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THE  
**ZOOLOGICAL RECORD**

VOLUME THE FORTY-FIRST

BEING

RECORDS OF ZOOLOGICAL LITERATURE

RELATING CHIEFLY TO THE YEAR

1904.

By D. SHARP, R. LYDEKKER, R. BOWDLER SHARPE, G. A. BOULENGER, W. T. CALMAN, E. R. SYKES, E. A. SMITH, EUGÈNE SIMON, FILIPPO SILVESTRI, ALICE L. EMBLETON, F. A. BATHER, W. WOODLAND, AND H. M. WOODCOCK.

EDITED (FOR THE ZOOLOGICAL SOCIETY OF LONDON) BY

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

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

Explorate solum: sic fit via certior ultrà.

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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.



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## PREFACE.

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THE preparation of this Volume of the Zoological Record has been facilitated by the liberality of the Council of the Zoological Society, who granted an additional sum for assistance to the Recorders in searching the literature. This work was undertaken in chief part by Mr C. D. SHERBORN; and so far as works only in the libraries at Cambridge are concerned, by Mr S. MATTHEWS of the Philosophical Library there. Thanks to their industry the Recorders have been able to complete the Volume within the usual period.

Dr CALMAN being unable to execute the Arachnida and Myriapoda these groups have been most kindly undertaken by Monsr. SIMON, and Prof. SILVESTRI. As Prof. MINCHIN has been absent for the longer part of the year on a Government mission to Uganda, his Record of Spongiæ has been in larger part accomplished by Mr WOODLAND.

The list of abbreviations has been revised by the Librarians of the Royal Society, of the Natural History Museum, of the Science Library Victoria and Albert Museum, of the Zoological Society, of the Linnean Society, of the Radcliffe Library, of the Philosophical Society Cambridge; and our thanks are due to them for their assistance.

D. SHARP.

CAMBRIDGE.

20th November 1905.



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ALPHABETICAL LIST  
OF THE  
ABBREVIATIONS  
USED IN THE  
ZOOLOGICAL RECORD, Vol. XLI, 1904,  
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.

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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 some of 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 library; Victoria and Albert Museum.  
 R. = Royal Society library.  
 Z. = Zoological Society library.  
 L. = Linnean " "  
 C. = Cambridge University library.  
 C, p or (C) p = Cambridge Philosophical Society library.  
 b, or g, or y, or z, after C, or (C) = Cambridge Balfour, or Sedgwick Museum, or Physiological, or Zoological libraries respectively.  
 O. = Radcliffe library, Oxford.  
 § is prefixed to titles added since the last list, and to changes of titles when important.

- Abeille*—L'Abeille: Journal d'entomologie publié par la Société entomologique de France. (Paris, 8vo.) Nz. C.
- Abh. Ak. Berlin*—Abhandlungen der königlich Preussischen Akademie der Wissenschaften zu Berlin. (Berlin, 4to.) N. K. R. Z. L. C, p. O.
- Abh. Bayer. Ak.*—Abhandlungen der mathematisch-physikalischen Classe der königlichen Bayerischen Akademie der Wissenschaften. (München, 4to.) N. K. R. Z. L. C, p. O.
- Abh. Böhmisch. Ges.*—Abhandlungen der mathematisch-naturwissenschaftlichen Classe der k. Böhmischen Gesellschaft. [Called also] Rozprawy trůdy mathematicko-přirodvěcke královské Ceske společnosti Nauk. (Prag, 4to.) N. K. R. L. C, p.
- Abh. deutsch. Seefisch.-Ver.*—Abhandlungen des deutschen Seefischerei-Vereins. (Berlin, 4to.) Nz. C.
- 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.
- Abh. Ges. Görlitz*—Abhandlungen der naturforschenden Gesellschaft zu Görlitz. (Görlitz, 8vo.) N. K. R.
- Abh. Ges. Götting.*—Abhandlungen der königlichen Gesellschaft der Wissenschaften zu Göttingen. Mathematisch-Physikalische Klasse. Neue Folge. (Göttingen, 4to.) N. R. Z. L. C, p. O.
- Abh. Ges. Halle*—Abhandlungen der naturforschenden Gesellschaft zu Halle. (Halle, 4to.) N. K. R. Z. L. C. O.
- 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. Nurnberg*—Abhandlungen der naturhistorischen Gesellschaft zu Nürnberg. (Nürnberg, 8vo.) N. K. C.
- Abh. Ges. Wien*—Abhandlungen der K. K. zoologischen-botanischen Gesellschaft in Wien. N. K. R. Z. L. C. O.
- 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. Spezialkarte 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. O.
- Abh. Senckenb. Ges.*—Abhandlungen herausgegeben von der Senckenbergischen naturforschenden Gesellschaft. (Frankfort a.-M., 4to.) N. K. R. Z. L. C. O.
- Abh. Ver. Bremen*—Abhandlungen herausgegeben vom naturwissenschaftlichen Verein 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.]
- Abh. Ver. Lotos*—Abhandlungen des deutschen naturwissenschaftlich-medicinischen Vereines für Böhmen "Lotos." (Prag, 4to.) N. C.
- 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. O.
- 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. C.
- 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.
- Acta Univ. Lund.*—Acta Universitatis Lundensis. [Called also] Lunds Universitets Årsskrift, [and includes] Acta regiæ Societatis physiographicæ Lundensis, [also called] Kongl. fysiografiska Sällskapets i Lund Handlingar. (Lund, 4to.) N. K. R. L. C, p.
- Actes Mus. Rouen*—Actes du Muséum d'histoire naturelle de Rouen. (Rouen, 8vo.) N. L.

- Act. Soc. Bordeaux*—Actes de la Société Linnéenne de Bordeaux. (Bordeaux, 8vo.) N. Z. C.
- Act. Soc. Chili*—Actes de la Société scientifique du Chili. (Santiago, 4to.) N. R. Z.
- § *Act. Soc. ent. Bohem.*—Acta Societatis entomologicae Bohemiae. [Called also Časopis České Společnosti entomologické.] (Praze, 8vo.)
- Act. Soc. Espan.*—Actas de la Sociedad española de historia natural. (Madrid, 8vo.) N. R. Z. C.
- Act. Soc. Helvet.*—Actes de la Société Helvétique des Sciences naturelles. [Called also] Verhandlungen der schweizerischen naturforschenden Gesellschaft. (Basel, &c., 8vo.) N. K. R. L. C. O.
- Afh. Mus. Lund.*—E Museo Lundii. En Samling af Afhandlinger. (Kjobnhavn, 8vo.) N. K. R. Z. L.
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- Allg. Naturf. Zeit.*—Allgemeine Naturforscher Zeitung. (Berlin.)
- Allg. Zeitschr. Ent.*—Allgemeine Zeitschrift für Entomologie. Organ der "Allgemeinen entomologischen Gesellschaft." (Neudamm, 8vo.) Nz. Z.
- Amer. Geol.*—The American Geologist, a Monthly Journal of Geology and allied Sciences. (Minneapolis, 8vo.) Ng. (C) g. K. O.
- Amer. J. Anat.*—The American Journal of Anatomy. (Baltimore, 8vo.) (C) b.
- Amer. J. Physiol.*—The American Journal of Physiology. (Boston, 8vo.) N. K. R. (C) y. O.
- Amer. J. Sci.*—The American Journal of Science. (New Haven, 8vo.) N. K. R. Z. C, p. O.
- Amer. Micr. J.*—The American Monthly Microscopical Journal. (Washington, 8vo.) N. O.
- Amer. Mus. J.* The American Museum Journal. (New York, 8vo.) N. Z.
- Amer. Natural.*—The American Naturalist. (Philadelphia, 8vo.) N. K. Z. L. C, b. O.
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- An. Mus. Chile.*—Anales del Museo Nacional de Chile. Publicados por orden del Gobierno de Chile. Primera Seccion. Zoología. (Santiago, 4to.) Z.
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- Ann. Soc. ent. France*—Annales de la Société entomologique de France. (Paris, 8vo.) Nz. K. R. Z. L. C.
- Ann. Soc. geol. Belgique*—Annales de la Société géologique de Belgique. [Consists of Bulletin and Mémoires.] (Liège, 8vo.) Ng. K. R. (C) p.
- Ann. Soc. geol. Nord*—Annales de la Société géologique du Nord. (Lille, 8vo.) Ng.
- Ann. Soc. Linn. Lyon*—Annales de la Société Linnéenne de Lyon. Nouvelle série. (Lyon, 8vo.) N. R. Z. L. C. O.

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- Annuaire Mus. St. Petersb.*—Annuaire du Musée zoologique de l'Académie impériale de St. Pétersbourg. [Called also] Ezhegodnik zoologicheskago muzeya imperatorskoï akademii nauk. (St. Pétersbourg, 8vo.) N. Nz. R. Z. L. C.
- Annuaire. Ac. Porto*—Annuario da Academia polytechnica do Porto. (Porto, 8vo.) N.
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- Ann. Univ. Kharkow*—Annales de l'Université de Kharkow [called also Zapiski imperatorskago Khakovskago Universtteta]. (Kharkow, 8vo.) (C) p.
- Ann. Univ. Lyon*—Annales de l'Université de Lyon. Nouvelle série. I. Sciences, Médecine. (Paris, 8vo.) N. R. C, p.
- Ann. Univ. Toscane*—Annali delle Università Toscane. (Pisa, 4to.) N.
- An. Soc. Argent.*—Anales de la Sociedad científica Argentina. (Buenos Aires, 8vo.) N.
- An. Soc. Espan.*—Anales de la Sociedad Española de historia natural. (Madrid, 8vo.) N. R. Z. C.
- Antanan. Ann.*—Antananarivo Annual and Madagascar Magazine. (Antananarivo, 8vo.) N.
- An. Univ. Chile*—Anales de la Universidad de Chile. (Santiago, 8vo.) N. C.
- Anz. Ak. Wiss.*—Anzeiger der k. Akademie der Wissenschaften. Mathematisch-naturwissenschaftliche Classe. (Wien, 8vo.) N. R. L. Z. C.
- Appalachia*—Appalachia: the Journal of the Appalachian Mountain Club. (Boston, 8vo.) N.
- Aquila*—Aquila a Magyar madártani Központ folyóirata. (Budapest, 4to.) Nz. Z.
- § *Arb. Biol. Abt. Land.-Forstwirtsch.*—Arbeiten aus der biologischen Abteilung für Land- und Forstwirtschaft am Kaiserlichen Gesundheitsamte. (Berlin, 8vo.) N. K.
- Arb. Inst. Wien*—Arbeiten aus dem zoologischen Institut der Universität Wien und der Zoologischen Station in Triest. (Wien, 8vo.) Nz. K. R. Z. L. C, b. O.
- Arb. Inst. Würzburg*—Arbeiten aus dem zoologisch-zootomischen Institut in Würzburg. (Wiesbaden, 8vo.) Nz. K. R. Z. L. C, b. O.
- Arb. Lab. Warsaw*—[Vide *Rabot. Lab. Warsaw.*]
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- Versl. Ak. Amsterdam*—Verslagen en Mededeelingen der k. Akademie van Wetenschappen. Afdeeling Natuurkunde. Derde Reeks. (Amsterdam, 8vo.) N. K. R. Z. L. C, p.
- Vestník Ceske Ak.*—Věstník české akademie Císaře Františka Josefa pro vědy, slovesnost a umění. (Praze, 8vo.) N.
- Vestník Ceske. Nauk.*—[Vide *SB. Bohmisch. Ges.*]
- Vestník. Klub. Prostějove*—Věstník Klubu přírodovědeckého v Prostějově. (Prostějově, 8vo.) N.
- Victorian Natural.*—The Victorian Naturalist: the Journal and Magazine of the Field Naturalists' Club of Victoria. (Melbourne, 8vo.) N. Z. C. O.
- Vid. Medd.*—Videnskabelige Meddelelser fra den naturhistoriske Forening i Kjøbenhavn. (Copenhagen, 8vo.) N. R. Z. C.
- Vierteljahrschr. Ges. Zurich*—Vierteljahrschrift der naturforschenden Gesellschaft in Zürich. (Zürich, 8vo.) N. K. R. Z. L. C, b, p.

- Vyest. est. S. Peterb.*—Vyestnik estestvoznaniya Izdanie S. Peterburghskagho obshchestva estestvoispuitateley. [Called also] Revue des Sciences publiée par la Société des Naturalistes à St. Pétersbourg. [St. Petersburg, 8vo.] N.
- W. Amer. Scient.*—The West American Scientist. (Los Angeles, &c., 8vo.) N.
- West Ind. Bull.*—West Indian Bulletin, the journal of the Imperial Agricultural Department for the West Indies. (Barbados, 8vo.) Nz. K. Z. (C) p.
- Wien. ent. Zeit.*—Wiener entomologische Zeitung. (Wien, 8vo.) Nz. Z. L. C.
- Wiltshire Mag.*—The Wiltshire Archæological and Natural History Magazine. (Devizes, 8vo.) N. C.
- Wiss. Meeresuntersuch.*—Wissenschaftliche Meeresuntersuchungen herausgegeben von der Kommission zur wissenschaftlichen Untersuchung der deutschen Meere in Kiel und der biologischen Anstalt auf Helgoland. Neue Folge. (Kiel and Leipzig, 4to.) Nz. K. R. Z. L. C. O.
- Wiss. Mitt. Bosnien*—Wissenschaftliche Mittheilungen aus Bosnien und der Hercegovina. Herausgegeben vom Bosnisch-Hercegovinischen Landesmuseum in Sarajevo. (Vienna, 8vo.) N. K. Z. O.
- W. Virginia Geol. Surv.*—West Virginia Geological Survey. (Morgantown, 8vo.) Ng.
- Yearb. U. S. Dep. Agric.*—Yearbook of the United States department of Agriculture. (Washington, 8vo.) N. R. Z. L. (C) b, p. O.
- Yn Lioar Mannínagh.*—[Vide *J. Isle Man Soc.*]
- Zapiski imp. ak. nauk.*—[Vide *Mem. Ac. St. Petersb.*]
- Zapiski Kiev. Obshch.*—Zapiski Kievskagho Obshchestva estestvoispuitateley. [Called also] Mémoires de la Société des Naturalistes de Kiev. (Kiev, 8vo.) N. R. (C) p.
- Zapiski Kharkov. Univ.*—[Vide *Ann. Univ. Kharkow.*]
- Zapiski Novoross. Obshch.*—Zapiski Novorossiskagho Obshchestva estestvoispuitateley [called also] Mémoires de la Société des Naturalistes de la Nouvelle-Russie.] (Odessa, 8vo.) N. R. (C) p.
- Zeitschr. allg. Physiol.*—Zeitschrift für allgemeine Physiologie herausgegeben von Max Verworn. (Jena, 8vo.) K. (C) b, y. O.
- Zeitschr. ang. Mikr.*—Zeitschrift für angewandte Mikroskopie herausgegeben von G. Marpmann. (Leipzig, 8vo.) N.
- Zeitschr. Biol.*—Zeitschrift für Biologie. (München und Leipzig, 8vo.) K. R. C, y. O.
- Zeitschr. Deutsch. geol. Ges.*—Zeitschrift der deutschen geologischen Gesellschaft. (Berlin, 8vo.) Ng. K. C. O.
- Zeitschr. Ent. Breslau*—Zeitschrift für Entomologie, herausgegeben vom Verein für Schlesische Insektenkunde zu Breslau. (Breslau, 8vo.) Nz. Z. O.

- Zeitschr. Ethnol.*—Zeitschrift für Ethnologie. Organ der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. (Berlin, 8vo.) K. C. O.
- Zeitschr. Ferd. Tirol*—Zeitschrift des Ferdinandeums für Tirol und Vorarlberg. (Innsbruck, 8vo.) N. R.
- Zeitschr. Hym. Dipt.*—Zeitschrift für systematische Hymenoptero-logie und Dipterologie. (Teschendorf, 8vo.) Nz. Z. C.
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- Zeitschr. Ool.*—Zeitschrift für Oologie. Organ für Wissenschaft und Lieb-  
haberei. (Berlin, 8vo.) Z.
- Zeitschr. Ornith.*—Zeitschrift für Ornithologie und praktische Geflügelsucht,  
Organ des Verbandes der ornithologischen Vereine Pommerns. (Stettin,  
8vo.) Nz. Z.
- Zeitschr. Sinnesorgane*—Zeitschrift für Psychologie und Physiologie der  
Sinnesorgane. (Hamburg und Leipzig, 8vo.) R. C, y. O.
- Zeitschr. wiss. Mikr.*—Zeitschrift für wissenschaftliche Mikroskopie und  
für mikroskopische Technik. (Braunschweig, 8vo.) N. K. R.  
C, y. O.
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- Zool. Ann.*—Zoologische Annalen. (Wurzburg, 8vo.) Nz. Z. O.
- Zool. Anz.*—Zoologischer Anzeiger, zugleich Organ der deutschen zoolo-  
gischen Gesellschaft [with this is published *Bibliographia zoologica.*]  
(Leipzig, 8vo.) Nz. K. R. Z. L. C, b. O.
- Zool. Anz. Bibl.*—Bibliographia Zoologica (diario "Zoologischer Anzeiger"  
adnexa). (Leipzig, 8vo.) Nz. K. R. Z. L. C, b. O.
- Zool. Beitr.*—Zoologische Beiträge. (Breslau, 8vo.) Nz. K. Z. L.  
C, b. O.
- Zool. Centrbl.*—Zoologisches Centralblatt. (Leipzig, 8vo.) Nz. K. Z.  
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- Zool. Garten*—Der Zoologische Garten. (Frankfurt-a.-M., 8vo.) Nz. Z.  
(C) p. O.
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und Ontogenie der Thiere. (Jena, 8vo.) Nz. K. R. Z. L.  
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- Zool. Jahrb. Syst.*—Zoologische Jahrbücher. Abtheilung für Systematik,  
Geographie und Biologie der Thiere. (Jena, 8vo.) Nz. K. R. Z.  
L. C, b. O.
- Zool. Jahresber.*—Zoologischer Jahresbericht, herausgegeben von der  
zoologischen Station zu Neapel. (Berlin, 8vo.) N. K. R. Z.  
L. C, b. O.
- Zool. Mag. Tokyo*—The Zoological Magazine: organ of the Zoological  
Society of Tokyo. (Tokyo, 8vo.) Nz. Z.



- Zoologica*—Zoologica—Abhandlungen aus dem Gesamtgebiete der Zoologie. Herausgegeben von Dr Carl Chun [formerly *Bibl. Zool.*]. (Stuttgart, 4to.) Nz. K. Z. L. C, b. Ö.
- Zoologist*—The Zoologist: a Monthly Journal of Natural History. (London, 8vo.) Nz. K. Z. L. C. O.
- Zool. Rec.*—The Zoological Record. (London, 8vo.) N. Nz. K. R. Z. L. C, b, p. Ö.
- Zool. Res.*—Collectio brevium dissertationum novarumque investigationum ad universas zoologicas doctrinas spectantium. (Roma, 8vo.)
- Zool. Vortr.*—Zoologische Vorträge herausgegeben von William Marshall. (Leipzig, 8vo.) Nz. Z.
- Zool. Zentrbl.*—[Vide *Zool. Centrbl.*]

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# THE ZOOLOGICAL RECORD

## FOR 1904.

### I. GENERAL SUBJECTS.\*

BY

D. SHARP.

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\* It will be understood that papers recorded here may also be found under the various classes, II—XVIII. They are included here because of their bearing on general questions, which, if not obvious, will be made apparent in the Subject-Index.

## INTRODUCTION.

NEARLY 1000 works are included in this Record.

Two works of the most general character appeared in 1904. The second edition of WEISMANN'S work on evolution (927) as well as its translation by Prof. and Mrs THOMSON (928) we can merely mention; its chief theme being that characters, taken as the sign of evolution, must be born not acquired. There can be no doubt that, however open to criticism the system of this most talented Zoologist may be, it is of much value as tending to expose the term heredity to the critical consideration it so much requires.

WASMANN'S general work (919) is practically a new one though styled a second edition. From a philosophical point of view the work of the Revd. Father might be perhaps severely criticised, but his views so far as they go are frankly stated, and the work zoologically will be found very good, and easily intelligible.

There are several learned works on the zoology of the ancients, BURCKHARDT (155-158), STRUNZ (864). At the opposite extreme we find the memoirs of SPENGLER (851), ZIEGLER (971), KORSCHOLT (482) who utter words of caution as to the confusion created by those who consider they are correcting zoological words and taxonomical expressions by changing their orthography. It certainly seems undesirable that we should have current, Kephelopoda, Cephalopoda, Zephalopoda.

The emission of rays by living bodies is attracting some attention, CHARPENTIER (180); as is also the effect of radium and other rays, on organisation, SCHAPER (792), WILLCOCK (945) etc.

Much attention continues to be given to the subject of unconscious movement. BOHN (97) after elaborate experiments concludes that the periodic movements of *Convoluta* are to be ascribed to inherited memory. Apparently this differs from the old terms instinct and habit, inasmuch as it is associated with protoplasm. JENNINGS' work (446) gives the results of observations that have extended over a number of years. He considers that the reactions of the lowest organisms to stimuli are not entirely of the kind called tropisms, but are essentially of the same nature as the method of trial and error, and exhibit therefore the rudiments of intelligence. FOREL'S (294) discussion of animal psychology is remarkably concise and lucid, and deserves the attention of all who do not entirely neglect this branch of knowledge.

The first volume of the treatise on histology by PRENANT, BOUIN & MAILLARD (738) deals with cytology, and appears to be an important work: it is said to contain much new matter.

The relations of mitosis and amitosis are discussed by H. L. OSBORN (686); and CHILD urges (184) that a greater importance attaches to amitosis than is usually conceded.

The "individuality" of chromosomes has been discussed and criticised by both HÄCKER (358) & PETRUNKEWITSCH (719). HÄCKER is inclined to favour the term autonomy rather than individuality. But in discussing autonomy he makes the difficulties connected with the term tolerably evident. He says that sperm and germ cells do not mix but only conjugate, but we do not quite gather what sort of a process conjugation without mixing is believed to be. He puts in tabular form the chromosome morphology in the heredity of cross-breeds of three forms of Arthropods. PETRUNKEWITSCH (719), who also criticises Boveri's expectations—and with great reason—valuable results from an inquiry into the cytology of parthenogenesis.

Works on development are very numerous. YATSU (957) has experimented as to the existence of "definite specification" in the regions of the egg, and finds that it is initiated by the dissolution of the germinal vesicle. MARCHAL's paper on germinogony (586) deals with one of Nature's experiments of a most remarkable character, and having the widest bearings. The subject is evidently destined to become of much importance. It is treated by the author in an excellent manner. The memoir we have already alluded to of PETRUNKEWITSCH on artificial parthenogenesis, besides dealing with the cytological aspects, discusses briefly the relation of the phenomena with natural parthenogenesis. E. B. WILSON (949) informs us that in both Annelids and Molluscs development is to be regarded as a mosaic-work of self-differentiating cells; specific conditions being dependent on specific forms of protoplasm.

Sexual dimorphism and ornament has been discussed by LAMEERE (497). He traces it to equivalence of energy in the early condition of the two sexes, concomitant with unequal physiological division of labour. Many of his examples, as well as his treatment of apparently exceptional cases, are full of interest and ingenuity.

In addition to discussing the matter in his larger paper, PAUL MARCHAL has a shorter one on the determination of sex (587) in connection with polyembryony. MONTGOMERY (640) sets forth the superiority of the female sex.

Memoirs on heredity are extremely numerous. We owe to HÄCKER (358, 360) a clear exposition of the Mendel work, and a discussion of it in connection with recent cytology. CHILD (186) as the result of regeneration experiments concludes that heredity is a physiological not a morphological question. The brief note of PAUL ABRIC (5) will no doubt receive the attention it deserves. In it he complains—and probably not altogether without reason—of the metaphysical nature of the considerations that have been previously advanced. Is it certain that the "parasitic complex" he postulates (in this as well as in other of his notes) is altogether free from the taint he complains of? We may hope that it will become quite clear to us in what way the new "parasitic complex" differs from the old "environment."

The study of regeneration has also been very extensive. MORGAN (651) discusses the phenomena and suggests new terms for use in the subject. SCHULTZ (814) instructs us as to the general view we should take of the subject; and HOLMES (414) has a chapter on the factors in the regulation of form.

---

## I. TITLES.\*

1. ABDERHALDEN, E. Neuere Versuche über künstliche Parthenogenesis und Bastardirung. Arch. Rassen i, pp. 656-663.
2. \*——. Der Arten-Begriff und die Arten-Konstanz auf biologisch-chemischer Grundlage. Nat. Rundsch. xix, pp. 557-560. [From Zool. Anz. Bibl. xi, p. 72.]
3. ABEL, O. Über das Aussterben der Arten. C.R. Congr. geol. internat. ix, pp. 739-748.
4. ABRIC, P. A propos du problème de la pigmentation. C.R. Soc. Biol. lvii, pp. 229-231.

---

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

5. [ABRIC, P.] Sur la question de l'hérédité chez les Métazoaires. T. c. pp. 231, 232.
6. —. L'automatisme des mouvements ciliaires. T. c. pp. 266, 267, and correction p. 608.
7. —. Sur la variation. T. c. pp. 268, 269.
8. —. Sur la sexualité et détermination du sexe. T. c. pp. 269, 270.
9. —. A propos de la fécondation spermatozoïdale et chimique et de la parthénogénèse. T. c. pp. 271, 272.
10. ACHELIS, T. Die Ethik in ihrem Verhältnis zur Deszendenztheorie. Arch. Rassen i, pp. 420-427.
11. ALLEN, F. J. The origin of life. [Letter.] Nature lxxi, p. 54.
12. ALLEN, B. M. The embryonic development of the Ovary and Testis of the Mammals. Amer. J. Anat. iii, pp. 89-146, 7 pls., 5 figg.
13. ALLEN, G. M. The heredity of coat color in mice. P. Amer. Ac. xl, pp. 59-163.  
— [See also CASTLE & ALLEN (174).]
14. ANCEL, P. & BOUIN, P. L'apparition des caractères sexuels secondaires est sous la dépendance de la glande interstitielle du testicule. C.R. Ac. Sci. cxxxviii, pp. 168-170.
15. —. L'infantilisme et la glande interstitielle du testicule. T. c. pp. 231, 232.
16. — & —. La glande interstitielle du testicule. Examen critique des essais de vérification expérimentale de son rôle sur l'organisme. C.R. Soc. Biol. lvi, pp. 83, 84.
17. — & —. Sur la glande interstitielle du testicule des Mammifères. (Réponse à M. Gustave Loisel.) T. c. pp. 95-97, cf. also t. c. pp. 97-100.  
— [See also BOUIN & ANCEL (119-123).]
- ANDERSON, H. K. [See LANGLEY & ANDERSON (500, 501).]
18. \*ANDRÉ, E. A Naturalist in the Guianas. London, 1904, 310 pp. Review, Nature lxi, p. 513.
19. ANDREWS, E. Crayfish spermatozoa. Anat. Anz. xxv, pp. 456-463.
20. ANNANDALE, N. Contributions to the terrestrial Zoology of the Faroes. Part I. P. Phys. Soc. Edinb. 1902-04, pp. 153-160.  
*Mollusca and Arthropoda.* *Aptera* by G. H. CARPENTER. *Coccidæ* by R. NEWSTEAD.
21. ANTHONY, M. The evolution of the human foot. Rep. Smithson. Inst. 1903, pp. 519-535.  
Translation from Rev. Scient. 1903.
22. ANTHONY, R. L'acquisition de la forme arrondie chez les Mollusques acéphales dimyaires fixés en position pleurothétique. (Note préliminaire.) Arch. zool. exp. Notes 1904, pp. clxxiii-clxxxvii.
23. ARIOLA, V. Le ipotesi nella partenogenesi sperimentale e la fecondazione normale. Atti Soc. Ligustica xiv, pp. 149-159.
24. —. La merogonia e l'ufficio del centrosoma nella fecondazione merogonica. Op. cit. xv, pp. 40-50.

25. \*[ARIOLA, V.] Simbiosi e parassitismo nel regno animale. Genova, 1904, 8vo, 29 pp.
26. ——. Rigenerazione naturale eteromorfica dell' oftalmopodite in *Palinurus vulgaris*. Arch. Entwicklmech. xviii, pp. 248-252, pl. xiv.  
Review by VON WAGNER, Zool. Zentrbl. 1904, p. 830.
27. BABÈS, V. Sur certaines anomalies congénitales de la tête, déterminant une transformation symétrique des quatre extrémités (acrométagenèse). C.R. Ac. Sci. cxxxviii, pp. 175-178.
28. BACKMUND, K. Entwicklung der Haare und Schweissdrüsen der Katze. Anat. Hefte. Arb. xxvi, pp. 315-383, pls. 11-14.  
BAETJER, F. H. [See BARDEEN & BAETJER (39) and GILMAN & BAETJER (324).]
29. BAEYER, H. VON. Ueber die physiologische Wirkung der Becquerelstrahlen. Zeitschr. allg. Physiol. iv, pp. 79-86.
30. BAGE, FREDA. Notes on phosphorescence in plants and animals. Victorian Natural. xxi, pp. 93-104.
31. \*BALBIANI, E.-G. Sur les conditions de sexualité chez les Pucerons. Intermed. Biologistes i, pp. 170-174.  
Abstract by SCHRÖDER, Allg. Zeitschr. Ent. ix, p. 115.
32. BALLOWITZ, E. Über hyperdaktyle Familien und die Vererbung der Vielfingerigkeit des Menschen. Arch. Rassen i, pp. 346-365.
33. ——. Über die Spermien des Flussneunauges (*Petromyzon fluviatilis* L.) und ihre merkwürdige Kopfborste. Arch. mikr. Anat. lxx, pp. 96-120, pl. vii.
34. BANCROFT, F. W. Note on the galvanotropic reactions of the Medusa *Polyorchis penicillata* A. Agassiz. J. exp. Zool. i, pp. 289-292.
35. BARATONO, A. Lo "psicodiatema" di M. Panizza in rapporto con la Biologia generale. Atti Soc. Ligustica xiv, pp. 181-195.
36. BARBIERI, C. Ricerche sullo sviluppo del midollo spinale negli Anfibi. Arch. zool. ital. ii, pp. 79-106.
37. \*BARD, L. La vie est une forme spécifique de l'énergie universelle. Rev. méd. Suisse rom. xxiv, pp. 608-612. [From Zool. Anz. Bißl. xi, p. 66.]
38. BARDEEN, C. R. Numerical vertebral variation in the human adult and embryo. Anat. Anz. xxv, pp. 497-519.
39. — & BAETJER, F. H. The inhibitive action of the Roentgen rays on regeneration in Planarians. J. exp. Zool. i, pp. 191-195.
40. BARDLEBEN, K. VON. Skelet, ausser Kopf (einschliesslich Gelenke und Gelenkmechanik). Anat. Hefte. Ergebn. xiii, pp. 95-164.  
Summary of 70 works of 1903; bibliographic list, pp. 95-98.
41. ——. Einige Vorschläge zur Nomenklatur. [Anatomical.] Anat. Anz. xxiv, pp. 301-304.
42. BARFURTH, D. Regeneration und Involution. Anat. Hefte. Ergebn. xiii, pp. 368-487.  
Summary of recent work mostly 1903; bibliographic list of 133 works, pp. 368-374.
43. BARRATT, J. O. W. Die Reaktion des Protoplasmas in ihrem Verhältnis zur Chemotaxis. Zeitschr. allg. Physiol. iv, pp. 87-104, 1 pl.

44. BARRETT-HAMILTON, G. E. H. A physiological theory to explain the winter-whitening of birds and mammals in snowy countries, and the most striking points in the distribution of white in Vertebrates generally. *Rep. Brit. Ass.* 1903, pp. 698, 699.
45. BARRINGTON, AMY, LEE, ALICE & PEARSON, K. On inheritance of coat-colour in the greyhound. *Biometrika* iii, pp. 245-298.
46. BASHFORD, E. F. & MURRAY, J. A. The significance of the zoological distribution, the nature of the mitoses, and the transmissibility of Cancer. *P. R. Soc. London* lxxiii, pp. 66-76.
47. — & —. The significance of the Zoological distribution, the nature of the mitoses, and the transmissibility of cancer. *Brit. Med. J.* 1904, i, pp. 269-271, 6 figg.
48. \*BASTIAN, H. C. *Studies in Heterogenesis.* London, 1904, 8vo, ix + 354 pp., 19 pls., 815 figg.  
Review by H. DE VARIGNY, *Rev. Scient.* (5) i, pp. 590-592.
49. —. On the origin of flagellate Monads of fungus-germs from minute masses of Zoogloea. *Nature* lxxi, pp. 77-81.  
BASTIEN, L. [See HENRY & BASTIEN (391).]
50. BATAILLON, E. La segmentation parthénogénésique des œufs immatures dans l'eau ordinaire. *C.R. Soc. Biol.* lvi, pp. 749-751.
51. —. Nouveaux essais de Parthénogénèse expérimentale chez les Vertébrés inférieurs (*Rana fusca* et *Petromyzon planeri*). *Arch. Entwickmech.* xviii, pp. 1-56, pls. i-iv, 12 figg.
52. —. Les agents dits "spécifiques" en Tératogénèse et en Parthénogénèse expérimentales. *T. c.* pp. 178-183, 306.  
Abstract by MAAS, *Zool. Zentrbl.* 1905, p. 66.
53. BATESON, W. Address. *Nature* lxx, pp. 406-413. Also *Rep. Brit. Ass.* 1904, pp. 574-589. Summary by L. Plate. *Arch. Rassen* i, pp. 908, 909.
54. —. Heredity and evolution. *Pop. Sci. Monthly* lxv, pp. 522-531.
55. BATHER, F. A. Museums Association. Address by the President. *Museums J.* iii, pp. 71-94, 110-132, 36 pls.
56. BAUMGARTNER, W. J. Some new evidences for the individuality of the Chromosomes. *Biol. Bull.* viii, pp. 1-23, 3 pls.
57. \*BAYER, H. *Befruchtung und Geschlechtsbildung.* Strassburg, 1904, 39 pp.  
Abstract by FICK, *Zool. Zentrbl.* 1904, p. 779.
58. BEARD, J. Heredity and the cause of variation. *Biol. Centrbl.* xxiv, pp. 366-370.
59. —. Heredity as viewed from the biological aspect. *Lancet* 1904, ii, pp. 535, 536.
60. —. Heredity. *T. c.* pp. 640, 641.
61. —. Heredity in its biological and psychiatric aspects. *Brit. Med. J.* 1904, ii, pp. 963-965.
62. \*—. The determination of sex in animal development. *Jena*, 1903, 8vo, 60 pp., 3 figg.  
Review by H. DE VARIGNY, *Rev. Scient.* (5) i, p. 813.



63. BECCARI, O. Wanderings in the great forests of Borneo. Travels and researches of a Naturalist in Sarawak. Translated by E. H. Giglioli and revised and edited by F. H. H. Guillemard. London, 1904, 424 pp., illustrations.  
Review, *Nature* lxxi, pp. 203-205.  
[BEECHER, CHARLES EMERSON. Obituary. See JACKSON (433).]
64. [BELGICA.] Expédition antarctique belge. Four parts of Zoology published in 1904.
65. BELL, A. G. The multi-nippled sheep of Beinn Bhreagh. *Science* xix, pp. 767, 768.  
BELL, R. G. [See KELLOGG & BELL (464).]
66. BELLINI, R. L' influenza dei mezzi come causa di variazioni e di dispersione nei molluschi. *Boll. Soc. Napoli* xviii, pp. 145-165.
67. BÉNARD, C. Projet d'expédition océanographique double à travers le bassin polaire arctique. *Bull. Mus. Monaco* No. 2, 30 pp.
68. BENSLEY, B. A. On the evolution of the Australian *Marsupialia*, with remarks on the relationships of the Marsupials in general. *Tr. Linn. Soc. London* ix, pt. 3, 1903, pp. 83-217, pls. v-vii.
69. BERG, W. Weitere Beiträge zur Theorie der histologischen Fixation. (Versuche an nucleinsaurem Protamin.) *Arch. mikr. Anat.* lxxv, pp. 298-357, pl. xx.
70. BERGEN, F. VON. Zur Kenntnis gewisser Struckturbilder ("Netzapparate," "Saftkanälchen," "Trophospongien") im Protoplasma verschiedener Zellenarten. *Arch. mikr. Anat.* lxxiv, pp. 498-574, pls. xxix-xxxix.
71. \*BERT, P. & PELLANDA, C. La nomenclature anatomique et ses origines. Explication des termes anciens employés de nos jours. Paris 1904, vi+100 pp.
72. BERTELLI, D. Sullo sviluppo del diaframma, dei sacchi aeriferi e della cavità pleuro-peritoneale nel *Gallo domestico*. *Nota preventiva. Monit. Zool. ital.* xv, pp. 284-287.
73. BERTHELOT, —. Notice historique sur Henri Milne Edwards, Membre de l'Académie des sciences. *Mem. Ac. France* xlvi, pp. i-xxxvii.
74. —. Notice sur la vie et les travaux de M. Brown-Séguard. *T. c.* pp. ccxxi-cclviii.
75. BETHE, A. Ist die lebende menschliche Fingerspitze mehr befähigt Reibungselektrizität hervorzurufen, als tote Materialien geeigneter Beschaffenheit? *Centrbl. Physiol.* xviii, pp. 761-764.
76. —. Die historische Entwicklung der Ganglienzellhypothese. *Ergebn. Physiol. Biophys.* iii, pp. 195-213.
77. BIEDERMANN, W. Die Schillerfarben bei Insekten und Vögeln. *Festchr. Haeckel [Denkschr. Ges. Jena xi]* pp. 215-300.
78. BIFFEN, R. H. Experiments with Wheat and Barley Hybrids illustrating Mendel's Laws of Heredity. *J. Agric. Soc. Engl.* 1904, pp. 337-345.
79. BIGELOW, M. A. and others. College-entrance option in Zoology. Report of a Committee appointed by the American Society of Zoologists. *Science* xx, pp. 850-852.  
— . [See also LLOYD & BIGELOW (535).]

80. BILLARD, A. Contribution à l'étude des *Hydroïdes* (multiplication, régénération, greffes, variations). *Ann. Sci. nat.* xx, pp. 1-251, pls. i-vi.
81. \*BILLON, L. Recherches des causes déterminant le sexe (thèse). Paris 1904, 8vo, 119 pp. [from *Zool. Anz. Bibl.* ix, p. 282].
82. \*BIZZARRINI, G. *Zoologia descrittiva concenni comparativi*. 2 vols. Livorno 1904.  
Review *Riv. ital. Sci. Nat.* xxiv, pp. 83, 84.
83. BLANCHARD, R. Notices biographiques. xvi François-Vincent Raspail. *Arch. parasit.* viii, pp. 5-87, 1 pl. and portrait.
84. —. *Zoologie et médecine*. *Op. cit.* ix, pp. 129-144.
85. BLASCHKE, F. Über die tiergeographische Bedeutung eines antarktischen Kontinents. *Verh. Ges. Wien* liv, pp. 144-155.  
Abstract *Zool. Zentrbl.* 1905, p. 165.
86. BLES, E. J. Notes on the development of *Phyllomedusa hypochron-drialis* (Daud.). *Rep. Brit. Ass.* 1904, pp. 605, 606.
87. BLOCH, B. Die geschichtlichen Grundlagen der Embryologie bis auf Harvey. *Acta Ac. German.* lxxxii, No. 3, 120 pp.
88. —. Die Grundzüge der älteren Embryologie bis Harvey. *Zool. Ann.* i, pp. 51-73.
89. BLUNTSCHLI, H. Beobachtungen am Ovarialei der Monascidie *Cynthia microcosmus*. *Morphol. Jahrb.* xxxii, pp. 391-450, pls. ix, x.
90. BOENNINGHAUS, G. Das Ohr des Zahnwales, zugleich ein Beitrag zur Theorie der Schalleitung. Eine biologische Studie. *Zool. Jahrb. Anat.* xix, pp. 189-360, pls. xii, xiii.
91. BÖHI, U. Beiträge zur Entwicklungsgeschichte der Leibeshöhle und der Genitalanlage bei den *Salmoniden*. *Morphol. Jahrb.* xxxii, pp. 505-586, pl. xiii.
92. \*BÖHM, A. Taschenbuch der mikroskopischen Technik. Mit Beitrag (Rekonstruktionsmethoden von G. Born). 5 durchgesehene und vermehrte Auflage. München 1904.  
Notice *Anat. Anz.* xxv, p. 622.
93. BOHN, G. Coopération, hiérarchisation, intégration des sensations chez les Artiozoaires. *C.R. Ac. Sci.* cxxxviii, pp. 112-114.  
Abstract of this and (95) by SIMROTH, *Zool. Zentrbl.* 1905, pp. 66-68.
94. —. Oscillations des animaux littoraux synchrones de la marée. *Op. cit.* cxxxix, pp. 646-648.
95. —. L'anhydrobiose et les tropismes. *T. c.* pp. 809-811.
96. —. Théorie nouvelle du phototropisme. *T. c.* pp. 890, 891.
97. —. Les *Convoluta roscoffensis* et la théorie des causes actuelles. *Bull. Mus.* Paris ix, pp. 352-364.
98. —. A propos d'un mémoire récente sur les *Convoluta*. *T. c.* pp. 397-399.
99. —. Influence de l'inanition sur les métamorphoses. *C.R. Soc. Biol.* lvi, pp. 661-663.
100. —. Influence de la position de l'animal dans l'espace sur ses tropismes. *Op. cit.* lvii, pp. 351-353.
101. —. L'anhydrobiose et les tropismes. *T. c.* pp. 365-367.
102. —. Faits biologiques isolés et faits réunis par une fonction continue. *T. c.* pp. 426-428.

103. [BOHN, G.] Influence de l'insolation des œufs d'Amphibiens sur l'évolution de l'embryon. T. c. pp. 663, 664.
104. —. De la lumière, de l'aliment et de la chlorophylle, comme facteurs modificateurs du développement des Amphibiens. C.R. Ac. Sci. cxxxviii, pp. 1244, 1245.
105. —. Influence des variations de l'éclairement sur les premiers stades larvaires des Amphibiens. C.R. Soc. Biol. lvii, pp. 767, 768.
106. —. Sur une symbiose déterminant une pœcilogonie. T. c. pp. 768, 769.
107. —. Intervention des influences passées dans les mouvements actuels d'un animal. T. c. pp. 789, 790.
108. —. Intervention des influences passées dans la résistance à l'inanition d'un animal. T. c. pp. 791, 792.
109. —. Influence du milieu extérieur sur l'œuf. Rev. gen. Sci. xv, pp. 240-250.  
Cf. VIGUIER, t. c. pp. 475, 476.
110. BOISSOU DY, J. DE. Les hypothèses cinétiques et la loi de l'évolution. Rev. gen. Sci. xv, pp. 815-823.
111. BONHOTE, J. L. On coloration in mammals and birds. Abstract, J. Linn. Soc. London xxix, pp. 185-187.
112. BONNEVIE, K. Zur Kenntniss der Spermio-genese bei den *Gastropoden*. (*Enteroceros östergreni*.) Biol. Centrbl. xxiv, pp. 267-274 and 306-310.
113. BONNIER, P. La question de l'orientation lointaine. Rev. Scient. (5) ii, pp. 837-839.
114. BORING, ALICE M. Closure of longitudinally split Tubularian stems. Biol. Bull. vii, pp. 154-159.
115. BORJA Y GOYENECHÉ, J. DE. La evolución es un hecho en Zoología? Mem. Ac. Barcel. v, No. 2, 18 pp.
116. BÖSENBERG, H. Zur Spermato-genese bei den *Arachnoiden*. Zool. Anz. xxvii, pp. 116-.
117. BOTEZAT, E. Untersuchungen über die Hyperplasie an Rehgeweihen mit Berücksichtigung der übrigen Cerviden. Arch. Entwicklmech. xviii, pp. 593-607, pl. xxxvi.
118. BOUIN, P. Recherches sur la figure achromatique de la cytodièrese et sur le centrosome. Arch. zool. exp. Notes 1904, pp. lxxiii-lxxxviii. Abstract by GOLDSCHMIDT, Zool. Zentrbl. 1904, p. 541.
119. — & ANCEL, P. Recherches sur la signification physiologique de la glande interstitielle du Testicule des Mammifères. I. Rôle de la glande interstitielle chez les individus adultes. J. Physiol. Path. vi, pp. 1012-1022, pl. viii. II. Rôle de la glande interstitielle chez l'embryon, les sujets jeunes et âgés, ses variations fonctionnelles. T. c. pp. 1039-1050, pl. ix.
120. — & —. La glande interstitielle a seule dans le testicule, une action générale sur l'organisme. Démonstration expérimentale. C.R. Ac. Sci. cxxxviii, pp. 110-112.
121. — & —. Recherches sur la structure et la signification de la glande interstitielle dans le testicule normal et ectopique du Cheval. (Note préliminaire.) Arch. zool. exp. Notes 1904, pp. cxli-cliv.

122. [BOUIN, P. & ANCEL, P.] Sur la ligature des canaux déférents chez les animaux jeunes. C.R. Soc. Biol. lvii, pp. 84-86. [Secondary sexual characters.]
123. — & —. Sur le déterminisme des caractères sexuels secondaires et de l'instinct sexuel. T. c. pp. 335-337.  
— [See also PRENANT, BOUIN & MAILLARD (738) and ANCEL & BOUIN (14-17).]
124. BOUNHIOL, J.-P. Des conditions physiques de la respiration aquatique marine. C.R. Ass. franc. xxxii, 2, pp. 815-820.
125. BOUVIER, E. L. Sur le genre *Ortomania* Rathb. et les mutations de certains *Atyidés*. C.R. Ac. Sci. cxxxviii, pp. 446-449.
126. —. Les œufs des *Onychophores*. Arch. Mus. Paris (4) vi, pp. 1-50.
127. BOVERI, TH. Noch ein Wort über Seeigel bastarde. Arch. Entwicklmech. xvii, pp. 521-525.  
Abstract by MAAS, Zool. Zentrbl. 1905, p. 73.
128. —. Ueber die phylogenetische Bedeutung der Sehorgane des *Amphioxus*. Zool. Jahrb. Suppl. vii, pp. 409-428.
129. BOVERI, T. Ergebnisse über die Konstitution der chromatischen Substanz des Zellkerns. Zool. Rec. 1903, Gen. Sub. (79). [Review Arch. Entwicklmech. xviii, pp. 611-613, by LEVY. Also abstract by FICK, Zool. Zentrbl. 1904, pp. 97-99.]
130. — & STEVENS, N. M. Über die Entwicklung dispermer *Ascaris*-Eier. Zool. Anz. xxvii, pp. 406-417.
131. BRACHET, A. Recherches expérimentales sur l'œuf de *Rana fusca*. Arch. Biol. xxi, pp. 103-160, pl. iv.
132. \*— . La signification morphologique et physiologique de la segmentation de l'œuf fécondé. Ann. Soc. Méd. Liège xxxix, pp. 319-339. [From Zool. Anz. Bibl. x, p. 225.]  
— [See also SWAEN & BRACHET (867).]
133. BRANCA, A. Cellules interstitielles et spermatogénèse. C.R. Soc. Biol. lvi, p. 350.
134. —. Transformation de la spermatide en spermatozoïde, chez l'axolotl. T. c. 704-706.
135. —. Les premiers stades de la formation du spermatozoïde chez l'axolotl. Arch. zool. exp. Notes 1904, pp. cv-cxii.
136. BRANNER, J. C. A bibliography of the geology, mineralogy and palæontology of Brazil. Arch. Mus. Rio Jan. xii, pp. 197-309.
137. BRASIL, L. Contribution à la connaissance de l'appareil digestif des Annélides polychètes. L'épithélium intestinal de la Pectinaire. Arch. Zool. exp. xxxii, pp. 91-255, pls. iv-viii.
138. BRAUER, A. Beiträge zur Kenntniss der Entwicklung und Anatomie der *Gymniophonen*. iv. Die Entwicklung der beiden Trigeminus-Ganglien. Zool. Jahrb. Suppl. vii, pp. 381-408.
139. BRAUN, M. Geschichte der beschreibenden Naturwissenschaften und der Medizin als Vorlesungsfach auf den Universitäten mit deutscher Unterrichtssprache. Zool. Ann. i, pp. 74-81.

140. BRAUS, H. Tatsächliches aus der Entwicklung des Extremitäten-skelettes bei den niedersten Formen. Zugleich ein Beitrag zur Entwicklungsgeschichte des Skelettes der Pinnac und der Visceralbögen. Festschr. Hæckel [Denk. Ges. Jena xi], pp. 377-436, pls. xiii, xiv.
141. BRAZZA, F. DI & PIRENNE, P. La vie dans les cristaux. Rev. Scient. (5) i, pp. 518-523.  
BREEMEN, P. J. [See REDEKE & BREEMEN (752).]
142. BREHM, V & ZEDERBAUER, E. Beiträge zur Plankton Untersuchung Alpiner Seen. Verh. Ges. Wien liv, pp. 48-58. II Teil t. c. pp. 635-643.  
Abstract by ZSCHOKKE, Zool. Zentrbl. 1904, p. 168.
143. \*BREITENBACH, W. Ernst Hæckel, ein Bild seines Lebens und seiner Arbeit: portrait, caligraphy. Odenkirk 1904, 107 pp.
144. BRESSLAU, E. Beiträge zur Entwicklungsgeschichte der *Turbellarien*. I. Die Entwicklung der Rhabdocölen und Alloiocölen. Zeitschr. wiss. Zool. lxxvi, pp. 213-332, pls. xiv-xx.  
Abstract by author, Zool. Zentrbl. 1904, pp. 354-362.
145. BROMAN, I. Die Entwicklungsgeschichte der Bursa omentalis und ähnliche Rezessbildungen bei den Wirbeltieren. Wiesbaden, 1904, 8vo, x+611 pp., 650 figg., xx plates.  
Notice, Anat. Anz. xxv, p. 320.
146. BRONN, H. G. Klassen und Ordnungen des Thierreiches. [See ECHINODERMA, HAMANN; PISCES, LÖNNBERG; TUNICATA, SEELIGER (27); MOLLUSCA, SIMROTH (86); MYRIAPODA, VERHOEFF.]
147. BROWNE, F. B. A bionomical investigation of the Norfolk Broads. Tr. Norfolk Soc. vii, pp. 661-673.  
[BROWN-SÉQUARD, C. E. Biography vide BERTHELOT (74).]
148. BRUCE, W. S. The "Scotia" closing plankton net. P. Phys. Soc. Edinb. xv, p. 141, cuts.
149. BRUES, C. T. The internal factors of regeneration in *Alpheus*. Biol. Bull. vi, pp. 319, 320.
150. BRUNELLI, G. Ricerche sull' ovario degli insetti sociali. Rend. Acc. Lincei xiii, 1, pp. 285 & 350-356.
151. BÜHLER, A. Alter und Tod. Eine Theorie der Befruchtung. Biol. Centrbl. xxiv, pp. 65-79, 81-91, and 113-120.
152. BUJOR, P. Nouvelle contribution à l'étude de la faune des Lacs salés de Roumanie. Ann. Univ. Jassy iii, pp. 1-3.  
Contains list of species of Protozoa, Arthropoda, Insecta.
153. BULLOT, G. Artificial Parthenogenesis and regular segmentation in an Annelid (*Ophelia*). Arch. Entwicklmech. xviii, pp. 161-170, 13 figg.
154. ———. Artificial Parthenogenesis and regular segmentation in an Annelid (*Ophelia*). Univ. Calif. publ. Phys. i, pp. 165-174, 13 figg.
155. BURCKHARDT, R. Das koische Tiersystem, eine Vorstufe der zoologischen Systematik des Aristoteles. Verh. Ges. Basel xv, pp. 377-414.
156. ———. Das erste Buch der aristotelischen Tiergeschichte. Zool. Ann. i, pp. 1-28.

157. [BURCKHARDT, R.] Die Biologie der Griechen. Ber. Senckenberg. Ges. 1904, pp. 3-26.
158. \*——. Über antike Biologie. Aarau, 1904, 19 pp. (from Jahresh. Ver. schweiz. Gymnasiallehrer xxxiv).
159. BUTTEL-REEPEN, H. V. Über den gegenwärtigen Stand der Kenntnisse von den geschlechtsbestimmenden Ursachen bei der Honigbiene (*Apis mellifica* L.) ein Beitrag zur Lehre von der geschlechtlichen Präformation. Verh. Deutsch. zool. Ges. 1904, pp. 48-77.  
Followed by a discussion in which Dr BRESSLAU and others took part.
160. \*——. Die Parthenogenesis bei der Honigbiene. Natur & Schule i, pp. 230-239.  
Abstract, SCHRÖDER, Allg. Zeitschr. Ent. ix, p. 112.
161. BYRNES, ESTHER F. Regeneration of the Anterior Limbs in the Tadpoles of Frogs. Arch. Entwicklmech. xviii, pp. 171-177, pl. x, 8 figg.
162. ———. On the skeleton of regenerated anterior limbs in the Frog. Biol. Bull. vii, pp. 166-169, 4 figg.
163. CALKINS, G. N. Studies on the life-history of *Protozoa*. iv. Death of the A series. J. exp. Zool. i, pp. 423-461, 3 pls.
164. ———. Evidences of a sexual-cycle in the life-history of *Amaba proteus*. Arch. Protistenk. v, pp. 1-16, pls. i-iii.
165. CALVET, L. La distribution géographique des Bryozoaires marins et la théorie de la bipolarité. C.R. Ac. Sci. cxxxviii, pp. 384-387.
166. CAMERANO, L. Osservazioni intorno all' applicazione del metodo somatometrico. Boll. Mus. Torino xix, No. 461, 4 pp.
167. ———. Ricerche intorno alla variazione del *Phyllodoctylus europæus* Gené. T. c. No. 471, 28 pp.
168. CAMERON, J. On the origin of the epiphysis cerebri as a bilateral structure in the chick. P. R. Soc. Edinb. xxv, pp. 160-167.
169. ———. On the origin of the epiphysis cerebri as a bilateral structure in the chick. P. Scott. Micr. Soc. iv, pp. 11-17.
170. CARLGREN, O. Studien über Regenerations- und Regulationserscheinungen. I. Über die Korrelationen zwischen der Regeneration und der Symmetrie bei den Actiniarien. Svenska Ak. Handl. xxxvii, No. 8, 105 pp, xi pls.
171. \*CARRACIDO, JOSÉ R. Tratado de Química biológica. Madrid 1903, 8vo, 725 pp.  
Review by H. PIÉRON, Rev. Scient. (5) i, pp. 527-529.
172. CASTEEL, D. B. The cell-lineage and early development of *Fiona marina*, a Nudibranch mollusk. P. Ac. Philad. lvi, pp. 325-404, pls. xxi-xxxv.
173. CASTLE, W. E. Sex determination in bees and ants. Science xix, pp. 389-392.  
Cf. WHEELER (936).
174. ——— & ALLEN, G. M. Mendel's law and the heredity of albinism. Mark. Anniv. Vol. pp. 379-398.
175. CAULLÉRY, M. & MESNIL, F. Revue annuelle de Zoologie. Rev. gen. Sci. xv, pp. 594-610.

176. [CAULLÉRY, M. & MESNIL, F.] Le vi<sup>e</sup> Congrès international de Zoologie (Berne, 14-19 août 1904). T. c. pp. 895-898.
177. CAVALIÉ, M. Les chromoblastes du tégument externe dorsal de *Torpedo galvani*. C.R. Soc. Biol. lvi, p. 46.
178. CARAZZI, D. Ricerche embriologica e citologica sull' uovo di *Myzostoma glabrum* Leuckart. Monit. Zool. ital. xv, pp. 62-78, 87-100, pl. iv.
179. CESNOLA, A. P. DI. Preliminary note on the protective value of colour in *Mantis religiosa*. Biometrika iii, pp. 58, 59. [*Orthoptera*.]
180. CHARPENTIER, A. Moyens d'observation et caractères divers des radiations d'origine physiologique. C.R. Soc. Biol. lvi, pp. 69-72.  
See also various other articles on the subject in the same volume.
181. CHARRIN, — & LE PLAY, —. Insuffisance de développement d'origine toxique (origine intestinale). C.R. Ac. Sci. cxxxviii, pp. 717-720.
182. CHATIN, J. Sur le cartilage étoilé ou ramifié. C.R. Ac. Sci. cxxxix, pp. 445-447.
183. —. Sur la morphographie comparée de la cellule cartilagineuse. T. c. pp. 489-491.
184. CHILD, C. M. Amitosis in *Moniezia*. Anat. Anz. xxv, pp. 545-558.
185. —. Form-regulation in *Cerianthus*. III. The initiation of Regeneration. Biol. Bull. vi, pp. 55-74, 31 figg. IV. The rôle of water-pressure in Regeneration. T. c. pp. 266-286, 7 figg. V. The rôle of water-pressure in Regeneration: Further experiments. Op. cit. vii, pp. 127-153, 17 figg. VI. Certain special cases of Regulation and their relation to internal pressure. T. c. pp. 193-214, 15 figg. VII. Tentacle-reduction and other experiments. T. c. pp. 263-279, 8 figg.
186. —. Studies on regulation. IV. Some experimental modifications of form-regulation in *Leptoplana*. J. exp. Zool. i, pp. 95-133.
187. —. Studies on regulation. V. The relation between the central nervous system and regeneration in *Leptoplana*: posterior regeneration. T. c. pp. 463-512.
188. —. Studies on regulation. VI. The relation between the central nervous system and regulation in *Leptoplana*; anterior and lateral regeneration. T. c. pp. 513-557.
189. —. Form-regulation in *Cœlentera* and *Turbellaria*. Smithson. Collect. quart. i, pp. 134-143.
190. CHUN, C. Wissenschaftliche Ergebnisse der deutschen Tiefsee-Expedition auf dem Dampfer "Valdivia" 1898-1899. [See AVES, REICHENOW (503); TUNICATA, MICHAELSEN (20); CRUSTACEA, DOFLEIN (53), JURICH (97), THIELE (219); CŒLENTERATA, MARENZELLER (152A).]
191. CLARKE, J. M. The indigene and alien faunas of the New York Devonian. Rep. N. York Mus. lv, pp. 664-672.  
[CLAUS. Lehrbuch 7th ed. See GROBBEN (343).]
192. CLAVET, J. M. Reacción de degeneración. Bol. Soc. Aragon. Ci. nat. ii, pp. 122-127.
193. CLEMENTS, F. E. Greek and Latin in biological nomenclature. Stud. Univ. Nebraska iii, pp. 1-85.

194. CLEVE, P. T. Report on Plankton collected by Mr Thorild Wulff during a voyage to and from Bombay. *Arkiv Zool.* i, pp. 329-381, pls. 16-19.
195. COE, W. R. The anatomy and development of the terrestrial Nemertean (*Geonemertes agricola*) of Bermuda. *P. Boston Soc.* xxxi, pp. 531-570, pls. xxiii-xxv.
196. COHN, F. Bemerkungen zur Histologie und Drüsenfunktion des Corpus luteum. Eine Erwiderung an Dr W. Lubosch. *Anat. Anz.* xxv, pp. 69-72.
197. COLLINS, F. C. Spire variation in *Pyramidula alternata*. *Amer. Natural.* xxxviii, pp. 661-668.
198. COLTON, B. P. Zoology: descriptive and practical. London, 1904, 2 parts; part i, x+375 pp., part ii, xvii+204 pp.  
Review, *Nature* lxx, p. 28.
199. CONKLIN, E. G. The organization and orientation of the Ascidian egg. *Biol. Bull.* vi, p. 322.
200. ——. Experiments on the origin of the cleavage Centrosomes. *T. c.* pp. 221-226, 12 figg.
201. ——. Organ-forming germ regions in the eggs of Ascidians and snails. *Amer. Natural.* xxxviii, p. 501.
202. COOK, O. F. The vegetative vigor of hybrids and mutations. *P. Soc. Washington* xix, pp. 83-90. [Botanical.]
203. ——. Evolution not the origin of species. *Pop. Sci. Monthly* lxiv, pp. 445-456.
204. ——. Professor Metcalf's evolution catechism. [Letter.] *Science* xix, pp. 312-314.
205. ——. Natural selection in kinetic evolution. *Science* xix, pp. 549, 550.
206. COPEMAN, S. M. & PARSONS, F. G. Observations on the sex of mice. Preliminary paper. *P. R. Soc. London* lxxiii, pp. 32-48.
207. CORCELE, J. Modifications récentes de la faune des Alpes. *Rev. Scient.* (5) ii, pp. 70-73.
208. CORNISH, C. J. Sir William Henry Flower.....a personal memoir. London, 1904, 8vo, vii+274 pp. Portrait.  
Review by R. L., *Nature* lxx, p. 97; by LUCAS, *Science* xx, p. 342.
209. CORRENS, C. Experimentelle Untersuchungen über die Entstehung der Arten auf botanischen Gebiet. *Arch. Rassen* i, pp. 27-52.
210. \*COUPIN, H. L'amour chez les bêtes. Paris, 1904, 18mo, 326 pp.
211. COUTAGNE, G. De la sélection des petites différences que présentent les caractères à variations continues. *C.R. Ac. Sci.* cxxxviii, pp. 54-56.
212. ——. De la corrélation des caractères susceptibles de sélection naturelle. *T. c.* pp. 232-234.
213. ——. De la sélection des caractères polytaxiques dans le cas des croisements mendéliens. *T. c.* pp. 298-300.
214. ——. Des caractères polytaxiques chez les espèces à l'état sauvage. *T. c.* pp. 1521-1523.



215. CRAMPTON, C. B. Anabolism and specialisation. P. Phys. Soc. Edinb. xv, pp. 195-213.
216. CRAMPTON, H. E. Experimental and statistical studies upon *Lepidoptera*. I. Variation and elimination in *Philosamia cynthia*. Biometrika iii, pp. 113-130.
217. —. Variation and selection in Saturniid Lepidoptera. *Philosamia cynthia*. Biol. Bull. vi, pp. 310, 311.
218. CUÉNOT, L. Les recherches expérimentales sur l'hérédité mendélienne. Rev. gen. Sci. xv, pp. 303-310, 2 figg.
219. —. L'hérédité de la pigmentation chez les souris. (3<sup>me</sup> note.) Arch. zool. exp. Notes 1904, pp. xlv-lvi.
220. DAHL, F. Deszendenztheorie und Schule. Arch. Rassen i, pp. 428, 429.  
Cf. PLATE (727).
221. DAIBER, MARIE. Beiträge zur Kenntnis der Ovarien von *Bacillus rossii* Fabr. nebst einigen biologischen Bemerkungen. Jena. Zeitschr. xxxix, pp. 177-202, pls. iii, iv. [*Phasmidæ*.]
222. DAMANY, P. La cavité cotyloïde. Évolution ontogénique comparée de sa profondeur chez l'homme et les animaux. J. Anat. Physiol. xl, pp. 387-413, 17 text-figg.
223. DAMAYE, H. L'hérédité collatérale. Sa valeur et son importance en pathologie. Rev. Scient. (5) i, pp. 745-748, 781-787.
224. DARBISHIRE, A. D. On the result of crossing Japanese Waltzing with Albino mice. Rep. Brit. Ass. 1904, pp. 591, 592.
225. —. On the result of crossing Japanese Waltzing with Albino mice. Biometrika iii, pp. 1-51.
226. —. On the bearing of Mendelian principles of heredity on current theories of the origin of species. Mem. Manchester Soc. xlviii, No. 24, 19 pp.
227. DASTRE, A. A new theory of the origin of species. Rep. Smithson. Inst. 1903, pp. 507-517.  
About De Vries. Translated from Rev. des deux Mondes 1903.
228. DAVENPORT, C. B. Wonder horses and Mendelism. Science xix, pp. 151-153.
229. —. Color inheritance in mice. T. c. pp. 110-114.
230. —. Animal morphology in its relation to other sciences. Op. cit. xx, pp. 697.
231. \* —. Statistical methods with special reference to biological variation. 2nd. ed. New York, 1904, viii + 223 pp. [From Zool. Anz. Bibl. xi, p. 63.]
232. — & HUBBARD, MARIAN E. Studies in the evolution of *Pecten*. iv. Ray variability in *Pecten varius*. J. exp. Zool. i, pp. 607-616.  
DAVIS, B. M. [See RITTER & DAVIS (773).]
233. DAVIS, J. R. A. The natural history of animals. The animal life of the world in its various aspects and relations. Half-vols. vi-viii. London, 1904.

234. DEAN, BASHFORD. A visit to the Japanese Zoological Station at Misaki. *Pop. Sci. Month.* lxy, pp. 195-204. [Portrait of K. Mitsukuri.]
235. —. Evolution in a determinate line as illustrated by the egg-cases of chimæroid fishes. *Biol. Bull.* vii, pp. 105-112.  
Abstract, *Amer. Natural.* xxxviii, p. 486.
236. —. L'œuf de *Chimæra colliei* et l'adaptation de sa capsule. *C.R. Soc. Biol.* lvii, p. 14.
237. —. A reference to the origin of species in an early letter (1796) signed by both LAMARCK & GEOFFROY. *Science* xix, pp. 798-800.
238. DEFLANDRE, Mlle. C. La fonction adipogénique du foie dans la série animale. *J. Anat. Physiol.* xl, pp. 73-112, 305-336, 17 text-figg.
239. DELAGE, Y. Élevage des larves parthénogénétiques d'*Asterias glacialis*. *Arch. Zool. exp.* xxxii, pp. 27-42.
240. —. La parthénogénèse par l'acide carbonique obtenue chez les œufs après l'émission des globules polaires. *T. c.* pp. 43-46.
241. — & HÉROUARD. *Traité de Zoologie concrète.* Tome III. Les Échinodermes. Paris [dated 1903], 8vo, x+495 pp.
242. DELAMARE, G. [Abstract of thesis.] The question of hereditary transmission of acquired morbid conditions from parent to offspring. *Lancet* 1904, i, p. 1070.
243. DESCHAMPS, J. Étude analytique du phénomène de la vie oscillante. *C.R. Ac. Sci.* cxxxviii, pp. 235-237.
244. D'EVANT, T. Rudimentare Amnionbildungen der Selachier. Beiträge zur Phylogenie und Entwicklungsmechanik des Amnion. *Anat. Anz.* xxiv, pp. 490-492.  
Abstract, *Zool. Zentrbl.* 1904, p. 699.
245. DE VRIES, H. The evidence of evolution. *Science* xx, pp. 395-401.
246. —. The evidence of evolution. [Address.] *Rec. Chicago Univ.* pp. 202.  
— [See also MOLL (629).]
247. DEWAR, D. Sexual colour-dimorphism in birds. *J. Bombay Soc.* xvi, pp. 27-36.  
Cf. YOUNG (960) & LISTON (534).
248. DIAMARE, V. Sullo sviluppo e morfologia delle capsule soprarrenali. Nota riassuntiva. *Boll. Soc. Napoli* xvii, pp. 55-61.
249. DICKEL, O. Entwicklungsgeschichtliche Studien am Bienenei. *Zeitschr. wiss. Zool.* lxxvii, pp. 481-527, pls. xix, xx.
250. DIEULAFÉ, L. Les fosses nasales des Vertébrés (Morphologie et Embryologie). *J. Anat. Physiol.* xl, pp. 268-298, 414-444, 19 text-figg.
251. DIMON, ABIGAIL C. The regeneration of a heteromorphic tail in *Allobophora fatida*. *J. exp. Zool.* i, pp. 349-351.  
— [See also MORGAN & DIMON (655).]
252. DOHRN, A. Studien zur Urgeschichte des Wirbelthierkörpers. 23. Die Mandibularhöhle der Selachier. *Mt. Stat. Neapel* xvii, pp. 1-294, pls. i-xvi.

253. DONCASTER, L. On the early development of the unfertilised egg in the saw-fly, *Nematus ribesii*. P. Cambridge Soc. xii, pp. 474-476.
254. \*DRIESCH, H. Naturbegriffe und Natururteile. Leipzig, 1904.  
 DRUMMOND, J. [See HUTTON & DRUMMOND (430).]
255. DUBOIS, R. A propos des rayons N d'origine physiologique. C.R. Soc. Biol. lvi, pp. 149, 150.
256. —. Lumière animale et lumière minérale. T. c. pp. 442-444 & 621.
257. —. A propose d'une note de M. Georges Bohn sur l'anhydrobiose et les tropismes. Op. cit. lvii, pp. 564-566.
258. DUBOSCQ, O. Changement de génération et changement d'hôte chez *Trypanosoma* et *Spirochete*, d'après Fritz Schaudinn. Arch. zool. exp. Notes 1904, pp. clv, etc.  
 —. [See also LÉGER & DUBOSCQ (515).]
259. DUBUISSON, H. Contribution à l'étude de la résorption du vitellus pendant le développement embryonnaire. C.R. Ac. Sci. cxxxix, pp. 684-686.
260. —. Sur la résorption du vitellus dans le développement des vipères. C.R. Soc. Biol. lvii, pp. 286-288.
261. —. Résorption du vitellus dans le développement du poulet. T. c. pp. 322, 323.
262. —. Sur la résorption du vitellus dans le développement des vipères (2<sup>e</sup> communication). T. c. pp. 437, 438.
263. —. Dégénérescence des ovules. T. c. pp. 554, 555. [*Coleoptera*.]
264. \*DUCCESCHI, V. Evoluzione morfologica ed evoluzione chimica. Attualità scient. No. 4. Bologna, 114 pp. [From Zool. Anz. Bibl. x, p. 45.]
265. DUCKWORTH, W. L. H. Morphology and Anthropology. A handbook for students. Cambridge, 1904, 8vo, xxviii + 564 pp., 333 illustrations. Noticed Anat. Anz. xxv, p. 623.
266. DUNCKER, G. Symmetrie und Asymmetrie bei bilateralen Thieren. Arch. Entwicklmech. xvii, pp. 533-682.
267. DYAR, H. G. & CAUDELL, A. N. The types of genera. J. N. York Ent. Soc. xii, pp. 120-122.
268. DYÉ, L. Les parasites des *Culicides*. Arch. parasit. ix, pp. 5-77. [*Diptera*.]  
 EDMUNDS, A. [See MOTT & others (662).]  
 [EDWARDS, H. MILNE. Biography, see BERTHELOT (73).]
269. EHRENFELS, C. VON. Zur Frage des Selektionswertes kleiner Variationen. Arch. Rassen i, pp. 190-194.  
 PLATE, t. c. pp. 195-197 replies to this, and the discussion continues; EHRENFELS, t. c. pp. 339-342, and HOFFMANN q. v.
270. EIGENMANN, C. H. The eyes of the blind Vertebrates of North America. v. The history of the eye of the blind fish *Amblyopsis* from its appearance to its disintegration in old age. Mark Anniv. Vol. pp. 167-204, pls. xii-xv.
271. \*EMERY, C. Compendio di Zoologia. 2<sup>e</sup> ed. Bologne, 1904.  
 Review by author, Monit. Zool. ital. xv, pp. 78, 79.

272. ENTZ, G. Az állatok színe és a mimicry. Termes. Kozl. Magyar Tars. xxxvi, pp. 201-206, 257-276, 417-441, 465-485, and Pt. II, Allatt. Kozl. Magyar Tars. 1904, pp. 189, 190.
273. \*ERRERA, L. Une leçon élémentaire sur le Darwinisme. Second edition. Bruxelles, 1903, 8vo, 85 pp., 22 figg.  
Review by H. PIÉRON, Rev. Scient. (5) i, pp. 370, 371.
274. ETHERIDGE, R. Junr. A monograph of the Cretaceous Invertebrate fauna of New South Wales. Mem. Geol. Surv. N. S. Wales, Pal. xi (1902) 96 pp., xi pls.
275. EYOLESHYMER, A. C. Bilateral symmetry in the egg of *Necturus*. Anat. Anz. xxv, pp. 230-240.
276. —. The cytoplasmic and nuclear changes in the striated muscle cell of *Necturus*. Amer. J. Anat. iii, pp. 285-310, 4 pls.  
FARKAS, K. [See TANGL & FARKAS (868).]
277. FARMER, J. B. Observations on the nature of cancerous growths. Nature lxi, pp. 319-321.
278. —. On nuclear divisions in malignant tumours. Biol. Centrbl. xxiv, p. 318.  
Relates to HANSEMANN, t. c. p. 189.
279. FAURÉ, E. Sur la structure du protoplasma chez les *Vorticellidæ*. C.R. Soc. Biol. lvi, pp. 764-766.
280. FAUSSEK, V. Viviparität und Parasitismus. Zool. Anz. xxvii, pp. 761-767.
281. FAURE, J. W. Sur les fossiles crétacés dans le district de Slaviansoserbsk du gouvernement d'Ekatherinoslaw. Trudui Kharkov. Univ. xxxviii, Part 2, pp. 89-174, 4 pls. 1903. [In Russian.]  
Mentions Coel. Verm. Moll. etc.; not included in Zool. Rec. 1903.
282. FELIX, W. Entwicklungsgeschichte des Exkretionssystems von der Rückertschen Arbeit (1888) bis in den Beginn des Jahres 1904. Anat. Hefte Ergebn. xiii, pp. 592-707.  
Account of recent work; includes phylogeny.
283. FERGUSON, MARGARET C. Contributions to the knowledge of the life history of *Pinus*, with special reference to sporogenesis, the development of the gametophytes and fertilisation. P. Washington Ac. vi, pp. 1-202, pls. i-xxiv.  
Included though botanical because important as regards maturation and fertilisation.
284. FERRET, P. & WEBER, A. Anomalies de l'aire vasculaire de l'embryon de poulet obtenues expérimentalement. Arch. zool. exp. Notes 1904, pp. lvii-lix.
285. — & —. Influence de la piqure des enveloppes secondaires de l'œuf de poule sur l'orientation de l'embryon. T. c. pp. lx-lxiii.
286. — & —. Nouveau procédé tératogénique applicable aux œufs d'oiseaux. C.R. Soc. Biol. lvi, pp. 78, 79.
287. — & —. Recherches sur l'influence tératogénique de la lésion des enveloppes secondaires dans l'œuf de poule. T. c. pp. 79-81.  
[FICKERT, K. R. D. Obituary, see VON LINDEN (529).]
288. FIELD, H. H. Literatur. Bibliographica zoologica. Zool. Anz. Bibl. ix, 1904, 512 pp.

289. FILATOW, P. Zur Entwicklungsgeschichte des Exkretionssystems der Amphibien. *Anat. Anz.* xxv, pp. 33-47.  
[FILHOL, H. Biography, see PETTIT (722).]
290. FISCHER, ALFRED. Transplantation, Regeneration und Involution. *Jahresber. Anat. Entwickl. N. F.* ix, pp. 73-104.
291. FISCHER, EUGEN. Variation, Heredität, Bastardierung, Descendenzlehre. *Jahresber. Anat. Entwickl. N. F.* ix, pp. 36-63.
292. FLEISCHMANN, A. Das Kopfskelett der Amnioten. Morphogenetische Studien. (I. Fortsetzung.) III. Das Cribrum der Säugetiere. IV. Historisch-kritische Betrachtungen. *Morphol. Jahrb.* xxxii, pp. 451-504, pls. xi, xii.
293. FOÀ, ANNA & GRASSI, B. Ricerche sulla riproduzione dei Flagellati. I. Processo di divisione delle Joenie e forme affini. Nota preliminare *Rend. Acc. Lincei* xiii, 2, pp. 241-253. II. Processo di divisione delle Triconinfe. *T. c.* pp. 618-625.
294. FOREL, A. Ants and some other insects. An inquiry into the psychic powers of these animals with an appendix on the peculiarities of their olfactory sense. Translated from the German by Prof. William Morton Wheeler. Religion of Science Library No. 56. Chicago, 1904, 8vo, 49 pp. [*Hymenoptera.*]
- 294A. ——. Über Polymorphismus und Variation bei den Ameisen. *Zool. Jahrb. Suppl.* vii, pp. 571-576.  
Summary by L. PLATE, *Arch. Rassen* i, pp. 450-453.
295. FOREL, F. A. Le Léman. Monographie Limnologique. Tome iii, *Livr.* ii, pp. 409-715. Lausanne, 1904, 8vo.  
This work is now complete.
296. FORSTER, A. Einiges über die Beziehungen Vesal's zu Leonardo da Vinci und zu Marc' Antonio della Torre. *Arch. Anat.* 1904, pp. 372-384.
297. FRANCÉ, R. Az "életerö" elmélete. *Termes. Kozl. Magyar Tars.* xxxvi, pp. 97-124.
298. \*———. Die Weiterentwicklung des Darwinismus. Eine Wertung der neuen Tatsachen und Anschauungen. (Gemeinverständliche Darwinistische Vorträge und Abh., Heft 12). Odenkirchen, 136 pp. [from *Zool. Anz. Bibl.* x, p. 107].
299. FREDERICQ, L. La faune et la flore glaciaires de la Baraque-Michel (point culminant de l'Ardenne). *Bull. Ac. Belgique* 1904, pp. 1263-1326.
300. ——. Revue générale sur la physiologie du système nerveux. *Annee Psychol.* x, pp. 236-259.
301. \*FRIEDMANN, H. Die Konvergenz der Organismen. Eine empirische begründete Theorie als Ersatz für die Abstammungslehre. Berlin, 1904, 8vo, 242 pp. [From *Zool. Anz. Bibl.* x, p. 45.]
302. FUEHNER, H. Pharmakologische Studien an Seegeleiern. *Arch. exp. Pathol.* lii, pp. 69-82.
303. \*FÜHNER, HERM. Über die Einwirkung verschiedener Alkohole auf die Entwicklung der Seeigel. Summary by ABDERHALDEN. *Arch. Rassen* i, pp. 755 & 756.
304. FUJITA, T. On the formation of the germinal layers in *Gastropoda*. *J. Coll. Tokyo* xx, 1, 42 pp., 3 plates.  
Abstract *Zool. Zentrbl.* 1904, p. 200.

305. FÜRBRINGER, M. Zur Frage der Abstammung der Säugetiere. Festschr. Hæckel. [Denk. Ges. Jena xi], pp. 571-604.
306. G., H. F. Carl Gegenbaur. Obit. R. Soc. London i, pp. 309-312.
307. \*GALLARDO, A. Interpretación dinamica de la división celular. Univ. Nac. Buenos Aires 1902, 101 pp.
308. GAMBLE, F. W. & KEEBLE, F. W. Colour-physiology of the higher *Crustacea*. Rep. Brit. Ass. 1904, pp. 299, 300.
309. GANONG, W. F. The cardinal principles of ecology. *Science* xix, pp. 493-498.  
Adaptation. Phytological, but of general application.
310. GARDINER, J. S. The Fauna and Geography of the Maldive and Laccadive Archipelagoes. Vol. II, pt. 3. See CRUSTACEA, STEBBING (207), BORRADAILE (18); CŒLÉNTÉRATA, GARDINER (68).
311. —. Notes and observations on the distribution of the larvæ of marine animals. *Ann. Nat. Hist.* xiv, pp. 403-410.
312. —. The origin of Coral reefs as shown by the Maldives. *Amer. J. Sci.* xvi, pp. 203-213.
313. GAUPP, E. A. Ecker's und R. Wiedersheim's Anatomie des Frosches. Dritte Abth. Zweite Aufl. Braunschweig, 1904, 8vo, xii+961 pp.
314. GAZERT, H. Die deutsche Südpolar-expedition, ihre Aufgaben-Arbeiten und Erfolge. *Verh. Ges. deutsch. Naturf.* lxxvi, i, pp. 40-53.  
[GEGENBAUR, C. Biography. See GORKA (338), G. (306).]  
GENDRE, E. [See PÉREZ & GENDRE (715).]
315. \*GERARD, J. The old riddle and the newest answer. London 1904.  
Review by PYCRAFT, *Ann. Nat. Hist.* xiv, p. 306: also review, *Nature* xxx, p. 504.
316. GEROULD, J. H. The development of *Phascolosoma*. *Arch. zool. exp.* Notes 1904, pp. xvii-xxviii.
317. —. Studies on the embryology of *Sipunculidae*. 1. The embryonal envelope and its homologue. *Mem. Anniv.* Vol. pp. 437-452, pl. xxxii.
318. GESTRO, R. Leonardo Fea ed i suoi viaggi. *Ann. Mus. Genova* xli, pp. 95-152 [portrait: bibliography: list of discoveries].
319. GIARD, A. Controverses transformistes. Paris, 1904, 8vo, viii+179 pp.  
A selection from previously published memoirs. Review, *Nature* lxx, p. 123.
320. —. Comment la castration agit-elle sur les caractères sexuels secondaires? *C.R. Soc. Biol.* lvi, pp. 4-7.
- 320A. —. Tonogamie; la chose et le mot. *T. c.* pp. 479-482.
321. —. Sur la parthénogenèse artificielle par dessèchement physique. *T. c.* pp. 594-596.
322. \*GIARDINA, A. Sull' esistenza di una zona plasmatica perinucleare nel oocite. *Publ. Lab. Zool. Palermo* 1904.
323. HILL, T. [Vernacular names of animals.] *Amer. Natural.* xxxviii, pp. 241, 242.  
Relates to a work published in 1798 by NEMNICH. Cf. also EASTMAN, *t. c.* p. 689.

324. GILMAN, P. K. & BAETJER, F. H. Some effects of the Röntgen rays on the development of Embryos. *Amer. J. Physiol.* x, pp. 222-224.
325. GINESTE, C. L'organogénèse et l'histogénèse au point de vue phylogénique. *Trav. Lab. Arcachon* vii, pp. 87-161.
326. GLASER, O. C. Autotomy, regeneration and natural selection. *Science* xx, pp. 149-153.
327. ——. Excretory activities in the nuclei of Gastropod embryos. *Amer. Natural.* xxxviii, p. 516.
328. GODLEWSKI, E., Jun. Zur Kenntnis der Regulationsvorgänge bei *Tubularia mesembryanthemum*. *Arch. Entwicklmech.* xviii, pp. 111-160, pls. viii, ix, 7 figg.
329. GODMAN, F. D. *Biologia Centrali-Americana*. Parts clxxxi-clxxxv. See AVES, GODMAN; ARACHNIDA, F. O. PICKARD CAMBRIDGE; INSECTA, BLANDFORD, BRUNER, CHAMPION, FOWLER.
330. GOETTE, A. Über den Ursprung der Lungen. *Zool. Jahrb. Anat.* xxi, pp. 141-159.
331. GOLDSCHMIDT, R. Der Chromidialapparat lebhaft funktionierender Gewebezellen. *Biol. Centrbl.* xxiv, pp. 241-251.
332. ——. Der Chromidialapparat lebhaft funktionierender Gewebezellen. (Histologische Untersuchungen an *Nematoden*. II.) *Zool. Jahrb. Anat.* xxi, pp. 41-140, pls. iii-viii.
333. ——. Eine Sammlung von Referaten über neuere allgemeine biologische Arbeiten. *Allg. Zeitschr. Ent.* ix, pp. 271-276.
334. GOLDSTEIN, K. Kritische und experimentelle Beiträge zur Frage nach dem Einfluss des Zentralnervensystems auf die embryonale Entwicklung und die Regeneration. *Arch. Entwicklmech.* xviii, pp. 57-110, pls. v-vii, 2 figg.
335. ——. Die Abhängigkeit der Muskulatur vom Zentralnervensystem während der Embryonalzeit. Eine Erwiderung an Herrn Professor Neumann. *T. c.* pp. 584-592.  
Cf. NEUMANN (671).
336. GORDON. Our country's animals and how to know them. A guide to the Mammals, Reptiles and Amphibians of Great Britain. viii + 152 pp.  
Review, *Nature* lxx, p. 393.
337. GÖRICH, W. Zur Kenntnis der Spermatogenese bei den Poriferen und Cölenteraten nebst Bemerkungen über die Oogenese der ersteren. *Zeitschr. wiss. Zool.* lxxvi, pp. 522-542, pl. xxi.
338. GORKA, S. Gegenbaur Károly emlékezete. *Potfuz. Termes. Kozl.* xxxvi, pp. 1-11, portrait.  
GRAHAM-SMITH, G. S. [See NUTTALL (678).]  
GRASSI, B. [See FOÀ & GRASSI (293).]
339. \*GRATACAP, L. P. The Museum. Reprint from *J. applied Microscopy* v & vi.  
Review, *Science* xx, p. 501.
340. GREELEY, A. W. Experiments on the physical structure of the protoplasm of *Paramœcium* and its relation to the reactions of the organism to thermal, chemical and electrical stimuli. *Biol. Bull.* vii, pp. 3-32.

341. GREEN, J. F. Protective colouring. Tr. West Kent Soc. 1903/1904, pp. 35-45.
342. GRÉGOIRE, V. & WYGAERTS, A. La reconstitution du noyau et la formation des chromosomes dans les cinèses somatiques. *Cellule* xxi, pp. 1-76, pls. i, ii.
343. GROBBEN, K. Lehrbuch der Zoologie begründet von C. Claus, neu bearbeitet. [7th Ed.] Erste Hälfte, 480 pp., 507 figg. Marburg, 1904, 8vo.
344. GROBER, J. Die Bedeutung der Ahnentafel für die biologische Erblichkeitsforschung. *Arch. Rassen* i, pp. 644-681, 3 figg.
345. GROOT, J. G. DE. Ein neuer Kitt zum Schliessen von Gefässen mit Alkoholpräparaten, auch für den Versand. *Zool. Anz.* xxviii, pp. 406, 407.
346. GROSS, J. Die Spermatogenese von *Syromastes marginatus* L. *Zool. Jahrb. Anat.* xx, pp. 439-498, pls. xxxi, xxxii. [*Hemiptera*.]  
Abstract by GOLDSCHMIDT, *Zool. Zentrbl.* 1905, pp. 35-37.
347. ——. Ein Beitrag zur Spermatogenese der *Hemipteren*. *Verh. Deutsch. zool. Ges.* 1904, pp. 180-190.
348. GRUVEL, A. De quelques phénomènes d'ovogenèse chez les Cirrhi-pèdes. *C.R. Ac. Sci.* cxxxix, pp. 148-150.
349. GUENTHER, K. Keimfleck und Synapsis. Studien an der Samenreifung von *Hydra viridis*. *Zool. Jahrb. Suppl.* vii, pp. 139-160, pl. xi.
350. \*——. Der Darwinismus und die Probleme des Lebens. Zugleich eine Einführung in das einheimische Tierleben. Freiburg-i.-Br. 1904, 460, pp.  
Review by PLATE, *Arch. Rassen* i, p. 907.
351. GULICK, J. T. Divergence under the same environment as seen in the Hawaiian snails. *Amer. Natural.* xxxviii, pp. 494-496.
352. GURWITSCH, A. Morphologie und Biologie der Zelle. Jena, 1904, 8vo, xix + 437 pp.  
Review by J. B. F., *Nature* lxxi, p. 174; *Notice, Anat. Anz.* xxv, p. 416.
353. ——. Zelle und Zellteilung. *Jahresber. Anat. Entwickl. N. F.* ix, pp. 37-68.
354. \*GUYER, M. F. Spermatogenesis of normal and of hybrid pigeons. Chicago [? 1904], 61 pp., 2 pls.  
Abstract by C. B. D., *Amer. Natural.* xxxviii, pp. 227, 228.
355. H., G. B. St. George Mivart. *Obit. R. Soc. London* i, pp. 95-100.
356. H., S. F. Henri de Lacaze-Duthiers. *Obit. R. Soc. London* i, pp. 146-150.
357. H., S. J. George James Allman. *Obit. R. Soc. London* i, pp. 25-27.
358. HÄCKER, V. Bastardirung und Geschlechtszellenbildung. *Zool. Jahrb. Suppl.* vii, pp. 161-256, pl. xii.  
1. Die Ergebnisse der experimentelle Bastardforschung. 2. Die Geschlechtszellenbildung bei normalen und hybriden Formen. 3. Beziehungen zwischen den Ergebnissen der Bastardforschung und den cytologischen Beobachtungen.
359. ——. Heterotypische Teilung, Reduktion und andre zelltheoretische Begriffe. *Zool. Anz.* xxviii, pp. 38-42.  
Relates to MONTGOMERY (638), *Zool. Anz.* xxvii.



