRÖDER, E. C. [See SMITH, T., KILBORNE, F. L., & SCHRÖDER, E. C. (244).]
236. *SCHWÄLBE, C. On Plasmodium malarie. *South Californ. Pract.* 1893, pp. 93-100.
237. SCHWARZ, E. H. K. Cocoliths. *Ann. Nat. Hist.* (6) xiv, pp. 341-346, 1 fig. Abstract in *Zool. Anz. (Lit.)* xvii, p. 474.
238. SCHWIMMER, E. Psorospermiosis (Darier). Keratosis hypertrophica universalis. *Biblioth. med. Abt. DII*, hft. 1, 13 pp., 1 pl.
239. *SFORZA, C. Sopra un processo semplice di colorazione degli ematozoari della malaria. *Riv. Ig. San. Pubbl.* 1893, pp. 133-135, and in *Giorn. Med. R. Eserc. Mar. Roma*, 1893, pp. 190-192.
240. SHERBORN, C. D. An Index to the genera and species of the *Foraminifera*. Part I. A to Non. *Smithson. Collect. No. 856*. City of Washington: 1893, 8vo, ii & 240 pp. Abstract in *J. R. Micr. Soc.* 1894, p. 354.
241. SMITH, A. J. Note on the morphology of the Hæmatozoon of Malaria. *Internat. Med. Mag.* i, pp. 1259 & 1260.
242. SMITH, T. Some problems in the etiology of Texas cattle fever and their bearing on the comparative study of protozoan diseases. *Tr. Ass. Amer. Phys.* 1893, pp. 117-134.
243. *SMITH, T., & KILBORNE, F. L. Investigations into the nature, causation and prevention of Texas or southern cattle fever. *Bull. U. S. Bureau Anim. Industry*, No. 1.
244. SMITH, T., KILBORNE, F. L., & SCHRÖDER, E. C. Additional observations on Texas cattle fever. *Op. cit.* No. 3, pp. 67-72.
245. SNOW, H. The so-called "parasitic Protozoa" of mammary carcinoma. *Lancet*, 1893, p. 1182. Abstract in *Centrbl. Bakter.* xv, pp. 243 & 244.

246. SPENGLER, J. W. Die Enteropneusten des Golfes von Neapel und der angrenzenden Meeres-Abschnitte. Fauna und Flora, Golf. Neapel, xviii, 758 pp., 34 figg., xxxvii pls.
Protozoa, pp. 755 & 756.
STAMM, C. [See FELSENTHAL, S., & STAMM, C. (71).]
247. STEUDEL, E. Die perniciöse Malaria in Deutsch-Ostafrika. Leipzig (F. C. W. Vogel): 1894, 8vo, 79 pp., 1 table.
248. STEVEN, J. L., & BROWN, J. On the so-called parasitic *Protozoa* of cancer. *J. Path. Bact.* ii, pp. 26-34. Abstract in *Centrbl. Bakter.* xv, p. 382.
249. STICKER, A. Ueber Infektionskrankheiten bei Fischen. *Zeitschr. Fischerei*, 1894, Nos. 2 & 3, pp. 85-90.
Myxosporidia, p. 89.
250. STILES, C. W. Report on a parasitic Protozoan (*Holophrya multifilis*, Bütschli). *Bull. U. S. Fish Comm.* 1893, pp. 173-189, 2 pls.
251. —. Note préliminaire sur une espèce d'infusoires (*Ichthyophthirius*) parasites chez les poissons d'eau douce à l'exposition nationale de Chicago. *C.R. Soc. Biol.* 1894, pp. 434-436.
252. STRÖBE, H. Die parasitären Sporozoen in ihren Beziehungen zur menschlichen Pathologie, insbesondere zur Histogenese und Aetiologie des Carcinoms. Zusammenfassendes Referat. *Centrbl. allg. Pathol. and Anat.* 1894, pp. 11-21, 60-88, & 107-129.
253. STUDER, TH. Faune du lac de Champex, Canton de Valais, 1460m s.m. *Arch. Sci. Nat.* (3) xxx, 7 pp. Abstract in *Zool. Centralbl.* i, No. 6, p. 214.
254. THÉLOHAN, P. Interrelations of *Myxosporidia*. *J. R. Micr. Soc.* 1894, p. 355. Abstract of paper in *C.R. Ac. Sci.* cxviii, pp. 428-430. [See *Zool. Rec.* 1893.]
255. —. Sur la présence d'une capsule à filament dans les spores des Microsporidies. *C.R. Ac. Sci.* cxviii, pp. 1425-1427. Abstracts in *Centrbl. Bakter.* xvi, p. 535, in *Rev. Scient.* (2) x, p. 24, and in *J. R. Micr. Soc.* 1894, p. 465.
256. —. Nouvelles recherches sur les Coccidies. *Arch. Zool. exp.* (3) ii, pp. 541-573, pls. xxii.
3 new species.
257. THOMPSON, W. G. Note on the observation of malarial organisms in connection with enteric fever. *Amer. J. Med. Sci.* 1894, pp. 158-163.
258. TITOFF, —. Ueber die Malariaparasiten der sog. halbmondförmigen Varietät. *Arbeiten Kaukas. med. Ges.* 1893, No. 54. Abstract in *Centrbl. Bakter.* xv, pp. 961 & 962.