360. [HÄCKER, V.] Über die neueren Ergebnisse der Bastardlehre und ihre Bedeutung für die praktische Tierzucht. Arch. Rassen i, pp. 321-338. Abstract by FICK, Zool. Zentrbl. 1904, p. 779.
361. —. Über die in malignen Neubildungen auftretenden heterotypischen Teilungsbilder. Einige Bemerkungen zur Ätiologie der Geschwülste. Biol. Centrbl. xxiv, pp. 786-797.
362. HAECKEL, E. Die Lebenswunder. Gemeinverständliche Studien über biologische Philosophie. Ergänzungsband zu dem Buche über die Welträthsel. Stuttgart, 1904, 8vo, xii+567 pp. Notice, Anat. Anz. xxv, p. 607.
363. [HAECKEL, E. Festschrift zum siebzigsten Geburtstage von Ernst Haeckel herausgegeben von seinen Schülern und Freunden. Jena, 1904. Forms Vol. xi of Denk. Ges. Jena.]  
[HAECKEL, ERNST. See LOISEL, G. (556).]
364. HALL, R. W. The development of the mesonephros and the Müllerian ducts in *Amphibia*. Bull. Mus. Harvard xlv, pp. 29-126, viii pls.
365. HALLER, B. Über den allgemeinen Bauplan des Tracheaten Syncerebrums. Arch. mikr. Anat. lxv, pp. 181-279, pls. xii-xvii.
366. \*—-. Lehrbuch der vergleichenden Anatomie. Jena, 1904, viii + 914 pp.  
Review, Nature lxx, p. 621.  
HALLIBURTON, W. D. [See MOTT & others (662).]
367. HAMANN, O. Literatur 1903, 1904 [Anatomical]. Anat. Anz. xxiv, suppl. pp. 1-96, and xxv, pp. 1-128.
368. \*HAMBURGER, FRANZ. Arteigenheit und Assimilation. Leipzig und Wien, 1903, 73 S.  
Review by EMIL ABDERHALDEN, Arch. Rassen i, pp. 607-609.
369. HAMY, E. T. Le commerce des animaux exotiques à Marseille à la fin du xvi<sup>e</sup> siècle. Bull. Mus. Paris ix, pp. 316-318.
370. HARGITT, C. W. The early development of *Pennaria tiarella* McCr. Arch. Entwickmech. xviii, pp. 453-488, pls. xxiv-xxviii.
371. —. Regeneration in *Rhizostoma pulmo*. J. exp. Zool. i, pp. 73-94.
372. —. Regeneration in *Scyphomedusæ*. Amer. Natural. xxxviii, pp. 517-519.
373. —. Some unsolved problems of organic adaptation. Science xix, pp. 132-145.
374. —. Some unsolved problems of organic adaptation. [Abridgment of address at Amer. Ass.] Nature lxix, pp. 404, 405.
375. HARMER, S. F. Museums Association Address by the President. Museums J. iv, pp. 3-22.
376. HARPER, E. H. Notes on regulation in *Stylaria lacustris*. Biol. Bull. pp. 173-190.
377. —. The fertilization and early development of the Pigeon's Egg. Amer. J. Anat. iii, pp. 349-386, 4 pls., 6 diagrams.
378. HARRIS, D. F. Affectability and functional inertia as the two properties of protoplasm. P. Scott. Micr. Soc. iv, pp. 18-28.

379. HARRISON, R. G. An experimental study of the relation of the nervous system to the developing musculature in the embryo of the Frog. *Amer. J. Anat.* iii, pp. 197-200, 18 text-figg.
380. HARTMANN, C. Variability in the number of teeth on the claws of adult spiders, showing their unreliability for systematic description. *Biol. Bull.* vi, pp. 191-197.
381. HARTMANN, M. Die Fortpflanzungsweisen der Organismen, Neubenennung und Einteilung derselben, erläutert an Protozoen, Volvocineen und Dicyemiden. *Biol. Centrbl.* xxiv, pp. 18-61.  
Abstract, *Zool. Zentrbl.* xi, p. 273.
382. HARTOG, M. Some problems of reproduction. II. *Quart. J. Micr. Sci.* xlvii, pp. 583-608.  
A. Multiple fission and embryonic enzymes. B. An essay on fertilisation. C. The rôle of the sperm.
383. —. Note on Embryonic Ferments. *J. Physiol.* xxxi, p. xlvii.
384. —. On the elucidation of cellular fields of force by magnetic models. *Rep. Brit. Ass.* 1904, pp. 610, 611.
385. —. Des chaînes de force et d'un nouveau modèle magnétique des mitoses cellulaires. *C.R. Ac. Sci.* cxxxviii, pp. 1523-1525.
386. HARVIE-BROWN, J. A. & MACPHERSON, H. A. A Vertebrate fauna of the North-west Highlands and Skye. London, 1904, 8vo, civ + 378 pp., 18 pls., map.  
Includes biographies of some Scottish Naturalists.
387. HELGUERO, F. DE. Sui massimi delle curve dimorfiche. *Biometrika* iii, pp. 84-98.
388. HENNEGUY, F. *Revue de Cytologie.* *Annee Psychol.* x, pp. 211-227, 7 text-figg.
389. —. *Les Insectes. Morphologie—Reproduction—Embryogénie.* Paris, 1904, 8vo, xviii + 804 pp., 4 pls., 622 illustt.
390. HENRI, V. & LARQUIER DES BANCELS. Application des méthodes, Physico-Chimiques à l'étude de différents phénomènes de Biologie générale. *J. Physiol. Path.* vi, pp. 261-272.
391. HENRY, C. & BASTIEN, L. Sur la croissance de l'homme et sur la croissance des êtres vivants en général. *C.R. Ac. Sci.* cxxxix, pp. 811-814.
392. HENSEN, V. Ergebnisse der in dem Atlantischen Ocean von Mitte Juli bis Anfang November 1889 ausgeführten Plankton-Expedition der Humboldt-Stiftung. See PROTOZOA, IMMERMANN *Aulacanthiden* (148), POPOFSKY *Acanthometra* (270).—Also includes *Schizophyceen* by N. WILLE.
393. HERBST, C. Über die künstliche Hervorrufung von Dottermembranen an unbefruchteten Seeigeleiern. Zweite Mittheilung. Die Hervorrufung von Dottermembranen durch Silberspuren. *Mt. Stat. Neapel* xvi, pp. 445-457.
394. —. Über die zur Entwicklung der Seeigellarven nothwendigen anorganischen Stoffe, ihre Rolle und ihre Vertretbarkeit. III Theil. Die Rolle der nothwendigen anorganischen Stoffe. *Arch. Entwicklmech.* xvii, pp. 306-520, pls. xiv-xvii.
395. —. Vorläufige Übersicht über die Rolle der zur Entwicklung der Seeigellarven nothwendigen anorganischen Stoffe. *Verh. Ver. Heidelb.* vii, pp. 367-394.

396. HERDMAN, W. A. & others. Report to the Government of Ceylon on the Pearl oyster fisheries of the Gulf of Manaar. With supplementary reports upon the Marine biology of Ceylon, by other Naturalists. London, two vols. 4to: Vol. I, 1903, vii+307 pp., xx pls.: Vol. II, 1904, vii+300 pp., viii pls.  
The separate memoirs are dealt with in the Records of special Subjects.
397. HERMANN, L. & others. Jahresbericht über die Fortschritte der Physiologie. XII. Bericht über das Jahr 1903. Stuttgart, 1905, 8vo, vi+334 pp. Titles and abstracts.
398. HERTEL, E. Ueber Beeinflussung des Organismus durch Licht, speziell durch die chemisch wirksamen Strahlen. Vergleichend-physiologische Untersuchungen. Zeitschr. allg. Physiol. iv, pp. 1-43, 1 pl., 1 text-fig.
399. HERTWIG, O. Handbuch der vergleichenden und experimentellen Entwicklungslehre der Wirbeltiere. Lief. 18-20. [Parts of Vol. III.]
400. ——. Über Beziehungen des thierischen Eies zu dem aus ihm sich entwickelnden Embryo. SB. Ak. Berlin 1904, pp. 647-652.
401. ——. Weitere Versuche über den Einfluss der Zentrifugalkraft auf die Entwicklung tierischer Eier. Arch. mikr. Anat. lxiii, pp. 643-657, pl. xxx.
402. \*——. Ernst Haeckel; zum 70. Geburtstag. Deutsch. med. Wochenschr. xxx, pp. 286, 287, portrait. [From Zool. Anz. Bibl. ix, p. 285.]
403. HERTWIG, R. Ueber eine Methode, Froscheier am Beginn ihrer Entwicklung im Raume so zu orientiren, dass sich die Richtung ihrer Teilebenen und ihr Kopf- und Schwanzende bestimmen lässt. Festschr. Haeckel, pp. 17-30, pl. iii.
404. ——. Ueber physiologische Degeneration bei *Actinosphaerium eichhorni*. Nebst Bemerkungen zur Ätiologie der Geschwülste. Festschr. Haeckel [Denk. Ges. Jena xi], pp. 301-354, pls. ix-xii.
405. HERZOG, R. O. Chemisches Geschehen im Organismus. Zeitschr. allg. Physiol. iv, pp. 163-200.
406. HESCHELER, K. Palaeontologie und Zoologie. Vierteljahrschr. Ges. Zurich xlix, pp. 1-16.
407. HICKSON, S. J. Variations. Tr. Manchester Micr. Soc. 1903, pp. 25-34.
409. \*HILL, M. D. & WEBB, W. M. Eton nature-study and observational lessons. London, 1904, 2 vols.
410. HILTON, W. A. Segmentation of the ovum of *Desmognathus fusca*. Amer. Natural. xxxviii, pp. 498-500.
411. HIRSCHLER, J. Weitere Regenerationsstudien an *Lepidopterenpuppen*. (Regeneration des vorderen Körperendes.) Anat. Anz. xxv, pp. 417-435.  
[His, WILHELM. Biography. See KOLLMANN (478).]
412. HOFFMANN, W. VON. Zur Frage des Selektionswertes kleiner Variationen. Arch. Rassen i, pp. 343-346.  
Cf. EHRENFELS & PLATE (269).
413. \*HOLLANDER, F. D'. Recherches sur l'oogénèse et sur la structure et la signification du noyau vitellin de Balbiani chez les oiseaux. Ann. Soc. méd. Gand. lxxxii, pp. 158-161. [From Zool. Anz. Bibl. x, p. 224.]

414. HOLMES, S. J. The problem of form regulation. *Arch. Entwickl.-mech.* xvii, pp. 265-305, 3 figg.
415. HOLMGREN, EMLI. Beiträge zur Morphologie der Zelle. II. Verschiedene Zellarten. *Anat. Hefte. Arb.* xxv, pp. 97-208, pls. 4-17, 18 text-figg.
416. HOLMGREN, N. Zur Morphologie des Insektenkopfes. I. Zum metameren Aufbau des Kopfes der *Chironomus*larve. *Zeitschr. wiss. Zool.* lxxvi, pp. 439-477, pls. xxvii, xxviii.
417. HOOKHAM, G. The origin of life. [Letters.] *Nature* lxxi, p. 9 and p. 101.
418. HOWORTH, H. H. The uncertainties of science. *Tr. South. Eastern Socc.* 1903, pp. 1-21.  
HUBBARD, MARIAN E. [See DAVENPORT & HUBBARD (232).]
419. HUBRECHT, A. A. W. Hugo de Vries's theory of mutations. *Pop. Sci. Monthly* lxy, pp. 205-223.
420. —. On the relationship of various invertebrate Phyla. *P. Ac. Amsterdam* 1904, pp. 839-846.
421. —. Die Abstammung der *Anneliden* und *Chordaten* und die Stellung der Ctenophoren und Plathelminthen im System. *Jena. Zeitschr.* xxxix, p. 151-176.
422. —. The trophoblast. A rejoinder. *Anat. Anz.* xxv, pp. 106-110.
423. —. The trophoblast: a rejoinder. *Science* xx, pp. 367-370.
424. HUNTER, S. J. On the morphology of artificial parthenogenesis in the Sea-urchin, *Arbacia*. [Abstract.] *Science* xix, pp. 213, 214.
425. HUNTER, W. Some reactions of *Mnemiopsis leydyi* (A. Ag.). *Biol. Bull.* vi, p. 324.
426. HURST, C. C. Mendel's discoveries in heredity. *Tr. Leicester Soc.* viii, pp. 121-134.
427. —. Experiments on heredity in rabbits. *Rep. Brit. Ass.* 1904, p. 592.
428. HUTTON, F. W. *Index faunæ Novæ Zealandiæ*. London, 1904, 8vo, viii + 372 pp.  
Introduction; historical; dissertation on the region: pp. 1-23.  
Review, *Nature* lxx, p. 78.
429. —. Hering's theory of heredity and its consequences. *Nature* lxxix, pp. 366-369.
430. — & DRUMMOND, J. The animals of New Zealand: an account of the Colony's air-breathing Vertebrates. Christchurch and London, 1904, xiv + 381 pp. illustrated.  
Review, *Nature* lxxi, p. 198.
431. HYDE, I. H. Differences in electrical potential in developing eggs. *Amer. J. Physiol.* xii, pp. 241-275.
432. IWANOW, P. Ueber die Regeneration der Segmente bei den *Polychaeten*. *Protok. St. Peterb. Obshch.* xxxv, 1904, pp. 254-261 [in Russian] and summary in German, pp. 307-309.
433. JACKSON, R. T. Charles Emerson Beecher [with portrait and bibliographic list]. *Amer. Natural.* xxxviii, pp. 407-426.
434. JACOBI, A. Die Bedeutung der Farben im Tierreiche. *Gemeinverst. Darwinist. Votr.*, Breitenbach, Heft. xiii, 56 pp.

435. [JACOBI, A.] Tiergeographie. Leipzig. Sammlung Göschen, 1904, 152 pp., 2 maps.
436. JÄGERSKIÖLD, L. A. Results of the Swedish Zoological expedition to Egypt and the White Nile, 1901, under the direction of L. A. Jägerskiöld. Part I, Upsala, 1904.  
Includes many short papers which are dealt with in our special Records.
437. JAMMES, L. Zoologie pratique basée sur la dissection des animaux les plus répandus. Paris, 1904, 8vo, iii+565 pp.
438. JANKOWSKI, J. Beitrag zur Entstehung des Corpus luteum der Säugetiere. Arch. mikr. Anat. lxiv, pp. 361-388, pl. xxiii.
439. JANOŠÍK, J. Über die Entwicklung der Vorniere und des Vornierenganges bei Säugern. Arch. mikr. Anat. lxiv, pp. 214-234, pls. xiii, xiv.
440. ——. Ovývoji předledviny (pronephros) a vývodu Wolfova u ssavců. Rozpr. Ceske Ak. ii, xiii, No. 9, 16 pp., 2 pls.
441. JANSSENS, F. A. Das chromatische Element während der Entwicklung des Ovocyts des Triton. Anat. Anz. xxiv, pp. 648-651.
442. JENKINSON, J. W. The effect of solutions of salt and other substances on the development of the frog. Rep. Brit. Ass. 1903, pp. 693, 694.
443. ——. The influence of salt and other solutions on the development of the frog. Op. cit. 1904, pp. 288-291.
444. ——. On the fertilisation of the egg of the Axolotl. T. c. p. 600.
445. ——. Observations on the maturation and fertilisation of the egg of the Axolotl. Quart. J. Micr. Sci. xlviii, pp. 407-482, pls. xxix-xxxiii.
446. JENNINGS, H. S. Contributions to the study of the behavior of lower organisms. Publ. Carnegie Inst. No. 16, 8vo, 256 pp.  
Review by YERKES, Science xx, pp. 750-753.
447. ——. Asymmetry in certain lower organisms, and its biological significance. Mark Anniv. Vol. pp. 315-337.
448. ——. Physical imitations of the activities of *Amöba*. Amer. Natural. xxxviii, pp. 625-642.
449. JOLLY, J. Influence de la température sur la durée des phases de la division indirecte. C.R. Ac. Sci. pp. 387-389.
450. JOUBIN, L. L'enseignement de la Malacologie au Muséum (Leçon d'ouverture du cours de Malacologie). [Historical.] Rev. gen. Sci. xv, pp. 174-182.
451. JULIN, C. Recherches sur la phylogénèse des Tuniciers. Développement de l'appareil branchial. Zeitschr. wiss. Zool. lxxvi, pp. 544-611.  
Abstract by SEELIGER, Zool. Zentrbl. 1905, pp. 209-214.
452. KALLIUS, E. Sehorgan. Anat. Hefte. Ergebn. xiii, pp. 233-367.  
Summary of recent work : bibliographic list pp. 233-241.
453. KANEKO, J. Künstliche Erzeugung von margines falciformes und arcus tendinei. Arch. Entwicklmech. xviii, pp. 317-376, pls. xix-xxi, 13 figg.
454. \*KAPTEYN, J. C. Skew frequency curves in biology and statistics. Groningen, 1903.  
Review, Science xix, pp. 575, 576, by ENGBERG.

455. KATHARINER, L. Ueber die Entwicklung von *Gyrodactylus elegans* v. Nrdm. Zool. Jahrb. Suppl. vii, pp. 519-550, pls. xxvi-xxviii.  
Abstract by BRAUN, Zool. Zentrbl. 1905, pp. 18, 19.
456. —. Schwerkraftwirkung oder Selbstdifferenzierung. Arch. Entwicklmech. xviii, pp. 404-414, 1 fig.
457. \*KEARTON, R. Wild Nature's Ways. London, 1903, 8vo, 296 pp., 200 illustrations.  
Review, Rev. Scient. (5) i, p. 175.
458. KELLER, C. Ueber die Herkunft der Tierwelt des Kantons Tessin. Verh. schweiz. Ges. lxxxvi, pp. 89-101.
459. \*——. Naturgeschichte der Haustiere. Berlin, 1904, 8vo, 304 pp. [From Zool. Anz. Bibl. xi, p. 73.]
460. KELLOGG, V. L. Restorative regeneration in nature of the starfish *Linckia diplax* (Müller & Troschel). J. exp. Zool. i, pp. 353-356.
461. —. Regeneration in larval legs of silkworms. T. c. pp. 593-599.
462. —. Influence of the primary reproductive organs on the secondary sexual characters. T. c. pp. 601-605.
463. —. Amitosis in the egg follicle cells of insects. Science xix, pp. 392, 393.
464. — & BELL, R. G. Notes on insect bionomics. J. exp. Zool. i, pp. 357-367.
465. — & —. Studies of variation in Insects. P. Washington Ac. vi, pp. 203-332, figg. 1-81.
466. KEMNA, A. La taille des animaux. Bull. Soc. zool. malac. Belgique 1904, pp. li-lxxxii.
467. —. L'origine de la corde dorsale. T. c. pp. lxxxv-clvii.
468. —. Les structures cérébrales dorsales chez les Vertébrés inférieurs. T. c. pp. clxvi-cc.
469. KERR, J. GRAHAM. Note on the developmental material of *Polypterus* obtained by the late Mr J. S. Budgett. Rep. Brit. Ass. 1904, pp. 604, 605.
470. KERSTEN, H. Biologie und Philosophie. Einige Bemerkungen zu Reinke's "Einleitung in die theoretische Biologie." Zeitschr. Naturw. lxxvi, pp. 417-430.
471. KIDD, W. The relation between muscular activity and beauty of form in animals. Tr. W. Kent Soc. 1903-1904, pp. 46-57.
472. KING, H. D. Notes on regeneration in *Tubularia crocea*. Biol. Bull. vi, pp. 287-306, 7 figg.
473. KJELBERG, K. Beiträge zur Entwicklungsgeschichte des Kiefergelenks. Morphol. Jahrb. xxxii, pp. 159-188.
474. KLOCKE, E. Tiergeographische Studien über Hokkaido. Annot. zool. Japon. v, pp. 57-112, pl. iv.
475. KNUDSEN, M. Plankton [of Northern Seas]. Bull. internat. expl. Mer 1904/1905, d, pp. 1-103.
476. \*KOENIG, E. Die Entstehung des Lebens auf der Erde. Berlin 1904, viii + 334 pp.  
Noticed, Zool. Zentrbl. 1905, p. 68.

477. KÖLLIKER, A. Die Entwicklung und Bedeutung des Glaskörpers. Zeitschr. wiss. Zool. lxxvi, pp. 1-25, pls. i-iv.
478. KOLLMANN, J. Wilhelm His. [With portrait and bibliographic list.] Verh. Ges. Basel xv, pp. 434-464.
479. KÖNIG, W. The problem of biology from the psychiatric aspect. Lancet 1904, ii, p. 536.
480. —. The problem of heredity from the psychiatric aspect. Brit. Med. J. 1904, ii, pp. 965-972.
481. KOROTNEFF, A. DE. Résultats d'une expédition zoologique au Lac Baïkal pendant l'été de 1902. Arch. Zool. exp. xxxii, pp. 1-26, pl. 1.
482. KORSCHULT, E. Zur Orthographie der Tiernamen und zoologischen Fachausdrücke. Zool. Anz. xxvii, p. 185.
483. —. Ueber Doppelbildungen bei Lumbriciden. Zool. Jahrb. Suppl. vii, pp. 257-300, pls. xiii, xiv.
484. KOSTANECKI, K. Cytologische Studien an künstlich parthenogenetisch sich entwickelnden Eiern von *Maetra*. Arch. mikr. Anat. lxiv, pp. 1-98, pls. i-v.
485. —. Über die Veränderungen im Inneren des, unter dem Einfluss von KCl Gemischen künstlich parthenogenetisch sich entwickelnden, Eis von *Maetra*. Bull. Ac. Cracovie 1904, pp. 70-91.  
Abstract by FICK, Zool. Zentrbl. 1904, p. 798.
486. \*KRAEMER, HANS. Weltall und Menschheit. Geschichte der Erforschung der Natur und der Verweitung der Naturkräfte im Dienste der Völker. 5 Bänden. Berlin und Leipzig, Bong & Co., 8vo, ca. 2000 illustrations.  
Review by v. BUTTEL-REEFEN, Arch. Rassen i, pp. 458-461.
487. KRAEPELIN, K. and others. Verhandlung über den biologischen Unterricht an höheren Schulen. Verh. Ges. deutsch. Naturf. lxxv, i, pp. 145-160.
488. KREMPF, A. Sur une transformation de l'appareil tentaculaire chez certains espèces de *Madrepora*. C.R. Ac. Sci. cxxxviii, pp. 1518-1521.
489. KULCZYCKI, W. Résultats des dernières explorations sur les animaux sous-marins des océans atlantique et indien. Kosmos polski. xxviii, pp. 453-468. [In Polish.]
490. KUNITZKY, J. Die Entstehung und Entwicklung der Cuticularhäuschen auf den Pfoten von *Platydictylus mauritanicus*. Trav. Soc. St. Petersb. xxxiv, Zool. xxxiv, pp. 1-18, pl. i. [In Russian with Summary in German.]
491. LABBÉ, A. Sur la formation des tétrades et les divisions maturatives dans le testicule du Homard. C.R. Ac. Sci. cxxxviii, pp. 96-99.
492. —. Sur la polyspermie normale et la culture des spermatozoïdes. Op. cit. cxxxix, pp. 75-77.
493. —. La maturation des spermatides et la constitution des spermatozoïdes chez les Crustacés décapodes. Arch. zool. exp. Notes 1904, pp. i-xiv.
494. LADENBURG, A. Über den Einfluss der Naturwissenschaften auf die Weltanschauung. Verh. Ges. deutsch. Naturf. lxxv, i, pp. 29-43.

495. LAGOWSKI, S. André Sniadecki et sa "theorie des êtres organisés" au centenaire de sa première édition. *Kosmos polski*. xxix, pp. 184-265.  
The articles are in Polish.
496. LAKOWITZ, —. Die gegenwärtige Lage des biologischen Unterrichts an den höheren Lehranstalten. *Schr. Ges. Danzig* xi, pp. 82-92.
497. LAMEERE, A. L'évolution des ornements sexuels. *Bull. Ac. Belgique* 1904, pp. 1327-1364.
498. LANG, A. Ueber Vorversuche zu Untersuchungen über die Varietätenbildung von *Helix hortensis* Müller und *Helix nemoralis* L. *Festschr. Haeckel* [Denk. Ges. Jena xi], pp. 437-506.  
Summary by L. PLATE, *Arch. Rassen* i, pp. 604, 605.
499. —. Sul significato biologico della bellezza di una parte della fauna marina. (Conferenza scientifico-popolare.) *Verh. schweiz. Ges.* lxxxvi, pp. 102-117.
500. LANGLEY, J. N. & ANDERSON, H. K. The union of different kinds of nerve fibres. *J. Physiol.* xxxi, pp. 365-391.
501. — & —. On autogenetic regeneration in the nerves of the Limbs. *T. c.* pp. 418-428.  
LARGUIER DES BANCELS. [See HENRI & LARGUIER DES BANCELS (390).]
502. LANKESTER, E. R. The structure and classification of the *Arthropoda*. *Quart. J. Micr. Sci.* xlvii, pp. 523-582, pl. xlii.  
A reprint of matter from 10th Ed. *Encycl. Brit.* with some additions.
503. —. The structure and classification of the *Arachnida*. *Op. cit.* xlviii, pp. 165-270.
504. — and others. The History of the collections contained in the Natural History departments of the British Museum. Vol. I. [Libraries, Botany, Geology, Minerals.] London, 1904, xvii + 442 pp.
505. \*LATTER, O. H. The natural history of some common animals. Cambridge, 1904, x + 331 pp.  
Review *Nature* lxx, p. 551.
506. LAUTERBORN, R. Die cyklische oder temporale Variation von *Anuræa cochlearis*. *Verh. Ver. Heidelb.* vii, pp. 529-621.
507. LÉCAILLON, A. Sur la biologie et la psychologie d'une Araignée (*Chiracanthium carnifex* Fabricius). *Annee psychol.* x, pp. 63-83.
508. LE DANTEC, F. L'enseignement des Sciences naturelles comme instrument d'éducation philosophique. *Rev. gen. Sci.* xvi, pp. 276-283.  
Teaching of evolution.
509. —. L'hérédité des diathèses ou hérédité mendélienne. *Rev. Scient.* (5) i, pp. 513-517.
510. \*LE DOUBLE, —. *Traité des variations des os du crâne de l'homme, et de leur signification au point de vue de l'anthropologie zoologique.* Paris, ? 400 pp., illustrations.  
Review, by DWIGHT, *Science* xix, pp. 302, 303.
511. LEDUC, S. Diffusion des liquides: son rôle biologique. *C.R. Ac. Sci.* cxxxix, pp. 986-988.  
LEE, ALICE. [See BARRINGTON, LEE & PEARSON (45).]



512. LEE, A. BOLLES. La structure du spermatozoïde de l'*Helix pomatia*.  
Cellule xxi, pp. 71-116, 1 pl.  
Brief abstract, Zool. Zentrbl. 1905, p. 53.
513. LEE, T. G. Implantation of the Ovum in *Spermophilus tridecemlineatus* Mitch. Mark Anniv. Vol. pp. 417-436, pls. xxx, xxxi.
514. LÉGER, L. La reproduction sexuée chez les *Stylorhynchus*. Arch. Protistenk. iii, pp. 303-357, pls. xiii, xiv.
515. — & DUBOSQ, O. Notes sur les Infusoires endoparasites. Arch. Zool. exp. xxxii, pp. 337-355, pl. xiv.
516. LENDENFELD, R. VON. Bemerkungen über die Bedeutung der Rückbildung für die Anpassung. Arch. Rassen i, pp. 793-797.
517. — Karl Pearsons Untersuchungen über verwandtschaftliche Ähnlichkeit und Vererbung geistiger Eigenschaften. T. c. pp. 78-83.
518. —. Über die deszendenztheoretische Bedeutung der Spongiosa. Biol. Centrbl. xxiv, p. 635.
519. L'EOST, —. Rapport au sujet d'un animal inconnu rencontré en baie d'Along par la Décidée. Bull. Soc. zool. France xxix, pp. 115-117.
520. LEVENE, P. A. The autolysis of animal organs. Amer. J. Physiol. xi, pp. 437-447. [I. Testes. II. Spleen.]
521. —. The autolysis of animal organs. II. Hydrolysis of fresh and self-digested glands. Op. cit. xii, pp. 276-296. [Pancreas, Liver, Spleen.]
522. LEVI, G. Über die Entwicklung und Histogenese der Ammonshornformation. Arch. mikr. Anat. lxiv, pp. 389-404, pl. xxiv.
523. —. Nuovi fatti pro e contro la teoria del neurone. Monit. Zool. ital. xv, pp. 130-147.
524. —. Sull' origine delle cellule sessuali. Nota preliminare. T. c. pp. 244-246.
525. LEVY, O. Über den Einfluss von Zug auf die Bildung faserigen Bindegewebes. Zugleich ein Beitrag zur Kenntnis der Sehnenvernarbung. Experimentelle Untersuchung. Arch. Entwicklmech. xviii, pp. 184-247, pls. xi-xiii, 1 fig.
526. LEWIS, W. H. Experimental studies on the development of the eye in Amphibia. I. On the origin of the Lens. *Rana palustris*. Amer. J. Anat. iii, pp. 505-536, 42 text-figg.  
Abstract, Proc. Assoc. Amer. Anat. Session xvii, pp. xiii-xv, inserted at end of Amer. J. Anat. iii.
527. LILLIE, F. R. Further experiments in the embryology of the Chick. Biol. Bull. vi, pp. 309, 310.
528. —. Experimental studies on the development of organs in the embryo of the Fowl (*Gallus domesticus*). II. The development of defective embryos and the power of regeneration. Biol. Bull. vii, pp. 33-54, 10 figg.
529. LINDEN, GRAFIN M. VON. Karl, Rudolf, Dietrich Fickert. Leopoldina 1904, pp. 52-54.
530. —. Einfluss des Stoffwechsels der Schmetterlingspuppe auf Flügelfärbung und Zeichnung des Falters. Ein Beitrag zur Physiologie der Varietäten-Bildung. Arch. Rassen i, pp. 477-518.

531. [LINDEN, GRAFIN M. VON.] Die Ergebnisse der experimentellen *Lepidopterologie*. Biol. Centrbl. xxiv, pp. 615-634.
532. LINDER, C. Étude de la faune pélagique du Lac de Bret. Rev. Suisse Zool. xii, pp. 149-258.  
Review by ZACHARIAS, Biol. Centrbl. xxiv, pp. 767, 768. Abstract by ZSCHOKKE, Zool. Zentrbl. 1904, pp. 712-714.
533. LINDSAY, J. Millport marine biological station [chiefly historical]. Tr. Edinb. Field Soc. v, pp. 66-75.
534. LISTON, W. G. Note on sexual dimorphism. J. Bombay Soc. xvi, pp. 39-43.
535. \*LLOYD, F. E. & BIGELOW, M. E. The teaching of biology in the secondary schools. New York, 1904, viii+491 pp.  
Review Amer. Natural. xxxix, pp. 47-50, and by W. F. GANONG, Science xx, pp. 880-882.
536. LO BIANCO, S. Pelagische Tiefseefischerei der "Maja" in der Umgebung von Capri. Jena, 1904, 8vo, vi+91 pp., xli pls., 1 map.  
Translation of paper in Mt. Stat. Neapel 1901.
537. LOEB, J. The recent development of biology. Science xx, pp. 777-786.
538. —. Weitere Versuche über heterogene Hybridisation bei Echinodermen. Arch. ges. Physiol. civ, pp. 325-350, 2 text-figg.
539. —. Further experiments on the fertilization of the egg of the sea-urchin, with sperm of various species of starfish and a Holothurian. Univ. Calif. publ. Phys. i, No. 11, pp. 83-85.
540. —. Further experiments on heterogeneous hybridization in Echinoderms. Op. cit. ii, pp. 5-30, 2 text-figg.
541. —. Ueber den Einfluss der Hydroxyl- und Wasser-stoffionen auf die Regeneration und das Wachstum der Tubularien. Arch. ges. Physiol. ci, pp. 340-348.
542. —. On the influence of the reaction of the sea-water on the regeneration and growth of Tubularians. Univ. Calif. publ. Phys. i, pp. 139-147.
543. —. Concerning dynamic conditions which contribute toward the determination of the morphological polarity of organisms. (First communication.) T. c. pp. 151-161, 7 figg.
544. —. Ueber dynamische Umstände, welche bei der Bestimmung der morphologischen polarität der organismen mitwirken. Arch. ges. Physiol. cii, pp. 152-162, 7 text-figg.
545. —. Ueber Befruchtung, künstliche Parthenogenese und Cytolyse des Seeigeleis. Op. cit. ciii, pp. 257-265.
546. —. Ueber die natur der Lösungen, in welchen sich die Seeigeleier zu entwickeln vermögen. T. c. pp. 503-509.
547. —. The control of heliotropic reactions in fresh water Crustaceans by chemicals, especially CO<sub>2</sub>. (Preliminary communication.) Univ. Calif. publ. Physiol. ii, pp. 1-3.
548. LOEB, LEO, & STRONG, R. M. On regeneration in the pigmented skin of the frog, and on the character of the Chromatophores. Amer. J. Anat. iii, pp. 275-283.
549. LOISEL, G. Revue annuelle d'embryologie. Rev. gen. Sci. xv pp. 86-96, 144-153.

550. [LOISEL, G.] Recherches sur les poisons génitaux de différents animaux. C.R. Ac. Sci. cxxxix, pp. 227-229.
551. ——. Substances toxiques extraites des œufs de Tortue et de Poule. T. c. pp. 325, 326.
552. ——. Sur les sécrétions chimiques de la glande génitale male (à propos d'une prétendue glande interstitielle du testicule). C.R. Soc. Biol. lvi, pp. 27-30.
553. ——. Les caractères sexuels secondaires et le fonctionnement des testicules chez la grenouille. T. c. pp. 446-448.
554. ——. Sur l'origine et la double signification des cellules interstitielles du testicule. T. c. pp. 448-451.
555. ——. Recherches sur la descendance des pigeons voyageurs. (Note préliminaire.) C.R. Ass. franc. xxxii, 2, pp. 760-764.
556. ——. Sur Ernst Haeckel. Bull. Soc. Anthropol. Paris 1904, pp. 197-199.
557. LORAND, A. Quelques considérations sur les causes de la sénilité. C.R. Soc. Biol. lvii, pp. 500-502.
558. LOVEJOY, A. O. Some eighteenth century evolutionists. II. Pop. Sci. Month. lxxv, pp. 323-340.
559. LÖWENTHAL. Atlas zur vergleichenden Histologie der Wirbelthiere. Review by RETTERER, J. Anat. Physiol. xl, pp. 446, 447.
560. LUBOSCH, W. Untersuchungen über die Morphologie des Neunaugegones. Jena. Zeitschr. xxxviii, pp. 673-724, pl. xxiii.
561. ——. Das corpus luteum der Säugetiere und seine Beziehungen zu dem der Anamnier. Zur Abwehr. Anat. Anz. xxv, pp. 404-416.
562. LUSTIG, A. L'immunità acquisita contro i veleni, può essere trasmessa dai genitori alla prole? (Contributo alle conoscenze sulla trasmissione di caratteri acquisiti. Rend. Acc. Lincei xiii, 1, pp. 65-69. Summary, Arch. Rassen i, pp. 453, 454.
563. LUTHER, A. Die *Eumesostominae*. Zeitschr. wiss. Zool. lxxvii, pp. 1-273, pls. i-ix.  
Anatomy, natural history, systematic.
564. LUTZ, E. The relation between the law of ancestral heredity and Mendelianism. [Abstract.] Science xix, p. 214.
565. ——. Biological interpretation of skew variation. [Abstract.] Science xix, p. 214.
566. LUTZ, F. E. Variation in Bees. Biol. Bull. vi, pp. 217-219. [Cf. PHILLIPS (723).]
567. LYELL, J. Goethe as a Scientist; and his relation to the present position of evolution and the doctrine of the descent of man. Tr. Perthshire Soc. iv, pp. 43-58.
568. LYON, E. P. A biological examination of distilled water. Biol. Bull. vi, pp. 198-202.
569. ——. Rhythms of susceptibility and of carbon dioxide production in cleavage. Amer. J. Physiol. xi, pp. 52-58.
570. ——. On Rheotropism. I. Rheotropism in Fishes. Op. cit. xii, pp. 149-161.
571. ——. Rhythms of susceptibility and of CO<sub>2</sub> production in cleavage. Biol. Bull. vi, p. 323.

572. M., J. E. Henry Alleyn Nicholson. Obit. R. Soc. London i, pp. 35-38.
573. M., W. C. Sir William Flower. Obit. R. Soc. London i, pp. 72-89, portrait.
574. MACALLUM, A. B. The Palæochemistry of the Ocean in relation to animal and vegetable protoplasm. Tr. Canad. Inst. vii, pp. 535-562.
575. —. The Palæochemistry of the Ocean in relation to animal and vegetable protoplasm. Stud. Univ. Toronto Physiol. Ser. No. 5, 30 pp.
576. — and others. The micro-chemistry of cells. Report of Committee. Rep. Brit. Ass. 1903, pp. 310-312.
577. MACBRIDE, E. W. The early stages in the development of *Ophiothrix fragilis*. Amer. Natural. xxxviii, pp. 508-511.
578. MACFADYEN, A. The application of low temperatures to the study of biological problems. Rep. Brit. Ass. 1903, pp. 609-611.
579. MACNAMARA, N. C. Beweisschrift betreffend die gemeinsame Abstammung der Menschen und der Anthropoiden Affen. Arch. Anthropol. xxxi, pp. 77-93, 1 fig.
580. MAEHRENTHAL, F. C. v. Entwurf von Regeln der zoologischen Nomenclatur. Als Grundlage für eine Neubearbeitung der internationalen Nomenclatur-Commission. Zool. Ann. i, pp. 89-138.
581. MAGGI, L. L'anatomia comparata secondo Vogt e Yung. Rend. Ist. Lombardo xxxvi, pp. 1123-1128.  
MAILLARD, L. [See PRENANT, BOUIN & MAILLARD (738).]
582. MALAQUIN, A. La céphalisation chez les Annélides et la question du métamérisme. C.R. Ac. Sci. cxxxviii, pp. 821-824.
583. MANZI, L. Gli dei distruttori degli Anofeli e l'uso antico delle fumigazioni e delle reti contro di essi. Arch. parasit. viii, pp. 88-109.
584. MARCACCI, A. Sarebbe possibile la vita nell'aria atmosferica quando l'azoto fosse sostituito dall'idrogeno? Mem. Ist. Lombardo xix, pp. 229-254.
585. MARCEAU, F. Sur le mécanisme de la contraction des fibres musculaires lisses dites à double striation oblique ou à fibrilles spiralées et en particulier de celles des muscles adducteurs des Lamellibranches. C.R. Ac. Sci. cxxxix, pp. 70-72.
586. MARCHAL, P. Recherches sur la biologie et le développement des *Hyménoptères* parasites. I. La polyembryonie spécifique ou germinogonie. Arch. Zool. exp. xxxii, pp. 257-335, pls. ix-xiii.
587. —. Le déterminisme de la polyembryonie spécifique et le déterminisme du sexe chez les *Hyménoptères* à développement polyembryonnaire. C.R. Soc. Biol. lvi, pp. 468-470.
588. —. Sur la formation de l'intestin moyen chez les *Platygaster*. C.R. Soc. Biol. lvi, p. 1091. [*Hyménoptera*.]
589. MARCHI, A. DE. Gli animali nelle figurazioni sepolcrali della Latinità pagana, a proposito di un cippo milanese. Rend. Ist. Lombardo xxxvii, pp. 381-401.
590. MARECHAL, J. Ueber die morphologische Entwicklung der Chromosomen im Keimbläschen des Selachiereies. Anat. Anz. xxv, pp. 383-398. Abstract by FICK, Zool. Zentrbl. 1905, p. 57.

591. [MARINE BIOLOGICAL ASSOCIATION.] Plymouth marine invertebrate fauna: being notes of the local distribution of species occurring in the neighbourhood. Compiled from the records of the laboratory of the Marine Biological Association. J. Mar. biol. Ass. vii, pp. 155-298.
592. MARINESCO, G. Études histologiques sur le mécanisme de la sénilité. Rev. gen. Sci. xv, pp. 1116-1129, 16 figg.
593. [MARK, E. L. Mark Anniversary Volume. Cf. EIGENMANN (270); also the special Records.]  
Review, Nature lxxi, pp. 169, 170.
594. MARR, J. E. & SHIPLEY, A. E. Handbook to the Natural History of Cambridgeshire. Cambridge 1904, viii+260 pp., 3 maps.  
British Association Guide-book.
595. MATHEWS, A. P. The relation between the solution tension and physiological action of the elements. Biol. Bull. vi, pp. 312-314.
596. MATSUOKA, M. Über Gewebsveränderungen der künstlich erzeugten Kyphose der Schwanzwirbelsäule des Kaninchens. Arch. Entwickl.-mech. xviii, pp. 251-260, pl. xv.
597. MATTIENSEN, E. Ein Beitrag zur Embryologie der Süßwasserendocœlen. Zeitschr. wiss. Zool. lxxvii, pp. 274-361, pls. x-xiii.
598. MAURER, F. Das Integument eines Embryo von *Ursus arctos*. Ein Beitrag zur Frage der Haare und Hautdrüsen bei Säugetieren. Festschr. Haeckel [Denk. Ges. Jena xi], pp. 507-538, pl. xv.
- 598A. MAYER, P. [and others]. Zoologischer Jahresbericht für 1903. Berlin, 8vo, 1904, numerous paginations.
599. MCCLENDON, J. F. On the anatomy and embryology of the nervous system of the Scorpion. Biol. Bull. viii, pp. 38-55.
600. MEEK, A. Northumberland sea fisheries Committee. Report on the scientific investigations for the year 1904. Newcastle, 1904, 87 pp.  
Cf. various articles in special Records.
601. MEISENHEIMER, J. [Review of Halban on determination of sex, cf. Zool. Rec. 1903, Gen. Sub. (302).] Arch. Rassen i, pp. 757-759.
602. —. Über die Bedeutung des Darwinischen Selektionsprinzips und Probleme der Artbildung. Arch. Rassen i, pp. 598-603. [Review of PLATE, Zool. Rec. 1903, Gen. Sub. (599).]
603. MEISSNER, W. Notiz über das Plankton des Flusses Murgab (Merv, Turkestan). Zool. Anz. xxvii, pp. 648-650.
604. MELDOLA, R. The chemical synthesis of vital products, and the inter-relations between organic compounds. Vol. I. London, 1904, xvi+338 pp.  
Review, Nature lxxi, pp. 170-172.
605. MELZER, S. J. Vitalism and mechanism in biology and medicine. Science xix, pp. 18-22.
606. MERKEL, F. Die Rechts- und Linkshändigkeit. Anat. Hefte. Ergebn. xiii, pp. 708-736.  
Summary of recent work: bibliographic list of 74 works, pp. 708-711.
607. — & BONNET, R. Ergebnisse der Anatomie und Entwicklungsgeschichte. xiii, 1903. Wiesbaden, 1904, ix+747 pp.  
This takes the form of an account of work published. The larger part of Vol. xiii relates to literature of 1903. Cf. WEIDENREICH (926), BARDLEBEN (40), OPPEL (680), KALLIUS (452), BARFURTH (42), WINDLE (950), STIEDA (862), FELIX (282), MERKEL (606).

608. MERRIAM, C. H. Alaska. Harriman Alaska Expedition. With cooperation of Washington Academy of Sciences. New York, 8vo.  
A series of volumes, of which I have seen only viii and ix, devoted to Insects.
- MERY, JANET R. [See TORREY & MERY (883).]
- MESNIL, F. [See CAULLERY & MESNIL (175, 176).]
609. METALNIKOFF, N. Sur un procédé nouveau pour faire des coupes microscopiques dans les animaux pourvus d'un tégument chitineux épais. Arch. zool. exp. Notes 1904, pp. lxvi, lxvii.
610. METCALF, M. M. *Neritina virginea* variety *minor*. Amer. Natural. xxxviii, pp. 565-569, i plate.
611. —. Mutation and selection. [Letter.] Science xix, pp. 74-76.  
Cf. COOK (204).
612. \*—. An outline of the theory of Organic Evolution. New York, 1904, 204 pp.  
Review, Lancet 1905, i, p. 803.
613. METSCHNIKOFF, E. Zur Geschichte tierischer Gesellschaften. Ann. Naturphilos. iii, pp. 324-338.
614. \*—. Studien über die Natur des Menschen. Eine optimistische Philosophie. Leipzig, 1904, 399 pp.
615. MEYER, A. B. Bericht über einige neue Einrichtungen des königlichen zoologischen und anthropologischethnographischen Museums in Dresden. 4to, 25 pp., xx pls.  
Review, Science xx, p. 502.
616. MEYER, R. Ueber die Beziehung der Urnierenkanälchen zum Cölo-epithel nach Untersuchungen an Meerschweinchen Embryonen. Anat. Anz. xxv, pp. 25-30.
617. \*MIALL, L. C. House, garden and field, a collection of short nature studies. London, 1904, x+316 pp.  
Review, Nature lxxi, p. 52.
618. MICHEL, H. Herbert Spencer et Charles Renouvier. Année Psychol. x, pp. 142-160.
619. MILLS, W. Some aspects of the development of comparative Psychology. Science xix, pp. 745-757.
620. MINCHIN, E. A. International Catalogue of scientific literature. First annual issue. N. Zoology. Part I Authors' Catalogue, xvi+368 pp. Part II Subject Catalogue, pp. 369-1528. London, 1904, 8vo.
621. MINERVINI, R. Des Capsules Surrénales. Développement—structure—fonctions. J. Anat. Phys. xl, pp. 449-492, 634-667, pls. xi-xiv.
622. MINOT, C. S. An experiment with telegony. Rep. Brit. Ass. 1904 p. 606.
623. —. Rejuvenation. T. c. p. 606.
624. —. The Harvard embryological collection. T. c. p. 606.
625. M'INTOSH, —. On the distribution of marine animals. Ann. Nat. Hist. xiii, pp. 117-130.  
Abstract by MEISENHEIMER, Zool. Zentrbl. 1904, p. 650.
626. MIRANDE, M. Sur une nouvelle fonction du tégument des *Arthro-podes*. C.R. Soc. Biol. lvii, pp. 404, 405.

627. MITCHELL, P. CHALMERS. Official guide to the gardens of the Zoological Society of London. First edition. London, 1904, 112 pp., 50 figg., 1 map.
628. MOENKHAUS, WILLIAM J. The development of the Hybrids between *Fundulus heteroclitus* and *Menidia notata* with especial reference to the behaviour of the maternal and paternal chromatin. Amer. J. Anat. iii, pp. 29-64, 4 pls.
629. MOLL, J. W. Die Mutationstheorie. III Teil, bearbeitet von Hugo de Vries. Biol. Centrbl. xxiv, pp. 145-162, 193-210 & 225-241.  
For part I, see Zool. Rec. Gen. Sub. 1901, and for part II, 1902. They appeared in Vols. xxii & xxiii of the Biol. Centrbl. The work is botanical but of interest to Zoologists.
630. MOLLISON, T. Die ernährende Tätigkeit des Follikelepithels im Ovarium von *Melolontha vulgaris*. Zeitschr. wiss. Zool. lxxvii, pp. 529-545, pls. xxi, xxii.
631. MONACO, ALBERT PRINCE DE. Sur la cinquième campagne scientifique de la Princesse Alice II. C.R. Ac. Sci. cxxxviii, pp. 1398-1400.
632. ——. Résultats des campagnes scientifiques accomplies sur son Yacht. Fasc. xxv, xxvi. Monaco, 1904.  
See MOLLUSCA, VAYSSIÈRE (627) & SPONGIAE, TOPSENT (50).
633. ——. Les progrès de l'océanographie. Bull. Mus. Monaco, No. 6, 13 pp.
634. ——. Sur la cinquième campagne scientifique de la "Princesse-Alice II." Op. cit. No. 13, 4 pp.
635. ——. Progrès de la biologie marine. Op. cit. No. 14, 7 pp.
636. ——. Les progrès de l'océanographie. Rev. Scient. (5) i, pp. 161-166.
637. MONKS, SARAH P. Variability and autotomy of *Phataria*. P. Ac. Philad. lvi, pp. 596-600, pl. xlii.
638. MONTGOMERY, T. H. Prof. Valentin Haecker's critical review on bastardization and formation of the sex cells. Zool. Anz. xxvii, pp. 630-636.  
Relates to HÄCKER (358), and cf. HÄCKER (359).
639. ——. Some observations and considerations upon the maturation phenomena of the germ cells. Biol. Bull. vi, pp. 136-157, 3 pls.
640. ——. The morphological superiority of the female sex. P. Amer. Phil. Soc. xliii, pp. 365-379.
641. ——. The main facts in regard to the cellular basis of heredity. T. c. pp. 5-14.
642. ——. The development and structure of the larva of *Paragordius*. P. Ac. Philad. 1904, pp. 738-755, pls. xlix, l.
643. MONTI, R. Limnologische Untersuchungen über einige italienische Alpenseen. Forschber. Flon xi, pp. 252-275.
644. MORGAN, T. H. Notes on regeneration. Biol. Bull. vi, pp. 159-172.
645. ——. Self-fertilisation induced by artificial means. J. exp. Zool. i, pp. 135-178.
646. ——. Regeneration of heteromorphic tails in posterior pieces of *Planaria simplicissima*. T. c. pp. 385-393.

647. [MORGAN, T. H.] The dispensibility of the constant action of gravity and of a centrifugal force in the development of the toad's egg. *Anat. Anz.* xxv, pp. 94-96.
648. —. The control of heteromorphosis in *Planaria maculata*. *Arch. Entwicklmech.* xvii, pp. 683-695, 1 fig.
649. —. Germ-layers and regeneration. *Op. cit.* xviii, pp. 262-264.
650. —. The relation between normal and abnormal development of the embryo of the frog (iii), as determined by some abnormal forms of development. *T. c.* pp. 507-534, pls. xxxi, xxxii.
651. —. An analysis of the phenomena of organic 'polarity.' *Science* xx, pp. 742-748.
652. —. Polarity and axial heteromorphosis. *Amer. Natural.* xxxviii, pp. 502-505.
653. \* —. Evolution and adaptation. New York, 1903, 470 pp.  
Review by BASHFORD DEAN, *Science* xix, pp. 221-224; and by W. E. C., *Amer. Natural.* xxxviii, pp. 398, 399.
654. \* —. Die Entwicklung des Froscheies. Eine Einleitung in die experimentelle Embryologie. Übersetzt von B. SOLGER. Leipzig, 1904, 8vo, xv+291 pp.
655. — & DIMON, ABIGAIL C. An examination of the problems of physiological "polarity" and of electrical polarity in the earthworm. *J. exp. Zool.* i, pp. 331-347.
656. — & SCHIEDT, ALICE E. Regeneration in the Planarian *Phagocata gracilis*. *Biol. Bull.* vii, pp. 160-165.
657. — & STEVENS, N. M. Experiments on polarity in *Tubularia*. *J. exp. Zool.* i, pp. 559-591.
658. — & TORELLE, ELLEN. The relation between normal and abnormal development (iv), as determined by Roux's experiment of injuring the first formed blastomeres of the frog's egg. *Arch. Entwicklmech.* xviii, pp. 535-554, pl. xxxiii.
659. MOROFF, T. Über die Entwicklung der Kiemen bei Fischen. *Arch. mikr. Anat.* lxiv, pp. 189-213, pls. xi, xii.
660. MOSER, FANNY. Beiträge zur vergleichenden Entwicklungsgeschichte der Schwimmblase. *Arch. mikr. Anat.* lxiii, pp. 532-574, pls. xxii-xxv.
661. MOSZKOWSKI, M. O. Maas. Einführung in die experimentelle Entwicklungsgeschichte (Entwicklungsmechanik). *Biol. Centrbl.* xxiv, pp. 318-320.  
Review of MAAS, (476) *Gen. Sub. Zool. Rec.* 1903.
662. MOTT, F. W., HALLIBURTON, W. D. & EDMUNDS, A. Regeneration of Nerves. (Preliminary Communication.) *J. Physiol.* xxxi, pp. vii-xii.
663. \*MÜLLER, R. Jahrbuch der landwirtschaftlichen Pflanzen- und Tierzüchtung. Sammelbericht über die Leistungen in der Zuchtungskunde und ihren Grenzgebieten. Herausg. von Prof. Dr Robert Müller. I. Die Leistungen des Jahres 1903. Stuttgart, 1904. 414 S.
664. MUNSON, J. P. Researches on the oogenesis of the tortoise, *Clemmys marmorata*. *Amer. J. Anat.* iii, pp. 311-347, 7 pls.
665. MURBACH, L. The static function in *Gonionemus*. *Biol. Bull.* vi, pp. 317, 318.



666. MURRAY, J. A. Certain biological aspects in the general pathology of malignant new growths. Rep. Brit. Ass. 1904, pp. 598-600.  
 —. [See also BASHFORD & MURRAY (46).]
667. MUTHMANN, E. Über die erste Anlage der Schilddrüse und deren Lagebeziehung zur ersten Anlage des herzens bei Amphibien, insbesondere bei *Triton alpestris*. Anat. Hefte. Arb. xxvi, pp. 1-48, 43 textfigg.
668. NEAL, H. V. The development of the ventral nerves in Selachii. I. Spinal ventral nerves. Mark. Anniv. Vol. pp. 291-313, pls. xxii-xxiv.
669. NELSON, J. A. The early development of *Dinophilus*; a study in cell-lineage. P. Ac. Philad. 1904, pp. 687-737, pls. xliii-xlviii.
670. \*NERESHEIMER, E. Konjugation und natürlicher Tod. Nat. Wochenschr. xix, pp. 604, 605. [From Zool. Anz. Bibl. x, p. 109.]
671. NEUMANN, E. Einige weitere Bemerkungen über die Bedeutung gewisser Missbildungen für die Entwicklungsmechanik. Arch. Entwicklmech. xviii, pp. 296-303.  
 Cf. GOLDSTEIN (335), t. c. p. 584.
672. NICOLAS, A. Recherches sur le développement du pancréas, du foie et de la rate chez le sterlet (*Acipenser ruthenus*). Arch. Biol. xx, pp. 425-460, pls. x-xii.
673. —. Recherches sur l'embryologie des Reptiles. iv. La segmentation chez Porvet (*Anguis fragilis*). T. c. pp. 611-658, pls. xvii-xix.
674. NORRENBERG, J. Geschichte des naturwissenschaftlichen Unterrichts an den höheren Schulen Deutschlands. Leipzig, 1904, v+76 pp. (Samml. naturw. pädag. i, heft. 6).
675. NOWLIN, NADINE. The vitelline body in spider eggs. Kansas Univ. Sci. Bull. ii, No. 10, pp. 281-302, pls. xii-xv.
676. NUSBAUM, J. Vergleichende Regenerationsstudien. II. Ueber die Regeneration des Vorderteiles des Enchytraeidenkörpers nach einer künstlichen Operation. Arch. polon. ii, pp. 233-259, pl. vii.
677. \*—. Nouvelles recherches sur l'embryologie des *Isopodes*. Kosmos polski. xxviii, 1904, pp. 154-177.  
 Abstract by HOYER, Zool. Zentrbl. 1905, pp. 130-132.
678. NUTTALL, G. H. F. Blood immunity and blood relationship: a demonstration of certain blood-relationships amongst animals by means of the precipitin test for blood, including original researches by G. S. GRAHAM-SMITH & T. S. P. STRANGEWAYS. Cambridge, 1904, 8vo, xii+444 pp.  
 Review, Arch. parasit. viii, pp. 472, 473.
679. —. The precipitin test in the study of animal relationships. Rep. Brit. Ass. 1904, p. 607.
680. OPPEL, A. Verdauungs-Apparat. Anat. Hefte. Ergebn. xiii, pp. 165-232.  
 Summary of recent work, mostly 1903; bibliographic list, pp. 165-174.
681. \*—. Lehrbuch der vergleichenden mikroskopischen Anatomie der Wirbeltiere. Vierter Teil. Ausführapparat und Anhangsdrüsen der mannlichen Geschlechtsorgane. Jena, 1904, x+432 pp.  
 Review by F. H. A. MARSHALL, Nature lxx, p. 574.

682. ORLANDI, S. Rigenerazione cefalica naturale in alcune Maldanidi. *Atti Soc. Ligustica* xiv, pp. 160-164.
683. \*ORTMANN, A. E. Bericht über die Fortschritte unserer Kenntnis von der Verbreitung der Tiere (1901-1903). *Geogr. Jahrb.* xxvi, pp. 447-477. [From *Zool. Anz. Bibl.* x, p. 210.]
684. OSBORN, H. F. The evolution of the horse. *Rep. Brit. Ass.* 1904, pp. 607, 608
685. —. Karl Alfred von Zittel. *Science* xix, pp. 186-188.
686. OSBORN, H. L. Amitosis in the embryo of *Fasciolaria*. *Amer. Natural.* xxxviii, pp. 869-884.
687. —. Amitosis in the embryo of *Fasciolaria*. [Abstract.] *Science* xix, p. 213.
688. OSGOOD, W. H. A biological reconnaissance of the base of the Alaska peninsula. *North Amer. Fauna*, No. 24, 86 pp., 7 pls. Account of a journey and of the mammals and birds.
689. OSTWALD, W. Experimentelle Untersuchungen über den Saisonpolymorphismus bei *Daphniden*. *Arch. Entwicklmech.* xviii, pp. 415-451, 7 figg.
690. OTTOLENGHI, B. Esperienze di partenogenesi artificiale. *Atti Soc. Ligustica* xiv, pp. 176-180.
691. OYAMA, R. Entwicklungsgeschichte des Deckhaares der weissen Maus (*Mus musculus* var. *alba*). *Anat. Hefte Arb.* xxiii, pp. 585-608, pls. xxvii-xxx.
692. PACKARD, A. S. The two chief faunæ of the Earth. [Abstract.] *Science* xix, p. 220.
693. —. Opisthenogenesis, or the development of segments, median tubercles and markings a tergo. *P. Amer. Phil. Soc.* xliii, pp. 289-294.
694. —. The origin of the markings of organisms (Pœcilogensis) due to the physical rather than to the biological environment; with criticisms of the Bates-Müller hypotheses. *T. c.* pp. 393-450.
695. PALADINO, G. Sulla rigenerazione del parenchima e sul tipo di struttura dell'ovaja di Delfina. *Monit. Zool. ital.* xv, pp. 215-217.
- × 696. PALMER, T. S. Index generum Mammalium: a list of the genera and families of Mammals. *North Amer. Fauna*, No. 23, 984 pp. Includes discussion of various points of nomenclature.
697. \*PARKER, T. J. *Leçons de Biologie élémentaire*. Paris, 1904, 8vo, 496 pp., 127 illustrations.  
Review by G. BOHN, *Rev. gen. Sci.* xvi, p. 531.  
PARSONS, F. G. [See COPEMAN & PARSONS (206).]
698. PAULI, W. Allgemeine Physiko-Chemie der Zellen und Gewebe. Eigenschaften organischer Gallerten. *Ergebn. Physiol. Biochemie* iii, pp. 155-176.
699. PAVESI, P. Esquisse d'une faune Valdôtaine. *Atti Mus. Milano* xliii, pp. 191-260.
700. PAVIE, A. Mission Pavie Indo-Chine 1879-1895. *Études diverses*. III. Recherches sur l'histoire naturelle de l'Indo-Chine orientale. Paris, 1904, 4to, xxi+550 pp., xxv pls.  
Descriptive matter by various specialists, dealt with in detail in the special records. Most of the matter is republication.

701. PEARL, R. The movements and reactions of fresh-water Planarians; a study in animal behaviour. *Quart. J. Micr. Sci.* xlvi, pp. 509-714.
702. — & DUNBAR, F. J. Variation and correlation in *Arcella*. [Abstract.] *Rep. Michigan Ac.* v, pp. 202-204.
703. — & FULLER, W. N. Variation and correlation in the earthworm. [Abstract.] *T. c.* pp. 200-202.
704. PEARSON, K. Mathematical contributions to the theory of evolution. XII. On a generalised theory of alternative inheritance, with special reference to Mendel's laws. *Phil. Trans. A.* Vol. 203, pp. 53-86.
705. —. On a criterion which may serve to test various theories of inheritance. *P. R. Soc. London* lxxiii, pp. 262-280.
706. —. Mendel's law. *Nature* lxx, pp. 626, 627. [Cf. a previous botanical note by LOCK, t. c. p. 601.]
707. —. A Mendelian's view of the law of ancestral inheritance. *Biometrika* iii, pp. 109-112.
708. —. On the laws of inheritance in man. II. On the inheritance of the mental and moral characters in man, and its comparison with the inheritance of the physical characters. *T. c.* pp. 131-190.
709. \*—. On the inheritance of the mental and moral characters in man, and its comparison with the inheritance of physical characters. *London Anthropol. Inst.*  
Review, *Nature* lxx, p. 137.  
— [See also BARRINGTON, LEE & PEARSON (45).]
710. PEEBLES, FLORENCE. The location of the chick embryo upon the blastoderm. *J. exp. Zool.* i, pp. 369-383, pls. i, ii.
711. PEIRCE, G. J. Certain undetermined factors in heredity and environment. *Amer. Natural.* xxxviii, pp. 285-293.
712. PELSENEER, P. Quelques problèmes zoologiques de l'Antarctique. *C.R. Ass. franc.* xxxii, 2, pp. 810-812.
713. —. La "ligne de Weber" limite zoologique de l'Asie et de l'Australie. *Bull. Ac. Belgique* 1904, pp. 1001-1022, and note by A. LAMÈRE, p. 1022.
714. PÉREZ, C. Resorption phagocytaire des spermatozoïdes chez les Tritons. *C.R. Soc. Biol.* lvi, pp. 783, 784.
715. — & GENDRE, E. Sur l'ovogénèse du *Branchellion*. *C.R. Soc. Biol.* lvii, pp. 605, 606.
716. PERRIER, E. Les forces physiques et l'hérédité dans la production des types organiques. *Rev. Scient.* (5) i, pp. 481-489.
717. PETER, K. Einiges über die Gastrulation der Eidechse. Sechste Mitteilung zur Entwicklungsgeschichte der Eidechse. *Arch. mikr. Anat.* lxiii, pp. 659-700, pls. xxxi, xxxii.
718. PETERSEN, W. Über indifferente Charaktere als Artmerkmale. *Biol. Centrbl.* xxiv, pp. 423-431 and 467-473.  
Relates to a review of his previous work by Jordan and concludes that physiological considerations must be included in discussions as to the origin of species.

719. PETRUNKEWITSCH, A. Künstliche Parthenogenese. Zool. Jahrb. Suppl. vii, pp. 77-138, pls. viii-x.  
 1, Einleitung. 2, Historisches zur Frage von der Individualität der Chromosomen. Zur Kritik der Boveri'schen Anschauung. 3, Das Verhalten der Chromosomen bei der künstlichen Parthenogenese der Seeigel. 4, Historisches zur Frage von dem Centrosom. Bau, Theilung, Individualität, und "de nova" Bildung des Centrosoms. 5, Das Verhalten des Centrosoms bei der künstlichen Parthenogenese der Seeigel. Centrosomen und Cytastere. 6, Das Wesen der künstlichen Parthenogenese und ihre Beziehungen zur natürlichen Parthenogenese.
720. \*——. Gedanken über Vererbung. Freiburg i. Br. 1904, 83 pp.  
 Abstract by FICK, Zool. Zentrbl. 1904, p. 780.
721. PETTIS, C. R. Albino brook trout. *Science* xix, p. 867.
722. PETTIT, A. Le Professeur Henri Filhol. [Portrait.] *Bull. Soc. Autun* xx, pp. 415-453.
723. PHILLIPS, E. F. Variation in Bees.—A reply to Mr Lutz. *Biol. Bull.* vii, pp. 70-74. [Cf. LUTZ (566)].
724. PICARD, E. On the development of mathematical analysis and its relation to some other sciences. *Science* xx, pp. 857-872.
725. PIÉRON, H. L'immobilité protectrice chez les animaux. *Rev. Scient.* (5) i, pp. 523-527.
726. PLATE, L. Prof. Dr Reinkes Einleitung in die theoretische Biologie. *Arch. Rassen* i, pp. 161-189.
727. ———. Prof. Dahl und die Abstammungslehre in der Schule. *T. c.* pp. 430-434.
728. ———. Gibt es ein Gesetz der progressioen Reduktion der Variabilität? *T. c.* pp. 641-655.  
 ———. [See also EHRENFELS (269).]
729. PLOETZ, ALFRED. Die Begriffe Rasse und Gesellschaft und die davon abgeleiteten Disziplinen. Einige Worte der Einführung. *Arch. Rassen* i, pp. 2-26.
730. POCHE, F. Über die Trennung der "Ratschläge" und "Regeln" in den neuen internationalen Nomenclatur-regeln. *Zool. Anz.* xxvii, pp. 295-297.
731. ———. Über die nomenklatorische Berücksichtigung und Behandlung von im Jahre 1758 erschienenen zoologischen Werken, in denen die Grundsätze der binären Nomenklatur befolgt sind. *T. c.* pp. 401-404.
732. ———. Ein bisher nicht berücksichtigtes Zoologisches Werk aus dem Jahre 1758, in dem die Grundsätze der binären Nomenklatur befolgt sind. *T. c.* pp. 495-510.  
 MOEHRING, an Ornithologist.
733. POLL, H. Allgemeines zur Entwicklungsgeschichte der Zwischeniere. *Anat. Anz.* xxv, pp. 16-25.
734. \*POMPECKJ, J. F. Karl Alfred von Zittel. Ein Nachruf. *Paläontogr.* l, 28 pp.  
 Abstract by BÜTSCHLI, *Zool. Zentrbl.* 1904, pp. 409-412.
735. POULTON, E. B. The collections of William John Burchell, D.C.L.  
 I. Introduction. *Ann. Nat. Hist.* xiii, pp. 45-56.

736. [POULTON, E. B.] President's Address. P. ent. Soc. London 1904, pp. xcv.  
 "The bearing of the study of Insects upon the question, 'Are acquired characters hereditary?'"
737. PRENANT, A. Questions relatives aux cellules musculaires. iv. Le substance musculaire. Arch. zool. exp. Notes 1904, pp. c-civ & cxiii-cxxii & cxxix-cxxxviii.
738. \*—, BOUIN, P. & MAILLARD, L. Traité d'histologie. Tome I. Cytologie générale et spéciale. Paris, 1904, 8vo, xxxiii+977 pp., 791 figg.  
 Notice, Anat. Anz. xxv, pp. 110, 111.
739. PRESCOTT, A. B. The rôle of carbon. P. Amer. Phil. Soc. xliii, pp. 102-104.
740. \*PRZIBRAM, H. Einleitung in die experimentelle Morphologie der Tiere. Leipzig and Wien, 1904, 142 pp. [From Zool. Anz. Bibl. x, p. 212.]
741. \*—, Versuch zur chemischen Charakterisierung einiger Tierklassen des natürlichen Systems auf Grund ihres Muskelplasmas. Beitr. Chem. Physiol. ii, pp. 143-147.  
 [From Zool. Anz. Bibl. x, p. 213.]
742. \*QUINTON, R. Loi générale de constance originelle du milieu vital des cellules. Arch. gén. med. lxxxi, pp. 928-948.  
 [From Zool. Anz. Bibl. x, p. 47.]
743. —. L'eau de mer milieu organique. Paris, 1904, 8vo, 500 pp.  
 Review by H. PIÉRON, Rev. Scient. (5) i, pp. 724, 725.
744. —. Réponse à une critique de M. Le Dantec, touchant la loi de constance marine originelle. Revue des idées i, pp. 877-879.
745. RABAUD, E. L'évolution des idées en tératologie, l'embryologie anormale. Rev. Scient. (5) i, pp. 392-400.
746. \*RABES, O. Chemotaxis. Prometheus xv, pp. 570-573, 580-582.  
 [From Zool. Anz. Bibl. xi, p. 83.]
747. \*RABL, C. Über die züchtende Wirkung funktioneller Reize. Rektoratsrede. Leipzig, 44 pp.  
 Abstract by VON WAGNER, Zool. Zentrbl. 1904, pp. 809-813. Review by PLATE, Arch. Rassen i, pp. 446-449.
748. RAWITZ, B. Die Unmöglichkeit der Vererbung geistiger Eigenschaften beim Menschen. Biol. Centrbl. xxiv, pp. 396-408.
749. \*—, August Weismann, zum 17. Januar 1904. Deutsch. med. Wochenschr. xxx, pp. 141, 142, portrait. [From Zool. Anz. Bibl. ix p. 286.]
750. RAYNOR, G. H. & DONCASTER, L. Experiments on heredity and sex determination. Rep. Brit. Ass. 1904, p. 594.
751. \*REDFIELD, C. L. Control of heredity. A study of the genesis of evolution and heredity. Chicago, 1903, 343 pp.  
 Review by C. B. D., Amer. Natural. xxxviii, pp. 228-230.
752. REDEKE, H. C. & BREEMEN, P. J. Plankton en Bodemdieren in de Noordzee verzameld van 1-6 Augustus 1901 met de "Nelly" YM. 9. Tijdschr. Nederland. Dierk. Ver. (2) viii, pp. 118-147.
753. REED, MARGARET A. The regeneration of the first leg of the Crayfish. Arch. Entwickmech. xviii, pp. 307-316, pls. xvii, xviii, 3 figg.

754. \*REESE, A. M. An introduction to vertebrate embryology based on the study of the frog and the chick. New York, 1904, xvii+291 pp., 84 figg.  
Review by H. W. R., Amer. Natural. xxxviii, pp. 673, 674.
755. REID, G. A. Heredity. Lancet 1904, ii, p. 738.  
In contradiction of BEARD, t. c.
756. REINHARDT, A. Die Hypochorda bei *Salamandra maculosa*. Morphol. Jahrb. xxxii, pp. 195-231, pls. v, vi.
757. REINKE, J. Der Neovitalismus und die Finalität in der Biologie. Biol. Centrbl. xxiv, pp. 577-601.
758. RENAUDET, G. L'imitation du Protoplasma. Mem. Soc. Ant. Alzate xix, pp. 347-350.
759. ——. Une Science nouvelle. La Plasmologie, état actuel, son rôle en Biologie générale, son avenir. Op. cit. xxi, pp. 89-97.
760. RETZIUS, G. Zur Kenntnis der Spermien der Evortebraten. Biol. Untersuch. xi, pp. 1-32, pls. i-xiii.
761. ——. Zur Kenntnis der Entwicklung der Körperformen des Menschen während der fötalen Lebensstufen. T. c. pp. 33-76, pls. xiv-xxvi.
762. RHUMBLER, L. Zellenmechanik und Zellenleben. Verh. Ges. deutsch. Naturf. lxxvi, i, pp. 88-103.
763. ——. Klaatschs und Schoetensacks Theorien über Abstammung und Urheimat des Menschengeschlechts. Arch. Rassen i, pp. 798-808.
764. \*———. Zellenmechanik und Zellenleben. Leipzig, 1904, 43 pp.  
Review, Nature lxxi, p. 199.
765. RIBBERT, H. Zur Regeneration der Leber und Niere. Arch. Entwicklmech. xviii, pp. 267-288, pl. xvi.
766. ——. Über Neubildung von Talgdrüsen. T. c. pp. 578-583, pl. xxxv.
767. RICHARD, J. Campagne scientifique du yacht "Princesse Alice" en 1903. Observations sur la Sardine, sur le Plankton, sur les Cétacés sur des filets nouveaux etc., etc. Op. cit. No. 11, 29 pp.
768. [RICHARD, J.] Campagne scientifique de la Princesse-Alice (1903). Liste des Stations. Bull. Mus. Monaco, No. 1, pp. 3-15, id. 1904. Op. cit. No. 19, 29 pp.
769. ——. Sur deux filets destinés à la recolte du Plankton. C.R. Ac. Sci. cxxxviii, pp. 1436, 1437.
770. RICHET, C. La génération spontanée. Rev. gen. Sci. xv, pp. 404-411.
771. RICHTERS, F. Vorläufiger Bericht über die antarktische Moosfauna. Verh. Deutsch. zool. Ges. 1904, pp. 236-239.  
Abstract by MEISENHEIMER, Zool. Zentrbl. 1904, p. 654.
772. RITTER, W. E. The power and methods of heredity. i. Univ. Calif. Chron. iii (1900), pp. 341-349. ii. T. c. pp. 387-401.
773. —— & DAVIS, B. M. Studies on the ecology, morphology, and speciology of the young of some Enteropneusta of Western North America. Univ. Calif. publ. Zool. i, pp. 171-210, pls. 17-19, 1 fig.
774. ROBERTSON, R. A. The property of livingness in matter, its inertia and other phases. P. Scott. Micr. Soc. iv, pp. 29-38.
775. RODRIGUEZ, J. J. Preocupaciones y errores que respects á algunos animales existen en Guatemala. An. Mus. Salvador i, pp. 458-472

776. ROHDE, E. Untersuchungen über den Bau der Zelle. III. Die Entstehung von Mitochondrien und Chondromiten aus eigenartigen intra- und extracellulären "Sphären" (Idiozomen). Zeitschr. wiss. Zool. lxxvi, pp. 53-93, pls. vi, vii.  
Abstract by GOLDSCHMIDT, Zool. Zentrbl. 1904, p. 542.
777. —. ....iv. Zum histologischen Wert der Zelle. Op. cit. lxxviii, pp. 1-148, pls. i-vii.
778. RÖMER, F. Zoologische Sammelreise nach dem Adriatischen Meere. Ber. Senckenberg. Ges. 1903, pp. 148\*-152\*.
779. — & SCHAUDINN, F. Fauna Arctica. III. Lief. 3. See CRUSTACEA, ZIMMER (250), ARACHNIDA, RICHTERS (173).
780. \*RÖTHIG, P. Handbuch der embryologischen Technik. Wiesbaden, 1904, 8vo, xii + 287 pp.  
Notice, Anat. Anz. xxv, p. 319.
781. ROUVIÈRE, H. Étude sur le développement du péricarde chez le Lapin. J. Anat. Physiol. xl, pp. 610-633, pls. xvii, xviii, 13 text-figg.
782. ROUX, W. Die Entwicklungsmechanik, ein neuer Zweig der biologischen Wissenschaft. Verh. Ges. deutsch. Naturf. lxxvi, i, pp. 23-39.
783. RUBASCHKIN, W. Studien über Neuroglia. Arch. mikr. Anat. lxiv, pp. 575-626, pls. xxxii-xxxv.
784. RÜDIN, E. [ORSCHANSKY, J.] Die Vererbung im gesunden und krankhaften Zustande und die Entstehung der Geschlechts beim Menschen. Stuttgart, Ferd. Enke, 1903, 347 S. Arch. Rassen i, pp. 609-618.  
Review of work recorded last year. [ORSCHANSKY, Zool. Rec. 1903, Gen. Sub. (555).]
785. RŮŽIČKA, VLADISLAV. Zur Frage der Färbbarkeit der lebenden Substanz. Zeitschr. allg. Physiol. iv, pp. 141-152, 1 pl.
786. SAINT-HILAIRE, K. Untersuchungen über den Stoffwechsel in der Zelle und in den Geweben. II. Theil. x. Ueber den Bau des Protoplasma in den Leucocyten. Trav. Soc. St. Petersb. xxxiv, Sect. Zool., pp. 21-154, pls. ii, iii.  
In Russian, with long abstract in German, pp. 141-153.
787. SAKURAL, T. Zur Entwicklungsgeschichte der Lungenarterien. Anat. Anz. xxv, pp. 321-326.
788. SAMPSON, LILIAN V. A contribution to the embryology of *Hylodes martinicensis*. Amer. J. Anat. iii, pp. 473-504, 2 pls., 17 text-figg.
789. SANGIORGI, D. Appunti zoologici sull' Isola di Cefalonia. Atti. Soc. Modena xxxvi, pp. 69-98.
790. SARGENT, P. E. The optic reflex apparatus of Vertebrates for short-circuit transmission of motor reflexes through Reissner's fibre; its morphology, ontogeny, phylogeny and function. Part I. The fish-like Vertebrates. Bull. Mus. Harvard xlv, pp. 127-258, xi pls.
791. SCHALLMAYER, W. Selectionstheorie, Hygiene und Entartungsfrage. Arch. Rassen i, pp. 53-77.  
Chiefly anthropological.
792. SCHAPER, A. Experimentelle Untersuchungen über den Einfluss der Radiumstrahlen und der Radiumemanation auf embryonale und regenerative Entwicklungsvorgänge. Anat. Anz. xxv, pp. 298-314, 326-337.

793. SCHAUDINN, F. Generations- und Wirtswechsel bei *Trypanosoma* und *Spirochaete*. (Vorläufige Mitteilung.) Arb. kaiserl. Gesundheitsamte xx, pp. 387-439.  
Abstract, DUBOSCQ (258).  
SCHIEDT, ALICE E. [See MORGAN & SCHIEDT (656).]
794. SCHIEDT, R. C. Some phenomena of animal pigmentation. Amer. J. Physiol. x, pp. 365-372, 8 figg.
795. \*SCHLOSSER, M. Die mumifizierte Tierwelt des alten Ägyptens. 4 text-figg. Summary. Arch. Anthrop. xxx, pp. 202-207.
796. SCHMIDT, V. Studien über Ovogenese. I. Die Wachstumsperiode der Eier von *Proteus anguineus*. Anat. Hefte. Arb. xxvii, pp. 1-69, pls. 1-4.
797. SCHMINCKE, A. Über Ruminantierspermien und ihre Bewegung. Arch. mikr. Anat. lxiii, pp. 611-627, pls. xxviii, xxix.
798. SCHNEE, P. Die Landfauna der Marshall-Inseln nebst einigen Bemerkungen zur Fauna der Insel Nauru. Zool. Jahrb. Syst. xx, pp. 387-412.  
Abstract by MEISENHEIMER, Zool. Zentrbl. 1904, p. 652.
799. \*——. Darwinistische Studien auf einer Korallen-Insel. Odenkirch, 1903, 46 pp.  
Review by PLATE, Arch. Rassen i, p. 751.
800. SCHNEIDER, K. C. In rebus histologicis. Zool. Anz. xxviii, pp. 147-153.
801. ———. Histologische Mitteilungen. I. Die Urogenitalzellen der Ctenophoren. Zeitschr. wiss. Zool. lxxvi, pp. 388-399, pl. xxiv.
802. \*——. Die Entstehung der Gliederung des Tierkörpers. Naturw. Wochenschr. xx, pp. 545-551, 561-566. [From Zool. Anz. Bibl. x, p. 223.]
803. \*——. Über den heutigen Stand der Descendenztheorie. Vienna, 22 pp.  
Review by PLATE, Arch. Rassen i, p. 442.
804. \*SCHOENIGHEN, W. Zoologische Schemabilder. Eine Vorlagensammlung für Wandtafelzeichnungen und zugleich ein Leitfaden der Zoologie in Form schematischer Abbildungen mit kurzem erläuterndem Texte. Heft I *Protozoa, Coelenterata, Echinodermata*. Stuttgart, 1904, iv + 21 pp., 21 figg.  
Review Zool. Zentrbl. 1905, p. 66.
805. SOHOETENSACK, O. Beiträge zur Kenntnis der neolithischen Fauna Mitteleuropas, mit besonderer Berücksichtigung der Funde am Mittelrhein. Verh. Ver. Heidelberg viii, pp. 1-118.
806. SCHREINER, A. & SCHREINER, K. E. Die Reifungsteilungen bei den Wirbeltieren. Ein Beitrag zur Frage nach der Chromatinreduktion. Anat. Anz. xxiv, pp. 561-578.  
Abstract by GOLDSCHMIDT, Zool. Zentrbl. 1904, p. 391.
807. SCHREINER, K. E. Über das Generationsorgan von *Myxine glutinosa* (L.). Biol. Centrbl. xxiv, pp. 91-104, 121-129, 162-173.
808. SCHRÖDER, —. Eine Sammlung von Referaten neuerer Arbeiten über die geschlechtsbestimmenden Ursachen, mit einzelnen kritischen Anmerkungen. Allg. Zeitschr. Ent. pp. 110-126.



809. [SCHRÜDER, —.] Eine Sammlung von Referaten über neuere biometrische Arbeiten, mit einzelnen Anmerkungen. T. c. pp. 228-246.
810. SCHUBERG, A. Über Zellverbindungen. Vorläufiger Bericht. Verh. Ver. Heidelb. vii, pp. 395-404.
811. SCHÜCKING, A. Zur Physiologie der Befruchtung. Centrbl. Physiol. xvii, pp. 625-628.
812. \*SCHÜLE, HEINR. Über die Frage des Heiratens von früher Geisteskranken. Leipzig, S. Hirzel, 1904, 26 pp.  
Review by E. RÜDIN, Arch. Rassen i, pp. 769, 770.
813. SCHULTZ, E. Über Reduktionen. I. Über Hungererscheinungen bei *Planaria lactea*. Arch. Entwickmeh. xviii, pp. 555-577, pl. xxxiv.
814. —. Über Regenerationsweisen. Biol. Centrbl. xxiv, pp. 310-317.
815. SCHULTZE, O. Nachtrag zu meinem auf der Anatomenversammlung in Jena gehaltenen Vortrag über die Entwicklung des peripheren Nervensystems. Anat. Anz. xxv, pp. 131-140.
816. SCHULZ, A. Die Wandlungen des Klimas, der Flora, der Fauna und der Bevölkerung der Alpen und ihrer Umgebung vom Beginne der letzten Eiszeit bis zur jüngeren Steinzeit. Zeitschr. Naturw. lxxvii, pp. 41-70.
817. SCHULZE, E. Das Tierreich. Lief. 20. [VERMES, BÜRGER, O. (61).]
818. SCHUSTER, W. Verstandes- und Seelenleben bei Tier und Mensch. Jahrb. Nassau. Ver. lviii, pp. 45-93.
819. SCHWALBE, E. Gesamtregister zu den Jahresberichten der Anatomie und Entwicklungsgeschichte herausgegeben von G. Schwalbe. Jahrgang 1892-1901, I Teil. Namenregister. Jena, 1904, 8vo, viii + 610 pp.
820. SCHWALBE, G. & others. Jahresberichte über die Fortschritte der Anatomie und Entwicklungsgeschichte. (n. f.) ix. Literatur 1903. I. Abteilung allgemeine Anatomie, 374 pp. II. Allgemeine Entwicklungsgeschichte, 330 pp. III. Spezielle Anatomie und Entwicklungsgeschichte der Menschen und der Wirbeltiere, xviii + 1180 pp. Jena, 8vo, 1904, 1905.
821. \*——. Die Vorgeschichte des Menschen. Mit einer Figurentafel. Braunschweig, 1904, 52 pp.  
Review by CURT MICHAELIS, Arch. Rassen i, pp. 302, 303.
822. SCHWANGART, F. Studien zur Entodermfrage bei den *Lepidopteren*. Zeitschr. wiss. Zool. lxxvi, pp. 167-212, pls. xii, xiii.
823. SCLATER, P. L. The international catalogue of scientific literature. [N. Zoology.] Ibis 1904, pp. 645, 650.
824. SCOTT, W. B. Reports of the Princeton University expedition to Patagonia ii, pt. i. [See AVES, SCOTT (570).]
825. SCOTT, W. E. D. The inheritance of song in Passerine birds. Science xix, p. 154.
826. —. The inheritance of song in Passerine birds..... T. c. pp. 957-959, and xx, p. 282.
827. \*SCRIBNER, C. H. Where did life begin? New York, 1903, 12mo, 75 pp.  
Review, Amer. Natural. xxxviii, p. 397.  
SELIGMANN, C. G. [See SHATTOCK & SELIGMANN (834).]

828. \*SEMON, R. Die Mneme als erhaltendes Prinzip im Wechsel des organischen Geschehens. Leipzig, 1904, 8vo, xiv+353 pp. [From Zool Anz. Bibl. xi, p. 64.]
829. SERGI, G. Die Variationen des menschlichen Schädels und die Klassifikation der Kassen. Arch. Anthrop. xxxi, pp. 111-121, pls. viii-x.
830. SEWERTZOFF, A. N. Die Entwicklung der pentadakylen Extremität der Wirbeltiere. Anat. Anz. xxv, pp. 472-494.
831. SHARP, D. & others. The Zoological Record, xl, 1903, London, 8vo, 1904.
832. ——. Fauna Hawaiiensis vol. iii, pt. 4. See ARACHNIDA, SIMON; MYRIOPODA, SILVESTRI; INSECTA, CARPENTER (243), KELLOGG & CHAPMAN (784), MEYRICK (947), SILVESTRI (1296).
833. ——. The place of Herbert Spencer in biology. Zoologist 1904, pp. 1-6.
834. SHATTOCK, S. G. & SELIGMANN, C. G. Observations upon the acquirement of secondary sexual characters, indicating the formation of an internal secretion by the testicle. P. R. Soc. London lxxiii, pp. 49-58.
835. SHIPLEY, A. E. The Orders of Insects. Zool. Anz. xxvii, pp. 259-262.  
———. [See also MARR & SHIPLEY (594).]
836. SIMROTH, H. Über Fluidalstruktur des Protoplasmas. Verh. Deutsch. zool. Ges. 1904, pp. 157-163.
837. ——. Kann Unzulänglichkeit des Spermas Hemmung oder völlige Unterdrückung der Extremitäten bedingen? Ein Wort zur Vererbungsfrage. Zool. Anz. xxvii, pp. 204-206.
838. ——. Neuere Arbeiten über die Verbreitung der Gastropoden. Zusammenfassende Übersicht. Zool. Zentrbl. 1904, pp. 605-650.
839. SKORIKOW, A. S. Beitrag zur Planktonfauna arktischer Seen. Zool. Anz. xxiv, pp. 209-212.
840. ——. Über das Sommerplankton der Newa und aus einem Teile des Ladoga-Sees. Biol. Centrbl. xxiv, pp. 353-366 and 385-391.
841. SMALLWOOD, W. M. The maturation, fertilization and early cleavage of *Haminea solitaria* (Say). Bull. Mus. Harvard xlv, pp. 259-318, xiii pls.
842. ——. Natural history of *Haminea solitaria* Say. [Embryology.] Amer. Natural. xxxviii, pp. 207-225.  
SOLGER, B. [See MORGAN (654).]
843. SOLLAS, W. J. and others. The atoll of Funafuti. Børings into a coral reef and the results. Being the report of the Coral Reef Committee of the Royal Society. London, 1904, 4to, vi+428 pp., pls. A-F and i-xix.
844. SOLLMANN, T. Structural changes of ova in anisotonic solutions and Saponin. Amer. J. Physiol. xii, pp. 99-115, 46 figg.
845. SOMMER, A. & WETZEL, G. Die Entwicklung des Ovarialeies und des Embryos, chemisch untersucht mit Berücksichtigung der gleichzeitigen morphologischen Veränderungen. I. Die chemischen Veränderungen des Ovarialeies der Ringelnatter bis zur Reife. Arch. ges. Physiol. 1904, pp. 389-409, 11 figg.

846. SOWINSKY, W. Introduction à l'étude de la faune du bassin marin Ponto-Aralo-Kaspian sous le point de vue d'une province zoogéographique indépendante. Zapiski Kiev. Obshch. xviii, pp. i-xiii + 1-487, + 1-216 + iv.  
Entirely in Russian.
847. SPAULDING, E. G. The special physics of segmentation as shown by the synthesis, from the stand-point of universally valid dynamic principles, of all the artificial parthenogenetic methods. Biol. Bull. vi, pp. 97-122.
848. —. The rhythm of immunity and susceptibility of fertilized sea-urchin eggs to ether to HCl, and to some salts. Biol. Bull. vi, pp. 224-240.
849. SPEMANN, H. Ueber experimentele erzeugte Doppelbildungen mit cycloptischen Defect. Zool. Jahrb. Suppl. vii, pp. 429-470, pls. xxiii, xxiv.
850. SPENCER, HERBERT. Autobiography. 2 vols. London, 1904, xii + 556 pp. and ix + 542 pp.  
Review, Nature lxx, p. 265.
851. SPENGLER, J. W. Die Orthographie in zoologischen Zeitschriften. Zool. Anz. xxvii, pp. 176-183.
852. —. Ueber Schwimmblasen, Lungen und Kiementaschen der Wirbelthiere. Zool. Jahrb. Suppl. vii, pp. 727-749.
853. SPIESS, C. Modifications subies par l'appareil digestif sous l'influence du régime alimentaire. C.R. Ac. Sci. cxxxviii, pp. 1123, 1124.
854. STAPLES-BROWN, R. Experiments on heredity in web-footed pigeon. Rep. Brit. Ass. 1904, p. 595.
855. STEFANOWSKA, MICHELINE. La croissance en poids des animaux et des vegetaux. Arch. Sci. Nat. xviii, pp. 474-476.
856. ŠTĚPÁNEK, ING. O. Ueber die ärobé und anärobe Atmung der Eier. Centrbl. Physiol. xviii, pp. 188-205.
857. STEPHAN, P. Spermies oligopyrènes et apyrènes chez les *Proso-branchés*. C.R. Ass. Franc. xxxii, 2, pp. 780-783.
858. STERZI, G. Die Blutgefässe des Rückenmarks. Untersuchungen über ihre vergleichende Anatomie und Entwicklungsgeschichte. Anat. Hefte Arb. xxiv, pp. 1-364, pls. i-iv.
859. STEVENS, N. M. Further studies on the ovogenesis of *Sagitta*. Zool. Jahrb. Anat. xxi, pp. 243-252, pl. xvi.
860. —. On the germ cells and the embryology of *Planaria simplissima*. P. Ac. Philad. lvi, pp. 208-218.  
— [See also BOVERI & STEVENS (130) & MORGAN & STEVENS (657).]
861. STEVENSON, E. C. & ENGBERG, C. C. Variation in the hooks of the dog-tapeworms *Tenia serrata* and *Tenia serialis*. Stud. Univ. Nebraska iv, pp. 191-230.  
Also published Stud. Lab. Nebraska, No. 59, pp. 409-448.
862. STIEDA, L. Bericht über die anatomische, histologische und embryologische Literatur Russlands, 1902-1904. Anat. Hefte. Ergebn. pp. 502-591.  
Account of 130 works; list pp. 503-512.  
STRANGEWAYS, T. S. P. [See NUTTALL (678).]

863. STRATZ, C. H. Das Verhältnis zwischen Gesichts- und Gehirnschädel beim Menschen und Affen. *Arch. Anthrop.* xxxi, pp. 85-93, 12 text-figg.
- STRONG, R. M. [See LOEB & STRONG (548).]
864. STRUNZ, F. Naturbetrachtung und Naturerkenntniss im Altertum. Eine Entwicklungsgeschichte der antiken Naturwissenschaften. Hamburg, 1904, vii+168 pp.
865. STSCHELKANOVZEW, J. P. Über die Eireifung bei viviparen *Aphiden*. *Biol. Centrbl.* xxiv, pp. 104-112.
866. SUND, O. Die Entwicklung des Geruchsorganes bei *Spinax niger*. *Biol. Centrbl.* xxiv, pp. 651-659.
867. SWAEN, A. & BRACHET, A. Étude sur la formation des feuillettes et des organes dans le bourgeon terminal et dans la queue des embryons des poissons téléostéens. *Arch. Biol.* xx, pp. 461-610, pls. xiii-xvi.  
Abstract by MEISENHEIMER, *Zool. Zentrbl.* 1904, pp. 701-704.
868. TANGL, F. & FARKAS, K. Beiträge zur Energetik der Ontogenese. Vierte Mitteilung. Über den Stoff- und Energieumsatz im bebrüteten Forellenei. *Arch. ges. Physiol.* civ, pp. 624-638.
869. THAUZIÈS, A. L'orientation du pigeon-voyageur. Données expérimentales. *Rev. Scient.* (5) ii, pp. 417-420, 453-457.
870. THEOBALD, F. V. Second report on economic zoology. *British Museum (Natural history)*. London, 1904, iv+197 pp.
871. THESING, C. Beiträge zur Spermatogenese der Cephalopoden. *Zeitschr. wiss. Zool.* lxxvi, pp. 94-136, pls. viii, ix.  
Abstract by GOLDSCHMIDT, *Zool. Zentrbl.* 1904, p. 601.
872. THOMSON, J. Photo-Micrography and Photo-Micrometry. *P. Scott. Micr. Soc.* iv, pp. 44-46, pls. iii-vi.
873. THOMSON, J. A. Theories of the Determination of Sex. *Lancet* 1904, i, pp. 197, 198.  
— & M. R. [See WEISMANN (928).]
874. THOULET, J. Les lois physiques de l'Océan et leurs relations avec les êtres qui l'habitent. *Bull. Mus. Monaco*, No. 9, 16 pp.
875. —. L'Océan. Ses lois et ses problèmes. Paris, 8vo, 400 pp., 12 text-figg.  
Review by H. PIÉRON, *Rev. Scient.* (5) ii, pp. 399, 400.
876. —. Les lois physiques de l'Océan et leurs relations avec les êtres qui l'habitent. *Rev. Scient.* (5) i, pp. 449-455.
877. —. L'Océanographie dans le voisinage immédiat du rivage. *Rev. gen. Sci.* xv, pp. 542-547.
878. TODD, ANNE H. Results of injuries to the blastopore region of the Frog's Embryo. *Arch. Entwicklmech.* xviii, pp. 489-506, pls. xxix, xxx, 20 figg.
879. TOMMASINA, T. Constatazione d'une radioattività propre aux êtres vivants. *C.R. Ac. Sci.* cxxxix, p. 730.
880. TÖPFLY, RITTER v. R. Anatomische Werke des Rhuphos und Galenos. Erste deutsche Übersetzung. *Anat. Hefte. Arb.* xxv, pp. 343-472.  
TORELLE, ELLEN. [See MORGAN & TORELLE (658).]

881. TORREY, H. B. Biological studies on *Corymorpha*. I. *C. palma* and environment. J. exp. Zool. i, pp. 395-422.
882. —. On the habits and reactions of *Sagartia davisi*. Biol. Bull. vi, pp. 203-215.
883. — & MERY, JANET R. Regeneration and non-sexual reproduction in *Sagartia davisi*. Univ. Calif. publ. Zool. i, pp. 211-226.
884. TOWNSEND, ANNE B. The histology of the light organs of *Photinus marginellus*. Amer. Natural. 127-151. [Coleoptera.]
885. TRETJAKOFF, D. Die Bildung der Richtungskörperchen in den Eiern von *Ascaris megalcephala*. Arch. mikr. Anat. lxxv, pp. 358-382, pl. xxi.
886. —. Die Spermatogenese bei *Ascaris megalcephala*. T. c. pp. 383-438, pls. xxii-xxiv.
887. \*TSCHERMAK, A. Die neueren Anschauungen über die Entstehung der Arten. München. med. Wochenschr. li, pp. 364, 365. [From Zool. Anz. Bibl. x, p. 45.]
888. TSCHERMAK, E. Die Lehre von den formbildenden Faktoren (Variation, Anpassung, Selektion, Mutation, Kreuzung) und ihre Bedeutung für die rationelle Pflanzenzüchtung.  
Summary by L. PLATE, Arch. Rassen i, p. 909.
889. TUR, J. Contributions à la théorie des polygénèses. C.R. Soc. Biol. lvi, pp. 108-110.
890. —. Sur les malformations embryonnaires obtenues par l'action du radium sur les œufs de la poule. Op. cit. lvii, pp. 236-238.
891. —. [Zur Casuistik und Theorie vielkeimiger Monstra.] Arb. Lab. Warsaw xxix, 18 pp.  
In Russian. Abstract by SCHULTZ, Zool. Zentrbl. 1904, p. 6.
892. UEXKÜLL, J. V. Die ersten Ursachen des Rhythmus in der Tierreihe. Ergebn. Physiol. Biophys. iii, pp. 1-11, 4 text-figg.
893. UHLENHUTH, —. Ein neuer biologischer Beweis für die Blutsverwandtschaft zwischen Menschen- und Affengeschlecht. Arch. Rassen i, pp. 682-688.
894. VALLENTIN, R. Notes on the Falkland islands. Mem. Manchester Soc. xlviii, No. 23, 48 pp., 3 pls.
895. VAN DER STRICHT, O. La structure de l'œuf des Mammifères. 1<sup>re</sup> Partie. L'oocyte au stade de l'accroissement. Arch. Biol. xxi, pp. 1-101, pls. i-iii.  
Abstract by FICK, Zool. Zentrbl. 1905, p. 63.
896. \*VANHÖFFEN, E. Die Tierwelt des Südpolargebiets. Zeitschr. Ges. Erdkunde 1904, pp. 362-370.  
Abstract by MEISENHEIMER, Zool. Zentrbl. 1904, p. 653.
897. VARIGNY, H. DE. L'origine marine de la vie animale. Rev. Scient. (5) ii, pp. 262-268.
898. VASCHIDE, N. & ROUSSEAU, P. L'association des idées chez les Singes. (D'après les expériences de M. Kinnaman.) Rev. Scient. (5) i, pp. 583-589, 617-620, figg. 33-35, and 2 tables.
899. —. Experimental studies on the mental life of animals. Rep. Smithson. Inst. 1903, pp. 545-566.  
Translation of paper recorded last year.

900. VAYSSIÈRE, A. Notice biographique sur le Professeur Alexandre Onufr. Kowalewsky (1840-1901). *Ann. Mus. Marseille* viii, pp. 7-10, portrait.
901. VERNON, H. M. The universal presence of erepsin in animal tissues. *J. Physiol.* xxxii, pp. 33-50.
902. VIGUIER, C. Développements anormaux indépendants du milieu. *C.R. Ac. Sci.* cxxxviii, pp. 1718-1720.
903. —. Réglage de la température dans les appareils de laboratoire pour la pisciculture et l'élevage des animaux marins. *Arch. zool. exp. Notes* 1904, pp. clvii-clxvi.
904. VIRÉ, A. Sur quelques expériences effectuées au laboratoire des Catacombes du Muséum d'histoire naturelle. *C.R. Ac. Sci.* cxxxviii, pp. 706-708.
905. —. La faune souterraine du puits du Padirac (Lot). *T. c.* pp. 826-828.
906. —. La biospéléologie. *Op. cit.* cxxxix, pp. 992-995.
907. \*VOELTZKOW, A. Bericht über eine Reise nach Ostafrika zur Untersuchung der Bildung und des Aufbaues der Riffe und Inseln des westlichen indischen Ozeans. III. Mafia und Zanzibar. IV. Die Comoren. *Zeitschr. Ges. Erdkunde* 1904, pp. 274-301.  
Abstract by MAY, *Zool. Zentrbl.* 1904, pp. 435-437.
908. \*——. Bericht..... v. Europa-Insel. *T. c.* pp. 426-451.  
Abstract by MAY, *Zool. Zentrbl.* 1904, pp. 715, 716.
909. VOINOV, D. N. Sur une disposition spéciale de la chromatine dans la spermatogénèse du *Gryllus campestris*, reproduisant des structures observées seulement dans l'ovogénèse. *Arch. zool. exp. Notes* 1904, pp. lxiii-lxvi.
910. VÖLKER, O. Ovývoji Allantois u sysla. *Rozpr. Ceske Ak. Praze* ii, xiii, No. 13, 11 pp., 1 pl.
911. VOLKOV, TH. Les variations squelettiques du pied chez les Primates et dans les races humaines. *Bull. Soc. Anthropol. Paris* 1904, pp. 1-50, 201-331.
912. WALDEYER, —. Festrede. *SB. Ak. Berlin* 1904, pp. 209-226.
913. WALKER, A. O. Atmospheric moisture as a factor in distribution. *S.-East. Natural.* 1903, pp. 42-47. [*Lepidoptera.*]
914. WALLACE, A. R. Man's place in the Universe, a study of the results of scientific research in relation to the Unity or Plurality of worlds. Fourth ed. with new chapter, an additional argument dependent on the theory of evolution. London, 1904, 8vo, vi+341 pp.
915. WALLACE, LOUISE B. The function of the accessory chromosome in the spider. *Amer. Natural.* xxxviii, pp. 506, 507.
916. \*WALLER, A. D. Eight lectures on the signs of life from their electrical aspect. London, 1903, 8vo, 175 pp., 68 figg.  
Review, *Rev. Scient.* (5) i, pp. 564, 565.
917. WALTHER, J. Die Fauna der Solnhofener Plattenkalke bionomisch betrachtet. *Festschr. Haeckel* [Denk. Ges. Jena xi], pp. 133-214.
918. WARD, H. B. A biological reconnaissance of some elevated lakes in the Sierras and the Rockies. *Stud. Lab. Nebraska*, No. 60, pp. 127-154, pls. xix-xxxi.  
Abstract by ZSCHOKKE, *Zool. Zentrbl.* 1904, pp. 68-70.

919. WASMANN, E. Die moderner Biologie und die Entwicklungstheorie. Zweite vermehrte Auflage. Freiburg im Breisgau, 1904, 8vo, xii + 323 pp., illustrations and 4 plates.
920. ——. Zur Kontroverse über die psychischen Fähigkeiten der Tiere, insbesondere der Ameisen. Natur u. Schule iii, pp. 20–26, 80–89, 133–142.
921. WASSILIEFF, A. Zur Spermatogenese bei *Blatta germanica*. Anat. Anz. xxv, pp. 257–260.
922. WATERHOUSE, C. O. Supplementary list of generic names, London, 1904, 8 pp.
923. WEBB, S. & McDAKIN & GRAY, G. The diminution and disappearance of the South-Eastern Fauna and Flora within the memory of present observers. S.-East. Naturalist 1903, pp. 48–60.
- WEBB, W. M. [See HILL & WEBB (409).]
- WEBER, A. [See FERRET & WEBER (284–287).]
924. WEBER, M. Siboga Expeditie. Livr. xiv–xviii. [See MOLLUSCA, TESCH (610); TUNICATA, SLUITER (28); ECHINODERMA, KOEHLER (143) & DE MELJERE (57).]
925. ——. Die Säugetiere. Einführung in die Anatomy und Systematik der recenten und fossilen Mammalia. Jena, 1904, 8vo, xii + 866 pp., 567 illustrations.
926. WEIDENREICH, F. Die roten Blutkörperchen. Anat. Hefte. Ergebn. xiii, pp. 1–94.
- Summary of results of 185 works. Bibliographic list, pp. 1–11.
927. WEISMANN, A. Vorträge etc. [Cf. Zool. Rec. 1902, Gen. Sub. (866).] 2nd ed. Jena, 1904, Vol. i, 340 pp., Vol. ii, 344 pp., 3 pls.
- Review by L. PLATE, Arch. Rassen i, pp. 906, 907.
928. ——. The evolution theory. Translated with the author's co-operation by J. ARTHUR THOMSON & MARGARET R. THOMSON, London, 1904, 2 Vols., 8vo, 3 pls., Vol. i, xvi + 416 pp., Vol. ii, 405 pp.
929. [WEISMANN, A. Festschrift zum siebenzigsten Geburtstage des Herrn Geheimen Raths Prof. Dr August Weismann in Freiburg in Baden. This is Zool. Jahrb. Suppl. vii.]
930. WELDON, W. F. R. Albinism in Sicily and Mendel's laws. Biometrika iii, pp. 107–109.
931. ——. Note on a race of *Clausilia itala* (von Martens). T. c. pp. 299–307.
932. WELTNER, W. [and others]. Brecht über die wissenschaftlichen Leistungen in der Naturgeschichte etc. Berlin, 1904. [= Arch. Naturges. ii, Band lxii, lxiii, lxvii–lxix.]
- The following parts have appeared in 1904 :
- lxii, 2, Heft. 1, HELLMAYER: *Vögel*, 1895: WERNER, *Herpetologie*, 1894: LEDERMANN, *Saugethiere*, 1894: KOBELT, *Mollusca*, 1895.
- lxiii, 2, Heft. 3, VON LINSTOW, HELMINTHEN, 1900, 1901: MATZDORFF, *Bryozoa*, 1899–1902: MATZDORFF, *Tunicata*, 1899–1902: MEISSNER, *Brachiopoda*, 1895: COLLIN, *Rotatoria* and *Gastrotricha*, 1896: BERGEN, *Echinoderma*, 1892: CARLGRÉN, *Anthozoa*, 1894: WELTNER, *Spongiae*, 1902: GRÜNBERG, LUCAS & THIELE, *Carcinology*, 1895–97.
- lxvii, 2, 2, Lief. 1. LUCAS, *Hymenoptera* and *Lepidoptera*, 1900.
- lxix, 2, Lief. 1. SEIDLITZ, *Allgemeine Entomologie* and *Coleoptera*, 1902.

933. WENDELSTADT, —. Experimentelle Studie über Regenerationsvorgänge am Knochen und Knorpel. Arch. mikr. Anat. lxiii, pp. 766-795, pls. xxxviii-xliii.
934. WESENBERG-LUND, C. Studier over de Danske Søers Plankton. Kjøbenhavn, 1904, 4to.  
These Memoirs are noticed in the special Records. They are apparently intended to be part of a series.  
Review by ZACHARIAS, Biol. Centrbl. xxiv, pp. 636, 637.
935. WETZEL, G. Zentrifugierversuche an unbefruchteten Eiern von *Rana fusca*. Arch. mikr. Anat. lxiii, pp. 636-642.  
— . [See also SOMMER & WETZEL (845).]
936. WHEELER, W. M. Dr Castle and the Dzierzon theory. Science xix, pp. 587-591.  
Relates to CASTLE (173). Includes a criticism of Petrunkevitch as to polar body becoming reproductive organ in bee.
937. WHIPPLE, J. L. [Review of] the direction of hair in animals and man by WALTER KIDD. Science xx, pp. 401-407.
938. WHITEAVES, J. S. Bibliography of Canadian Zoology for 1902, exclusive of entomology. Tr. R. Soc. Canada ix, Sect. 4, pp. 163-167.
939. WHITEHEAD, R. H. The embryonic development of the interstitial cells of Leydig. Amer. J. Anat. iii, pp. 167-182, 10 figg.
940. WHITFIELD, R. P. Notice of a remarkable case of reproduction of lost parts shown on a fossil Crinoid. Bull. Amer. Mus. xx, pp. 471, 472, pls. xii, xiii.
941. WHITMAN, C. O. Hybrids from wild species of pigeons, crossed inter se and with domestic races. Biol. Bull. vi, pp. 315, 316.
942. WIEDERSHEIM, R. Ueber das Vorkommen eines Kehlkopfes bei Ganoiden und Dipnoern sowie über die Phylogenie der Lunge. Zool. Jahrb. Suppl. vii, pp. 1-66, pls. i-vi.
943. WILDER, H. H. Duplicate twins and double Monsters. Amer. J. Anat. iii, pp. 387-472, 2 pls., 11 text-figg. and extensive bibliography.
944. — . The early development of *Desmognathus fusca*. Amer. Natural. xxxviii, pp. 117-125.
945. WILLCOCK, E. G. The action of the rays from Radium upon some simple forms of animal life. J. Physiol. xxx, pp. 449-454.
946. WILLEY, A. Leaf-mimicry [by a fish]. Spolia Zeylan. ii, pp. 51-55, cut.
947. WILSON, E. B. Experimental studies on germinal localization. I. The germ-region in the egg of *Dentalium*. J. exp. Zool. i, pp. 1-72.
948. — . Cytasters and Centrosomes in artificial parthenogenesis. Zool. Anz. xxviii, pp. 8-12.  
Relates to the views of PETRUNKEWITSCH.
949. — . Mosaic development in the Annelid egg. Science xx, pp. 748-750.
950. WINDLE, B. C. A. Zwergwuchs. Anat. Hefte. Ergebn. xiii, pp. 488-501.  
Account of recent work.



951. WINTREBERT, P. Sur la valeur comparée des tissus de la queue au point de vue de la régénération chez les larves d'Anoures et sur l'absence possible de cette régénération. C.R. Ac. Sci. cxxxix, pp. 432-434.
952. WITTEN, E. P. Deep-sea life. [Abstract of lecture.] Tr. Soc. Northumb. (n. s.) i, pp. 61-64.
953. WOLTERECK, R. Wurm "Kopf," Wurmrumph und Trochophora. Bemerkung zur Entwicklung und Ableitung der *Anneliden*. Zool. Anz. xxviii, pp. 273-322.
954. ——. Beiträge zur praktischen Analyse der *Polygordius*-Entwicklung nach dem "Nordsee-" und dem "Mittelmeertypus." I. Der für beide Typen gleichverlaufende Entwicklungsabschnitt; vom Ei bis zum jüngsten Trochophora-Stadium. Arch. Entwicklmech. xviii, pp. 377-403, pls. xxii, xxiii, 11 figg. und Tabelle.
955. WOODWARD, H. A retrospect of Palæontology in the last forty years. Geol. Mag. (v) ii, pp. 49-56, 97-106, 145-156.
956. ——. The President's address: the evolution of Vertebrate animals in time. J. R. Micr. Soc. 1904, pp. 137-164.
957. YATSU, N. Experiments in the development of egg-fragments in *Cerebratulus*. Biol. Bull. vi, pp. 123-136.
958. YERKES, R. M. The reaction-time of *Gonionemus murbacli* to electric and photic stimuli. Biol. Bull. vi, pp. 84-95. [Also abstract, t. c. pp. 324, 325.]  
— [See also JENNINGS (446).]
959. YOUNG, A. H. & ROBINSON, A. Observations on the development and morphology of the Tail. Brit. Med. J. 1904, ii, pp. 1384-1391, 16 figg.
960. YOUNG, L. C. H. Note on sexual dimorphism. J. Bombay Soc. xvi, pp. 37-39, and 42.
961. ZABOROWSKI, —. Le cheval domestique en Europe et les Protoaryens. C.R. Ass. franc. xxxii, 2, pp. 845-862.
962. ZACHARIAS, O. Über vertikale Wanderungen des Zooplanktons in den baltischen Seen. Biol. Centrbl. xxiv, pp. 638, 639.  
Abstract, Zool. Zentrbl. 1905, p. 70.
963. ——. Über die systematische Durchforschung der Binnengewässer und ihrer Beziehung zu den Aufgaben der allgemeinen Wissenschaft vom Leben. T. c. pp. 660-672.
964. ——. Über die Komposition des Planktons in thüringischen sächsischen und schlesischen Teichgewässern. Forschber. Plon xi, pp. 181-251.  
Abstract by ZSCHOKKE, Zool. Zentrbl. 1904, p. 175.
965. ZANDER, R. Laloy. L'évolution de la vie. Biol. Centrbl. xxiv, pp. 349-352.  
Account of a work that appeared in 1902. Cf. Zool. Rec. 1902, Gen. Sub. LALOY (462).  
ZEDERBAUER, E. [See BREHM & ZEDERBAUER (142).]
966. ZELENY, C. Experiments on the localization of developmental factors in the Nemertine egg. J. exp. Zool. i, pp. 293-329.
967. ——. Studies in compensatory regulation. [Abstract.] Science xix, p. 215.

968. \*ZELL, TH. Ist das Tier unvernünftig? Neue Einblicke in die Tierseele. Stuttgart, 1904, 198 pp.  
Abstract by VON BUTTEL-REEPEN, Zool. Zentrbl. 1904, p. 673.
969. ZIEGLER, H. E. Die ersten Entwicklungsvorgänge des Echinodermeies, insbesondere die Vorgänge am Zellkörper. Festchr. Haeckel [Denk. Ges. Jena xi], pp. 539-569, pl. xvi.
970. ——. Der Begriff des Instinctes einst und jetzt. Zool. Jahrb. Suppl. vii, pp. 700-726.  
Summary by L. PLATE, Arch. Rassen i, pp. 449, 450.
971. ——. Über die Orthographie in der Zoologie. Zool. Anz. xxvii, pp. 183, 184.
972. ——. Das zoologische System im Unterricht. Verh. Deutsch. zool. Ges. 1904, pp. 163-180.  
[ZITTEL, K. A. VON. Obituary. See OSBORN (685).]
973. ZYKOFF, W. Über das Plankton des Flusses Seim. Zool. Anz. xxvii, pp. 214, 215.
974. ——. Das Plankton des Seliger Sees. T. c. pp. 388-394.

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Text-book of Zoology, COLTON (198).  
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Text-book of Morphology, Embryology and reproduction Insects, HEN-NEGUY (389).  
A Descriptive zoology, BIZZARRINI (82).  
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Account of internat. Zool. Congr. 1904, CAULLERY & MESNIL (176).  
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 Ceylon, marine biology, HERDMAN & others (396).  
 Indo-China, Fauna, PAVIE (700).  
 Philippines, note on a general work, by ELERA, DYAR, pp. 57, 58, *J. N. York Ent. Soc.* xii.  
 Fauna Hawaiiensis, SHARP (832).  
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## 3. MORPHOLOGY.

a. **General:**—

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- Place of Morphology in Zoology, MAGGI (581).  
 Record of anatomy and development, Vertebrate, SCHWALBE (820).  
 Anatomical views of RHUFPHOS & GALENOS, von TÖPLY (880).  
 Recent Russian literature, anatomy, STIEDA (862).  
 Animal size and form, KEMNA (466).  
 Morphology and other sciences, DAVENPORT (230).  
 Text-book Comparative Anatomy, HALLER (366).  
 Text-book of dissection, JAMMES (437).  
 Anatomy of frog, GAUPP (313).  
 Anthropology, morphology, Vertebrates, DUCKWORTH (265).  
 Anatomical nomenclature, BARDLEBEN (41).  
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 Metamerisation and the cephalisation of *Annelida*, MALAQUIN (582).  
 Germ-layers in regeneration, MORGAN (649).  
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 Articulation of jaw, comparative anatomy, KJELBERG (473).  
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 Bones of foot, Primates and Man, VOLKOV (911).  
 Morphology and classification of *Arthropoda*, metamerism, etc., LANKESTER (502).  
 Morphology of head in *Insecta*, HOLMGREN (416).  
 Morphology of central ganglion, Tracheata, HALLER (365).  
 Digestive system, recent work, OPPEL (680).  
 Organ of sight, recent work, KALLIUS (452).  
 Vitreous body, development and morphology, KÖLLIKER (477).

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Peripheral nervous system, SCHULTZE (815).

Reissner's fish-like Vertebrates, SARGENT (790).

#### b. Histology:—

General treatise on histology, PRENANT, BOUIN & MAILLARD (738).

SCHNEIDER remarks on his book on histology (800).

Comparative histology, Vertebrates, atlas, LÖWENTHAL (559).

The neuron theory, LEVI (523).

The ganglion-cell, historical, BETHE (76).

Neuroglia, RUBASCHKIN (783).

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Red blood-corpuscle, recent work, WEIDENREICH (926).

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#### c. Teratology:—

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### 4. PHYSIOLOGICAL.

#### a. General:—

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Chemical biology, treatise, CARRACIDO (171).

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Chemical activity of organisation, HERZOG (405).

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Light and absence of light, effects, VIRÉ (904).

Life and electricity, WALLER (916).

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Life in an atmosphere of hydrogen, MARCACCI (584).

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#### b. Particular Functions:—

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#### c. Colour and Pigment:—

- Coloration of living matter, RŮŽIČKA (785).  
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#### d. Nervous and Sensory: Psychology:—

- Physiology of nervous system, review, FREDERICQ (300).  
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 Comparative psychology, present status, MILLS (619).  
 Animal psychology, WASMANN (920), ZELL (968).  
 Mind in animals, VASCHIDE & ROUSSEAU (899).  
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- Heliotropic reactions, *Crustacea*, LOEB (547).  
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 Phototropism, BOHN (96).  
 Rheotropism, fishes, LYON (570).

5. PROTOPLASM AND CELL. See also 6.

a. General:—

- Treatise on histology, Vol. i, Cytology, PRENANT, BOUIN & MAILLARD (738).  
 Annual review of Cytology, HENNEGUY (388).  
 Morphology and biology of the cell, general work, GURWITSCH (352).  
 Cell and cell-division, GURWITSCH (353).  
 Cell-life and cell-mechanics, RHUMBLER (762).  
 The cell; histology, syncytium, ROHDE (777).  
 Kinds of cells, HOLMGREN (415).  
 Cell-connections, SCHUBERG (810).  
 Cell-physiology, Echinoderm egg, ZIEGLER (969).  
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 Cells and environment, QUINTON (742).  
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c. Cell, structure and function:—See also 3 b, and 6.

- Cell-process, RHUMBLER (764).  
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Mitosis in malignant growths, BASHFORD & MURRAY (46, 47), FARMER & HANSEMANN (278), MURRAY (666).—Heterotype cell-division in malignant tumours, HÄCKER (361).—Heterotype division and malignant tissue [translation of FARMER, MOORE & WALKER, *Zool. Rec.* 1903, *Gen. Sub.* (232)], *Biol. Centrbl.* xxiv, pp. 1-7.

**d. Nucleus, Nucleolus, Centrosome, etc.:**—(See also 6):

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Chromosomes, their individuality; centrosomes, historical, cytasters, PETRUNKEWITSCH (719).

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**6. OVUM AND SPERMATOZOON.**

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The cytology of cross-breeding, HÄCKER (358).

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- Oogenesis, *Branchellion*, PÉREZ & GENDRE (715).  
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### c. Spermatozoon, Spermatogenesis :—

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- Fertilisation, HARTOG (382).  
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## 7. EMBRYOLOGY, DEVELOPMENT.

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- History of Embryology till Harvey, BLOCH (87, 88).  
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- Embryology, Annual review, LOISEL (549).  
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## b. Particular species, stages, and organs:—

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## II. MAMMALIA.

BY

R. LYDEKKER.

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## INTRODUCTION.

THE most important discovery of the year, so far as systematic work is concerned, is undoubtedly the relationship between Zeuglodonts and the Creodont Carnivora, as described by FRAAS on the evidence of Egyptian material. Next, perhaps, in importance is the reference by ANDREWS of *Arsinoëtherium* to a distinct group of Ungulates—the Barypoda. The rediscovery by GOELDI of the S. American Rodent *Dinomys* is also an event of first-rate importance; as is also the description by THOMAS of a new genus (*Hylochoerus*) of African Swine. BROOM'S researches into the relationships between the jaws and limbs of Theriodont Reptiles and of Mammals are likewise of the highest importance; while it may be permissible also to allude to the Recorder's observations on the phylogeny of Arab and Thoroughbred Horses, based on the existence of vestiges of the lachrymal cavity in their skulls.

Important contributions to the morphology of the Monotremata have been made in the continuation of the memoirs on Semon's Reise; while ABEL'S investigations on the skeleton of extinct Sirenians are likewise of great value. The continuation of SCOTT'S work on Tertiary Patagonian Mammals also demands mention. Two investigators, CARLSSON and SWEET, have been independently working at the anatomy of *Notoryctes*.

MAX WEBER'S "Säugethiere" is a most important text-book on the class; while, from another point of view, the work on British Mammals by MILLAIS, of which the first volume has appeared during the year, likewise demands special recognition. Another valuable faunistic work is ELLIOT'S Mammals of Central America. It is satisfactory to welcome the appearance of the first instalments of a supplement to TROUESSAR'S "Catalogue"; while PALMER'S "Index Generum Mammalian" is an absolutely invaluable work.

Ordinary descriptive work has progressed with the rapidity characteristic of recent years.

The Record is considerably larger than its immediate predecessors, despite the omission of a number of articles which did not appear to the Recorder to be of any scientific importance.

## I. TITLES.\*

1. ABEL, O. Die Sirenen der mediterranen Tertiärbildungen Österreichs. Abh. geol. Reichsanst. xix, pt. 2, pp. vi + 223, 7 pls. [*Sirenia*.]
2. —. Ueber einen Fund von *Sivatherium giganteum* bei Adrianopel. Anz. Ak. Wiss. 1904, pp. 195 & 196, and SB. Ak. Wien cxiii, pp. 1-23, pl. [*Giraffida*.]
3. ABY, F. S. Observations on the blood-capillaries in the cerebellar cortex of young Cats. J. Neurology ix, pp. 26-34, pl. ii (1899). [*Felida*.]
4. AFLALO, F. G. and others. The Sportsman's Book for India. London, pp. 567, illustrated. [Contains chapters on Big Game.]
5. AGGOZOTTI, A. L'échange respiratoire des Cobayes dans l'air raréfié. Arch. ital. Biol. xli, pp. 402-417. [*Caviida*.]

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

6. ALESSANDRI, G. DE. Sopra alcuni avanzi di Cervidi pliocenici del Piemonte. Atti Acc. Torino xxxviii, pp. 845-858, 1 pl. 1903. [*Cervidæ.*]
7. ALEXANDER, G. Entwicklung und Bau des inneren Gehörorganes von *Echidna aculeata*; ein Beitrag zur Morphologie des Wirbelthierohres. Denk. Ges. Jena, Semon's Reise iii, Monotremata etc. ii, pp. 1-118, pls. i-xxiii. [*Monotremata.*]
8. ALEZAIS, —. Les adducteurs du Maki. C.R. Soc. Biol. lvi, pp. 537-539. [*Lemuroidea.*]
9. ALLEN, B. M. The embryonic development of the ovary and testis of the Mammals. Amer. J. Anat. iii, pp. 89-146, 7 pls.
10. ALLEN, G. M. Fauna of New England—*Mammalia*. Pap. Boston Soc. vii, 34 pp.
- 10A. ——. The heredity of coat-colour in Mice. P. Amer. Ac. xl, pp. 61-163. [*Muridæ.*]
11. ——. Observations on Rorquals off Newfoundland. Amer. Natural. xxxviii, pp. 613-623, figg. [*Cetacea.*]
12. ALLEN, J. A. New forms of the Mountain Goat (*Oreamnos*). Bull. Amer. Mus. xx, pp. 19-21. [*Bovidæ.*]
13. ——. Mammals from S. Mexico and Central and S. America. T. c. pp. 29-80, figg. [*Chiroptera, Carnivora, Rodentia.*]
14. ——. The external ear-bone in Rodents. T. c. pp. 135-138, fig. [*Rodentia.*]
15. ——. Further notes on Mammals from N. W. Durango. T. c. pp. 205-210. [*Sciuridæ.*]
16. ——. New Bats from Tropical America, with note on the species of *Otopterus*. T. c. pp. 227-237. [*Chiroptera.*]
17. ——. Mammals collected in Alaska by the A. J. Stone expedition. T. c. pp. 273-292.
- 17A. ——. A new Sheep from Kamchatka. T. c. pp. 293-298, figg. [*Bovidæ.*]
18. ——. New Mammals from Venezuela and Colombia. T. c. pp. 327-335. [*Carnivora, Rodentia, Marsupialia.*]
19. ——. Mammals from Venezuela. T. c. pp. 337-345.
20. ——. A fossil Porcupine from Arizona. T. c. pp. 383 & 384. [*Erethizontidæ.*]
21. ——. The Tamandua Anteaters. T. c. pp. 385-398, figg. [*Edentata.*]
22. ——. Mammals from the district of Santa Marta, Colombia, with field-notes by Mr H. H. Smith. T. c. pp. 407-468. [*Primates, Mustelidæ, Erethizontidæ.*]
23. AMEGHINO, F. Recherches de Morphologie phylogénétique sur les molaires supérieures des Ongulés. An. Mus. Buenos Aires (3) iii, pp. 1-541, figg. [*Ungulata.*]

Some confusion appears to occur in the numbering of this serial; in separate reprints this memoir is said to form vol. ix of the original series, but the paper quoted in Zool. Rec. vol. xl, Mamm. No. 17, is also stated to be from vol. ix, or vol. ii of 3rd series.

24. [AMEGHINO, F.] La perforación astragaliana en los Mamíferos. Op. cit. iv, pp. 349-460, figg.
25. —. Paleontologia Argentina, No. 2. La Plata, 79 pp., figg.
- 25A. —. Nuevas especies de Mamíferos. Cretáceos y Terciarios de la República Argentina. Buenos Aires, 142 pp.; ex An. Soc. Argent. lvi, lvii, & lviii. [See Addenda.]
26. ANCEL, P. & BOUIN, P. Tractus génital et testicule chez le Porc cryptorchide. C.R. Soc. Biol. lvi, pp. 281 & 282. [*Suidæ*.]  
— [See also BOUIN & ANCEL (71).]
27. ANDERSEN, K. Five new *Rhinolophi* from Africa. Ann. Nat. Hist. (7) xiv, pp. 378-388. [*Chiroptera*.]
28. —. On von Heuglin's, Rüppell's and Sundevall's types of African *Rhinolophi*. T. c. pp. 451-458. [*Chiroptera*.]
29. — & MATSCHIE, P. Uebersicht einiger geographischen Formen der Untergattung *Euryalus*. SB. Ges. naturf. Berlin 1904, pp. 71-83. [*Chiroptera*.]
30. ANDERSON, R. J. Some considerations respecting the parietal bone. Int. J. Anat. xxi, pp. 318-343, figg.
31. —. The premaxilla in *Primates*. C.R. xivth Congr. Internat. Med. 1903, 7 pp., figg. [*Primates*.]
32. —. Note on the skull of *Grampus griseus* found on the coast near Galway. Rep. Brit. Ass. 1903, pp. 691 & 692. [*Cetacea*.]
33. —. Note on the peritoneum in *Meles taxus*. T. c. p. 692. [*Mustelidæ*.]
34. —. The skull of *Ursus ornatus*. L. c. [*Ursidæ*.]
35. ANDREAE, A. Zur Kenntniss des Miocäns von Oppeln in Schlesien. Mitt. Mus. Hildesheim, No. 20; Säugethiere, pp. 18-22. [*Insectivora*.]
36. ANDREWS, C. W. Further notes on the Mammals of the Eocene of Egypt. Geol. Mag. (5) i, pp. 109-115, 157-162, and 211-215, pl. vi. [*Carnivora*, *Ungulata*, *Cetacea*.]
37. —. Note on the *Barypoda*, a new order of Mammals. T. c. pp. 481 & 482. [*Ungulata*.]
38. ANGLAIS, J. Les animaux domestiques—Cheval, Vache, Mouton, Porc, Chien, Coq et Oie. Paris, pp. 193.
39. ANON. Gorillas at the Zoological Gardens. Field civ, p. 459. [*Primates*.]
40. ANTHONY, —. Rôle morphogénique du muscle crotaphyte sur le crâne et le cerveau chez le Chien. Bull. Mus. Paris 1903, pp. 364 & 365. [*Canidæ*.]
41. ARCHIBALD, S. [Mrs]. On the damage done to fir-trees by Squirrels. Tr. Edinb. Field Soc. v, pp. 95 & 96. [*Sciuridæ*.]
42. ARMIN, S. A. O tavi denevér (*Myotis dasycneme*) Magyarországon. Allatt. Kozl. Magyar Tars. 1904, pp. 98-102, 4 pls.
43. AUERBACH, M. Ueber den Winterschlaf unserer heimischen Säugethiere. Verh. Ver. Karlsruhe xvi, pp. 16\* & 17\*.
44. BAKER, C. F. A revision of American *Siphonaptera*, or Fleas. P. U. S. Mus. xxvii, pp. 365-469. [Mentions the Mammals which the various species of these insects infest.]

45. BAKER, E. C. S. The Gaur and the Gayal. J. Bombay Soc. xv, pp. 227-284, figg. 1903. [*Bovidae*.]
46. BANGS, O. On a supposed continental specimen of *Solenodon*. P. Soc. Washington xvii, pp. 166 & 167. [*Insectivora*.]
47. BARNABÒ, V. Brevi considerazioni e ricerche sulla conformazione dello stomaco umano e di altri mammiferi a proposito di una rara anomalia in questo viscere nel *Lepus cuniculus*. Boll. Soc. zool. Ital. (2) v, pp. 227-240. [*Leporidae*.]
- BARRETT-HAMILTON, G. E. H. [See HAMILTON, G. E. H. BARRETT (194-197).]
48. BARRINGTON, A. [Miss], LEE, A. [Miss], & PEARSON, K. On inheritance of coat-colour in the Greyhound. Biometrika iii, pp. 245-298. [*Canidae*.]
49. BARTELS, P. Ueber die Lymphgefäße der Pankreas: I. Ueber lymphatische Verbindungen zwischen Duodenum und Pankreas beim Hunde. Arch. Anat. 1904, pp. 299-329, pl. xx. [*Canidae*.]
50. BARTHOLD, —. Artunterschiede am Säugetierschädel. Zeitschr. Naturw. lxxvi, pp. 365-368.
51. BATE, D. M. A. [Miss]. Further note on remains of *Elephas cypriotes* from Cyprus. Phil. Trans. cxcvii, pp. 347-360, pls. xxi & xxii. [*Proboscidea*.]
52. BEARD, J. C. An animal new to science at the New York Zoological Park. Scientific American 1904, p. 287. [*Canidae*.]
53. BECCARI, O. Wanderings in the Great Forests of Borneo; Travels and Researches of a Naturalist in Sarawak. Translated by F. H. H. GUILLEMARD. London, pp. xxiv + 424, illustrated.
54. BEDDARD, F. E. Note on the brains of the Potto and Slow Loris, with observations on the arteries of the brain in *Primates*. P. Zool. Soc. London 1904, i, pp. 157-163, figg. [*Primates*.]
55. —. On the arteries of the base of the brain in certain Mammals. T. c. pp. 183-197, figg.
56. BEDFORD, E. A. The early history of the olfactory nerve in Swine. J. Neurology xiv, pp. 390-410, figg. [*Suidae*.]
57. BIELER, S. Sur un crâne d'Ours. Arch. Sci. Nat. (4) xvii, p. 445. [*Ursidae*.]
58. BLANCKENHORN, M. Oberpliocän mit *Mastodon arvernensis* auf Blatt Ostheim von der Rhon. Jahrb. geol. Landesanst. Berlin xxii, pp. 364-371, pl. viii. [*Proboscidea*.]
59. BLENDINGER, W. Das Cribrum der Säugethiere. Morphol. Jahrb. xxxii, pp. 452-478, pls. xi & xii. [See also FLEISCHMANN, A.]
60. BOCAGE, J. V. B. DU. Contribution à la faune des quatre îles du Golfe de Guinée. IV. Ile de St Thomé. J. Sci. Lisb. (2) vii, pp. 65-96.
61. BOENINGHAUS, G. Das Ohr des Braunfisches (*Phocena communis*). Zool. Jahrb. Anat. xix, pp. 189-360, pls. xii & xiii. [*Cetacea*.]
62. BÜSE, —. Ueber einige Muskelvarietäten, den Pectoralis major, Latissimus dorsi und Achselbogen betreffend. Morphol. Jahrb. xxxii, pp. 587-601, figg.
63. BOLTON, H. Abnormally marked Lion-cubs. P. Bristol Soc. (2) x, pp. 248 & 249. [*Felidae*.]
64. BONHOTE, J. L. On a new species of *Helictis*. Ann. Nat. Hist. (7) xiii, pp. 592-594, 1903. [*Mustelidae*.]

65. [BONHOTE, J. L.] On coloration in Mammals and Birds. J. Linn. Soc. xxix, pp. 185-187.
66. —. The Mammals of Cambridgeshire. In Marr and Shipley's "Natural History of Cambridgeshire," Cambridge, pp. 71-74.
67. BONNE, C. Recherches sur le développement des veines du foie chez le Lapin et le Mouton. J. Anat. Physiol. xl, pp. 225-267, pls. vi-viii. [*Leporidae*, *Bovidae*.]
68. BORTOLOTTI, C. Denti di Proboscidi, di Rinoceronte e di Ippopotamo dell' antica collezione Canali in Perugia. Riv. ital. Pal. x, pp. 83-93, pls. iv & v. [*Proboscidea*.]
69. BOSCÁ, G. Informe sobre el estado del esqueleto de "Megaterio" del Museo de Madrid. Bol. Soc. espan. iii, pp. 211-226, 1903. [*Edentata*.]
70. BOTEZAT, E. Untersuchungen über die Hyperplasie an Rehgeweißen, mit Berücksichtigung der übrigen Cerviden. Arch. Entwicklmech. xviii, pp. 593-607, pl. xxxvi. [*Cervidae*.]
71. BOUIN, P. & ANCEL, P. Recherches sur la structure et la signification de la glande interstitielle dans le testicule du Cheval. Arch. Zool. exp. (4) ii, pp. cxli-clv. [*Perissodactyla*.]  
— [See also ANCEL & BOUIN (26).]
72. BOUSSAC, P. H. Le Chacal dans l'Égypte Pharaonique. Naturaliste xxvi, pp. 245-248, figg. [*Canidae*.]
73. —. L'Hippopotame dans l'Égypte ancienne. Rev. Scient. (5) i, pp. 425-427. [*Hippopotamidae*.]
74. BRADLEY, O. C. The Mammalian cerebellum; its lobes and fissures. J. Anat. Physiol. norm. path. xxxviii, pp. 448-475, pls. xlv & xlvi. II. The cerebellum in *Primates*. Ibid. xxxix, pp. 98-117, pls. xxiv-xxviii. [*Primates*.]
75. —. On the trapezium of the Horse. P. Phys. Soc. Edinb. xvi, pp. 8-18, figg. [*Perissodactyla*.]
76. BRAEUNIG, K. Ueber muskulöse Verbindungen zwischen Vorkammer und Kammer bei verschiedenen Wirbelthierherzen. Arch. Physiol. 1904, Suppl. pp. 1-19, pl. i.
77. BRANCA, A. Recherches sur le testicule et les voies spermatiques dans Lémuriens en captivité. J. Anat. Physiol. xl, pp. 35-72, pls. i & ii. [*Lemuroidea*.]
- 77A. BREMER, J. L. On the lung of the Opossum. Amer. J. Anat. iii, pp. 67-73, figg. [*Didelphyidae*.]
78. BRESSLAU, E. Zur Entwicklung des Beutels der Marsupialier. Verh. Deutsch. zool. Ges. 1904, pp. 212-224, figg. [*Marsupialia*.]
79. BROCK, A. J. P. VAN DER. On the genital cords of *Phalangista vulpina*. P. Ac. Amsterdam 1904, pp. 87-90, fig. [*Marsupialia*.]
80. BROOM, R. On the lower jaw of a Mammal from the Karoo beds of Aliwal North. Geol. Mag. (4) x, p. 345, figg. 1903. [See p. 49.]
81. —. On the structure of the Theriodont mandible and its mode of articulation with the skull. P. Zool. Soc. London 1904, i, pp. 490-498, pl. xxxv.
82. —. The origin of the Mammalian carpus and tarsus. Tr. S. African Phil. Soc. xv, pp. 85-95, pl. vii.

83. BRUMPT, — & WURTZ, —. Maladie du sommeil expérimentale chez les Sauris, Rats, Cobayes, Lapins, Marmottes et Hérissons. C.R. Soc. Biol. lvi, pp. 557-567.
84. ——. Maladie du sommeil expérimentale chez les Singes d'Asie et d'Afrique. T. c. pp. 557-567.
- 84A. ——. Maladie du sommeil expérimentale chez les Singes d'Amérique, les Makis de Madagascar, le Chien et le Porc. T. c. pp. 571-573.
85. BRUTON, F. A. Note on the eye of the Mole. Mem. Manchester Soc. xlviii, No. 20, 5 pp. [*Insectivora*.]
86. BURKE, W. S. The Indian Field Shikar Book. Calcutta. Pp. 331.
87. BUTLER, A. L. Geographical races of the Banting; the "Sapi" of the Malay Peninsula. J. Bombay Soc. xiii, pp. 192 & 193, pl., 1900. [*Bovidae*.]
88. BYLANDT, COUNT H. DE. Dogs of all nations. London, 2 vols. illustrated. [*Canidae*.]
89. CABRERA, A. Sobre el origen de las razas bovinas españolas. Bol. Soc. espan. 1904, pp. 71-78. [*Bovidae*.]
90. ——. Las especies españolas del género *Eliomys*. T. c. pp. 180-188, figg. [*Gliridae*.]
91. ——. Quirópteros de España. Mem. Soc. Espan. ii, pp. 250-285, pl. v. [*Chiroptera*.]
92. ——. Catálogo descriptivo de los Quirópteros Chilenos. Revist. chilena iv, pp. 278-308. [*Chiroptera*.]
93. CAMERON, J. On the presence and significance of the superior commissure throughout the Vertebrata. J. Anat. Physiol. norm. path. xxxviii, pp. 275-292, pls. xxv & xxvi.
94. CAPELLINI, G. Balenottera di Borbolya (Ungheria). Atti Acc. Lincei (4) xiii, pp. 667-669. [*Cetacea*.]
95. CARLSSON, A. Zur Anatomie des *Notoryctes typhlops*. Zool. Jahrb. Anat. xx, pp. 81-122, pls. vi & vii. [*Marsupialia*.]
96. CARRUCCIO, A. Note sopra un *Orycteropus* e due *Manis* non ha guari introdotti nel Museo Zoologico della R. Università di Roma. Boll. Soc. zool. Ital. (2) v, pp. 209-217. [*Effodientia*.]
97. CASE, E. C. The Miocene *Mammalia* of Maryland. Maryland Geol. Surv. Miocene. Palæontology, pp. 1-58, pls. i-xxvi. [*Cetacea* and *Sirenia*.]
98. CATOULLARD, G. Anomalie dentaire chez un Lapin domestique. Bull. Soc. Rouen xxxviii, pp. 317-319. [*Leporidae*.]
99. CHAINE, J. Sur le masséter des Rongeurs. Pr.-verb. Soc. Bordeaux 1897-8, pp. 161-166. [*Rodentia*.]
- 99A. ——. Anomalie musculaire chez le Cheval. Ibid. 1898-9, pp. 111 & 112. [*Perissodactyla*.]
100. ——. Connexions du mylo-hyoïdien et du génio-hyoïdien chez quelques Mammifères. Ibid. 1899-1900, pp. 72-74.
101. ——. Connexions du mylo-hyoïdien et du digastrique chez les Mammifères. T. c. pp. 75-78.
102. ——. Contribution à la myologie du Sanglier. Ibid. 1900-1901, pp. 15 & 16. [*Suidæ*.]

103. [CHAINED, J.] Sur le muscle mandibulo-auriculaire du Blaireau (*Meles taxus*). Ibid. 1901-1902, pp. 54 & 55.
104. —. Myologie de la région sous-hyoïdienne de la Girafe (*Camelopardalis giraffa*). Ibid. 1902-1903, pp. 9-11. [*Giraffidæ*.]
105. —. Note sur le stylo-hyoïdien de la Gazelle dorcas (*Gazella dorcas*). T. c. pp. 12 & 13. [*Bovidæ*.]
106. —. Sur le ligament tympano-maxillaire de la Genette (*Viverra genetia*). T. c. pp. 59 & 60. [*Viverridæ*.]
107. —. Connexions particulières du sterno-hyoïdien et du stylo-hyoïdien chez une Girafe (*Camelopardalis giraffa*). T. c. pp. 89 & 90. [*Giraffidæ*.]
108. CHAINE, J. & KUNSTLER, J. Remarques préliminaires sur le Chlamyphore tronqué (*Chlamyphorus truncatus*). Pr.-verb. Soc. Bordeaux 1902-1903, pp. 4-8. [*Edentata*.]
109. CHAPMAN, H. C. Observations on *Tupaia*, with reflections on the origin of the *Primates*. P. Ac. Philad. 1904, pp. 148-156. [*Primates, Insectivora*.]
- 109A. —. Observations on *Hyrax*. T. c. pp. 476-480, fig. [*Hyracoidea*.]
110. CLARKE, J. M. Distribution of *Mastodon* remains in New York. Bull. Geol. Soc. Amer. xiv, p. 537. [*Proboscidea*.]
111. CLARKE, W. E. On forms of *Mus musculus*, with description of a subspecies from the Færoe Islands. P. Phys. Soc. Edinb. xv, pp. 160-167. [*Muridæ*.]
112. COCKS, A. H. The gestation of the Badger. Zoologist (4) viii, pp. 108-114. [*Mustelidæ*.]
113. COLE, W. De Winton's Mouse in Essex. Essex Natural. xiii, pp. 294 & 295. [*Muridæ*.]
114. COPEMAN, S. M. & PARSONS, F. G. Observations on the sex of Mice. P. R. Soc. London lxxiii, pp. 32-48. [*Muridæ*.]
115. CORDOVEZ, M. Los restos del *Myloodon* i la gruta de su nombre en la Patagonia occidental. Act. Soc. Chili xii, 19 pp., 2 pls., 1903. [*Edentata*.]
116. COTTON, P. H. G. POWELL. In Unknown Africa; a narrative of twenty months' travel and sport in unknown lands and among new tribes. London, pp. xxiii+617, illustrated. [Contains list of the species of Mammals obtained.]
117. COUFFON, O. Étude sur les Faluns du Hagueneau. Bull. Soc. Angers xxxiii, pp. 35-85. [Certain fossil Mammals on pp. 76 & 77.]
118. CRAWSHAY, R. The prey of the Lion. P. Zool. Soc. London 1904, ii, p. 144. [*Felidæ*.]
119. CUÉNOT, L. Un paradoxe héréditaire [colour of eyes] chez les Souris. C.R. Soc. Biol. lvi, pp. 1050-1052. [*Muridæ*.]
- 119A. —. L'hérédité de la pigmentation chez les Souris. Arch. zool. exp. Notes (4) ii, pp. xlv-lv. [*Muridæ*.]
120. CUNNINGHAM, C. M. The teeth of Vertebrates, a lecture. Rep. Belfast Club v, pp. 51-53.
121. CUNNINGHAM, J. T. Incipient horns in Horses. Field ciii, p. 777. [*Perissodactyla*.]



122. CUTTER, W. D. & GILMAN, P. K. The survival of irritability in Mammalian nerves after removal from the body. *Amer. J. Physiol.* x, pp. xi & xii.
123. DAMANY, P. Contre l'homologie de l'olécrâne et de la rotule. *Trav. Univ. Rennes* ii, pp. 349-358, figg.
124. DAMIANI, G. Di un *Prodelphinus euphrosyne* all' Isola d' Elba e della distribuzione dei Denticeti minori nei mari d' Italia. *Atti Soc. Ligustica* xiv, pp. 165-176, 1903. [*Cetacea*.]
125. DARBISHIRE, A. D. On the result of crossing Japanese Waltzing with Albino Mice. *Biometrika* iii, pp. 1-51, figg. [*Muridæ*.]
126. DAVENPORT, C. B. Colour-inheritance in Mice. *Science* xix, pp. 110-114. [*Muridæ*.]
- 126A. —. Wonder Horses and Mendelism. *T. c.* pp. 151-153. [*Perissodactyla*.]
127. DAVID, J. Weitere Mitteilungen über das Okapi. *Globus* lxxxvi, pp. 385 & 386. [*Giraffidæ*.]
128. DAVIES, C. J. The coloration of Cattle. *Field* civ, p. 739. [*Bovidæ*.]
129. DAWKINS, W. B. Discovery of *Elephas antiquus* at Blackpool. *Mem. Manchester Soc.* xlviii, No. 17, 4 pp. [*Proboscidea*.]
130. DELHEID, E. Sur un Sirénien de l'argile de Bonn. *Ann. Soc. malac. Belgique* xxxviii, pp. xxv-xxviii, 1903. [*Sirenia*.]
131. DENKER, A. Die Eustachische Röhre des Ameisenfressers. *Zeitschr. Morphol.* viii, pp. 1-10, pls. i & ii. [*Edentata*.]
132. DEPÉRET, C. & DOUXAMI, H. Les Vertébrés Oligocènes de Pymont-Chalanges (Savoie). *Abh. Schweiz. pal. Ges.* xxix, art. i, 91 pp., 6 pls., 1902. [*Rodentia*, *Perissodactyla*, *Marsupialia*.]
133. DEVEZ, J. Architecture du cœur des Marsupiaux. *Bull. Mus. Paris* 1903, pp. 227-231. [*Marsupialia*.]
134. —. La valvule auriculo-ventriculaire droite du cœur d'Ornithorhynche. *T. c.* pp. 231-233. [*Monotremata*.]
135. —. Recherches d'anatomie comparée sur le cœur des Vertébrés, en particulier des Monotrèmes et des Marsupiaux. *Bull. Soc. Philom.* v, pp. 105-275, pls. i-iv, 1903. [*Monotremata* & *Marsupialia*.]
136. DEXLER, H. Beiträge zur Kenntniss des feineren Baues des Zentralnervensystems der Ungulaten. *Morphol. Jahrb.* xxxii, pp. 288-389, figg.
137. DISSELHORST, R. Die männlichen Geschlechtsorgane der Monotremen und einiger Marsupialen. *Denk. Ges. Jena.*—Semon's Reise iii, *Monotremata* ii, pp. 121-150, pls. xxiv-xxx. [*Marsupialia* & *Monotremata*.]
138. DOEDERLEIN, L. Nachtrag zur diluvialen Säugethierfauna von Voklinshofen im Ober-Elsass. *Mitt. Comm. geol. Elsass-Loth.* ii, pp. 75-77 (1889).
139. — & SCHUMACHER, E. Ueber eine diluviale Säugethierfauna aus dem Ober-Elsass. *Ibid.* i, pp. 123-135 (1888).  
DOUXAMI, H. [See DEPÉRET & DOUXAMI (132).]
140. DRUMMOND-HAY, H. M. The black variety of *Felis chaus*. *Spolia Zeylan.* ii, pp. 93 & 94. [*Felidæ*.]

- DRUMMOND, J. [See HUTTON & DRUMMOND (216).]
141. DRZEWINA, A. [Mlle]. Sur les mastzellen du ganglion lymphatique du *Didelphys lanigera*. Bull. Mus. Paris 1903, pp. 281 & 282. [*Marsupialia*.]
142. DUERST, J. U. Ueber ein neues, prähistorisches Hausschaf (*Ovis aries studeri*). Vierteljahrshchr. Ges. Zurich xlix, pp. 17-34, pls. i & ii. [*Bovidae*.]
143. DWIGHT, T. A bony supracondyloid foramen in Man; with remarks on supracondyloid and other processes from the lower end of the humerus. Amer. J. Anat. iii, pp. 221-228, pl. i. [*Primates*.]
144. DYBOWSKI, B. Tables synoptiques pour déterminer les animaux du pays. *Insectivora*. Kosmos polski. xxviii, pp. 403-452, figg., 1903. [*Insectivora*.]
145. EASTMAN, C. R. Sharks' teeth and Cetacean bones from the red clay of the tropical Pacific. Mem. Mus. Harvard xxvi, pp. 163-226, pls. i-v, 1903. [*Cetacea*.]
146. EGGELE, H. Zur Morphologie der Augenlider der Säuger. Jena. Zeitschr. xxxix, pp. 1-42, figg.
147. ——. Zur Morphologie des Manubrium sterni. Denk. Ges. Jena, Haeckel's Festschrift, pp. 59-114, pls. 6.
148. ELLIOT, D. G. Descriptions of new Mammals. Field Mus. Zool. iii, pp. 263-270. [*Chiroptera*, *Canidae*, *Rodentia*.]
149. ——. Mammals collected in S. California. T. c. pp. 271-321, pls.
150. ——. The land and sea Mammals of Middle America and the West Indies. Op. cit. iv, parts 1 & 2, illustrated.
151. EMMEL, V. E. The relation of the chorda tympani to the visceral arches in *Microtus*. J. Neurology xiv, pp. 411-417. [*Muridae*.]
152. \*EVANS, G. H. Traité sur les Éléphants. Traduit de l'Anglais par J. Chaine. Paris, illustrated. [*Proboscidea*.]
153. EVANS, W. The Common Rorqual in the Firth of Forth. Ann. Scott. Nat. Hist. 1904, pp. 71-74, pls. ii & iii. [*Cetacea*.]
154. EWART, J. C. The Wild Horse (*Equus prjevalskii*). P. R. Soc. Edinb. xxiv, pp. 460-468, figg., 1903. [*Perissodactyla*.]
155. ——. The multiple origin of Horses and Ponies. Tr. Highland Soc. 1904, pp. 1-39, figg., and Nature lxix, pp. 590-596. [*Perissodactyla*.]
156. FAVARO, G. Di un organo speciale della volta diencefalica in *Bos taurus*. Monit. Zool. ital. xv, pp. 111-120, figg. [*Bovidae*.]
157. ——. Intorno ad un anomolo abozzo di diaphysis cerebri in *Ovis aries*. T. c. pp. 395 & 396. [*Bovidae*.]
158. FERREIRA, A. R. Sobre o Peixe Boy [*Manatus australis*] e do uso que lhe dão no estado do Grão Pará. Arch. Mus. Janeiro xii, pp. 169-174, 1903. [*Sirenia*.]
159. FISHER, O. *Elephas meridionalis* at Dewlish. Geol. Mag. (5) i, p. 621. [*Proboscidea*.]
160. FLEISCHMANN, A. Historisch-kritische Betrachtungen ueber das Cribrum der Säugethiere. Morphol. Jahrb. xxxii, pp. 479-504, fig. [See also BLENDINGER, W.]

161. FLORES, E. *Elephas primigenius* nell' Italia meridionale. Bull. Soc. geol. Ital. xxii, pp. 348-360, pl. xiii, 1903. [*Proboscidea*.]
162. FORREST, H. E. Mammals of Caradoc district. Rec. Caradoc Club 1903, pp. 26 & 27.  
 FORSYTH, MAJOR C. I. [See MAJOR, C. I. FORSYTH (296).]
163. FRAAS, E. Neue Zeuglodonten aus dem unteren Mitteleocän vom Mokattam, bei Cairo. Geol. Pal. Abhandl. (2) vi, pp. 199-220, pls. x-xii. [*Archæoceti*.]
164. FRASSETTO, F. Parietali tripartiti in crani umani e di scimmie. Monit. Zool. ital. xv, pp. 385-394, figg. [*Primates*.]
165. FRECH, F. & GEINITZ, E. Flora und Fauna des Quartärs. In Frech's Lethæa Geognostica iii, 2, pp. 7-41, figg. Stuttgart, 1903. [Contains an account of the distribution of Pleistocene Mammals.]
166. FREUND, L. Die Osteologie der Halicoreffosse. Zeitschr. wiss. Zool. lxxvii, pp. 363-397, pls. xiv & xv. [*Sirenia*.]
167. FÜRBRINGER, M. Zur Frage der Abstammung der Säugethiere. Denk. Ges. Jena, Haeckel's Festschrift, pp. 571-604.
168. FÜRST, C. M. Der Musculus popliteus und seine Sehne. Acta Univ. Lund. xxxix, pt. 2, art. 1, 134 pp., 9 pls.  
 FURLONG, E. L. [See SINCLAIR & FURLONG (428).]
169. GAILLARD, C. L'Okapi et Set-Typhon. Bull. Soc. Anthropol. Lyon xxii, pp. 1-11, fig., 1903. [*Giraffidae*.]
170. GAUDRY, A. Fossiles de Patagonie; Dentition de quelques Mammifères. Mem. Soc. geol. France, Pal. xiii, pt. 1, 27 pp., figg.  
 GEINITZ, E. [See FRECH & GEINITZ (165).]
171. GERHARDT, U. Morphologische und biologische Studien ueber die Kopulationsorgane der Säugethiere. Jena. Zeitschr. xxxix, pp. 43-117, figg.
172. GHIDINI, A. Due forme di terricola nel Ticino meridionale. Boll. Soc. Ticinese i, pp. 41 & 42. [*Muridae*.]
- 172A. —. I Chiroteri Ticinesi, a proposito di una specie nuova per il Cantone (*Vesperugo leisleri* Kuhl). T. c. pp. 90-93. [*Chiroptera*.]
173. GIANNELLI, L. Contributo allo studio comparativo delle formazioni del tetto del cervello intermedio in embrioni di Rettili e di Mammiferi. Monit. Zool. ital. xv, pp. 325-332.
174. GIDLEY, J. W. Generic names of Miocene Horses. Bull. Amer. Mus. xx, pp. 191-194. [*Perissodactyla*.]  
 —. [See also MATTHEW & GIDLEY (310).]
175. GILL, T. The name Mammal and the idea expressed. Rep. Smithson. Inst. 1903, pp. 538-544.  
 GILMAN, P. K. [See CUTTER & GILMAN (122).]
176. GOELDI, E. A. On the Rodent *Dinomys branickii*. P. Zool. Soc. London 1904, ii, pp. 158-165, pl. x. [*Dinomyidae*.]
177. — & HAGMANN, G. Catalogo da collecção de Mammiferos no Museu do Pará. Bol. Mus. Goeldi iv, pp. 38-122, pls.
178. GOLDMAN, E. A. Descriptions of new Mammals from Mexico. P. Soc. Washington xvii, pp. 79-82. [*Muridae*.]

179. GORDON, W. J. Our Country's Animals; a guide to the Mammals, Reptiles, and Amphibians of Great Britain. London, 1904, pp. viii + 152, illustrated.
180. GRANDIDIER, G. Un nouveau Lémurien fossile de France, le *Pro-nycticebus gaudryi*. Bull. Mus. Paris 1904, pp. 9-18. [*Lemuroidea*.]
181. ——. Note sur les Potamogales du Muséum du Paris. T. c. pp. 45-51. [*Insectivora*.]
182. GRANT, M. The origin and relationship of the large Mammals of North America. Rep. New York Zool. Soc. 1904, pp. 1-30.
183. GREVÉ, C. Die fossilen und recenten Edentaten und deren Verbreitung. SB. Ges. Dorpat xiii, pp. 77-107, 1902. [*Edentata*.]
184. ——. Fossile und recente Wale des Russischen Reichsgebietes. CB. Ver. Riga xlvi, pp. 67-76. [*Cetacea*.]
185. GRIEG, J. A. Bidrag til kjendskaben om *Mesoplodon bidens*. Bergens Mus. Aarbog 1904, art. 3, pp. 1-39, figg. [*Cetacea*.]
186. GRINNELL, G. B. Big Game in its Haunts. London, pp. 497, illustrated.
187. GRÖNROOS, H. Die Musculi biceps brachii und latissimo-condyloideus bei der Affengattung *Hylobates* im Vergleich mit den entsprechenden Gebilden der Anthropoiden und des Menschen. Abh. Ak. Berlin 1903, i, 103 pp., 1 pl. [*Primates*.]
188. GROSZ, S. Ueber den Perinealsack von *Cavia cobaya* und seine Drüsen. Zeitschr. wiss. Zool. lxxviii, pp. 261-267, figg. [*Caviidae*.]  
GUILLEMARD, F. H. H. [See BECCARI, O. (53).]
189. GULDBERG, G. Ueber die Wanderungen verschiedener Bartenwale. Pt. II. Biol. Centrbl. xxiv, pp. 371-384 and 391-396. [*Cetacea*.]
190. ——. Die Waltiere des Königsspiegels. Zool. Ann. i, pp. 29-40. [*Cetacea*.]
191. GURRIERI, E. N. Osservazione su di uno scheletro di Cavicorne a quattro corna disseppelito sull' Apennino emiliano. Monit. Zool. ital. xv, pp. 287-296, figg. [*Bovidae*.]
192. GYÖRGY, A. Állati elet Ázsia sziveben. Termes. Kozl. Magyar Tars. 1904, pp. 735-752, figg.
193. GYULA, S. A Magyar földi Kutya (*Spalax hungaricus*) hallókészüléke. Allatt. Kozl. Magyar Tars. 1904, pp. 69-83, pl. viii. [*Spalacidae*.]  
HAGMANN, G. [See GOELDI & HAGMANN (177).]
194. HAMILTON, G. E. H. BARRETT. Note on a Weasel from the Atlas Mountains and a Weasel in the Azores. Ann. Nat. Hist. (7) xiii, pp. 323-325. [*Mustelidae*.]
195. ——. Notes on and descriptions of new *Mustelidae*. T. c. pp. 388-395. [*Mustelidae*.]
196. ——. The Stoats (*Putorius ermineus*) of Jura and Islay. Ann. Scott. Nat. Hist. 1904, pp. 203-206. [*Mustelidae*.]
197. ——. A physiological theory to explain the winter-whitening of Birds and Mammals. Rep. Brit. Ass. 1903, p. 698.
198. \*HANBURY, D. T. Sport and travels in the Northland of Canada. London.
199. HANSEMANN, — VON. Ueber abnorme Rattenschädel. Arch. Physiol. 1904, pp. 376 & 377. [*Muridae*.]

200. HATAI, S. The finer structure of the neurones in the nervous system of the White Rat. Publ. Univ. Chicago x, pp. 179-190, pls. xiii & xiv, 1903. [*Muridæ.*]
201. ——. Form and contents of the nucleus in the spinal ganglion cells of the foetal Rat. J. Neurology xiv, pp. 27-48, pls. iii & iv. [*Muridæ.*]
202. HAUTHAL, R. Die Bedeutung der Funde in der Grypotheriumhöhle bei Ultima Esperanza (Sudwestpatagonien). Ber. Senckenberg. Ges. 1904, pp. 89\*-91\*. [*Edentata.*]
203. HELLER, K. M. *Anuromeles* keine Säugetiergattung. Zool. Anz. xxvii, pp. 675 & 676. [*Marsupialia.*]
204. HEPBURN, D. & WATERSTON, D. A study of the grey and white matter of the motor-cell groups, and of the spinal accessory nerve, in the spinal chord of the Porpoise (*Phocæna communis*). Pt. II. J. Anat. Physiol. norm. path. xxxviii, pp. 295-311, pls. xxvii-xxx. [*Cetacea.*]
205. —— & ——. The anatomy of the genito-urinary apparatus of the Porpoise. P. Phys. Soc. Edinb. xv, pp. 112-129, pl. ii. [*Cetacea.*]
206. HERZ, O. F. Frozen Mammoth in Siberia. Rep. Smithson. Inst. 1903, pp. 611-626, pls. i-ix. [*Proboscidea.*]
207. \*HEWETT, G. M. A. The Rat. London (Animal Autobiographies). Illustrated. [*Muridæ.*]
208. HINTON, M. A. C. & KENNARD, A. S. Vertebrate and Molluscan remains from Cleeve Hill. P. Cotteswold Club xv, pp. 58-67.
209. HOFFMANN, C. Zur Morphologie der Geweihe der recenten Hirsche. Cöthen, 1901, 72 pp., 22 pls. [*Cervidæ.*]
210. HOLST, N. O. Några subfossila Björnfynd. Sveriges geol. Unders. Afh. (C), No. 189, 33 pp., figg. [*Ursidæ.*]
211. HRDLIČKA, A. Further instances of parietal division [in Mammals]. Amer. Natural. xxxviii, pp. 301-310, figg. [*Primates.*]
212. ——. Further instances of malar division. T. c. pp. 361-366, figg. [*Primates.*]
213. \*HUNTINGDON, D. W. Big Game [of N. America]. London, 1904, illustrated.
214. HUNTINGDON, G. S. The derivation and significance of certain supernumerary muscles of the pectoral region. J. Anat. Physiol. norm. path. xxxix, pp. 1-54, pls. i-xiv.
215. HUTTON, F. W. Index Faunæ Novæ Zealandiæ. Christchurch and London, pp. viii + 372.
216. —— & DRUMMOND, J. The Animals of New Zealand. Christchurch and London, pp. xiv + 381, illustrated.
217. ITZERÖDT, I. Die Säugetiere der Umgegend von Hamburg. Verh. Ver. Hamburg Unterh. xii, pp. 91-100.
218. JAMIESON, E. B. The gluteal and femoral muscles, with their nerve-supply, in a Marmoset (*Hapale jacchus*). P. Phys. Soc. Edinb. xv, pp. 168-194. [*Primates.*]
219. JANENSCH, —. Bemerkungen über den Skeletbau der Glyptodonten. Zeitschr. Deutsch. geol. Ges. lvi, Protok, pp. 56-91, figg. [*Edentata.*]

220. JANKOWSKI, J. Beitrag zur Entstehung des Corpus luteum der Säugetiere. Arch. mikr. Anat. lxiv, pp. 361-388, pl. xxiii.
221. JENKINSON, J. W. The arrangement of the maternal and foetal glycogenic cells in the placenta of the Mouse. Brit. Med. J. 1904, ii, p. 1391. [*Muridae*.]
222. JENSEN, S. Mammals observed during Andrup's journey to East Greenland. Medd. Gronland xxxi, pp. 1-62, figg.
223. JENTINK, F. A. On *Kerivoula picta* and description of a new Bat from Paramaribo. Notes Leyden Mus. xxiv, pp. 174-176. [*Chiroptera*.]
224. KAFKA, J. Fossile und recente Raubtiere Böhmens (*Carnivora*) Arch. Landesdf. Bohmen. x, pt 6, 122 pp., figg. [*Carnivora*.]
225. KAMPEN, P. N. De Tympanaalstreek van den Zoogdierschedel. Amsterdam, 1904, 378 pp., figg.  
KENNARD, A. S. [See HINTON & KENNARD (208).]
226. KANTOR, H. Geteilte Scheitelbeine bei *Macacus rhesus*. Zeitschr. Morphol. vii, pp. 543-545, fig. [*Primates*.]
227. KAROLY, P. A borbolyai Ösbálnáról. Termes. Kozl. Magyar Tars. 1904, pp. 277-283, figg. [*Cetacea*.]
228. KASZSCHENKO\*, N. Outline of the fauna of Siberia and of the Tomsk district in particular. Tomsk, 1898, pp. 46 and map.
229. —. Results of the zoological expedition to the Altai, 1898. Tomsk (P. Tomsk Univ.) 1898, pp. 158, pls. 4. [*Rodentia*.]
230. —. Synopsis of the Mammals of the Tomsk district. Tomsk (P. Tomsk Univ.) 1900, pp. 47.
231. —. Mammals procured by the Altai expedition of P. G. Ignatow. Annuaire Mus. St Petersburg vii, pp. 289-304 (1902).
232. KELBEL, F. Zur Entwicklungsgeschichte des Urogenitalapparates von *Echidna aculeata* var. *typica*. Denk. Ges. Jena,—Semon's Reise iii, Monotremata ii, pp. 151-228, pls. xxxi-xxxv. [*Monotremata*.]
233. KIDD, W. On additions to the systematic characters of Mammals. P. Zool. Soc. London 1904, i, pp. 142-150, figg.
234. —. On the arrangement of the hair in *Blaropus*. T. c. p. 373. [*Procyonidae*.]
235. —. The direction of hair on the bodies of animals. Tr. W. Kent Soc. 1901-2, pp. 26-38.
236. —. The relation between muscular activity and beauty of form in animals. Op. cit. 1903-4, pp. 46-57.
237. KJELLBERG, K. Beiträge zur Entwicklungsgeschichte des Kiefergelenks. Morphol. Jahrb. xxxii, pp. 159-184, figg.
238. KNIES, J. Právěké nalezy jeskynni Balcarovy skaly u Ostrova na vysočině Drakanske. Vestnik. Klub Prostejove iii, pp. 31-72, 1901.
239. —. Zvířena stepní a její rozšíření za doby diluvialní na Moravě. Op. cit. v, pp. 95-110, 1903.
240. KNOTTNERUS-MEYER, T. Ueber Säugetierbastarde. Zool. Garten xlv, pp. 60-63.

\* In the *Record* for 1901 this name is given as KASCENKE, and in 1902 as KASCENKO. The papers quoted are in Russian.

241. KRAEMER, H. Die Abstammung des Bernhardiners. Globus lxxxv, pp. 105-108, 119-122, 171-174, and 184-188, figg. [*Canidæ*.]
242. KRASUSKA, A. Kidney structure in Mammals [a paper in Russian]. Bull. Lab. St Petersburg. vii, pt. 2, pp. 20-58, 1 pl.  
KUNSTLER, J. [See CHAINE & KUNSTLER (108).]
243. LANDOIS, H. Die Steinzeit-Menschen in Westfalen. Jahrb. Westfal. Ver. xxx, pp. 11-13, figg. [*Perissodactyla*.]
244. —. Das neolithische Pferd von Sünninghausen. T. c. p. 14. [*Perissodactyla*.]
245. —. Ein subfossiler Pferdeschädel. Op. cit. xxxi, pp. 158 & 159. [*Perissodactyla*.]
246. —. Ein fingerringförmiger Hasen-Schneidezahn, im Kreise vom linken Zwischenkiefer in den rechten hineingewachsen. Arch. Entwicklmech. xviii, pp. 265 & 266, fig. [*Leporidae*.]
247. —. Eine dritte Edelhirsch-Geweihstange über dem mit der Hinterhauptsschuppe verwachsenen Zwischenscheitelbein. T. c. pp. 289-295, figg. [*Cervidæ*.]
248. LANKESTER, E. R. A new Egyptian Mammal (*Arsinoëtherium*) from the Fayum. Geol. Mag. (4) x, pp. 529-532, pls. xxiii & xxiv, 1903. [*Barypoda*.]
249. LECHE, W. Ueber Zahnwechsel bei Säugetieren im erwachsenen Zustand. Zool. Anz. xxvii, pp. 219-222, figg. [*Insectivora*.]
250. —. Zoology of Sven Hedin's Journey,—Scientific Results of a Journey in Central Asia, 1899-1902, vol. vi, pt. 1, Zoologie 69 pp., 5 pls. Stockholm.  
LEE, A. [Miss]. [See BARRINGTON, etc. (48).]
251. LEDERMANN, H. Bericht über die wissenschaftlichen Leistungen in der Naturgeschichte der Säugethiere während des Jahres 1894. Arch. Naturg. 1896, ii, pp. 181-384 (1904).
252. LETACQ, A. L. Le Chat sauvage (*Felis sylvestris* Briss.) existait-il encore au xviii<sup>e</sup> siècle dans la forêt du Perche? Bull. Soc. Rouen xxxix, pp. 139-144. [*Felidæ*.]
253. LEWIS, J. Observations upon the distribution and structure of hæmolymp glands in *Mammalia* and *Aves*, including a note on the thymus. J. Anat. Physiol. norm. path. xxxviii, pp. 312-327.
254. LOEB, J. On the segmental character of the respiratory centre in the medulla oblongata of Mammals. Univ. Calif. Publ. Phys. i, pp. 71-75.
255. LOISEL, G. Les poisons des glandes génitales; Recherches sur les Mammifères. C.R. Soc. Biol. lvii, pp. 77-82.
256. LORENZ, L. VON. Das Becken der Stellerschen Seekuh. Abh. geol. Reichsanst. xix, pt 3, 11 pp., 1 pl. [*Sirenia*.]
257. —. Das Becken der *Sirenia*. Verh. Ges. Wien 1904, pp. 142 & 143. [*Sirenia*.]
258. —. *Megaladapis edwardsi*. Anz. Ak. Wiss. 1904, pp. 257-260. [*Lemuroidea*.]
259. LUCAS, F. A. The armour of *Zeuglodon*. Science xix, pp. 436 & 437. [*Cetacea*.]

260. [LUCAS, F. A.] The swallowing of stones by Seals. *Op. cit.* xx, pp. 537 & 538. [*Pinnipedia.*]
261. LUCIFERO, A. *Mammalia Calabria.* *Riv. ital. Sci. Nat.* xxiv, pp. 21-25, 44-50, 97-105.
262. LULL, R. S. Cursorial adaptations in Mammals. *Amer. Natural.* xxxviii, pp. 1-11.
263. LYDEKKER, R. The ancestry of the Horse. *Knowledge* xxvii, pp. 16-19, figg. [*Perissodactyla.*]
264. —. The ancestry of the Camel. *Knowledge and Scient. News* i, pp. 25-28, figg. [*Camelidæ.*]
265. —. The ancestry of the *Carnivora.* *T. c.* pp. 61-64. [*Carnivora.*]
266. —. The later history of the Horse. *T. c.* pp. 171-175, illustrated. [*Equidæ.*]
267. —. The ancestry of the Horse. *J. Bombay Soc.* xv, pp. 703-705 (reprinted from the *Field* of Nov. 1903). [*Perissodactyla.*]
268. —. Notes on the specimens of Wild Asses in English collections. *Nov. Zool.* xi, pp. 583-596, pls. xvii-xx. [*Perissodactyla.*]
269. —. On two Dolphins from Madras. *J. Bombay Soc.* xv, pp. 408-414, pls. c and d. [*Cetacea.*]
270. —. The Elephant's family history. *Indian Field* v, p. 116. [*Proboscidea.*]
271. —. The Animals of Africa. *Quart. Rev.* No. 400, pp. 465-493, figg.
272. —. Some ancient animal portraits. *Nature* lxx, pp. 207-209, figg. [Identification of Mammals represented in Babylonian and Egyptian sculptures.]
273. —. Some valuable furs. *Ibid.* lxxii, pp. 115-117.
274. —. Vertebrate Palæontology of Cambridgeshire. In Marr and Shipley's "Natural History of Cambridgeshire," Cambridge, pp. 51-70.
275. —. The colour of Cattle. *Field* civ, p. 180. [*Bovidæ.*]
276. —. The Celtic Pony and the Tarpan. *T. c.* p. 276. [*Equidæ.*]
277. —. The coloration of the Lynxes. *T. c.* p. 576. [*Felidæ.*]
278. —. The Falkland Island Wolf. *T. c.* pp. 613 & 614. [*Canidæ.*]
279. —. The Great Assam Buffalo and the Uganda Ox. *T. c.* pp. 653 & 654. [*Bovidæ.*]
280. —. Large Muntjac antlers. *T. c.* p. 780. [*Cervidæ.*]
281. —. Hoof-structure in the Horse family. *T. c.* p. 819. [*Perissodactyla.*]
282. —. Asiatic Ocelots. *T. c.* p. 907. [*Felidæ.*]
283. —. The North Persian Wild Sheep. *T. c.* p. 1031. [*Bovidæ.*]
284. —. The ancestry of the Arab. *T. c.* p. 1073. [*Perissodactyla.*]
285. —. The Urial of the Punjab and Ladak. *T. c.* p. 1110. [*Bovidæ.*]
286. —. On the subspecies of *Giraffa camelopardalis.* *P. Zool. Soc.* London 1904, i, pp. 202-227, pls. ix-xvi. [*Giraffidæ.*]



287. [LYDEKKER, R.] Note on the skull and markings of the Quagga. T. c. pp. 426-430, figg. [*Equidæ*.]
288. —. Note on the Wild Ass of Mongolia. T. c. pp. 431-433, pls. xxvii & xxviii. [*Equidæ*.]
289. —. On a Buffalo skull from East Central Africa. Op. cit. ii, pp. 164-166, fig. [*Bovidæ*.]
290. —. The Ichang Tufted Deer. T. c. pp. 167-170, figg. [*Cervidæ*.]
291. LYON, M. W. Classification of the Hares and their allies. Smithsonian Collect. xlv, pp. 321-447, pls. lxxiv-c. [*Leporidae* and *Ochotonidæ*.]
292. MACNAMARA, N. C. The craniology of Man and the Anthropoid Apes. Rep. Smithsonian Inst. 1902, pp. 431-449, pls. i-vi. [*Primates*.]
293. MACWILLIAM, J. A. Some points in the physiology of the Mammalian heart. Brit. Med. J. 1904, ii, pp. 739 & 740, Lancet 1904, ii, p. 538.
294. MAGGI, L. Novità craniali degli Equidi. Rend. Ist. Lombardo (2) xxxvii, pp. 792-801, figg. [*Perissodactyla*.]
295. —. Prefrontali nei Mammiferi l' Uomo compreso. T. c. pp. 826-838, pl.
296. MAJOR, C. I. FORSYTH. On dental peculiarities of certain Mammals. P. Zool. Soc. London 1904, i, pp. 416-424, figg. [*Insectivora*, *Hystri-  
cidæ*, *Bovidæ*.]
297. —. On remains of *Anthracotherium* from Majorca. T. c. pp. 456-458, pl. xxix. [*Anthracotheriidae*.]
298. —. Absence of *Lepus europæus* from British Pleistocene deposits. Geol. Mag. (3) i, p. 143. [*Leporidae*.]
299. MANSION, A. Les Soricides. Rev. Scient. (5) i, pp. 169-171. [*Muridæ*.]
300. MARIANI, M. Sopra alcuni avanzi di Mammiferi Quaternari trovati nell' alta Valle del Potenza. Bol. Soc. geol. Ital. xxiii, pp. 203-210.
301. MARSHALL, F. H. A. The œstrous cycle in the Ferret. Quart. J. Micr. Sci. xlviii, pp. 323-345, pls. 19-21. [*Mustelidæ*.]
- MARRO, G. [See Mosso & MARRO (334).]
302. MAŠKA, K. J. Mastodonrest bei Telš in Mähren. Verh. geol. Reichsanst. 1904, p. 304. [*Proboscidea*.]
303. MATSCHIE, P. Bemerkungen über die Gattung *Gorilla*. SB. Ges. naturf. Berlin 1904, pp. 45-53. [*Primates*.]
304. —. Bemerkungen über die Schimpanzen. T. c. pp. 55-69. [*Primates*.]
305. —. Die zehnte deutsche Geweihausstellung zu Berlin 1904. Waidwerk in Wort und Bild 1904, pp. 169-200, figg. [*Artiodactyla*.]
306. MATSUOKA, M. Ueber Gewebsveränderungen der künstlich erzeugten Kyphose der Schwanzwirbelsäule des Kaninchens. Arch. Entwickl.-mech. xviii, pp. 253-260, pl. xv. [*Leporidae*.]
307. MATTHEW, W. D. The arboreal ancestry of the *Mammalia*. Amer. Natural. xxxviii, pp. 811-818.
308. —. A complete skeleton of *Merycodus*. Bull. Amer. Mus. xx, pp. 101-129, pl. iii, figg. [*Camelidæ*.]