259. TOMMASOLI, P. Ueber einen Fall von Epithelioma verrucosum abortivum nebst einem Beitrage zum Studium der Psorospermosen. Arch. Dermat. Syph. 1894, pp. 49-70.
260. TOPSENT, E. Description de *Pontomyxa flava*, Rhizopode marin, type multinucléé des *Amœbae reticulosa*. Arch. Zool. exp. (3) i, No. 3, pp. 385-399, 1 pl.
261. TREILLE, A. Le spectre de la malaria et l'hématozoaire du paludisme. Gaz. med. Nantes, 1892-93, pp. 128-136.
- VAVRA, V. [See FRIČ, A., & VAVRA, V. (81).]
262. VEDELER, —. Das Sarkomsporozoon. Centrbl. Bakter. xvi, pp. 849-853, pl. vi.
263. WALLENGREN, H. Studier öfver Ciliata Infusorier. 1. Slägtet *Licnophora*, Claparède. Lund (Malmström): 1894, 4to, 48 pp., 1 pl.; with German *résumé*, pp. 46-48. Abstract in Zool. Anz. (Lit.) xvii, p. 414.
264. WALTHER, J. Einleitung in die Geologie als historische Wissenschaft. 2 Theil. Die Lebensweise der Meeresthiere. Beobachtungen über das Leben der geologisch wichtigen Thiere. Jena (G. Fischer): 1893, 8vo, pp. 199-530.
- Foraminifera*, pp. 207-230; *Radiolaria*, pp. 231-244.
265. *WASSILIEWSKI, M. [*Protozoa in Herpes Zoster.*] KB. Ärtzl. Ver. Thüringen, xxiv. Abstracts in Ann. Microgr. vi (1894), pp. 178 & 179, and in J. R. Micr. Soc. 1894, pp. 462 & 463.
- WATERMAN, J. S. [See EDWARDS, W. A., & WATERMAN, J. S. (65).]
- WELTNER, W. [See NITSCHKE, P., & WELTNER, W. (177).]
266. WILDEMAN, E. DE. Sur le thermotaxisme des Euglènes. Bull. Soc. belge Micr. xx (1893-94), No. ix, pp. 245-258. Abstract in Zool. Anz. (Lit.) xvii, p. 371.
267. *WILLACH, P. Eine durch Infusorien verursachte Taubenepizootie. Arch. wiss. prakt. Thierheilk. xix, pp. 36-39. Abstract in Centrbl. Bakter. xv, pp. 83 & 84, and in J. R. Micr. Soc. 1894, pp. 211 & 212.
- 1 new species.
268. WINKLER, F., & FISCHER, J. Ueber die Verwendung des galvanischen Stromes zur Untersuchung der Secrete und Excrete. Centralbl. Klin. Med. 1893. Abstract in Centrbl. Bakter. xiv, pp. 33-43.
269. ZACHARIAS, O. Ueber Periodizität und Vermehrung der Planktonwesen. Zeitschr. Fischerei, ii, No. 4, pp. 149-153.
- Ceratium*, *Codonella*, *Stauraphrya*, *Dinobryon*, &c.
1894. [VOL. XXXI.]

270. [ZACHARIAS, O.] Infusorien als Hautparasiten bei Fischen. *T. c.* pp. 149-161, 4 woodcuts.
Ichthyophthirius cryptostomus, Z.; *Chilodon piscicola*, Z.; *Trichodina pediculus*, E.; *Tetramitus nitschei*, W.
271. —. Ueber der Bau der Monaden und Familienstöcke von *Uroglena volvox*, Ehb. *Zool. Anz.* xvii, pp. 353-356, and in *Forsch. Ber. Plön*, iii, pp. 78-83. Abstract in *Zool. Anz. (Lit.)*, xvii, p. 414.
272. —. *Acanthocystis tenuispina*, n. sp. *Forsch. Ber. Plön*, iii, pp. 73 & 74, 1 pl.
 1 new species.
273. —. *Psilotricha fallax*, n. sp. *T. c.* pp. 75 & 76, 1 pl.
 1 new species.
274. —. Ueber eine Schmarotzer-Krankheit bei *Eurodina elegans*. *T. c.* pp. 76 & 77, 1 pl.
275. —. *Chrysamæba radians*, Klebs, und ihr Vorkommen im Limnoplankton. *T. c.* pp. 77 & 78.
276. ZIEGLER, E. Bemerkungen zu der Abhandlung von Dr. Hansemann "Kritische Bemerkungen über die Aetiologie der Carcinome." *Berlin. klin. Wochenschr.* 1894, p. 102.
277. ZOJA, R. Contribution à l'étude des substances chromatophiles nucléaires d'Auerbach. I. Chez quelques Ciliés; II. Dans l'ovogénèse, &c., de l'*Ascaris megalcephala*; III. Dans les œufs parthénogénétiques de l'*Aphis rosa*. *Arch. ital. Biol.* xxi, pp. 140-143. Abstract of paper in *Boll. scient.* xv, pp. 50-60 & 64-69. [See *Zool. Rec.* 1893.]
278. ZOPF, W. Ein in Saccaminagehäusen vorkommender Myxomycet. *Zeitschr. wiss. Zool.* lvii (1894), pp. 618 & 619, 2 figg. Abstract in *J. R. Micr. Soc.* 1894, p. 696.
279. —. Ueber einige niedere tierische und pflanzliche Organismen, welche als Krankheitserreger in Algen (Pilzen), niederen Tieren und höheren Pflanzen auftreten. 1. Mitteilung. *Beitr. Phys. & Morph. nied. Org.* 1894, hft. 4, pp. 43-68, 2 pls. Abstract in *Centrbl. Bakter.* xvi, pp. 303-306.