309. [MATTHEW, W. D.] Two new Oligocene Camels. T. c. pp. 211-215. [*Camelidae.*]
310. — & GIDLEY, J. W. Mammals from the Miocene of South Dakota. Bull. Amer. Mus. xx, pp. 241-268, figg. [*Carnivora, Rodentia, Artiodactyla.*]
311. MAURER, F. Das Integument eines Embryo von *Ursus arctos*; ein Beitrag zur Frage der Haare und Hautdrüsen bei Säugetieren. Denk. Ges. Jena, Haeckel's Festschrift, pp. 507-538, pl. xii. [*Ursidae.*]
312. MEISENHEIMER, J. Der Gehörsinn der Wale. Naturw. Wochenschr. (2) iii, pp. 1016 & 1017. [*Cetacea.*]
313. MERRIAM, C. H. New Grasshopper-Mice, genus *Onychomys*. P. Soc. Washington xvii, pp. 123-126. [*Muridae.*]
314. —. New Squirrels of the *aberti* group. T. c. pp. 129 & 130. [*Sciuridae.*]
315. —. Jack Rabbits of the *Lepus campestris* group. T. c. pp. 131-134. [*Leporidae.*]
316. —. Jack Rabbits of the *Lepus texianus* group. T. c. pp. 135-138. [*Leporidae.*]
317. —. Kangaroo-Rats of the genus *Perodipus*. T. c. pp. 139-146. [*Heteromyidae.*]
318. —. New Bears from N. America. T. c. pp. 153-156. [*Ursidae.*]
319. —. A new Coyote from S. Mexico. T. c. pp. 157 & 158. [*Cunidae.*]
320. —. A new Sea-Otter from S. California. T. c. pp. 159 & 160. [*Mustelidae.*]
321. MERTENS, A. Etwas vom Biber (*Castor fiber*). Zool. Garten xlv, pp. 57-60. [*Castoridae.*]
322. MEYER, A. B. The antiquity of the Lion in Greece. Rep. Smithson. Inst. 1903, pp. 661-667, 1 pl. Translation. [*Felidae.*]
323. MILLAIS, J. G. On a new Vole from the Orkney Islands. Zoologist (4) viii, pp. 241-246. [*Muridae.*]
324. —. On the skin of the Grey Seal at various ages. P. Zool. Soc. London 1904, ii, pp. 374-379. [*Pinnipedia.*]
325. —. The Mammals of Great Britain and Ireland. Vol. I. London (Longmans, Green & Co.) illustrated.
326. —. The Noctule Bat in Scotland. Field civ, p. 780.
327. MILLER, G. S. A new Pig from Sumatra. P. Soc. Washington xv, pp. 51 & 52, 1902. [*Suidae.*]
328. —. Notes on Bats collected in Cuba. P. U. S. Mus. xxvii, pp. 337-348, pl. ix. [*Chiroptera.*]
329. MILLER, W. S. Three cases of a pancreatic bladder in the Cat. Amer. J. Anat. iii, pp. 269-274, figg. [*Felidae.*]
330. MOFFAT, C. B. Bats, Hedgehogs, and Frogs in winter. Irish Natural. xiii, pp. 81-87. [*Chiroptera, Insectivora.*]
331. MONTGOMERY, T. H. A list of types of fossil Vertebrates in the Museum of the University of Texas. Biol. Bull. viii, pp. 56-58.
332. MOSSO, A. Esperienze fatte sulle Scimmie colla depressione barometrica. Rend. Acc. Lincei xiii, pp. 201-211.

333. [Mosso, A.] Esperienze fatte sulle Scimmie a Torino e sulla vetta del Monte Rosa. T. c. pp. 212-215.
- 333A. —. Expériences faites sur les Singes avec la depression barométrique. Arch. ital. Biol. xli, pp. 384-401. [*Primates.*]
334. — & MARRO, G. La respiration des Chiens et la polypnée thermique sur le sommet du Monte Rosa. T. c. pp. 356-374. [*Canidae.*]
335. MOTT, F. W. The progressive evolution of the visual cortex in *Mammalia*. Lancet 1904, ii, pp. 1555-1560, figg.
336. MOURION, M. A propos du gisement du Mammouth de Murdegat près de Hasselt. Bull. Ac. Belgique 1904, pp. 1046-1049. [*Proboscidea.*]
- 336A. MUNTHE, H. Om Nya Däggdjursfyndi Sverikes Kvärtar. Sveriges geol. Unders. Afh. (C), No. 190, 27 pp., 27 figg. [*Phocidae, Cetacea.*]
337. NADAILLAC, M. Figures peintes ou incisées sur les parois des grottes préhistoriques. Rev. Quest. Sci. (3) vi, pp. 67-96, figg.
338. NEHRING, A. Neue Funde diluvialer Thierreste vom Seveckenberge bei Quedlinburg. SB. Ges. naturf. Berlin 1904, pp. 19 & 20.
339. —. Einige Beobachtungen über *Phocæna communis*, namentlich über die Wurfzeit. Zool. Anz. xxvii, pp. 713-715. [*Cetacea.*]
340. NELSON, E. W. New Rabbits from Mexico. P. Soc. Washington xvii, pp. 103-110. [*Leporidae.*]
341. —. New Squirrels from Mexico. T. c. pp. 147-150. [*Sciuridae.*]
342. NEWTON, R. B. Notes on fossils from the district surrounding the Dardanelles. Quart. J. Geol. Soc. lx, pp. 277-292, pl. xxiv. [*Anthrocotheriidae.*]
343. NOC, F. Note sur la sécrétion venimeuse de l'*Ornithorhynchus paradoxus*. C.R. Soc. Biol. lvi, pp. 451 & 452. [*Monotremata.*]
344. NÜESCH, J. Neue Grabungen und Funde im Kesslerloch bei Thayngen, Kanton Schaffhausen. Denk. Schweiz. Ges. xxxix, pt. 2, pp. 1-72, pls. i-xxx. [*Equidae.*]
345. OLIVIER, O. Le Chimpanzé des Folies-Bergères. Rev. Sci. Bourbonnais xvii, pp. 46 & 47. [*Primates.*]
346. OSBORN, H. F. An Armadillo from the Middle (Bridger) Eocene of N. America. Bull. Amer. Mus. xx, pp. 163-165. [*Edentata.*]
347. —. New Oligocene Horses. T. c. pp. 167-179, pls. iv & v. [*Perissodactyla.*]
348. —. New Miocene Rhinoceroses, with revision of known species. T. c. pp. 307-326, figg. [*Perissodactyla.*]
349. —. Palæontological evidence for the tritubercular theory. Amer. J. Sci. (4) xvi, pp. 321-323, pl. xxi.
350. —. The evolution of the Horse in America. Century Mag. lxi, pp. 1-7, figg. [*Perissodactyla.*]
351. OSGOOD, W. H. *Haplomylomys*, a new subgenus of *Peromyscus*. P. Soc. Washington xvii, pp. 53 & 54, fig. [*Muridae.*]
352. —. New Mice of the genus *Peromyscus* from Mexico and Guatemala. T. c. pp. 55-77. [*Muridae.*]
353. —. A biological reconnaissance of the base of the Alaska Peninsula. North Amer. Fauna, No. 24, 86 pp., pls. [*Muridae.*]

354. PACKARD, A. S. The two chief faunæ of the earth. *Science* (2) xix, pp. 220 & 221.
355. PALADINO, G. Sur la régénération du parenchyme et sur le type de structure de l'ovaire de la femelle du Dauphin. *Arch. ital. Biol.* xlii, pp. 95-99. [*Cetacea*.]
356. —. Sulla regenerazione del parenchima ovarico e sul tipo di struttura dell'ovaja di Delfino. *Rend. Acc. Napoli* (3) ix, pp. 289-297, 2 pls. [*Cetacea*.]
357. PALMER, J. S. *Index Generum Mammalium*. North Amer. Fauna, No. 23, pp. 983.  
PARSONS, F. G. [See COPEMAN & PARSONS (114).]
358. PAVLOW, M. [Madam]. *Mastodon angustidens* et *Mastodon longirostris* en Russie. *Ann. Geol. Min. Russ.* vi, pp. 123-139, pls. i & ii. [*Proboscidea*.]  
PEARSON, K. [See BARRINGTON, etc. (48).]
359. PEEL, C. A. V. The present status of the American Bison. *Field civ*, p. 907. [*Bovidae*.]
360. PETERSON, O. A. Osteology of *Oxydactylus*, a new genus of Camels from the Loup Fork group of Nebraska. *Ann. Carnegie Mus.* ii, pp. 434-476, pls. iv-xv. [*Camelidae*.]
361. PILGRIM, G. E. Pleistocene fossils from the Ganges alluvium. *Rec. Geol. Surv. India* xxxi, pp. 176 & 177.
362. PIRA, A. Ueber die Fledermäuse von Saõ Paulo. *Zool. Anz.* xxviii, pp. 12-19, figg. [*Chiroptera*.]
363. POCHÉ, F. Richtigstellung einiger Gattungsnamen unter den Säugern. *Zool. Ann.* i, pp. 47-49. [*Edentata, Marsupialia*.]
364. POCKOCK, R. I. On a hybrid Waterbuck. *P. Zool. Soc. London* 1904, i, pp. 3 & 4, fig. [*Bovidae*.]
365. —. Description of a new spot-nosed Monkey of the genus *Cercopithecus*. *T. c.* pp. 433-436, fig. [*Primates*.]
366. —. The Cape Colony Quaggas. *Ann. Nat. Hist.* (7) xiv, pp. 313-328, pls. ix & x. [*Equidae*.]
367. PONTIER, —. Contribution à l'étude de la dentition chez l'*Elephas primigenius*. *Naturaliste* xxvi, pp. 248 & 249. [*Proboscidea*.]
368. PORTIS, A. Un interessante fossile dei Peperini. *Bol. Soc. geol. Ital.* xxiii, pp. 171-177. [*Bovidae*.]  
POWELL-COTTON, P. H. G. [See COTTON, P. H. G. POWELL (116).]
369. PREBLE, A. E. Catalogue of the Mammals in the Barnum Museum of Tufts College. *Tufts Coll. Stud.* i, pp. 437-443.
370. RACOVITZA, E. G. A summary of general observations on the spouting and movements of Whales. *Rep. Smithson. Inst.* 1903, pp. 627-645. Translation. [*Cetacea*.]
371. RADCLYFFE, C. R. E. *Big Game Shooting in Alaska*. London, pp. xvi + 292, illustrated.
372. —. The natural history of Alaska. *P. Dorset Club* xxv, pp. 8-16, pls. 1-6.
373. RAWITZ, B. Beiträge zur mikroskopischen Anatomie der Cetaceen. *Int. J. Anat.* xxi, pp. 22-30, figg. [*Cetacea*.]

374. REHN, J. A. G. A study of the genus *Chilonycteris*. P. Ac. Philad. 1904, pp. 181-207. [*Chiroptera*.]
375. —. A study of the Bats of the genus *Dermonotus* (*Pteronotus*). T. c. pp. 250-256. [*Chiroptera*.]
376. —. A study of the genus *Macrotus*. T. c. pp. 427-446. [*Chiroptera*.]
377. REICHENAU, W. Ueber einen Unterkiefer von *Equus stenonis* Cocchi aus dem Plioplistocän von Mosbach. Notizbl. Ver. geol. Landesanst. Darmstadt (4) xxiv, pp. 48-54, figg., 1903. [*Perissodactyla*.]
378. —. Ueber eine neue fossile Bären-Art, *Ursus deningeri*, aus fluviatilen Sanden von Mosbach. Jahrb. nassau. Ver. lvii, pp. 1-16. [*Ursidæ*.]
379. REJSEK, J. Anheftung (Implantation) des Säugethierieies an die Uterus-Wand insbesondere des Eies von *Spermophilus citillus*. Bull. Ceska Ak. (Med.) viii, pp. 37-49, 2 pls. [*Sciuridæ*.]
380. RENSHAW, G. Natural History Essays. London and Manchester pp. xiv + 218, illustrated. [Essays on sixteen species of mammals, two of which are now extinct; see *Bovidæ* and *Perissodactyla*.]
381. RETZER, R. Ueber die muskulöse Verbindung zwischen Vorhof und Ventrikel des Säugethierherzens. Arch. Anat. 1904, pp. 1-14, pls. i-iii.
382. RIDEWOOD, W. G. On the skull of the Giraffe. P. Zool. Soc. London 1904, i, pp. 150-157. [*Giraffidæ*.]
383. ROBINSON, A. Lectures on the early stages in the development of Mammalian ova, and on the formation of the placenta in different groups of Mammals. J. Anat. Physiol. norm. path. xxxviii, pp. 186-204, 325-340, 485-502, pls. xvii, xviii, xxxii, xxxiii, liv.
384. RODRIGUEZ, J. J. Preocupaciones y errores que, respecto á algunos animales, existen in Guatemala. An. Mus. Salvador i, pp. 458-473.
385. RÖMER, F. Die Anpassung der Wale an das Leben im Wasser. Ber. Senckenberg. Ges. 1904, pp. 77\* & 78\*. [*Cetacea*.]
- 385A. —. Die Haut der Säugethiere. T. c. pp. 91-110.
386. RÖRIG, A. Ueber den Nahrungsverbrauch einer Spitzmaus. Arb. gesundheit iv, pp. 121 & 122, pl. i. [*Soricidæ*.]
387. ROGER, O. Wirbelthierreste aus dem Dinotheriensande der bayerisch-schwäbischen Hochebene. Ber. Ver. Augsburg xxxii, pp. 548-552, 1899.
388. —. Wirbelthierreste, etc. Pt. 2. Op. cit. xxxiii, pp. 1-46, pls. i-iii, 1900. [*Hystricidæ*, *Cervidæ*.]
389. —. Wirbelthierreste, etc. Pt. 3. Op. cit. xxxiv, pp. 55-70, pls. i-iii, 1901.
390. —. Wirbelthierreste aus dem Obermiocän, etc. Pt. 4. Op. cit. xxxv, pp. 1-27, pl. i, 1902. [*Perissodactyla*.]
391. —. Wirbelthierreste, etc. Pt. 5. Op. cit. xxxvi, pp. 1-21, pls. i-vi.
392. —. Ueber *Rhinoceros goldfussi* Kaup und die anderen gleichzeitigen Rhinocerosarten. Op. cit. xxxiv, pp. 1-52 pls. i & ii, 1901. [*Perissodactyla*.]

393. ROMERO, G. Sulle terminazioni nervose nei muscoli pelliccini dorsali della *Talpa europaea*. Boll. Soc. zool. Ital. (2) v, pp. 65-67. [*Insectivora*.]
394. ROSSI, U. Sulla struttura della ipofisi e sulla esistenza di una ghiandola infundibulare nei Mammiferi. Monit. Zool. ital. xv, pp. 9-17.
395. ROTHSCHILD, W. Description of a new Antelope. P. Zool. Soc. London 1904, i, p. 229. [*Bovidae*.]  
ROUSSEAU, P. [See VASCHIDE & ROUSSEAU (477).]
396. ROUVIÈRE, H. Étude sur le développement du péricarde chez le Lapin. J. Anat. Physiol. xl, pp. 610-633, pls. xvii & xviii. [*Leporidae*.]
397. SACCHETTI, G. L'organo di Rosenmüller nella *Cavia cobaya*. Boll. Soc. Napoli xvii, pp. 225-227. [*Caviidae*.]
398. SALLE, E. Della *Balenoptera musculus arenata* nelle vicinanze di Livorno. Mem. Soc. Toscana xx, pp. 167-173. [*Cetacea*.]
399. SASAKI, C. A new Field-Mouse in Japan. Bull. Coll. Agric. Tokyo vi, pp. 51-55, pl. ix. [*Muridae*.]
400. SATUNIN, C. The Black Wild Cat of Transcaucasia. P. Zool. Soc. London 1904, ii, pp. 163 & 164. [*Felidae*.]
401. SCHACHT, H. Ende der Muffons (*Ovis tragelaphus*) im Teutoburger Wald. Zool. Garten xlv, pp. 276 & 277. [*Bovidae*.]
402. SCHILLINGS, C. G. Mit Blitzlicht und Büchse; neue Beobachtungen und Ergebnisse in der Wildniss inmitten der Tierwelt von Äquatorial-Ostafrika. Leipsic, 526 pp., illustrated.
403. SCHIÖTT, J. Musk-oxen in captivity. Rep. Smithson. Inst. 1903, pp. 601-609, figg. Translation. [*Bovidae*.]
404. SCHLOSSER, M. Die fossilen Cavicornia von Samos. Beitr. Pal. Oesterr.-Ung. xvii, pp. 21-118, pls. vii-xvi. [*Bovidae*.]
- 404A. —. Notizen über einige Säugethierfaunas aus dem Miocän von Württemberg und Bayern. N. Jahrb. Min. xix, Suppl. pp. 485-502, pl. xxvi. [*Canidae*, *Cervidae*.]
405. SCHNAUDIGEL, O. Die Sehorgane der Wirbeltiere. Ber. Senckenberg. Ges. 1903, pp. 187-202.
406. SCHNEIDER, G. Ergebnisse zoologischer Forschungsreisen in Sumatra. Zool. Anz. xxvii, pp. 721-724. [Contains descriptions of *Hipposiderus* and a *Tupaia* by THOMAS, see *Chiroptera* and *Insectivora*.]
407. SCHOTTLER, W. Ein Mastodonrest von Nordlek am Vogelsberg. Notizbl. Ver. geol. Landesanst. Darmstadt (4) xxiii, pp. 26-30, pl. ii. [*Proboscidea*.]  
SCHUMACHER, E. [See DOEDERLEIN & SCHUMACHER (139).]
408. SCHUMANN, A. Das Skelett der Hinterextremität von *Dipus aegyptius*. Morphol. Jahrb. xxxii, pp. 233-287, pls. vii & viii. [*Jaculidae*.]
409. SCHUSTER, L. Die Säugetiere des Vogelsberges. Zool. Garten xlv, pp. 80-84.
410. SCHWALBE, G. Die Vorgeschichte des Menschen. Brunswick (F. Vieweg), 52 pp. and pl. [*Anthropoidea*.]

411. [SCHWALBE, G.] Ueber das Gehirnrelief des Schädels bei Säugetieren. Zeitschr. Morphol. vii, pp. 203-222, pls. i & ii.
412. —. Ueber die Stirnnaht bei den Primaten. T. c. pp. 502-523, figg. [*Primates.*]
413. —. Ueber die Stirnnaht bei den Affen. Verh. Ges. deutsch. Naturf. lxxv, pt. ii, pp. 214 & 215. [*Primates.*]
414. SCHWANN, H. On new forms of *Anomalurus* and *Sciurus* from tropical Africa. Ann. Nat. Hist. (7) xiii, pp. 70-73. [*Anomaluridæ*, *Sciuridæ.*]
415. —. On *Felis ocreata* and its subspecies. T. c. pp. 421-426. [*Felidæ.*]  
— [See also THOMAS (467 & 467A).]
416. SCOTT, W. B. Mammalia of the Santa Cruz beds. 1. *Edentata*. 2. *Glyptodontia* and *Gravigrada*, pp. 107-221, pls. xvii-xxxv, 1903. 3. *Gravigrada*, pp. 222-364, pls. xxxvi-lxiii. Rep. Princeton Exped. v. [*Edentata.*]
417. SEGUENZA, L. Alcuni molari Elefantini fossili di Sicilia e di Calabria. Riv. ital. Pal. x, pp. 41-58, pl. iv. [*Proboscidea.*]
418. SERGI, S. Il solco di Rolando ed il lobo frontale nell' *Hylobates syndactylus*. Monit. Zool. ital. xv, pp. 273-283, figg. [*Primates.*]
419. SETON, E. T. The master ploughman of the west—a study of Pocket-Gophers. Century Mag. lxxviii, pp. 300-307, figg. [*Geomyidæ.*]
420. —. The speed of animals [Mammals]. Field civ, p. 1110.
421. SHEPPARD, T. Remains of the Lion in East Yorkshire. Naturalist 1904, pp. 102-104, fig. [*Felidæ.*]
422. —. Remains of the Bear in East Yorkshire. T. c. pp. 142 & 143, fig. [*Ursidæ.*]
423. —. Walrus remains in Holderness. T. c. p. 317. [*Pinnipedia.*]
424. SIM, G. White-beaked Dolphin (*Lagenorhynchus albirostris*) off Aberdeen. Zoologist (4) viii, p. 383. [*Cetacea.*]
425. SIMONIESCU, J. Ueber einige tertiäre Säugethierreste aus der Moldau (Rumänien). Verh. geol. Reichsanst. 1904, pp. 70-73.
426. \*—. Sur quelques Mammifères fossiles trouvés dans les terrains tertiaires de la Moldavie. Ann. Univ. Jassy iii, pp. 21-25.
427. SINCLAIR, W. J. Exploration of Potter Creek Cave. Publ. Calif. Univ. Archæol. and Ethnol. ii, pp. 1-27, pls. i-xiv. [*Haplodontidæ*, *Bovidæ.*]
428. — & FURLONG, E. L. *Euceratherium*, a new Ungulate from the caves of California. Bull. geol. Univ. Calif. iii, pp. 411-418, pls. l & li. [*Bovidæ.*]
429. SMITH, E. G. The morphology of the occipital region of the cerebral hemisphere in Man and Apes. Anat. Anz. xxiv, pp. 436-451, figg. [*Primates.*]
430. —. Morphology of the retrocalcarine region of the cortex cerebri. P. R. Soc. London lxxiii, pp. 59-64. [*Primates.*]
431. —. Studies in the morphology of the human brain, with special reference to that of the Egyptians; the occipital region. Rec. Egypt. School Med. ii, pp. 125-173, pl. B. [*Primates.*]

432. "SNAFFLE". The Roedeer. London. 181 pp., illustrated. [*Cervidae.*]
433. SORDELLI, F. Note su alcuni Vertebrati del Museo di Milano. Atti Mus. Milano xliii, pp. 305-316.
434. SOUTHWELL, T. On the Whale fishery from Scotland, with some account of the species hunted. Ann. Scott. Nat. Hist. 1904, pp. 77-90, pl. iv. [*Cetacea.*]
- 434A. —. Notes on the Seal and Whale fishery for 1903. Zoologist (4) viii, pp. 57-65. [*Pinnipedia, Cetacea.*]
- 434B. SPURGIN, A. M. Enamel in the teeth of an embryo Edentate (*Dasypus novemcinctus* Linn.). Amer. J. Anat. iii, pp. 75-84, 2 pls.
435. STACK, J. Ueber die Entstehung des Ersatzgebisses und der Backenzähne bei den Säugetieren. Bull. Ac. Cracovie 1904, pp. 283-299.
436. STANDING, H. F. Sur des ossements subfossiles provenant d'Ampasambazimba. Bull. Ac. Malgache ii, pp. 227-235, pls. i-xii, 1903. [*Lemuroidea.*]
437. STEHLIN, H. Die Säugethiere des schweizerischen Eocaens. Pt. 1. Abh. Schweiz. pal. Ges. xxx, art. 1, 153 pp., 3 pls. [*Perissodactyla.*]
438. STEJNEGER, L. Den celtiske pony, tarpanen og fjordhesten. Naturen 1904, pp. 161-168. [*Equidae.*]
439. STERZEL, —. Diluviale Säugethierreste aus dem Mosbacher-Sande. Ber. Ges. Chemnitz xxv, p. liv.
440. STINGELIN, T. Ueber ein im Museum zu Olten aufgestelltes Kraniaum von *Elephas primigenius*. Abh. Schweiz. pal. Ges. xxix, art. 5, 9 pp., 1 pl., 1902. [*Proboscidea.*]
441. STONE, W. On Birds and Mammals from Mount Sanhedrin, California. P. Ac. Philad. 1904, pp. 576-585.
442. —. Notes on Californian Mammals. T. c. pp. 586-591. [*Chiroptera.*]
443. STRICHT, O. VAN DER. La structure de l'œuf des Mammifères. Arch. Biol. xxi, pp. 1-102, pls. ii & iii.
444. STUDER, T. Die Knochenreste aus der Höhle zum Kesslerloch bei Thayngen. Denk. Schweiz. Ges. xxxix, pt. 2, pp. 73-114, pls. i & ii. [*Equidae.*]
445. SWEET, G. [Miss]. The anatomy of *Notoryctes typhlops*. Pts. 1 & 2. P. Soc. Victoria (2) xvii, pp. 76-103, pls. vi-ix. [*Marsupialia.*]
446. TAYLOR, W. The Whales and Dolphins of the Moray Firth. Tr. Inverness Soc. v, pp. 236-241, 1902. [*Cetacea.*]
447. THOMAS, O. On a collection of Mammals made in Arnheim-land, S. Australia. Nov. Zool. xi, pp. 222-229. [*Muridae, Marsupialia.*]
448. —. On a new Rock-Wallaby from N.W. Australia. T. c. pp. 365 & 366. [*Marsupialia.*]
449. —. New species of *Pteropus*, *Mus*, and *Pogonomys* from the Australian region. T. c. pp. 597-606. [*Chiroptera, Muridae.*]
450. —. New Bats from British E. Africa and the Cameroons. Ann. Nat. Hist. (7) xiii, pp. 206-210. [*Chiroptera.*]
451. —. New forms of *Saimiri*, etc., from the Neotropical region. T. c. pp. 250-255. [*Primates, Chiroptera, Octodontide.*]



452. [THOMAS, O.] A Bat from the United States representing *Myotis daubentonii*. T. c. pp. 382-384. [*Chiroptera*.]
453. ——. Three new Bats. T. c. pp. 384-388. [*Chiroptera*.]
454. ——. Mammals from Northern Angola. T. c. pp. 405-421. [*Chiroptera*, *Viverridae*, *Rodentia*.]
455. ——. New *Sciurus*, *Rhipidomys*, *Sylvilagus* and *Caluromys* from Venezuela. Op. cit. xiv, pp. 33-37. [*Rodentia*, *Marsupialia*.]
456. ——. On Mammals obtained in Somaliland, with descriptions of allied species. T. c. pp. 94-105. [*Carnivora*, *Rodentia*.]
457. ——. On Mammals collected in the Eastern Desert of Egypt. T. c. pp. 155-159. [*Chiroptera*, *Jaculidae*.]
458. ——. New *Callithrix*, *Midas*, *Felis*, *Rhipidomys* and *Proechimys* from Brazil and Ecuador. T. c. pp. 188-196. [*Primates*, *Felidae*, *Rodentia*.]
459. ——. New Bats and Rodents from W. Africa, the Malay Peninsula, and Papuasia. T. c. pp. 196-202. [*Chiroptera*, *Rodentia*.]
460. ——. On Shrews from British E. Africa. T. c. pp. 236-241. [*Insectivora*.]
461. ——. On Mammals from British New Guinea, with descriptions of species from the same region. T. c. pp. 397-403. [*Muridae*, *Marsupialia*.]
462. ——. On a new Gazelle. P. Zool. Soc. London 1904, i, pp. 4 & 5, fig. [*Bovidae*.]
463. ——. On a Fruit-Bat and a Buffalo. T. c. pp. 371 & 372. [*Chiroptera*, *Bovidae*.]
464. ——. On a new subspecies of Hartebeest. T. c. pp. 455 & 456. [*Bovidae*.]
465. ——. On the osteology and systematic position of the Malagasy Bat *Myzopoda aurita*. Op. cit. ii, pp. 2-6, pl. i. [*Chiroptera*.]
466. ——. The Forest Pig of Central Africa. Nature lxx, p. 577. [*Suidae*.]
467. — & SCHWANN, H. On Mammals from British Namaqualand. P. Zool. Soc. London 1904, i, pp. 171-183, pl. vi. [*Viverridae*, *Rodentia*.]
- 467A. — & ——. On Mammals collected during the Uganda Boundary Commission. T. c. pp. 459-465, fig. [*Mustelidae*, *Muridae*, *Hyracoidea*, *Bovidae*.]
468. TOIT, P. J. DU. South African Jackals. S. African Agricult. J. 1904, pp. 569-572, pl. [*Canidae*.]
469. TREGARTHEN, J. C. Wild Life at the Land's End; observations of the habits of the fox, badger, otter, seal, hare, and of their pursuers in Cornwall. London, pp. xii + 236, illustrated.
470. TRENDELENBURG, W. Ueber das Vorkommen von Sehpurpur im Fledermausauge, nebst Bemerkungen über den Zusammenhang zwischen Sehpurpur und Netzhautstäbchen. Arch. Physiol. 1904, Suppl. pp. 228-240. [*Chiroptera*.]
471. TROUËSSART, E. L. Catalogus Mammalium, Quinquennale Suppl. Pts. 1 & 2, Berlin. [*Primates*, *Chiroptera*, *Insectivora*, *Carnivora*, *Pinnipedia*, and *Rodentia*.]

472. TRUE, F. W. The Whalebone Whales of the Western North Atlantic compared with those occurring in European waters, with observations on the species of the North Pacific. *Smithson. Contr.* 4to, vii, 333 pp., 50 pls. [*Cetacea.*]
473. —. Notes on a Killer Whale (*Orcinus*) from Maine. *P. U. S. Mus.* xxvii, pp. 227-230, pls. vii & viii. [*Cetacea.*]
474. —. Note on three Beaked Whales from the N. Pacific. *Science* (2) xx, pp. 888 & 889. [*Cetacea.*]
475. ULMER, G. Zur Fauna des Eppendorfer Moores bei Hamburg. *Verh. Ver. Hamburg naturw.* (3) xi, pp. 1-5.
476. VALLENTIN, R. Notes on the Falkland Islands. *Mem. Manchester Soc.* xlviii, No. xxiii, 48 pp., 3 pls. [*Canidae.*]
477. VASCHIDE, N. & ROUSSEAU, P. L'association des idées chez les Singes. *Rev. Scient.* (5) i, pp. 583-589 & 617-620. [*Primates.*]
478. VERRILL, A. E. Additions to the fauna of the Bermudas. *Tr. Connect. Ac.* xi, Mammals, p. 59, fig., 1903.
479. VÖLKER, O. Ueber die Entwicklung des Diaphragmas beim Ziesel (*Spermophilus citillus*). *Bull. Ceska Ak. (Med.)* vii, pp. 26-46, pls. i & ii, 1903. [*Sciuridae.*]
480. —. Ueber die Histogenese Corporis lutei bei dem Ziesel. *Op. cit.* viii, pp. 17-36, 2 pls. [*Sciuridae.*]
481. VOLZ, W. Zur Kenntniss der Suiden Sumatras. *Zool. Jahrb. Syst.* xx, pp. 509-540, pl. xviii. [*Suidae.*]
482. —. Ueber die Verbreitung einiger anthropoider Affen in Sumatra. *Biol. Centrbl.* xxiv, pp. 475 & 476. [*Primates.*]
483. WAITE, E. B. Description of a new *Phascologale* from N.W. Australia. *Rec. Austral. Mus.* v, pp. 122-124. [*Marsupialia.*]
484. —. The genus *Dromicia* in New South Wales. *T. c. p.* 134. [*Marsupialia.*]
485. WALKOFF, O. Studien über Entwicklung und Schädelbau der *Primates*, in E. Selenka's Studien über Entwicklungsgeschichte. / Pt. 9, Der Unterkiefer; Pt. 10, Keimsgeschichte; Pt. 11, Die Diluvialen Menschlichen Kiefer Belgiens, etc. Pt. 12, Primaten Placenten (1903). [*Primates.*]
486. WALLACE, T. D. The Wild Boar in Britain. *Tr. Inverness Soc.* v, pp. 296-305. [*Suidae.*]  
WATERSTON, D. [See HEPBURN & WATERSTON (204 & 205).]
487. WEBER, M. Die Säugetiere; Einführung in die Anatomie und Systematik der recenten und fossilen Mammalia. Jena, 1904, pp. xii+866, illustrated.
488. WEBER, M. Ueber Tertiäre Rhinocerotiden von der Insel Samos. *Bull. Soc. Moscou* 1903, pp. 477-501, pls. xiv-xvi. [*Perissodactyla.*]
489. WEIGNER, K. Experimenteller Beitrag zur Frage vom centralen Verlaufe des Nervus cochlearis beim *Spermophilus citillus*. *Bull. Ceska Ak. (Med.)* vii, pp. 65-74, figg., 1903. [*Sciuridae.*]
490. —. Ueber die dorsale Wurzel des Nervus hypoglossus mit Ganglion bei *Bos taurus*. *Op. cit.* viii, pp. 1-7, figg. [*Bovidae.*]
491. —. Přespevek k centrálnímu průběhu nervi cochlearis u *Spermophilus citillus*. *Rosp. Ceske Ak. Praze* xii, art. 12. [*Sciuridae.*]

492. WEMER, P. Die Nahrung unseres Eichhörnchens. Jahresber. Westfal. Ver. xxxi, pp. 217-221. [*Sciuridae*.]
493. WHIPPLE, I. L. The ventral surface of the Mammalian chiridium. Zeitschr. Morphol. vii, pp. 261-368, pls. v & vi.
494. WHITNEY, C. (and others). Musk-Ox, Bison, Sheep, and Goat (American Sportsman's Library). New York and London, pp. 284, illustrated. [*Bovidae*.]
495. WIEDEMANN, A. Das ägyptische Set-Tier. Orient. Litter.-Zeitung. 1902, pp. 222 & 223. [*Giraffidae*.]
496. WILDER, B. C. The brain of the Sheep, being part iv of Physiology Practicum. 3rd ed. Ithaca, 70 pp., 7 pls. [*Bovidae*.]
497. WILLEY, A. Crows and Flying Foxes at Barbelyn. Spolia Zeylan. ii, pp. 50 & 51. [*Chiroptera*.]
498. WINGE, H. Om jordfundne Pattedyr fra Danmark. Vid. Medd. 1904, pp. 193-304, pls. vii-xiii.
499. WOLDRICH, J. N. & J. Diluviale Fauna von Zuzlavitz. Arch. Landesf. Bohmen xii, No. 4, pp. 108-113.
500. WOODWARD, A. S. The ancestry of the Elephants. Knowledge and Scient. News i, pp. 11-13, figg. [*Proboscidea*.]
501. WORTMAN, J. L. Studies of Eocene Mammalia in the Marsh Collection, Peabody Museum (cont.). Amer. J. Sci. (4) xvii, pp. 23-33, 133-140, 203-214, figg. [*Lemuroidea*.]
- WURTZ, —. [See BRUMPT & WURTZ (83-85).]
502. ZIMMERMANN, E. Ein neuer Fund diluvialer Knochen bei Pössneck in Thüringen. Jahrb. geol. Landesanst. Berlin xxii, pp. 302-315.
503. ZUCKERKANDL, E. Zur Morphologie des Affengehirnes. Zeitschr. Morphol. vii, pp. 223-260, pls. iv, viii, pp. 100-121, pl. v. [*Primates*.]
- [For additional titles see Addenda, p. 51.]

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[† *prefixed to a paragraph indicates that it relates, in part or altogether, to extinct forms: when the sign is placed before a specific name it indicates that the species referred to is extinct.*]

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- Phylogeny, CHAPMAN, P. Ac. Philad. 1904, p. 148; cerebral arteries, BEDDARD, P. Zool. Soc. London 1904, i, p. 157; division of parietal bone, HRDLÍČKA, Amer. Natural. xxxviii, p. 301; division of malar, HRDLÍČKA, t. c. p. 361; premaxilla, ANDERSON, C.R. xivth Congr. Internat. Med. 1903, 7 pp.; mental powers of Apes, VASCHIDE & ROUSSEAU, Rev. Scient. (5) i, p. 583; foetal appendages, SCHWALBE, Zeitschr. Morphol. vii, p. 502, and Verh. Ges. deutsch. Naturf. lxxv, pt. ii, p. 214; brain, ZUCKERKANDEL, Zeitschr. Morphol. vii, p. 223, viii, p. 100; cerebellum, BRADLEY, J. Anat. Physiol. norm. path. xxxviii, p. 448 and xxxix, p. 98; craniology, placenta, etc., WALKOFF (485); Man and Apes, MACNAMARA (Addenda).

#### ANTHROPOIDEA.

- Effects of diminished atmospheric pressure on, Mosso, Rend. Acc. Lincei xiii, pp. 201 & 212, and Arch. ital. Biol. xli, p. 384; brain, SMITH, Anat. Anz. xxiv, p. 436, P. R. Soc. London lxxiii, p. 59, and Rec. Egypt. School Med. ii, p. 125; ancestral Man and Apes, SCHWALBE (410); entepicondylar foramen in human humerus, DWIGHT, Amer. J. Anat. iii, p. 221.
- Craniology of Anthropoids, MACNAMARA, Rep. Smithson. Inst. 1902, p. 431; tripartite parietal, FRASSETTO, Monit. Zool. ital. xv, p. 385.
- Gorilla castaneiceps* Slack, 1862, stands for *G. mayema* Alix & Bouvier, p. 50, *diehli*, N. Cameruns, p. 52, n. sp., MATSCHIE, SB. Ges. naturf. Berlin 1904; gorillas in London Zool. Gardens, ANON, Field civ, p. 459.
- Anthropopithecus troglodytes*, death of specimen "Consul," OLIVIER, Rev. Sci. Bourbonnais xvii, p. 46.
- Simia* replaces *Anthropopithecus*, the different species of the genus, MATSCHIE, SB. Ges. naturf. Berlin 1904, p. 55.
- Siamanga syndactylus* and *Hylobates agilis*, distribution in Sumatra, VOLZ, Biol. Centrbl. xxiv, p. 475; sulcus of Rolando in *syndactylus*, SERGI, Monit. Zool. ital. xv, p. 273.
- Hylobates*, biceps brachii, GRÖNROOS, Abh. Ak. Berlin 1903, i, p. 1.
- Macacus rhesus*, divided frontal, KANTOR, Zeitschr. Morphol. vii, p. 543.
- Cercopithecus sclateri*, Benin, W. Africa, Pocock, P. Zool. Soc. London 1904, i, p. 433, n. sp.
- Pogonocobus*, n. nom. for *Diadema* Reich. 1863, nec Schum, 1817, TROUESSART, Cat. Mamm. Suppl., p. 14.
- Leptocebus*, n. nom. for *Semnocebus* Gray, 1870, nec Lesson, 1840, TROUESSART, t. c. p. 15. [Antedated by *Lophocebus*, PALMER, 1903.]
- Maimon*, n. nom. for *Mormon* Lesson, 1840, nec Illiger, 1811, TROUESSART, Cat. Mamm. Suppl., p. 21.

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*Saimiri cersteddi citrinellus*, Costa Rica, THOMAS, Ann. Nat. Hist. (7) xiii, p. 250, n. subsp.  
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*Perodicticus* and *Nycticebus*, brain, BEDDARD, P. Zool. Soc. London 1904, i, p. 157.  
*Lemur*, adductor muscles, ALEZAIS, C.R. Soc. Biol. lvi, p. 537.  
†*Pronycticebus*, n. g. for *P. gaudryi*, Tertiary, France, n. sp., GRANDIDIER, Bull. Mus. Paris 1904, p. 9.  
†*Megatapaxis edwardsi*, osteology, LORENZ, Anz. Ak. Wiss. 1904, p. 257, *grandidieri*, superficial, Madagascar, STANDING, Bull. Ac. Malgache ii, p. 229, n. sp.  
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*Pteropus medius*, habits in Ceylon, WILLEY, Spolia Zeylan. ii, p. 50; *solomonis*, Solomon Group, THOMAS, Nov. Zool. xi, p. 597, n. sp.  
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*Euryalus*, n. subg. for *Rhinolophus euryale* Blasius, 1853, MATSCHIE, SB. Ges. naturf. Berlin 1901, p. 227, *E. toscanus*, Mti. Pisani, *atlanticus*, Indre-et-Loire, p. 77, *cabreræ*, Madrid, p. 78, *barbarus*, Tangier, *meridionalis*, Algeria, p. 79, *judaicus*, Jerusalem, p. 80, ANDERSEN & MATSCHIE, ibid. 1904, n. spp.  
*Hipposiderus commersoni mostellum*, B. E. Africa, Ann. Nat. Hist. (7) xiii, p. 385, *schneideri*, Sumatra, Zool. Anz. xxvii, p. 721, THOMAS, n. subsp. & sp.

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- Vesperus melanopterus*, Paramaribo, W. Indies, JENTINK, Notes Leyden Mus. xxiv, p. 176, n. sp.
- Eptesicus fuscus melanopterus*, Mt Tallac, California, STONE, P. Ac. Philad. 1904, p. 590, n. subsp.
- Pipistrellus noctula* in Scotland, MILLAIS, Field civ, p. 780; *pipistrellus mediterraneus*, Spain, CABRERA, Mem. Soc. Espan. ii, p. 273, *hesperus apus*, Mexico, ELLIOT, Field Mus. Zool. iii, p. 269; *crassulus*, Cameroons, xiii, p. 206, *raptor*, Tonkin, p. 386, *ariel*, Egyptian Desert, xiv, p. 157, *nanulus*, Cameroons, p. 198, THOMAS, Ann. Nat. Hist. (7); n. spp. & subsp.
- Scotophilus nigrita colias*, B. E. Africa, p. 207, n. nux, Cameroons, p. 208, THOMAS, Ann. Nat. Hist. (7) xiii, n. subsp.
- Myotis escaleraei*, Spain, CABRERA, Mem. Soc. Espan. ii, p. 279; *chiriquensis*, Panama, ALLEN, Bull. Amer. Mus. xx, p. 77; *hildegardae*, B. E. Africa, p. 209, *carissima*, Yellowstone, p. 383, *bocagei cupreolus*, Angola, p. 407, THOMAS, Ann. Nat. Hist. (7) xiii; n. spp. & subsp.: *dasyneume* in Hungary, ARMIN, Allatt. Kozl. Magyar Tars. 1904, p. 98.
- Kerivoula bicolor*, Jalor, Malay Peninsula, THOMAS, Ann. Nat. Hist. (7) xiv, p. 199, n. sp.; *picta*, from Sumatra, JENTINK, Notes Leyden Mus. xxiv, p. 174.
- Myzopoda aurita*, the type of a family to which may be allied *Mystacops*, THOMAS, P. Zool. Soc. London 1904, ii, p. 2.
- Mystacops tuberculatus*, impending, if not actual, extermination, HUTTON & DRUMMOND, "Animals of New Zealand," p. 32.
- Emballonura nigrescens solomonis*, New Britain and Solomon Ids., THOMAS, Ann. Nat. Hist. (7) xiv, p. 200, n. subsp.
- Saccopteryx bilineata centralis*, Mexico, THOMAS, Ann. Nat. Hist. (7) xiii, p. 251, n. subsp.
- Balantiopteryx io*, Guatemala, THOMAS, t. c., p. 522, n. sp.
- Molossus coibensis*, Coiba I. Panama, p. 227, *bondae*, Bonda, Colombia, p. 228, ALLEN, Bull. Amer. Mus. xx, n. spp.
- Promops barbatus*, La Union, Venezuela, ALLEN, l. c., n. sp.
- Nyctinomus hindei*, B. E. Africa, THOMAS, Ann. Nat. Hist. (7) xiii, p. 210, n. sp.
- Chilonycteris macleanyi inflata*, Porto Rico, p. 190, n. subsp.; key to the species, p. 181, REHN, P. Ac. Philad. 1904.
- Dermonotus suapurensis*, Suapure, Venezuela, ALLEN, Bull. Amer. Mus. xx, p. 229, n. sp.; key to the species, REHN, P. Ac. Philad. 1904, p. 250.
- Otopterus mexicanus* and *bocourtianus*, note on, ALLEN, Bull. Amer. Mus. xx, p. 235. *Macrotus* (= *Otopterus*), key to the species, p. 429, *M. waterhousei jamaicensis*, Jamaica, p. 432, *w. compressus*, Bahamas, p. 434, *pygmaeus*, Yucatan, p. 444, n. sp. & subsp., REHN, P. Ac. Philad. 1904.
- Phyllostomus hastatus panamensis*, Chiriqui, p. 233, *h. cauræ*, Caura Valley, Colombia, p. 234, ALLEN, Bull. Amer. Mus. xx, n. subsp.
- Lonchophylla thomasi*, Ciudad Bolivar, Venezuela, ALLEN, t. c. p. 230, n. sp.
- Artibeus rusbyi*, Yungas, Peru, p. 230, *insularis*, St Kitts, W. Indies, p. 231, *yucatanicus*, Chichenitza, Yucatan, p. 232, ALLEN, t. c. n. spp.

### III. INSECTIVORA.

- Hibernation, MOFFAT, Irish Natural. xiii, p. 81; of Poland, DYBOWSKI, Kosmos polski. xxviii, p. 403.
- For alleged Patagonian extinct representative of *Galeopithecidae*, see Addenda.

- Tupaia*, cæcum, etc., CHAPMAN, P. Ac. Philad. 1904, p. 148; *ferruginea demissa*, Sumatra, THOMAS, Zool. Anz. xxvii, p. 723, n. subsp.
- †*Cordylodon schlosseri*, Miocene, Silesia, ANDREÆ, Mitt. Mus. Hildesheim, No. 20, p. 20, n. sp.
- Sorex* (†) *meyeri*, n. nom. for *pusillus* Meyer, nec Gmelin, TROUËSSART, Cat. Mamm. Suppl., p. 131; †*pusillus grivensis*, additional molar in, MAJOR, P. Zool. Soc. London 1904, i, p. 422; *araneus*, food, RÖRIG, Arb. Geshundeit iv, p. 121.
- Crocidura hindei*, *velutina*, p. 237, *fumosa*, *jacksoni*, p. 238, *maurisca*, p. 239, *hildegardæ*, *cunninghamei*, p. 240, B. E. Africa, THOMAS, Ann. Nat. Hist. (7) xiv, n. spp.
- Talpa europæa*, eye, BRUTON, Mem. Manchester Soc. xlviii, No. 20; nerve-terminations, ROMERO, Boll. Soc. zool. Ital. (2) v, p. 65.
- Solenodon* unknown on the American mainland, BANGS, P. Soc. Washington xvii, p. 166.
- Potamogale velox*, specimens in Paris Museum, GRANDIDIER, Bull. Mus. Paris 1904, p. 45.
- Chrysochloris*, change of dentition in adult state, LECHE, Zool. Anz. xxvii, p. 219.
- †*Apternodus*, n. g. for *A. mediævus*, Miocene, Montana, n. sp., MATTHEW, Bull. Amer. Mus. xix, p. 202, 1903.
- †*Micropternodus*, n. g. for *M. borealis*, *ibid.*, n. sp., MATTHEW, t. c. p. 204.
- †*Ictops thomsoni*, *ibid.*, MATTHEW, t. c. p. 207, n. sp.
- †*Proterix*, n. g. for *P. loomisi*, Oligocene, Dakota, n. sp., MATTHEW, t. c. p. 227.

## IV. CARNIVORA.

Ancestry, LYDEKKER, Knowledge and Scient. News i, p. 61; of Bohemia, recent and fossil, KAFKA, Arch. Landesf. Bohmen x, p. 6.

## A. CARNASSIDENTIA.

## FELIDÆ and VIVERRIDÆ.

*Felis grayi*, n. nom. for *chinensis* Gray, 1867, nec 1837, p. 268; †*schmerlingi*, n. nom. for *minor* Schmerling, nec Temminck, p. 272; TROUËSSART, Cat. Mamm. Suppl. *carrikeri*, Costa Rica, p. 47, n. sp., *mearnsi*, n. nom. for *costaricensis* Mearns, nec Merriam, *panamensis*, Panama, p. 71, n. sp., ALLEN, Bull. Amer. Mus. xx; *ocreata* Gmelin, 1791, stands for *cafra* (= *caligata* Temm., *lybica* de Winton) Desm.; *o. rubida*, Monbuttu, p. 422, *o. mellandi*, Lake Mweru, p. 423, *o. ugandæ*, Uganda, p. 424, SCHWANN, Ann. Nat. Hist. (7) xiii; *daemon*, Transcaucasia, SATUNIN, P. Zool. Soc. London 1904, ii, p. 163; *lynx wardi*, Altai, LYDEKKER, Field civ, p. 576; *pardus nanopardus*, Somaliland, p. 94, *wiedii vigens*, near Parà, p. 192, THOMAS, Ann. Nat. Hist. (7) xiv; *maripensis*, Maripa, Venezuela, p. 331, *sanctæ-martæ*, Santa Marta, Colombia, p. 332, ALLEN, Bull. Amer. Mus. xx; n. spp. and subsp.: *chaus*, black phase in Ceylon, DRUMMOND-HAY, Spolia Zeylan. ii, p. 93; *leo*, in Greece, MEYER, Rep. Smithson. Inst. 1903, p. 161, in E. Yorkshire, SHEPPARD, Naturalist 1904, p. 102, prey, CRAWSHAY, P. Zool. Soc. London 1904, ii, p. 144, abnormally coloured cubs, BOLTON, P. Bristol Soc. 2 (x), p. 248; *tristis* allied to *pardalis*, LYDEKKER, Field civ, p. 907; *catus*, in Normandy, LETACQ, Bull. Soc. Rouen xxxix, p. 139, cerebellar capillaries of, ABY, J. Neurol. ix, p. 26 (1899); *domestica*, pancreatic bladder in, MILLER, Amer. J. Anat. iii, p. 269. See also Addendum, p. 50.

*Genetta vulgaris*, myology, CHAINE, Pr.-verb. Soc. Bordeaux 1902-3, p. 59.

- Herpestes ruddi*, figured, THOMAS & SCHWANN, P. Zool. Soc. London 1904 i, pl. vi; *albicaudus loandæ*, Angola, xiii, p. 408, *a. ibeanus*, E. Africa, p. 409, *ocraceus perfulvidus*, Central Somaliland, xiv, p. 96, *o. fulvidior*, S. of Berbera, p. 97, THOMAS, Ann. Nat. Hist. (7), n. subsp.
- Cynictis penicillata pallidior*, Namaqualand, THOMAS & SCHWANN, P. Zool. Soc. London 1904, ii, p. 175, n. subsp.
- Helogale hirtula*, Somaliland, THOMAS, Ann. Nat. Hist. (7) xiv, p. 98, n. sp.
- †*Cynodictis paterculus*, Miocene, Montana, MATTHEW, Bull. Amer. Mus. xix, p. 209, n. sp., 1903.

## PROTELEIDÆ and CANIDÆ.

- Habits of *Proteles* and S. African *Canidæ*, DU TOIT, S. African Agricult. J. 1904, p. 569.
- Canis familiaris*, effects of diminished atmospheric pressure, MOSSO & MARRO, Arch. ital. Biol. xli, p. 356; crotophite muscle, ANTHONY, Bull. Mus. Paris 1903, p. 364; various breeds, BYLANDT (88); pancreas, BARTELS, Arch. Anat. 1904, p. 299; *prehistoricus*, prehistoric, Bohemia, KAFKA, Arch. Landesdf. Bohmen x, p. 67, n. subsp.; origin of St Bernhard, KRÆMER, Globus lxxxv, pp. 105 et seq.; *prichardi*, n. nom. for *montanus* Prichard, 1902, nec Pearson, TROUSSERT, Cat. Mamm. Suppl. p. 234; *antarcticus*, extinct, VALLENTIN, Mem. Manchester Soc. lvi, No. 23, p. 45, LYDEKKER, Field civ, p. 613; *goldmani*, Chiapas, Mexico, MERRIAM, P. Soc. Washington xvii, p. 157, n. sp.; *aureus* in Egyptian paintings, BOUSSAC, Naturaliste xxvi, p. 245.
- Urocyon cinereo-argentatus inyoensis*, California, ELLIOT, Field Mus. Zool. iii, p. 268, n. subsp.
- Nyctereutes albus*, N. Japan, BEARD, Scientific American 1904, p. 287, n. sp.
- Lycan pictus somalicus*, Somaliland, *p. zuluensis*, Zululand, THOMAS, Ann. Nat. Hist. (7) xiv, p. 98, n. subsp.
- †*Ischyrocyon*, n. g. for *I. hyenodus*, Miocene, S. Dakota, n. sp., MATTHEW & GIDLEY, Bull. Amer. Mus. xx, p. 246.
- †*Amphicyon socialis*, Miocene, Württemberg, SCHLOSSER, N. Jahrb. Min. xix, Suppl. p. 496, n. sp.

## URSIDÆ and PROCYONIDÆ.

- Ursus arctus*, skull, BIELER, Arch. Sci. Nat. (4) xvii, p. 445; integument of embryo, MAURER, Denk. Ges. Jena, Haeckel's Festschrift, p. 507; canine from Bridlington Crag, SHEPPARD, Naturalist 1904, p. 142, fossil in Sweden, HOLST, Sveriges geol. Unders. Afh. (C), No. 189; *eulophus*, Admiralty Id. Alaska, p. 153, *kenaiensis*, W. Kenai Peninsula, *horribilis phœonyx*, near Eagle, Alaska, *americanus eremicus*, Coahuila, Mexico, p. 154, MERRIAM, P. Soc. Washington xvii; †*deningeri*, Tertiary, Mosbach, REICHENAU, Jahrb. Nassau. Ver. lviii, p. 1; n. spp. & subsp.; *ornatus*, skull, ANDERSON, Rep. Brit. Ass. 1903, p. 692.
- Aluropus melanoleucus*, hair-arrangement on nose, KIDD, P. Zool. Soc. London 1904, i, p. 373.
- Procyon proteus*, Colombia, ALLEN, Bull. Amer. Mus. xx, p. 333, n. sp.
- Nasua narica bullata*, Costa Rica, p. 48, *n. panamensis*, Panama, p. 51, *n. yucatanica*, Yucatan, p. 52, *n. pallida*, Mexico, p. 53, *phæocephala*, Venezuela, p. 334, ALLEN, t. c. n. subsp. & sp.
- Potos flavus chiriguensis*, Panama, p. 74, *f. caucensis*, Colombia, p. 75, *chapadensis*, Matto Grosso, p. 77, ALLEN, t. c. n. subsp. & sp.

## MUSTELIDÆ.

- Mustela putorius*, œstrous cycle, MARSHALL, Quart. J. Micr. Sci. xviii, p. 323.
- Putorius nivalis atlas*, Atlas Mts., p. 323, *sibiricus noctis*, China, p. 390, *s. miles*, E. Siberia, p. 391, *audax*, N. Greenland, *arcticus*, *imperialis*, B. Columbia, p. 392, *a. polaris*, N. Greenland, p. 393, *ermineus stabilis*, Britain, p. 394, HAMILTON, Ann. Nat. Hist. (7) xiii, n. spp. & subspp.; *africanus*, from St Thomas and Azores, HAMILTON, t. c. p. 325; *ermineus*, Jura and Islay forms, HAMILTON, Ann. Scott. Nat. Hist. 1904, p. 203.
- Tayra barbara irara*, Colombia, ALLEN, Bull. Amer. Mus. xx, p. 36, n. subsp.
- Meles taxus*, gestation, COCKS, Zoologist (4) viii, p. 108; peritoneum, ANDERSON, Rep. Brit. Ass. 1903, p. 629; myology, CHAINE, Pr.-verb. Soc. Bordeaux 1901-2, p. 54.
- Helictis pierrei*, Cochin China, BONHOTE, Ann. Nat. Hist. (7) xii, p. 592, 1903, n. sp.
- Pacilogule doggetti*, Ankole, THOMAS & SCHWANN, P. Zool. Soc. London 1904, i, p. 460, n. sp.
- Latax lutris nereis*, S. California, MERRIAM, P. Soc. Washington xvii, p. 159, n. subsp.
- †*Potamotherium dacota*, Miocene, S. Dakota, MATTHEW & GIDLEY, Bull. Amer. Mus. xx, p. 254, n. sp.
- Lutra* (†)*pristina*, ibid., MATTHEW & GIDLEY, t. c. p. 256; *colombiana*, Santa Marta, Colombia, ALLEN, t. c. p. 452, n. spp.
- †*Bumelturus infelix*, Miocene, Montana, MATTHEW, Bull. Amer. Mus. xix, p. 210, n. sp., 1903.
- †*Promioclenus*, n. g. for *Mioclenus acolytus* Matthew, TROUESSART, Cat. Mamm. Suppl. p. 43.

## B. PINNIPEDIA.

- Sealing, SOUTHWELL, Zoologist (4) viii, p. 57; seals of New Zealand, HUTTON & DRUMMOND (217); seals swallowing stones, LUCAS, Science xx, p. 537.
- Odobenus rosmarus*, tusk from Kelsey Hill, E. Yorks., SHEPPARD, Naturalist 1904, p. 317.
- Halicheerus gryphus*, pelage-variation according to age, MILLAIS, P. Zool. Soc. London 1904, i, p. 374.
- Phoca barbata*, fossil in Sweden, MUNTHE, Sveriges geol. Unders. Afh. (C), No. 190.

## C. †CREODONTIA.

- Pterodon macrognathus*, Eocene, Fayum, ANDREWS, Geol. Mag. (5) i, p. 211, n. sp.

## V. RODENTIA.

- Outer ear-bone, ALLEN, Bull. Amer. Mus. xx, p. 135; masseter muscle, CHAINE, Pr.-verb. Soc. Bordeaux 1897-8, p. 161.

## ANOMALURIDÆ and SCIURIDÆ.

- Anomalurus beecrofti argenteus*, Nigeria, SCHWANN, Ann. Nat. Hist. (7) xiii, p. 71, n. subsp.

- Sciurus* (+) *vetustus*, Miocene, Montana, MATTHEW, Bull. Amer. Mus. xix, p. 213, 1903; *rufobrachiatus ruwenzorii*, p. 71, *r. pasha*, p. 72, Tropical Africa, SCHWANN, Ann. Nat. Hist. (7) xiii; *aberti phæurus*, p. 205, *a. barberi*, p. 207, Durango, ALLEN, Bull. Amer. Mus. xx; *kaibabensis*, Arizona, p. 129, *aberti nimus*, N. Mexico, p. 130, MERRIAM, P. Soc. Washington xvii; *flammifer*, La Union, Orinoco, THOMAS, Ann. Nat. Hist. (7) xiv, p. 33; *poliopus senex*, S. Michoacan, Mexico, p. 148, *p. peregrinator*, Puebla, Mexico, p. 149, NELSON, P. Soc. Washington xvii : n. spp. & subsp.; *vulgaris*, damage by, ARCHIBALD, Tr. Edinb. Field Soc. v, p. 95, food of, WEMER, Jahresber. Westfal. Ver. xxxi, p. 217.
- Funisciurus congicus olivellus*, *c. flavinus*, xiii, p. 411, *pembertoni*, xiv, p. 201, Angola, THOMAS, Ann. Nat. Hist. (7), n. subsp.
- Sciuropterus volans goldmani*, Mexico, NELSON, P. Soc. Washington xvii, p. 148, n. subsp.
- Eutamias canescens*, Durango, ALLEN, Bull. Amer. Mus. xx, p. 208, n. sp.
- Xerus rutilus intensus*, Somaliland, THOMAS, Ann. Nat. Hist. (7) xiv, p. 100, n. subsp.
- Citellus nesioticus*, Santa Catalina Id., ELLIOT, Field Mus. Zool. iii, p. 261, n. sp.
- Spermophilus citillus*, implantation of ovum, REJSEK, Bull. Ceska Ak. (Med.) viii, p. 37; development of diaphragm and corpus luteum, VÖLKER, op. cit. vii, p. 26, and viii, p. 17; cochlear nerve, WEIGNER, op. cit. vii, p. 65, and Rozp. Ceske Ak. Praze xii, art. 12.

#### HAPLODONTIDÆ and CASTORIDÆ.

- Aplodontia* (+) *major*, Cavern, California, SINCLAIR, Publ. Calif. Univ. Archæol. & Ethnol. ii, p. 17 (nomen nudum), n. sp.
- †*Meniscomys*, a relative of *Haplodon*, MATTHEW & GIDLEY, Bull. Amer. Mus. xx, p. 263.
- Castor fiber*, notes on, MERTENS, Zool. Garten xlv, p. 57.

#### †ISCHYROMYIDÆ and GLIRIDÆ.

- †*Ischyromys veterior*, Miocene, Montana, MATTHEW, Bull. Amer. Mus. xix, p. 211, n. sp., 1903.
- Eliomys hortualis*, Valencia, CABRERA, Bol. Soc. espan. 1904, p. 183, n. sp.

#### MURIDÆ.

- Tatera fallax*, Ankole, THOMAS & SCHWANN, P. Zool. Soc. London 1904, i, p. 461, n. sp.
- Dipodillus mackilligini*, Egyptian desert, THOMAS, Ann. Nat. Hist. (7) xiv, p. 153, n. sp.
- Gerbillus dunni*, Somaliland, THOMAS, t. c. p. 101, n. sp.
- Ammodillus*, n. g. for *Gerbillus imbellis* de Winton, 1898, THOMAS, t. c. p. 102.
- Mus musculus tomensis, tscherga*, Siberia, KASTSCHENKO, Results of Zool. Exped. to Altai in 1898 (P. Tomsk. Univ. 1898), p. 46; *musculus faeroensis*, Faeroe group, CLARKE, P. Phys. Soc. Edinb. xv, p. 163; *tunneyi*, N. W. Australia, p. 223, *verecundus*, Brit. New Guinea, p. 598, *colletti*, N. Australia, p. 599, Nov. Zool. xi, *bocagei*, xiii, p. 416, *avunculus*, p. 417, *carillus*, p. 418, Angola, *mordax*, New Guinea, xiv, p. 398, Ann. Nat. Hist. (7), THOMAS; n. spp. & subsp.; *petterdi*, nom. nov. for *tetragonurus* Higgins and Petterd, nec Kelaart,

- TROUSSERT, Cat. Mamm. Suppl. p. 373; *sylvaticus wintoni* in Essex, COLE, Essex Natural. xiii, p. 294; *musculus*, sex, COPEMAN & PARSONS, P. R. Soc. London lxxiii, p. 32, colour-heredity, G. M. ALLEN, P. Amer. Ac. xl, p. 61, DAVENPORT, Science xix, p. 110, heredity in colour of eyes, CUÉNOT, Arch. Zool. exp. ii, p. xlv, and C.R. Soc. Biol. lvi, p. 1050, placenta, JENKINSON, Brit. Med. J. 1904, ii, p. 1391; *norvegicus*, life history, etc., HEWETT (209); *rattus*, neurones, HATAI, Publ. Univ. Chicago x, p. 179, abnormal skull, HANSEMANN, Arch. Physiol. 1904, p. 376; popular account of European species, MANSION, Rev. Scient. (5) i, p. 169.
- Enomys*, n.g. for *Mus hypoxanthus*, Pucheran, THOMAS, Ann. Nat. Hist. (7) xiii, p. 416.
- Pogonomys dryas*, O. Stanley Range, Brit. N. Guinea, THOMAS, Nov. Zool. xi, p. 600, n. sp.
- Cricetomys ansorgei*, p. 412, *gambianus viator*, p. 413, Angola, THOMAS, Ann. Nat. Hist. (7) xiii, n. sp. & subsp.
- Acomys mullah*, Somaliland, THOMAS, op. cit. xiv, p. 103, n. sp.
- Arvicanthus pamilio cinereus*, Namaqualand, THOMAS & SCHWANN, P. Zool. Soc. London 1904, i, p. 179; *dorsalis griselda*, *d. rosalia*, Angola, THOMAS, Ann. Nat. Hist. (7) xiii, p. 414: n. subsp.
- Pelomys frater*, Angola, THOMAS, t. c. p. 415, n. sp.
- Uromys stalkeri*, p. 202, *moncktoni*, p. 399, New Guinea, *porculus*, Solomon Ids., p. 400, THOMAS, op. cit. xiv, n. spp.
- Liomys parviceps*, Mexico, GOLDMAN, P. Soc. Washington xvii, p. 82, n. sp.
- Onychomys torridus tularensis*, California, p. 124, *t. yakiensis*, *t. canus*, *leucogaster albescens*, Mexico, p. 124, MERRIAM, P. Soc. Washington xvii, n. subsp.
- Peromyscus montipinoris*, p. 264, *lasius*, p. 256, California, ELLIOT, Field Mus. Zool. iii; *sonoriensis blandus*, p. 57, *s. fulvus*, *texanus mesomelas*, p. 57, *t. castaneus*, p. 58, *melanotis zamelus*, *atwateri pectoralis*, p. 59, *a. eremicoides*, p. 60, *polius*, *gratus gentilis*, p. 61, *amplus*, p. 62, *bullatus*, p. 63, *spicilegus evides*, *s. simulus*, p. 64, *melanophrys zamore*, p. 65, *m. consobrinus*, p. 66, *xenurus*, *zelotes*, p. 67, *banderanus vicinior*, p. 68, *b. angelensis*, *mexicanus teapensis*, p. 69, *yucatanicus badrus*, p. 70, *allophylus*, p. 71, *lophurus*, *simulatus*, p. 72, *melanocarpus*, p. 73, *altitaneus*, p. 74, *goldmani*, *eremicus phæurus*, p. 75, *musculus nigrescens*, *allex*, p. 76, Mexico, OSGOOD, P. Soc. Washington xvii: n. spp. & subsp.
- Haplomyglomys*, n. subg. for *Peromyscus eremicus* Baird, OSGOOD, t. c. p. 53.
- Rhipidomys venezuelæ fervidus*, p. 34, *rosilla*, p. 35, La Union, Orinoco, pictor, Ecuador, p. 193, *paricola*, near Para, p. 194, THOMAS, Ann. Nat. Hist. (7) xiv, n. spp. & subsp.
- Holochilus venezuelæ*, Venezuela, ALLEN, Bull. Amer. Mus. xx, p. 330, n. sp.
- Sigmodon borucae chiriquensis*, Panama, ALLEN, t. c. p. 68, n. subsp.
- Moschophoromys*, n. nom. for *Moschomys* (= *Megalomys*) Trouessart, 1903, nec Bellberg, 1828, ELLIOT, Field Mus. Zool. iii, p. 270.
- Megalomys*(+) *majori*, Pleistocene, Barbuda, TROUSSERT, Cat. Mamm. Suppl. p. 415, n. sp.
- Oryzomys jalapa apatelius*, Mexico, ELLIOT, Field Mus. Zool. iii, p. 266; *klagesi*, p. 327, *tenaipes*, p. 328, Venezuela, ALLEN, Bull. Amer. Mus. xx: n. spp. & subsp.
- Akodon irazu*, Costa Rica, p. 46, *meridensis*, Venezuela, p. 329, ALLEN, t. c. n. spp.
- Neotoma fuscipes cnemophila*, California, ELLIOT, Field Mus. Zool. iii, p. 267; *picta*, p. 79, *isthmica*, p. 80, *parvidens tropicalis*, p. 81, Mexico, GOLDMAN, P. Soc. Washington xvii: n. spp.



- Arvicola hatanadzumi*, Japan, SASAKI, Bull. Coll. Agric. Tokyo vi, p. 52, n. sp.; *subterraneus* in Switzerland, GHIDINI, Boll. Soc. ticinese i, p. 41.
- Microtus*, chorda tympani and visceral arches, EMMEL, J. Neurology xiv, p. 441; *strelzovi*, Siberia, KASTSCHENKO, Results of Exped. to Altai, 1898 (P. Tomsk. Univ. 1898), p. 50 (made the type of *Platygrammus* in 1901); *orcadensis*, Orkneys, MILLAIS, Zoologist (4) viii, p. 244 : n. spp.
- Lemmus minusculus*, Alaska, OSGOOD, North Amer. Fauna, No. 24, p. 36, n. sp.

## JACULIDÆ and SPALACIDÆ.

- Dipus aegyptius*, osteology of hind-limb, SCHUMANN, Morphol. Jahrb. xxxii, p. 233.
- Bathyergus janetta*, Namaqualand, THOMAS & SCHWANN, P. Zool. Soc. London 1904, i, p. 180, pl. vi, n. sp.
- Spalax hungaricus*, notes on, GYULA, Allatt. Kozl. Magyar Tars. 1904, p. 69.

## GEOMYIDÆ and HETEROMYIDÆ.

- Effects of the work of pocket-gophers on the soil; SETON, Century Mag. lxxviii, p. 300.
- Perodipus ingens*, p. 141, *venustus*, p. 142, *goldmani*, *agilis tularensis*, California, *montanus utahensis*, Utah, p. 143, *steatori stimulans*, *cabezoneæ*, p. 144, *microps*, *m. levipes*, p. 145, California, MERRIAM, P. Soc. Washington xvii, n. spp. & subspp.

## OCTODONTIDÆ.

- Proechimys oris*, near Pará, THOMAS, Ann. Nat. Hist. (7) xiv, p. 195, n. sp.
- Thricomys laurentius*, Pernambuco, THOMAS, op. cit. xiii, p. 254, n. sp.

## HYSTRICIDÆ and ERETHIZONTIDÆ.

- Hystrix leucura*, additional molar in, MAJOR, P. Zool. Soc. London 1904, i, p. 416.
- †*Anchitheriomys*, n. g. for *Hystrix wiedemanni* Roger, 1885, ROGER, Ber. Ver. Augsburg xxxiii, p. 7, 1900.
- Erethizon*(†) *godfreyi*, Tertiary, Arizona, ALLEN, Bull. Amer. Mus. xx, p. 383, n. sp.
- Cœndou sanctæ-martæ*, Santa Marta, Colombia, ALLEN, t. c. p. 441, n. sp.

## DINOMYIDÆ and CAVIIDÆ.

- Dinomys branicki*, rediscovered, GOELDI, P. Zool. Soc. London 1904, ii, p. 158.
- Cavia cobaya*, perineal sac and glands, GROSZ, Zeitschr. wiss. Zool. lxxviii, p. 261; effects of atmospheric pressure, AGGOZOTTI, Arch. ital. Biol. xli, p. 402; organ of Rosenmüller, SACCHETTI, Boll. Soc. Napoli xvii, p. 225.

## †EOMYIDÆ.

- Rhodanomys*, n. g. for *R. schlosseri*, Oligocene, Savoy, n. sp., DEPÉRET & DOUXAMI, Abh. Schweiz. pal. Ges. xxix, Art. 1, p. 69, 1902.

## LEPORIDÆ and OCHOTONIDÆ.

Classification, osteology, dentition, etc., LYON, *Smithson. Collect.* xlv, p. 321.

*Pæcilolagus*, for *Lepus americanus* Erxl., p. 395, *Pronolagus*, for *L. crassicaudatus* Geoffr., p. 416, *Pentalagus*, for *Caprolagus furnessi* Stone, p. 428, LYON, t. c. n. subg. and g.

*Lepus lugubris*, Siberia, KASTSCHENKO, *Results of Zool. Exped. to Altai in 1898* (P. Toinsk. Univ. 1898), p. 57; *russatus*, p. 31, *parvulus*, p. 32, Mexico, ALLEN, *Bull. Amer. Mus.* xx; *insonus*, p. 103, *veræcrucis pacificus*, p. 104, *floridanus connectans*, p. 105, *f. chapensis*, p. 106, *arizone goldmani*, p. 107, *festinus*, p. 108, *merriami altamira*, p. 109, Mexico, NELSON, *P. Soc. Washington* xvii; *capensis granti*, Namaqualand, THOMAS & SCHWANN, *P. Zool. Soc. London* 1904, i, p. 182; *angolensis*, Angola, THOMAS, *Ann. Nat. Hist.* (7) xiii, p. 420; *campes-tris sierræ*, Alpine Valley, California, p. 123, *tularensis*, Tulare Co. Calif., p. 136, *texianus wallawalla*, Washington, p. 137, MERRIAM, *P. Soc. Washington* xvii: n. spp. & subspp.; *cuniculus*, visceral abnormality, BARNABÒ, *Bol. Soc. zool. Ital.* (2) v, p. 227, dental abnormality, CATOULLARD, *Bull. Soc. Rouen* xxxviii, p. 217, caudal vertebrae, MATSUOKA, *Arch. Entwickmech.* xviii, p. 253, hepatic veins, BONNE, *J. Anat. Physiol.* xl, p. 225, development of pericardium, ROUVIÈRE, t. c. p. 610; *europæus*, unknown in Brit. Pleistocene, MAJOR, *Geol. Mag.* (5) i, p. 143, abnormal dentition, LANDOIS, *Arch. Entwickmech.* xviii, p. 265.

*Sylvilagus meridensis*, Sierra de Merida, Venezuela, THOMAS, *Ann. Nat. Hist.* (7) xiv, p. 36, n. sp.

*Conothoa*, n. subg. for *Lagomys roylei* Ogilby, LYON, *Smithson. Collect.* xlv, p. 438.

† *Palæolagus brachyodon*, Miocene, Montana, MATTHEW, *Bull. Amer. Mus.* xix, p. 217, n. sp., 1903.

See also Addenda, p. 50.

## VI. UNGULATA.

Evolution and morphology of molars, AMEGHINO, *An. Mus. Buenos Aires* (3) iii, p. 1; histology of central nervous system, DEXLER, *Morphol. Jahrb.* xxxii, p. 288.

## A. ARTIODACTYLA.

Berlin horn and antler exhibition, MATSCHIE, *Waidwerk in Wort und Bild* 1904, p. 169.

## BOVIDÆ and ANTILOCAPRIDÆ.

*Bos taurus*, brain, FAVARO, *Monit. Zool. ital.* xv, p. 111; Spanish breeds, CARRERA, *Bol. Soc. espan.* 1904, p. 71; colour of European breeds, LYDEKKER, p. 180, DAVIES, p. 739, *egyptiacus*, ancient Egyptian breed, n. sp., LYDEKKER, p. 654, *Field civ*; (*Bubalus*) *bubalis macrocerus*, Hodgson, probably extinct, LYDEKKER, t. c. p. 643; (*Bubalus*) *caffer radcliffei*, S.W. Uganda, THOMAS, i, pp. 371 & 464, *c. matthewsi*, E.C. Africa, LYDEKKER, ii, p. 166, *P. Zool. Soc. London* 1904, n. subspp.; (*Bubalus*) *caffer planiceros* (?), specimens at Amsterdam, RENSHAW, *P. Zool. Soc. London* 1904, ii, p. 130; (*Bison*) *bison*, numbers surviving, PEEL, *Field civ*, p. 407; (*Bibos*) *gaurus* and *frontalis*, BAKER, *J. Bombay Soc.* xv, p. 227, 1903; *sondanicus*, Malay form, BUTLER, *op. cit.* xiii, p. 192, 1900; *tetruscus* from Peperini,

- PORTIS, Bol. Soc. geol. Ital. xxiii, p. 171; *taurus*, nerves, WEIGNER, Bull. Ceska Ak. (Med.) vii, p. 65.
- Ovibos moschatus*, in captivity, HERZ, Rep. Smithson. Inst. 1903, p. 611.
- Ovis aries*, brain, FAVARO, Monit. Zool. ital. xv, p. 395, WILDER (496); *a. stuederi*, Prehistoric, Europe, DUERST, Vierteljahrschr. Ges. Zurich xlix, p. 17, *storcki*, Kamchatka, ALLEN, Bull. Amer. Mus. xx, p. 293, *gmelini erskinei*, Elburz Mts. N. Persia, LYDEKKER, Field civ, p. 1031, **n. sp.** and subsp.; *vignei*, races of, LYDEKKER, t. c. p. 1110; *tragelaphus*, extinction of introduced herd in Teutoburger forest, SCHACHT, Zool. Garten xlv, p. 276.
- Ovis-Capra* hybrid (?), 4-horned skull from the Apennines, GURRIERI, Monit. Zool. ital. xv, p. 287.
- †*Euceratherium*, **n. g.** for *E. collinum*, Cavern, California, **n. sp.**, FURLONG & SINCLAIR, Publ. Calif. Univ. Archaeol. & Ethnol. ii, p. 18, and Bull. Geol. California iii, p. 411, pts. I & II.
- Oreamnus montanus columbianus*, B. Columbia, *m. missoulæ*, Montana, ALLEN, Bull. Amer. Mus. xx, p. 20, **n. subsp.**
- †*Oioceros proaries*, Pliocene, Samos, SCHLOSSER, Beitr. Pal. Oesterr.-Ung. xvii, p. 73, **n. sp.**
- †*Prodamaliscus*, **n. g.** for *P. gracilidens*, *ibid.*, **n. sp.**, SCHLOSSER, t. c. p. 29.
- †*Protragelaphus zitteli*, *ibid.*, SCHLOSSER, t. c. p. 31, **n. sp.**
- †*Tragoreas oryxoides*, *ibid.*, SCHLOSSER, t. c. p. 34, **n. sp.**
- †*Palaeoryx stutzeli*, p. 41, *ingens*, p. 43, *ibid.*, SCHLOSSER, t. c. **n. spp.**
- †*Protoryx hentscheli*, *ibid.*, SCHLOSSER, t. c. p. 49, **n. sp.**
- †*Pseudotragus*, **n. g.** for *P. capricornis*, *ibid.*, **n. sp.**, SCHLOSSER, t. c. p. 51.
- †*Pachytragus*, **n. g.** for *P. crassicornis*, *ibid.*, **n. sp.**, SCHLOSSER, t. c. p. 56.
- †*Tragoceros rugosifrons*, *ibid.*, SCHLOSSER, t. c. p. 64, **n. sp.**
- Cobus defassa* and *C. ellipsiprymnus*, hybrid, POCOCK, P. Zool. Soc. London 1904, i, p. 3.
- Bubalis jacksoni insignis*, Uganda, THOMAS, P. Zool. Soc. London 1904, i, p. 455, **n. subsp.**
- Antidorcas euchores*, foetal canines in upper jaw, MAJOR, P. Zool. Soc. London 1904, i, p. 419.
- Gazella* †*gaudryi*, Pliocene, Samos, SCHLOSSER, Beitr. Pal. Oesterr.-Ung. xvii, p. 73; *soemmerringi butteri*, N. E. Africa, THOMAS, P. Zool. Soc. London 1904, i, p. 4: **n. sp.** & subsp.; *dorcas*, myology, CHAINE, Pr.-verb. Soc. Bordeaux 1902-3, p. 12.
- Cephalophus nyasæ defriesi*, N. Rhodesia, ROTHSCHILD, P. Zool. Soc. London 1904, i, p. 229, **n. subsp.**
- Hippotragus leucophaeus*, history of extinction and specimens remaining, RENSHAW, Natural History Essays, p. 38.
- †*Merycodus* (= *Cosoryx*), affinities, p. 101, *osborni*, Miocene, Colorado, **n. sp.**, p. 107, MATTHEW, Bull. Amer. Mus. xx.

## GIRAFFIDÆ, and CERVIDÆ.

- Giraffa camelopardalis*, myology, CHAINE, Pr.-verb. Soc. Bordeaux 1902-3, pp. 9 & 89, skull, RIDWOOD, p. 150, subspecies, LYDEKKER, p. 202, *c. cottoni*, S. of Lado, p. 207, *c. wardi*, N. Transvaal, p. 221, **n. subsp.**, P. Zool. Soc. London 1904, i.
- Ocapia*, represented in ancient Egyptian paintings, as the "schè," WIEDEMANN, Orient. Liter. Zeitung. 1902, p. 222, GAILLARD (who doubts the evidence), Bull. Soc. Anthrop. Lyon xxii, p. 1, 1903; habits and protective nature of coloration, DAVID, Globus lxxxvi, p. 385.
- †*Sivatherium giganteum* from Adrianopolis, ABEL, Anz. Ak. Wiss. 1904, p. 195, and SB. Ak. Wien cxiii, p. 1, pl.

- Cervidæ* of Italian Pliocene, ALESSANDRI, Atti Acc. Torino xxxviii, p. 845 ; morphology of antlers, HOFFMANN (211).
- Cervus elaphus*, abnormal antlers, LANDOIS, Arch. Entwicklmech. xviii, p. 289, hyperplasy in antlers, BOTEZAT, t. c. p. 593 ; *e. barbarus*, DREWITT, p. 130, *canadensis*, HOLDING, p. 131, antlers, P. Zool. Soc. London 1904, ii ; †*pliotarandoides*, Pliocene, Piedmont, ALESSANDRI, Atti Acc. Torino xxxviii, p. 853, n. sp., 1903.
- Cervulus muntjac grandicornis*, Burma, LYDEKKER, Field civ, p. 780, n. subsp.
- Elaphodus ichangensis*, Ichang, *michianus fociensis*, Fokien, LYDEKKER, P. Zool. Soc. London 1904, ii, p. 170, n. sp. & subsp.
- Capreolus caprea*, a sporting account, "SNAFFLE" (432).
- †*Puleomeryx parvulus*, p. 38, *pumilio*, p. 39, Miocene, Bavaria, ROGER, Ber. Ver. Augsburg xxxiii, 1900, *simplicicornis*, Miocene, Württemberg, SCHLOSSER, N. Jahrb. Min. xix, Suppl. p. 497, n. spp.

## TRAGULIDÆ and CAMELIDÆ.

For alleged Patagonian fossil *Tragulidæ*, see Addenda, p. 50.  
Ancestry of *Camelidæ*, LYDEKKER, Knowledge and Scient. News i, p. 25.

- †*Oxydactylus*, n. g. for *O. longipes*, p. 434, *brachyodontus*, p. 469, Pliocene, Nebraska, n. spp., PETERSON, Ann. Carnegie Mus. ii.
- †*Leptotragulus profectus*, Miocene, Montana, MATTHEW, Bull. Amer. Mus. xix, p. 224, n. sp., 1903.
- †*Pseudotabis*, n. g. for *P. dakotensis*, Oligocene, Dakota, n. sp., MATTHEW, op. cit. xx, p. 211.
- †*Miolabis (Paratylopus) primævus*, Oligocene, Dakota, MATTHEW, l. c., n. subg. & sp.

## SUIDÆ, DICOTYLIDÆ, HIPPOPOTAMIDÆ, &amp;C.

- Sus oi*, Sumatra, MILLER, P. Soc. Washington xv, p. 52, n. sp. ; identified by VOLZ, Zool. Jahrb. Syst. xx, p. 518, with *barbatus*, the cranial characters of the latter and *vittatus* being also described, p. 509, et seq. ; *scrofa* in Britain, WALLACE, Tr. Inverness Soc. v, p. 296, genital organs, ANCEL & BOUIN, C.R. Soc. Biol. lvi, p. 281 ; myology, CHAINE, Pr.-verb. Soc. Bordeaux 1900-1, p. 75 ; development of olfactory nerve, BEDFORD, J. Neurology xiv, p. 390.
- Hylocherus*, n. g. for *H. meinertzhageni*, Central Africa, n. sp., THOMAS, Nature lxx, p. 577.
- †*Stibarus montanus*, Miocene, Montana, MATTHEW, Bull. Amer. Mus. xix, p. 219, n. sp., 1903.
- †*Prosthenoops*, n. g. for *P. crassigenis*, Miocene, S. Dakota, n. sp., MATTHEW & GIDLEY, op. cit. xx, p. 265.
- †*Geniochyus*, n. g. for *G. mirus*, p. 160, *fayumensis*, p. 162, *major*, p. 212, Eocene, Fayum, n. spp., ANDREWS, Geol. Mag. (5) i.
- †*Anthracootherium magnum* from Majorca, MAJOR, P. Zool. Soc. London 1904, i, p. 456, pl. xxix ; *minus* from Turkey, NEWTON, Quart. J. Geol. Soc. lx, p. 286.
- Hippopotamus amphibius* in ancient Egypt, BOUSSAC, Rev. Scient (5) i, p. 425.

## B. PERISSODACTYLA.

- Equide*, homology of internal pillars of upper molars, AMEGHINO, An. Mus. Buenos Aires ix, pp. 1 et seq.; ancestry, LYDEKKER, Knowledge xxvii, p. 16, OSBORN, Century Mag. lxix, p. 1; hoof-structure, LYDEKKER, Field civ, p. 819.
- Equus caballus*, ancestry, OSBORN, op. cit., EWART, Tr. Highland Soc. 1904, p. 1, Nature lxix, p. 590, LYDEKKER, Knowledge and Scientific News i, pp. 16 & 171; rudimentary horns in, CUNNINGHAM, Field ciii, p. 777; *c. celticus* (Ewart), relationship to Tarpan, STEJNEGER, Naturen 1904, p. 161, LYDEKKER, Field civ, p. 276; rudimentary larmial cavity in, LYDEKKER, P. Zool. Soc. London 1904, i, p. 427, and J. Bombay Soc. xv, p. 703; functional larmier in an Arab, LYDEKKER, Field, op. cit. p. 276; inconstancy of trapezium, BRADLEY, P. Phys. Soc. Edinb. xvi, p. 8; prehistoric race and its employment in equitation, LANDOIS, Jahresb. Westfal. Ver. xxx, pp. 11 & 14, xxxi, p. 158; skulls from Italy, MAGGI, Rend. Ist. Lombardo (2) xxxvii, p. 792; heredity of intelligence, DAVENPORT, Science xix, p. 151; muscular abnormality, CHAINE, Pr.-verb. Soc. Bordeaux 1898-9, p. 111; testicle, BOUIN & ANCEL, Arch. Zool. exp. (4) ii, p. cxli; *przewalskii*, affinities, EWART, P. R. Soc. Edinb. xxiv, p. 460 (1903); *quagga*, extinction and specimens remaining, RENSCHAW, Natural History Essays, p. 169, skull and markings, LYDEKKER, P. Zool. Soc. London, op. cit. p. 426, do. and local races, with *q. danielli*, Cape Colony, n. subsp., p. 319, POCKOCK, Ann. Nat. Hist. (7) xiv, p. 313; *hemionus* and *h. kiang*, figured, LYDEKKER, op. cit. p. 431, pls. xxvii & xxviii; *onager* and its races, with *o. castaneus*, Kobdo, p. 590, n. subsp., and the two wild forms of *asinus*, figured, LYDEKKER, Nov. Zool. xi, p. 583, pls. xvii-xx; *hemionus*. (= *onager*) from Kesslerloch, NÜESCH & STUDER, Denk. Schweiz. Ges. xxxix, pt. 2, p. 95, pl. ii; *caballus asiaticus*, the name for the Arab, with note on its ancestry, LYDEKKER, Field civ, p. 1073; *tstenonis*, mandible from Mosbach, REICHENAU, Notizbl. Ver. geol. Landesanst. Darmstadt (4) xxiv, p. 48.
- †*Hipparion* and allied forms, proper generic names and characteristics, GIDLEY, Bull. Amer. Mus. xx, p. 191.
- †*Mesohippus hypostylus*, p. 170, *proteulophus*, p. 171, *obliquidentis*, *eulophus*, p. 173, *meteulophus*, p. 174, *brachystylus*, p. 175, *validus*, p. 177, *gidleyi*, *crassicuspis*, p. 178, Oligocene, N. America, OSBORN, Bull. Amer. Mus. xx, n. spp.
- †*Paratapirus*, n. g. for *P. helveticus* Meyer, DEPÉRET & DOUXAMI, Abh. Schweiz. pal. Ges. xxix, art. 1, p. 34, 1902.
- Rhinocerotide*, American fossil forms, OSBORN, Bull. Amer. Mus. xx, p. 307.
- Rhinoceros* †*goldfussi* and list of other fossil species of the family, ROGER, Ber. Ver. Augsburg xxxiv, p. 1, 1901, and xxxv, p. 1, 1902, species from the Pliocene of Samos, WEBER, Bull. Soc. Moscou 1903, p. 477; *Diceratherium* †*asphaltense*, Oligocene, Savoy, DEPÉRET & DOUXAMI, Abh. Schweiz. pal. Ges. xxix, art. 1, p. 11, 1902, n. sp.
- †*Cænopus persistans*, p. 318, *Teleoceras medicornutus*, p. 319, *Aphelops planiceps*, p. 321, *brachyodus*, p. 322, Tertiary, N. America, OSBORN, Bull. Amer. Mus. xx, n. spp.
- †*Lophiodon* and *Chasmotherium*, dentition and taxonomy, STEHLIN, Abh. Schweiz. pal. Ges. xxx, art. 1.

## C. HYRACOIDEA, †BARYPODA and †AMBLYPODA.

- Procavia bettoni*, Kikuyu, Brit. E. Africa, THOMAS & SCHWANN, P. Zool. Soc. London 1904, i, p. 464, n. sp.; *brucei*, anatomy, *syriaca*, is it the "Coney" of the Bible?, CHAPMAN, P. Ac. Philad. 1904, p. 476.
- †*Megalohyrax minor*, Eocene, Fayum, ANDREWS, Geol. Mag. (5) i, p. 213, n. sp.
- †*Saghatherium magnum*, Eocene, Fayum, ANDREWS, t. c. p. 214, n. sp.
- A new ordinal group, *Barypoda* for *Arsinoëtherium*, ANDREWS, t. c. p. 481.
- †*Arsinoëtherium andrewsi*, Eocene, Fayum, n. sp., LANKESTER, The Sphere Sept. 12, 1903, and Geol. Mag. (4) x, p. 529, 1902, where skull of *A. zitteli* is figured; the genus referred to *Amblypoda*, ANDREWS, Geol. Mag. (5) i, p. 115, but later to *Barypoda*.
- †*Barytherium* represents a distinct sectional group, ANDREWS, t. c. p. 482.

## D. PROBOSCIDEA.

- Ancestry, WOODWARD, Knowledge and Scient. News i, p. 11, LYDEKKER, Indian Field v, p. 116, see also EWART, P. Phys. Soc. Edinb. xv, p. 143; popular account of Elephants, EVANS (152); Italian fossil, BORTOLOTTI, Riv. ital. Pal. x, p. 83.
- Elephas tantiquus* and *meridionalis*, in Sicily and Calabria, SEGUENZA, Riv. ital. Pal. x, p. 41; †*primigenius*, in Italy, FLORES, Bull. Soc. geol. Ital. xxii, p. 348, 1903, skull, STINGELIN, Abh. Schweiz. pal. Ges. xxix, art. 5, p. 1, 1902; *tantiquus*, at Blackpool, DAWKINS, Mem. Manchester Soc. xlviii, No. 17; *africanus*, hairy young, RENSHAW, P. Zool. Soc. London 1904, ii, p. 1; †*cypristes*, teeth figured, BATE, Phil. Trans. excvii, p. 347; †*primigenius*, frozen carcass in Siberia, HERZ, Rep. Smithson. Inst. 1903, p. 611, dentition, POUTIER, Naturaliste xxvi, p. 248, in Belgium, MOURION, Bull. Ac. Belgique 1904, p. 1046; *meridionalis* at Dewlish, FISHER, Geol. Mag. (5) i, p. 621.
- †*Mastodon angustidens* from Vogelsberg, SCHOTTLER, Notizbl. Ver. geol. Landesanst. Darmstadt (4) xxiii, p. 26; *arvernensis* at Ostheim, BLANKENHORN, Jahrb. geol. Landesanst. Berlin xxii, p. 364; *americanus*, in New York, CLARKE, Bull. Geol. Soc. Amer. xiv, p. 537; sp. from Moravia, MAŠKA, Verh. geol. Reichsanst. 1904, p. 304, from Russia, PAVLOW, Ann. Geol. Min. Russ. vi, p. 123.
- †*Palaomastodon minus*, Eocene, Fayum, ANDREWS, Geol. Mag. i, p. 115, n. sp., skull figured, p. 113.
- †*Mærittherium trigodon*, Eocene, Fayum, ANDREWS, t. c. p. 112, n. sp., skull figured, p. 110.

## VII. and VIII. CETACEA and SIRENIA.

- Whaling, SOUTHWELL, Ann. Scott. Nat. Hist. 1904, p. 77, and Zoologist (4) viii, p. 57; spinal nerves of *Phocæna*, HEPBURN & WATERSTON, J. Anat. Physiol. norm. path. xxxviii, p. 295; identification of ancient Norwegian names of whales, GULDBERG, Zool. Ann. i, p. 29; migrations of *Balenoptera* and *Megaptera*, GULDBERG, Biol. Centrbl. xxiv, pp. 371 & 391; Cetaceans of New Zealand, HUTTON & DRUMMOND (217); do. (recent and fossil) of Russia, GREVÉ, CB. Ver. Riga xlvii, p. 67; habits, RACOVITZA, Rep. Smithson. Inst. 1903, p. 627; hearing, MEISENHEIMER, Naturw. Wochenschr. (2) iii, p. 1016; of Scotland, TAYLOR, Tr. Inverness Soc. v, p. 236, 1902; Cetacean bones from the Pacific bed, EASTMAN, Mem. Mus. Harvard xxvi, p. 163; adaptation to aquatic life by *Cetacea*, RÖMER, Ber. Senckenberg. Ges. 1904, p. 77\*;

- histology of ditto, RAWITZ, Int. J. Anat. xxi, p. 22; extinct *Cetacea* and *Sirenia* of Maryland, CASE, Geol. Surv. Maryland, Miocene, Pal. p. 1.
- Balenidæ* of Western North Atlantic, TRUE, Smithson. Contr., 4to, vii, p. 1; skeletons of fossil from Hungary, KAROLY, Termes. Kozl. Magyar Tars. 1904, p. 277.
- Balæna mysticetus*, fossil in Sweden, MUNTHE, Sveriges geol. Unders. Afh. (C), No. 190.
- Balænoptera musculus* at Livorno, SALLE, Mem. Soc. Toscana xx, p. 167; in Firth of Forth, EVANS, Ann. Scott. Nat. Hist. 1904, p. 71; "spouting" of various species, ALLEN, Amer. Natural. xxxviii, p. 613.
- †*Aulocetus*, cf. *calaritanus*, from Miocene of Barbolya, Hungary, CAPELLINI, Atti Acc. Lincei (4) xiii, p. 667.
- Mesoplodon bidens*, description of specimen stranded at Rugsund, Norway, Nov. 1901, GRIEG, Bergens Mus. Aarbog 1904, art. 3.
- Berardius*, cf. *bairdi*, from N. Pacific, TRUE, Science (2) xx, p. 888.
- Orcinus orca*, specimen from Maine, TRUE, P. U. S. Mus. xxvii, p. 227.
- Phocæna communis*, auditory organ, BOENINGHAUS, Zool. Jahrb. Anat. xix, p. 189; breeding season, NEHRING, Zool. Anz. xxvii, p. 713; urino-genital apparatus, HEPBURN & WATERSTON, P. Phys. Soc. Edinb. xv, p. 112.
- Delphinus delphis*, ovary and regeneration of tissue, PALADINO, Arch. ital. Biol. xlii, p. 95, and Rend. Acc. Napoli (3) ix, p. 289.
- Tursiops catalania*, from Madras, LYDEKKER, J. Bombay Soc. xv, p. 408.
- Sotalia fergusoni*, Madras, LYDEKKER, t. c. p. 411, n. sp.
- Lagenorhynchus albirostris*, at Aberdeen in October, SIM, Zoologist (4) viii p. 383.
- Prodelphinus euphrosyne*, at Elba, DAMIANI, Atti Soc. Ligustica xiv, p. 165.
- Globiceps?*, ear-bone from Pacific, EASTMAN, Mem. Mus. Harvard xxvi, p. 163.
- Grampus griseus*, skull, ANDERSON, Rep. Brit. Ass. 1903, p. 691.
- †*Priscodelphinus crassangulum*, Miocene, Maryland, CASE, op. cit. p. 12, n. sp.
- The group †*Archæoceti* an offshoot from the *Carnivora Creodontia*, and in nowise related to *Cetacea*, FRAAS, Geol. Pal. Abhandl. (2) vi, p. 199.
- †*Protocetus*, n. g. for *P. atavus*, Eocene, Egypt, n. sp., FRAAS, t. c. p. 201.
- †*Mesocetus*, n. g. for *M. schweinfurthi*, Eocene, Egypt, n. sp., FRAAS, t. c. p. 217.
- †*Zeuglodon isis*, Eocene, Fayum, ANDREWS, Geol. Mag. (5) i, p. 214, n. sp.; absence of bony armour in genus, LUCAS, Science xix, p. 436.
- Osteology of extinct Sirenians, ABEL, Abh. geol. Reichsanst. xix, pt. 2.
- Rhytina stelleri*, pelvis, LORENZ, Abh. geol. Reichsanst. xix, pt. 3, and Verh. Ges. Wien 1904, p. 142.
- Halicore* and *Manatus*, osteology of limbs, FREUND, Zeitschr. wiss. Zool. lxxvii, p. 363.
- Manatus australis*, notes on, FERREIRA, Arch. Mus. Janeiro xii, p. 169.
- †*Metaxitherium petersi*, Hainburg, *meyeri*, Baltringen, Tertiary, ABEL, Abh. geol. Reichsanst. xix, pt. 2, p. 15, n. spp.
- †*Protosiren*, n. g. for *P. fraasi*, Eocene, Egypt, and *P. dolloi* [*dolli*], Eocene, Italy, n. spp., ABEL, t. c. p. 214.

## IX. and X. EDENTATA and EFFODIENTIA.

Distribution, etc., GREVÉ, SB. Ges. Dorpat xiii, p. 77 (1902); not derived from Ganodonts, SCOTT, Rep. Princeton Exped. v, pt. 3; Glyptodonts and Megalotherioids of Patagonia described by SCOTT, op. cit. pts. 2 & 3.

- Tamandua tetradactyla chapadensis*, Chapada, Matto Grosso, *t. instabilis*, Santa Marta, p. 392, *t. tenuirostris*, Vera Cruz, Mexico, p. 394, *t. chiri-quensis*, Chirique, Panama, p. 395, ALLEN, Bull. Amer. Mus. xx, n. subsp.
- Myrmecophaga jubata*, Eustachian tube, DENKER, Zeitschr. Morphol. viii, p. 1.
- + *Matschiella*, n. nom. for *Sphenodon* Lund 1837, nec Gray 1831, Poche, Zool. Ann. i, p. 48.
- + *Hapalops longiceps*, p. 182, 1903, *ponderosus*, p. 236, *vulpiceps*, p. 253, *platycephalus*, p. 275, Tertiary, Patagonia, SCOTT, Rep. Princeton Exped. v, n. spp.
- + *Megalonychotherium*, n. g., p. 278, for *M. atavus*, p. 279, *ibid.*, n. sp., SCOTT, t. c.
- + *Planops magnus*, *ibid.*, SCOTT, t. c. p. 323, n. sp.
- + *Mylodon*, from W. Patagonia, CORDOVEZ, Act. Soc. Chili xii, p. 1, 1903.
- + *Megatherium*, osteology, BOSCA, Bol. Soc. espan. iii, p. 211.
- + *Grypotherium*, at Ultima Esperanza, notes on, HAUTHAL, Ber. Senckenberg. Ges. 1904, p. 89\*.
- + *Encinopeltus crassus*, Tertiary, Patagonia, SCOTT, Rep. Princeton Exped. v, p. 152, n. sp., 1903.
- + *Metopotoxus anceps*, *ibid.*, SCOTT, t. c. p. 158, n. sp.
- Chlamydophorus truncatus*, myology, CHAINE & KUNSTLER, Pr.-verb. Soc. Bordeaux, 1902-3, p. 4.
- Metacheiromys*, an armadillo, p. 163, *M. dasypus*, p. 164, *tatusia*, p. 165, Bridger Eocene, N. America, n. spp., OSBORN, Bull. Amer. Mus. xx.
- Glyptodon*, etc., structure of skeleton, JANENSCH, Zeitschr. Deutsch. geol. Ges. lvi, Protok. p. 56.
- Orycteropus* and *Manis*, anatomy and bionomics, CARRUCCIO, Boll. Soc. zool. Ital. (2) v, p. 209.

## XI. MARSUPIALIA.

- Identity of dental formula in Marsupials and Placentals, AMEGHINO, An. Mus. Buenos Aires ix, p. 1 et seq.; origin of marsupium, BRESSLAU, Zeitschr. Deutsch. zool. Ges. 1904, p. 212; urino-genital organs, DISSELHORST, Denk. Ges. Jena—Semon's Reise iii, *Monotremata*, ii, p. 121; genital cords of *Phalanger*, BROCK, P. Ac. Amsterdam 1904, p. 87; heart, DEVEZ, Bull. Soc. Philom. v, p. 105, Bull. Mus. Paris 1903, p. 227.
- Macropus robustus alligatoris*, N.W. Australia, THOMAS, Nov. Zool. xi, p. 224, n. subsp.
- Peradorcas*, n. g. for *Petrogale concinna* Gould, THOMAS, t. c. p. 266.
- Petrogale rothschildi*, N.W. Australia, THOMAS, t. c. p. 366, n. sp.
- Pseudochirus canescens gyrtator*, New Guinea, THOMAS, Ann. Nat. Hist. (7) xiv, p. 401, n. sp.
- Dromicia*, in New South Wales, WAITE, Rec. Austral. Mus. v, p. 134.
- Dusyrurus demonellus*, New Guinea, THOMAS, Rec. Austral. Mus. v, p. 402, n. sp.
- Phascogale penicillata pirata*, p. 228, *bella*, p. 229, THOMAS, Nov. Zool. xi; *blythi*, WAITE, Rec. Austral. Mus. v, p. 122, N.W. Australia; n. spp. & subsp.
- Notoryctes typhlops*, anatomy and systematic position, CARLSSON, Zool. Jahrb. Anat. xx, p. 81, SWEET, P. Soc. Victoria (2) xvii, p. 76.
- Anuromeles* Heller, 1897, founded on a tailless specimen of *Perameles*, HELLER, Zool. Anz. xxvii, p. 675.
- Caluromys trinitatis leucurus*, Maripa, Low. Orinoco, THOMAS, Ann. Nat. Hist. (7) xiv, p. 36, n. sp.



- Didelphys*, lymphatics, DRZEWINA, Bull. Mus. Paris 1903, p. 281; lung, BREMER, Amer. J. Anat. iii, p. 67.  
*Peramys brevicaudatus dorsalis*, Venezuela, ALLEN, Bull. Amer. Mus. xx, p. 327, n. subsp.  
 †*Amphiperatherium rhodanicum*, Oligocene, Savoy, DEPÉRET & DOUXAMI, Abh. Schweiz. pal. Ges. xxix, art. 1, p. 80, 1902, n. sp.

## XII. MONOTREMATA.

- Male generative organs, DISSELHORST, Denk. Ges. Jena—Semon's Reise iii, *Monotremata*, ii, p. 121; see also infra; heart, DEVEZ, Bull. Soc. Philom. v, p. 105, Bull. Mus. Paris 1903, p. 231.  
*Echidna*, auditory organ, ALEXANDER, Denk. Ges. Jena—Semon's Reise iii, *Monotremata*, ii, p. 1; development of urino-genital apparatus, KELBEL, t. c. p. 151.  
*Ornithorhynchus*, poison of spur, Noc, C.R. Soc. Biol. lvi, p. 451.  
 †*Hypsiprymnopsis* Dawkins, 1864, stands for *Microlestes* Plieninger, 1847, nec Goebel 1846, POCHÉ, Zool. Ann. i, p. 47.

## †INCERTÆ SEDIS.

- †*Karoomys*, n. g. for *K. browni*, Trias, Aliwal North, BROOM, Geol. Mag. (4) x, p. 345, 1903, n. sp.

## ADDENDA.

The following new names for extinct Argentine Mammals are stated to have been proposed by AMEGHINO in An. Soc. Argent., vols. lvi-lviii. These vols., so far as known, have not reached this country, and the names are quoted from a tract published at Buenos Aires entitled "Nuevas Especies de Mamíferos, Cretáceos y Terciarios de la República Argentina (No. 25A):—

- (?) PRIMATES.—*Acropithecus* (n. g.) *tersus*, p. 4; *Antepithecus innexus*, *intercassus*, p. 5, *gradatus*, p. 6; *Gonopithecus* (n. g.) *trigonodontoides*, p. 6; *Henricosbornia alouatina*, p. 7, *subconica*, p. 8.  
 (?) HYRACOIDEA.—*Oldfieldthomasia plicata*, p. 9; *Paracelodus* (n. g. for *O. marginalis*), p. 9; *Eohyrax platyodus*, *isotemnoides*, p. 10.  
 TYPOTHERIA.—*Phanophilus* (n. g.) *dorsatus*, p. 12; *Epipatriarchus* (n. g.) *bifidens*, p. 13, *innexus*, p. 16; *Cænophilus* (n. g.) *tripartitus*, p. 16; *Getotherium* (n. g.) *tournoueri*, p. 17; *Tegetotherium* (n. g.) *burmeisleri*, p. 18; *Pseudotypotherium* (n. g.) *pulchrum*, p. 19; *Trachytypotherium superans*, *rectum*, p. 22, *disparile*, *vietum*, p. 23; *Xenotherium* (n. g.) *immersum*, p. 24; *Typotherium pseudopachygnathum*, p. 26, *equiar*, p. 27; *Progalæopithecus* (n. g.) p. 28, *fissurellatus*, p. 29, *ournoueri*, p. 30. [N.B. The *Galæopithecidae* are placed in the *Typotheria*!]  
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 HIPPOIDEA.—*Nesohippus* (n. g.) *insulatus*, p. 33; *Interhippus phorcus*, p. 34; *Stilhippus* (n. g.) *deterioratus*, p. 35; *Perhippidion* (n. g.) *tetragonoides*, p. 36.  
 CONDYLARTHRA.—*Didolodus dispar*, p. 38; *Periacrodon* (n. g. for *Polyacrodon lanciformis* Roth.), p. 39; *Oroacrodon*, for *Polyacrodon* Roth., 1898, nec *Polyacrodon* Jaecel, 1889, p. 40; *Notoprotogonia* (n. g. for *Euprotogonia patagonica*), p. 41; *Argyrolambda* (n. g.) *conidens*, p. 43; *Heterolambda* (n. g.) *lunulata*, p. 43; *Eulambda* (n. g. for *Josepholeidea aculea*), p. 45; *Ricardotydekkeria cinctula*, p. 46; *Lopho-*

- lambda* (n. g. for *R. profunda*), p. 47; *Propantostylops* (n. g. for *Pantostylops minutus*), p. 48; *Hemistylops* (n. g. for *Pantostylops incompletus*), p. 49, *paucicuspidatus*, *trigonostyloides*, p. 50; *Polystylops* (n. g.) *progreadiens*, p. 51.
- PERISSODACTYLA.—*Adiantus patagonicus*, p. 52; *Theosodon karaiensis*, p. 54; *Paranauchenia* (n. g. for *Scalibrinitherium denticulatum*), p. 55; *Phœnixauchenia* (n. g.) *tehuelcha*, p. 57; *Promacrauchenia* (n. g. for *Macrauchenia antiqua*), p. 58; *Euprotherotherium* (n. g.) *inaequifacies*, p. 59; *Protherotherium karaiense*, p. 60, *dichotomum*, *politum*, p. 61; *Lophogododon* (n. g.) *paranensis*, p. 62; *Licaphrium pyramidatum*, p. 63; *proximum*, p. 64; *Licaphrops* (n. g. for *Prolicaphrium festinum*), p. 64, *coalescens*, p. 65; *Prothoatherium plicatum*, p. 65; *Thoatherium velatum*, *karaiense*, p. 66, *bilobatum*, p. 67; *Diadiaphorus caelops*, p. 67; *Proectocion* (n. g.), p. 68, *argentinus*, p. 69, *precisus*, p. 70; *Aragonia* (n. g.) *insulata*, p. 71.
- ARTIODACTYLA.—*Listriodon bonariensis*, p. 71, *tarijensis*, p. 73; *Catagonus* (n. g.) *metropolitanus*, p. 73; *Dicotyles platensis*, p. 75; *Microtragulus* (n. g.) *argentinus*, p. 76.
- AMBLIYPODA.—*Trigonostylops columifer*, p. 77, *coryphodontoides*, *germinalis*, p. 78; *Scabellia cyclogona*, p. 79; *Albertogaudrya separata*, *oxygonu*, p. 80; *Astrapotherium karaiense*, p. 81; *Astrapothericulus emarginatus*, p. 82.
- ANCYLOPODA.—*Colpodon plicatus*, p. 83; *Henricofilholia intercineta*, p. 84; *Pyrulophodon* (n. g.) *pyriformis*, p. 85; *Amphitemnus* (n. g.) *nucleatus*, *transitorius*, p. 86; *Dialophus recticrista*, p. 87; *Toxotemnus* (n. g. for *Isotemnus lophiodontoides*), p. 87; *Plexotemnus* (n. g.) *complicatissimus*, p. 88; *Pleurostylodon irregularis*, p. 90, *limpidus*, *obscurus*, p. 91, *bifidus*, *neglectus*, p. 92; *Paratemnus* (n. g.) *geminatus*, p. 93; *Tychostylus simus*, p. 95; *Lophocælus* (n. g.) *macrostomus*, p. 96.
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- RODENTIA.—*Eosteiomys medianus*, p. 100; *Parasteiomys* (n. g.) *uniformis*, p. 101; *Protoacaremys amplus*, p. 101; *Disteiomys* (n. g.) *graciloides*, p. 102; *Paramyocastor* (n. g.) *intactus*, p. 103; *Eoctodon crassiusculus*, p. 103; *Sigmomys* (n. g.) *oppositus*, p. 103; *Simplimus* (n. g.) *indivisus*, p. 104; *Tetrastylus araucanus*, p. 104, *giganteus*, p. 105; *Archæocardia mustersiana*, p. 106; *Argyrolagus* (n. g.) *palmeri*, p. 106.
- (?) PLAGIAULACOIDEA.—*Polydolops simplex*, p. 107; *Archæodolops* (n. g. for *P. clavulus*), p. 108; *Anisodolops* (n. g. for *P. serrifer*), p. 108; *Anadolops* (n. g.) *thylacoleoides*, p. 109.
- MARSUPIALIA.—*Pilehenia* (n. g.) *lucina*, *lobata*, p. 110; *Progarzonina* (n. g.) *notostyloperensis*, p. 111; *Clenia* (n. g.) *minuscula*, p. 111; *Didelphys abrupta*, *biforata*, p. 112, *perplana*, p. 113; *Hyperdidelphys* (n. g.) *acutidens*, p. 113; *Paradidelphys* (n. g.) *nodosa*, p. 114; *Cladodidelphys* (n. g.) *crucialis*, p. 115.
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- CARNIVORA.—*Pachynasua* (n. g.) *clausa*, p. 119; *Pararctotherium* (n. g.) *enectum*, p. 120, *pamparum*, p. 121; *Proarctotherium* (n. g. for *A. vetustum*), p. 121; *Amphicyon argentinus*, p. 122; *Notamphicyon* (n. g.) *paranensis*, p. 122; *Smilodon crucians*, p. 123; *Felis propuma*, p. 123, *proplatensis*, p. 124.
- EDENTATA.—*Rathymotherium* (n. g.) *perfectum*, p. 126; *Protamandua* (n. g.) *rothi*, p. 128; *Promyrmephagus* (n. g.) *euryarthrus*, p. 128, *dolichoarthrus*, p. 129; *Argyromanis* (n. g.) *patagonica*, p. 129; *Orthoarthrus* (n. g.) *mixtus*, p. 130; *Propreopotherium* (n. g.) *desendense*, p. 131; *Preopotheriops* (n. g.) *megatheroides*, p. 132; *Megathericulus* (n. g.) *patagonicus*, p. 132; *Neonematherium* (n. g.) *flabellatum*,

p. 133; *Scelidotheriops* (n. g.) *avunculus*, p. 134; *Eumylodon bonariense*, p. 136; *Octomyodon* (n. g.) *aversus*, p. 137; *Palæhoplophorus meridionalis*, p. 137; *Plohophorus cuneiformis*, p. 138, *araucanus*, p. 139; *Dædicurus ensenadensis*, p. 139; *Eutatus præpampæus*, p. 140; *Epipeltephilus* (n. g.) *recurvus*, p. 140.

The following were recorded too late to be included in the list of Titles.

504. ALCOCK, N. H. On Mammalian non-medullated nerve. *J. Physiol.* xxx, pp. xxxv & xxxvi.
505. BACKMUND, C. Entwicklung der Haare und Schweissdrüsen der Katze. *Anat. Hefte. Arb.* xxvi, pp. 315-383, pls. xi-xiv. [*Felidæ.*]
506. DAMANY, P. La cavité cotyloïde, evolution ontogénique comparée de sa profondeur chez l'Homme et les Animaux. *J. Anat. Physiol.* xl, pp. 387-413, figg.
507. DENNSTEDT, A. Die Sinus duræ matris der Haussäugethiere. *Anat. Hefte. Arb.* xxv, pp. 1-96, pls. i-iii.
508. GLAS, E., Ueber die Entwicklung und Morphologie der inneren Nase der Ratte. *Anat. Hefte. Arb.* xxv, pp. 273-341, pls. x-xxiv.
509. ILLING, G. Vergleichende Untersuchungen über die submaxillaren Speicheldrüsen der Haussäugethiere. *Anat. Hefte. Arb.* xxvi, pp. 385-526, pls. xv-xviii.
510. MACNAMARA, N. C. Beweisschrift betreffend die gemeinsame Abstammung der Menschen und der Anthropoiden Affen. *Arch. Anthrop.* xxxi, pp. 77-93, fig. [*Primates.*]
511. MAGNUS, R. Versuche am überlebenden Dünndarm von Säugethieren. Pt. I. *Arch. Ges. Physiol.* cii, pp. 123-151, figg.
512. MÜLLER, C. Beiträge zur vergleichenden Anatomie und Histologie der Prostata der Haussäugetiere, etc. *Anat. Hefte. Arb.* xxvi, pp. 527-572, pls. xix-xxiii.
513. MÜLLER, E. Beiträge zur Morphologie des Gefässsystems: II. Die Armarterien der Säugetiere. *Anat. Hefte. Arb.* xxvii, pp. 71-242, pls. v-xvi.
514. SABIN, [Miss] F. R. On the development of the superficial lymphatics in the skin of the Pig. *Amer. J. Anat.* iii, pp. 183-195, figg.
515. SCHLOSSER, M. Die mumifizierte Tierwelt des alten Ägyptens. *Arch. Anthrop.* xxx, pp. 202-207.
516. VALEDINSKY, I. A. Zur Frage über die Nervenknotten im Herzventrikel einiger Säugetiere. *Anat. Hefte. Arb.* xxvii, pp. 285-294, pls. xix & xx.
517. WILSON, W. H. The immunity of certain desert Mammals to Scorpion venom. *J. Physiol.* xxxi, pp. 1-1ii.



## III. AVES.

BY

R. BOWDLER SHARPE, LL.D., &amp;C.

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## INTRODUCTION,

ALTHOUGH the number of titles is somewhat less than in 1903, their perusal shews that some excellent memoirs have been published, while the standard works by Dr HARTERT, Prof. RIDGWAY, Prof. REICHENOW, and Captain SHELLEY, have all been advanced. The Recorder has again to thank Mr Chubb for his assistance.

## I.—TITLES.\*

1. \*ADAMS, C. C. The migration route of Kirtland's Warbler (*Dendroica kirtlandi*). Bull. Michigan Ornith. Club v, pp. 14-21. [*Mniotiltidae*.]
2. ALDERSON, R. Nesting of the Rufous Dove (*Leptoptila reichenbachi*). Avicult. Mag. (2) ii, pp. 270-275. [*Columbiformes*.]
3. \*ALLEN, G. M. The birds of New Hampshire. P. Manchester Inst. Arts & Sci. iv, pp. 23-222.
4. ALLEN, J. A. The case of *Megalestris* vs. *Catharacta*. Auk xxi, pp. 345-348. [*Lariiformes*.]
5. —. Black-capped Petrel (*Estrelata hesitata*) in New Hampshire. T. c. p. 383, pl. xxii. [*Procellariiformes*.]
6. ALLÉON, A. [Comte]. Obituary. [See LEVERKÜHN, P. (349).]
7. ALLISON, A. The birds of West Baton Rouge Parish, Louisiana. Auk xxi, pp. 472-484.
8. ANDERSON, M. P. & GRINNELL, J. Birds of the Siskiyou Mountains, California: a problem of distribution. P. Ac. Philad. 1903, pp. 4-15.
9. ANDRÉ, E. A Naturalist in the Guianas. London, 1904, 8vo, xiv + 310 pp. with thirty-four illustrations and a map.
10. ANDREWS, C. W. On the pelvis and hind-limb of *Mullerornis betsilei* M.-Edw. & Grand.: with a note on the occurrence of a Ratite bird in the Upper Eocene beds of the Fayum, Egypt. P. Zool. Soc. London 1904, i, pp. 163-171, pl. v, text-fig. 15. [*Épyornithiformes*.]
11. APLIN, O. V. *Emberiza pusilla* near Rugby. Ibis 1904, pp. 306 & 307. [*Fringillidae*.]
12. —. Birds of Oxfordshire or Buckinghamshire. Zoologist 1904, pp. 75 & 76.
13. —. Notes on the ornithology of Oxfordshire. T. c. pp. 361-372.
14. —. On the breeding of the Black-necked Grebe (*Podiceps nigricollis*) in the British Islands. T. c. pp. 417-420. [*Podicipediformes*.]
15. ARRIGHI-GRIFFOLI, G. Note ed appunti di un cacciatore sui nostri uccelli migratori. Part II. Avicula viii, pp. 6-12, 75-77, 98-102, 135-140, 148-150.
16. —. Caccia alle Anitre con reti. T. c. pp. 20-23.
17. ARRIGNI DEGLI ODDI, E. Manuale di Ornitologia Italiana. Elenco descrittivo degli Uccelli stazionari o di passaggio finora osservati in Italia. Milano, 1904, 908 pp.
18. ARUNDEL, W. B. Ferruginous Duck (*Fuligula nyroca*) in Yorkshire. Zoologist 1904, p. 33. [*Anseriformes*.]
19. BAER, G. A. [See OUSTALET, E. (448).]

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

18. BAILEY, F. M. Additional notes on the birds of the Upper Pecos. *Auk* xxi, pp. 349-363. [*Charadriiformes*, *Galliformes*, *Trochili*, *Tyrannidae*, *Fringillidae*, *Motacillidae*, *Mimidae*, *Turdidae*.]
19. ——. Additions to Mitchell's list of the summer birds of San Miguel County, New Mexico. *T. c.* pp. 443-449. [*Tyrannidae*, *Fringillidae*.]
20. ——. Twelve Rock Wren Nests in New Mexico. *Condor* vi, pp. 68-70.
21. ——. A Dusky Grouse and her brood in New Mexico. *T. c.* pp. 87-89 cum fig.
22. BANGS, O. Two new subspecies of tropical American Tyrant-birds. *P. Soc. Washington* xvii, pp. 113 & 114. [*Tyrannidae*.]
23. BANNERMAN, D. A. Ornithological notes made during a trip to the West Indies. *Zoologist* 1904, pp. 228-230.
24. BARBOZA DU BOCAGE. Contribution à la Faune des quatre îles du Golfe de Guinée. *J. Sci. Lisb.* (2) vii, No. xxvi, Oiseaux, pp. 72-90.
25. BARNARD, C. A. Coomoooolaroo notes. *Emu* iv, pp. 67 & 68.
26. BARRETT-HAMILTON, G. E. H. A physiological theory to explain the winter-whitening of birds and mammals in snowy countries, and the most striking points in the distribution of white in vertebrates generally. *Rep. Brit. Ass.* 1903, pp. 698 & 699.
27. ——. On the sound produced by the wings of birds in flight. *Ibis* 1904, pp. 474 & 475.  
BARTELS, M. [See FINSCH, O. (188).]
28. BARTSCH, P. Notes on the Herons of the District of Columbia. *Smithson. Collect.* xlv, pp. 104-111, pls. xxxii-xxxviii.  
BATES, G. L. [See SHARPE, R. B. (592).]
29. BAU, A. Die Eier von *Larus audouini*. *Ornith. Jahrb.* xv, pp. 1-10, Taf. i. [*Lariformes*.]
30. ——. Nochmals *Erithacus cairii*. *Ornith. Monber.* xii, pp. 4-6. [*Turdidae*.]
31. BECK, R. H. Bird life among the Galapagos Islands. *Condor* vi, pp. 1-11. [*Mimidae*, *Pelecaniformes*.]
32. BEDDARD, F. E. A note upon the tongue and windpipe of the American Vultures, with remarks on the interrelations of the genera *Sarcorhamphus*, *Gypagus* and *Cathartes*. *P. Zool. Soc. London* 1903, ii, pp. 386-392, text-figg. 45-48. [*Cathartiformes*.]
33. ——. Exhibition and remarks on the brain of a Troupial (*Quiscalus versicolor*). *Op. cit.* 1904, ii, p. 2. [*Icteridae*.]
- 33A. ——. On the skull of the Cape Crowned Crane (*Balearica chrysolargus*). *T. c.* p. 131. [*Ardeiformes*.]
34. BEEBE, C. W. Breeding of Lawrence's Warbler (*Helminthophila lawrencei*) in New York City. *Auk* xxi, pp. 387 & 388. [*Mniotiltidae*.]
35. BENSON, C. W. Some notes on Swiss birds observed in June, 1904. *Zoologist* 1904, pp. 423 & 424.
36. BENT, A. C. Nesting habits of the *Herodiones* in Florida. *Auk* xxi, pp. 20-29, 259-270, pls. ix & x, xix-xxi. [*Ardeiformes*.]

37. BERGE, R. Die Ringansel im Erzgebirge. Ornith. Monber. xii, pp. 160-162. [*Turdidae*.]
38. BERNARD, P. Réapparition du Jaseur de Bohème (*Ampelis garrulus*) dans le pays de Montbéliard. Ornith. xii, No. 4, pp. 565-567.
39. BERNEY, F. L. North Queensland notes on some migratory birds (March 1902-July 1904). Emu iv, pp. 43-47. [*Timeliidae*, *Meropes*.]
40. BERRY, W. On the nesting of the Hawfinch (*Coccothraustes coccothraustes*) in Fifeshire. Ann. Scott. Nat. Hist. 1904, pp. 11-14. [*Fringillidae*.]
41. BERTLING, A. E. L. On the hatching and rearing of the Brush Turkeys (*Talegalla lathamii*) at the Zoo. Avicult. Mag. (2) ii, pp. 294-297. [*Galliformes*.]
- 41A. BERTONI, A. DE W. Contribución para el conocimiento de las Aves del Paraguay. Anales Cient. Parag. Ser. I, No. 3, pp. 1-10, 1904. [*Turdidae*, *Tunagridae*, *Dendrocolaptidae*, *Formicariidae*, *Strigiformes*, *Columbiformes*.]
42. BESSERER, F. VON. *Numenius arcuatus* L. als Brutvogel in Bayern. Ornith. Jahrb. xv, pp. 108-113. [*Charadriiformes*.]
43. BETHAM, R. M. Notes on birds-nesting from Poona. J. Bombay Soc. xv, pp. 709-712.
44. BIANCHI, V. Compte-rendu du Musée Zoologique de l'Académie Impériale des Sciences pour l'année 1902. Annuaire Mus. St. Petersb. viii, pp. 1-52, 1903. [*Corvidae*, *Emberizidae*, *Alaudidae*, *Certhiidae*, *Timeliidae*, *Accipitriformes*.]
- 44A. —. Note sur les formes du genre *Dendrocoptes*. Op. cit. ix, pp. 1-4. [*Pici*.]
45. —. Revision des genres et des espèces de la famille *Accentoridae*. T. c. pp. 108-156. [*Turdidae*.]
46. —. Note préliminaire sur les formes paléarctiques orientales du genre *Alauda* Linn. T. c. pp. xxii-xxxi. [*Alaudidae*.]
47. —. Key to the Palearctic species of Larks of the genus *Otocoris*. Ibis 1904, pp. 370-372. [*Alaudidae*.]
48. —. Uebersicht der Formen der Gattung *Ithaginis* Wagler. [Translation by R. Schmidt.] J. Ornith. 1904, pp. 70-86.
49. —. On a new species of Bunting. Bull. B. O. C. xiv, p. 80. [*Fringillidae*.]
50. BICKERTON, W. A review of Hertfordshire Ornithology. Tr. Hertfordsh. Soc. xii, pp. 26-32.
51. —. Notes on birds observed in Hertfordshire during the year 1902. T. c. pp. 33-40.
- 51A. BIEDERMANN, W. Die Schillerfarben bei Insekten und Vögeln. Denk. Ges. Jena 1904, pp. 215-300, Mit 16 Figuren im Text.
52. BIRTWELL, F. J. Observations on color changes in the genus *Buteo*, apparently due to aptosochromatism. Bull. Univ. New Mexico iii, No. 7, pp. 3-14 (1903). [*Accipitriformes*.]
53. BLAAUW, F. E. On the breeding of some of the Waterfowl at Gooilust in the year 1903. Ibis 1904, pp. 67-75. [*Anseriformes*.]
54. BLASIUS, R. Gustav Radde [obituary]. J. Ornith. 1904, pp. 1-49 [portrait].



55. BLATHWAYT, F. L. "Xanthochroism" in the Greenfinch (*Ligurinus chloris*). Zoologist 1904, p. 32. [*Fringillidæ*.]
- 55A. —. Little Owl (*Athene noctua*) and Waxwing (*Ampelis garrulus*) in Lincolnshire. T. c. pp. 74 & 75. [*Strigiformes, Ampelidæ*.]
56. —. Notes on the birds found on the coast of Somerset. T. c. pp. 81-95.
57. \*BOARDMAN, S. L. The Naturalist of Saint Croix. Memoir of George A. Boardman, a selection from his correspondence and published writings, notices of friends and contemporaries, with his List of Birds of Maine and New Brunswick. Bangor, Maine, 1903, 8vo, xv + 311 pp.
- BOCAGE. [See BARBOZA (24).]
58. BONHOTE, J. L. The European Goldfinch (*Carduelis elegans*). Avicult. Mag. (2) iii, pp. 21-23, with coloured plate. [*Fringillidæ*.]
59. —. The Bahama Amazon Parrot (*Chrysotis bahamensis*). Op. cit. ii, pp. 239-241, cum tab. [*Psittaci*.]
- 59A. BOTEZAT, E. Geschmacksorgane und andere nervöse Endapparate in Schnabel der Vögel. Biol. Centrbl. xxiv, pp. 722-736.
- BOURDILLON, T. F. [See FERGUSON, H. S. (175).]
60. BOUSSAC, P. H. Les Anseridés dans l'Égypte Pharaonique. Le Naturaliste (2) No. 421, pp. 209-211. [*Anseriformes*.]
61. BOWDISH, B. S. An abnormal bill of *Melanerpes portoricensis*. Auk xxi, pp. 53-55, pl. xi. [*Pici*.]
62. —. Mortality among young birds due to excessive rains. T. c. pp. 284-286.
63. BOWDITCH, H. A list of the Bermudian birds seen during July and August 1903. Amer. Natural. 1904, pp. 555-563.
64. BOWLES, J. N. Nesting of the Western Golden-crowned Kinglet (*Regulus satrapa olivaceus*) in Western Washington. Condor vi, pp. 163-165. [*Regulidæ*.]
- BRAGANÇA, DOM CARLOS DE (King of Portugal). [See PORTUGAL (475B).]
65. BRAISLIN, W. C. Notes concerning certain birds of Long Island, N. Y. Auk xxi, pp. 287-289.
66. BRAUN, F. Ornithologisches aus Konstantinopel. Ornith. Monber. xii, pp. 17-21, 79-81, 118-122, 179-183.
67. —. Zugvogel und Florenwechsel. J. Ornith. 1904, pp. 443-454.
68. BRENINGER, G. F. San Clemente island and its birds. Auk xxi, pp. 218-223.
69. BROOKS, A. British Columbia notes. T. c. pp. 289-291.
70. BROWN, H. The Elf Owl (*Micropallas whitneyi*) in California. Condor vi, pp. 45-47. [*Strigiformes*.]
71. —. Masked Bob-white (*Colinus ridgwayi*). Auk xxi, pp. 209-213. [*Galliformes*.]
72. BROWNSON, W. H. Myrtle Warblers (*Dendreca coronata*) wintering in Maine. Auk xxi, pp. 388-390.

73. BRUCH, C. Enumeración de una colección de Aves de las Provincias de Salta y Jujuy y descripción de un nuevo Tiránido. *Revist. Mus. La Plata* xi, p. 245. [*Tyrannidæ*.]
74. BRUNELLI, G. Sulle cause che hanno determinato la riduzione della laringe superiore e lo sviluppo della siringe negli uccelli. *Avicula* viii, pp. 1-6.
75. BRYAN, W. A. A monograph of Marcus Island. An account of its physical features and geology, with descriptions of the Fauna and Flora. Honolulu, 1903, 8vo, 140 pp. Aves, pp. 95-116. [*Lariiformes*.]
76. ——. Wilson's Snipe, *Gallinago delicata* (Ord.), in the Hawaiian Islands. *Condor* vi, p. 78. [*Charadriiformes*.]
77. BRYANT, O. Dates of nesting of Bermuda birds. *Auk* xxi, p. 91.
78. BUCHANAN, K. & R. M. On the measurements and weights of the eggs of the commoner *Charadriidæ*. *Zoologist* 1904, pp. 281-290. [*Charadriiformes*.]
79. BUCKERS, P. H. De Vogels van Nederland, 1903. 164 pp., 4 pls.
80. BUDGETT, J. S. Obituary. *Ibis* 1904, p. 311.
81. \*BULLEN, F. T. Creatures of the Sea; being the life-stories of some Sea-birds, beasts and fishes. 8vo, London, 141 pp.
82. BULLER, W. L. On a new species of Owl from New Zealand. *Ibis* 1904, p. 639. [*Strigiformes*.]
- BUNNELL, A. S. [See STONE, W. (615).]
83. BUTLER, A. G. More attempts to breed the Tambourine Dove (*Tympanistria tympanistria*). *Avicult. Mag.* (2) ii, pp. 100 & 101. [*Columbiformes*.]
84. ——. Notes on melanism and albinism in birds. *T. c.* pp. 242-245.
85. ——. Notes on the nesting of the Red-headed or Dominican Cardinal (*Paroaria larvata*). *T. c.* pp. 267-269. [*Fringillidæ*.]
86. ——. Characters in birds' wings. *T. c.* pp. 319 & 320.
87. ——. The Orange-billed Tanager *Saltator aurantirostris*. *T. c.* pp. 335-339, with coloured plate.
88. ——. On the development of the adult colouring in the Yellow-billed Cardinal (*Paroaria capitata*) from S. America. *P. Zool. Soc. London* 1903, pp. 350 & 351. [*Fringillidæ*.]
89. BUTLER, A. L. On the migration of the Snow Bunting across the Atlantic. *Ibis* 1904, pp. 304 & 305. [*Fringillidæ*.]
90. BUTTERFIELD, W. RUSKIN. Bulwer's Petrel in Sussex. *Bull. B. O. C.* xiv, pp. 50 & 51. [*Procellariiformes*.]
- 90A. ——. *Æstrelata fæa* from Madeira. *T. c.* p. 51. [*Procellariiformes*.]
91. ——. Photographs of a Welsh Kite's nest, etc. *T. c.* p. 76.
92. ——. On the characters of *Carthia familiaris*, *C. f. britannica*, and *C. f. brachydactyla*. *Ibis* 1904, pp. 306 & 307.
93. BUTURLIN, S. A. Über neue Formen der echten Stare. *Ornith. Jahrb.* xv, pp. 205-213. [*Sturnidæ*.]
94. ——. On the geographical distribution of the True Pheasants. (Genus *Phasianus* sensu stricto.) *Ibis* 1904, pp. 377-414. [*Galliformes*.]

95. [BUTURLIN, S. A.] Mandschurischer Ringsfasan. Ornith. Monber. xii, pp. 3 & 4. [*Galliformes.*]
96. —. Turgaisches Rebhuhn, *Perdix arenicola*, n. sp. T. c. pp. 148 & 149. [*Galliformes.*]
97. —. The correct name of the Pacific Dunlin. Auk xxi, pp. 50-53. [*Charadriiformes.*]
98. —. A preoccupied generic name. T. c. p. 80. [*Alaudidae.*]
99. CAMERON, J. On the origin of the epiphysis cerebri as a bilateral structure in the Chick. P. Scott. Micr. Soc. iv, pp. 11-17, 3 figg.
100. CAMPBELL, A. J. Remarks on certain *Melithrepti*. Emu iv, pp. 70 & 71. [*Meliphagidae.*]
101. —. Another decade in Australian Oology. Emu iii, pp. 168-171.
102. \*CAMPBELL, J. M. Notes on the Natural History of the Bell Rock. With an introduction by James Murdoch, late Secretary to the Board of Northern Lighthouses. Edinburgh, 1904, 8vo, xv + 112 pp.
103. CARLIER, E. WACE. The elastic tissue of the eye in birds. Brit. Med. J. 1904, ii, p. 740. Lancet 1904, ii, p. 538.
104. CARROLL, C. J. The Little Bunting (*Emberiza pusilla*) in England. Zoologist 1904, pp. 312 & 313. [*Fringillidae.*]
105. CARTER, T. Birds occurring in the region of the North-west Cape. Part III. Emu iii, pp. 171-177 and 207-213. [*Ardeiformes.*]
107. —. The birds of Wongan Hills, West Australia. Op. cit. iv, p. 69.
108. \*CHAPMAN, F. M. Color key to North American birds. Pp. vi + 312.
109. —. A new Grouse from California. Bull. Amer. Mus. xx, pp. 159-161. [*Galliformes.*]
110. —. List of birds collected in Alaska by the Andrew J. Stone Expedition of 1903. T. c. pp. 399-406.
- 110A. CHAPMAN, F. M. Birds' nests and eggs. New York, 1904, 8vo, 31 pp., with photographic illustrations.
111. CHARRINGTON, A. C. Notes on some birds of the White Nile. Avicult. Mag. (2) ii, pp. 315-318.
112. CHIGI, F. Contributo allo studio dell Avifauna Romana. Boll. Soc. Ital. (3) v, pp. 223-226.
113. —. Notizie Ornithologiche per la Provincia di Roma. T. c. pp. 58-64.
114. —. Gli uccelli del Lazio. Note al Manuale di Ornitologia Italiana del Conte Prof. E. Arrigoni degli Oddi. Avicula viii, pp. 121-126.
115. CHILDS, J. L. Curlew Sandpiper (*Erolia ferruginea*) in New Jersey. Auk xxi, p. 485. [*Charadriiformes.*]
116. CHUBB, E. C. Occurrence of the Bluethroat (*Cyanecula suecica*) near London. Zoologist 1904, pp. 262 & 263. [*Turdidae.*]
117. CLARK, J. H. Curved-billed Thrasher (*Harporhynchus curvirostris*) and Palmer's Thrashers (*Harporhynchus curvirostris palmeri*). Auk xxi, pp. 214-217, pl. xviii, figg. 1 & 2. [*Mimidae.*]

118. CLARKE, A. H. The birds of St. Vincent. West Ind. Bull. v, pp. 75-95.
119. CLARKE, S. R. Field-notes on birds obtained or observed at Bloemfontein, O. R. C., and at Ingogo, Natal, in 1901 and 1902. *Ibis* 1904, pp. 519-541.
120. CLARKE, W. EAGLE. On the migrations of the Starling (*Sturnus vulgaris*) and the Rook (*Corvus frugilegus*). Rep. Brit. Ass. 1903, pp. 291-304. [*Sturnidae*, *Corvidae*.]
121. —. On the occurrence of the Short-toed Lark (*Calandrella brachydactyla*) and the Lapland Bunting (*Calcarius lapponicus*) in the Outer Hebrides. Ann. Scott. Nat. Hist. 1904, pp. 206 & 207. [*Fringillidae*, *Alaudidae*.]
122. —. On the occurrence of the Little Bunting (*Emberiza pusilla*) in Orkney: an addition to the Scottish Avifauna. T. c. pp. 14-16. [*Fringillidae*.]
123. —. Studies in Bird-migration. II. The results of observations made at the Kentish Knock Lightships in the autumn of 1903. *Ibis* 1904, pp. 112-142.
124. —. On the short-toed Lark in the Flannan Islands. Bull. B. O. C. xv, p. 11. [*Alaudidae*.]
125. COCKS, A. H. Birds of Oxfordshire or Buckinghamshire. Zoologist 1904, pp. 34-36.
126. COLLIER, C. The Birds of the Island of Raasay. *Ibis* 1904, pp. 490-512.
127. COLTART, H. N. The occurrence of the Malay Fish-Owl (*Ketupa javanensis*) in Assam. J. Bombay Soc. xv, p. 719. [*Strigiformes*.]
128. \*COOKE, W. M. Some new facts about the migration of birds. Yearb. U. S. Dep. Agric. 1903, pp. 371-386.
129. —. The effect of altitude on bird migration. Auk xxi, pp. 338-341.
130. —. Some new facts about the migration of birds. Condor vi, pp. 115-126.
- 130A. CORAINVILLE, E. C. DE. Observations sur les Guillemot Troïle (*Uria troïle* Lath.) et Guillemot bridé (*Uria ringvia* Brünn.). Bull. Soc. Rouen (4) xxiii, pp. 30 & 31. [*Alciformes*.]
131. CORBIN, G. B. Wildfowl on the Hampshire Avon during the winter of 1903-04. Zoologist 1904, pp. 145 & 146.
132. CORDS, ELISABETH. Beiträge zur Lehre vom Kopfnervensystem der Vögel. Anat. Hefte. Arb. xxvi, pp. 49-100, pls. 1-4.
133. \*COUES, E. Key to North American Birds. Containing a concise account of every species of living and fossil bird at present known from the continent north of the Mexican and United States Boundary, inclusive of Greenland and Lower California. With which are incorporated General Ornithology: an outline of the structure and classification of birds: and field Ornithology, a Manual of collecting and preserving birds. 2 vols., 1904.
134. COWARD, T. A. & OLDHAM, C. Notes on the birds of Anglesea. Zoologist 1904, pp. 7-29.
135. CRAIG, W. The voices of Pigeons. I. The voice of the Ring-Dove (*Turtur risorius*). Biol. Bull. vi, pp. 323 & 324.

- 135A. CRÉE, V. v. D. Viaje ornitológico por Andalucía (provincias de Sevilla, Huelva, y Granada) durante los meses de Abril, Mayo y Junio de 1902. Bol. Soc. espan. iii, pp. 366-383.
136. CSIKI, E. Positive Daten über die Nahrung unserer Vögel. *Aquila* xi, pp. 270-317, with map.
137. CSÖRGEY, T. Vorläufiger Bericht über die Landesuntersuchung der Saatkrähe. *Aquila* xi, pp. 353-359.
138. CURRIER, E. S. Summer birds of the Leech Lake region, Minnesota. *Auk* xxi, pp. 29-44. [*Podicipediformes, Lariformes.*]
139. DALGLEISH, G. Notes on the Indian *Anatidæ*. *Zoologist* 1904, pp. 447-451.
140. DAMIANI, G. Il nuovo Manuale di Ornitologia Italiana del Conte Dott. Ettore Arrigoni degli Oddi. *Avicula* viii, pp. 33-41.
141. DAWSON, W. L. The Birds of Ohio, a complete, scientific and popular description of 320 species of birds found in the State. With introduction and analytical keys by Lynds Jones. Columbus, 1903, 4to, xlvi + 671 pp., 80 coloured plates.
142. DEANE, R. Unpublished letters of John James Audubon and Spencer F. Baird. *Auk* xxi, pp. 255-259.
143. ——. Extracts from an unpublished journal of John James Audubon. T. c. pp. 334-338.
144. DEGEN, E. Remarks on new species of Australian Magpies, *G. longirostris* Milligan, and *G. dorsalis* Campbell, with reflections on the revision of the genus *Gymnorhinæ* (sic) Hall. *Emu* iii, pp. 201-207. [*Laniidæ.*]
- 144A. D'HOLLANDER, F. Recherches sur l'oogenèse et sur la structure et la signification du noyau vitellin de balbiani chez les oiseaux. *Arch. anat. micr.* vii, pp. 115-180, pls. iv-vi.
145. DEWAR, D. Sexual colour-dimorphism in birds. *J. Bombay Soc.* xvi, pp. 27-36.
146. DOGGETT, W. Death of. *Bull. B. O. C.* xiv, p. 35. Obituary. *Ibis* 1904, p. 312.
147. DRESSER, H. E. On some rare or unfigured eggs of Palearctic birds. *Ibis* 1904, pp. 106-111, pl. iii. [*Turdidæ, Fringillidæ.*]
148. ——. On the late Dr Walter's Ornithological researches in the Taimyr Peninsula. T. c. pp. 228-235. [*Charadriiformes.*]
149. ——. On some rare and unfigured eggs of Palearctic birds. T. c. pp. 280-283, pl. vii. [*Turdidæ, Pycnonotidæ, Accipitriformes, Galliformes.*] T. c. pp. 485-489, pl. x. [*Sylviidæ, Motacillidæ, Oriolidæ, Muscicapidæ, Campophagidæ, Laniidæ.*]
150. DREWITT, F. D. Autograph letter of John Latham. *Bull. B. O. C.* xiv, p. 41.
151. ——. Exhibition of drawings of British Birds' Eggs by William Jones. Id. t. c. p. 41.
152. DUBOIS, A. Synopsis Avium. Nouveau Manuel d'Ornithologie. Fascic. xvi & xvii, pp. 1171-1340. Title-page and index.
153. DUKE, H. J. Winter care of the Quail (*Colinus virginianus*). *Pennsylv. Dep. Agric.* i, No. 10, pp. 30 & 31. [*Galliformes.*]

154. DUTCHER, W. Supplement. Report of the A. O. U. Committee on the protection of North American birds for the year 1903. *Auk* xxi, pp. 97-208, pls. xii-xviii. [Cf. *Zool. Rec.* xl. *Aves*, p. 11, No. 180.]
155. DWIGHT, J. The exaltation of the subspecies. *Auk* xxi, pp. 64-66.
156. —. The rapidity of the wing-beats of birds. *T. c.* p. 286.
157. EASTMAN, C. R. Fossil plumage. *Amer. Natural.* 1904, pp. 666-672.
158. EATON, E. H. Spring bird migrations of 1903. *Auk* xxi, pp. 341-345.
159. EHMEKE, A. Beschreibung einiger neuer Lerchenarten aus den Museen von Sarajevo und Budapest. *Ann. Mus. Hungar.* ii, pp. 296-301. [*Alaudidae.*]
160. —. *Alauda cinerascens*, nom. emend. *J. Ornith.* 1904, p. 313. [*Alaudidae.*]
161. EIFRIG, G. Birds of Allegany and Garrett counties, Western Maryland. *Auk* xxi, pp. 234-250.
162. ELLIOT, E. A. S. Twenty years' record of the arrival of spring migratory birds in the neighbourhood of Kingsbridge. *Rep. Devon. Ass.* (2) vi, pp. 173-180.
163. ELLISON, A. Robin (*Erithacus rubecula*) nesting in a tree. *Zoologist* 1904, pp. 190 & 191. [*Turdidae.*]
164. ELMS, E. F. M. Observations and notes on birds in the neighbourhood of New Romney and Littlestone-on-Sea, May 16th-20th, 1902. *Zoologist* 1904, pp. 250-255.
165. —. Notes on the nesting of the Moorhen (*Gallinula chloropus*) and the Little Grebe (*Podiceps fluviatilis*) on the river Isis, Bablockhythe, Oxon, May 20th-24th, 1904. *T. c.* pp. 255-258.
166. EMERSON, W. O. The Farallone Islands revisited, 1887-1903. *Condor* vi, pp. 61-68.
167. ERLANGER, CARLO FREIHERR VON. Beiträge zur Vogelfauna Midostafrikas mit besonderer Berücksichtigung vor Zoogeographie. *J. Ornith.* 1904, pp. 1-244, Taf. i-xviii. [*Accipitriformes, Strigiformes.*]
168. —. Neue afrikanische Arten. *Ornith. Monber.* xii, pp. 97 & 98. [*Galliformes, Columbiformes.*]
169. EVANS, A. H. The Birds of Cambridgeshire. Handbook to the Natural History of Cambridgeshire. Edited by J. E. Marr and A. E. Shipley, Cambridge, 1904, 8vo, viii + 258 pp. *Birds*, pp. 75-99.
170. —. Field-notes on birds from the Western Pyrenees. *Ibis* 1904, pp. 452-456.
171. EVANS, G. H. The nidification of the Little Blue-winged Pitta (*Pitta cyanoptera*) in Upper Burma. *J. Bombay Soc.* xvi, pp. 171 & 172.
172. EVANS, W. Wryneck (*Iynx torquilla*) in East Lothian. *Ann. Scott. Nat. Hist.* 1904, p. 244. [*Pic.*]
173. FATIO, P. VICTOR. Faune des Vertébrés de La Suisse. Volume ii. Histoire naturelle des oiseaux. ii<sup>me</sup> Partie; Gyrateurs, Sarcleurs, Échassiers, Hérodions, Lamellirostres, Totipalmes, Longipennes et Uropodes. Genève et Bale, 1904, 8vo. 841-1708 pp. Avec 1 planche en couleurs, hors texte, 120 figures originales, dans le texte, 23 tableaux et un 2<sup>e</sup> appendice à la première partie. [Cf. *Zool. Rec.* xxxvi, *Aves*, p. 11, No. 199.]

174. FAWCETT, J. W. The Capercaillie (*Tetrao urogallus*). Tr. Weaverdale Club i, part ii, pp. 229-231. [*Galliformes*.]
175. FERGUSON, H. S. The birds of Travancore, with notes on their nidification by T. F. Bourdillon. J. Bombay Soc. xv, pp. 654-673. Op. cit. xvi, pp. 1-18. [*Bucerotes*, *Podargi*, *Trogones*, *Psittaci*, *Accipitriformes*, *Columbiformes*.]
- 175A. FERRET, P. Influence tératogénique des lésions des enveloppes secondaires de l'œuf de Poule. Arch. anat. micr. vii, pp. 1-116, pls. i-iii.
176. FINLEY, W. L. Two Oregon Warblers (*Dendroica nigrescens* and *Geothlypis trichas arizela*). Condor vi, pp. 31-35 cum tab. [*Mniotiltidæ*.]
177. —. The Lutescent Warbler (*Helminthophila celata lutescens*). T. c. pp. 131-133. [*Mniotiltidæ*.]
178. —. The Black-headed Grosbeak (*Zamelodia melanocephala*). T. c. pp. 145-148. [*Fringillidæ*.]
179. FINN, F. The Himalayan Goldfinch (*Carduelis caniceps*). Avicult. Mag. (2) iii, pp. 24-26, pl. to p. 21, fig. 2. [*Fringillidæ*.]
180. —. The Summer or Carolina Duck (*Æx sponsa*). Op. cit. ii, pp. 89-94 with coloured plate. [*Anseriformes*.]
181. FINSCH, O. Notiz über die Wollhalsstörche (*Dissoura*). Ornith. Monber. xii, p. 94. [*Ardeiformes*.]
182. — & BARTELS, M. Über eine neue Finkenart von Java. J. Ornith. 1904, pp. 122 & 123, Taf. A. [*Fringillidæ*.]
183. FISHER, A. K. In memoriam: Thomas McIlwraith. Auk xxi, pp. 1-7, pl. i (portrait).
184. FISHER, W. K. Birds of Laysan and the Leeward Islands, Hawaiian Group. Bull. U. S. Fish Comm. 1903, pp. 1-30, pls. i-x.
185. —. On the habits of the Laysan Albatross (*Diomedea immutabilis*). Auk xxi, pp. 8-20, pls. ii-vii. [*Procellariiformis*.]
186. —. The home life of a Buccaneer. Condor vi, pp. 57-61. [*Pelecaniformes*.]
187. —. Three Boobies interviewed. T. c. pp. 89-94. [*Pelecaniformes*.]
188. —. Albatross pictures. T. c. pp. 151-159, figg. 1-11. [*Procellariiformes*.]
189. FLETCHER, J. A. Bird notes from Wilmot, Tasmania. Emu iv, pp. 14-17, pl. iii.
- 189A. FORBES, S. A. The food of birds. Bull. Illinois Lab. i, pp. 86-161.
190. FORD, J. B. C. Survey Camp notes, 1903-14th July. Emu iv, pp. 71-73.
191. FORREST, H. E. The birds of North-west Wales and South-east Ireland. Tr. Caradoc Club iii, pp. 92-97: No. 13, pp. 28-36.
192. FOSTER, N. H. The birds of a neighbourhood [Co. Down]. Irish Natural. xiii, pp. 53-55.
193. FOWLER, W. WARDE. The Marsh Warbler (*Acrocephalus palustris*) in Oxfordshire: a new position for the nest. Zoologist 1904, pp. 346 & 347. [*Sylviidæ*.]
194. FRAISSE, P. Liste de quelques oiseaux étrangers a la région sud-est de la France qui y ont été observés en 1903. Ornith. xii, No. 4, p. 582.

195. FRITSCH, A. Notizen über die Vogelwelt der Elbeniederung bei Podiebrad in Böhmen. Ornith. Jahrb. xv, pp. 50-54.
196. FRITZE, A. Bastard von Birkhuhn und Fasan. Jahrb. Mus. Hannover 1904, pp. 1 & 2, Tafel vii. [*Galliformes*.]
197. FROHAWK, F. W. On the sexual variation in the Lapwing. Bull. B. O. C. xiv, p. 62. [*Charadriiformes*.]
198. —. On sexual variation in the wing of the Lapwing (*Vanellus vulgaris*). Ibis 1904, pp. 446-451. [*Charadriiformes*.]
199. FÜHRER, L. VON. Einige Beobachtungen über den Seidenschwanz in Siebenbürgen. Ornith. Jahrb. xv, pp. 48-50.
200. —. Ein Ausflug in das Negoi-Gebiet. T. c. pp. 56-62.
201. FULTON, H. T. Notes on the birds of Chitral (October 1901 to October 1902). J. Bombay Soc. xvi, pp. 44-64. [*Paridae*, *Ploceidae*, *Fringillidae*, *Galliformes*.]
202. FULTON, R. The Kohoperoa or Koekoera Long-tailed Cuckoo (*Urodynamis taitensis*): an account of its habits, description of a nest containing its (supposed) egg, and a suggestion as to how the parasitic habit in birds has become established. Tr. New Zealand Inst. (2) xix, pp. 113-148. [*Cuculi*.]
- 202A. GADEAU DE KERVILLE, H. Note sur l'interessant plumage d'un Fou de Bassan (*Sula bassana* (L.)). Bull. Soc. Rouen (4) xxiii, pp. 367-369, pl. iii.
203. GALBRAITH, J. J. & SIMPSON, S. Temperature variation in nocturnal and other Birds. J. Physiol. xxx, p. xix.  
GEAY, M. [See MENEGAUX, A. (388).]
204. GENGLER, J. *Erithacus cairii* zum letztenmal. Ornith. Monber. xii, pp. 21 & 22.
205. —. Zugbeobachtungen in Regensburg von 1774-1834. T. c. pp. 78 & 79.
206. —. Wiederum ein scheinbar brütender Kuckuck. Ornith. Jahrb. xv, pp. 148-151.
207. GEYR VON SCHWEPFENBURG, H. *Locustella luscinioides* (Savi) ein Brutvogel der Rheinprovinz. Ornith. Monber. xii, p. 145. [*Sylviidae*.]
208. —. Kleine notizen zum Vogelzuge, 1903. J. Ornith. 1904, pp. 506-547.
209. GHIGI, A. Studi sul genere *Tragopan* Cuvier. Mem. Acc. Bologna (5) x, pp. 151-156, tav. 2. [*Galliformes*.]
210. —. Sui generi *Gallus* L. e *Creagrius* Gloger. Monit. Zool. ital. xiv, pp. 319-322. [*Galliformes*.]
211. GILL, E. L. The Condor's sense of smell. Tr. Nat. Hist. Northumb. (2) i, p. 40. [*Cathartiformes*.]
212. GILMAN, M. F. The Leconte Thrasher (*Toxostoma lecontei*). Condor vi, pp. 95-98. [*Mimidae*.]
213. GLADSTONE, HUGH S. Note on the decrease in the weight of eggs as incubation advances. Ibis 1904, p. 376.
214. GODMAN, F. D. Biologia Centrali-Americana; or Contributions to the knowledge of the Fauna and Flora of Mexico and Central America. London, 1904, 4to, Aves, vol. iii. Parts clxxxi, clxxxii, clxxxiii, clxxxv,



- pp. 425-510, pls. lxxviii & lxxix. [*Procellariiformes, Colymbiformes, Podicipediformes, Alciiformes, Tinamiformes.*]  
 Introduction, Title-pages and Contents (vols. i-iii), part clxxxv, pp. i-xliv.
215. \*GOEBEL, H. Zur Ornithologie Lapplands und der Solowetzky'schen Inseln. Trav. Soc. St. Petersburg. 1903, vol. 23, pp. 21-62.
216. GOELDI, E. A. A story about the Giant Goatsucker of Brazil. Ibis 1904, pp. 513-518. [*Caprimulgi.*]
217. GOODWIN, S. H. About the Utah Gull (*Larus californicus*). Condor vi, pp. 99 & 100. [*Lariformes.*]
218. —. Pelicans nesting at Utah Lake. T. c. pp. 126-129. [*Pelecaniformes.*]
219. GRANDIDIER, G. Note au sujet du squelette de l'*Æpyornis ingens*. Bull. Mus. Paris 1903, pp. 318-323, cum figg. [*Æpyornithiformes.*]
220. GRANT, W. R. OGILVIE. On the Birds collected during a recent expedition through Somaliland and Abyssinia to Lake Tsana, with field-notes by the collector E. Degen. Ibis 1904, pp. 250-258, pls. v & vi. [*Oriolidae, Alaudidae, Caprimulgidae, Strigiformes, Accipitriformes.*]
221. —. On the trachea of *Phonygama purpureoviolacea*. Bull. B. O. C. xiv, pp. 40 & 41. [*Paradisidae.*]
222. —. Description of two new species from Fernando Po. T. c. pp. 55 & 56. [*Sylviidae, Cypseli.*]
223. —. Remarks on *Pipile nattereri*. T. c. pp. 60 & 61. [*Galliformes.*]
224. —. Sabine's Gull near Christchurch. T. c. p. 63. [*Lariformes.*]
225. —. Asserted breeding of the Goshawk in Gloucestershire. T. c. p. 74. [*Accipitriformes.*]
226. —. On a new species of *Pterythius* from South China. T. c. pp. 91 & 92. [*Timeliidae.*]
227. —. On a new *Trochalopteron* from Karennee. T. c. pp. 92 & 93. [*Timeliidae.*]
228. —. On the species of *Xenicus*. Op. cit. xv, p. 15. [*Xeniscidae.*]
229. GRAVES, F. S. Great Grey Shrike (*Lanius excubitor*) in Cheshire. Zoologist 1904, p. 31. [*Lanidae.*]  
 GRAY, G. [See WEBB, S. (662).]
230. GRINNELL, J. The status of *Melospiza lincolni striata* Brewster. Auk xxi, pp. 274-276. [*Fringillidae.*]
231. —. The origin and distribution of the chestnut-backed Chickadee. T. c. pp. 364-382, maps i-iii. [*Paridae.*]
232. —. The Ashy Kinglet (*Regulus calendula cineraceus*). Condor vi, p. 25. [*Regulidae.*]
233. —. Midwinter birds at Palm Springs, California. T. c. pp. 40-45.  
 —. [See also ANDERSON & GRINNELL (7).]
234. GROTE, H. Über *Parus pallidus*. J. Ornith. 1904, p. 307. [*Paridae.*]
235. —. Spekulationen über Nordische Blaumeisenformen. Ornith. Monber. xii, pp. 175-177. [*Paridae.*]
236. GRÜNWALD, J. Plethysmographische Untersuchungen über die Athmung der Vögel. Arch. Physiol. 1904, Suppl. pp. 182-192, 14 figg. 1904. [VOL. XLI.]

237. GRUVEL, A. Description d'un œuf à double enveloppe. Pr.-verb. Soc. Sci. Bordeaux 1900-1901, pp. 20-23.
- 237B. —. Sur un cas spécial d'œuf tératologique. T. c. pp. 72-76.
238. GÜNTHER, A. Exhibition of hybrid pheasants. P. Zool. Soc. London 1904, ii, pp. 129 & 130. [*Galliformes*.]
239. —. On the breeding in captivity of the Red-backed Shrike (*Lanius collurio*). Avicult. Mag. (2) ii, pp. 339-346. [*Laniidae*.]
240. GURNEY, J. H. Ornithological notes from Norfolk and the East coast of England for 1903. Zoologist 1904, pp. 201-219.
241. —. On the birds of the Pembrokeshire Islands. Tr. Norfolk Soc. vii, pp. 627-634.
242. — & SOUTHWELL, T. Fauna and flora of Norfolk. T. c. (Birds), pp. 733-740.
243. GYNGELL, W. Late breeding of the Martin (*Chelidon urbica*). Zoologist 1904, p. 73. [*Hirundinidae*.]
244. —. The singing haunts and habits of some British Birds. T. c. pp. 445 & 446.
245. HAIGH, G. H. CATON. Migration of birds in North-east Lincolnshire in the Autumn of 1903. Zoologist 1904, pp. 291-300.
246. HALL, R. The birds of a garden in Melbourne. Ibis 1904, pp. 218-222.
247. —. Description of a new subspecies of *Mirafra*. Emu iii, pp. 231 & 232. [*Alaudidae*.]
- [See also HARTERT, E. (258).]
248. HALLIBURTON, W. D. The influence of Adrenalin on the nitrogenous metabolism of the Bird. Brit. Med. J. 1904, i, p. 549.
249. HAMOND, C. A. A short trip to Spain, with notes on birds observed. Tr. Norfolk Soc. vii, pp. 701-705.
250. HANNA, W. C. Nevada notes. Condor vi, pp. 47 & 48, 76 & 77.
251. HANTZSCH, B. Der islandische Leinfink. Ornith. Monber. xii, pp. 32-34. [*Fringillidae*.]
252. —. Über die Stimm-laute von *Gallinago gallinago* (L.). T. c. pp. 173-175. [*Charadriiformes*.]
253. HARPER, E. H. The fertilization and early development of the Pigeon's Egg. Amer. J. Anat. iii, pp. 349-386, 4 pls., 6 diagrams.
254. HARRINGTON, H. H. Notes on the nesting of some birds in the Upper Chindwin District, Burma. J. Bombay Soc. xvi, pp. 166-169.
255. HARTERT, E. Die Vögel der paläarktischen Fauna. Systematische Übersicht der in Europa, Nord-Asien und der Mittelmeerregion vorkommenden Vögel. Berlin, 1904, 8vo, Helf ii, pp. 113-240, Mit 22 Abbildungen. [Cf. Zool. Rec. XL, Aves, p. 15, No. 275.] [*Fringillidae*, *Alaudidae*.] Cf. REICHENOW, J. Ornith. 1904, pp. 309-312.
256. —. The Birds of the South-west Islands, Wetter, Roma, Kisser, Letti, and Moa. Nov. Zool. xi, pp. 174-221. [*Columbiformes*, *Ralliformes*, *Accipitriformes*, *Strigiformes*, *Halcyones*, *Caprimulgi*, *Cuculi*, *Muscicapidae*, *Turdidae*, *Sylviidae*, *Laniidae*, *Zosteropidae*, *Nectariniidae*, *Meliphagidae*, *Ploceidae*, *Oriolidae*, *Eulabidae*.]

257. [HARTERT, E.] *Miscellanea Ornithologica*. Part i. Critical, nomenclatorial and other notes, mostly on Palearctic Birds. T. c. p. 456. [*Fringillidæ*.]
258. —. On the birds collected by Mr Robert Hall, of Melbourne, on the banks of the Lena River between Gigalowa and its mouth. With an introduction and field-notes by Robert Hall. *Ibis* 1904, pp. 415-446.
259. —. Some anticriticisms. T. c. pp. 542-551. [*Alaudidæ*, *Pycnonotidæ*.]
260. —. On a new species of *Dicaeum* from Mindanao. *Bull. B. O. C.* xiv, p. 8. [*Diceidæ*.]
261. —. Remarks on rare Australian species of Birds. T. c. p. 10. [*Muscicapidæ*, *Sylviidæ*, *Certhiidæ*, *Meliphagidæ*, *Laniidæ*, *Paridæ*.]
262. —. A new subspecies of *Certhia* from Cyprus. T. c. pp. 50 & 51. [*Certhiidæ*.]
263. —. On the Dipper of Sardinia. T. c. p. 51. [*Cinclidæ*.]
- 263A. —. On birds from the Canary Islands. T. c. p. 51. [*Fringillidæ*, *Sylviidæ*.]
264. —. On a new *Zosterops* from the Solomon Islands. T. c. p. 61. [*Zosteropidæ*.]
265. —. On new species of birds from Angola and Mindanao. T. c. pp. 72-74. [*Sylviidæ*, *Muscicapidæ*, *Hirundinidæ*, *Timeliidæ*.]
266. —. Nest and eggs of *Pratincola dacotiae*. T. c. p. 79.
267. —. Eggs of *Parus montanus kleinschmidti*. T. c. p. 79. [*Paridæ*.]
268. —. New species from the Philippine Isl. T. c. pp. 79 & 80. [*Diceidæ*, *Muscicapidæ*.]
269. —. Antikritik. *J. Ornith.* 1904, pp. 555-563.
270. —. *Genera Avium*. I. 4to, 1904. [*Eurylæmiformes*.]
271. —. Einige nomenklatorische Betrachtungen. *Zool. Anz.* xxviii, No. 4.
272. HARVIE-BROWN, J. A. Approaching extinction of the Osprey in Scotland. *Ibis* 1904, p. 664.
- 272A. —. On the nomenclature of the Barn-owls. T. c. pp. 664 & 665.
273. —. Heron (*Ardea cinerea*) nesting in the Outer Hebrides. *Ann. Scott. Nat. Hist.* 1904, p. 57. [*Ardeiformes*.]
274. —. Great Grey Shrike in "Forth" (*Lanius excubitor*). T. c. p. 244. [*Laniidæ*.]
275. —. Migration in 1903. *Zoologist* 1904, pp. 115 & 116.
276. — & MACPHERSON, H. A. A Fauna of the North-west Highlands and Skye. Edinburgh, 1904, 8vo, cvi+380 pp. with map and illustrations. *Aves*, pp. 49-361.
277. HAUER, B. Lebensweise und landwirthschaftliche Bedeutung der Saatkrähe auf meinem Landgute bei Kisharta (Mit 1 Karte). Mit Vorwort von O. Herman. *Aquila* xi, pp. 318-327.
278. HEAD, A. Nesting habits of the Black-headed Grosbeak (*Zamelodia melanocephala*). *Condor* vi, pp. 35-37. [*Fringillidæ*.]
279. HEGYFOKY, K. Das Wetter zur Zeit des massenhaften Wegzuges der Rauchschwalbe im Jahre 1898. *Aquila* xi, pp. 250-256. [*Hirundinidæ*.]

- HELLER, E. [See SNODGRASS & HELLER (609).]
280. HELLMAYR, E. C. Beschreibung einer neuen *Phlegopsis*-Art aus Brasilien. Ornith. Monber. xii, pp. 53-55. [*Formicariidæ*.]
281. ——. Über *Iynx ruficollis* Wagl. J. Ornith. 1904, pp. 307 & 308. [*Pici*.]
282. ——. Five new species of South American birds. Bull. B. O. C. xiv, pp. 51-55. [*Dendrocolaptidæ*, *Formicariidæ*, *Tyrannidæ*.]
283. ——. On *Pipile pipile* and *Copurus funebris*. T. c. pp. 59-61. [*Galliformes*, *Tyrannidæ*.]
284. ——. Über neue und wenig bekannte Fringilliden Brasiliens, nebst Bemerkungen über Änderungen in der Nomenklatur einiger Arten. Verh. Ges. Wien liv, pp. 516-537. [*Fringillidæ*.]
285. ——. Bericht über die Leistungen in der Naturgeschichte der Vögel während des Jahres 1895. Arch. Naturg. 1896. (Ausgegeben im Dezember 1904), pp. 1-84.
286. HELM, F. Weitere Beiträge zu der Gätkeschen Hypothese über den Zug der Vögel nach Alter und Geschlecht. J. Ornith. 1904, pp. 50-69.
287. ——. Ornithologische Beobachtungen. T. c. pp. 411-431.
288. HELMS, O. Fortsatte ornithologiske Meddelelser (1903) fra Gronland. Vid. Medd. 1904, pp. 79-135. Review, HAASE, Ornith. Monber. xii, pp. 65-72.
289. ——. Nachtigall und Sprosser. T. c. pp. 58-60. [*Turdidæ*.]
290. HENDERSON, J. Additional list of Boulder County Birds, with comments thereon. Stud. Univ. Colorado ii, pp. 107-112.
291. HENNICKE, C. K. Naumann's Naturgeschichte der Vögel Mittel-Europas. Gera-Untermhaus, 1904, 4to, Lief. 143-149 b.
292. HEPBURN, T. The birds of North Kent. Zoologist 1904, pp. 161-179.
293. HERMAN, O. Nahrung der Vögel. (Bericht für den iv. Internat. Ornithologischen Congress zu London.) Aquila xi, pp. 257-269.
294. ——. Vom Blick des Vogels. T. c. pp. 360-366.
295. ——. *Nisaetus fuscatus* (Vieill.) in der ungarischen Fauna. T. c. pp. 367 & 368, Tabula 1. [*Accipitriiformes*.]
- . [See also HAUER, B. (277).]
296. HESSE, E. Beobachtungen in den Gundorfer Sümpfen bei Leipzig. Ornith. Monber. xii, pp. 137-141.
297. HILL, H. E. Notes from Guildford, West Australia. Emu iii, pp. 226-229.
- 297A. HILLEL, E. Ueber die Vorderextremität von *Eudypetes chrysocome* und deren Entwicklung. Jena. Zeitschr. (2) xxxi, pp. 725-770, Tafel xxiv & xxv. [*Sphenisciformes*.]
298. \*HOFFMANN, R. A guide to the birds of New England and Eastern New York, containing a key for each season and short descriptions of over 250 species with particular reference to their appearance in the field. Boston and New York, 1904, 12mo, xiii+357, pp. iv pls.
- HOLLISTER, N. [See KUMLIEN, L. (341\*).]
299. HORSBRUGH, C. B. Some field notes in South Africa. Avicult. Mag. (2) ii, pp. 94-99. [*Proceidæ*.]

300. HOWARD, H. E. Richard's Pipit (*Anthus richardi*) in Cornwall. Zoologist 1904, p. 115. [*Motacillidæ*.]
301. HOWARD, R. J. Nesting of the Long-eared Owl (*Asio otus*) on the ground. Zoologist 1904, pp. 259-261. [*Strigiformes*.]
302. HUGHES, G. B. Note on birds now rare in the British Isles. Rep. Brit. Ass. 1903, p. 696. [*Ardeidæ, Gruiformes*.]
- 302A. HUGUES, A. De l'adoption des œufs étrangers chez les Oiseaux. Bull. Soc. Nimes xxxi, pp. 44-47.
303. HUNTER, J. S. Records from the vicinity of Watsonville, California. Condor vi, pp. 24 & 25.
304. HUTTON, F. W. Index Faunæ Novæ Zealandiæ. London, 1904, 8vo, viii + 372 pp. Aves, pp. 27-39.
305. IHERING, H. VON. Estudio comparativo das Avifaunas do Paraguay e de S. Paulo. Revist. Mus. Paulista vi, pp. 310-384.
- 305A. —. Aves do Rio Juruá. T. c. pp. 430-452. [*Troglodytidæ, Tyrannidæ, Dendrocolaptidæ, Formicariidæ*.]
306. —. The biology of the *Tyrannidæ* with respect to their systematic arrangement. Auk xxi, pp. 313-322.
307. INGLIS, C. M. The birds of the Madhubani sub-division of the Darbhanga District, Tirhut, with notes on species noticed elsewhere in the district. Part viii. J. Bombay Soc. xvi, pp. 70-75.
308. JACKSON, F. J. On a new *Macronyx* from Mau. Bull. B. O. C. xiv, p. 74. [*Motacillidæ*.]
309. —. On a new species of Sunbird from Ruwenzori. T. c. p. 94. [*Nectariniidæ*.]
310. —. On two new species of birds from Equatorial Africa. Op. cit. xv, p. 11. [*Muscicapidæ, Sylviidæ*.]
- 310A. JACOBI, A. Die Aufnahme von Steinen durch Vögel. Arb. Biol. Land and Forst. Berlin i, pp. 223-255. [1900.]
311. \*JACOBS, J. W. Gleanings, No. iii. The haunts of the Golden-winged Warbler (*Helminthophila chrysoptera*). With notes on migration, nest-building, song, food, young, eggs etc. Waynesburg, Pa. 1904, 8vo, 30, pp. 5 pls.
312. —. Notes on the Purple Martin (*Progne subis*) and bird houses for its summer home. Pennsylv. Dep. Agric. i, No. 10, pp. 27-30 pls. i & ii. [*Hirundinidæ*.]
313. JÄGERSKIÖLD, L. A. Birds from the White Nile. Swedish Zoological Expedition to Egypt and the White Nile 1901. Upsala, 1904, pt. i. Aves, pp. 1-18.
314. JAMMES, L. Zoologie pratique basée sur la dissection des animaux les plus répandus. Paris, 1904, 8vo, vi + 563 pp., text-figg. 317, Oiseaux, pp. 452-485, figg. 264-281.
315. JARDINE, F. L. The Nutmeg (Torres Strait) Pigeon (*Carpophaga luctuosa*). Emu iii, pp. 181-185. [*Columbiformes*.]
316. JOHANSEN, H. Wichtigere Ergebnisse während der Jahre 1900-1903 im Gouvernement Tomsk ausgeführter ornithologischer Beobachtungen. Ornith. Jahrb. xv, pp. 81-93.

317. [JOHANSEN, H.] Vorläufiger Bericht über eine Sommer 1902 in die Kulundinsche Steppe und die angrenzenden Teile des Ssemipalatinsker Gebietes unternommene Reise. T. c. pp. 161-205.
318. JOHNSON, A. W. Notes on unusual nesting sites of the Pacific Yellow-throat (*Geothlypis trichas arizela*). Condor vi, pp. 129-131. [*Mniotiltidae*.]
319. JOHNSTONE [Mrs]. The nesting of Fraser's Touracou (*Turacus macrorhynchus*). Avicult. Mag. (2) iii, pp. 26-29 cum. fig. [*Musophagi*.]
320. JONES, L. The birds of Ohio. A revised catalogue. Ohio State Acad. Sci., Special Papers, No. 6, 141 pp. with map.  
See also DAWSON (141).
321. —. Nestling and juvenile plumages of *Sterna hirundo* and *S. dougalli*. Biol. Bull. vi, pp. 318 & 319.  
JONES, WILLIAM. [See DREWITT, F. D. (151).]
322. JOURDAIN, F. C. R. Rough notes on Derbyshire Ornithology, 1902-1903. Zoologist 1904, pp. 103-107.
323. —. Unusual nesting-site of the Nuthatch (*Sitta cæsia*) in Dorset. T. c. p. 384. [*Sittidae*.]
324. —. On the nesting habits of the Pied Wagtail (*Motacilla lugubris* Temm.). T. c. pp. 421 & 422, 456 & 457. [*Motacillidae*.]
325. JUDD, S. D. The economic value of Bobwhite (*Colinus virginianus*). Yearb. U. S. Dep. Agric. 1903, pp. 193-204, pl. xvi. [*Galliformes*.]
326. KEARTLAND, G. A. Ornithological notes—the Grass-Wrens (*Amytornis*). Victorian Natural. xx, pp. 133-139. [*Sylviidae*.]
327. KERSHAW, J. C. List of the Birds of the Quangtung coast, China. Ibis 1904, pp. 235-248.
328. KILGOUR, J. F. A trip to the Ord river (N. W. A.). Emu iv, pp. 37-43, pls. iv-vi.
329. KINNEAR, N. B. Notes on some birds observed in the Loch Arkaig district, Western Inverness-shire. Ann. Scott. Nat. Hist. 1904, pp. 150-154.
330. KLEINSCHMIDT, O. Über die geographische Verbreitung und den Zug der rosternigen Blaukelchen. J. Ornith. 1904, pp. 302-306. [*Turdidae*.]
331. —. Einiges über Spatzen. Ornith. Monber. xii, p. 7. [*Fringillidae*.]
332. —. Ein streit um namen? T. c. pp. 42-46. [*Turdidae*.]
333. —. Zur letztenmal *Erithacus cairii*. T. c. pp. 55 & 56. [*Turdidae*.]
334. —. Die wichtigsten Ergebnisse der zweitem algerischen Reise von E. Flückiger. T. c. pp. 196-198. [*Alaudidae*, *Turdidae*, *Fringillidae*.]
335. KOLLIBAY, P. Die Vogelfauna der Bocche di Cattaro. J. Ornith. 1904, pp. 80-121. [*Turdidae*.]
336. —. Vogelfauna der Bocche di Cattaro. T.c. pp. 457-506.
337. —. *Stercorarius parasiticus* in Tunis. Ornith. Monber. xii, p. 101. [*Lariformes*.]
338. KOPMAN, H. H. Bird migration phenomena in the extreme Lower Mississippi valley. Auk xxi, pp. 45-50.