II.—MORPHOLOGY AND PHYSIOLOGY.

1. ANATOMY.

BARGONI (10) describes in detail the structure and reproduction of a Foraminifer (*Salpicola amyloacea*, n. g. & sp.), parasitic in *Salpa*. The granules of the protoplasm contain amyllum, which changes into glucose when the protoplasm has been reduced by active division and is not able to obtain other food-material.

GOULD (88) has, by means of sections, studied the minute structure of *Pelomyxa palustris*, confirming on the whole Greeff's observations as to the foam-like structure of the protoplasm, and its vacuolisation. She also describes a central denser ring of protoplasm and the refringent bodies. Greeff's rod-like bodies, however, are not crystals, but bacteria.

LEVANDER (153) describes a new *Peridinium* (*P. catenatum*) from the Bay of Finland, which forms chains of 2-8, sometimes up to 16 individuals. The plasma protruding from the posterior pore of the one individual fuses with the plasma from the anterior pore of the succeeding individual.

PRZESMYCKI (190) has found cell-granules, corresponding to Altmann's granules, in all *Protozoa*, she has examined (*Paramœcium*, *Colpidium*, *Opalina*), but does not regard them as elementary constituents of the cells.

RHUMBLER (196) gives a detailed description of *Succammia spherica*, M. Sars, from the Baltic, of the formation and growth of the shell, and of its soft body. In about 40 per cent. of the cases the shells did not contain the animal proper, but various intruders, *Protozoa* and *Metozoa*. In the development of the nucleus the author distinguishes nine stages.

RHUMBLER (198) solves the much-discussed question of how to account for *Orbulina* shells containing *Globigerina*. When *Globigerina* has attained a certain size it retires into a shell of *Orbulina*, to protect itself against the waves, etc., and absorbs, later on, the shell to a greater or less extent.

RHUMBLER (199) having studied the perforation of the embryonic chamber of *Peneroplis pertusus*, comes to the conclusion that *Peneropli*, cannot represent the ancestral form of *Orbitolites*, as generally assumed, since *Orbitolites* is imperforate.

ROMPEL (203) describes for the first time the Centrosome of an Infusorium (*Kentrochona nebalia*, n. g. & sp.), and its behaviour during cell-division.

SACHAROFF (220) has studied the *Hæmatozoa* of birds, and comes to the conclusion that the flagellate bodies described by Laveran, Danilewsky, Canalis, Grassi & Feletti, are nothing but chromatin filaments of dying *Hæmatozoa*.

TOISENT (261) describes in detail *Pontomyxa flava*, a marine Rhizopode,

which differs from the *Pelomyxa* of the fresh-water by its filiform and reticulate pseudopodia, and by the absence of vacuoles.

WALLENGREN (264) has studied the ciliate Infusorium *Licnophora*, and arrives at the result that it is not an intermediate form between hypotrichous and peritrichous *Infusoria*. The læotropism of *Licnophora* is the result of a shifting of the originally dextrotrop zone.

ZACHARIAS (272), in a paper on the structure of the monads and colonies of *Uroglena volvox*, Ehrb., confirms in general Ehrenberg and Saville Kent's views, that the monads are joined together at their inner ends by a system of dichotomously branching threads.

2. EMBRYOLOGY.

BARGONI (10) describes the reproduction of the Foraminifer *Salpicola amylacea*, n. g. & sp.

BRAUER (25) gives an exhaustive account of the encystation of *Actinosphaerium eichhorni*.

CATTLE & MILLAR (36) describe the development of *Coccidium oviforme*.

CORONADO (49): reproduction of *Hamatozoa*.

ISHIKAWA (111) has investigated the division and spore-formation of *Noctiluca miliaris*, and describes the formation of archoplasm, chromosomes and spindle-fibres.

JOHNSON (115) describes the Plastogamy of *Actinosphaerium*, characterized by the fusion of the plasma only, not by that of the nuclei. After coalescence, a more rapid division could be observed within a day or two.

PODWYSOZKY (188) describes the development of *Coccidium oviforme* in the bile-ducts of Rabbit.

RUFFER & PLIMMER (214): mode of reproduction of cancer parasites.

RYDER (216) has noticed two new methods of reproduction in *Euglena viridis*, under the abnormal condition of being constrained principally to two dimensions of space.

SCHAUDINN (227), in a paper on the nuclear division, with subsequent cell-division of *Amœba crystalligera*, Gruber, has been able to confirm the observations made by F. E. Schultze on *A. polyppodia*.

STILES (250) gives an account of the life-history of *Holophrya* (= *Ichthyophthirius multifiliis*, Bütschli, parasitic on Fishes, and of experiments to remove this parasite.

3. PHYSIOLOGY AND BIOLOGY.

CELLI & FIOCCA (41) describe successful experiments in the cultivation of *Amœba* and the two phases, the amœboid and the cystic, which all *Amœba* seem to exhibit.

GREENWOOD & SAUNDERS (91) have studied the intracellular formation

of acid in *Protozoa* and chiefly its rôle in digestion, in *Carchesium poly-
pinum* and in the plasmodia of *Mycetozoa*.

HARTOG & DIXON (104) in studying the digestive ferments of *Pelomyxa
palustris* have found ptyalin and pepsin. Trypsin, rennin, and steapsin
seem to be absent.

LABBÉ (137) describes another case of the co-existence of a mono-
sporous and a polysporous *Coccidium* in the same host. Similar cases had
formerly given rise to the theory of dimorphism of *Sporozoa*. But the
two forms in question are quite distinct species.

LISTER (158), in treating of dimorphism in *Foraminifera*, suggests that
the megalospheric and microspheric forms may be members of a recurr-
ing cycle of generations.

SACHAROFF (221) has made experiments on the influence of cold on
malaria parasites, and finds that they can retain their vitality even if
exposed to a freezing temperature for a week.

SCHEWIAKOFF (232) has studied the movements of Gregarines, chiefly
on *Clepsidrina munieri*. He finds that the same are not active, but caused
by the formation of gelatinous threads. These threads harden, form a
stiff stalk, which becomes fixed at its free end to the supporting object,
and the animal is pushed along by the excretion of fresh gelatinous
substance.

RYDER (216) has studied the growth of *Euglena viridis*, when con-
strained principally to two dimensions of space, and applies his results to
the development of the blastoderm, which is subjected to a similar
restraint.

WILDEMAN (267) has made experiments on the influence of heat on
Euglena.

4. METHODS OF PRESERVATION AND PREPARATION.

MAGGI (161) gives methods for the staining of *Protozoa*.

RHÜMLER (197) describes a method of double staining in order to
distinguish between living substances and dead or inorganic ones after
their preservation.

ROSIN (207) describes how living parasites of malaria are to be treated
by quinine and methyl blue.

RYDER (217) describes a useful method of entrapping, killing, embed-
ding, and orienting *Infusoria* for the microtome.

SFORZA (239) has discovered a simple process for staining the *Hemato-
zoa* of malaria.

III.—DISTRIBUTION.

A. HOSTS AND SEATS OF PROTOZOA.

1. PROTOZOA (generally).

For their rôle in Human and Animal Pathology generally, see chiefly BAUMGARTEN (13), LABBÉ (131-140), MOSLER & PEIPER (176); but also BITSCH (16), BORRELL (21), DORIA (62), GRIMM (93), PFEIFFER (187), SMITH (242), ZOPF (279). Especially in Cancer: ADLER (2), RUFFER (210), SNOW (245), STEVEN & BROWN (248).

2. AMŒBA.

A. coli: EDWARDS & WATERMAN (65), EPSTEIN (67), HÉHIR (106), KRUSE & PASQUALE (127, 128), LAVERAN (143), PASQUALE (183), QUINCKE & ROOS (192), ROOS (205).

A. malarie: REMOUCHAMPS (195).

3. SPOROZOA AND CANCER.

ADAMKIEWICZ (1), BANTI (8), BOYCE (24), BRUNNON (26), CATTLE (31-36), CAZIN (38), CLÆSSEN (45), CLARKE (46, 48), DANSAC (54), FABRE-DOMERGUE (68), FOÀ (74), FOWLER (78), GALLOWAY (83), GIBBES (85), HANSEMANN (103), KAHANE (119), KOPFSTEIN (124), KURLOFF (130), LABBÉ (139), MALASSEZ (163), MASSARI & FERRONI (168), MILLER (172), MORPURGO (175), NIESSEN (177), NŒGGERATH (179), PARK (182), PODWYSSOZKY (188), RIBBERT (200), RUFFER (212), SAWTSCHENKO (222), STRÜBE (252), ZIEGLER (276).

4. GREGARINIDEA.

Lumbricus, BOSANQUET (22).—*Acrididæ*, LÉGER (149).—Stomach of sheep, MASKE (167).