339. KORMÓS, T. Versuch einer Avifauna der Umgebung von Ménes-Magyarád in Ungarn. Ornith. Jahrb. xv, pp. 24-36.
340. KRAUSE, G. Die Eier von *Larus ridibundus* L. im Lichte meiner spezial Sammlung. Ornith. Monber. xii, pp. 122-127. [*Lariformes.*]
- 341\*. KUMLIEN, L. & HOLLISTER, N. The birds of Wisconsin. Bull. Wisconsin Soc. (2) iii, pp. 1-143, pls. i-viii.
342. LAIDLAW, T. G. Report on the movements and occurrence of birds in Scotland during 1902. Ann. Scott. Nat. Hist. 1904, pp. 207-217.
343. ——. Report on the movements and occurrence of birds in Scotland during 1903. T. c. pp. 158-160.
344. LAMERE, A. L'évolution des ornements sexuels. Bull. Ac. Belgique xii, pp. 1327-1364.
- 344A. LAMPE, E. Katalog der Vogel-Sammlung des naturhistorischen Museums zu Wiesbaden. Jahrb. nassau. Ver. lvii, pp. 195-275.
- LATHAM, JOHN. [See DREWITT, F. D. (150.)]
345. LEGGE, W. V. Some rectifications in Tasmanian Ornith. Emu iii, pp. 179-181. [*Sylviidæ, Cypseli.*]
346. LE ROI, OTTO. Die Verbreitung von *Emberiza cia* L. in der Rheinprovinz. Ornith. Monber. xii, pp. 153-158. [*Fringillidæ.*]
347. LE SOUËF, D. The extinct Tasmanian Emu (*Dromæus ater*). Emu iii, pp. 229-231. [*Struthioniformes.*]
348. LETACQ, A. L. Notes sur quelques Oiseaux du département de l'Orne, rédigées d'après la collection et les manuscrits de M. Abel Martin, de Bellême. Bull. Soc. Normandie (5) vii, pp. 72-92.
- 348A. ——. Sur les migrations du Corbeau Choucas (*Corvus monedula*) dans le département de l'Orne. Bull. Soc. Rouen (4), xxiii, pp. 27-29. [*Corvidæ.*]
- 348B. ——. L'Odicnème dans les plaines de Chambois et de Montmerrei (Orne). T. c. pp. 319-321. [*Charadriiformes.*]
349. LEVERKÜHN, P. Notice biographique sur le Comte Amédée Alléon. Ornith. xii, No. 4, pp. 573-581.
350. LINDNER, F. Im Brutgebiete der schwarzwänzigen Limose und des schwarzen Storches. Ornith. Jahrb. xv, pp. 11-24.
351. ——. Zum letztwintrigen Erscheinen des Seidenschwanzes. Ornith. Monber. xii, pp. 96 & 97. [*Ampelidæ.*]
352. LITTLEJOHN, C. The capture of *Totanus glareola* in Alaska. Condor vi, p. 138. [*Charadriiformes.*]
353. LITTLER, F. M. From a Tasmanian notebook. Emu iii, pp. 213-217.
- 353A. ——. The school in wild life. Op. cit. iv, pp. 57-59.
354. ——. Tasmania: ornithologically considered. Zoologist 1904, pp. 321-338.
355. LISTON, W. G. Note on sexual dimorphism. J. Bombay Soc. xvi, pp. 39-42.
356. LÖNNBERG, E. On the homologies of the different pieces of the compound rhamphotheca of birds. Arkiv Zool. i, pp. 479-512, text-figg. 1-13.

357. [LÖNNBERG, E.] Ein Beitrag zur Kenntnis der geographischen Variation des Birkwils ( *Tetrao (Lyrurus) tetrix* L.). Ornith. Monber. xii, pp. 105-109. [*Galliformes*.]
358. —. Habits of the Willow Grouse. Zoologist 1904, pp. 430 & 431.
359. LOOS, K. Eine Grünspechtbeobachtung. Ornith. Jahrb. xv, pp. 151-153.
360. LORENZ, TH. *Lagopus albus* (L.) n. subsp. *major*. Ornith. Monber. xii, pp. 177-178. [*Galliformes*.]
361. LOUDON, H., Baron. Über zwei neue palaearktische Formen. Ornith. Jahrb. xv, pp. 54-56. [*Strigiformes, Hirundinidae*.]
362. LUCAS, F. A. A skeleton of *Hesperornis*. Smithsonian. Collect. xlv, p. 95, pl. xxvii. [*Hesperornithiformes*.]
363. LUCIFERO, A. Brevi osservazioni su poche specie di uccelli sedentari o di passaggio in Calabria enumerate dal sig. Conte Arrigoni degli Oddi nel suo Manuale di Ornitologia Italiana. Avicula viii, pp. 77-82.
364. MACKAY, H. Bird-life in Jersey. Zoologist 1904, pp. 339-344, 378-382. [*Anseriformes*.]
- MACPHERSON, H. A. [See HARVIE-BROWN, J. A. (276).]
366. MADARASZ, J. VON. Über neue formen von *Halcyon smyrnensis* und *Alcedo ispida*. Ann. Mus. Hungar. ii, pp. 1 & 2. [*Halcyones*.]
367. —. Neue Vogelarten aus Venezuela. T. c. pp. 115 & 116, Taf. xii. [*Galliformes, Strigiformes, Troglodytidae*.]
368. —. Zur Ornith. deutsch-Ostafrikas. T. c. pp. 203-206. [*Timeliidae, Sylviidae, Lanidae, Indicatores*.]
369. —. An extraordinary discovery in ornithology. T. c. pp. 396-398 with 3 text-figg. [*Motacillidae*.]
370. —. Über die Vögel Cyperns. T. c. pp. 499-501, Taf. xv. [*Sturnidae*.]
371. —. Ueber eine wahrscheinlich neue Form der Nebelkrähe. Ornith. Monber. xii, pp. 28 & 29. [*Corvidae*.]
372. —. *Cisticola humilis*, n. sp. T. c. p. 168. [*Sylviidae*.]
373. —. *Spiloptila reichenowi*, n. sp. Id. t. c. p. 179. [*Sylviidae*.]
374. —. *Sitta bifasciata*, n. sp. T. c. pp. 183 & 184. [*Sittidae*.]
375. —. Die Ceylon-Krähe. T. c. pp. 195 & 196. [*Corvidae*.]
376. —. *Montifringilla margaritacea*, n. sp. Id. t. c. p. 196. [*Fringillidae*.]
377. MAILLARD, J. A few records supplementary to Grinnell's Check-list of California birds. Condor vi, pp. 14-16.
378. MARQUAND, E. D. The birds of Alderney. Rep. Guernsey Soc. 1903, pp. 238-244.
379. MARINUZZI, T. *L'Ædon lusciniæ* (Linn.) in Sicilia. Avicula viii, pp. 17-20. [*Sylviidae*.]
380. MARTIN, R. Die vergleichende Osteologie der Columbiformes unter besonderer Berücksichtigung von *Didunculus strigirostris*. Ein Beitrag zur Stammesgeschichte der Tauben. Zool. Jahrb. xx, pp. 167-352, Taf. 11-12 und 96 Abbildungen im Text. [*Columbiformes*.]



381. MASCHA, E. Über die Schwungfedern. Zeitschr. wiss. Zool. lxxvii, pp. 606-651, Taf. xxix-xxxi und 9 Figuren im Text.
382. MAZIMANN, E. Observations sur la nidification de quelques oiseaux. Ornith. xii, No. 4, pp. 569 & 570.
383. McCLYMONT, J. R. Notes on a few birds, chiefly migratory and nomadic, observed in the vicinity of Hobart. Zoologist 1904, pp. 307-310.  
McDAKIN [Captain]. [See WEBB, S. (662).]
384. MCGREGOR, R. C. Birds from Benguet Province, Luzon, and from the islands of Lubang, Mindoro, Cuyo, and Cagayancillo. Bull. Philippine Mus. No. 3, pp. 1-16.
385. —. The Birds of Calayan and Fuga, Babuyan Groups. Op. cit. No. 4, pp. 1-34. [*Galliformes*, *Columbiformes*, *Gruiformes*, *Procellariiformes*, *Hirundinidae*, *Turdidae*, *Laniidae*, *Pycnonotidae*, *Fringillidae*, *Zosteropidae*.]
386. MEADE-WALDO, E. G. B. Nesting boxes for wild birds. Avicult. Mag. (2) ii, pp. 259-262.
387. MEARNS, E. E. Birds of Fort Custer, Montana. Condor vi, pp. 20 & 21.
388. MENEGAUX, A. Catalogue des Oiseaux rapportés par M. Geay de la Guyane française et du Contesté franco-brésilien. Bull. Mus. Paris 1904, pp. 107-119.
389. MEYER, A. B. Vögel von Südost Célebes. Notes Leyden Mus. xxiv, pp. 232-235. [*Zosteropidae*.]
390. MILLER, L. H. The birds of the John Day Region, Oregon. Condor vi, pp. 100-106.
- 391\*. MILLER, O. T. With the birds in Maine. Boston and New York 1904, 16mo, ix+300 pp.
392. MILLIGAN, A. W. Observations on the Western *Gymnorhinæ*. Emu iii, pp. 177-179, pl. x. [*Laniidae*.]
393. —. Notes on a trip to the Wongan Hills, Western Australia, with a description of a new *Ptilotis*. T. c. pp. 217-226, pls. xiii-xv. [*Meliphagidae*.]
394. —. Description of a new Kestrel from Western Australia. Op. cit. iv, pp. 1 & 2. [*Accipitriformes*.]
395. —. Notes on a trip to the Wongan Hills, Western Australia. T. c. pp. 2-11, pls. i & ii.
396. —. Notes on some Western Australian and allied species. T. c. pp. 48-52. [*Laniidae*, *Muscicapidae*, *Meliphagidae*, *Sylviidae*.]
397. MITCHELL, P. CHALMERS. On the occasional transformation of Meckel's diverticulum in birds into a gland. P. Zool. Soc. London 1903, ii, pp. 352-354, text-figg. 44. [*Charadriiformes*.]
398. —. Exhibition and remarks on *Trachelotis barrovii*. P. Zool. Soc. London 1904, i, pp. 2 & 3. [*Charadriiformes*.]
399. MÖBIUS, K. Die Formen, Farben und Bewegungen des Vögel ästhetisch betrachtet. SB. Ak. Berlin viii, 1904, pp. 270-281.
400. MONTAGU, E. S. Photographs of Birds. Bull. B. O. C. xiv, p. 75.
401. —. On the nesting of *Acanthis rufescens* in Norfolk. T. c. p. 91. [*Fringillidae*.]

402. MORGAN, W. C. & TALLMON, M. C. A Fossil Egg from Arizona. Univ. Calif. publ. Geol. iii, pp. 403-410, pls. xlviii & xlix.
403. — & —. A peculiar occurrence of bitumen and evidence as to its origin. Amer. J. Sci. xviii, pp. 363-377.
404. MORRIS, R. Late appearance of the House-Martins (*Chelidon urbica*) at Eastbourne. Zoologist 1904, p. 32. [*Hirundinidae*.]  
MURDOCH, J. [See CAMPBELL, J. M. (102).]
405. NEHRING, A. *Perdix barbata* (Verr. (*P. daurica*, Pall.) aus der Kirgisen-steppe. Ornith. Monber. xii, pp. 142 & 143. [*Galliformes*.]
406. NELSON, E. W. Descriptions of four new birds from Mexico. P. Soc. Washington xvii, pp. 151 & 152. [*Ralliformes*, *Tyrannidae*, *Tanagridae*, *Troglodytidae*.]
407. —. Revision of the North American mainland species of *Myiarchus*. T. c. pp. 21-50. [*Tyrannidae*.]
408. NELSON, T. H. British examples of the White-spotted Bluethroat (*Cyanecula wolfei*). Zoologist 1904, p. 31. [*Turdidae*.]
409. NEUMANN, O. Vögel von Schoa und Süd Äthiopien. J. Ornith. 1904, pp. 321 etc. [*Anseriformes*, *Charadriiformes*, *Ralliformes*, *Columbiformes*, *Galliformes*, *Accipitriformes*, *Strigiformes*, *Psittaciformes*, *Cuculi*, *Capitones*, *Pici*, *Colii*.]
410. —. Über *Crateropus*. T. c. pp. 548-555. [*Timeliidae*.]
411. —. Die Rotflügelglanzstare. T. c. pp. 567-569. [*Eulabetidae*.]
412. —. Drei neue Formen aus Süd-Arabien. Ornith. Monber. xii, pp. 29 & 30. [*Nectariniidae*, *Timeliidae*, *Columbiformes*.]
413. —. Über einige Formen von *Turtur vinaceus* und *T. roseogriseus*. T. c. pp. 81-84. [*Columbiformes*.]
414. —. Über die afrikanischen gelbbäuchigen *Zosterops*-Formen. T. c. pp. 109-118. [*Zosteropidae*.]
415. —. Neue afrikanische Vögel (Vorläufige Diagnosen). T. c. pp. 143-145. [*Caprimulgi*, *Hirundinidae*, *Oriolidae*.]
416. —. Fünf neue Vögel von Nordost-Afrika. T. c. pp. 162-164. [*Zosteropidae*, *Ploceidae*, *Turdidae*, *Sylviidae*.]
417. NEWMAN, T. H. On some Turtle Dove hybrids and their fertility. Avicult. Mag. (2) ii, pp. 191-198, pls. i & ii. [*Columbiformes*.]
- 417A. NEWTON, A. Further discovery of Dodos' Bones. Nature lxx, p. 626.
418. NICOLL, M. J. Ornithological Journal of a voyage round the World in the 'Valhalla' (November, 1902 to August, 1903). Ibis 1904, pp. 32-67. [*Sylviidae*.]
419. —. On a collection of Birds made during the cruise of the 'Valhalla' R. Y. S. in the West Indies (1903-4). T. c. pp. 555-591. [*Sylviidae*, *Lariiformes*, *Vireonidae*, *Mniotiltidae*, *Columbiformes*, *Procellariiformes*, *Tyrannidae*, *Pelecaniformes*, *Turdidae*, *Fringillidae*.]
420. —. Cetti's Warbler in Sussex. Bull. B. O. C. xiv, p. 84. [*Sylviidae*.]
421. —. *Motacilla borealis* in Sussex. T. c. p. 84. [*Motacillidae*.]
422. —. On birds observed during the voyage of the 'Valhalla.' T. c. pp. 94-96. [*Psittaciformes*, *Tyrannidae*, *Mniotiltidae*, *Vireonidae*.]
424. —. Tawny Pipit and Lapland Bunting in Sussex. Op. cit. xv, p. 12. [*Motacillidae*, *Fringillidae*.]

425. [NICOLL, M. J.] Broad-billed Sandpiper in Sussex. Id. t. c. p. 12. [*Charadriiformes*.]
426. —. Observations in natural history made during the voyage round the world of the R. Y. S. 'Valhalla,' 1902-3. Zoologist 1904, pp. 401-416.
427. —. The Tawny Pipit (*Anthus campestris*) as a visitor to England. T. c. pp. 452-454. [*Motacillidæ*.]
428. NINI, E. Sopra un esemplare di *Somateria spectabilis* L. ♀ colta in Laguna di Venezia. Avicula viii, pp. 159-161. [*Anseriformes*.]
429. NOBLE, H. Rare birds in Berkshire. Zoologist 1904, pp. 116 & 117. [*Alciformes, Anseriformes, Accipitriformes*.]
430. NORTH, A. J. Nests and eggs of birds found breeding in Australia and Tasmania. Second edition of Catalogue No. xii, entirely re-written with additions. Australian Museum, Sydney. Special Catalogue No. i, Sydney, 1904, 4to, pp. 201-366, pls. A<sup>5</sup>-A<sup>8</sup>, B<sup>v</sup>-B<sup>viii</sup>. Cf. Zool. Rec. xl, Aves, p. 24, No. 465.
432. —. Description of a new species of *Pachycephala*. Rec. Austral. Mus. v, pp. 125 & 126. [*Laniidæ*.]
433. —. Description of the nest of the Guttated Bower-bird (*Chlamydochroa guttata*, Gould). T. c. pp. 131 & 132, pl. xvi. [*Ptilonorhynchidæ*.]
434. —. On species of *Malurus*. Ibis 1904, p. 672. [*Sylviidæ*.]
435. OATES, E. W. On some new species of Silver-Pheasants from Burma. Ann. Nat. Hist. (7) xiv, pp. 283-287. [*Galliformes*.]
436. OBERHOLSER, H. A revision of the American Great Horned Owls. P. U. S. Mus. xxvii, pp. 177-192. [*Strigiformes*.]
437. —. A review of the Wrens of the genus *Troglodytes*. T. c. pp. 197-210, pl. v [map]. [*Troglodytidæ*.]
438. —. Description of a new African Weaver-bird. T. c. p. 683. [*Ploceidæ*.]
440. —. Description of two new birds from Somali Land. T. c. pp. 737-739. [*Accipitriformes, Meropes*.]
441. —. Monograph of the genus *Dendrocincla* Gray. P. Ac. Philad. 1904, pp. 447-463. [*Dendrocolaptidæ*.]
442. OGILVIE, F. M. On the Red-crested Pochard in Suffolk. Bull. B. O. C. xiv, p. 62. [*Anseriformes*.]
- OLDHAM, C. [See COWARD & OLDHAM (134).]
443. OLDYS, H. The rhythmical song of the Wood Pewee (*Contopus virens*). Auk xxi, pp. 270-274. [*Tyrannidæ*.]
444. OLSEN, R. J. Eier des Sperlingseule. Ornith. Monber. xii, pp. 60 & 61. [*Strigiformes*.]
445. OORT, E. D. VAN. Beitrag zur Osteologie des Vogelschwanzes. Leiden, 1904, 8vo, 144 pp., v Taf.
446. OSGOOD, W. H. A biological reconnaissance of the base of the Alaska Peninsula. North Amer. Fauna, No. 24. List of birds, pp. 51-81. [*Lariformes, Pelecaniformes, Anseriformes, Galliformes, Fringillidæ, Paridæ*.]

447. OTTO, B. Über *Phylloscopus viridanus* (Blyth) in den baltischen Provinzen Russlands. Ornith. Monber. xii, pp. 73-78. [*Sylviidae*.]
448. OUSTALET, E. Description d'espèces d'Oiseaux rapportés par M. G.-A. Baer du Tucuman (République Argentine). Bull. Mus. Paris 1904, pp. 43-45. [*Tanagridae*, *Dendrocolaptidae*.]
449. —. Les oiseaux du Cambodge, du Laos, de L'Annam et du Tonkin. Arch. Mus. Paris (4) v, pp. 1-94, pls. v & vi (1903). [*Pittidae*, *Pycnonotidae*, *Timeliidae*.]
450. —. Les Pintades (*Numida*). Bull. Soc. d'Accl. France 1904, pp. 1-18. [*Galliformes*.]
451. PADDOCK, G. H. The oviposition in birds. Zoologist 1904, pp. 146 & 147.
452. PARKER, A. Notes on the birds of Lough Derg and its shores. Irish Natural. xiii, pp. 151-153.
453. PARKIN, T. Two Rook's eggs and one Moorhen's egg in the same nest. Zoologist 1904, p. 142. [*Ralliformes*.]
454. PARROT, C. Verhandlungen der ornithologischen Gesellschaft im Bayern (Fortsetzung der "Jahresberichte des ornithologischen Vereins München"). 1903. Band iv. München, 1904, 8vo, 184 pp. Mit 1 farbigen Tafel und 6 Abbildungen im Text.
455. —. Vom Liebesspiel der Bekassine (*Gallinago gallinago*). Ornith. Monber xii, pp. 37-41. [*Charadriiformes*.]  
PATERSON, D. R. [See PROGER & PATERSON (480).]
456. PATERSON, J. The Ruby-crowned Wren in Lat. 53°24' N., Long. 30°15' W. Ann. Scott. Nat. Hist. 1904, p. 55. [*Regulidae*.]
457. \*PATTERSON, A. H. Notes of an East Coast Naturalist. London, 1904, 8vo.
458. —. Natural history notes from Yarmouth. Tr. Norfolk Soc. vii, pp. 726-730.
459. PATTERSON, R. Waxwings (*Ampelis garrulus*) in the North of Ireland. Zoologist 1904, p. 31. [*Ampelidae*.]
- 459A. PAVECI, P. Esquisse d'une Faune Valdotaïne. Atti Soc. Ital. xliii, pp. 193-260. [Oiseaux, pp. 209-213.]
460. PAYNE, J. W. A question of interest in the life of the Cuckoo (*Cuculus canorus*). Zoologist 1904, p. 74. [*Coccyges*.]
461. PEARCE, G. W. Photographs of birds. Bull. B. O. C. xiv, p. 76.
462. PEARSON, CHARLES. The Twite breeding in North Devon. Bull. B. O. C. xiv, p. 91. [*Fringillidae*.]
463. PEARSON, H. J. Three summers among the birds of Russian Lapland. London, 1904, 8vo, xvi + 216 pp., 68 pls. and map.
464. —. Eggs of *Limonites minuta* from Dolgoi and Waigats. Bull. B. O. C. xiv, p. 41. [*Charadriiformes*.]
465. PHILLIPS, R. The Spotted Ground-bird (*Cinclusoma punctatum*). Avicult. Mag. (2) ii, pp. 149-160. [*Timeliidae*.]
466. —. The White-throated Ground-Thrush (*Geocichla cyanonota*). T. c. pp. 179-188 with plate. [*Turdidae*.]
467. PICCHI, C. Elenco degli Uccelli conservati nella sua collezione ornitologica Italiana al 29 Febbraio 1904, con notizie intorno alla distribuzione e nidificazione in Italia. Orn. xii, No. 4, pp. 381-562.

468. [PICCHI, C.] Anomalie nel colorito del piumaggio osservato in 85 individui della sua Collezione Ornitologica Italiana e breve cenno sull' Eterocrosi. Avicula viii, pp. 12-16, 47-52.
- 468A. PITZORNO, M. Ricerche di morfologia comparata sopra le arterie succlavia ed ascellare. II. Uccelli. Atti Soc. Toscana, pp. 224-242.
469. PLATHE, F. Zur Verbreitung und Naturgeschichte der Schellente (*Nyroca clangula* L.). Ornith. Monber. xii, pp. 158-160. [*Anseriformes*.]
470. POCHE, F. Über die Zulässigkeit der von Lesson in seiner "Traité d'Ornithologie" eingeführten Namen. J. Ornith. 1904, pp. 296-302.
471. ——. Einige notwendige Änderungen in der ornithologischen Nomenclatur. Ornith. Monber. xii, pp. 22-27.
472. ——. Kritische Bemerkungen über die bisher so genannten Arten *Tanyptera dea* (L.) und *Urogalba paradisa* (L.) T. c. p. 57.
473. ——. Zur Synonymie der Accipitres und der Bucerotidæ, nebst Bemerkungen über die Methodik des Eliminationsverfahrens überhaupt. T. c. pp. 89-93. [*Accipitriiformes*, *Bucerotes*.]
474. ——. Zur Nomenclatur der Raubmöwen, nebst einigen allgemein nomenclatorischen Bemerkungen. T. c. pp. 189-195. [*Lariformes*.]
475. ——. Einige Ergänzungen und Berichtigungen zu Sherborn's "Index Animalium." Zool. Anz. xxvii, pp. 394-396.
- 475A. ——. Ein bisher nicht berücksichtigtes zoologisches Werk aus dem Jahre 1758, in dem die Grundsätze der binären Nomenklatur befolgt sind. T. c. pp. 495-510.
- 475B. PORTUGAL, KING OF (DOM CARLOS DE BRAGANÇA). Catalogo Illustrado das Aves de Portugal (Sedentarias, de arribação e accidentaes). Lisboa, 4to, Est. 1-20.
476. POULTON, E. B. The Vision of Birds. Brit. Med. J. 1904, ii, p. 1287.
477. PRÉCIGOU, A. Ornithologie de la Haute-Vienne. Limoges et Paris, 1904, 8vo, 72 pp.
478. PRICE, W. W. Some winter birds of the High Sierras. Condor vi, pp. 70-74.
479. PROCTOR, F. W. & SAUNDERS, W. RADCLIFFE. Eggs and young of *Limonites minuta* from Novaya Zemlya. Bull. B. O. C. xiv, p. 41. [*Charadriiformes*.]
480. PROGER, T. W. & PATERSON, D. R. Ornithological notes for 1902 & 1903. Tr. Cardiff Soc. xxxvi, pp. 126-131. [*Otides*, *Lariformes*, *Ardeiformes*, *Accipitriiformes*.]
481. PUNGUR, G. Der Herbstzug der Rauchschwalbe in 1898 in Ungarn (Mit zwei Karten). Aquila xi, pp. 1-249. [*Hirundinidæ*.]
482. PYCRAFT, W. P. Some common errors in the representation of stuffed birds exhibited in Museums. Museums J. 1904, pp. 288-293.
483. ——. On the nestling of Fraser's Touracou (*Turacus macrorhynchus*). Avicult. Mag. (2) iii, pp. 55-63 with plate, figg. 1-4 : id. Bull. B. O. C. xv, p. 14. [*Musophagi*.]
484. ——. Osprey plumes, real and artificial. Knowledge (2) i, pp. 128-131.
485. ——. Occurrence of the Kildeer Plover in Scotland. T. c. p. 187. Ibis 1904, pp. 669 & 670. [*Charadriiformes*.]

487. RAGGI, L. Monografia dei Rampicanti italiani. *Avicula* viii, pp. 65 & 66, 103-113, 130-134.
488. RALFE, P. Great Skua (*Stercorarius catarrhactes*) in the Isle of Man. *Zoologist* 1904, p. 33. [*Lariformes*.]
489. RAMÉ, E. Déviations périodiques de l'instinct sexuel chez le Canard domestique. *Bull. Soc. sci. med. Ouest France* xiii, pp. 154-158.
490. RASPAIL, X. Développement asymétrique d'un crane de Poulet. *Bull. Soc. zool. France* xxix, pp. 60-63, text-figg. 1 & 2.
491. —. Existe-t-il deux espèces d'Effarvette? *T. c.* pp. 63-70, text-figg. 1-5. [*Sylviidae*.]
492. RAY, M. S. A fortnight on the Farallones. *Auk* xxi, pp. 425-442, pls. xxiii-xxviii. [*Alciformes*, *Lariformes*, *Pelecaniformes*, *Troglodytidae*.]
493. READ, ROBERT H. Photographs of birds. *Bull. B. O. C.* xiv, p. 75.
- 493A. REED, C. S. Las Aves de la Provincia de Concepcion y Algunas noticias acerca de su relacion con la Agricultura. Santiago, 1904, 8vo, 64 pp.
494. REICHENOW, A. Neue Vogelarten. *J. Ornith.* 1904, pp. 133 & 134. [*Pycnonotidae*, *Zosteropidae*, *Nectariniidae*, *Timeliidae*.]
495. —. Über *Hiaticula elegans* Licht. *T. c.* p. 307. [*Charadriiformes*.]
496. —. Neue Arten aus Afrika. *T. c.* p. 307. [*Sylviidae*, *Alaudidae*.]
497. —. Zur Berichtigung [re Dr Hartert's 'Antikritik']. *T. c.* pp. 563-564.
498. —. Zur Rettung zweier alteingebürgerten Namen. *Ornith. Monber.* xii, pp. 1-3. [*Turdidae*.]
499. —. Neue afrikanische Arten. *T. c.* pp. 27 & 28. [*Paridae*, *Turdidae*, *Timeliidae*, *Sylviidae*.]
500. —. Neue Arten aus Südpolargebieten. *T. c.* pp. 46 & 47. [*Pelecaniformes*, *Anseriformes*, *Charadriiformes*, *Lariformes*.]
501. —. Neue Arten aus Ost-Afrika. *T. c.* p. 95. [*Timeliidae*, *Turdidae*.]
502. —. Die Vögel Afrikas. Dritter Band Erste Hälfte. Fünfter Halbband. Neudamm, 1904, 4to, 416 pp., 4 pls. [*Ploceidae*, *Fringillidae*, *Motacillidae*, *Alaudidae*, *Pycnonotidae*, *Muscicapidae*, *Turdidae*, *Strigiformes*.]  
Cf. *Zool. Rec.* XL, *Aves*, p. 27, No. 527.
503. —. Uebersicht der auf der deutschen Tiefsee-Expedition gesammelten Vögel. Jena, 1904, 4to, pp. 343-358, Tafeln xxiii & xxiv. [*Corvidae*, *Dicruvidae*, *Charadriiformes*, *Columbiformes*.]
504. REISER, O. Nachrichten von O. Reisers Reise nach Brasilien. *Ornith. Monber.* xii, pp. 49-52.
505. —. Über das Auftreten des Seidenschwanzes (*Ampelis garrulus*) in Bosnien im Januar und Februar 1904. *Ornith. Jahrb.* xv, pp. 145-148.
506. —. Zur Kenntnis der Vogelwelt von Konstantinopel. *T. c.* pp. 153-156.
507. RENSCHAW, G. The Amsterdam Zoological Gardens. *Zoologist* 1904, pp. 220-224.

508. REY, E. Die Eier der Vögel Mitteleuropas. Gera-Untermhaus, 8vo. Liefer. 17-20 [1900: received 1904], pp. 265-312, Tafeln 82-106: Liefer. 21-26, pp. 313-408, Tafeln 53-57, 84-128 [1904].
509. \*RHODES, S. N. Exit the Dickcissel (*Euspiza americana*). A remarkable case of local extinction. 8vo, pp. 12. (Reprinted from Cassinia 1903, pp. 17-28.) [*Fringillidæ*.]
510. RICHARDSON, C. H. A list of summer birds of the Piute mountains, California. Condor vi, pp. 134-137.
511. RIDGWAY, R. The birds of North and Middle America: a descriptive catalogue of the higher groups, genera, species and subspecies of birds known to occur in North America, from the Arctic lands to the Isthmus of Panama, the West Indies, and other islands of the Caribbean Sea and the Galapagos Archipelago. Bull. U. S. Mus. 50, Part III, xx+802 pp., xix pls. [Cf. Zool. Rec. xxxix, Aves, p. 27, No. 458.] [*Motacillidæ*, *Hirundinidæ*, *Ampelidæ*, *Ptilogonatidæ*, *Dulidæ*, *Laniidæ*, *Vireonidæ*, *Corvidæ*, *Paridæ*, *Sittidæ*, *Certhiidæ*, *Troglodytidæ*, *Cinclidæ*, *Chamæidæ*, *Sylviidæ*.]
512. RILEY, J. H. Catalogue of a collection of birds from Barbuda and Antigua, British West Indies. Smithson. Collect. xlvii, pp. 277-291. [*Accipitriformes*, *Coccyges*, *Mniotiltidæ*.]
513. —. Note on the generic names *Bellona*, *Orthorhynchus*, *Chrysolampis* and *Eulampis*. Auk xxi, pp. 485 & 486. [*Trochili*.]
- 513A. —. On the proper name of the Tody of Jamaica. T. c. p. 486. [*Todi*.]
514. RIPPON, G. On new species from the Southern Chin Hills. Bull. B. O. C. xiv, pp. 83 & 84. [*Nectariniidæ*, *Timeliidæ*, *Paridæ*, *Sittidæ*.]
515. ROBINSON, H. W. Lanner Falcon (*Falco feldeggii*) in Lancashire. Zoologist 1904, p. 75. [*Accipitriformes*.]
- 515A. RÖRIG, G. Magenuntersuchungen land und forstwirthschaftlich wichtiger Vögel. Arb. Gesund. Berlin i, pp. 1-85.
- 515B. —. Die Verbreitung der Saatkrähe in Deutschland. T. c. pp. 273-400, Taf. iv & v. [*Corvidæ*.]
- 515C. —. Die Krähen Deutschlands in ihrer Bedeutung für Land- und Forstwirthschaft. T. c. (1900), pp. 285-400. [*Corvidæ*.]
- 515D. —. Tabellen der Untersuchungen über die Nahrung der Krähen vom 13 November, 1897 bis 12 November, 1899. T. c. Heft. 3, pp. 1-151, 1900. [*Corvidæ*.]
516. ROTHSCHILD, N. CHARLES. On some rare species of birds from Egypt and the Soudan. Bull. B. O. C. xiv, pp. 90 & 91. [*Turdidæ*, *Caprimulgi*.]
517. —. On the occurrence of *Larus cachinnans* near Dover. T. c. p. 91. [*Lariformes*.]
520. ROTHSCHILD, W. *Parypophorus duivenbodei* in British New Guinea. Bull. B. O. C. xiv, p. 7. [*Paradiseidæ*.]
521. —. A new *Pitta* from the Solomon Islands. T. c. pp. 7 & 8. [*Pittidæ*.]
522. —. On the genus *Phasianus*. T. c. pp. 36-38. [*Phasianidæ*.]
523. —. Exhibition of a skin of *Fulica cornuta*. T. c. p. 38. [*Rallidæ*.]

524. [ROTHSCHILD, W.] On some new species and subspecies of *Casuarus*. T. c. pp. 38-40. [*Casuariiformes*.]
525. —. Exhibition of hybrid Pheasants. T. c. p. 58.
526. —. On a new species of *Centropus*. T. c. p. 59. [*Cuculi*.]
527. —. On a new species of *Prioniturus*. T. c. pp. 71 & 72. [*Psittaci*.]
528. —. On a new genus of Pigeons. T. c. pp. 77 & 78. [*Columbiformes*.]
529. —. On a new species of *Pitohui*. T. c. p. 79. [*Prionopida*.]
532. —. On the various races of Barn owls. T. c. pp. 87-90. [*Striges*.]
533. —. Remarks on eggs of various species of Ratite Birds laid in confinement. T. c. p. 90. [*Casuariiformes*, *Rheiformes*.]
534. —. New species of Kingfishers from Bougainville Island, Solomon Archipelago and Asuncion Island, N. Mariannes. T. c. pp. 5-7. [*Halcyones*.]
535. \*RUSS, K. Einheimische Stubenvögel, etc.
536. SALTER, J. H. Ornithological notes from Mid-Wales. Zoologist 1904, pp. 66-71.
537. —. On the nesting habits of the Common Buzzard (*Buteo vulgaris*). T. c. pp. 96-102. [*Accipitriformes*.]
538. —. An unrecorded occurrence of the Scarlet Grosbeak (*Pyrrhula erythrina*). T. c. p. 228. [*Fringillidae*.]
539. SALVADORI, T. The Linnean *Motacilla stapanina* identified and restored to use. Ibis 1904, pp. 75-78. [*Turdidae*.]
540. —. On the *Melierax metabates* of Heuglin. T. c. pp. 248-250. [*Accipitriformes*.]
541. —. Description of a new species of Dove of the Genus *Haplopelia*. T. c. pp. 367-369. [*Columbiformes*.]
542. —. On *Eafa maculata*. T. c. p. 473. [*Meliphagidae*.]
543. —. On *Ammomanes assabensis*. T. c. pp. 473 & 474. [*Alaudidae*.]
544. —. Note on *Tanysiptera dea*. T. c. pp. 551-554. [*Halcyones*, *Turdidae*.]
545. —. Nuova specie del genere *Cryptolopha*. Boll. Mus. Torino xix, No. 464. [*Muscicapidae*.]
546. —. Notizie intorno al Beccofrusone in Piemonte. Avicula viii, p. 28. [*Ampelidae*.]
547. SARUDNY, N. Beschreibung zweier neuen Formen aus Süd-West Persien. Ornith. Monber. xii, pp. 164 & 165. [*Paridae*, *Turdidae*.]
548. —. Über neue Arten und Formen. Ornith. Jahrb. xv, pp. 213-227. [*Turdidae*, *Fringillidae*, *Sittidae*.]
549. —. Eine neue Grasmücke aus Persien. Ornith. Jahrb. xv, pp. 220 & 221. [*Sylviidae*.]
550. — & LOUDON, H. [Baron]. Über eine neue *Saxicola* aus Persien. Ornith. Jahrb. xv, pp. 219 & 220. [*Turdidae*.]



551. [SARUDNY & LOUDON, H.] Einige neue Subspecies aus Persien und dem transkaspischen Gebiet. Ornith. Jahrb. xv, pp. 221-227. [*Alaudidæ*, *Turdidæ*, *Galliformes*, *Pici*.]
552. SAUNDERS, W. RADCLIFFE. Remarkable nests of *Falco vespertinus* and *Anthus pratensis*. Bull. B. O. C. xiv, p. 42. [*Accipitriformes*, *Motacillidæ*.]  
 ——. [See also PROCTOR, F. W. (479).]
553. SAXBY, T. E. Ornithological notes from Shetland. Zoologist 1904, pp. 230 & 231.
554. ——. On the occurrence of the Hawfinch and other birds in Unst, Shetland. Ann. Scott. Nat. Hist. 1904, pp. 154-157.
555. SCHENK, J. Kukukmimicry. Aquila xi, pp. 369-374. [*Cuculi*.]  
 SCHMIDT, R. [See BIANCHI, V. (48).]
556. SCHMITZ, P. E. Aus dem Vogelleben der Insel Porto Santo. Ornith. Jahrb. xv, pp. 124 & 145.
557. SCHNEE, P. Die Landfauna der Marschall-Inseln nebst einigen Bemerkungen zur Fauna der Insel Nauru Vögel. Zool. Jahrb. Syst. xx, pp. 389 & 390.
558. SCHUSTER, L. Die unregelmässige Bebrütung der Eulengelege. Ornith. Jahrb. xv, pp. 43-48.
559. ——. Weiteres Belegmaterial zu: Über die unregelmässige Bebrütung der Eulengelege. T. c. pp. 113 & 114.
560. SCHUSTER, W. Die Verbreitung des Girlitzes in Deutschland mit besonderer Berücksichtigung des im Laufe des 19 Jahrhunderts okkupierten Gebietes. Ornith. Jahrb. xv, pp. 36-43.
561. ——. Entwicklung oder Nicht-Entwicklung? J. Ornith. 1904, pp. 431-443.
562. SCHUTZE, A. E. Nesting habits of the Caracara (*Polyborus cheriway*). Condor vi, pp. 106-108. [*Accipitriformes*.]
563. SCLATER, P. L. Chairman's Annual Address to B. O. C. Bull. B. O. C. xiv, pp. 2-5.
- 563A. ——. Exhibition of rare species of Australian birds, on behalf of Mr A. J. North. T. c. pp. 8-10. [*Muscicapidæ*, *Sylviidæ*, *Certhiidæ*, *Meliphagidæ*, *Laniidæ*, *Paridæ*.]
564. ——. On the birds of the Canaries. T. c. pp. 81 & 82.
565. ——. On Kollibay's Birds of Dalmatia. Op. cit. xv, p. 13. [*Cypselidæ*, *Accentoridæ*.]
566. ——. Letters from W. L. Sclater from the Victoria Falls, Zambesia. T. c. pp. 14 & 15.
567. ——. On the Birds of Sibthorp's 'Fauna Græca.' Ibis 1904, pp. 222-228.
568. ——. On a rare Passerine bird from New Guinea. T. c. pp. 373-375, pl. ix. [*Laniidæ*.]
569. SCLATER, W. L. Saldanha Bay and its Bird-Islands. Ibis 1904, pp. 79-88.  
 ——. [See also SHORTRIDGE, G. C. (600).]

570. SCOTT, W. E. D. Reports of the Princeton University Expeditions to Patagonia, 1896-1899. Vol. II, Ornithology. Princeton, N. J. and Stuttgart, 4to, Part I, pp. 1-112, text-figg. 66, [*Rheiiformes*, *Tinamiformes*, *Columbiformes*, *Ralliformes*, *Podicipediformes*, *Sphenisciformes*.]
571. —. The inheritance of song in Passerine birds. *Science* (2) xix, pp. 957-959.
572. —. An account of some experiments in rearing wild Finches by foster birds. *Science* (n.s.) xix, No. 483, pp. 551-554.
573. —. The inheritance of song in Passerine birds. Remarks and observations on the song of the hand-reared Bobolinks and Red-winged Blackbirds (*Dolichonyx oryzivorus* and *Agelaius phoeniceus*). T. c. No. 473, p. 154.
574. —. An account of some experiments of rearing wild Finches by foster-parent birds. *Avicult. Mag.* (2) ii, pp. 354-360.
575. —. Remarks on the development of song in the Rose-breasted Grosbeak (*Zamelodia ludoviciana*) and the Meadow Lark (*Sturnella magna*). T. c. pp. 257-259. [*Fringillidæ*, *Icteridæ*.]
576. SERLE, W. Hawfinch (*Coccothraustes vulgaris*) at Peterhead. *Ann. Scott. Nat. Hist.* 1904, p. 244. [*Fringillidæ*.]
577. SERVICE, R. From a Solway note-book. *Ann. Scott. Nat. Hist.* 1904, pp. 67-70.
578. SETH-SMITH, D. The Martineta Tinamou (*Calopezus elegans*) breeding in captivity: polyandry in birds. *Avicult. Mag.* (2) ii, pp. 104-106. [*Tinamiformes*.]
579. —. Notes on the habits in captivity of the Brush Bronzewing Pigeon (*Phaps elegans*). T. c. pp. 211-214, 263-266, with pl. figg. 1-3. [*Columbiformes*.]
580. —. Weber's Lorikeet (*Psitteuteles weberi* Büttikofer). T. c. pp. 246-250. [*Psittaci*.]
581. —. Nesting of the Scaly Dove (*Scardafella squamosa*). T. c. pp. 278 & 279. [*Columbiformes*.]
582. —. On the breeding in captivity of the Tataupa Tinamou (*Crypturus tataupa*). T. c. pp. 285-292, with coloured plate. [*Tinamiformes*.]
583. —. Some notes on the Painted Quails (*Excalfactoria*). T. c. pp. 311-314, with plate. [*Galliformes*.]
584. —. Gray Bare-throated Francolin (*Pternistes leucosepus*). T. c. pp. 327-327. [*Galliformes*.]
585. —. Further notes on the Tataupa Tinamou. T. c. pp. 362 & 363.
586. —. Nestling and egg of *Turacus macrorhynchus*. *Bull. B. O. C.* xv, pp. 13 & 14. [*Musophagi*.]
587. —. Photographs of birds. *Op. cit.* xiv, p. 75.
588. \*SZIELASKO, A. Untersuchungen über die Gestalt und die Bildung der Vogeleier. Königsburg, 1904.
589. SHARPE, R. BOWDLER. On a collection of Birds from the District of Deelfontein in Cape Colony. Part I. *Ibis* 1904, pp. 1-29. Part II. T. c. pp. 313-367, pl. viii. [*Muscicapidæ*, *Turdidæ*, *Sylviidæ*, *Paridæ*, *Fringillidæ*, *Alaudidæ*.]

590. [SHARPE, R. BOWDLER.] Report on the Birds obtained by the National Antarctic Expedition at the Island of South Trinidad. T. c. pp. 214-217. [*Procellariiformes*.]
592. —. On further collections of Birds from the Efulen district of Camaroon, West Africa. Part I. T. c. pp. 88-106. [*Columbiformes*, *Ralliformes*, *Ardeiformes*, *Accipitriformes*, *Strigiformes*.]
593. —. On further collections of Birds from the Efulen district of Camaroon, West Africa. Part II. [With notes on habits by G. L. Bates.] T. c. pp. 591-638, pl. xii. [*Charadriiformes*, *Accipitriformes*, *Halcyones*, *Bucerotes*, *Upupa*, *Caprimulgi*, *Cypseli*, *Trogones*, *Cuculi*, *Capitones*, *Pycnonotidae*.]
594. —. On a new Swift from Camaroons. Bull. B. O. C. xiv, p. 63. [*Cypseli*.]
595. —. On the cruise of the 'Emerald.' T. c. pp. 63-65.
596. —. On Cory's Gannet. T. c. pp. 65-69. [*Pelecaniformes*.]
597. —. Photographs of the nesting of Cory's Gannet. T. c. p. 76.
598. —. On new species of African birds. T. c. pp. 93 & 94. [*Columbiformes*, *Sylviidae*.]
599. SHELLEY, G. E. On a new species of Lark. Bull. B. O. C. xiv, pp. 82 & 83. [*Alaudidae*.]
600. SHORTRIDGE, GUY C. On a collection of Birds from the neighbourhood of Port St. John's, in Pondoland. With a preface and notes by W. L. Sclater. Ibis 1904, pp. 173-208. [*Ardeiformes*.]
601. SHUFFELDT, R. W. On the osteology and systematic position of the *Pygopodes*. Amer. Natural. xxxviii, pp. 13-49, with plate figg. 1-24. [*Podicipediformes*, *Colymbiformes*.]
602. —. Comparison of the provisional schemes of the classification of birds. T. c. pp. 311-319.
603. —. An arrangement of the families and the higher groups of birds. T. c. pp. 833-857, text-figg. 1-6.  
SIBTHORP, JOHN. [See SCLATER, P. L. (567).]
604. SILLOWAY, P. M. Additional notes to summer birds of Flathead Lake, with special reference to Swan Lake. With introduction by Morton J. Elrod. Bull. Univ. Montana, Biol. Series No. 6, 8vo, pp. 289-308, pls. liii-lvii, 1903.
605. —. Afield at Flathead. Condor vi, pp. 12-14. [*Podicipediformes*, *Mniotiltidae*, *Tanagridae*, *Regulidae*.]
606. —. Extracts from some Montana note-books, 1904. T. c. pp. 148-150.  
SIMPSON, S. [See GALBRAITH (203).]
607. SMEDLEY, J. H. Finches in Northern Queensland. Emu iv, pp. 68 & 69.
608. SNODGRASS, R. E. A list of land birds from central and Southeastern Washington. Auk xxi, pp. 223-233.
609. — & HELLER, E. Birds of the Galapagos Archipelago. P. Washington Ac. v, pp. 231-372.
610. SNOUCKAERT VAN SCHAUBURG, R. Eine Fahrt durch einen friesischen Sumpf. Ornith. Jahrb. xv, pp. 230-237.

- 610a. [SNOUCKAERT VAN SCHAUBURG, R.] Ornithologisches aus Holland. Ornith. Monber. xii, pp. 41 & 42.
611. ——. Ornithologie van Nederland. Waarnemingen van 1 mei 1903 tot en met 30 April 1904. Tijdschr. Nederland. Dierk. Ver. (2) viii, pp. 240-258.
612. SÓOS, L. Die Nützlichkeit und Schädlichkeit der Saatkrähe (*Corvus frugilegus* L.) in der allgemeinen Auffassung. (Mit 1 Kart und 1 Tabelle.) *Aquila* xi, pp. 328-352. [*Corvidæ*.]  
SOUTHWELL, T. [See GURNEY & SOUTHWELL (242).]
613. STENHOUSE, J. H. The Birds of Nakl Island, on the coast of Syria. *Ibis* 1904, pp. 29-32. [*Lariformes*.]
614. STOCKARD, C. R. Nesting habits of the Woodpeckers and the Vultures in Mississippi. *Auk* xxi, pp. 463-471. [*Pici*, *Cathartiformes*.]
615. STONE, W. On a collection of birds and mammals from Mount Sanhedrin, California. P. Ac. Philad. 1904, *Birds*, pp. 580-585. With field notes by A. S. BUNNELL.
616. ST. QUINTIN, W. H. The Australian Brush-Turkey (*Catheturus lathamii*). *Avicult. Mag.* (2) ii, pp. 160-163. [*Galliformes*.]
617. ——. The Great Bustard (*Otis tarda*). T. c. pp. 188-191. [*Otides*.]
618. ——. The breeding of *Pterocles exustus*. Op. cit. iii, pp. 64-66. [*Pteroclidiformes*.]
619. STREETER, G. L. The structure of the spinal cord of the Ostrich. *Amer. J. Anat.* iii, pp. 1-27, 6 figg.
620. STRONG, R. M. White Feathers. *Biol. Bull.* vi, p. 311.
621. SURFACE, H. A. Birds and horticulturists. *Pensylv. Dep. Agric.* i, No. 1, pp. 3-12 (1903).
622. ——. The economic value of our native birds. T. c. No. 2, pp. 5-16, No. 3, pp. 3-22, No. 4, pp. 3-24, pls. i-iv (1903): ii, No. 1, pp. 6-18, pls. i-vi, No. 2, pp. 37-48, No. 3, pp. 51-64, pls. 15 & 16. [*Accipitriiformes*, *Strigiformes*, *Halcyones*, *Coccyges*.]
623. SUSHKIN, P. Descriptions of new subspecies of Birds from Palæarctic Asia, together with remarks on their geographical distribution. *Bull. B. O. C.* xiv, pp. 42-46. [*Charadriiformes*, *Anseriformes*, *Accipitriiformes*, *Sylviidæ*, *Cinclidæ*, *Regulidæ*, *Paridæ*, *Turdidæ*, *Hirundinidæ*, *Muscicapidæ*, *Fringillidæ*.]
624. SWALES, B. H. A few Southern Michigan notes. *Auk* xxi, pp. 84 & 85.
625. SWARTH, H. S. Birds of the Huachuca Mountains, Arizona. *Pacific Coast Avifauna*, No. 4. Cooper Ornith. Club, California 1904, pp. 1-70. [*Pici*, *Caprimulgi*, *Tyrannidæ*, *Corvidæ*, *Icteridæ*, *Fringillidæ*, *Mniotiltidæ*.]
626. ——. The status of the Southern California Cactus Wren (*Heleodytes brunneicapillus*). *Condor* vi, pp. 17-19. [*Troglodytidæ*.]
627. TALAMON, G. Notes sur les oiseaux de la Tunisie. *Ornis* xii, No. 4, pp. 583-596.  
TALLMON, M. C. [See MORGAN & TALLMON (403).]
628. TALSKY, J. Das Fürst Lichtenstein'sche Forst- und Jagdmuseum in Mähr-Aussee. *Ornith. Jahrb.* xv, pp. 237-243.

629. TAVERNER, P. A. A discussion of the origin of migration. *Auk* xxi, pp. 322-333.
630. TEGETMEIER, W. B. Abnormal eggs of Pheasant and Grouse. *Bull. B. O. C.* xiv, p. 77. [*Galliformes.*]
631. TERNIER, L. Note sur la nidification de la Grive Draine (*Turdus viscivorus*). *Ornis* xii, No. 4, pp. 571 & 572.
632. THANNER, RUDOLF VON. Beobachtungen auf Tenerife. *Nov. Zool.* xi, pp. 430-435.
633. THAYER, G. H. The Raven (*Corvus corax sinuatus*) in Southern New Hampshire, and other notes. *Auk* xxi, pp. 491-494. [*Corvidæ.*]
634. THIENEMANN, J. III Jahresbericht (1903) der Vogelwarte Rossitten der Deutschen Ornithologischen Gesellschaft. *J. Ornith.* 1904, pp. 245-295.
635. ——. *Vögelwarte Rossitten.* *Ornith. Monber.* xii, pp. 31 & 32, 127-132.
636. ——. *Vögelwarte Rossitten.* T. c. pp. 165-168. [*Accipitriformes, Corvidæ.*]
637. THOMASSET, B. C. Some common birds of the Seychelles. *Avicult. Mag.* (2) iii, pp. 73-75.
638. TICEHURST, C. B. Solitary Sandpiper in Sussex. *Bull. B. O. C.* xv, p. 12. [*Charadriiformes.*]
639. ——. Necrosis in legs of birds caused by sheep-wool. T. c. pp. 12 & 13.
640. TICEHURST, N. F. Spotted Sandpiper in Kent. *Bull. B. O. C.* xiv, pp. 84 & 85. [*Charadriiformes.*]
641. TODD, W. E. C. The birds of Erie and Pesque Isle, Erie County, Pennsylvania. *Ann. Carnegie Mus.* ii, pp. 481-596, pls. xvi-xix.
642. TOMISON, J. Sule Skerry, Orkney, and its bird-life. *Ann. Scott. Nat. Hist.* 1904, pp. 16-26, 91-98.
643. \*TORREY, B. *The Clerk of the Woods.* Boston & New York, 1903, 16mo, viii + 280 pp.
644. TROTTER, S. Some Nova Scotia birds. *Auk* xxi, pp. 55-64.
645. TRUMBULL, J. Notes on Land-birds observed on the North Atlantic and Gulf of St Lawrence. *Zoologist* 1904, pp. 134-141.
646. TSCHUSI ZU SCHMIDHOFFEN, V. R. VON. Über palaearktische Formen. *Ornith. Jahrb.* xv, pp. 93-108. [*Halcyones, Corvidæ, Strigiformes, Galliformes.*]
647. ——. *Ornithologische Literatur. Österreich-Ungarns und des Okkupationsgebietes* 1902. *Verh. Ges. Wien* liv, pp. 487-507.
648. ——. Über palaearktische Formen. *Ornith. Jahrb.* xv, pp. 227-230. [*Columbiformes, Timeliidæ, Accipitriformes.*]
649. ——. Über palaearktische Formen. T. c. pp. 121-124. [*Corvidæ, Cuculi, Cypseli.*]
650. TUCK, J. G. Pomatorhine Skuas (*Stercorarius pomatorhinus*) in Suffolk. *Zoologist* 1904, pp. 33 & 34. [*Lariformes.*]
651. USSHER, R. J. Birds met with in the Shannon Valley. *Irish Natural.* xiii, pp. 101-106.

652. [USSHER, R. J.] Birds and their breeding habits. Rep. Belfast Club (2) v, pp. 97-103.
653. VALENTIN, R. Notes on the Falkland Islands. Mem. Manchester Soc. xlviii, Part III, Aves, pp. 23-45, pl. i. [*Sphenisciformes*, *Anseriformes*.]
655. VALLON, G. Note ornitologiche per la provincia del Friuli durante l'anno 1903. Avicula viii, pp. 23-28.
656. —. Catalogo ragionato delle specie di Uccelli raccolti dal Prof. Achille Tellini nella Colonia Eritrea dall'ottobre 1902 al marzo 1903. Atti Ist. Veneto 1904, pp. 105-152.
- 656A. VERRILL, A. E. The extermination or partial extermination of native birds. Tr. Connect. Ac. xi, pp. 661-682.
- 656B. VIEIRA, L. Catalogo da Collecção de ninhos e ovos das Aves que criam em Portugal, existente no Museu de Zoologia da Universidade de Coimbra. Ann. Sci. nat. Porto viii, pp. 101-113.
657. VIVIAN, R. A. Some bird-life in British Papua. Emu iv, pp. 52-57. [*Pelecaniformes*.]
658. VOIGT, A. Seltene Durchzügler aus der Umgebung Leipzigs. Ornith. Monber. xii, pp. 99 & 100.  
WALTER, H. [See DRESSER, H. E. (148).]
659. WARREN, E. R. A Sandhill Crane's nest (*Grus mexicanus*). Condor vi, pp. 39 & 40. [*Gruiformes*.]
660. WARREN, R. Snow-Geese (*Chen hyperboreus*) in Co. Mayo. Zoologist 1904, p. 32. [*Anseriformes*.]
661. —. Ornithological notes from Killala Bay and the Moy Estuary. T. c. pp. 301-306.
662. WEBB, S., [assisted by] Captain MCDAKIN and G. GRAY. The diminution and disappearance of the South-eastern Fauna and Flora within the memory of present observers. South-eastern Nat. 1903, Birds, pp. 51 & 52.
663. WHEELER, W. M. The obligations of the student of animal behaviour. Auk xxi, pp. 251-255.
664. \*WHEELOCK, J. G. Birds of California. An introduction to more than three hundred common birds of the State and the adjacent islands. With a supplementary list of rare migrants, accidental visitors, and hypothetical subspecies. Chicago, 1904, sm. 8vo, xxviii + 578 pp., 10 half-tone pls., 78 text-figg.
665. WHITAKER, J. I. S. Notes on Sicilian birds. Ibis 1904, pp. 477 & 478. [*Corvidæ*, *Fringillidæ*, *Charadriidæ*.]
666. WHITE, S. A. Birds of the Lamu Archipelago (East Africa). Emu iii, pp. 238-241.
667. WHITMAN, C. O. The Origin and Relationships of the Rock Pigeons as revealed in their colour-patterns. Biol. Bull. vi, pp. 307 & 308.
668. —. Hybrids from wild species of Pigeons, crossed inter se and with domestic races. T. c. pp. 315 & 316.
669. WIDMANN, O. Yosemite valley birds. Auk xxi, pp. 66-73.
670. WILLIAMS, R. W. A preliminary list of the birds of Leon County, Florida. Auk xxi, pp. 449-462. [*Icteridæ*, *Fringillidæ*.]

671. WILSON, EDWARD. The Birds of the Island of South Trinidad. Ibis 1904, pp. 208-213. [See SHARPE, R. B. (590).]
672. WILSON, W. Ornithological notes from Aberdeen. Zoologist 1904, pp. 146, 231.
- 672A. —. Migratory notes for May and June. T. c. pp. 267 & 268.
673. WINGE, H. Om Fugle fra Bronzealderen i Danmark. Vid. Medd. 1904, pp. 313-318.
674. —. Fuglene ved de danske Fyr i 1903. T. c. pp. 319-390.
675. WORKMAN, W. H. *Ampelis garrula* in Ireland. Ibis 1904, pp. 307 & 308 [*Ampelidæ*].
676. WORTHINGTON, W. W. Bird notes from Shelter Island, Long Island, N. Y. Auk xxi, p. 287.
677. WRIGHT, W. C. Notes on birds of the Narin district, Co. Donegal. Zoologist 1904, pp. 373-377. [*Procellariiformes*.]
- 677A. WUSTNEI, C. Die Adler Mecklenburg's. Arch. Ver. Mecklenb. lviii, pp. 45-104. [*Accipitriformes*.]
- 677B. YOUNG, E. W. Observations on the flight of birds and the mechanics of flight. Tr. S. African Soc. xiv, pp. 419-423.
678. YOUNG, L. C. H. Note on sexual dimorphism. J. Bombay Soc. xvi, pp. 37-39, 42 & 43.  
ZARUDNY. [See SARUDNY, N. (549).]
679. ZODDA, G. Contributo allo studio degli uccelli siciliani. Avicula viii, pp. 72-75.

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Thirteenth Supplement to the American Ornithologists' Union Checklist of North American Birds. *Auk* xxi, pp. 411-424.

Supplementary Report of the A.O.U. committee on the protection of North American birds for the year 1903. *Auk* xxi, pp. 97-208, pls. xii-xviii.

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- Tetrao tetrix* × *Phasianus colchicus*, figured; FRITZE, Jahrb. Mus. Hannover 1904, pp. 1 & 2, taf. vii.
- Canachites canadensis osgoodi*, note on; OSGOOD, North Amer. Fauna, No. 24, pp. 64 & 65.
- Dendragapus obscurus*, in New Mexico; BAILEY, Auk xxi, p. 351.
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- Ammoperdix bonhami ter-meuleni*, n. subsp., Arabistan, Persia; SARUDNY & LOUDON, Ornith. Jahrb. xv, pp. 226 & 227.
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- Francolinus schütti schütti* and *F. s. tetraoninus*, notes on; NEUMANN, J. Ornith. 1904, p. 351: *F. castaneicollis bottegi*, notes on; id. t. c. pp. 352 & 353: *F. c. gofanus*, n. subsp., Gofa, Orno Country, N. E. Africa; id. t. c. pp. 353 & 354: *F. nigrosquamatus*, notes on; id. t. c. p. 355; *F. zephæna* and its allies; id. t. c. pp. 356-358.
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- Excalfactoria*, notes on the species; SETH-SMITH, Avicult. Mag. (2) ii, pp. 311-314, cum tab. figg. 1-3.
- Tragopan*, biological observations and a review of the species; GHIGI, Rend. Acc. Bologna (5) x, pp. 393-407, tav. i & ii.
- T. caboti*, female described; id. t. c. pp. 151-156, tav. 2.
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- Phasianus*, review of the species; ROTHSCHILD, Bull. B. O. C. xiv, pp. 36-38: Geographical distribution of the species; BUTURLIN, Ibis 1904, pp. 377-414: *P. colchicus lorenzi*, n. subsp., Kura R., Transcaucasia; id. t. c. p. 386: *P. principalis zarudnyi*, n. subsp., Central Oxus; id. t. c. p. 390: *P. chrysomelas bianchii*, n. subsp., Upper Oxus; id. t. c. p. 393: *P. alpherakyi*, n. sp., C. Manchuria; id. t. c. p. 399: *P. a. ussuriensis*, n. subsp., Ussuri River; id. t. c. p. 404: *P. karpowi*, n. sp., S. Manchuria; id. Ornith. Monber. xii, p. 3: id. Ibis 1904, p. 406: *P. holdereri kiangsuensis*, n. subsp., E. China; id. t. c. p. 407: *P. h. gmelini*, n. subsp., C. China; id. t. c. p. 408.
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- Gallus*, notes on the distribution of the species; GHIGI, Monit. Zool. ital. xiv, pp. 319-322.
- Numida*, notes on the distribution and a review of the species; OUSTALET, Bull. Soc. d'Accl. France 1904, pp. 1-18.
- N. ptilorhyncha macroceras*, n. subsp., Lakes of Shoa to Lake Rudolf; ERLANGER, Ornith. Monber. xii, p. 97: *N. p. neumanni*, n. subsp., Usoga, German E. Africa; id. t. c. p. 97.
- N. ptilorhyncha* and its allies; NEUMANN, J. Ornith. 1904, pp. 350, 405-410: *N. p. omoensis*, Omo River: *N. p. toruensis*, Toro, Equatorial Africa, n. subspp.; id. t. c. pp. 350, 409 & 410.
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- Colinus ridgwayi*, notes on; BROWN, Auk xxi, pp. 209-213.
- Colinus virginianus*, its economic value; JUDD, Yearb. U. S. Dep. Agric. 1903, pp. 193-204, pl. xvi: notes on; DUKE, Pennsylv. Dep. Agric. i, No. 10, pp. 30 & 31.
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- Megaloprepia salamonis* Madarasz = *M. poliura* Salvad.; ROTHSCHILD & HARTERT, Ann. Mus. Hungar. i, p. 450, 1903.
- Carpophaga luctuosa*, notes on; JARDINE, Emu iii, pp. 181-185.
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- Fulica atra*, unusual number in South Hants ; CORBIN, Zoologist 1904, p. 144.
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- Podicipedidae* of Central America ; see GODMAN (214).
- Podicipes nigricollis*, breeding in the British Islands ; APLIN, Zoologist 1904, pp. 417-420.
- Colymbus holboellii*, nesting habits ; CURRIER, Auk xxi, pp. 31 & 32 : at Niagara Falls ; BLAIN, t. c. pp. 276 & 277 : at St Mary's, Georgia ; ARNOW, t. c. p. 277 : in Lancaster, Mass. ; THAYER, t. c. p. 383 : nesting habits ; SILLOWAY, Condor vi, p. 12.

## Order COLYMBIFORMES.

- Pygopodes*, on the osteology and systematic position ; SHUFELDT, Amer. Natural. xxxviii, pp. 13-49 cum tab., figg. 1-24.

## Order HESPERORNITHIFORMES.

- Hesperornis regalis*, note on a skeleton ; LUCAS, Smithson. Collect. xlv, p. 95, pl. xxvii.

## Order SPHENISCIFORMES.

- Spheniscus magellanicus*, notes on ; VALENTIN, Mem. Manchester Soc. xlviii, pt. iii, pp. 24-26.
- Eudypetes chrysocome*, notes on ; id. t. c. pp. 26-28 : Anatomy of ; HILLEL, Jena. Zeitschr. (2) xxxi, pp. 725-770, Taf. 24 & 25.
- Pygosceles tenuata*, notes on ; id. t. c. pp. 28-30.
- Eudyptila minor*, notes on ; M'CLYMONT, Emu iii, pp. 237 & 238.

## Order PROCELLARIIFORMES.

- Procellaria pelagica*, nesting habits ; WRIGHT, Zoologist 1904, pp. 373 & 374 cum fig.
- Oceanodroma* sp. in the Philippines ; MCGREGOR, Bull. Philipp. Mus. No. 4, p. 12.

- Estrelata fœe* in Madeira ; BUTTERFIELD, Bull. B. O. C. xiv, p. 50.  
*Estrelata trinitatis* and *Æ. arminjoniana* in South Trinidad Is. ; WILSON, Ibis 1904, pp. 212 & 213 : SHARPE, t. c. pp. 215 & 216 : *Æ. hesitata*, breeding places in Guadeloupe Is. W.I. ; NICOLL, t. c. p. 574 : its extinction in the West Indies ; id. t. c. p. 563 : at Pittsfield, New Hampshire ; ALLEN, Auk xxi, p. 383, pl. xxii.  
*Bulweria bulweri* in Sussex ; BUTTERFIELD, Bull. B. O. C. xiv, pp. 49 & 50.  
*Diomedea immutabilis*, notes on ; FISHER, Condor vi, pp. 151-159, figg. 1-11 ; id. Auk xxi, pp. 8-20, pls. ii-vii : *D. nigripes*, notes on ; id. t. c. pp. 9-20, pl. viii : id. Condor vi, p. 78.

## Order ALCIFORMES.

- Uria troile*, in Berkshire ; NOBLE, Zoologist 1904, p. 116 : *U. troile californica*, breeding habits ; RAY, Auk xxi, pp. 431-434, pl. xxv.  
*U. ringvia*, near Cherbourg ; CORAINVILLE, Bull. Soc. Rouen (4) xxiii, pp. 30 & 31.

## Order LARIFORMES.

- Hydrochelidon nigra surinamensis*, nesting habits ; CURRIER, Auk xxi, pp. 32 & 33.  
*Sterna vittata georgica*, n. subsp., S. Georgia ; REICHENOW, Ornith. Monber. xii, p. 47 : *S. macrura antistropha*, n. subsp., Shores of Antarctic Continent ; id. t. c. p. 47 : *S. saundersi* on Naki Island, Sanani Island, off the coast of Syria ; STENHOUSE, Ibis 1904, pp. 31 & 32.  
*Micranous marcusii*, n. sp., Marcus Is., North Pacific ; BRYAN, Monogr. Marcus Is., p. 101 [1903].  
*Xema sabinei*, in Hampshire ; GRANT, Bull. B. O. C. xiv, p. 63.  
*Larus minutus*, on the Mersey ; JOURDAIN, Zoologist 1904, p. 193 : *L. ridibundus*, types of eggs ; KRAUSE, Ornith. Monber. xii, pp. 122-127 : *L. occidentalis*, breeding habits ; RAY, Auk xxi, pp. 434-436, pl. xxvi : *L. cachinnans* seen in Dover Harbour ; N. C. ROTHSCHILD, Bull. B. O. C. xiv, p. 91 : *L. audouini* on Naki Island, off the coast of Syria ; STENHOUSE, Ibis 1904, pp. 30 & 31 : note on the eggs ; BAU, Ornith. Jahrb. xv, pp. 1-10, pl. 1, figg. 1-4.  
*L. californicus*, notes on the species in Utah ; GOODWIN, Condor vi, pp. 99 & 100 : *L. glaucescens*, notes on ; OSGOOD, North Amer. Fauna, No. 24, p. 53 : *L. leucopterus*, on the coast of Mull on May 17th ; MACDONALD, Ann. Scott. Nat. Hist. 1904, pp. 247 & 248 : *L. glaucus*, in Glamorganshire ; PROGER & PATERSON, Tr. Cardiff Soc. xxxvi, p. 127.  
*Catarrhacta* Brünn. the correct generic name for the Skuas ; POCHE, Ornith. Monber. xii, pp. 189-195.  
*Megalestris* Bp. vice *Catarrhacta* Brünn. should stand for the Skuas ; ALLEN, Auk xxi, pp. 345-348.  
*Stercorarius catarrhactes*, in the Irish Sea ; PATTEN, Zoologist 1904, p. 75 : in the Isle of Man ; RALFE, t. c. p. 33 : *S. pomatorhinus*, in Suffolk ; TUCK, t. c. pp. 33 & 34.  
*S. crepidatus*, near St Vincent, W. I. ; NICOLL, Ibis 1904, p. 563 : *S. parasiticus*, in Tunis in June ; KOLLIBAY, Ornith. Monber. xii, p. 101 : in Kansas ; SNOW, Auk xxi, p. 284.

## Order CHARADRIIFORMES.

- The measurements and weights of the eggs ; BUCHANAN, Zoologist 1904, pp. 281-290.

- Chionis nasicornis*, n. sp., Heard Is.; REICHENOW, Ornith. Monber. xii, p. 47.
- Hematopus ostralegus*, note on; PATTEN, Zoologist 1904, pp. 431 & 432: its powers of swimming; id. Irish Natural. xiii, p. 295.
- Vanellus vulgaris*, difference in form of wing in the sexes; FROHAWK, Ibis 1904, pp. 446-451: on the Upper Chindwin; HARINGTON, J. Bombay Soc. xv, p. 723.
- Vanellus vanellus*, form of wing in ♂ different from that of ♀; FROHAWK, Bull. B. O. C. xiv, p. 62: swimming; WARREN, Zoologist 1904, p. 389.
- Charadrius squatarola*, in Kansas; SNOW, Auk xxi, p. 85.
- Eudromias morinellus*, in Jersey; MACKAY, Zoologist 1904, p. 249.
- Ægialitis vocifera*, in Scotland; PYCRAFT, Ibis 1904, pp. 669 & 670: at Peterhead in 1867: id. Ann. Scott. Nat. Hist. 1904, p. 247: *Æ. hiaticola*, nesting notes; HEBBURN, Zoologist 1904, pp. 168-173: KELSO, t. c. pp. 265 & 266.
- Charadrius rufocinctus*, figured; REICHENOW, deutsch. Teifsee-Exped. Vög. taf. xxiii, figg. 1 & 2: *C. elegans* Licht. is a large-billed form of *C. alexandrinus* L., Tor, Arabia; REICHENOW, J. Ornith. 1904, p. 307.
- Himantopus himantopus*, figured; HERMAN, Aquila xi, tab. iv.
- Numenius arcuatus*, nesting in Bavaria; BESSERER, Ornith. Jahrb. xv, pp. 108-113.
- Totanus solitarius*, in Sússex; TICEHURST, Bull. B. O. C. xv, p. 12.
- Tringoides macularius*, in Kent; TICEHURST, op. cit. xiv, pp. 84 & 85.
- Actitis macularia*, breeding in New Mexico at 8,000 feet; BAILEY, Auk xxi, p. 351.
- Totanus glareola*, in Alaska; LITTLEJOHN, Condor vi, p. 138.
- Calidris arenaria*, nesting in the Taimyr Peninsula; DRESSER, Ibis 1904, pp. 229-231.
- Limonites minuta*, eggs; PROCTOR & RADCLIFFE SAUNDERS, Bull. B. O. C. xiv, p. 41; H. J. PEARSON, t. c. p. 41.
- Heteropygia acuminata*, in summer in the Minusinsk district; SUSHKIN, Bull. B. O. C. xiv, p. 45.
- Erolia ferruginea*, in New Jersey; CHILDS, Auk xxi, p. 485.
- Tringa subarquata* and *T. canutus*, nesting in the Taimyr Peninsula; DRESSER, Ibis 1904, pp. 231 & 233.
- Tringa canutus*, at San Diego, California; DWIGHT, Auk xxi, pp. 78 & 79: *T. alpina*, notes on; CAMPBELL, Irish Natural. xiii, pp. 39-41: *T. (Pelidna) alpina variegata* Tilesius, is the correct name of the Pacific Dunlin; BUTURLIN, Auk xxi, pp. 50-53.
- Pelidna alpina pacifica*, in Massachusetts in December; HOWE, Auk xxi, p. 277.
- Limicola platyrhyncha*, in Sussex; NICOLL, Bull. B. O. C. xv, p. 12.
- Gallinago gallinago*, its love-display; PARROT, Ornith. Monber. xii, pp. 37-41: on its note; HANTZSCH, t. c. pp. 173-175: *G. delicata*, in the Hawaiian Islands; BRYAN, Condor vi, p. 78.
- Scolopax rusticula*, nesting in Central Scotland; HARVIE-BROWN, Ann. Scott. Nat. Hist. 1904, pp. 190-192, 245 & 246: GLADSTONE, t. c. pp. 246 & 247: anatomy; MITCHELL, P. Zool. Soc. London 1903, ii, pp. 352-354, text-fig. 44.
- Philohela minor*, note on the ground-tint of the eggs; RILEY, Auk xxi, p. 384.
- Rhinoptilus cinctus cinctus* and *R. c. seebohmi*, notes on; NEUMANN, J. Ornith. 1904, p. 330.
- Glareola melanoptera*, in Sicily; WHITAKER, Ibis 1904, p. 478.
- Ædicnemus scolopax*, in Co. Donegal; CAMPBELL, Irish Natural. xiii, p. 119: in the plains of Chambois (Orne); LETACQ, Bull. Soc. Rouen (4)

- xxiii, pp. 27-29 : *Æ. senegalensis*, in Camaroons ; SHARPE, Ibis 1904, p. 596.  
*Otis tarda*, on the breeding in confinement ; ST QUINTIN, Avicult. Mag. (2) ii, pp. 188-191 : in Glamorganshire ; PROGER & PATERSON, Tr. Cardiff Soc. xxxvi, p. 126 : *O. dybowskii*, in the Minusinsk Steppe and N. Mongolia ; SUSHKIN, Bull. B. O. C. xiv, p. 45.  
*Trachelotis barrovi*, notes on ; MITCHELL, P. Zool. Soc. London 1904, pp. 2 & 3.

## Order GRUIFORMES.

- Grus communis*, in the Isle of Man ; HUGHES, Rep. Brit. Ass. 1903, p. 696 : notes on the skull of the young ; RASPAIL, Bull. Soc. zool. France xxix, pp. 60-63, text-figg. 1 & 2 : *G. mexicanus*, nest and eggs described ; WARREN, Condor vi, pp. 39 & 40.  
*Antigone sharpei* from the Philippine Islands (Cagayan, Fuga) ; MCGREGOR, Bull. Philipp. Mus., No. 4, p. 11, p. ii.  
*Balaerica chrysopelargus*, remarks on the skull ; BEDDARD, P. Zool. Soc. London 1904, ii, p. 131.

## Order ARDEIFORMES.

- Nesting habits of Herons in Florida ; BENT, Auk xxi, pp. 20-29, 259-270, pls. ix, x, xix-xxi.  
 Notes on the Herons of the District of Columbia ; BARTSCH, Smithsonian Collect. xlv, pp. 104-111, pls. xxxiii-xxxviii.  
*Geronticus spinicollis*, notes on ; CARTER, Emu iii, pp. 209 & 210.  
*Hagedashia olivacea* from Camaroons, notes on *H. rara* ; SHARPE, Ibis 1904, pp. 96 & 97.  
*Plegadis falcinellus*, in Orkney ; CLARKE, Ann. Scott. Nat. Hist. 1904, p. 127 : in Monmouthshire ; PROGER & PATERSON, Tr. Cardiff Soc. xxxvi, p. 128 : *P. autumnalis*, note on ; BENT, Auk xxi, p. 29.  
*Guara alba*, nesting habits in Florida ; BENT, Auk xxi, pp. 25-27, pl. x.  
*Ajaja ajaja*, nesting habits in Florida ; id. t. c. pp. 22-25, pl. ix.  
*Tantalus loculator*, nesting habits in Florida ; BENT, Auk xxi, pp. 27-29.  
*Dissoura*, four species recognised, *D. mortoni* Grant = *D. stormsi* W. Blas. ; FINSCH, Ornith. Monber. xii, 1904, p. 94.  
*Ciconia ciconia*, migration from Germany to India, curious record ; COUTOULY, Ornith. xii, No. 4, p. 464.  
*Ardea cinerea*, breeding on N. Uist, Outer Hebrides ; HARVIE-BROWN, Ann. Scott. Nat. Hist. 1904, p. 57.  
*Ardetta minuta*, in Pondo land ; SHORTRIDGE, Ibis 1904, p. 205.  
*Botaurus stellaris*, in County Waterford ; FLEMING, Zoologist 1904, p. 144 : in the Isle of Man ; HUGHES, Rep. Brit. Ass. 1903, p. 696.

## Order ANSERIFORMES.

- Les Anserides dans l'Égypte ; BOUSSAC, Naturaliste (2), No. 421, pp. 209-211.  
*Cygnus musicus*, in Sind ; CRERAR, J. Bombay Soc. xv, p. 716.  
*Olor columbianus*, note on ; OSGOOD, North Amer. Fauna, No. 24, pp. 60 & 61.  
*Æx sponsa*, notes on ; FINN, Avicult. Mag. (2) ii, pp. 89-94 cum tab.  
*Cercopsis nove hollandiæ*, *Neochen sandvicensis*, *Chloephaga magellanica*, *C. dispar*, *C. poliocephala*, *C. rubidiceps*, *Chenonetta jubata*, *Chen hyperboreus*, *C. caerulescens*, *Cygnus buccinator*, *C. bewicki*, *Sarcidornis africana*, breeding in confinement ; description of nests and eggs ; BLAAUW, Ibis 1904, pp. 67-75.



- Chen hyperboreus*, in Co. Mayo ; WARREN, Zoologist 1904, p. 32.  
*Cygnopsis cygnoides*, breeding in Minusinsk and N. Mongolia ; SUSHKIN, Bull. B. O. C. xiv, p. 45.  
*Branta ruficollis*, in India ; BAKER, J. Bombay Soc. xvi, pp. 155 & 156.  
*Tadorna cornuta*, in Berkshire ; NOBLE, Zoologist 1904, p. 117.  
*Anas boscas*, notes on ; OSGOOD, North Amer. Fauna, No. 24, pp. 55-57 :  
*A. undulata riippelli*, distinct from *A. u. undulata* ; NEUMANN, J. Ornith. 1904, pp. 327 & 328 : *A. strepera*, in Wigtownshire ; MAXWELL, Ann. Scott. Nat. Hist. 1904, p. 57.  
*Mareca penelope*, figured ; BAKER, J. Bombay Soc. xvi, pl. xix : in Southern California ; GRINNELL, Auk xxi, pp. 383 & 384.  
*Anas drygalskii*, n. sp., Crozet Is. ; REICHENOW, Ornith. Monber. xii, p. 47.  
*Spatula clypeata*, in Berkshire ; NOBLE, Zoologist 1904, p. 117.  
*Sictonetta nevosa*, has a red bill during the breeding-season ; LE SOUËF, Emu iii, p. 233.  
*Netta rufina*, in Suffolk ; OGILVIE, Bull. B. O. C. xiv, p. 62.  
*Aythya collaris*, in San Mateo Co., California ; FISHER, Condor vi, p. 25.  
*Fuligula nyroca*, in Yorkshire ; ARUNDEL, Zoologist 1904, p. 33 : *F. fuligula*, figured ; BAKER, J. Bombay Soc. xv, pl. xviii.  
*Tachyeres cinereus*, notes on ; VALLENTIN, Mem. Manchester Soc. xlviii, pt. iii, pp. 33-36.  
*Nyroca clangula*, [i.e. *Clangula glaucion*] breeding in N. Germany ; PLATHE, Ornith. Monber. xii, pp. 158-160.  
*Edemia carbo* [i.e. *E. stejnegeri*], breeding in Minusinsk ; SUSHKIN, Bull. B. O. C. xiv, p. 45.  
*Somateria spectabilis*, in Jersey ; MACKAY, Zoologist 1904, p. 380 : near Venice ; NINNI, Avicula viii, pp. 159-161.  
*Merganser serrator*, note on ; OSGOOD, North Amer. Fauna, No. 24, p. 55.

## Order PELECANIFORMES.

- Phalacrocorax vanhöffeni*, n. sp., Crozet Is. ; REICHENOW, Ornith. Monber. xii, p. 46 : *P. dilophus albociliatus*, *P. penicillatus*, *P. pelagicus resplendens*, breeding habits ; RAY, Auk xxi, pp. 436-439, pls. xxvii & xxviii, fig. 2 : *P. dilophus cincinatus*, note on ; OSGOOD, North Amer. Fauna, No. 24, pp. 54 & 55.  
*Sula cyanops* and *S. piscator*, nesting habits ; FISHER, Condor vi, pp. 89-94, cum figg. : *S. coryi*, notes on ; SHARPE, Bull. B. O. C. xiv, pp. 65-69 : *S. coryi* = *S. piscator*, notes on the species ; NICOLL, Ibis 1904, pp. 588 & 589 : *S. nebouxii*, notes on ; BECK, Condor vi, pp. 6-8, cum figg.  
Frigate birds, nesting habits ; BECK, Condor vi, p. 9, cum fig.  
*Fregata aquila*, notes on the nesting on Laysan Is. ; FISHER, Condor vi, pp. 57-61, cum tab. : note on ; VIVIAN, Emu iv, pp. 55 & 56.  
*Phaethon aethereus*, nesting habits ; BECK, Condor vi, p. 10, cum fig.  
*Pelecanus erythrorhynchus*, nesting at Utah Lake ; GOODWIN, Condor vi, pp. 126-129.

## Order CATHARTIFORMES.

- Sarcorhamphus*, notes on the tongue and windpipe and the inter-relations of the genera *Gypagus* and *Cathartes* ; BEDDARD, P. Zool. Soc. London 1903, ii, pp. 386-392, text-figg. 45-48.  
*S. gryphus*, its sense of smell ; GILL, Tr. Nat. Hist. Northumb. (2) i, p. 40.  
*Catharista urubu*, breeding habits on the Mississippi ; STOCKARD, Auk xxi, pp. 469-471.