5. COCCIDIIDEA.

Rabbit, BAGINSKY (7), FELSETHAL & STAMM (71).—Birds, LABBÉ (133).—*Coccidium oviforme* in cattle, GUILLEBEAU (98), LÜPKE (159), PODWYSSOZKY (188).—*Coccidium delagei* in turtles, LABBÉ (132).

6. MYXOSPORIDEA.

Fishes, GURLEY (100), STICKER (248).—Toad, OHLMACHER (180).

7. SARCOsporIDEA.

Man, BARABAN & SAINT-REMY (9).

8. FLAGELLATA AND MALARIA.

AMANN (3), BABES & GHEORGHIU (5), BACCELLI (6), BASTIANELLI & BIGNAMI (12), BOUZIAN (23), BUCHANAN (27), CAZIN (39), CORONADO (50), DANILEWSKY (53), DOCK (58, 59), FELETTI (70), GOLGI (87), HÉHIR (106), LABBÉ (136), LAVERAN (144), MONSON (164), OZZARD (181), PES (186), ROSIN (207), ROSS (209), SACHAROFF (218-221), SCHWALBE (236), SMITH (241), STENDEL (247), THOMPSON (257), TITOFF (258), TREILLE (261).

9. CILIATA.

Infusoria in diarrhoea, ROOS (204); pigeons, WILLACH (267); fishes, ZACHARIAS (270).—*Hemispeiropsis antedonis* on Comatula, CUÉNOT (51).—*Vorticella* in man, LINDNER (155, 157).—*Ichthyophthirius* on fishes, STILES (251).—*Balantidium coli* in man, RUNEBERG (215).

B. FAUNISTIC.

United States.—Yellowstone National Park : *Protozoa*; FORBES (77).—Woods Holl, Mass. : *Infusoria*; KEL LICOTT (120).

Ireland.—Rush, Co. Dublin : *Haliphysema* and *Folliculina*; DUERDEN (63).

Scotland.—Fillyside : *Foraminifera*; BENNIE (14).

Heligoland.—Pelagic *Protozoa*; LAUTERBORN (141).

Germany.—Rostock : Freshwater *Ciliata*; LEVANDER (153).—Lakes of Plön, Holstein : *Protozoa*; ZACHARIAS (269-275).—Upper Rhine : *Protozoa*; LAUTERBORN (142).

Gulf of Finland.—*Protozoa*; LEVANDER (152).

Russia.—Arctic Seas : *Foraminifera*; SCHLUMBERGER (234).

Bohemia.—*Protozoa*; FRIČ & VAVRA (81).

Switzerland.—Lac de Champex, Valais : *Protozoa*; STUDER (253).

Italy.—Lakes of Northern Italy : *Protozoa*; GARBINI (84).—Gulf of Naples : *Protozoa*; SPENGLER (246).

Syria.—Lakes : *Protozoa*; BARROIS (11).

Tonkin.—Freshwater *Protozoa*; RICHARD (201).

C. GEOLOGICAL.

Precambrian.—Brittany : *Foraminifera*; CAYEUX (37).

Cretaceous.—Gault of Folkestone : *Foraminifera*; CHAPMAN (44).—Bohemia : *Foraminifera* and *Radiolaria*; FRIČ (80).

Tertiary.—Frankfort-a-M. : *Foraminifera*; ANDRÆ (4).

Upper Oligocene.—Crefeld, Germany : *Foraminifera*; KÖNIGS (122).

Pliocene.—Sicilia : *Foraminifera*; DE AMICIS (55).

IV.—SYSTEMATIC.

A.—GYMNOMYXA.

Class 3.—LOBOSA.

- Amœba coli*, redescribed, pp. 1-6, fig. 1; MOSLER & PEIPER, Thierische Parasiten. *A. lobosa*, pp. 331-333, *vernicularis*, Weisse, pp. 335 & 336, redescribed; CELLI & FIOCCA, Centrbl. Bakter. xvi.
A. spinosa, pp. 333 & 334, *diaphana*, pp. 334 & 335, *reticularis*, p. 336, free and parasitic, *arborecens*, p. 337, free, CELLI & FIOCCA, Centrbl. Bakter. xvi, n. spp.

Class 5.—HELIOZOA.

- Acanthocystis tenuispina*, Lakes of Plön, ZACHARIAS, Forsch. Ber. Plön, iii, p. 73, n. sp.
Cumptonema, n. g., with *C. nutans*, n. sp., Bergen; SCHAUDINN, Mt. Ak. Berlin, 1894, p. 621, pl. iv.

Class 6.—RETICULARIA.

- † *Fronicularia denticulocarinata*, p. 155, pl. iii, fig. 4a, b, *pinnaeformis*, p. 156, pl. iii, figg. 9, 10, & 11, *planifolium*, p. 158, pl. iv, fig. 1, *quad-rata*, p. 158, pl. iv, fig. 4, *perovata*, p. 158, pl. iv, fig. 5, Gault of Folkestone, CHAPMAN, J. R. Micr. Soc. 1894, n. spp.
Hyalopus, n. g., for *Gromia dujardini*, M. Schultze; SCHAUDINN, SB. Ges. naturf. Berlin, 1894, p. 14.
† *Marginula hamulus*, p. 161, pl. iv, fig. 13, *folkestoniensis*, p. 161, pl. iv, figg. 16 & 17, *aspera*, p. 162, pl. iv, fig. 18, Gault of Folkestone, CHAPMAN, J. R. Micr. Soc. 1894, n. spp.
† *Miliolina reinachi*, Septarian Clay, Frankfort-a-M., ANDRÆ, Ber. Senckenberg. Ges. 1894, p. 51, fig. 2, n. sp.
† *Nodosaria mayeri*, Perner. Chalk, Priesen, Bohemia, FRIČ, Arch. Landesdf. Bohmen, ix, p. 121, fig. 164, n. sp.
Sulpicola, n. g., with *S. amylicea*, n. sp., parasitic in *Salpa mucronata* and *S. democratica*; BARGONI, Ric. labor. Anat. Roma, iv, p. 43, 2 pls.
† *Uvigerina oligocænica*, Septarian Clay, Frankfort-a-M., ANDRÆ, Ber. Senckenberg. Ges. 1894, p. 50, fig. 1, n. sp.
† *Vaginulina recta*, var. *tenuistriata*, n. var., p. 422, pl. viii, fig. 2, *priceana*, n. sp., p. 427, pl. viii, fig. 15, Gault of Folkestone; CHAPMAN, J. R. Micr. Soc. 1894.

B.—CORTICATA.

Class 1.—SPOROZOA.

- Actinocephalus goronowitschi*, parasitic in *Phalangium opilio*, L., JOHANSEN, Zool. Anz. xvii, p. 140, figg. 1-4, n. sp.
Oytameba, n. g., with *C. bacterifera*, in blood of *Rana esculenta*, p. 104, pl. x, figg. 19-30, and *C. ? grassi*, in blood of *Hyla arborea*, p. 106, LABBÉ, Arch. Zool. exp. (3) ii, n. spp.
Coccidium cristalloides, p. 558, pl. xxii, figg. 1-7, *C. variabile*, p. 562, pl. xxii, figg. 8-17, *C. clupearum*, pl. xxii, figg. 19 & 20, parasitic in fishes, THÉLOMAN, Arch. Zool. exp. (3) ii, n. spp.
Coccidium oviforme, redescribed, pp. 6-9, fig. 2; MOSLER & PEIPER, Thierische Parasiten.
Dactylosoma, n. g., with *D. splendens*, n. sp., in the red blood-corpuscles of *Rana esculenta*; LABBÉ, Arch. Zool. exp. (3) ii, p. 100, pl. x, figg. 1-18.

- Danilewskyi*, n. g., with *D. lacazei*, in blood of Lizard, p. 124, pl. vi, figg. 1-22; *D. krusei*, in blood of Frog, p. 127; LABBÉ, Arch. Zool. exp. (3) ii, n. spp.
- Drepanidium princeps* and *D. monilis*, in blood of *Rana esculenta*; LABBÉ, Arch. Zool. exp. (3) ii, p. 75, n. spp.
- Gregarina ensiformis*, parasitic in *Salpa mucronata* and *S. democratica*; BARGONI, Ric. labor. Anat. Roma, iv, p. 43, n. sp.
- Halteridium*, n. g., for *H. danilewskyi*, Grassi, in blood of *Alauda arvensis* and *Fringilla caelebs*; LABBÉ, Arch. Zool. exp. (3) ii, pp. 129 & 156, pls. vii & viii.
- Karyolysus*, n. g., with *K. lacertarum*, n. sp., in blood of *Lacerta*; LABBÉ, Arch. Zool. exp. (3) ii, p. 109, pls. iv & v.
- Monocystis herculea*, parasitic in *Lumbricus herculeus*; BOSANQUET, Quart. J. Micr. Sci. xxxix, p. 421, n. sp.
- Myxobolus brachycystis*, parasitic in the pigment follicles of the spleen and kidney of *Tinca tinca*, L.; GURLEY, Rep. U. S. Fish Comm. xviii (1892), pp. 212 & 213, pl. xiv, figg. 1-3, n. sp.
- Pfeifferia*, n. g., probably with several new species, parasitic in *Lepus*, *Passer*, *Triton*, *Lamna*; LABBÉ, C.R. Ac. Sci. cxix, p. 537.
- Proteosoma*, n. g., with *P. grassii*, n. sp., in blood of Lark and Finch; LABBÉ, Arch. Zool. exp. (3) ii, p. 142, pl. ix, figg. 1-31.
- Rhopalonia*, n. g., with *R. geophili*, n. sp., parasitic in *Geophilus*; LÉGER, C.R. Ac. Sci. cxviii, p. 1285.