## Order ACCIPITRIFORMES.

- Falconidæ, their economic value in N. America; see SURFACE, H. A. (621).
- Serpentarius serpentarius* (fig. 1) and *S. orientalis* (fig. 2), figured; ERLANGER, J. Ornith. 1904, taf. iv.
- Gyps fulvus* and allies; ERLANGER, J. Ornith. 1904, pp. 139-148: *G. f. fulvus*, figured; id. t. c. taf. i: *G. f. rueppelli*, figured; id. t. c. taf. ii.
- Pseudogyps africanus* (Salvad.), figured; ERLANGER, J. Ornith. 1904, p. 149, taf. iii, fig. 1: *P. a. schillingsi*, n. subsp., German East Africa; id. t. c. p. 150, taf. iii, fig. 2: *P. a. fülleborni*, n. subsp., Nyasa Land to Angola; id. t. c. p. 151, taf. iii, fig. 3: *P. a. zechi*, n. subsp., Togo Land; id. t. c. p. 152, taf. iii, fig. 4.
- Polyborus cheriway*, nesting habits; SCHUTZE, Condor vi, pp. 106-108.
- Polyboroides pectoralis*, not distinct from *P. typicus*; SHARPE, Ibis 1904, pp. 98 & 99.
- Urotriorchis macrurus*, young described; SHARPE, Ibis 1904, p. 99.
- Melierax canorus* and allies, figured, with characters of upper tail-coverts (taf. v, figg. 1-5c, 6-8), *M. c. canorus* (taf. v, fig. 1), *M. c. poliopterus* (taf. v, fig. 2), *M. c. metabates* (taf. v, fig. 3), *M. c. mechowi* (taf. v, fig. 4), *M. c. poliopterus* × *M. c. metabates*, figured; ERLANGER, J. Ornith. 1904, pp. 161-165, taf. v: *M. polyzonus* (Rüpp., nec Less.) must stand as *M. metabates* Heugl., SALVADORI, Ibis 1904, pp. 248-250. [Cf. REICHENOW, Vög. Afrikas i, p. 544.]
- Micronis niger niger* (Senegal, N E. Africa, Nile districts to N. German E. Africa) and *M. n. carbonarius* (Licht., from S. German E. Africa to South Africa); the differences noted; ERLANGER, J. Ornith. 1904, pp. 179-182.
- Astur*, habits of West African species; BATES, Ibis 1904, p. 597: *A. palumbarius*, supposed breeding in Gloucestershire; GRANT, Bull. B. O. C. xiv, p. 74.
- A. tachiro tachiro*, from Somali Land; ERLANGER, J. Ornith. 1904, pp. 168 & 169: *A. unduliventer*, its characters; NEUMANN, J. Ornith. 1904, p. 360: *A. castanilius* = *A. unduliventer*; GRANT, Ibis 1904, p. 278: *A. castanilius*, young described; SHARPE, Ibis 1904, p. 99: *A. tousseneli*, young described; id. t. c. p. 100: *A. torquatus wallacei*, from the S.W. Islands, Moluccas; HARTERT, Nov. Zool. xi, pp. 189 & 190.
- Lophospizias trivirgatus*, nest and eggs described; BOURDILLON, J. Bombay Soc. xv, p. 672.
- Accipiter nisus nisus* from Abyssinia; ERLANGER, J. Ornith. 1904, pp. 170 & 171: *A. hilgerti*, n. sp., Arusi, Galla Land, N. E. Africa; id. t. c. p. 171, taf. vi: *A. ladygini*, n. sp., E. Tibet; BIANCHI, Annuaire Mus. St. Petersb. viii, p. 11, 1903: *A. rufiventris perspicillaris* is the N. E. African form of *A. rufiventris*; NEUMANN, J. Ornith. 1904, p. 360: *A. rufiventris rufiventris* and *A. r. perspicillatus*, notes on their geographical distribution; ERLANGER, J. Ornith. 1904, pp. 172 & 173: the latter from Togo Land; id. t. c. p. 173: *A. minullus* and its allies; id. t. c. pp. 173-178: *A. m. tropicalis*, figured; id. t. c. p. 176, taf. vii: *A. m. minullus* (fig. 1), *A. m. intermedius*, n. subsp., Abyssinia, S. Shoa; id. t. c. pp. 173-176 (fig. 2), figured; id. t. c., taf. viii: *A. batesi*, n. sp., Camaroons; SHARPE, Ibis 1904, pp. 100 & 101.
- Buteo*, observations on the colour-changes in the genus; BIRTWELL, Bull. Univ. New Mexico iii, No. 7, pp. 3-14.
- Buteo augur* and *B. auguralis*, remarks on; NEUMANN, J. Ornith. 1904, pp. 362-364: *B. buteo* and allies, *B. ferox* and allies; id. t. c. pp. 365-

- 367: *B. anceps* (= *B. auguralis* Salvad.), notes on; ERLANGER, J. Ornith. 1904, pp. 195-197, taf. xi.
- Buteo vulgaris*, notes on nesting habits; SALTER, Zoologist 1904, pp. 96-102, pp. 385-388: note on; RÆBURN, t. c. pp. 429 & 430: *B. zimmermannæ*, in the Kurische Nehrung; THIENEMANN, Ornith. Monber. xii, pp. 165 & 166: *B. borealis krideri*, in South-eastern Georgia; ARNOW, Auk xxi, pp. 277 & 278.
- Gypaetus barbatus* and its allies, *G. b. atlantis* Erl., *G. b. ossifragus* Sav., and *G. b. meridionalis* Keys. and Blas.; ERLANGER, J. Ornith. 1904, pp. 201-205.
- Aquila chrysaëtus*, abnormally large eggs; SHARP, Condor vi, pp. 165-168: *A. rapax* and its allies, *A. rapax rapax* Temm. from N. E. and E. Africa, *A. r. belisarius* Levaill. from N. Africa, *A. r. vindhiana*, India, *A. r. orientalis*, S. E. Europe to N. W. India; ERLANGER, J. Ornith. 1904, pp. 189-192.
- Archibuteo lagopus*, note on; EVANS, Ann. Scott. Nat. Hist. 1904, pp. 56 & 57.
- Nisäetus fasciatus*, in Hungary; HERMAN, Aquila xi, pp. 367 & 368, tab. 1.
- Hieräetus fasciatus minor*, n. subsp., from Africa (S. Arabia, Somali Land, Mozambique); ERLANGER, J. Ornith. 1904, pp. 185-187, taf. x, figg. 42: *H. spilogaster*, ♂ ♀ ad. from S. Somali Land, figured; id. t. c. taf. ix.
- Eutolmätetus minutus* Brehm., in N. Mongolia; SUSHKIN, Bull. B. O. C. xiv, p. 46.
- Lophotriorchis lucani*, adult described; SHARPE, Ibis 1904, p. 102.
- Spizaetus limnaetus floriss*, on Wetter Is.; HARTERT, Nov. Zool. xi, p. 189.
- Dryotriorchis batesi*, n. sp., Camaroon; SHARPE, Ibis 1904, pp. 601 & 602.
- Circäetus cinereus*, *C. pectoralis* Smith (*thoracicus* Heugl.). Notes on *C. fasciolatus* from German E. Africa to S. Somali Land; ERLANGER, J. Ornith. 1904, pp. 182 & 183.
- Milvus korschun affinis* Gould, in N. E. Africa (Ennia, Galla-land); ERLANGER, J. Ornith. 1904, p. 210, taf. xiii: *M. ægyptius* (fig. 1), *M. korschun reichenowi* (fig. 2), *M. k. korschun* (fig. 3), heads figured; id. t. c. taf. xii.
- Pernis apivorus*, note on; CORBIN, Zoologist 1904, pp. 142 & 143.
- Poliohierax semitorquatus* from N. E. Africa; ERLANGER, J. Ornith. 1904, pp. 224-226: is probably distinct (*P. castanonotus* Heugl.) from the S. African bird (*P. semitorquatus*); id. t. c. p. 226 [described as *P. homopterus*; OBERHOLSER, P. U. S. Mus. xxvii, pp. 738 & 739].
- Falco feldeggi*, in Lancashire; ROBINSON, Zoologist 1904, p. 75: *F. biarmicus* and its allies, *F. b. abyssinicus*, n. subsp., Abyssinia and Shoa; NEUMANN, J. Ornith. 1904, pp. 369-371: *F. subbuteo*, note on; CORBIN, Zoologist 1904, pp. 347 & 348: preying on Bats; GREEN, t. c. pp. 388 & 389: at Kelso; ROBINSON, Ann. Scott. Nat. Hist. 1904, p. 245: *F. fasciinucha*, notes on; NEUMANN, J. Ornith. 1904, pp. 371 & 372: *F. æsalon*, in Berkshire; NOBLE, Zoologist 1904, p. 116: *F. candicans*, in Co. Donegal; HOWARD, Zoologist 1904, p. 115: *F. islandus tanypterus*, in Abyssinia; ERLANGER, J. Ornith. 1904, pp. 212-215: *F. peregrinus leucogenys* in N. Somali Land; id. t. c. p. 215: *F. eleonoræ schistaceus* H. & E. (*F. concolor*, pt. auct.) Arabia and Abyssinia to Mosambique and Madagascar; id. t. c. p. 216, taf. xiv, fig. 1: *F. eleonoræ eleonoræ* from the Mediterranean; id. t. c. pp. 216 & 217, taf. xiv, fig. 2: *F. concolor* from Nubia and S. Somali Land to Dar-es-Salaam; id. t. c. pp. 217-219, taf. xv, figg. 1 & 2: *F. altaicus*, egg figured; DRESSER, Ibis 1904, p. 282, pl. vii, fig. 7.
- Falco tinnunculus*, a pale variety; CORBIN, Zoologist 1904, pp. 143 & 144:

- laying in an artificial nesting-box; WHITAKER, Zoologist 1904, pp. 192 & 193.
- Cerchneis tinnunculus* and its allies; ERLANGER, J. Ornith. 1904, pp. 219-223: *C. t. arthuri*, from Abyssinia and Somali Land; id. t. c. p. 223, taf. xvi: *C. fieldi*, figured; id. t. c. taf. xvii: *C. vespertinus*, figured; HERMAN, Aquila xi, tab. i: *C. vespertinus obscurus*, n. subsp., Tomsk.; TSCHUSI, Ornith. Jahrb. xv, pp. 229 & 230.
- C. unicolor*, n. sp., Western Australia; MILLIGAN, Emu iv, pp. 1 & 2.
- C. sparveria loquacula*, n. subsp., Vieques Is., Porto Rico; RILEY, Smithsonian Collect. xlvii, p. 284.
- Falco vespertinus*, in Glamorganshire; PROGER & PATERSON, Tr. Cardiff Soc. xxxvi, p. 126.
- Erythropus vespertinus*, remarkable nest; RADCLIFFE SAUNDERS, Bull. B. O. C. xiv, p. 42.
- Pandion haliaetus*, approaching extinction as a breeding species in Scotland; HARVIE-BROWN, Ibis 1904, p. 664.

## Order STRIGIFORMES.

- Strigida*, their economic value in N. America; see SURFACE, H. A. (622).
- Asio otus*, nesting on the ground; HOWARD, Zoologist 1904, pp. 259-261: at Esher; DALGLEISH, t. c. p. 265: its prey; GYNGELL, t. c. p. 385: *A. accipitrinus*, breeding near Scarborough; MORLEY, t. c. p. 385: *A. otus abyssinicus (montanus)* (Heugl.) in the highlands of Abyssinia; ERLANGER, J. Ornith. 1904, pp. 231 & 232, taf. xviii.
- Asio abyssinicus*, notes on; NEUMANN, J. Ornith. 1904, p. 374: from Jeffi Dunsu, Abyssinia; GRANT, Ibis 1904, p. 276.
- Ketupa javanensis*, in Assam; COLTART, J. Bombay Soc. xv, p. 719.
- Asio magellanicus mesembrinus*, n. subsp., Costa Rica; OBERHOLSER, P. U. S. Mus. xxvii, pp. 179 & 180: *A. m. melancerus*, n. subsp., Guatemala and Mexico; id. t. c. pp. 180 & 181: *A. m. icelus*, n. subsp., Coast of California; id. t. c. p. 185: *A. m. lagophonus*, n. subsp., Washington to Alaska; id. t. c. pp. 185-187: *A. m. heterocnemis*, n. subsp., Labrador; id. t. c. pp. 187 & 188: *A. m. algistus*, n. subsp., N. W. coast region of Alaska; id. t. c. p. 190.
- Bubo maculosus* and allies, *B. m. cinerascens* and *B. m. milesi*; ERLANGER, J. Ornith. 1904, pp. 227-229.
- Pisorhina scops erlangeri*, n. subsp., Tallah, Tunis; TSCHUSI, Ornith. Jahrb. xv, pp. 101 & 102: *P. scops graeca*, n. subsp., Lamia, Greece; id. t. c. pp. 102 & 103: *P. scops tuneti*, n. subsp., Tunis; id. t. c. pp. 103 & 104: *P. scops cycladum*, n. subsp., Naxos, Melanccs, Greece; id. t. c. p. 104.
- Pisorhina capensis* and its allies, *P. c. ugandæ*, *P. c. leucopsis*, *P. c. icterorhyncha*, and *P. c. scapulata*; ERLANGER, J. Ornith. 1904, pp. 235-237: *P. badia* Reichenow = *P. holerythra*; SHARPE, Ibis 1904, p. 105, figured; id. t. c. pl. ii: *P. balia*, figured; REICHENOW, Vög. Afrikas iii: *P. manadensis tempestatis*, n. subsp., Wetter Is., Moluccas, notes on *P. m. albiventris* and *P. m. manadensis*; id. t. c. pp. 190 & 191.
- Scops cypria*, figured; MADARASZ, Ann. Mus. Hungar. ii, tab. xv.
- Asio leucotis nigrovertex*, n. subsp., Abyssinia; ERLANGER, J. Ornith. 1904, pp. 233 & 234, figured; id. t. c. taf. xix, fig. 1: *A. l. leucotis*, figured; id. t. c. taf. xix, fig. 2.
- Sceloglaux rufifacies*, n. sp., North Island, New Zealand; BULLER, Ibis 1904, p. 639.
- Scotiaptex nebulosa*, at Dedham, Massachusetts; ALLEN, Auk xxi, p. 278.
- Athene noctua* and its allies, *A. n. glaux*, *A. n. plumipes*, *A. n. brama*, *A. n.*

- pulchra*, and *A. n. spilogaster*; ERLANGER, J. Ornith. 1904, pp. 238 & 239.
- Athene noctua*, in Lincolnshire; BLATHWAYT, Zoologist 1904, pp. 74 & 75.
- Carine noctua caucasica*, n. subsp., Caucasus; ZARUDNY & LOUDON, Ornith. Jahrb. xv, p. 56.
- Glaucidium passerinum*, eggs; OLSEN, Ornith. Monber. xii, pp. 60 & 61: *G. perlatum* and its allies, *G. p. capensis* and *G. p. kilimensis*; ERLANGER, J. Ornith. 1904, pp. 239-241: *G. castaneum*, figured; REICHENOW, <sup>4</sup>Vög. Afrikas iii.
- Micropallas whitneyi*, notes on; BROWN, Condor vi, pp. 45-47.
- Strix flammea splendens* and its allies, notes on; ERLANGER, J. Ornith. 1904, pp. 241-244.
- Aluco flammea* and its subspecies; ROTHSCHILD, Bull. B. O. C. xiv, pp. 87-90.
- Strix strictica*, n. sp., Venezuela; MADARASZ, Ann. Mus. Hungar. ii, pp. 115 & 116.

## Order PSITTACIFORMES.

- Cyclopsittacus festetichi* Madarasz = *C. diophthalmus* (H. & J.); ROTHSCHILD & HARTERT, Ann. Mus. Hungar. i, p. 449: *C. purpuratus* Madarasz = *C. edwardsi* Oust. ; iid. t. c. p. 449.
- Psitteuteles weberi*, notes on; SETH-SMITH, Avicult. Mag. (2) ii, pp. 246-250.
- Chrysotis guildingi*, figured; DUTTON, Avicult. Mag. (2) ii, pl. to p. 121.
- Chrysotis caymanensis*, note on; NICOLL, Bull. B. O. C. xiv, p. 94.
- Chrysotis bahamensis*, figured; BONHOTE, Avicult. Mag. (2) ii, pl. to p. 239.
- Poiocephalus flavifrons*, notes on; NEUMANN, J. Ornith. 1904, pp. 375 & 376: *P. f. auranteiceps*, n. subsp., Gelo River, N. E. Africa; id. t. c. p. 376.
- Prioniturus waterstradii*, n. sp., S. Mindanao; ROTHSCHILD, Bull. B. O. C. xiv, pp. 71 & 72.
- Palaeornis columboides*, nesting habits; BOURDILLON, J. Bombay Soc. xv, p. 666.
- Agapornis pullaria*, breeding in confinement; PORTER, Avicult. Mag. (2) ii, pp. 350-352.

## Order CORACIIFORMES.

## Sub-order PODARGI.

- Batrachostomus moniliger*, note on the nesting; BOURDILLON, J. Bombay Soc. xv, p. 663.

## Sub-order CORACIÆ.

- Coracias garrulus*, in Hants; CORBIN, Zoologist 1904, pp. 458 & 459.

## Sub-order HALCYONES.

- Alcedinidæ*, their economic value in N. America; see SURFACE, H. A. (622).
- Alcedo ispida sibirica*, n. subsp., Barnaul, West Siberia; TSCHUSI, Ornith. Jahrb. xv, p. 99.
- Alcedo margelanica*, n. sp., Margelan, Ferghana; MADARASZ, Ann. Mus. Hungar. ii, p. 2.
- Myioceyx ruficeps* from Camaroons; SHARPE, Ibis 1904, p. 607.
- Halcyon bougainvillei*, n. sp., Bougainville Is., N. Solomon group;

ROTHSCHILD, Bull. B. O. C. xiv, pp. 5 & 6 : *H. owstoni*, n. sp., Asuncion Is., N. Mariannes; ROTHSCHILD, Bull. B. O. C. xiv, pp. 6 & 7 : *H. generosa*, n. sp., Ceylon; MADARASZ, Ann. Mus. Hungar. ii, p. 1 : *H. perpulchra*, n. sp., Malacca; id. t. c. pp. 1 & 2 : *H. pileata*, in North Lakhimpur, Upper Assam; STEVENS, J. Bombay Soc. xvi, pp. 154 & 155 : *H. australasia interposita*, n. subsp., S. W. Islands, Moluccas (Moa and Letti); HARTERT, Nov. Zool. xi, pp. 196 & 197 : *H. chloris* and allies; id. t. c. pp. 197-199 : *H. enigma*, n. n., p. 199, Talaut Is. form.

*Tanysiptera*, nomenclature, re *T. dea*; POCHÉ, Ornith. Monber. xii, p. 57; SALVADORI, Ibis 1904, pp. 552-554.

#### Sub-order BUCEROTES.

*Dichoceros bicornis*, notes on; FERGUSSON, J. Bombay Soc. xv, pp. 659 & 660.

*Meniceros bicornis*, nesting habits; OSBORN, J. Bombay Soc. xv, pp. 715 & 716.

*Ortholophus cassini* Finsch = *O. albo cristatus* Cass., *O. finschi*, n. sp., Liberia; SHARPE, Ibis 1904, p. 610.

#### Sub-order UPUPÆ.

*Upupa epops* in Cheshire; OLDHAM, Zoologist 1904, p. 429.

*Scoptelus brunneiceps*, figured; SHARPE, Ibis 1904, pl. xii.

#### Sub-order MEROPES.

*Merops superciliosus donaldsoni*, n. subsp., Bar Madu, Ganana river, Somali Land; OBERHOLSER, P. U. S. Mus. xxvii, pp. 737 & 738 : *M. ornatus*, note on; BERNEY, Emu iv, pp. 45 & 46.

#### Sub-Order TODI.

*Todus todus* is the proper name for the Jamaica Tody; RILEY, Auk xxi, p. 486.

#### Sub-order CAPRIMULGI.

*Nyctibius jamaicensis* in Brazil, observations on habits; GOELDI, Ibis 1904, pp. 513-518.

*Phalaenoptilus nuttalli*, notes on; SWARTH, Cooper Ornith. Club, California, 1904, p. 15.

*Antrostomus vociferus* in Colorado; BURNETT, Auk xxi, pp. 278 & 279.

*Caprimulgus apatelius*, n. sp., Abaya Lake, N. E. Africa; NEUMANN, Ornith. Monber. xii, p. 143 : *C. binotatus* from Camaroons; SHARPE, Ibis 1904, p. 612 : *C. manillensis celebensis* Grant, from Wetter Is.; HARTERT, Nov. Zool. xi, pp. 203 & 204 : *C. nubicus* from Egypt; N. C. ROTHSCHILD, Bull. B. O. C. xiv, p. 91.

#### Sub-order CYPSELI.

*Chaetura stictolæma* from Camaroons; SHARPE, Ibis 1904, p. 612.

*Apus melba tuneti*, n. subsp., Tunis; TSCHUSI, Ornith. Jahrb. xv, pp. 123 & 124 : *A. apus kollibayi*, remarks on; SCLATER, Bull. B. O. C. xv, p. 13.

*Cypselus batesi*, n. sp., Camaroons; SHARPE, Bull. B. O. C. xiv, p. 63 : *C. sladenæ*, n. sp., Fernando Po; GRANT, Bull. B. O. C. xiv, p. 56.

*Micropus pacificus*, in Tasmania; LEGGE, Emu iii, pp. 180 & 181.

## Sub-order TROCHILI.

- Selasphorus platycercus* and *S. rufus*, at 12,600 feet in New Mexico ; BAILEY, Auk xxi, p. 354.  
*Microlyssa* nom. emend pro *Bellona* Muls. and Verr. (nec Reichenb.) ; RILEY, t. c. p. 485.

## Sub-Order COLII.

- Cotius striatus* and its allies ; NEUMANN, J. Ornith. 1904, pp. 403-405.

## Order TROGONES.

- Hapaloderma aequatoriale*, not distinct from *H. narina* ; SHARPE, Ibis 1904, p. 613.  
*Harpactes farciatus* [*fasciatus*], nesting habits ; BOURDILLON, J. Bombay Soc. xv, pp. 663 & 664.

## Order COCCYGES.

## Sub-order MUSOPHAGI.

- Turacus macrorhynchus*, egg described ; SETH-SMITH, Bull. B. O. C. xv, pp. 13 & 14 : nestling described ; id. t. c. pp. 13 & 14 ; PYCRAFT, t. c. p. 14 : breeding in confinement ; JOHNSTONE, Avicult. Mag. (2) iii, pp. 26-29, cum fig. : notes on the pterylosis and structure of the nestling-down ; PYCRAFT, t. c. pp. 55-63, cum tab. figg. 1-4.

## Sub-order CUCULI.

- Cuculidæ*, their economic value in N. America ; see SURFACE, H. A. (622).  
*Cuculus canorus*, habits of ; PAYNE, Zoologist 1904, p. 74 : its mimicry ; SCHENK, Aquila xi, pp. 369-374 ; GEBELI, t. c. pp. 377-379 : note on ; WILSON, Zoologist 1904, pp. 264 & 265 ; ELLISON, t. c. pp. 313 & 314 : near Aberdeen ; WILSON, Zoologist 1904, pp. 384 & 385 : *C. canorus rumenicus*, n. subsp., Roumania and Balkan Peninsula to the Caucasus ; TSCHUSI, Ornith. Jahrb. xv, pp. 121-123 : *C. canorus johanseni* ; TSCHUSI, op. cit. xiv, p. 165 = *C. c. telephonus* Heine ; HARTERT, Ibis 1904, p. 429.  
*Chrysococcyx rufomerus* and allies ; HARTERT, Nov. Zool. xi, pp. 199-201.  
*Coccyzus minor shelleyi*, nom. emend pro *C. dominicæ* Shelley (nec Linn.) ; RILEY, Smithson. Collect. xlvii, p. 285.  
*Urodynamis taitensis*, breeding habits ; FULTON, Tr. N. Zealand Inst. (2) xix, pp. 213-248.  
*Centropus albidiventris*, n. sp., Gizo Is., Solomon Islands ; ROTHSCILD, Bull. B. O. C. xiv, p. 59 : *C. efulenensis*, n. sp., Camaroons ; SHARPE, Ibis 1904, p. 615 : *C. grilli* and *C. thierryi*, notes on ; NEUMANN, J. Ornith. 1904, pp. 390 & 381 : *C. g. cæruleiceps*, n. subsp., Grandjule Lake, N. E. Africa ; id. t. c. pp. 380 & 381.  
*Geococcyx californianus*, habits ; FISHER, Condor vi, p. 80 : in Kansas ; SNOW, Auk xxi, p. 86.

## Order SCANSORES.

## Sub-order INDICATOIRES.

- Prodotiscus reichenowi*, n. sp., Moschi, German E. Africa ; MADARASZ, Ann. Mus. Hungar. ii, p. 206.

## Sub-Order CAPITONES.

- Lybius undatus* and its allies; NEUMANN, J. Ornith. 1904, pp. 387-390.  
*Melanobucco tsanae*, figured; GRANT, Ibis 1904, pl. vi.  
*Barbatula chrysocoma* and its allies; NEUMANN, J. Ornith. 1904, pp. 391 & 392: *B. c. schoana*, n. subsp., Zodgit, Shoa; id. t. c. p. 391: *B. flavisquamata* (Camaroons) distinct from *B. stellata* (Fernando Po); SHARPE, Ibis 1904, p. 618.

## Order PICIFORMES.

## Sub-order GALBULÆ.

- Urogalba paradisea*, notes on nomenclature; POCHE, Ornith. Monber. xii, p. 57.  
*Galbaleyhrhynchus leucotis innotatus*, n. subsp., Rio Juruá, Southern Brazil; IHERING, Revist. Mus. Paulista vi, p. 445.

## Sub-order PICI.

- Colaptes auratus*, abnormal growth of bill; HUNT, Auk xxi, p. 384: breeding habits; STOCKARD, t. c. pp. 467 & 468: *C. auratus luteus*, at Auburn, California; FISHER, Condor vi, p. 172.  
*Dendropicus guineensis lepidus* and its allies; NEUMANN, J. Ornith. 1904, pp. 399-402: *D. guineensis zechi*, n. subsp., Togo Land; id. t. c. p. 400.  
*Melanerpes formicivorus aculeatus*, notes on; SWARTH, Pacific Coast Avifauna, No. 4, 1904, pp. 13 & 14: *M. portoricensis*, abnormal bill; BOWDISH, Auk xxi, pp. 53-55, pl. xi.  
*Centurus carolinus*, nesting habits in Mississippi; STOCKARD, Auk xxi, pp. 466 & 467.  
*Dendrocopus major*, in Roxburghshire; SIMPSON, Ann. Scott. Nat. Hist. 1904, pp. 126 & 127: in the Outer Hebrides; MACKENZIE, t. c. pp. 188 & 189.  
*D. minor morgani*, n. subsp., S. W. Persia; SARUDNY & LOUDON, Ornith. Jahrb. xv, p. 227.  
*Dendrocoptes medius caucasicus*, n. subsp., Caucasus; BIANCHI, Annuaire Mus. St. Petersb. ix, p. 4.  
*Dryobates arizonæ*, notes on; SWARTH, Pacific Coast Avifauna, No. 4, 1904, pp. 11 & 12.  
*Picoides arcticus*, at Wellfleet, Massachusetts; NICHOLS, Auk xxi, p. 81.  
*Dendromus permistus* and its allies; NEUMANN, J. Ornith. 1904, pp. 392-394: *D. p. angolensis*, Angola, *D. p. togoensis*, Togo Land, n. subspp.; id. t. c. pp. 393 & 394: *D. nubicus* and *D. neumanni*, notes on; id. t. c. pp. 394 & 395.  
*Iyngipicus obsoletus* and its allies; NEUMANN, J. Ornith. 1904, pp. 402 & 403: *I. o. nigricans*, n. subsp., Uma River, N. E. Africa; id. t. c. p. 402: *I. o. heuglini*, n. subsp., Bogos Land; id. t. c. pp. 402 & 403.  
*Ceophlæus pileatus*, breeding habits in Mississippi; STOCKARD, Auk xxi, pp. 463-466.  
*Iynx torquilla*, in East Lothian; EVANS, Ann. Scott. Nat. Hist. 1904, p. 244: *I. pectoralis* Vig. = *I. ruficollis* Wagl.; HELLMAYR, J. Ornith. pp. 307 & 308. [Cf. RICHMOND, Auk xviii, p. 179, 1900.]

## Order EURYLÆMIFORMES.

- Serilophus lunatus rothschildi*, figured; HARTERT, in Wytsman's 'Genera Avium.' Part I, 1904.



## Order PASSERIFORMES.

## Family FORMICARIIDÆ.

- Thamnophilus paraguayensis*, n. sp., W. Paraguay; HELLMAYR, Bull. B. O. C. xiv, pp. 53 & 54: *T. juruanus*, n. sp., Rio Juruá, Southern Brazil; IHERING, Revist. Mus. Paulista vi, p. 439.
- Dysithamnus aroyæ*, n. sp., S. E. Peru; HELLMAYR, Bull. B. O. C. xiv, pp. 52 & 53.
- Myrmotherula pyrrhonota amazonica*, n. subsp., Rio Juruá; IHERING, Revist. Mus. Paulista vi, p. 440: *M. brevicauda juruana*, n. subsp., Rio Juruá, Southern Brazil; id. t. c. pp. 440 & 441: *M. garbei*, n. sp., Rio Juruá; id. t. c. p. 441.
- Formicivora orenocensis*, n. sp., Orinoco and Caura Rivers, Venezuela; HELLMAYR, Bull. B. O. C. xiv, p. 54.
- Drymophila juruana*, n. sp., Rio Juruá, Southern Brazil; IHERING, Revist. Mus. Paulista vi, p. 442.
- Phegopsis*, notes on the genus; HELLMAYR, Ornith. Monber. xii, pp. 53-55: *P. paraensis*, n. sp., Pará; id. t. c. p. 55.

## Family DENDROCOLAPTIDÆ.

- Upucerthia baeri*, n. sp., Lara, Tucuman; OUSTALET, Bull. Mus. Paris 1904, pp. 43 & 44.
- Siptornis hilereti*, n. sp., Tucuman; OUSTALET, Bull. Mus. Paris 1904, p. 44: *S. lilloi*, n. sp., Tucuman; id. t. c. pp. 44 & 45.
- Dendroornis ocellata juruana*, n. subsp., Rio Juruá, Southern Brazil; IHERING, Revist. Mus. Paulista vi, pp. 436 & 437.
- Dendrocolaptes juruanus*, n. sp., Rio Juruá, Southern Brazil; IHERING, Revist. Mus. Paulista vi, pp. 437 & 438.
- Dendrocincla*, review of the species; OBERHOLSER, P. Ac. Philad. 1904, pp. 447-463: *D. anabatina typhla*, n. subsp., Yucatan; id. t. c. pp. 452 & 453: *D. enalincia*, n. sp., S. E. Brazil; id. t. c. pp. 454 & 455: *D. ridgwayi*, n. sp., Costa Rica; id. t. c. pp. 458 & 459: *D. meruloides aphantia*, n. subsp., Tobago; id. t. c. pp. 460 & 461: *D. homochroa acedesta*, n. subsp., Panama; id. t. c. pp. 462 & 463.

## Family TYRANNIDÆ.

- Tyrannidæ*, notes on the systematic arrangement; IHERING, Auk xxi, pp. 313-322.
- Copurus funebris* Cab. & Heine, from San Paulo; HELLMAYR, Bull. B. O. C. xiv, p. 61.
- Muscisaxicola morenoi*, n. sp.; BRUCH, Revist. Mus. La Plata xi, p. 256.
- Serphophaga cinerea cana*, n. subsp., Santa Marta, U. S. Colombia; BANGS, P. Soc. Washington xvii, pp. 113 & 114: *S. parambae*, n. sp., Paramba, N. W. Ecuador; HELLMAYR, Bull. B. O. C. xiv, pp. 54 & 55.
- Ornithion pusillum juruanum*, n. subsp., Rio Juruá, Southern Brazil; IHERING, Revist. Mus. Paulista vi, p. 431.
- Todirostrum cinereum finitimum*, n. subsp., Tabasco, Mexico; BANGS, P. Soc. Washington xvii, p. 114.
- Pitangus caymanensis*, n. sp., Grand Cayman Is. W. I.; NICOLL, Ibis 1904, pp. 582 & 583.
- Myiodynastes luteiventris*, notes on; SWARTH, Cooper Ornith. Club, California 1904, pp. 21 & 22.
- Empidonax minimus*, on Grand Cayman Island; NICOLL, Bull. B. O. C. xiv, p. 95: id. Ibis 1904, p. 582: *E. difficilis*, breeding in New Mexico at 11,000 feet; BAILEY, Auk xxi, p. 355.

- Empidonax griseus* Brewst. = *E. canescens* Salvin & Godman; NELSON, Auk xxi, p. 80.
- Contopus virens*, its song; OLDYS, Auk xxi, pp. 270-274.
- Contopus pertinax pallidiventris*, breeds at 8,000 to 10,000 feet; SWARTH, Pacific Coast Avifauna, No. 4, 1904, pp. 24 & 25.
- Myiarchus*, a revision of the North American mainland species; NELSON, P. Soc. Washington xvii, pp. 21-50: *M. lawrencei bangsi*, n. subsp., Boquete, Panama; id. t. c. p. 45: *M. lawrencei querulus*, n. subsp., Michoacan, Mexico; id. t. c. p. 47: *M. lawrencei tresmaria*, n. subsp., Maria Madre Is., Tepic; id. t. c. p. 49: *M. brunneiceps* Lawr. from Panama = *M. nigriceps*; id. t. c. p. 50: *M. oberi nugator*, n. subsp., Dominica and Santa Lucia; RILEY, Smithsonian. Collect. xlvii, pp. 275 & 276: *M. lawrencei olivascens*, notes on; SWARTH, Pacific Coast Avifauna, No. 4, 1904, pp. 22 & 23.
- Tyrannus tyrannus*, in San Miguel Co., New Mexico; BAILEY, Auk xxi, p. 446.

#### Family PITTIDÆ.

- Pitta cyanoptera*, breeding in Upper Burma; EVANS, J. Bombay Soc. xvi, pp. 171 & 172: *P. anerythra pallida*, n. subsp., Bougainville Isl. N. Solomon group; its egg described; ROTHSCCHILD, Bull. B. O. C. xiv, pp. 7 & 8: *P. reichenowi*, from Camaroon; SHARPE, Ibis 1904, p. 621: *P. annamensis*, figured; OUSTALET, Arch. Mus. Paris (4) v, pl. 5 [1903].

#### Family XENICIDÆ.

- Xenicus stokesi* distinct from *X. longipes* and *X. gilviventris*; GRANT, Bull. B. O. C. xv, pp. 15 & 16.

#### Family HIRUNDINIDÆ.

- Cf. RIDGWAY, Birds, North and Middle America, Pt. III, pp. 23-103.
- Chelidonaria urbica* at Wexford, Ireland, on the 10th of November; JOHNSON, Irish Natural. xiii, p. 48.
- Chelidon urbica* at Eastbourne in December; MORRIS, Zoologist 1904, p. 32: breeding in September and observed at Scarborough on December 16th, 1900; GYNGELL, Zoologist 1904, p. 73.
- Chelidon urbica*, not *C. lagopus*, in the Sayan Mts.; SUSHKIN, Bull. B. O. C. xiv, p. 46: *C. dasypus* from Calayan Island, Philippines; MCGREGOR, Bull. Philipp. Mus. No. 4, p. 33.
- Clivicola riparia* from Calayan Isl., Philippines; MCGREGOR, Bull. Philipp. Mus. No. 4, p. 33.
- Hirundo rustica*, distribution in Hungary in 1898; PUNGUR, Aquila xi, pp. 1-249, with two maps; HEGYFOKY, t. c. pp. 250-256: *H. rustica sawitzkii*, n. subsp., Turkestan; LOUDON, Ornith. Jahrb. xv, pp. 54-56: *H. rothschildi*, n. sp., Kaffa, N.E. Africa; NEUMANN, Ornith. Monber. xii, p. 143: *H. albigularis microptera*, n. subsp., N. Angola; HARTERT, Bull. B. O. C. xiv, pp. 73 & 74: *H. striolata* (?) in Calayan Island, Philippine Archipelago, notes on; MCGREGOR, Bull. Philipp. Mus. No. 4, p. 34.
- Lamprochelidon*, n. g., type *L. euchrysea* (Gosse); RIDGWAY, Birds, North & Middle America iii, pp. 100 & 101.
- Stelgidopteryx salvini*, n. sp., S. W. Mexico and Guatemala; RIDGWAY, t. c. pp. 62 & 63.

- Progne subis*, notes on; JACOBS, Pennsylv. Dep. Agric. i, No. 10, pp. 27-30, pls. 1 & 2.  
*Psalidoprocne holomelæna massaica*, n. subsp., Mts. of East Africa; NEUMANN, Ornith. Monber. xii, p. 144: *P. orientalis reichenowi*, n. subsp., Loango Coast; id. t. c. pp. 144; *P. orientalis oleaginea*, n. subsp., Kaffa, N. E. Africa; id. t. c. p. 144: *P. nitens centralis*, n. sp., Ituri River; id. t. c. p. 144.

## Family MUSCICAPIDÆ.

- Alseonax fantisiensis* from Camaroon; SHARPE, Ibis 1904, p. 623.  
*Bradypornis benguellensis*, note on; SHARPE, Ibis 1904, p. 317.  
*Muscicapa atricapilla*, in Dumfriesshire; GLADSTONE, Ann. Scott. Nat. Hist. 1904, p. 188.  
*Pædilorhynchus camerunensis* and *P. stuhlmanni* probably = *P. comitatus*; SHARPE, Ibis 1904, p. 624.  
*Cyornis hyacinthina kühni*, n. subsp., Wetter Isl. Moluccas; HARTERT, Nov. Zool. xi, p. 204.  
*Petræca goodenovi* and *P. ramsayi*, notes on; MILLIGAN, Emu iv, p. 50.  
*Poliomyias luteola* in Eastern Minusinsk; SUSHKIN, Bull. B. O. C. xiv, p. 46.  
*Gerygone everetti* and its allies; HARTERT, Nov. Zool. xi, pp. 204 & 205: *G. kisserensis sequens*, Roma, Isl. Moluccas; id. t. c. p. 205.  
*Hyliota violacea* distinct from *H. flaviventris* (*flavigaster*! auct.); SHARPE, Ibis 1904, p. 625.  
*Cyanoptila cyanomelæna*, eggs figured; DRESSER, Ibis 1904, pl. x, figg. 5 & 6.  
*Tarsiger guttifer* and *T. orientalis*, figured; REICHENOW, Vög. Africas iii.  
*Chloropeta natalensis major*, n. subsp., N. Angola; HARTERT, Bull. B. O. C. xiv, p. 73.  
*Megabias æquatorialis*, n. sp., Uganda; JACKSON, Bull. B. O. C. xv, p. 11.  
*Smithornis capensis albigularis*, n. subsp., N. Angola; HARTERT, Bull. B. O. C. xiv, p. 73.  
*Chelidorhynch hypoxanthum*, probable occurrence at Dibrugarh during the cold season; STEVENS, J. Bombay Soc. xvi, p. 155.  
*Trochocercus reichenowi*, n. sp., Fanti country, W. Africa; SHARPE, Ibis 1904, p. 630.  
*Rhipidura preissi* and *R. albiscapa*, notes on; MILLIGAN, Emu iv, p. 50: *R. rufiventris pallidiceps*, n. subsp., Wetter Isl., Moluccas; HARTERT, Nov. Zool. xi, p. 206: *R. reichenowi* Finsch = *R. elegantula* Sharpe; id. t. c. p. 206: *R. intermedia* North, from N. E. Queensland, notes on; SCLATER, Bull. B. O. C. xiv, p. 8: HARTERT, t. c. p. 10.  
*Terpsiphone paradisi* (figg. 9 & 10), *T. princeps* (figg. 11 & 12), eggs figured; DRESSER, Ibis 1904, pl. x.  
*Cryptolopha erythraea*, n. sp., Bogos Land; SALVADORI, Boll. Mus. Torino xix, No. 464.  
*Monarcha kisserensis* = *M. cinerascens*; HARTERT, Nov. Zool. xi, p. 207.  
*Stoparola panayensis nigriloris*, n. subsp., Mindanao; HARTERT, Bull. B. O. C. xiv, p. 80.

## Family CAMPOPHAGIDÆ.

- Pericrocotus cinereus*, eggs figured; DRESSER, Ibis 1904, pl. x, figg. 13 & 15.

## Family PŪCNONOTIDÆ.

- Hypsipetes fugensis* has a scutellated tarsus, as also *H. amaurotis*, and they probably belong to a different genus; MCGREGOR, Bull. Philipp.

- Mus. No. 4, pp. 31 & 32: *H. amaurotis*, eggs figured; DRESSER, Ibis 1904, p. 282, pl. vii, figg. 6 & 8.
- Iole holti binghami*, notes on; HARTERT, Ibis 1904, p. 543.
- Criniger propinquus*, n. sp., Tonkin; OUSTALET, Arch. Mus. Paris (4) v, pp. 76 & 77 (1903).
- C. verreauxi ndussumensis*, n. subsp., Equatorial Africa; REICHENOW, Vög. Africas iii, p. 383.
- Bleda batesi* Sharpe=*B. indicator*; id. t. c. p. 390: *B. poliocephala*, figured; id. t. c.
- Andropadus insularis somaliensis*, n. subsp., S. Somali-land (Barawa); REICHENOW, J. Ornith. 1904, p. 133: *A. oleagineus* Peters=*A. insularis*; REICHENOW, Vög. Afrikas iii, p. 408: *A. liberiensis*, Reichenow=*A. gracilirostris*; id. t. c. p. 411: *A. poensis* (Alexander), *A. percevali* (Neumann)=*A. gracilirostris*; REICHENOW, t. c. p. 411: *A. marwitzi* Reichenow=*A. zombensis*; id. t. c. p. 413: *A. camaroonensis* Reichenow=*A. curvirostris*; id. t. c. p. 413: *A. montanus*, figured; id. t. c.
- Eurillus efulenensis*, n. sp., Camaroon; SHARPE, Ibis 1904, p. 637.
- Phyllastrephus harterti* (Reichenow) = *P. simplex*; REICHENOW, Vög. Afrikas iii, p. 394: *P. zambesiae* (Shelley) = *P. occidentalis*; id. t. c. p. 397: *P. centralis* (Reichenow) = *P. occidentalis*; id. t. c. p. 397: *P. tenuirostris* (Fischer & Reichenow) = *P. flavostriatus*; id. t. c. p. 399: *P. leucolæma* (Sharpe) = *P. albigularis*; id. t. c. p. 400: *P. capensis suahelicus*, n. subsp., Central East Africa; id. t. c. p. 405: *P. rufescens* Hartlaub, *P. sharpei* Shelley and *P. pauper* Sharpe = *P. strepitans*; REICHENOW, t. c. p. 405: *P. chlorigula*, figured; id. t. c.
- Pycnonotus viridoscentior*, n. sp., Camaroon; SHARPE, Ibis 1904, p. 638: *P. leucotis*, eggs figured; DRESSER, Ibis 1904, p. 281, pl. vii, figg. 4 & 5.

#### Family TIMELIIDÆ.

- Chatops kilimensis*, n. sp., Moschi, German E. Africa; MADARASZ, Ann. Mus. Hungar. ii, p. 204.
- Cinclosoma punctatum*, notes on the species in captivity; PHILLIPPS, Avicult. Mag. (2) ii, pp. 149-160.
- Trochalopteron holerythroptus*, n. sp., Mt. Victoria, S. Chin Hills; RIPPON, Bull. B. O. C. xiv, p. 83: *T. ramsayi*, n. sp., Karennee; GRANT, Bull. B. O. C. xiv, pp. 92 & 93.
- Argya squamiceps yemensis*, n. subsp., Yemen, S. Arabia; NEUMANN, Ornith. Monber. xii, pp. 29 & 30.
- Dryonastes maesi* (fig. 1) and *D. lugens* (fig. 2), figured; OUSTALET, Arch. Mus. Paris (4) v, pl. vi.
- Crateropus*, review of the genus; NEUMANN, J. Ornith. 1904, pp. 548-555: *C. buatoni* Sharpe = *C. cinereus* Heugl.; id. t. c. p. 548: *C. plebeius emini*, n. subsp., German East Africa; id. t. c. p. 549: *C. leucocephalus abyssinicus*, N. and C. Abyssinia; id. t. c. p. 550: *C. platycercus togoensis*, n. subsp., Togo Land; id. t. c. p. 551.
- Cincloramphus cruralis*, note on; BERNEX, Emu iv, p. 44.
- Pseudotharrhaleus unicolor*, n. sp., Mindanao; HARTERT, Bull. B. O. C. xiv, p. 74.
- Turdinus pumilus*, n. sp., Bipindi, Camaroons; REICHENOW, Ornith. Monber. xii, p. 28.
- Bathmedonia*, nom. emend. pro *Bathmocercus* Reichenow (nec Fitz.); REICHENOW, J. Ornith. 1904, p. 134.
- Stachyris binghami*, n. sp., Mt. Victoria, S. Chin Hills; RIPPON, Bull. B. O. C. xiv, p. 84.
- Pterythius ricketti*, n. sp., S. China; GRANT, Bull. B. O. C. xiv, p. 92.

## Family PANURIDÆ.

*Panurus biarmicus*, figured; HERMAN, Aquila xi, tab. iii: *P. biarmicus occidentalis*, n. subsp., S. France, Spain, Italy; TSCHUSI, Ornith. Jahrb. xv, p. 228.

## Family TROGLODYTIDÆ.

Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 473-674.

*Heleodytes brunneicapillus*, in Lower California; SWARTH, Condor vi, pp. 17-19: unusual nesting site; DAGGETT, t. c. p. 24.

*Thryothorus consobrinus*, n. sp., Venezuela; MADARASZ, Ann. Mus. Hungar. ii, p. 115; *T. genibarbis juruanus*, n. subsp., Rio Juruá, Southern Brazil; IHERING, Revist. Mus. Paulista vi, p. 431.

*Telmatodytes palustris thryophilus* is of Oberholser, not of Ridgway, as stated in Zool. Rec. xi, Aves, p. 57.

*Troglodytes musculus acosmus*, n. subsp., Central Chile; OBERHOLSER, P. U. S. Mus. xxvii, p. 204: *T. m. atopus*, n. subsp., Santa Marta region, Colombia; id. t. c. p. 207: *T. m. enochus*, n. subsp., Coast region of Central Peru; id. t. c. pp. 207 & 208.

*Thryorchilus*, n. g. type *T. browni* (Bangs); id. t. c. p. 198.

*Urocichla oatesi*, n. sp., Mt. Victoria, S. Chin Hills; RIPPON, Bull. B. O. C. xiv, p. 83.

*Salpinctes obsoletus*, breeding habits; RAY, Auk xxi, pp. 440-442, pl. xxviii, fig. 1.

## Family CINCLIDÆ.

Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 675-682.

*Cinclus cinclus bianchii*, n. subsp., Sayan Mts. (89°-94° E. long.), *C. c. middendorffi*, n. subsp., C. Sayan Mts.; SUSHKIN, Bull. B. O. C. xiv, p. 43: *C. baicalensis*, in the Sayan Mts.; id. t. c. p. 44: *C. cinclus sardus*, n. subsp., Sardinia; HARTERT, Bull. B. O. C. xiv, p. 51.

## Family MIMIDÆ.

*Nesomimus bauri*, note on; BECK, Condor vi, pp. 5 & 6, cum fig. :

*Harporhynchus curvirostris* and *H. curvirostris palmeri*, notes on the eggs; CLARK, Auk xxi, pp. 214-217, pl. xviii, figg. 1 & 2.

*Toxostoma lecontei*, notes on; GILMAN, Condor vi, pp. 95-98.

*Myiadestes townsendii*, note on; BAILEY, Auk xxi, pp. 362 & 363.

## Family TURDIDÆ.

*Geocichla gurneyi otomitra*, n. subsp., Konde Land; REICHENOW, Ornith. Monber. xii, p. 95.

*Geocichla peronii audacis* distinct from *G. peronii*; HARTERT, Nov. Zool. xi, pp. 208 & 209: *G. cyanonota*, notes on the species in confinement; PHILLIPPS, Avicult. Mag. (2) ii, pp. 179-188 cum tab.

*Turdus cabanisi* from Deelfontein, W. Cape Colony; SHARPE, Ibis 1904, p. 320: *T. viscivorus*, its nesting; TERNIER, Ornith. xii, No. 4, pp. 571 & 572: *T. ruficollis* and *T. atrigularis*, in the Sayan Mts.; SUSHKIN, Bull. B. O. C. xiv, p. 46: *T. alpestris*, in the Hartz Mts.; BERGE, Ornith. Monber. xii, pp. 160-162: *T. musicus* and *T. iliacus*, nomenclature; SALVADORI, Ibis 1904, pp. 551 & 552: ANON. t. c. pp. 665-667: *T. nyikæ*, Nyika Highlands, Nyasa Land; REICHENOW, Ornith. Monber. xii, p. 95.

*Hyllocichla guttata pallasii*, in Eastern Massachusetts in winter; BLAKE, Auk xxi, p. 283

- Petrophila gularis*, in Burma; MACDONALD, J. Bombay Soc. xv, p. 727.  
*Accentor*, with six species and subspecies; BIANCHI, *Annuaire Mus. St. Petersb.* ix, pp. 12-21, 49.
- A. collaris tibetanus*, n. subsp., E. Tibet; id. t. c. p. 21.
- Spermolegus*, with five species; id. t. c. pp. 21-37, 49.
- Prunella* Vieill. 1816 vice *Tharrhaleus* Kaup 1829, 6 species; id. t. c. pp. 37-47, 49.
- Aprunella*, n. gen. type *A. immaculata* (Hodgs.); id. t. c. pp. 47-49: *A. collaris reiseri*, remarks on; SCLATER, Bull. B. O. C. xv, p. 13: *A. modularis blanfordi*, n. subsp., S. W. Persia; SARUDNY, Ornith. Monber. xii, pp. 164 & 165.
- Chimarrhornis leucocephalus*, eggs figured; DRESSER, Ibis 1904, p. 281, pl. vii, figg. 1 & 3.
- Cyanecula suecica*, near London; CHUBB, Zoologist 1904, pp. 262 & 263: *C. wolfi*, note on; NICOLL, t. c. p. 263: at Scarborough; NELSON, t. c. p. 31: *C. wolfi magna*, n. subsp., S. W. Persia; SARUDNY & LOUDON, Ornith. Jahrb. xv, p. 225.
- Hodgsonius phanicuroides*, eggs figured; DRESSER, Ibis 1904, pl. iii, fig. 2.
- Calliope calliope*, in the Philippines; MCGREGOR, Bull. Philipp. Mus., No. 4, p. 31.
- Luscinia luscinia* (L.) and *L. minor* (L.), notes on synonymy; REICHENOW, Ornith. Monber. xii, pp. 1 & 2: KLEINSCHMIDT, t. c. pp. 42-46: habits; HELMS, t. c. pp. 58-60.
- Aëdon luscinia*, in Sicily; MARINUZZI, *Avicula* viii, pp. 17-20.
- Ruticilla semenowi*, n. sp., Orenburg district; SARUDNY, Ornith. Jahrb. xv, pp. 213 & 214: *R. titys*, in Moray; MUIRHEAD, Ann. Scott. Nat. Hist. 1904, p. 55.
- Erythacus* [*Phanicurus*] *titys*, and *E. phanicurus*, notes on; REICHENOW, Ornith. Monber. xii, pp. 2 & 3; *E. algeriensis*, n. sp., Algeria, *E. moussieri*, nestling described; KLEINSCHMIDT, Ornith. Monber. xii, p. 197.
- Erythacus*, notes on the Robins of Madeira and the Azores; NICOLL, Ibis 1904, pp. 555 & 591: *E. rubecula*, nesting in a tree; ELLISON, Zoologist 1904, pp. 190, 191, & 312; BENTHAM, t. c. p. 263: *E. cairii*, notes on; BAU, Ornith. Monber. xii, pp. 4-6: GENGLER, t. c. pp. 21 & 22: BERLEPSCH, t. c. p. 36: KLEINSCHMIDT, t. c. pp. 55 & 56: *E. gaetkei*, n. form, Norway (Heligoland, migration); notes on *E. suecicus* and allies; KLEINSCHMIDT, J. Ornith. 1904, pp. 302-306.
- Erythropygia plebeia*, n. sp., Masinde, E. Africa; REICHENOW, Ornith. Monber. xii, pp. 27 & 28: *E. brunneiceps soror*, n. subsp., Little Arusha Land, E. Africa; REICHENOW, Ornith. Monber. xii, p. 95: *E. harilaubi* and *E. vulpina*, figured; REICHENOW, Vög. Afrikas iii.
- Alethe poliothorax*, figured; REICHENOW, Vög. Afrikas iii, tab.
- Pratincola rubetra dalmatica*, notes on; KOLLIBAY, J. Ornith. 1904, pp. 100 & 101: *P. daeotiae*, nest and eggs from Fuerteventura Is.; HARTERT, Bull. B. O. C. xiv, p. 79.
- Myrmecocichla melanura* from the Egyptian Soudan; N. C. ROTHSCHILD, Bull. B. O. C. xiv, p. 91.
- Potiocichla pollux* and its allies, *P. cinerea* and *P. schlegeli*; SHARPE, Ibis 1904, pp. 324 & 325.
- Saxicola gaddi*, n. sp., S.W. Persia; SARUDNY & LOUDON, Ornith. Jahrb. xv, pp. 219 & 220: *S. amphileuca* and *S. melanoleuca*, notes on; KOLLIBAY, J. Ornith. 1904, pp. 80-121: *S. hellmayri*, *S. lübberti*, and *S. falckensteini*, notes on; SHARPE, Ibis 1904, p. 327: *S. monticola*, description of plumages; id. t. c. pp. 327-334: *S. equatorialis* and allies; id. t. c. pp. 333 & 334: *S. stapazina* and *S. occidentalis*, their synonymy; SALVADORI, Ibis 1904, pp. 75-78: *S. oenanthe*, in the Philippine Islands [Calayan, Oct. 24]; MCGREGOR, Bull. Philipp.

- Mus., No. 4, p. 27 : *S. galtoni omoensis*, n. subsp., Omo River, N. E. Africa; NEUMANN, Ornith. Monber. xii, p. 163.  
*Sialia sialis*, unusual nesting-site; BRYANT, Auk xxi, pp. 390 & 391 : *S. arctica*, breeding in New Mexico at 10,300 feet; BAILEY, t. c. p. 363.  
*Calamocichla schillingsi*, n. sp., Pangani district; REICHENOW, Ornith. Monber. xii, p. 95.

## Family SYLVIIDÆ.

- Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 691-736.  
*Locustella luscinioides*, breeding in the Rhine Provinces; GEYR VON SCHWEPENBURG, Ornith. Monber. xii, pp. 145-147.  
*Calamoherpe dumetorum* and *C. arundinacea*, nesting habits; RASPAIL, Bull. Soc. zool. France xxix, pp. 63-70, text-figg. 1-5.  
*Acrocephalus palustris*, in Oxfordshire; FOWLER, Zoologist 1904, pp. 346 & 347. *A. aquaticus* in Norfolk. Cf. Nature, vol. lxx, p. 631.  
*Tatara vaughani*, described and figured; NICOLL, Ibis 1904, pp. 55 & 56, pl. i.  
*Luscinola ædon*, eggs figured; DRESSER, t. c. pl. x, figg. 1 & 2.  
*Arundinax ædon*, in Western Minusinsk; SUSHKIN, Bull. B. O. C. xiv, p. 46.  
*Cisticola katonæ*, n. sp., Boma-Gombe, German E. Africa; MADARASZ, Ann. Mus. Hungar. ii, p. 204 : *C. pictipennis*, n. sp., Moschi; id. t. c. p. 205.  
*C. cinnamomea*, n. sp., Uhehe, German E. Africa; REICHENOW, Ornith. Monber. xi, p. 28 : *C. sylvia*, n. sp., Lake district, Equatorial Africa; id. t. c. p. 28 : *C. humilis*, n. sp., Lettema Mts., E. Africa; MADARASZ, t. c. p. 168 : *C. erythrogenys djamdjamensis*, n. subsp., Djam-djam Mts. N. E. Africa; NEUMANN, t. c. pp. 163 : *C. blanfordi sobatensis*, n. subsp., Sobat River; id. t. c. p. 164 : *C. cisticola fuscicapilla*, distinct from *C. cisticola*; HARTERT, Nov. Zool. xi, p. 209.  
*Prinia gracilis delta*, n. subsp., Nile Delta; REICHENOW, J. Ornith. 1904, p. 307.  
*Spiloptila reichenowi*, n. sp., Lettema Mts., German East Africa; MADARASZ, Ornith. Monber. xii, p. 179.  
*Bradypterus castaneus*, figured; REICHENOW, Vög. Afrikas iii.  
*Hypolais olivetorum*, breeding in Dalmatia; KOLLIBAY, J. Ornith. 1904, pp. 107-112.  
*Sylvia semenowi*, n. sp., Persia; SARUDNY, Ornith. Jahrb. xv, pp. 220 & 221 : *S. curruca halimodendri*, n. subsp., Middle Kirghis Steppes [Lower Irghis and Turgai Rivers, 52°-65° E. long.]: *S. curruca* and *S. affinis*, notes on; SUSHKIN, Bull. B. O. C. xiv, pp. 42 & 43 : *S. curruca*, early nesting in Surrey; BUNYARD, Zoologist 1904, p. 227 : CUMMINGS, t. c. p. 264 : *S. orphea jerdoni*, in Dalmatia; KOLLIBAY, J. Ornith. 1904, pp. 115-117.  
*Herbivocula schwarzi*, in Western Minusinsk; SUSHKIN, Bull. B. O. C. xiv, p. 46 : *H. fuscata*, in Yenesei; id. t. c. p. 46.  
*Phylloscopus humei*, in the Sayan Mts.; SUSHKIN, Bull. B. O. C. xiv, p. 46 : *P. viridanus*, on the northern slope of the Sayan Mts., *P. plumbeitarsus*, on the southern slope and in Mongolia; SUSHKIN, t. c. p. 46 : *P. tristis axillaris*, n. subsp., C. Yenesei (55° N. lat.); id. t. c. p. 44 : *P. rufus fortunatus*, on Lanzarote Island; HARTERT, t. c. p. 51 : *P. viridanus*, in the Baltic Provinces; OTTO, Ornith. Monber. xii, pp. 73-78 : *P. fortunatus*, its note; NICOLL, Ibis 1904, p. 556.  
*Acanthopneuste borealis* (Blasius) is the proper name for the North American Willow Warbler; OBERHOLSER, Auk xxi, p. 390.  
*Regulus* belongs to the *Sylviidæ*; cf. RIDGWAY, Birds, North and Middle America iii, pp. 698-710.

- Acanthiza ewingi* Gould, *A. diemensis*, and *A. mastersi*, synonymy; SCLATER, Bull. B. O. C. xv, p. 9: *A. ewingi* and *A. robustirostris*, eggs described; CAMPBELL, Emu iii, p. 237: in Tasmania; LEGGE, t. c. pp. 179 & 180.
- Apalis ruwenzorii*, n. sp., Ruwenzori; JACKSON, Bull. B. O. C. xv, p. 11: *A. murina*, n. sp., Roruma District, E. Africa; REICHENOW, Ornith. Monber. xii, p. 28.
- Euprinodes leucogaster*, n. sp., Fernando Po; SHARPE, Bull. B. O. C. xiv, p. 94.
- Eremomela damarensis*, n. sp., Damara Land; SHARPE, Ibis 1904, p. 339: *E. polioaxantha*, from Mashona Land and Nyasa Land; id. t. c. p. 340.
- Parmoptila ansorgei*, n. sp., N. Angola; HARTERT, Bull. B. O. C. xiv, pp. 72 & 73.
- Pholidornis bedfordi*, n. sp., Fernando Po; GRANT, t. c. p. 56.
- Cettia cetti*, in Sussex; NICOLL, Bull. B. O. C. xiv, p. 84.
- Malurus superbus* (Shaw) = *M. cyaneus* (Ellis), *M. australis*, nom. novum pro *M. superbus*, auct. (nee Shaw); NORTH, Ibis 1904, p. 672: *M. assimilis* North, notes on; SCLATER, Bull. B. O. C. xiv, p. 9: HARTERT, t. c. p. 10: *M. leucopterus* and *M. leuconotus*, notes on; MILLIGAN, Emu iv, p. 52.
- Amytornis*, notes on the species; KEARTLAND, Victorian Natural. xx, pp. 133-139.

#### Family VIREONIDÆ.

- Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 128-232.
- Vireosylva gilva brewsteri*, n. subsp., N. W. Mexico; RIDGWAY, Birds, North and Middle America iii, p. 158: *V. josephæ costaricensis*, n. subsp., Highlands of Costa Rica; id. t. c. pp. 159 & 160.
- Vireo huttoni mexicanus*, n. subsp., Southern Mexico and Guatemala; RIDGWAY, t. c. pp. 186 & 197: *V. huttoni cognatus*, n. subsp., Lower California; id. t. c. p. 199: *V. belli arizonæ*, n. subsp., Arizona, N. W. Mexico and Western Texas; id. t. c. pp. 207 & 208: *V. lauræ*, n. sp., Grenada, W. I.; NICOLL, Bull. B. O. C. xiv, p. 95, figured; id. Ibis 1904, pl. xi, fig. 2: *V. caymanensis*, note on; id. Bull. B. O. C. xiv, p. 94: *V. philadelphicus*, note on the nesting; CLAIRE, Auk xxi, p. 282: YOUNG, t. c. p. 283.
- Pachysylvia ochraceiceps pallidipectus*, n. subsp., Southern Honduras and Costa Rica; RIDGWAY, Birds, North and Middle America iii, pp. 219 & 220.
- Vireolanus pulchellus viridiceps*, n. subsp., Panama; RIDGWAY, t. c. p. 224.

#### Family AMPELIDÆ.

- Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 103-112.
- Ampelis garrulus*, note on; EVANS, Ann. Scott. Nat. Hist. 1904, p. 54: late stay in Inverness-shire; MARSHALL, t. c. p. 188: in Lincolnshire; BLATHWAYT, Zoologist 1904, pp. 74 & 75: in East Anglia; TUCK, t. c. p. 115: in North of Ireland; PATTERSON, t. c. p. 31: in Germany; LINDNER, Ornith. Monber. xii, p. 96: in Brunswick; R. BLASIUS, t. c. p. 8: near Montbéliard; BERNARD, Ornith. xii, No. 4, pp. 565-567: in S. E. France; FRAISSE, t. c. p. 569: in Piedmont; SALVADORI, Avicula viii, p. 28: notes on; MARTORELLI, t. c. pp. 42-47 cum fig.

#### Family DULIDÆ.

- Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 125-127.



## Family PTILOGONATIDÆ.

Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 113-125.

## Family PRIONOPIDÆ.

*Pitohui dichrous monticola*, n. subsp., British New Guinea; HARTERT, Bull. B. O. C. xiv, p. 79.

## Family LANIIDÆ.

Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 232-252.

*Gymnorhina longirostris* and *G. dorsalis*, remarks on; DEGEN, Emu iii, pp. 201-207: *G. dorsalis*, notes on; MILLIGAN, Emu iii, pp. 177-179, pl. x.

*Lanius excubitor*, in the Forth; HARVIE-BROWN, Ann. Scott. Nat. Hist. 1904, p. 244: in Lancashire; GRAVES, Zoologist 1904, p. 115: in Cheshire; GRAVES, t. c. p. 31: *L. ludovicianus mearnsi*, n. subsp., Lower California; RIDGWAY, Birds, North and Middle America iii, p. 252: *L. vittatus*, eggs figured; DRESSER, Ibis 1904, pl. x, figg. 7 & 8: *L. collaris*, breeding in captivity; GÜNTHER, Avicult. Mag. (2) ii, pp. 339-346.

*Laniarius ambiguus*, n. sp., Kiboscho, German E. Africa; MADARASZ, Ann. Mus. Hungar. ii, p. 205.

*Chlorophoneus miniatus*, n. sp., Kiboscho, German E. Africa; id. t. c. ii, p. 205.

*Pachycephala par*, n. sp., S. W. Islands, Moluccas (Roma Is.); HARTERT, Nov. Zool. xi, p. 211: *P. par compar*, n. subsp., S. W. Islands (Letti, Moa); id. t. c. p. 212: *P. howensis*, n. sp., Lord Howe Is.; NORTH, Rec. Austral. Mus. v, pp. 125 & 126: = *P. contempta*; HARTERT, Bull. B. O. C. xv, p. 10: *P. gutturalis* and *P. occidentalis*, notes on; NORTH, t. c. p. 9; HARTERT, t. c. p. 10: *P. occidentalis* and allies, notes on; MILLIGAN, Emu iv, pp. 48-50.

*Hyloterpe fallax*, n. sp., Calayan Is., Babuyan, Philippine Archipelago; MCGREGOR, Bull. Philipp. Mus., No. 4, p. 27, pl. v, fig. 2, *H. albiventris* (pl. v, fig. 1), and *H. philippinensis* (pl. v, fig. 2), figured; id. t. c. pl. v.

*Eulacostoma nigropectus*, figured; SCLATER, Ibis 1904, pp. 373-375, pl. ix.

*Eopsaltria nana*, Ramsay, notes on; SCLATER, Bull. B. O. C. xiv, p. 9: HARTERT, t. c. p. 10.

## Family PARIDÆ.

Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 375-436.

*Pœcile cincta sayana*, n. subsp., W. Sayan Mts. Altai; SUSHKIN, Bull. B. O. C. xiv, p. 44.

*Parus major*, in Caithness; SOUTHERLAND, Ann. Scott. Nat. Hist. 1904, p. 188.

*Parus cyaneus*, *P. cœruleus* and allied species, notes on; GROTE, Ornith. Monber. xii, pp. 175-177: *P. cœruleus languidus*, nom. emend. pro *P. c. pallidus* Grote (nec Brehm); GROTE, J. Ornith. 1904, p. 307: *P. montanus kleinschmidti*, egg; HARTERT, Bull. B. O. C. xiv, p. 79: *P. atricapillus turneri*, note on; OSGOOD, North Amer. Fauna, No. 24, p. 80: *P. rufescens*, notes on the distribution; GRINNELL, Auk xxi, pp. 364-382, maps i-iii.

*Bœolophus atricristatus sennetti*, n. subsp., Texas; RIDGWAY, Birds, North and Middle Amer. iii, pp. 386 & 387: *B. inornatus restrictus*, n. subsp.,

- Oakland, California; id. t. c. p. 389: *B. inornatus murinus*, n. subsp., Southern California; id. t. c. pp. 389 & 390.
- Pentheres afer* (Gm.) distinct from *P. cinerascens* (V.), *P. intermedius* (Shelley) = *P. cinerascens*; SHARPE, Ibis 1904, p. 343.
- Cyanistes tianschanicus* in Chitral; FULTON, J. Bombay Soc. xvi, p. 47.
- Ægithaliscus sharpei*, n. sp., Mt. Victoria, S. Chin Hills; RIPPON, Bull. B. O. C. xiv, p. 84.
- Psaltriparus minimus saturatus*, n. subsp., Puget Sound; RIDGWAY, Birds, N. & M. Amer. iii, pp. 434 & 435.
- Acredula tephronota passekii*, n. subsp., S. W. Persia; SARUDNY, Ornith. Monber. xii, p. 164.
- Acredula rosea* in the Outer Hebrides; MACKENZIE, Ann. Scott. Nat. Hist. 1904, p. 188.
- Remiza yeniseensis*, n. sp., Upper Yenesei River, near Sayan; SUSHKIN, Bull. B. O. C. xiv, pp. 44 & 45: *R. pendulina centralasiæ*, n. subsp. [*R. stoliczkæ* Pleske, nec Hume], Central Asia; id. t. c. p. 45: *R. p. javartensis*, n. subsp., Turkestan; id. t. c. p. 45.
- Anthoscopus sylviella*, n. sp., Usegua; REICHENOW, Ornith. Monber. xii, p. 27: *A. minutus* (fig. 1) and *A. smithi* (fig. 2), figured; SHARPE, Ibis 1904, pl. viii.
- Aphelocephala nigricincta* North, notes on; NORTH, Bull. B. O. C. xv, p. 9; HARTERT, t. c. p. 10.

#### Family CHAMÆIDÆ.

Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 683-691.

#### Family REGULIDÆ.

- Regulus* belongs to the *Sylviidæ*.
- Cf. RIDGWAY, Birds, North and Middle Amer. iii, pp. 698-710.
- Regulus cristatus coatsi*, n. subsp., Subalpine zone of Sayan Mts.; SUSHKIN, Bull. B. O. C. xiv, p. 44.
- Regulus satrapa olivaceus* nesting in Western Washington; BOWLES, Condor vi, pp. 163-165: *R. calendula* in Lat. 53° 24' N., Long. 30° 15' W.; PATERSON, Ann. Scott. Nat. Hist. 1904, p. 55: nesting habits; SILLOWAY, Condor vi, p. 14: *R. c. cineraceus*, n. subsp., Los Angeles County, California; GRINNELL, t. c. p. 25.

#### Family SITTIDÆ.

- Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 436-459.
- Sitta tschitscherini*, n. sp., Ispahan, Persia; SARUDNY, Ornith. Jahrb. xv, pp. 218 & 219: *S. victorie*, n. sp., Mt. Victoria, S. Chin Hills; RIPPON, Bull. B. O. C. xiv, p. 84: *S. bifasciata*, n. sp., Krasnoyarsk, C. Siberia; MADARASZ, Ornith. Monber. xii, pp. 183 & 184: *S. caesia*, unusual nesting place; JOURDAIN, Zoologist 1904, p. 384.

#### Family CERTHIIDÆ.

- Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 459-473.
- Certhia brachydactyla dorothea*, n. subsp., Cyprus; HARTERT, Bull. B. O. C. xiv, pp. 50 & 51: remarks on the genus *Certhia*; id. t. c. p. 51.
- Climacteris scandens* in Tasmania; LEGGE, Emu iii, p. 181: *C. weiskei* and allied species, notes on; SCLATER, Bull. B. O. C. xv, pp. 9 & 10: HARTERT, t. c. p. 10.

## Family ZOSTEROPIDÆ.

*Zosterops omoensis*, n. sp., Omo River, N. E. Africa; NEUMANN, Ornith. Monber. xii, p. 162: *Z. luteirostris*, n. sp., Gizo Isl., Solomon Islands; HARTERT, Bull. B. O. C. xiv, p. 61: *Z. toroensis*, n. sp., Toro; REICHENOW, J. Ornith. 1904, p. 133: *Z. niassæ*, n. sp., N. Nyasa Land; id. t. c. p. 133: *Z. flavissima* (nec Hartert), n. sp., Cagayancillo Isl., Paragua Province, Philippine Archipelago; MCGREGOR, Bull. Philipp. Mus. No. 4, p. 26 [*Z. richmondi* nom. emend.; MCGREGOR, P. Soc. Washington xvii, p. 165]: *Z. senegalensis* and its allies; NEUMANN, Ornith. Monber. xii, pp. 109-114: *Z. toroensis* Reichenow = *Z. stuhlmanni* Reichenow, juv.; id. t. c. p. 112: *Z. jubaensis* Erlanger, probably = *Z. smithi* Neum.; id. t. c. p. 113: *Z. anderssoni* Shelley, from Mashona Land? = *Z. stierlingi* Reichenow, from Uhehe; id. t. c. p. 113: *Z. virens* and its allies; id. t. c. pp. 115-118: *Z. kikuyuensis*, n. sp., Kikuyu to Kenia; id. t. c. p. 117: *Z. kaffensis*, n. sp., Kaffa; id. t. c. p. 117: *Z. schoana*, n. sp., Shoa to Upper Blue Nile (Abai); id. t. c. p. 117: *Z. consobrinorum*, n. sp., Laloumera, South-east Celebes; MEYER, Notes Leyden Mus. xxiv, pp. 232-235: *Z. lettiensis* and its allies; HARTERT, Nov. Zool. xi, p. 213: *Z. bassetti* from Roma Isl., Moluccas; id. t. c. p. 214.

## Family DICÆIDÆ.

*Dicæum nigrilore*, n. sp., Mt. Apo, S. Mindanao; HARTERT, Bull. B. O. C. xiv, p. 8: *D. apo*, Mindanao, *D. bongas*, Samar, n. spp.; HARTERT, Bull. B. O. C. xiv, pp. 79 & 80.  
*Eafa* allied to *Rhamphocaris*; SALVADORI, Ibis 1904, p. 473.

## Family NECTARINIDÆ.

*Æthopyga victoria*, n. sp., Mt. Victoria, S. Chin Hills; RIPPON, Bull. B. O. C. xiv, p. 83.  
*Cinnyris mariguensis ovamboensis*, n. subsp., Ovampo Land; REICHENOW, J. Ornith. 1904, p. 133: *C. solaris exquisita*, n. subsp., Wetter Isl., Moluccas; HARTERT, Nov. Zool. xi, p. 214: *C. s. degener*, n. subsp., Flores, Lomblen, Alor Isl.; id. t. c. p. 214: *C. habessinica hellmayri*, n. subsp., Hadramaut, S. Arabia; NEUMANN, Ornith. Monber. xii, p. 29.  
*Cyanomitra alina*, n. sp., Ruwenzori Mts.; JACKSON, Bull. B. O. C. xiv, p. 94.

## Family MELIPHAGIDÆ.

*Meliphreptus carpentariana*, n. sp., North Queensland; CAMPBELL, Emu iv, pp. 70 & 71: *M. leucogenys* Milligan, notes on; SCLATER, Bull. B. O. C. xv, p. 9: ? = *M. brevirostris*; HARTERT, t. c. p. 10: *M. brevirostris*, figured; CAMPBELL, Emu iii, pl. xvi, fig. 2.  
*Ptilotis novæ-norciæ*, n. sp., Wongan Hills, Western Australia; MILLIGAN, Emu iii, p. 226: *P. carteri*, figured; CAMPBELL, Emu iii, pl. xvi, fig. 1: *P. leilavalensis* vel *P. carteri*, notes on; MILLIGAN, Emu iv, pp. 51 & 52.  
*Acanthochera mellivora* and *A. lunulata*, notes on; id. t. c. p. 51.  
*Philemon cineraceus* (Bp.), notes on; HARTERT, Nov. Zool. xi, p. 216.  
*Eafa* belongs to the *Dicæidæ*; SALVADORI, Ibis 1904, p. 473.

## Family MNIOTILTIDÆ.

- Helminthophila lawrencei* breeding in New York City; BEEBE, Auk xxi, pp. 387 & 388: *H. virginia*, notes on; SWARTH, Cooper Ornith. Club, California 1904, pp. 50-52: *H. celata lutescens*, notes on; FINLEY, Condor vi, pp. 131-133.
- Dendroica crawfordi*, n. sp., Little Cayman Isl., W. I.; NICOLL, Bull. B. O. C. xiv, p. 95, fig.: id. Ibis 1904, pl. xi, fig. 1: *D. dominica* in Montserrat, W. I.; NICOLL, Ibis 1904, p. 571.
- Dendroica kirtlandi*, migration route; ADAMS, Bull. Michigan Ornith. Club v, pp. 14-21; breeding area; WOOD, t. c. pp. 3-13: breeding in Northern Michigan; ARNOLD, Auk xxi, pp. 487 & 488: in Georgia; HELME, t. c. p. 291: *D. townsendi*, nesting habits; SILLOWAY, Condor vi, pp. 12 & 13: *D. virens* in Kansas; SNOW, Auk xxi, p. 86: *D. tigrina* feeding on grapes; MCATEE, t. c. pp. 489-491: *D. subita*, n. sp., Barbuda; RILEY, Smithson. Collect. xlvii, pp. 289 & 290: *D. nigrescens*, notes on; FINLEY, Condor vi, pp. 31-35 cum tab.: *D. auduboni nigrifrons*, notes on; SWARTH, Cooper Ornith. Club, California 1904, pp. 54 & 55.
- Seiurus noveboracensis notabilis*, note on; MCATEE, Auk xxi, pp. 488 & 489.
- Geothlypis trichas arizela*, notes on; FINLEY, Condor vi, pp. 31-35 cum figg.: unusual nesting sites; JOHNSON, t. c. pp. 129-131.
- Setophaga picta*, notes on; SWARTH, Cooper Ornith. Club, California 1904, pp. 57 & 58.

## Family MOTACILLIDÆ.

- Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 1-23.
- Motacilla lugubris*, nesting habits; JOURDAIN, Zoologist 1904, pp. 421 & 422, 456 & 457: *M. alba* in Ireland; WARREN, Irish Natural. xiii, p. 155: on Bartragh; WARREN, Zoologist 1904, pp. 227 & 228: *M. madaraspatensis*, eggs figured; DRESSER, Ibis 1904, pl. x, figg. 3 & 4: *M. borealis* in Sussex; NICOLL, Bull. B. O. C. xiv, p. 84.
- Budytes flavus alascensis*, n. subsp., Alaska; RIDGWAY, Birds, N. & M. Amer. iii, pp. 8-10.
- Anthus maculatus* and *A. trivialis*, nomenclature; BLANFORD, Ibis 1904, pp. 662 & 663: *A. campestris*, occurrences in England; NICOLL, Zoologist 1904, pp. 452-454: apparently a regular autumn migrant to the coast of Sussex; id. Bull. B. O. C. xv, p. 12: *A. calthorpæ* Shelley = *A. caffer*; REICHENOW, Vög. Africas iii, p. 312: *A. cameroonensis* Shelley = *A. cinnamomeus*; id. t. c. p. 313: *A. vaalensis* Shelley = *A. leucophrys*; id. t. c. p. 316: *A. richardi* in Cornwall; HOWARD, Zoologist 1904, p. 115: *A. pratensis*, blue eggs; RADCLIFFE SAUNDERS, Bull. B. O. C. xiv, p. 42: *A. pensilvanicus*, note on; BAILEY, Auk xxi, p. 361: *A. spragueii* in Georgia; HELME, t. c. p. 291.
- Macronyx sharpei*, n. sp., Mau Downs, Equatorial Africa; JACKSON, Bull. B. O. C. xiv, p. 74.
- Charadriola*, n. g., type *C. singularis*, n. sp., Lake Jippe, Equatorial Africa; MADARASZ, Ann. Mus. Hungar. ii, pp. 396-398 cum fig. = *Tmetothylacus tenellus* Cab.; JACKSON, Ibis 1905, p. 104.

## Family ALAUDIDÆ.

- Alaemon subcoronata* distinct from *A. semitorquata*; SHARPE, Ibis 1904, pp. 359-361: *A. bradshawi*, n. sp., Orange River; id. t. c. p. 361:

- A. damarensis*, n. sp., Damara-land; id. t. c. p. 361: *A. benguelensis*, n. sp., Benguela; id. t. c. p. 361.
- Otocoris*, key to Palearctic species; BIANCHI, Ibis 1904, pp. 370-372: *O. brandti montana*, Mts. of N. Central Asia, *O. b. przewalskii*, Zaidam, n. subsp.; id. t. c. p. 371: *O. elvesi khamensis*, n. subsp., Kham, S. E. Tibet; id. t. c. p. 372: *O. alpestris praticola*, breeding at Ipswich, Mass.; TOWNSEND, Auk xxi, p. 81.
- Melanocorypha calandra psammochroa*, n. subsp., Transcaspiæ; HARTERT, Vög. Pal. Faun. ii, p. 210: *M. c. raddei*, n. subsp., S. W. Persia; SARUDNY & LOUDON, Ornith. Jahrb. xv, pp. 221 & 222.
- Calendula dunni*, n. sp., Ogadeh, Sudan; SHELLEY, Bull. B. O. C. xiv, pp. 82 & 83.
- Dewetia*, nomen emend pro *Botha* Shelley (nec Rafinesque); BUTURLIN, Auk xxi, p. 80.
- Alauda intercedens*, n. sp., Greece; EHMEKE, Ann. Mus. Hungar. ii, p. 296: *A. balcanica*, n. sp., Balkans; id. t. c. p. 297: *A. minuta*, n. sp., Caucasus to Balkans and Greece; id. t. c. p. 298: *A. schach*, n. sp., E. Persia; id. t. c. p. 299: *A. beludshistana*, n. sp., Persian Beloochistan; id. t. c. p. 299: *A. cypriaca* and *A. insularis*, n. spp., Cyprus; id. t. c. p. 300: *A. sordida*, n. sp., Hungary; id. t. c. p. 300: *A. subtilis*, n. sp., Montenegro; id. t. c. p. 301: *A. transcaspica*, n. sp., Transcaspiæ; id. t. c. p. 301: *A. albigularis* Brehm in Hungary; id. t. c. p. 301: *A. cinerascens*, vice *Alauda cinerea* (nec Vieill.); EHMEKE, J. Ornith. 1904, p. 313: in Tunis, REICHENOW, t. c. p. 312: MATSCHIE, t. c. p. 314: *A. japonica inopinata*, n. subsp., ?locality; BIANCHI, Annuaire Mus. St. Petersb. ix, pp. xxiv, xxx & xxxi.
- Calandrella brachydactyla*, in the Flannan Islands; CLARKE, Bull. B. O. C. xv, p. 11: SAUNDERS, l. c.: CLARKE, Ann. Scott. Nat. Hist. 1904, p. 206: *C. minor polatzeki*, n. subsp., Lanzarote, Canary Is.; HARTERT, Vög. Pal. Faun. ii, p. 217: *C. minor seistanica*, n. subsp., S. W. Persia; SARUDNY & LOUDON, Ornith. Jahrb. xv, pp. 22-24: *C. minor minuta*, n. subsp., Persia; id. t. c. p. 224.
- Mirafra marginata* Hawker = *M. cantillans*; REICHENOW, Vög. Afrikas iii, p. 335: *M. zombæ* Grant and *M. degeni* Grant = *M. fischeri*; id. t. c. p. 339: *M. transcaucasensis* and *M. tropicalis* Hartert = *M. africana*; id. t. c. p. 343: *M. pallida* and *M. grisescens* Sharpe = *M. africana*; id. t. c. p. 343: *M. degeni*, figured; GRANT, Ibis 1904, pl. v: *M. horsfieldi pallidus*, n. subsp., Roebuck Bay Plains, N. W. Australia; HALL, Emu iii, pp. 231 & 232.
- Galerida schlüteri*, n. sp., Algeria; KLEINSCHMIDT, Ornith. Monber. xii, pp. 196 & 197: *G. cristata caroli*, n. subsp., Natron Valley, Lower Egypt; HARTERT, Vög. Pal. Faun. ii, p. 234: *G. c. tardinata*, n. subsp., South Arabia; id. t. c. p. 235: *G. theklæ erlangeri*, n. subsp., North Marocco; id. t. c. p. 237.
- Ammomanes deserti orientalis*, n. subsp., N. E. Persia; SARUDNY & LOUDON, Ornith. Jahrb. xv, pp. 224 & 225: *A. lusitana erythrochroa*, n. subsp., Dongola; REICHENOW, J. Ornith. 1904, p. 307: *A. samharensis* Shelley = *A. saturata*; REICHENOW, Vög. Afrikas iii, p. 356: *A. assabensis*, distinct from *A. samharensis*; SALVADORI, Ibis 1904, p. 473 (cf. GRANT, t. c. p. 262): *A. phœnicuroides* and *A. zarudnii*, notes on; HARTERT, Ibis 1904, p. 543.
- Pyrrhulauda madaraszii* Reichenow = *P. leucotis*; id. Vög. Afrikas iii, p. 365: ?*P. butleri* Shelley = *P. frontalis*; id. t. c. p. 370.

## Family FRINGILLIDÆ.

- Ligurinus chloris*, "xanthochroism"; BLATHWAYT, Zoologist 1904, p. 32.
- Coccothraustes coccothraustes*, breeding in Fifeshire; BERRY, Ann. Scott. Nat. Hist. 1904, pp. 11-14: in East Lothian; TUNNARD, t. c. p. 126: in Shetland; SAXBY, t. c. p. 157: at Skerryvore Lighthouse; TOMISON, t. c. pp. 187 & 188: *C. vulgaris*, at Peterhead; SEARLE, Ann. Scott. Nat. Hist. 1904, p. 244: in Aberdeenshire; SIM, Zoologist 1904, p. 384.
- Zamelodia melanocephala*, nesting habits; HEAD, Condor vi, pp. 35-37: notes on; SWARTH, Cooper Ornith. Club, California 1904, pp. 44 & 45: nesting habits; FINLEY, Condor vi, pp. 145-148: *Z. ludoviciana*, its song; SCOTT, Science (n. s.) xix, pp. 957-959.
- Hesperiphona vespertina*, in the vicinity of Quebec; DIONNE, Auk xxi, p. 280: at Beverley, Mass.; BROWN, Auk xxi, p. 385: in Central New York; FUERTES, t. c. p. 385.
- Amaurospiza axillaris* Sharpe = *A. maesta* (Hartl.); HELLMAYR, Verh. Ges. Wien liv, pp. 516-518.
- Sporophila bouvreuil* vice *S. nigroaurantia*; HELLMAYR, Verh. Ges. Wien liv, p. 519: *S. saturata*, n. sp., Sao Paulo; id. t. c. p. 520: *S. cinnamomea* (Lafr.), notes on; id. t. c. p. 521: *S. lorentzi*, n. sp., ? Cayenne; id. t. c. pp. 522 & 523: *S. ruficollis* and *S. melanogastra*, notes on; id. t. c. pp. 523-526: *S. melanocephala ochrascens*, n. subsp., Rio Parana; id. t. c. p. 534: a key to the species of *Sporophila*; id. t. c. pp. 526-528, and further notes on the latter.
- Fringilla palmarum*, on Hierro Island; HARTERT, Bull. B. O. C. xiv, p. 51: *F. maderensis*, its note; NICOLL, Ibis 1904, pp. 555 & 556: *F. montifringilla*, in the Philippine Islands (Calayan) in winter; MCGREGOR, Bull. Philipp. Mus., No. 4, p. 24.
- Carduelis elegans*, figured; BONHOTE, Avicult. Mag. (2) iii, pl. to p. 21, fig. 1: *C. caniceps*, figured; FINN, t. c. fig. 2.
- Montifringilla margaritacea*, n. sp., Altai Mts.; MADARASZ, Ornith. Monber. xii, p. 196: *M. alpicola groum-grzimaili*, n. subsp., Bei-schan, Central Asia; SARUDNY & LOUDON, Ornith. Jahrb. xv, pp. 215 & 216: *M. alpicola galdi*, n. subsp., Province of Luristan, Persia; iid. t. c. p. 216: *M. brandti waltheri*, n. subsp., Szetschwan and Kansu; HARTERT, Vög. Pal. Faun. ii, p. 138.
- Rhodopechys sanguinea*, in Chitral; FULTON, J. Bombay Soc. xvi, p. 53.
- Erythrospiza sanguinea*, eggs figured; DRESSER, Ibis 1904, pl. iii, fig. 5.
- Bucanetes obsoletus*, eggs figured; DRESSER, Ibis 1904, pl. iii, figg. 4 & 6.
- Acanthis linaria islandica*, n. subsp., Iceland; HANTZSCH, Ornith. Monber. xii, pp. 32-34: *A. rufescens*, breeding in Norfolk in brown plumage; MONTAGU, Bull. B. O. C. xiv, p. 91: *A. brevirostris*, nest and eggs described; FULTON, J. Bombay Soc. xvi, pp. 53 & 54: *A. hornemanni exilipes*, note on; OSGOOD, North Amer. Fauna, No. 24, pp. 72 & 73: *A. flavirostris*, nesting in North Devon; C. PEARSON, Bull. B. O. C. xiv, p. 91.
- Linota hornemanni* from Siberia; REICHENOW, J. Ornith. 1904, p. 570: *L. rufescens*, in Sicily; WHITAKER, Ibis 1904, p. 478: *L. pygmæa* = *Serinus pusillus* juv.; HARTERT, Nov. Zool. xi, p. 459.
- Petronia petronia brevirostris* Dyb., its range; SUSHKIN, Bull. B. O. C. xiv, p. 43.
- Gymnoris flavicollis transfuga*, n. subsp., Bagu Kelat, Baluchistan; HARTERT, Vög. Pal. Faun. ii, p. 145, figg. 30 & 31.
- Passer*, notes on the genus; HARTERT, Nov. Zool. xi, pp. 457-459: *P. tingitanus* Loche is the name for N. W. African form; id. t. c. p. 457: *P. pyrrhoptera* Less., notes on; id. t. c. p. 457: *P. rufpectus* Bp. is a N. E. African race of *P. hispaniolensis*; id. t. c. p. 458: *P. pallasi* Bp.