Class 2.—FLAGELLATA.

- Bicosœca socialis*, Upper Rhine, LAUTERBORN, Biol. Centralbl. xiv, p. 390, n. sp.
- Cercomonas intestinalis*, pp. 13 & 14, fig. 7; *C. coli hominis*, pp. 14 & 15, fig. 8; redescribed, MOSLER & PEIPER, Thierische Parasiten.
- Chloraster*, n. sp. [sic], Bay of Finland, LEVANDER, Zool. Anz. xvii, p. 210.
- Dinobryon pellucidum*, Bay of Finland, LEVANDER, Zool. Anz. xvii, p. 210, n. sp.
- Megastoma entericum*, redescribed, pp. 9-13, fig. 4; MOSLER & PEIPER, Thierische Parasiten.
- Mesostigma*, n. g., with *M. viride*, n. sp., Upper Rhine; LAUTERBORN, Biol. Centralbl. xiv, p. 390.
- Sphærœca*, n. g., with *S. volvox*, n. sp., Upper Rhine; LAUTERBORN, Biol. Centralbl. xiv, p. 390.
- Tetramitus nitschei*, parasitic on Goldfish; NITSCHÉ & WELTNER, Centrbl. Bakter. xvi, p. 25, n. sp.
- Trichomonas vaginalis*, p. 15, fig. 9; *T. intestinalis*, pp. 15 & 16, fig. 10; redescribed, MOSLER & PEIPER, Thierische Parasiten.

Class 3.—DINOFLAGELLATA.

- Gymnodinium tenuissimum*, Upper Rhine, LAUTERBORN, Biol. Centralbl. xiv, p. 390, n. sp.
- Prorocentrum catenatum*, Baltic, LEVANDER, Act. Soc. Faun. Fenn. ix, No. 10, p. 1, n. sp.

Class 5.—CILIATA.

- Balantidium coli*, redescribed, pp. 16-20, fig. 11; MOSLER & PEIPER, Thierische Parasiten.
- B. viride*, pathogenic in Pigeons; WILLACH, Arch. wiss. prakt. Thierheilk. xix, Nos. 1 & 2, p. 36.
- Bursaridium*, n. g., with *B. schewiakowii*, n. sp., Upper Rhine; LAUTERBORN, Biol. Centralbl. xiv, p. 390.
- Cenomorpha medusula*, Perty, redescribed; LEVANDER, Beiträge, Ciliaten, p. 42, pl. ii, figg. 15-19.
- C. uniseriatis*, Oberwarnow, Rostock, LEVANDER, Beiträge, Ciliaten, p. 51, pl. ii, figg. 20-23, n. sp.
- Cothurnia longipes*, Woods Holl, Mass., KELLICOTT, Ann. Rep. Ohio St. Acad. Sc. ii, p. 10, n. sp.
- Discomorpha*, n. g., with *D. pectinata*, n. sp., Alphydda, Helsingfors; LEVANDER, Beiträge, Ciliaten, p. 55, pl. iii, figg. 26 & 27.
- Disematostoma*, n. g., with *D. bütschlii*, n. sp., Upper Rhine; LAUTERBORN, Biol. Centralbl. xiv, p. 390.
- Hemispeiropsis*, n. g., with *H. comatula*, n. sp., parasitic on *Comatula*; KÖNIGS, SB. Ak. Wien, ciii, p. 55. According to CUÉNOT, Zool. Anz. xvii, p. 316, synonymous with *H. (Trichodina) antedonis*, Cuénot.
- Holophrya nigricans*, Upper Rhine, LAUTERBORN, Biol. Centralbl. xiv, p. 390, n. sp.
- Kentrochona*, n. g., with *K. nebalia*, n. sp., parasitic on *Nebalia geoffroyi*, M. Edw., Trieste; ROMPEL, Zeitschr. wiss. Zool. lviii, pp. 618-635, pl. xxxix.
- Lagenophrys eupagurus*, Woods Holl, Mass., KELLICOTT, Ann. Rep. Ohio St. Acad. Sc. ii, p. 10, n. sp.
- Mastigostephanus*, n. g., with *M. sulcatus*, n. sp., Ober-Warnow, Rostock; LEVANDER, Beiträge, Ciliaten, p. 77, pl. iii, figg. 36 & 37.
- Metopus bacillatus*, Bot. Gardens, Rostock; LEVANDER, Beiträge, Ciliaten, p. 32, pl. i, figg. 12 & 13, n. sp.
- M. sigmoides*, Clap. & Lachm., p. 5, pl. i, figg. 1-4, *M. contortus*, Lev., p. 19, pl. i, figg. 5-9, *M. pyriformis*, Lev., p. 28, pl. i, figg. 10 & 11, redescribed; LEVANDER, Beiträge, Ciliaten.
- Perispira ovum*, Stein, redescribed; LEVANDER, Beiträge, Ciliaten, p. 72, pl. iii, figg. 33-35.
- Plagiopyla nasuta*, Stein, redescribed; LEVANDER, Beiträge, Ciliaten, p. 62, pl. iii, figg. 28-30.
- Psilotricha fallax*, Lakes of Plön, ZACHARIAS, Forsch. Ber. Plön, iii, p. 75, n. sp.
- Stentor igneus*, var. *fuliginosus*, Yellow Stone National Park, U. S. A.; FORBES, Bull. U. S. Fish Comm. xi, p. 256, n. var.
- Strombidium stylifer*, *S. grande*, Bay of Finland, LEVANDER, Zool. Anz. xvii, p. 211, n. spp.
- Thuricola fimbriata*, Woods Holl, Mass., KELLICOTT, Ann. Rep. Ohio St. Acad. Sci. ii, p. 10, n. sp.

- Trachelophyllum*, n. sp. [sic], Bay of Finlaud, LEVANDER, Zool. Anz. xvii, p. 211.
- Trochilia*, n. sp. [sic], Bay of Finland, LEVANDER, Zool. Anz. xvii, p. 211.
- Tropidoatractus*, n. g., with *T. acuminatus*, n. sp., Bot. Gardens, Rostock ; LEVANDER, Beiträge, Ciliaten, p. 39, pl. ii, fig. 14.

Class 6.—ACINETARIA.

- Acineta* ? *crassipes* (provisional name), Unterpočernitz, Bohemia, FRIČ & VAVRA, Arch. Landesdf. Bohmen, ix, No. 2, p. 41, &c., n. sp.
- Amœbophrya*, n. g., with *A. sticholonche*, parasitic on *Sticholonche zanclea*, and *A. acanthometra*, parasitic on *Acanthometra* ; KERPEN, Zool. Anz. xvii, pp. 417-424, n. spp.

INCERTÆ SEDIS.

- Dactylosaccus*, n. g., with *D. vermiformis*, n. sp., Fjord of Christiansand, depth 40-80 m. ; RHUMBLER, Zeitschr. wiss. Zool. lvii, pp. 601-604, pl. xxv, figg. 112-120.
- Dendrotuba*, n. g., with *D. nodulosa*, n. sp., Fjord of Christiansand, depth 40-80 m. ; RHUMBLER, Zeitschr. wiss. Zool. lvii, pp. 606-610, pl. xxv, figg. 123-127.
- Ophiotuba*, n. g., with *O. gelatinosa*, n. sp., Fjord of Christiansand, depth 40-80 m. ; RHUMBLER, Zeitschr. wiss. Zool. lvii, pp. 604-606, pl. xxv, figg. 121 & 122.
- Rhynchogromia*, n. g., with *R. variabilis*, n. sp., Fjord of Christiansand, depth 40-80 m. ; RHUMBLER, Zeitschr. wiss. Zool. lvii, pp. 590-595, pl. xxv, figg. 93-97.
- Rhynchosaccus*, n. g., with *R. immigrans*, n. sp., Fjord of Christiansand, 40-80 m. ; RHUMBLER, Zeitschr. wiss. Zool. lvii, pp. 595-601, pl. xxv, figg. 98-111.

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| Acanthotomicus, <i>Blandford</i> , Ins.
180 | Agirpa, <i>Warren</i> , Ins. 302 |
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| Acerocnema, <i>Becker</i> , Ins. 344 | Agnitogaster, <i>Jordan</i> , Ins. 186 |
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END OF THE THIRTY-FIRST VOLUME.

CORRIGENDA.

- AVES, p. 22, line 15 from top, after "*Barornis regens*," add "n. g. n. sp."
- PISCES, p. 27, line 8 from bottom, for "*Clyclopterus*" read "*Cyclopterus*."
- „ p. 28, line 2 from bottom, for "*Cymastogaster*" read "*Cymatogaster*."
- MOLLUSCA, p. 66, top line, for "BUKOWSKI" read "BUKOWSKI."
- „ p. 67, line 16, for "autonomy" read "autotomy."
- „ p. 79, line 16 from bottom, after "Tirol," add "KITTL."
- INSECTA, p. 26, line 4, for "pœcilogony" read "pœcilogonie."
- „ p. 76, line 22, for "rejectamacta" read "rejectamenta."
- „ p. 119, line 2, after "p. 208," add "WASMANN, Verzeichniss."
- „ p. 168, line 17, for "*Lydenas*" read "*Lydenas*."
- „ p. 184, remove the paragraph "*Phleophagoides*," &c., to "CURCULIONIDÆ," p. 177.
- „ p. 248, line 3, for "classification" read "classifications."
- „ p. 265, line 3 from bottom, after "Rhop. ii," add "p. 335."
- „ p. 297, line 17, after "fig. 1," add "SMITH."
- „ p. 307, line 13 from bottom, divide "*Ephyra tchirinaria*" into "*Ephyra tchirinaria*."
- „ p. 340, line 25, after "p. 52," add "TOWNSEND."
- „ p. 354, line 13, for "*Centrogomus*" read "*Centrogonus*."

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