- is the Siberian form of *P. hispaniolensis*; id. t. c. p. 458: *P. ploceisoma* Bp. = *Phalaterus soccus*; id. t. c. p. 458: *P. rüppelli* Bp. = *Ploceipasser superciliosus*; id. t. c. p. 458: *P. confucius* = *P. jagoensis*; id. t. c. p. 458: *P. rufidorsalis* = *P. arboreus*; id. t. c. p. 458: *P. diffusus* and its allies; id. t. c. pp. 458 & 459: *P. motitensis* and its allies; id. t. c. p. 459: *P. domestica biblicus*, n. subsp., Palestine; id. Vög. Pal. Faun. ii, p. 149: *P. italicae senckenbergianus*, n. subsp., N. E. Africa; id. t. c. p. 152: *P. montana taiwanensis*, n. subsp., Formosa; id. t. c. p. 161: *P. rutilans debilis*, n. subsp., Cashmere; id. t. c. p. 162: *P. flückigeri*, n. sp., Algeria; KLEINSCHMIDT, Ornith. Monber. xii, pp. 7, 197 & 198: *P. ahasver*, n. sp., Marrakesch, S. Marocco; id. t. c. p. 7.
- P. hispaniolensis washingtoni* Tschusi is inseparable from *P. hispaniolensis*; REICHENOW, Vög. Afrikas iii, p. 237: *P. mesopotamicus*, n. sp., Moehammera, Persia; ZARUDNY, Ornith. Jahrb. xv, p. 108: *P. simplex*, *P. saharæ*, and *P. zarudnyi*, notes on; HARTERT, Nov. Zool. xi, p. 460: *P. cinnamomeus*, imitating the song of *Parus atriceps*; FULTON, J. Bombay Soc. xvi, p. 54: *P. luteus*, breeding in captivity; WILLIAMS, Avicult. Mag. (2) iii, pp. 75-77.
- Alario leucolæma* Sharpe = *Alario alario*; REICHENOW, Vög. Afrikas iii, p. 246.
- Serinus hortulanus*, at Dover, Nov. 16; SETH-SMITH, Zoologist 1904, p. 457: *S. shelleyi* Neumann = *S. sharpei*; REICHENOW, Vög. Afrikas iii, p. 266.
- Crithagra estheræ*, figured; FINSCH, J. Ornith. 1904, pp. 122 & 123, taf. A. *Anomalospiza rendalli* Shelley = *A. imberbis* (Cab.); REICHENOW, Vög. Afrikas iii, p. 276.
- Loxia*, notes on the genus; HARTERT, Nov. Zool. xi, p. 460.
- Loxia curvirostra hispana*, n. subsp., Spain; HARTERT, Vög. Pal. Faun. ii, p. 119, fig. 27: *L. c. anglica*, n. subsp., England; id. t. c. pp. 119 & 120: *L. c. scotica*, n. subsp., Scotland; id. t. c. p. 120, fig. 24: *L. leucoptera*, in Kansas; SNOW, Auk xxi, p. 284.
- Pyrhula erythrina*, in Radnorshire; SALTER, Zoologist 1904, p. 228.
- Pinicola enucleator canadensis*, on Long Island, New York; HELME, Auk xxi, pp. 280 & 281: DUTCHER, t. c. p. 281.
- Carpodacus thura* and its subspecies, *C. blythi* distinct from *C. dubius*; HARTERT, Nov. Zool. xi, p. 456.
- Carpodacus severzovi*, eggs figured; DRESSER, Ibis 1904, pl. iii, figg. 1 & 3: *C. synoica* [-us] (Temm.), the older name for *C. sinaiticus*; HARTERT, Nov. Zool. xi, p. 457.
- Hæmatospiza indica* (Gm.) the name for *H. sipahi*, auct.; HARTERT, Nov. Zool. xi, p. 456.
- Plectrophanes nivalis*, in Mid-Atlantic; BUTLER, Ibis 1904, pp. 304 & 305.
- Calcarius lapponicus*, in the Flannan Is., Outer Hebrides; CLARKE, Ann. Scott. Nat. Hist. 1904, pp. 206 & 207: in Norfolk; APLIN, Zoologist 1904, pp. 428 & 429: at Warwick; GROUND, t. c. p. 428: in Sussex; NICOLL, Bull. B. O. C. xv, p. 12.
- Emberiza cia*, its distribution in the Rhine Provinces; LE ROI, Ornith. Monber. xii, pp. 153-158.
- Emberiza cia par*, n. subsp., Gudan, Transcaspia; HARTERT, Vög. Pal. Faun. ii, p. 184: *E. schoeniclus pallidior*, n. subsp., Aiderli, Turkestan; id. t. c. p. 197: *E. s. othmari*, n. subsp., Bulgaria; id. t. c. p. 198: *E. pyrrhuloides reiseri*, n. subsp., Lamia, Thessaly; id. t. c. p. 199: *E. p. centralasiæ*, n. subsp., Maralbashi, Eastern Turkestan; id. t. c. p. 199.
- Emberiza pusilla*, in Orkney; CLARKE, Ann. Scott. Nat. Hist. 1904, pp. 14-16: near Rugby in October, 1902; CARROLL, Zoologist 1904, pp. 312 & 313: APLIN, Ibis 1904, pp. 306 & 307.

- Emberiza circlus*, time of song ; ANGUS, Zoologist 1904, p. 142: in Worcester-shire and Shropshire ; STEELE-ELLIOTT, Zoologist 1904, p. 457.
- Emberiza (Hypocentor) semenowi*, n. sp., Arabistan ; SARUDNY, Ornith. Jahrb. xv, pp. 217 & 218.
- Emberiza kosslowi*, n. sp., Upper Mekong Valley ; BIANCHI, Bull. B. O. C. xiv, p. 80.
- Emberiza luteola* (figg. 7, 8, & 9), *E. spodocephala* (figg. 10 & 12), *E. cinerea* (fig. 11), *E. stewarti* (fig. 14), *E. stracheyi* (figg. 13 & 15), eggs figured ; DRESSER, Ibis 1904, pl. iii.
- Emberiza spodocephala*, in the Kusnetzki Alatau ; SUSHKIN, Bull. B. O. C. xiv, p. 46.
- Fringillaria media*, n. sp., W. Cape Colony ; SHARPE, Ibis 1904, p. 354 : *F. dithalæ* Grant = *F. arabica* ; REICHENOW, Vög. Afrikas iii, p. 291.
- Cyanospiza ciris*, in Leon County, Florida ; WILLIAMS, Auk xxi, pp. 458 & 459.
- Zonotrichia leucophrys*, note on ; BAILEY, Auk xxi, p. 358.
- Ammodramus nelsoni*, breeding in North Dakota ; BOWMAN, Auk xxi, pp. 385 & 386.
- Melospiza lincolni striata*, notes on ; GRINNELL, Auk xxi, pp. 274-276.
- Coturniculus henslowii*, in Munroe Co., Pa. ; BAILEY, Auk xxi, p. 486.
- Passerculus princeps*, in Georgia ; HELME, Auk xxi, p. 291.
- Passerella unalaschensis*, note on ; OSGOOD, North. Amer. Fauna, No. 24, pp. 76 & 77.
- Chondestes grammacus*, in Oneida County, N. Y. ; JOHNSON, Auk xxi, pp. 281 & 282.
- Junco caniceps*, note on the nesting ; BAILEY, Auk xxi, pp. 358 & 359.
- Junco phaeonotus palliatus*, notes on ; SWARTH, Cooper Ornith. Club, California 1904, pp. 41-43.
- Aimophila ruficeps scotti*, in San Miguel Co., New Mexico ; BAILEY, Auk xxi, p. 447.
- Calamospiza melanocorys*, in San Miguel Co., New Mexico ; BAILEY, t. c. p. 448.
- Paroaria capitata*, development of colour in the adult ; BUTLER, P. Zool. Soc. London 1903, ii, pp. 350 & 351.
- P. larvata*, nesting in captivity ; id. Avicult. Mag. (2) ii, pp. 267-269.
- Spiza americana*, breeding in New Jersey ; MILLER, Auk xxi, p. 487.
- Euspiza americana*, extinction of the species East of the Alleghanies ; RHOADS, Cassinia 1903, pp. 17-28.

#### Family TANAGRIDÆ.

- Piranga ludoviciana*, nesting habits ; SILLOWAY, Condor vi, p. 14.
- Buarremon baeri*, n. sp., Tucuman ; OUSTALET, Bull. Mus. Paris 1904, p. 43.
- Saltator aurantirostris*, notes on the species in confinement ; BUTLER, Avicult. Mag. (2) ii, pp. 335-339 cum tab.

#### Family PLOCEIDÆ.

- Ploceidæ* of Africa ; cf. REICHENOW, Vög. Afrikas iii, pp. 1-225.
- Philetairus cabanisi euchorus*, n. subsp., Dabulli, Western Somali Land ; OBERHOLSER, P. U. S. Mus. xxvii, p. 683.
- Cryptospiza australis* Shelley = *C. salvadorii* ; REICHENOW, Vög. Afrikas iii, p. 174.
- Sporopipes frontalis emini* Neumann, is not entitled to subspecific rank ; REICHENOW, Vög. Afrikas iii, p. 17.



- Amadina marginalis* Sharpe = *A. fasciata* ; REICHENOW, Vög. Afrikas iii, p. 146.
- Nigrita kretschmeri* Reichenow = *N. diabolica* ; id. Vög. Afrikas iii, p. 171 : *N. dohertyi* Hartert = *N. diabolica* ; id. t. c. p. 171.
- Pytelia kirkii* Shelley = *P. melba* ; id. t. c. p. 163 : *P. affinis* (Elliott) = *P. sudanensis* ; id. t. c. p. 164 : *P. jessei* Shelley = *P. citerior* ; id. t. c. p. 165.
- Coccopygia clarkei* Shelley = *Estrela subflava* ; id. t. c. p. 186.
- Poephila nigropecta* Hartert = *P. atropygialis* (Diggles) ; NORTH, P. Linn. Soc. N. S. Wales xxix, p. 130.
- Hypochera wilsoni* Hartert = *H. funerea* ; REICHENOW, Vög. Afrikas iii, p. 215.
- Stictoptera bichenovii*, note on the sexes ; BUTLER, Avicult. Mag. (2) ii, pp. 219 & 220.
- Munia pectoralis*, notes on ; SETH-SMITH, Avicult. Mag. (2) ii, pp. 130-132 cum fig.
- Uroloncha malabarica*, is a migratory bird ; FULTON, J. Bombay Soc. xvi, p. 52.
- Estrilda peasei* Shelley = *E. minor* ; REICHENOW, Vög. Afrikas iii, p. 180 : *E. elizae* Alexander = *E. nonnula* ; id. t. c. p. 188 : *E. delamerei* Sharpe = *E. charmosyna* ; id. t. c. p. 190.
- Granatina harkei* Lort Phillips = *Uraeginthus ianthinogaster* ; REICHENOW, t. c. p. 211.
- Erythrura forbesi* Sharpe, not distinct from *E. tricolor* ; HARTERT, Nov. Zool. xi, p. 217.
- Sycobrotus zaphiroi* Grant = *S. emini* ; REICHENOW, Vög. Afrikas iii, p. 39.
- Hyphantornis shelleyi* = *Ploceus auricapillus* ; REICHENOW, t. c. p. 79.
- Ploceus lubberti* Reichenow = *P. cabanisi* ; id. Vög. Afrikas iii, p. 73 : *P. fülleborni* Reichenow = *P. nyasae* ; id. t. c. p. 72 : *P. pachyrhynchus* Reichenow = *P. superciliosus* Shelley ; id. t. c. p. 96.
- Ploceus melanoxanthus malensis*, n. subsp., Male Land, N. E. Africa ; NEUMANN, Ornith. Monber. xii, pp. 162 & 163.

## Family ICTERIDÆ.

- Molothrus ater*, its disappearance in Leon County, Florida ; WILLIAMS, Auk xxi, p. 457.
- Sturnella magna*, development of song ; SCOTT, Science (n. s.) xix, pp. 957-959.
- Sturnella magna neglecta*, in Southern Georgia ; HELME, Auk xxi, p. 280.
- Icterus parisorum*, notes on ; SWARTH, Cooper Ornith. Club, California 1904, pp. 34 & 35.
- Quiscalus versicolor*, note on ; BEDDARD, P. Zool. Soc. London 1904, ii, p. 2.

## Family ORIOLIDÆ.

- Oriolus kundoo*, eggs figured ; DRESSER, Ibis 1904, pl. x, figg. 16 & 18 : *O. indicus*, eggs figured ; id. t. c. pl. x, figg. 14 & 17.
- Oriolus flavocinctus migrator*, n. subsp., S. W. Islands, Moluccas (Letti, Moa, Roma) ; HARTERT, Nov. Zool. xi, p. 218 : *O. finschi*, n. sp., Wetter Is., Moluccas (Wetter) ; id. t. c. p. 219 : *O. monachus* and *O. meneliki*, notes on ; GRANT, Ibis 1904, p. 256 : *O. monachus permistus*, n. subsp., N. E. Africa, S. of Hawash River ; NEUMANN, Ornith. Monber. xii, p. 145.

## Family DICRURIDÆ.

*Buchanga stigmatops phaedra*, n. subsp., Padang, Sumatra ; REICHENOW, deutsch. Tiefsee-Exped. Vög., p. 356.

## Family EULABETIDÆ.

*Calornis kühni*, n. sp., S. W. Islands, Moluccas (Wetter, Roma, Moa) ; HARTERT, Nov. Zool. xi, p. 220.  
*Amydrus* and allied genera ; NEUMANN, J. Ornith. 1904, pp. 567-569.

## Family STURNIDÆ.

*Sturnus vulgaris*, migrations of ; CLARKE, Rep. Brit. Ass. 1903, pp. 291-298 : habits ; WORKMAN, Zoologist 1904, p. 429 : nesting in November ; CORBIN, Zoologist 1904, pp. 457 & 458 : curious nesting site ; WORKMAN, Irish Natural. xiii, p. 250.  
*Sturnus vulgaris jtkowi*, n. subsp., Trans-Volga District ; BUTURLIN, Ornith. Jahrb. xv, pp. 206 & 207 : *S. poltoratzkyi satunini*, n. subsp., Caucasus ; id. t. c. p. 207 : *S. zaidamensis*, n. sp., Central Asia ; id. t. c. p. 208 : *S. dzungaricus*, n. sp., Sungaria ; id. t. c. p. 208 : *S. purpurascens dresseri*, n. subsp., Trans-Caucasia and Trans-Caspia ; id. t. c. pp. 208 & 209 : *S. purpurascens johanseni*, n. subsp., Buchara ; id. t. c. p. 209 : *S. tauricus*, n. sp., Crimea ; id. t. c. pp. 209 & 210 : *S. tauricus harterti*, n. subsp., Turkestan ; id. t. c. pp. 210 & 211 : *S. porphyronotus loudoni*, n. subsp., Eastern Russian Turkestan ; id. t. c. p. 211 : *S. poltaratzkyi*, *S. purpurascens*, and *S. porphyronotus* in Cyprus ; MADARASZ, Ann. Mus. Hungar. ii, p. 526.  
*Pastor roseus*, figured ; HERMAN, Aquila xi, tab. ii.

## Family PTILONORHYNCHIDÆ.

*Chlamydodera guttata*, nest described ; NORTH, Rec. Austral. Mus. v, pp. 131 & 132, pl. xvi.

## Family PARADISEIDÆ.

*Phonygama purpureoviolacea*, its trachea ; GRANT, Bull. B. O. C. xiv, pp. 40 & 41.  
*Paryphephorus duivenbodei*, in mountains of British New Guinea ; ROTHSCCHILD, Bull. B. O. C. xiv, p. 7.

## Family CORVIDÆ.

Cf. RIDGWAY, Birds, North and Middle America, pt. iii, pp. 252-374.  
*Corvidæ*, food and habits of various species in Germany ; RÖRIG, Arb. Gesund. Berlin i, pp. 285-400, 1900.  
*Corvus frugilegus*, migrations of ; CLARKE, Rep. Brit. Ass. 1903, pp. 298-304 : distribution in Germany ; RÖRIG, Arb. Gesund. Berlin i, pp. 273-400 : in Hungary ; HAUER, Aquila xi, pp. 318-327, with map : CSÖRGÉY, t. c. pp. 353-359 : its food ; SOOS, t. c. pp. 328-352.  
*Corvus corax*, breeding in captivity ; ST. QUINTIN, Avicult. Mag. (2) ii, pp. 292 & 293.  
*C. corax sinuatus*, in Southern New Hampshire ; THAYER, Auk xxi, pp. 491-494.  
*C. cryptoleucus*, notes on ; SWARTH, Cooper Ornith. Club, California 1904, pp. 32 & 33.

- C. prolegatus*, n. sp., Ceylon [*C. splendens*, auct. ex Ceylon]; MADARASZ, Ornith. Monber. xii, pp. 195 & 196.
- C. splendens maledivicus*, n. subsp., S. Maldives; REICHENOW, deutsch. Tiefsee-Exped. Vög., p. 356.
- C. americanus*, malformed bill; TAVERNER, Auk xxi, p. 279.
- C. corone*, in Sicily; WHITAKER, Ibis 1904, p. 477.
- C. cornix*, in Cheshire; NEWSTEAD, Zoologist 1904, p. 429 : migration in the Kurische Nehrung; THIENEMANN, Ornith. Monber. xii, pp. 166-168.
- Corvus cornix valachus*, n. subsp., Masin, Roumania; TSCHUSI, Ornith. Jahrb. xv, p. 121.
- Corone pallescens*, n. sp., Cyprus; MADARASZ, Ornith. Monber. xii, pp. 28 & 29.
- Colæus dauricus major*, n. subsp., E. Tibet; BIANCHI, Annuaire Mus. St. Petersb. viii, p. 11, 1903.
- Nucifraga hemispila*, note on; OSBORN, J. Bombay Soc. xv, pp. 712-715 : CAPPER, op. cit. xvi, p. 158 : INGLIS, t. c. pp. 158 & 159.
- Cyanocitta stelleri diademata*, notes on; SWARTH, Cooper Ornith. Club, California 1904, p. 29.
- Aphlecoma unicolor caelestis*, n. subsp., Highlands of Guatemala; RIDGWAY, Birds, North and Middle America iii, p. 345.
- Aphelocoma sieberii arizonæ*, notes on; SWARTH, Cooper Ornith. Club, California 1904, pp. 30-32.



# IV. REPTILIA AND BATRACHIA.

BY

G. A. BOULENGER, F.R.S.

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## I. TITLES.\*

- ABBOTT, C. C. One explanation of reported showers of Toads. P. Amer. Phil. Soc. xliii, pp. 163 & 164.
- ALCOCK, A. Descriptions of and reflections upon a new species of Apodous Amphibian from India. Ann. Nat. Hist. (7) xiv, pp. 267-273, pl. vii.
- ALONZO, G. Ricerche sullo sviluppo della coda e degli arti nel *Gongylus ocellatus*. Atti Acc. Gioen. (4) xvi, 1903, No. 5, 48 pp.

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

- ANDERSSON, L. G. List of Reptiles and Batrachians collected by the Swedish Zoological Expedition to Egypt, the Sudan, and the Sinaitic Peninsula. Results Swedish Zoological Exped. Egypt and White Nile, 1901, i, 12 pp.
- ANDREWS, C. W. Note on the gigantic Land Tortoise (*Testudo ammon* Andrews) from the Upper Eocene of Egypt. Geol. Mag. (v) i, pp. 527-530, fig., pl. xvii.
- ANNANDALE, N. Additions to the collection of Oriental Snakes in the Indian Museum. J. Asiat. Soc. Bengal lxxiii, pp. 208-212, pl. ix.
- BALLOWITZ, E. Entwicklungsgeschichte der Kreuzotter (*Pelias berus* Morr.). I. Entwicklung vom Auftreten der ersten Furche bis zum Schlusse des Amnios. Jena, 1903, 4to, 295 pp., figg., 10 pls.
- BANCHI, A. Sviluppo degli arti addominali del *Bufo vulgaris* innestati in sede anomala. Monit. Zool. ital. xv, pp. 396-399, figg.
- BARBIER, H. Les Reptiles du Musée d'Elbeuf. Bull. Soc. Elbeuf xxii, pp. 41-63
- . Notes d'Erpétologie. Le repas de la Couleuvre à collier et de la Couleuvre lisse. Feuille Natural. xxxiv, pp. 55-60, figg.
- BARBIERI, C. Ricerche sullo sviluppo del midollo spinale negli Anfibi. Arch. zool. ital. ii, pp. 79-105, figg., pls. v & vi.
- BARBOUR, T. Batrachia and Reptilia from the Bahamas. Bull. Mus. Harvard xlvi, pp. 55-61.
- . A new Batrachian from Sarawak, Borneo. P. Soc. Washington xvii, p. 51.
- BARBOZA DU BOCAGE, J. V. Contribution à la faune des Quatre Iles du Golfe de Guinée. J. Sci. Lisb. (2) vii, pp. 65-96.
- BATAILLON, E. Nouveaux essais de parthénogénèse expérimentale chez les Vertébrés inférieurs (*Rana fusca* et *Petromyzon planeri*). Arch. Entwickmech. xviii, pp. 1-56, figg., pls. i-iv.
- . La segmentation parthénogénésique des œufs immatures de *Bufo* dans l'eau ordinaire. C.R. Soc. Biol. lvi, pp. 749-751.
- BATES, G. A. The histology of the digestive tract of *Amblystoma punctatum*. Tufts Coll. Stud. No. 8, pp. 411-435, pls. iii & iv.
- BEASLEY, H. C. Report on footprints from the Trias. Part I. Rep. Brit. Ass. 1903, pp. 219-230, figg., pls. v-viii.
- BEDDARD, F. E. On some points in the anatomy, chiefly of the heart and vascular system, of the Japanese Salamander, *Megalobatrachus japonicus*. P. Z. S. 1903, ii, pp. 298-315, figg.
- . On the trachea, lungs, and other points in the anatomy of the Hamadryad Snake (*Ophiophagus bungarus*). T. c. pp. 319-328, figg.
- . Contributions to our knowledge of the circulatory system in the Ophidia. Op. cit. 1904, i, pp. 331-370, figg.
- . Contributions to the anatomy of the Lacertilia.—(1) On the venous system in certain Lizards. T. c. pp. 436-450, figg.; (2) On some points in the structure of *Tupinambis*. T. c. pp. 465-470, figg.; (3) On some points in the vascular system of *Chamaeleon* and other Lizards. Op. cit. ii, pp. 6-22, figg.
- . Exhibition of a specimen of the Lizard *Chlamydosaurus kingii*. T. c. pp. 82 & 83.

- [BEDDARD, F. E.] Notes on the anatomy of certain Snakes of the family *Boidæ*. T. c. pp. 107-121, figg.
- Note on an apparently abnormal position of the "Brephos" within the body of a Skink (*Chalcides lineatus*). T. c. pp. 145-147, fig.
- Contributions to the knowledge of the visceral anatomy of the pelagic Serpents *Hydrus platyurus* and *Platyurus colubrinus*. T. c. pp. 147-154, figg.
- On the presence of a parasternum in the Lacertilian genus *Tiliqua*, and on the poststernal ribs in that genus. T. c. pp. 154-157, figg.
- Preliminary Note on certain points in the anatomy of *Eryx* and other *Boidæ*, partly indicative of their basal position among the Ophidia. Ann. Nat. Hist. (7) xiii, pp. 233-236.
- "Abdominal ribs" in Lacertilia. Nature lxx, p. 6.
- BEECHER, C. E. The reconstruction of a Cretaceous Dinosaur, *Claosaurus annectens* Marsh. Tr. Connect. Ac. xi, 1903, pp. 311-323, pls. xli-xlv.
- BÉGUIN, F. L'intestin pendant le jeûne et l'intestin pendant la digestion. Études faites sur le Crapaud des joncs et le Lézard des murailles. Arch. anat. micr. vi, pp. 385-454, pls. xiii-xvi.
- La muqueuse œsophagienne et ses glandes chez les Reptiles. Anat. Anz. xxiv, pp. 337-356, figg.
- BERNARDI, I. L'albinismo nei Rettili (*Natrix torquata*). Boll. Naturalista xxiv, pp. 12 & 13.
- I Rettili e gli Anfibi del Livornese. T. c. pp. 14-16.
- Il *Tropidonotus natrix* nel Livornese. T. c. pp. 71-73.
- BIGOT, A. & BRASIL, L. Description de la Faune des Sables jurassiques supérieurs du Calvados. Mem. Soc. Normandie xxi, pp. 85-108, pls. i-iv.
- BLANCHARD, R. Note complémentaire sur une anomalie de la carapace chez la Cistude d'Europe. Bull. Soc. zool. France xxix, p. 161.
- BOHN, G. De la lumière, de l'aliment et de la chlorophylle, comme facteurs du développement des Amphibiens. C.R. Ac. Sci. cxxxviii, pp. 1244 & 1245.
- Influence de l'insolation des œufs d'Amphibiens sur l'évolution de l'embryon. C.R. Soc. Biol. lvi, pp. 663 & 664.
- Influence des variations de l'éclairement sur les premiers stades larvaires des Amphibiens. T. c. pp. 767 & 768.
- Intervention des influences passées dans les mouvements actuels d'un animal. T. c. pp. 789-791.
- Intervention des influences passées dans la résistance à l'inanition d'un animal. T. c. pp. 791 & 792.
- BOLTON, H. The Palæontology of the Lancashire Coal Measures. Tr. Manchester Geol. Soc. xxviii, pp. 378-420, 578-650, & 668-689.
- BOULENGER, G. A. On a remarkable Ichthyosaurian right anterior paddle. P. Z. S. 1904, i, pp. 424-426, fig.
- On the characters and affinities of the Triassic Reptile *Telerpeton elginense*. T. c. pp. 470-480, fig., pls. xxx-xxxii.
- Description of a new Tree-frog of the genus *Hyla*, from British Guiana, carrying eggs on the back. Op. cit. 1904, ii, p. 106, pl. v.

- [BOULENGER, G. A.] Description of a new genus of Frogs of the Family *Dyscophidae*, and list of the genera and species of that family. *Ann. Nat. Hist.* (7) xiii, pp. 42-44, pl. ii.
- . Descriptions of new Frogs and Snakes from Yunnan. *T. c.* pp. 130-134.
- . Descriptions of two new genera of Frogs of the family *Ranidae* from Cameroon. *T. c.* pp. 261 & 262.
- . Descriptions of three new Snakes. *T. c.* pp. 450-452.
- . Descriptions of two new Elapine Snakes from the Congo. *Op. cit.* xiv, pp. 14 & 15.
- . Note on *Himulia pardalis* of Macleay. *T. c.* p. 80.
- . On the Sand-Viper of Roumania (*Vipera ammodytes*, var. *montandoni*). *T. c.* pp. 134 & 135.
- . Description of a new Lizard from Western Australia. *T. c.* pp. 414 & 415, pl. xi.
- . Descriptions of three new Frogs from Southern India and Ceylon. *J. Bombay Soc.* xv, pp. 430 & 431, pl. —.
- . Description of a Frog from Ceylon, hitherto confounded with *Rana limnocharis*. *Spolia Zeylan.* ii, pp. 73 & 74.
- . Description of a new Snake. *T. c.* pp. 95 & 96, pl. —.
- BRACHET, A. Recherches expérimentales sur l'œuf de *Rana fusca*. *Arch. Biol.* xxi, pp. 103-160, pl. iv.
- BRANCA, A. Le revêtement épithélial du fourreau chez les Colubridés. *Arch. zool. exp. Notes* (4) ii, pp. xxxvii-xlv.
- . Histogénèse de spermatozoïde, chez l'Axolotl. *T. c.* pp. cv-cxiii, figg.
- . Le testicule de l'Axolotl en captivité. *C.R. Soc. Biol.* lvi, pp. 243-245.
- . Cellules interstitielles et spermatogénèse. *T. c.* pp. 350 & 351.
- . Transformation de la spermatide en spermatozoïde chez l'Axolotl. *T. c.* pp. 704-706.
- BRANSON, E. B. Snakes of Kansas. *Kansas Univ. Sci. Bull.* ii, pp. 353-430, figg.
- BRAUER, A. Beiträge zur Kenntniss der Entwicklung und Anatomie der Gymnophionen. IV. *Zool. Jahrb. Suppl.* vii, pp. 381-408, figg., pls. xxi & xxii.
- BRAUS, H. Einige Ergebnisse der Transplantation Organanlagen bei Bombinatorlarven. *Verh. Anat. Ges.* 1904, pp. 53-65.
- BRIMLEY, C. S. The Box Turtles of Southeastern North America. *J. E. Mitchell Soc.* xx, No. 1, 8 pp.
- BROILI, F. Permische Stegocephalen und Reptilien aus Texas. *Palæontogr.* li, pp. 1-121, pls. i-xiii.
- . Pelycosaurierreste von Texas. *Zeitschr. Deutsch. geol. Ges.* lvi, pp. 268-272, fig., pl. xvii.
- . Stammreptilien. *Anat. Anz.* xxv, pp. 577-587, figg.



- BROOM, R. On the structure of the Theriodont mandible, and on its mode of articulation with the skull. P. Z. S. 1904, i, pp. 490-498, fig., pl. xxxv.
- . On the classification of the Theriodonts and their allies. Rep. S. African Ass. i, pp. 286-294.
- . On two new Therocephalian Reptiles (*Glanosuchus macrops* and *Pristerognathus bairdi*). Tr. S. African Soc. xv, pp. 85-88, pl. vi.
- . The origin of the Mammalian Carpus and Tarsus. T. c. pp. 89-96, pl. vii.
- . Observations on the structure of *Mesosaurus*. T. c. pp. 103-112, pl. ix.
- . On two new Endothiodont genera (*Prodicynodon* and *Opisthoctenenodon*). Rec. Albany Mus. i, pp. 69-73, pl. iv.
- . On a new species of *Oudenodon* (*O. trigoniceps*). T. c. pp. 73-75.
- . On some points in the anatomy of the Anomodont skull. T. c. pp. 75-82.
- . On the Theriodonts in the Albany Museum. T. c. pp. 82-87.
- . Note on the manus of *Procolophon*. T. c. p. 88.
- . Notes on two Reptilian tarsi in the Albany Museum. T. c. pp. 177 & 178.
- . On a new South African Labyrinthodont (*Cyclotosaurus albertyni*). T. c. pp. 178-180.
- . On a new species of *Oudenodon* (*O. megalorhinus*). T. c. pp. 180 & 181.
- . Note on a new fossil Reptile (*Scapanodon duplessisi*). T. c. pp. 182 & 183.
- . Notice of a new Endotheriodont genus (*Chelyoposaurus*). T. c. p. 184.
- . On the occurrence of an Opisthocœlian Dinosaur (*Algoasaurus bauri*) in the Cretaceous beds of South Africa. Geol. Mag. (v) i, pp. 445-447, fig.
- . On a new Crocodylian genus (*Notochampsia*) from the Upper Stormberg beds of South Africa. T. c. pp. 582-584, figg.
- BROWN, A. E. Note on *Crotalus scutulatus* Kenn. P. Ac. Philad. lv, p. 625.
- . Post-glacial Nearctic centres of dispersal for Reptiles. Op. cit. lvi, pp. 464-474.
- BROWN, B. Stomach stones and food of Plesiosaurs. Science (2) xx, pp. 184 & 185.
- BROWNE, F. B. *Emys orbicularis*, the European Pond Tortoise. Tr. Norfolk Soc. vii, pp. 754 & 755.
- BUSSY, L. P. DE. Eerste ontwikkelingsstadiën van *Megalobatrachus maximus* Schlegel. Tijdschr. Nederland Dierk. Ver. (2) viii, pp. 267-378, figg., pls. xi-xx.
- BUTLER, A. L. A list of the Batrachians known to inhabit the Malay Peninsula, with some remarks on their habits, distribution, &c. J. Bombay Soc. xv, pp. 387-402.

- BYRNES, ESTHER F. On the skeleton of regenerated anterior limbs in the Frog. Biol. Bull. vii, pp. 166-169, figg.
- . Regeneration of the anterior limbs in the tadpoles of Frogs. Arch. Entwicklmech. xviii, pp. 171-177, figg., pl. x.
- CAMERANO, L. Ricerche intorno alla variazione del *Bufo viridis* Laur., del *Bufo mauritanicus* Schlegel, e del *Bufo regularis* Reuss. Mem. Acc. Torino (2) liv, pp. 183-280.
- . Ricerche intorno alla variazione del *Phyllodactylus europæus* Gené. Boll. Mus. Torino xix, No. 471, 28 pp.
- CAMERON, J. On the presence and significance of the superior commissure throughout the Vertebrata. J. Anat. Physiol. norm. path. (2) xviii, pp. 275-292, pl. xxv & xxvi.
- . On the origin of the epiphysis in Amphibia as a bilateral structure. Rep. Brit. Ass. 1903, pp. 689 & 690.
- CARGIULO, A. Contributo all' istologia del tessuto di sostegno nelle glandole. Riv. Ital. xxiv, pp. 5-12.
- CARPI, U. Ueber die feinere Innervation des sogenannten präokularen Meniscus der Ophidien. Anat. Anz. xxv, pp. 225-230, figg.
- CASE, E. C. The Vertebrates from the Permian Bone Bed of Vermilion County, Illinois. Contr. Walker Mus. i, 1901, pp. 1-29, pls. i-v.
- . The osteology of the skull of the Pelycosaurian genus *Dimetrodon*. J. Geol. xii, pp. 304-311, figg.
- . On the structure of the fore foot of *Dimetrodon*. T. c. pp. 312-315, figg.
- . Systematic Paleontology. Miocene Reptilia. Maryland geol. Surv. 1904, pp. 62-70, pls. xxvi & xxvii.
- . A remarkably preserved specimen of a Pelycosaur collected during the last summer in Texas. Science (2) xix, p. 253.
- CASELLA, D. Le cours de l'inanition absolue chez le *Gongylus ocellatus* placé dans un milieu saturé d'humidité. Arch. ital. Biol. xlii, pp. 273-288.
- CECCHERELLI, G. Sulle terminazioni nervose e paniere del Giacomini, nei muscoli dorsali degli Anfibii anuri adulti. Anat. Anz. xxiv, pp. 428-435, figg.
- \*CEPÈDE, C. Les Serpents des Alpes. Grenoble (Annuaire Soc. Touristes Dauphiné), 1903, 8vo, 39 pp., figg.
- CERRUTI, A. Contribuzioni per lo studio dell' organo di Bidder nei Bufonidi. II. Presenza di spermii nell' organo. Boll. Soc. Napoli xvii, pp. 181-184, figg.
- COE, W. R. & KUNKEL, B. W. The reproductive organs of the limbless Lizard *Anniella*. Amer. Natural. xxxviii, pp. 487-490, figg.
- COHN, L. Die Schenkeldrüsen des *Cnemidophorus lemniscatus* Daud. Zool. Anz. xxvii, pp. 185-192, figg.
- COUVREUR, — & GAUTIER, — . Sur le rythme respiratoire du Caméléon. Ann. Soc. Linn. Lyon I, pp. 159 & 160.
- CREVATIN, F. Ueber die Nervenverbreitung im Augenlidapparate der Ophidien. Anat. Anz. xxiv, pp. 539-542, figg.
- CSIKI, E. Ueber einige Gattungsnamen. Zool. Anz. xxviii, pp. 266 & 267.

- CUSHMAN, J. A. A new foot-print from the Connecticut Valley. Amer. Geol. xxxiii, pp. 154-156, pl. vi.
- DAVIS, W. T. *Hyla andersoni* and *Rana virgatipes* at Lakehurst, New Jersey. Amer. Natural. xxxviii, p. 893.
- DEPOLI, G. Studii sul genere *Rana* L. Saggio di applicazione del metodo quantitativo. Riv. ital. Sci. Nat. xxiv, pp. 38-44, 68-74, 151-155.
- DE STEFANO, G. I Sauri del Quercy appartenenti alla collezione Rossignol. Atti Mus. Milano xlii, pp. 382-417, pls. ix & x.
- DITMARS, R. L. Observations on Lacertilians. Rep. New York Zool. Soc. 1903, pp. 146-160, figg.
- . The big Serpents. Bull. New York Zool. Soc. 1904, pp. 157-163, figg.
- DOLLO, L. Les Mosasauriens de la Belgique. Mem. Soc. Belge Geol. xviii, pp. 207-216, pl. vi.
- . L'origine des Mosasauriens. T. c. pp. 217-222.
- DOUGLAS OGILBY, J. Australian Crocodiles. P. Soc. Queensland xviii, pp. 201-213.
- DRÜNER, L. Studien zur Anatomie der Zungenbein-, Kiemenbogen- und Kehlkopfmusculatur der Urodelen. II. Theil. Zool. Jahrb. Anat. xix, pp. 361-690, figg., pls. xiv-xxv.
- DUBUISSON, H. Sur la résorption du vitellus dans le développement des Vipères. C.R. Soc. Biol. lvii, pp. 286-288, 437 & 438.
- EASTMAN, C. R. A recent palæontological induction. Science (2) xx, pp. 465 & 466.
- EATON, G. F. The characters of *Pteranodon* (second paper). Amer. J. Sci. (4) xvii, pp. 318-320, pls. xix & xx.
- ELLIOT, R. H. A contribution to the study of the action of Indian Cobra poison. Abstract. P. R. Soc. London lxxiii, pp. 183-190.
- ELLIOT, R. H., SILLAR, W. C. & CARMICHAEL, G. S. On the action of the venom of *Bungarus caeruleus* (the common Krait). Phil. Trans. B. cxcvii, pp. 327-345.
- ÉLPATIEBSKI, V. P. Amphibia and Reptilia of the shores and Islands of the Sea of Aral. Scientific results of the Aral Expedition. Imp. Russ. Geogr. Soc. Tashkent 1903 [Russian text]. 30 pp., 2 pls.
- EMERSON, B. K. & LOOMIS, F. B. On *Stegomus longipes*, a new Reptile from the Triassic Sandstones of the Connecticut Valley. Amer. J. Sci. (4) xvii, pp. 377-380, pl. xxii.
- ESTERLY, C. O. The structure and regeneration of the poison glands of *Plethodon*. Univ. Calif. publ. Zool. i, pp. 227-268, pls. xx-xxiii.
- ETHERIDGE, R. JUN. A second Sauropterygian converted into opal, from the Upper Cretaceous of White Cliffs, New South Wales, with indications of Ichthyopterygians in the same locality. Rec. Austral. Mus. v, pp. 306-316, pls. xlii-xlv.
- EVANS, G. H. Notes on Burmese Reptiles. J. Bombay Soc. xvi, pp. 169-171.
- EYCLESHYMER, A. C. Bilateral symmetry in the egg of *Necturus*. Anat. Anz. xxv, pp. 230-240, figg.
- FENTON, L. L. The Russell's Viper. J. Bombay Soc. xvi, pp. 173 & 174.

- FERGUSON, H. S. A list of Travancore Batrachians. J. Bombay Soc. xv, pp. 499-509, 3 pls.
- FILATOW, D. P. Zur Entwicklungsgeschichte des Excretionssystems der Amphibien. Anat. Anz. xxv, pp. 33-47, figg.
- FOURNIER, G. Découverte d'un ossement de Tortue dans une grotte de la région de la Meuse. Bull. Soc. geol. Belgique xxxi, p. 77.
- FRASER, Sir T. R. & ELLIOT, R. H. Contribution to the study of the action of Sea-snake venoms. Part I. Venoms of *Enhydryna valakadien* and *Enhydryis curtus*. Phil. Trans. B. cxcvii, pp. 249-279.
- FRITSCH, A. Ueber einen neben *Cyclophthalmus* gefundener Stegocephalenrest, *Cordylroides carbonarius* Fr. Paläozoische Arachniden (Prague, 1904, 4to), pp. 79 & 80, figg.
- FUNAOKA, E. Ueber die Zuckungsform verschiedener Froschmuskeln. Verh. Ges. Wurzburg (2) xxxvii, pp. 1-11, figg., pl. i:
- FÜRBRINGER, M. Zur Frage der Abstammung der Säugetiere. Festschr. Haeckel, pp. 573-604.
- FÜRST, C. M. Der Musculus popliteus und seine Sehne. Acta Univ. Lund. xxxix, 1903, ii, No. 1, 134 pp., figg., 9 pls.
- GADOW, H. Reptilia and Amphibia of Cambridgeshire. In J. E. MARR & A. E. SHIPLEY, Handbook to the Natural History of Cambridgeshire. Cambridge, 1904, pp. 100-107.
- GEORGE, C. P. A Cobra feeding on eggs. J. Bombay Soc. xvi, p. 174.
- GHIDINI, A. Revisione delle specie di Batraci sinora incontrata nel Cantone Ticino. Boll. Soc. ticinese i, pp. 32-40.
- GIANNELLI, L. Contributo allo studio dell'occhio parietale nei Rettili (*Seps chalcides*). Monit. Zool. ital. xv, pp. 187-197.
- . Contributo allo studio comparativo delle formazione del tatto del cervello intermedio in base a ricerche praticate sul loro sviluppo in embrioni di Rettili (*Seps chalcides*) e di Mammiferi (*Sus scrofa domestica* e *Lepus cuniculus*). Nota preventiva. T. c. pp. 325-332.
- GOGGIO, E. Studi sperimentali sopra larve di Anfibi anuri. Atti Soc. Toscana xx, pp. 186-223, pls. vii & viii.
- GORDON, W. J. Our country's Animals and how to know them. Guide to Mammals, Reptiles, Amphibians of Great Britain. London, 1904, 8vo, 160 pp., 33 pls.
- GREIL, —. Ueber die sechsten Schlundtaschen der Amphibien und deren Beziehungen zu den suprapericardialen (postbranchialen) Körpern. Verh. Anat. Ges. 1904, pp. 136 & 137, figg.
- GUIEYSSE, A. Quelques considérations sur la régression de la queue chez les têtards de *Bufo vulgaris*. Bull. Soc. Philom. (9) vi, pp. 189-191.
- GURWITSCH, A. Zerstörbarkeit und Restitutionsfähigkeit des Protoplasmas des Amphibieneies. Verh. Anat. Ges. 1904, pp. 146-152, figg.
- GRYNFELL, E. Notes histologiques sur la capsule surrénale des Amphibiens. J. Anat. Physiol. xl, pp. 180-220, pl. v.
- GWINNELL, W. F. On a small *Plesiosaurus*-skeleton from the White Lias of Westbury-on-Severn. Quart. J. Geol. Soc. lx, p. 359.
- HALL, R. W. The development of the mesonephros and the Müllerian ducts in Amphibia. Bull. Mus. Harvard xlv, pp. 31-125, figg., 8 pls.

- HARRISON, R. G. An experimental study of the relation of the nervous system to the developing musculature in the embryo of the Frog. Amer. J. Anat. iii, pp. 197-220, figg.
- HARVIE-BROWN, J. A. & MACPHERSON, H. A. A Vertebrate Fauna of Scotland. North-west Highlands and Skye. Edinburgh, 1904, 8vo, 378 pp.
- HAY, O. P. On two species of Turtles from the Judith River Beds of Montana. Ann. Carnegie Mus. iii, pp. 178-182, figg.
- On the existing genera of the Trionychidæ. P. Amer. Phil. Soc. xlii, pp. 268-274.
- On some fossil Turtles belonging to the Marsh Collection in Yale University Museum. Amer. J. Sci. (4) xviii, pp. 261-275, figg., pls. xi-xvi.
- On the finding of skulls of Trionychidæ in the Bridger deposits of Wyoming. Science (2) xix, p. 254.
- HERRERA, A. L. Correspondence. Amer. Natural. xxxviii, p. 88.
- HERTWIG, O. Ueber eine Methode, Froscheier am Beginn ihrer Entwicklung im Raume so zu orientiren, dass sich die Richtung ihrer Teilebenen und ihr Kopf- und Schwanzende bestimmen lässt. Festschr. Haeckel, pp. 17-30, figg., pl. iii.
- HILL, M. D. Respiration in Frogs. Nature lxix, p. 489.
- HILTON, W. A. Segmentation of the ovum of *Desmognathus fusca*. Amer. Natural. xxxviii, pp. 498-500, figg.
- HOERNES, —. Ueber Koprolithen und Enterolithen. Biol. Centrbl. xxiv, pp. 566-576.
- HOYER, M. H. Ueber die Lymphherzen der Frösche. Bull. Ac. Cracovie 1904, pp. 228-237, figg.
- HUBBARD, MARIAN E. Correlated protective devices in some California Salamanders. Univ. Calif. publ. Zool. i, 1903, pp. 157-168, pl. xvi.
- HUENE, F. VON. *Dystrophæus viemala* Cope in neuer Beleuchtung. N. Jahrb. Min., Beil. xix, pp. 319-333, pls. xiv-xvi.
- HUTTON, F. W. Index Faunæ Novæ Zealandiæ. London, 1904, 8vo, 372 pp.
- HYDE, IDA H. Differences in electrical potential in developing eggs. Amer. J. Physiol. xii, pp. 241-275.
- ISENSCHMID, M. Ueber eine von Dr Walther Volz in Sumatra gemachte Sammlung von Batrachiern. Mt. Ges. Bern 1903, pp. 68-100, pls. i-vi.
- ISHIKAWA, C. Beiträge zur Kenntniss des Riesen-Salamanders (*Megalobatrachus maximus* Schleg.). P. Tokyo Mus. i, pp. 19-37, pls. viii-xi.
- JAEKEL, O. Eine neue Darstellung von *Ichthyosaurus*. Zeitschr. Deutsch. geol. Ges. lvi, Verh. pp. 26-34, fig.
- Ueber die Bildung der ersten Halswirbel und die Wirbelbildung im allgemeinen. T. c. Protok. pp. 109-119, figg.
- Ueber den Schädelbau der Dicynodonten. SB. Ges. naturf. Berlin 1904, pp. 172-188, figg.
- JAKOWLEW, N. Ueber Plesiosaurus-Reste aus der Wolga-Stufe an der Lena in Sibirien. Verh. Russ. Min. Ges. (2) xli, pp. 13-16, fig., pl. i.

- JANENSCH, —. Ueber eine fossile Schlange aus dem Eocän des Monte Bolca. Zeitschr. Deutsch. geol. Ges. lvi, Protok. pp. 54-56 and SB. Ges. naturf. Berlin 1904, pp. 133-135.
- JANSENS, F. A. Das chromatische Element während der Entwicklung des Ovocyts des Triton. Anat. Anz. xxiv, pp. 648-651.
- JENKINSON, J. W. Observations on the maturation and fertilisation of the egg of the Axolotl. Quart. J. Micr. Sci. xlviii, pp. 407-482, pls. xxix-xxxiii.
- . The effect of solutions of salt and other substances on the development of the Frog. Rep. Brit. Ass. 1903, pp. 693 & 694.
- JUKES-BROWNE, A. J. The Cretaceous Rocks of Britain. III. The Upper Chalk of England. Mem. geol. Surv. U. K. 1904.
- KAMMERER, P. Beitrag zur Erkenntnis der Verwandtschaftsverhältnisse von *Salamandra atra* und *maculosa*. Arch. Entwicklmech. xvii, pp. 1-102, pl. —.
- KEITH, A. Respiration in Frogs. Nature lxix, pp. 511 & 512.
- KERBERT, C. Zur Fortpflanzung von *Megalobatrachus maximus* Schlegel (*Cryptobranchus japonicus* v. d. Hoeven). Zool. Anz. xxvii, pp. 305-320, figg.
- KINGSLEY, J. S. & THYNG, F. W. The hypophysis in *Amblystoma*. Tufts Coll. Stud. No. 8, pp. 363-378, figg.
- KLUNZINGER, C. B. Ueber die Samenträger der Tritonen und ihre Beziehungen zum Kloakenwulst, nach E. Zeller's hinterlassenen Schriften. Verh. Deutsch. zool. Ges. 1904, pp. 36-46, figg.
- KNOBLAUCH, A. Die Art der Fortpflanzung des Alpen- und des Feuer-salamanders und das Anpassungsvermögen der beiden Salamanderarten an äussere Lebensbedingungen. Zool. Garten xlv, pp. 329-336, 361-368.
- KOCH, A. A beocsini czemetmárgából kikerült teknősmaradványok leírása. Ann. Mus. Hungar. ii, pp. 21-25, pls. vii & viii.
- KOLMER, W. Ueber ein Strukturelement der Stäbchen und Zapfen der Froschretina. Anat. Anz. xxv, pp. 102-104, fig.
- KOLOMBATOVIĆ, G. Contribuzioni alla fauna dei Vertebrati della Dalmazia. Glasnik Naravosl. druzt. xv, pp. 1-19.
- KREFFT, P. Herpetologische Reiseergebnisse in Hinterindien. Zool. Garten xlv, pp. 169-178, 201-207, 241-248.
- KUNITZKY, J. Die Entstehung und Entwicklung der Cuticularhärchen auf den Pfoten von *Platydictylus mauritanicus*. Trudui St. Peterb. Obshch. xxxiv, 2, pp. 1-19, pl. —. [Russian text, German Résumé.]
- LAMB, G. Specificity of antivenomous sera (second communication). Sci. Mem. India (2) No. 10, 25 pp.
- LAMBE, L. M. On the squamoso-parietal crest of the Horned Dinosaurs *Centrosaurus apertus* and *Monoclonius canadensis*. Tr. R. Soc. Canada x, iv, pp. 3-10, pls. i & ii.
- . Progress of Vertebrate Palæontology in Canada. T. c. pp. 13-56.
- . On *Dryptosaurus incrassatus* (Cope) from the Edmonton Series of the North-west Territory. Contr. Canad. Pal. iii (4to), pt. iii, 27 pp., figg., 8 pls.

- [LAMBE, L. M.] The grasping power of the manus of *Ornithomimus altus*. Ottawa Natural. xviii, pp. 33-36, 2 pls.
- . On the squamoso-parietal crest of two species of Horned Dinosaurs from the Cretaceous of Alberta. T. c. pp. 81-86, 2 pls.
- LEIGHTON, G. Colour variation in *Vipera berus* (the Common Adder)—its extent, its significance and explanation. P. Phys. Soc. Edinb. xv, pp. 130-140, pl. iii.
- . Morphological variation in *Vipera berus*. Size and scaling. Op. cit. xvi, pp. 1-9.
- . Some recent observations on British Reptiles. Rep. Brit. Ass. 1903, p. 694.
- LEWIS, W. H. Experimental studies on the development of the eye in Amphibia. I. On the origin of the lens in *Rana palustris*. Amer. J. Anat. iii, pp. 505-536, figg.
- LIDTH DE JEUDE, T. W. VAN. Reptiles and Batrachians from Surinam. Notes Leyden Mus. xxv, pp. 83-94, pl. vii.
- LOEB, L. & STRONG, R. M. On regeneration in the pigmented skin of the Frog, and on the character of the chromatophores. Amer. J. Anat. iii, pp. 275-283.
- LOISEL, G. Substances toxiques extraites des œufs de Tortue et de Poule. C.R. Ac. Sci. cxxxix, pp. 325 & 326.
- . Les caractères sexuels secondaires et le fonctionnement des testicules chez la Grenouille. C.R. Soc. Biol. lvi, pp. 445-448.
- . Les poisons des glandes génitales. II. Recherches sur les ovaires de Grenouilles vertes. C.R. Soc. Biol. lvi, pp. 504-507. III. Recherches comparatives sur les toxalbumines contenues dans divers tissus de Grenouille. T. c. pp. 883-886.
- LOOMIS, F. B. Two new River Reptiles from the Titanotheres Beds. Amer. J. Sci. (4) xviii, pp. 427-432, figg.
- LUCAS, F. A. A new Batrachian and a new Reptile from the Trias of Arizona. P. U. S. Mus. xxvii, pp. 193-195, pls. iii & iv.
- . A new Plesiosaur. Smithson. Collect. xlv, p. 96, pl. xxviii.
- . The Dinosaur *Trachodon annectens*. T. c. pp. 317-320, figg., pls. lxxii & lxxiii.
- LULL, R. S. Fossil footprints of the Jura-Trias of North America. Mem. Boston Soc. v, pp. 461-557, figg., pl. lxxii.
- . Note on the probable footprints of *Stegomus longipes*. Amer. J. Sci. (4) xvii, pp. 381 & 382, fig.
- LYDEKKE, R. Vertebrate Palæontology of Cambridgeshire. In J. E. MARR & A. E. SHIPLEY, Handbook to the Natural History of Cambridgeshire. Cambridge, 1904, pp. 51-70.
- MANICASTRI, N. La rigenerazione di parti laterali delle code di larve di Anuri. Boll. Naturalista xxiv, pp. 1 & 2.
- MARIKOVSKY, G. A mérgék ís a vérsavó. Termes. Kozl. Magyar Tars. 1904, pp. 524-534.
- MARKTANNER-TURNERETSCHER, G. Beitrag zur Kenntniss der Verbreitung der Giftschlangen in Steiermark. Mt. Ver. Steiermark xl, pp. 3-42, figg., pl.

- MATTHEW, G. F. An attempt to classify Palæozoic Batrachian footprints. *Tr. R. Soc. Canada* (2) ix, iv, 1903, pp. 109-121, figg.
- MCGREGOR, J. H. The relationships of the Phytosauria. *Science* (2) xix, pp. 254 & 255.
- MCGREGOR, R. Notes on Hawaiian Reptiles from the Island of Maui. *P. U. S. Mus.* xxviii, pp. 115-118.
- MÉHELY, L. v. Investigations on Paraguayan Batrachians. *Ann. Mus. Hungar.* ii, pp. 207-232, pl. xiii.
- . Eine neue *Lacerta* aus Ungarn. *T. c.* pp. 362-377, figg.
- . Ueber das Entstehen überzähliger Gliedmassen. *Math. Naturw. Ber. Ungarn* xx, pp. 239-259, figg.
- . Egy új gyíkfaj Magyarországon. *Allatt. Kozl. Magyar Tars.* iii, pp. 193-210, pl. v.
- . A Mecsekhegység és a Kapela herpetologiai viszonyai. *T. c.* pp. 241-289, figg.
- MERCIER, L. Sur la présence d'un exoplasme dans les cellules épithéliales de la queue du têtard de *Rana temporaria*. (Note préliminaire.) *C.R. Soc. Biol.* lvii, pp. 660-662.
- MERRIAM, J. C. A new marine Reptile from the Triassic of California. *Bull. geol. Univ. Calif.* iii, pp. 419-421, fig.
- . A new group of marine Reptiles from the Upper Triassic of California. *Science* (2) xix, p. 218.
- MEVES, F. Weitere Beobachtungen über den feineren Bau des Randleifens in den roten Blutkörperchen des Salamanders. *Verh. Anat. Ges.* 1904, pp. 37-40.
- . Die Hünefeld-Hensenschen Bilder der roten Blutkörperchen der Amphibien. *Anat. Anz.* xxiv, pp. 465-476, figg.
- . Zur Wirkung von Säure auf die roten Blutkörperchen der Amphibien. *Op. cit.* xxv, pp. 240-245.
- . Ueber das Auftreten von Deformationen des Randleifens bei den roten Blutkörperchen des Salamanders. *T. c.* pp. 465-472, figg.
- MICHAILOVSKY, M. On the herpetology of the Transcaspiian Province [Russian text]. *Annuaire Mus. St. Petersb.* ix, pp. 39-44.
- MILLER, G. A. A Viperine Snake which is oviparous. *J. Bombay Soc.* xv, pp. 729 & 730.
- MOCQUARD, F. Batraciens, Reptiles. In A. PAVIE, *Mission Pavie Indo-Chine* iii, pp. 471-494, pl. xxiii.
- . Description de quelques Reptiles et d'un Batracien nouveaux de la collection du Muséum. *Bull. Mus. Paris* 1904, pp. 301-309.
- MORGAN, T. H. The dispensibility of the constant action of gravity and of a centrifugal force in the development of the Toad's egg. *Anat. Anz.* xxv, pp. 94-96.
- . The relation between normal and abnormal development of the embryo of the Frog (III) as determined by some abnormal forms of development. *Arch. Entwicklmech.* xviii, pp. 507-534, pls. xxxi & xxxii.
- & TORELLE, E. The relation between normal and abnormal development (IV) as determined by Roux's experiment of injuring the first formed blastomeres of the Frog's egg. *T. c.* pp. 535-554, pl. xxxiii.



- MORGERA, A. Contributo allo studio di alcuni organi dell' apparecchio genitale maschile nelle specie nostrane del genere *Lacerta*. Nota preliminare. Boll. Soc. Napoli xvii, pp. 221-224, fig.
- MORSE, M. Batrachians and Reptiles of Ohio. Pap. Ohio Ac. No. 9, P. Ohio Ac. iv, pp. 93-144, figg., pl. i.
- MUNSON, J. P. Researches on the oogenesis of the Tortoise, *Clemmys marmorata*. Amer. J. Anat. iii, pp. 311-347, 7 pls.
- MUTHMANN, E. Ueber die erste Anlage der Schilddrüse und deren Lagebeziehung zur ersten Anlage des Herzens bei Amphibien, insbesondere bei *Triton alpestris*. Anat. Hefte. Arb. xxvi, pp. 1-48, figg.
- NEUMANN, T. Giftschlangen und Schlangengift. Ber. Senckenberg. Ges. 1904, pp. 72\*-76\*.
- NEUMAYER, L. Die Koprolithen des Perms von Texas. Palæontogr. li, pp. 121-128, pl. xiv.
- NICOLAS, A. Recherches sur l'embryologie des Reptiles. iv. La segmentation chez l'Orvet (*Anguis fragilis*). Arch. Biol. xx, pp. 611-658, pls. xvii-xix.
- NOC, F. Sur quelques propriétés physiologiques des différents venins de Serpents. Ann. Inst. Pasteur xviii, pp. 387-406.
- NOFCSA, F. Dinosaurierreste aus Siebenbürgen. III. (Weitere Schädelreste von *Mochlodon*.) Denk. Ak. Wien lxxiv, pp. 229-263, figg., 2 pls.
- OSBORN, H. F. Manus, sacrum, and caudals of Sauropoda. Bull. Amer. Mus. xx, pp. 181-190, figg.
- . *Teleorhinus browni*, a Teleosaur in the Fort Benton. T. c. pp. 239 & 240.
- . Reclassification of the Reptilia. Amer. Natural. xxxviii, pp. 93-115, figg.
- . On the position of the bones of the forearm in the Opisthocœlia or Sauropoda. Science (2) xix, pp. 255 & 256.
- OVERTON, E. Neununddreissig Thesen über die Wasserökonomie der Amphibien und die osmotischen Eigenschaften der Amphibienhaut. Verh. Ges. Würzburg (2) xxxvi, pp. 277-295.
- PARKER, G. H. & STARRATT, S. A. The effect of heat on the colour changes in the skin of *Anolis carolinensis*. P. Amer. Ac. xl, pp. 457-466.
- PATRONI, C. A proposito della *Salamandrina perspicillata* (Savi). Annuar. Mus. Univ. Napoli (2) i, No. 14, 4 pp.
- PAVESI, P. Esquisse d'une Faune Valdôtaine. Atti Mus. Milano xliii, pp. 191-260.
- PELLEGRIN, J. Capture d'une Tortue Luth dans la Gironde. La Nature xxxii, pp. 321 & 322.
- PERACCA, M. G. Nouvelles espèces d'Ophidiens d'Asie et d'Amérique, faisant partie de la collection du Museum d'histoire naturelle de Genève. Rev. Suisse Zool. xii, pp. 663-668.
- . Viaggio del Dr A. Borelli nel Matto Grosso brasiliano e nel Paraguay, 1899. ix. Rettili ed Anfibia. Boll. Mus. Torino xix, No. 460, 15 pp., figg.

- [PERACCA, M. G.] Viaggio del Dr Enrico Festa nell' Ecuador e regioni vicine. Rettili ed Anfibi. T. c. No. 465, 41 pp.
- . Rettili ed Anfibi dell' Eritrea, raccolti del Dott. Achille Tellini nel 1903. T. c. No. 467, 6 pp.
- PEREZ, C. Résorption phagocytaire des spermatozoïdes chez les Tritons. C.R. Soc. Biol. lvi, pp. 783 & 784.
- \*PETER, K. Normentafel zur Entwicklungsgeschichte der Zauneidechse (*Lacerta agilis*). Jena, 1904, 4to, 165 pp., figg., 4 pls.
- . Einiges über die Gastrulation der Eidechse. Sechste Mitteilung zur Entwicklungsgeschichte der Eidechse. Arch. mikr. Anat. lxiii, pp. 659-700, figg., pls. xxxi & xxxii.
- PETIT, A. Remarques anatomiques sur le foie de l'*Alligator lucius* Cuv. Bull. Mus. Paris 1904, pp. 66-68, fig. and C.R. Soc. Biol. lvi, pp. 298-300, fig.
- & GEAY, F. Sur la glande cloacale du Caïman (*Jacaretinga sclerops* Schneid.). C.R. Soc. Biol. lvi, pp. 1087-1089.
- PHISALIX, C. Recherches sur les causes de l'immunité naturelle des Vipères et des Couleuvres. C.R. Ac. Sci. cxxxviii, pp. 1459-1461, C.R. Soc. Biol. lvi, pp. 976-978, and Bull. Mus. Paris 1904, pp. 380-382.
- . Sur un nouveau caractère distinctif entre le venin des Vipéridés et celui des Colubridés. C.R. Soc. Biol. lvii, pp. 486-488, and t. c. pp. 491-493.
- PILLAY, R. S. N. Notes on the structure of the teeth of some poisonous Snakes found in Travancore. Ann. Nat. Hist. (7) xiii, pp. 238 & 239.
- POCHE, F. Richtigstellung eines Gattungsnamens unter den Colubriden. Zool. Anz. xxviii, pp. 37 & 38.
- . Zur Nomenclatur der Salamandriden. Zool. Ann. i, p. 50.
- POLL, H. Die Anlage der Zwischenniere bei der europäischen Sumpfschildkröte (*Emys europæa*). Int. Monatsschr. Anat. xxi, pp. 195-291, figg., pl. v.
- PORCHET, — . Sur l'influence du sulfate de cuivre pour le développement de l'œuf de Grenouille. Arch. Sci. Nat. (4) xviii, pp. 205 & 206.
- RABI, H. Ueber die Vorniere und die Bildung des Müller'schen Ganges bei *Salamandra maculosa*. Arch. mikr. Anat. lxiv, pp. 258-359, figg., pls. xvi-xxii.
- . Ueber die Entwicklung des Tubentrichters und seiner Beziehungen zum Bauchfell bei *Salamandra maculosa*. T. c. pp. 665-693, pls. xxxvii-xl.
- REESE, A. M. The sexual elements of the Giant Salamander, *Cryptobranchus alleghaniensis*. Biol. Bull. vi, pp. 220-223, figg., and Amer. Natural. xxxviii, pp. 487-490, figg.
- REINHARDT, A. Die Hypochorda bei *Salamandra maculosa*. Morphol. Jahrb. xxxii, pp. 195-231, pls. v & vi.
- REYNOLDS, S. H. Vertebrata, with notes on the position of the [Rhætic, South Wales] Bone-bed. Quart. J. Geol. Soc. lx, pp. 208-210.
- RIGGS, E. S. Dinosaur footprints from Arizona. Amer. J. Sci. (4) xvii, pp. 423 & 424, fig.
- ROGERS, L. The physiological action and antidotes of Colubrine and Viperine Snake venoms. Phil. Trans. B. cxcvii, pp. 123-191.

- ROSÉN, N. Ueber die Kaumuskeln der Schlangen und ihre Bedeutung bei der Entleerung der Giftdrüse. Zool. Anz. xxviii, pp. 1-7, figg.
- ROUX, J. Reptilien und Amphibien aus Celebes. Verh. Ges. Basel xv, pp. 425-433, pl. viii.
- RUTHVEN, A. G. Butler's Garter Snake. Biol. Bull. vii, pp. 289-299, figg.
- SAMPSON, LILIAN V. A contribution to the embryology of *Hylodes martinicensis*. Amer. J. Anat. iii, pp. 473-504, figg., 2 pls.
- SANGIORGI, D. Appunti zoologici sull' isola di Cephalonia. Atti Soc. Modena (4) iv, pp. 69-98.
- SCHAPER, A. Ueber einige Fälle atypischer Linsenentwicklung unter abnormen Bedingungen. Anat. Anz. xxiv, pp. 305-326, figg.
- . Experimentelle Untersuchungen über den Einfluss der Radiumstrahlen und der Radiumemanation auf embryonale und regenerative Entwicklungsvorgänge. Op. cit. xxv, pp. 298-314 & 326-337, figg.
- SCHMIDT, W. E. Ueber *Metriorhynchus jäckeli* nov. sp. Zeitschr. Deutsch. geol. Ges. lvi, Protok. pp. 97-108, figg., pls. xi & xii.
- SEELEY, H. G. Footprints of small fossil Reptiles from the Karroo rocks of Cape Colony. Ann. Nat. Hist. (7) xiv, pp. 287-289, figg.
- . On a new type of Reptilian tooth (*Ptychocynodon*) from the Upper Karroo Beds near Burghersdorp, Cape Colony. T. c. pp. 290-293, figg.
- . On a primitive type of vertebra from the Lower Karroo Beds of Cape Colony (*Tamboeria maraisi*). T. c. pp. 336-344, figg.
- SEWERTZOFF, A. N. Die Entwicklung der pentadaktylen Extremität der Wirbeltiere. Anat. Anz. xxv, pp. 472-494, figg.
- SIEBENROCK, F. Schildkröten von Brasilien. Denk. Ak. Wien lxxvi, pp. 1-28, pls. i-iii. Abstract, Anz. Ak. Wiss. 1904, pp. 54-56.
- . Ueber partielle Hemmungs-Erscheinungen bei der Bildung einer Rückenschale von *Testudo tornieri* Siebenr. SB. Ak. Wien cxliii, pp. 29-34, figg. Abstract, Anz. Ak. Wiss. 1904, pp. 34 & 35.
- . Die Südafrikanischen *Testudo*-Arten der *Geometrica*-Gruppe s. l. T. c. pp. 307-323, pls. i-v. Abstract, Anz. Ak. Wiss. 1904, pp. 230-232.
- . Eine neue *Testudo*-Art der *Geometrica*-Gruppe aus Südafrika. Anz. Ak. Wiss. 1904, pp. 194 & 195.
- . Zur Systematik der Schildkröten-Gattung *Orlitia* Gray. Zool. Anz. xxvii, pp. 580-582.
- SIEGLBAUER, F. Zur Anatomie der Urodelenextremität. Arch. Anat. 1904, pp. 385-404, pl. xxii
- SMITH, H. M. Notes on the breeding habits of the yellow-bellied Terrapin. Smithsonian. Collect. i, pp. 252 & 253.
- SNYDER, C. D. Locomotion in *Batrachoseps* with severed nerve-cord. Biol. Bull. vii, pp. 280-288.
- SOKOLOWSKY, A. Die Variation der Schuppenbildung des Kopfes von *Scincus officinalis* Gray. Biol. Centrbl. xxiv, pp. 754-761, figg.
- SPEMANN, H. Ueber experimentell erzeugte Doppelbildung mit cyclopischem Defect. Zool. Jahrb. Suppl. vii, pp. 429-470, figg., pls. xxiii & xxiv.

- STADERINI, R. L'occhio parietale di alcuni Rettili e la sua funzionalità. *Monit. Zool. ital.* xv, pp. 341-343.
- STERZI, A. I. I gruppi cellulari periferici nella midolla spinale dei Rettili. *Atti Soc. Toscana* xx, pp. 243-275, pls. ix & x.
- STEJNEGER, L. The Herpetology of Porto Rico. *Rep. U. S. Mus. for 1902*, pp. 549-724, figg., 1 pl.
- . A new species of Lizard from the Riukiu Archipelago, Japan. *Smithson. Collect.* xlvii, pp. 294 & 295.
- . A new Lizard from the Rio Grande Valley, Texas. *P. Soc. Washington* xvii, pp. 17-20.
- . Amphibia versus Batrachia. *Science* (2) xx, pp. 924 & 925.
- TIRANT, G. Liste des Tortues de l'Indo-Chine. In A. PAVIE, *Mission Pavie Indo-Chine* iii, pp. 493 & 494.
- TODD, ANNE H. Results of injuries to the blastopore region of the Frog's embryo. *Arch. Entwicklmech.* xviii, pp. 489-506, figg., pls. xxix & xxx.
- TÖLG, F. Beiträge zur Kenntniss drüsenartiger Epidermoidalorgane der Eidechsen. *Arb. Zool. Inst. Wien* xv, pp. 119-154, pls. ix-xi.
- TORNIER, G. Entstehen und Bedeutung der Farbkleidmuster der Eidechsen und Schlangen. *SB. Ak. Berlin 1904*, pp. 1203-1214, figg.
- . Bau und Betätigung der Kopflappen und Halsluftsäcke bei Chamäleon. Ein Beitrag zur Biotechnik. *Zool. Jahrb. Anat.* xxi, pp. 1-40, pls. i & ii.
- . Ueber das Auffinden von *Tropidonotus tessellatus* (Laur.) in Mitteldeutschland. *SB. Ges. naturf. Berlin 1904*, pp. 197 & 198.
- . Entstehen der Farbkleidmuster und Körperform der Schildkröten. *T. c.* pp. 297-307.
- TÓTH, Z. Adatok a voröshasú unka (*Bombinator igneus* Laur.) ovetokjának alaktani ismeretéhez. *Allatt. Kozl. Magyar Tars.* iii, pp. 89-98 & 117, pls. i-iii.
- ULMER, G. Zur Fauna des Eppendorfer Moores bei Hamburg. *Verh. Ver. Hamburg* (3) xi, pp. 1-24.
- VAILLANT, L. La livrée néotésique de la Tortue sillonnée (*Testudo calcarata* Schneider). *Bull. Mus. Paris 1904*, pp. 186 & 187, figg.
- . Le grand Serpent de mer observé de nouveau dans la Baie d'Along. *T. c.* pp. 217 & 218.
- . Quelques Reptiles, Batraciens et Poissons du Haut Tonquin. *T. c.* pp. 297-301.
- . Sur l'habitat singulier d'un Batracien Anoure (*Megalixalus leptosomus* Peters) de l'Afrique tropicale ouest. *T. c.* pp. 436-438.
- VAN PÉE, P. Les membres chez *Amphiuma*. *Anat. Anz.* xxiv, pp. 476-482, figg.
- VASILJEV, L. *Eumeces scutatus* in the Transcaspian Province [Russian text]. *Annuaire Mus. St Petersburg.* ix, pp. xiii-xv.
- VEITH, G. A koezkás sikló (*Tropidonotus tessellatus* Laur.) életéből. *Allatt. Kozl. Magyar Tars.* iii, pp. 229, 230 & 239.
- VERRILL, A. E. Additions to the Fauna of the Bermudas from the Yale Expedition of 1901, with Notes on other species. *Tr. Connect. Ac.* xi, 1903, pp. 15-62.

- [VERRILL, A. E.] The Bermuda Islands. T. c. pp. 413-956, figg.
- VERSLUYS, J. Jun. Ueber Kaumuskeln bei Lacertilier. Anat. Anz. xxiv, pp. 641-644.
- VINASSA DE REGNY, P. E. Fossili ed impronte del Montenegro. Boll. Soc. geol. Ital. xxiii, pp. 307-322, pl. ix.
- VOLZ, W. Schlangen von Palembang (Sumatra). Zool. Jahrb. Syst. xx, pp. 491-508.
- WALL, F. Cannibalism in Snakes. J. Bombay Soc. xv, pp. 524 & 525.
- . Occurrence of a rare Sea Snake (*Distira gillespiæ*) on the Malabar coast. T. c. pp. 723-726, fig.
- WALTHER, J. Die Fauna der Soluhofener Plattenkalke. Bionomisch betrachtet. Festschr. Haeckel, pp. 133-214, figg., pl. viii.
- WENDELSTADT, —. Experimentelle Studien über Regenerationsvorgänge am Knochen und Knorpel. Arch. mikr. Anat. lxiii, pp. 766-795, pls. xxxviii-xliii.
- WERNER, F. Reptilien und Batrachier. Ergebnisse der Hamburger Magalhaenischen Sammelreise. vii. 21 pp., 1 pl.
- . Zur Kenntniss der *Lacerta danfordi* Gthr. und der oxycephalen Eidechsen überhaupt. Zool. Anz. xxvii, pp. 254-259.
- . Beschreibung neuer Reptilien aus den Gattungen *Acanthosaura*, *Culotes*, *Gastropholis* and *Typhlops*. T. c. pp. 461-464.
- WICKES, W. H. The Rhætic Bone Beds. P. Bristol Soc. (2) x, pp. 213-227.
- WIELAND, G. R. Structure of the Upper Cretaceous Turtles of New Jersey: *Adocus*, *Osteopygis*, and *Propleura*. Amer. J. Sci. (4) xvii, pp. 112-132, figg., pls. i-ix.
- . Structure of the Upper Cretaceous Turtles of New Jersey: *Lytoloma*. Op. cit. xviii, pp. 183-196, figg., pls. v-viii.
- WILDER, H. H. The early development of *Desmognathus fusca*. Amer. Natural. xxxviii, pp. 93-115, figg.
- WILLISTON, S. W. The temporal arches of the Reptilia. Biol. Bull. vii, pp. 175-192, figg.
- . The relationships and habits of the Mosasaurs. J. Geol. xii, pp. 43-51.
- . Notice of some new Reptiles from the Upper Trias of Wyoming. T. c. pp. 688-697, figg.
- . The fingers of Pterodactyls. Geol. Mag. (v) 1, pp. 59 & 60.
- . The stomach stones of the Plesiosaurs. Science (2) xx, p. 565.
- WILLEY, A. *Dendrophis bifrenalis* Boulenger. Spolia Zeylan. i, pp. 116 & 117.
- WINSLOW, G. M. Three cases of abnormality in Urodeles. Tufts Coll. Stud. No. 8, pp. 387-410, pls. i & ii.
- WINTREBERT, P. Sur la valeur comparée des tissus de la queue au point de vue de la régénération chez les larves d'Anoures et sur l'absence possible de cette régénération. C.R. Ac. Sci. cxxxix, pp. 432-434.
- . Sur la position des centres nerveux réflexes de la queue chez les larves d'Anoures. C.R. Soc. Biol. lvi, pp. 581 & 582.

- [WINTREBERT, P.] Sur la limite des zones périphériques d'innervation réflexe des centres nerveux dans la queue des Urodèles. T. c. pp. 582-584.
- Sur la régénération des membres postérieurs chez l'*Axolotl* adulte, après ablation de la moelle lombo-sacrée. T. c. pp. 725 & 726.
- WOLTERSTORFF, W. Ueber *Triton blasii* de l'Isle und den experimentellen Nachweis seiner Bastardnatur. Zool. Jahrb. Syst. xix, pp. 647-661.
- Beiträge zur Fauna der Tucheler Heide. Schr. Ges. Danzig (2) xi, pp. 1-101, pl. i.
- Ueber das Vorkommen des *Triton palmatus* Schneid. bei Harburg. Zool. Anz. xxviii, pp. 59-63.
- *Triton blasii* de l'Isle, ein Kreuzungsprodukt zwischen *Triton marmoratus* und *T. cristatus*. T. c. pp. 82-86.
- WOODLAND, W. Note on an abnormal condition of the bladder in the Frog (*Rana temporaria*). Zool. Anz. xxviii, pp. 404 & 405, fig.
- WOODWARD, A. S. On two new Labyrinthodont skulls of the genera *Capitosaurus* and *Aphaneramma*. P. Z. S. 1904, ii, pp. 170-176, fig., pls. xi & xii.
- On some Dinosaurian bones from South Brazil. Rep. Brit. Ass. 1903, p. 663.
- Notes from footprints from the Keuper of South Staffordshire. J. Northampton. Soc. xii, pp. 22-24, figg.
- WOODWARD, H. The President's Address: The evolution of Vertebrate Animals in time. J. R. Micr. Soc. 1904, pp. 137-164.
- YAKOWLEW, N. Nachtrag zu meiner Abhandlung "Neue Funde von Trias-Sauriern auf Spitzbergen" und Bemerkungen zu der von Prof. Koken verfassten Recenzion dieser Abhandlung. Verh. Russ. Min. Ges. (2) xli, p. 165-169, fig.
- YUNG, E. De l'influence du régime alimentaire sur la longueur de l'intestin chez les larves de *Rana esculenta*. C.R. Ac. Sci. cxxxix, pp. 749-751.
- ZANG, R. Faunistische und biologische Bemerkungen zu einigen deutschen Reptilien und Amphibien. Zool. Anz. xxvii, pp. 701-704.
- Zur horizontalen und vertikalen Verbreitung einiger Reptilien und Amphibien in Deutschland und der Schweiz. Op. cit. xxviii, 249-251.

## II. FAUNÆ.

### EUROPE.

*Great Britain.* Popular work by W. J. GORDON, Our Country's Animals, &c. Guide to Mammals, Reptiles, and Amphibians. London, 1904, 8vo, 160 pp., 33 pls.—On the habits and distribution of some Reptiles: G. LEIGHTON, Rep. Brit. Ass. 1903, p. 694.

*Scotland.* List of the Reptiles and Batrachians of the North-West Highlands and Skye: HARVIE-BROWN & MACPHERSON, Vertebr. Faun. Scotland. North-West Highland and Skye. Edinburgh, 1904, 8vo, pp. 362-364.

*Cambridgeshire.* On the Reptiles and Batrachians: GADOW, Handbook Nat. Hist. Cambridgeshire, pp. 100-107.

*Alps of Dauphiné.* C. CEFÈDE, Les Serpents des Alpes, Grenoble, 1903, 8vo, 39 pp., figg.

*Switzerland.* On the Batrachians of Tessin : GHIDINI, Boll. Soc. Ticin. i, pp. 32-40.

*Germany.* Notes on the habits and distribution of various Reptiles and Batrachians, by R. ZANG, Zool. Anz. xxvii, pp. 701-704, and xxviii, pp. 249-251.

*North Germany.* On the Reptiles and Batrachians of the Tucheler Heide : WOLTERSTORFF, Schr. Ges. Danzig (2) xi, pp. 1-101, pl. i.—List of the Reptiles and Batrachians of the Eppendorf Fen near Hamburg by G. ULMER, Verh. Ver. Hamburg. (3) xi, p. 6.

*Styria.* On the Snakes : G. MARKTANNER-TURNERETSCHER, Mt. Ver. Steiermark xl, pp. 3-42, figg., pl. —.

*S. W. Hungary.* On the Reptiles and Batrachians of the Mecsek and Kapela Mountains : L. v. MÉHELY, Allatt. Kozl. Magyar Tars. iii, pp. 241-289, figg.

*Dalmatia.* Additions to the list of Reptiles and Batrachians inhabiting the islands of the Dalmatian Coast, by G. KOLOMBATOVIC, Glasnik Naravosl. druzt. xv, pp. 10 & 11.

*Aosta Valley.* On the Reptiles and Batrachians : PAVESI, Atti Mus. Milano xliii, pp. 213-215.

*Province Leghorn.* On the Reptiles and Batrachians : I. BERNARDINO, Boll. Naturalista xxiv, pp. 14-16.

*Cephalonia Id., Greece.* On the Reptiles and Batrachians : D. SANGIORGI, Atti Soc. Modena (4) iv, pp. 95-97.

## ASIA.

*Aral District.* On the Reptiles and Batrachians : U. P. ELPATIEBSKI, Sci. Res. Aral Exped. Imp. Russ. Geogr. Soc. 1903, 30 pp., 2 pls.

*Transcaaspia.* On a collection of Reptiles : MICHAÏLOVSKY, Annuaire Mus. St. Petersb. ix, pp. 39-44.

*S. E. Asia.* On some Snakes added to the collection of the Indian Museum : N. ANNANDALE, J. Asiat. Soc. Bengal lxxiii, pp. 208-212, pl. ix.

*Travancore.* List of the Batrachians, by H. S. FERGUSON, J. Bombay Soc. xv, pp. 499-509.

*Tunnan.* Descriptions of new Frogs and Snakes : BOULENGER, Ann. Nat. Hist. (7) xiii, pp. 130 & 131.

*Indo-China.* On the Reptiles and Batrachians : F. MOCQUARD & G. TRANT in A. PAVIE, Mission Pavie Indo-Chine iii, pp. 471-494. On a small collection from Upper Tonkin : VAILLANT, Bull. Mus. Paris 1904, p. 298.

*Burma.* On some Reptiles : G. H. EVANS, J. Bombay Soc. xvi, pp. 169-171.

*Malay Peninsula.* Remarks on the Reptiles and Batrachians, by P. KREFFT, Zool. Garten xlv, pp. 169-178, 201-207, 241-248.—A. L. BUTLER, J. Bombay Soc. xv, pp. 387-402, concludes his list of the Batrachians.

*Sumatra.* On the Snakes : W. VOLZ, Zool. Jahrb. Syst. xx, pp. 491-508.—On a collection of Batrachians : M. ISENSCHMID, Mt. Ges. Bern 1903, pp. 1-32, pls. i-vi.

*Celebes.* On a collection of Reptiles and Batrachians : J. ROUX, Verh. Ges. Basel xv, pp. 425-433, pl. viii.

## AFRICA.

*Egypt and Sudan.* On a collection of Reptiles and Batrachians : L. G. ANDERSSON, Rev. Swed. Zool. Exped. Egypt and White Nile, 1901, i, 12 pp.

*Erythræa.* On a collection of Reptiles and Batrachians : PERACCA, Boll. Mus. Torino xix, No. 467.

*Islands of the Gulf of Guinea.* On some Reptiles and Batrachians : BARBOZA DU BOCAGE, J. Sci. Lisb. (2) vii, pp. 90-96.

## AMERICA.

*North America.* A. E. BROWN, P. Ac. Philad. lvi, pp. 464-474, discusses the distribution of North American Reptiles, with special reference to the post-glacial centres of dispersal.

*Ohio.* On the Reptiles and Batrachians : M. MORSE, Pap. Ohio Ac. iv, pp. 93-144, figg., pl. i.

*Kansas.* On the Snakes : E. B. BRANSON, Kansas Univ. Sci. Bull. ii, pp. 353-430, figg.

*Bermudas.* On the Reptiles : VERRILL, Tr. Connect. Ac. xi, 1903, pp. 57, 690-698, figg.

*Bahamas.* On the Reptiles and Batrachians : T. BARBOUR, Bull. Mus. Harvard xlvi, pp. 55-61.

*Porto Rico.* On the Reptiles and Batrachians : STEJNEGER, Rep. U. S. Mus. for 1902, pp. 549-724, figg., 1 pl.

*Surinam.* On a collection of Reptiles and Batrachians : T. W. VAN LIDTH DE JEUDE, Notes Leyden Mus. xxv, pp. 83-94, pl. vii.

*Ecuador.* Further report on the Festa collection of Reptiles and Batrachians by PERACCA, Boll. Mus. Torino xix, No. 465.

*Brazil.* On the Chelonians : SIEBENROCK, Denk. Ak. Wien lxxvi, pp. 1-28, pls. i-iii.

*Matto Grosso and Paraguay.* On a collection of Reptiles and Batrachians : PERACCA, Boll. Mus. Torino xix, No. 460.

*Paraguay.* On a collection of Batrachians : L. v. MÉHELÿ, Ann. Mus. Hungar. ii, pp. 207-232, pl. xiii.

*Chili and Patagonia.* On a collection of Reptiles and Batrachians : F. WERNER, Ergebn. Hamburg. Magalhaen. Sammelr. vii, 21 pp., 1 pl.

## POLYNESIA and NEW ZEALAND.

*Hawaiian Islands.* On the Reptiles of the Island of Maui : R. MCGREGOR, P. U. S. Mus. xxviii, pp. 115-118.

*New Zealand.* List of the Reptiles and Batrachians : F. W. HUTTON, Index Faunæ Novæ Zealandiæ, pp. 39 & 40.

## FOSSIL FAUNÆ.

*Trias of Great Britain.* H. C. BEASLEY, Rep. Brit. Ass. 1903, pp. 219-230, figg., pls. v-viii, reports on Saurichnites preserved in various museums.

*Chalk of England.* General list of the Reptiles : JUKES-BROWNE, Upper Chalk of England (Mem. geol. Surv. U.K.), pp. 461 & 462.

*Coal Measures of Lancashire.* On some Batrachian remains : H. BOLTON, Tr. Manchester Geol. Soc. xxviii, pp. 406 & 624.

*Cambridgeshire.* On the fossil Reptiles : LYDEKKER, Handbook Nat. Hist. of Cambridgeshire, pp. 59-70.



- Rhætic of South Wales.* On some Reptilian and Batrachian remains : S. H. REYNOLDS, Quart. J. Geol. Soc. lx, pp. 208 & 209.
- Upper Jurassic of Calvados.* On some Reptilian remains : BIGOT & BRASIL, Mem. Soc. Linn. Norm. xxi, pp. 93 & 94, pl. iv.
- Miocene of Quercy, France.* On Lacertilian remains : G. DE STEFANO, Atti Mus. Milano xlii, pp. 382-417, pls. ix & x.
- Upper Jurassic of Solenhofen.* On the fauna : J. WALTHER, Festschr. Haeckel, pp. 133-214.
- Jura-Trias of North America.* On footprints : R. S. LULL, Mem. Boston Soc. v, pp. 461-557, figg., pl. lxxii.
- Canada.* On the fossil Reptiles and Batrachians : LAMBE, Tr. R. Soc. Canada x, iv, pp. 13-56.
- Coal Measures of Ohio.* List of the Stegocephalian Batrachians : M. MORSE, Pap. Ohio Ac. iv, pp. 105 & 106.
- Miocene of Maryland.* On the Reptiles : E. C. CASE, Maryland geol. Surv. 1904, pp. 62-70, pls. xxvi & xxvii.
- Permian of Illinois.* Notes on Reptilian remains described by Cope : E. C. CASE, Contr. Walker Mus. i, 1901, pp. 1-29, pls. i-v.
- Upper Trias of Wyoming.* On new Reptiles : S. W. WILLISTON, J. Geol. xii, pp. 688-697, figg.
- Permian of Texas.* On various reptiles and Stegocephalians : F. BROILI, Palæontogr. li, pp. 1-121, pls. i-xiii.

### III. REFERENCES ARRANGED SYSTEMATICALLY.

#### REPTILIA AND BATRACHIA.

- H. WOODWARD, J. R. Micr. Soc. 1904, pp. 141-149, remarks on the evolution of Reptiles and Batrachians in time.
- M. FÜRBRINGER, Festschr. Haeckel, pp. 573-604, deals with the relation of the Reptiles and Batrachians to the Mammalia.
- O. JAEKEL, Zeitschr. Deutsch. geol. Ges. lvi, Protok., pp. 109-119, figg., remarks on the composition of vertebræ in Reptiles and Batrachians.
- F. BÉGUIN, Arch. anat. micr. vi, pp. 385-454, pls. xiii-xvi, has investigated, on Toads and Lizards, the changes in the intestine during fast and during digestion.
- C. M. FÜRST, Act. Univ. Lund. xxxix, 1903, ii, No. 1, has investigated the musculus popliteus and its tendon in Batrachians and Reptiles.
- J. CAMERON, J. Anat. Physiol. norm. path. (2) xviii, pp. 281-283, remarks on the superior commissure of the brain in Reptiles and Batrachians.
- G. MARIKOVSKY, Termes. Kozl. Magyar Tars. 1904, pp. 524-534, gives a summary of our knowledge of Reptile and Batrachian poisons.
- HOERNES, Biol. Centrbl. xxiv, pp. 566-576, reviews our knowledge of the coprolithes of extinct Reptiles and Batrachians.

#### REPTILIA.

- H. F. OSBORN, Amer. Natural. xxxviii, pp. 93-115, figg., gives a condensed account of his classification, reported in the last Record.
- Remarks on the classification of Reptiles into two Sub-classes, *Theromora* and *Herpetomorpha* : BOULENGER, P. Z. S. 1904, i, p. 480.
- S. W. WILLISTON, Biol. Bull. vii, pp. 175-192, figg., writes on the temporal arches of the Reptiles and on the relationships of the principal orders.

- F. BROILI, *Anat. Anz.* xxv, pp. 577-587, figg., remarks on the early types of Reptiles.
- R. BROOM, *Tr. S. African Soc.* xv, pp. 89-96, pl. vii, remarks on the carpus and tarsus of the primitive Reptiles.
- F. BÉGUIN, *Anat. Anz.* xxiv, pp. 337-356, figg., writes on the mucous membrane of the œsophagus and its glands in Reptiles.
- A. I. STERZI, *Atti Soc. Toscano* xx, pp. 243-275, pls. ix & x, has investigated the histology of the periphery of the spinal cord in Reptiles.
- H. BARBIER, *Bull. Soc. Elbeuf* xxii, pp. 41-63, remarks on some Reptiles in the Elbeuf Museum.
- R. L. DITMARS, *Rep. New York Zool. Soc.* 1903, pp. 146-160, figg., has notes on Reptiles in captivity.

## SQUAMATA.

- G. TORNIER, *SB. Ak. Berlin* 1904, pp. 1203-1214, figg., remarks on the origin and signification of the colour-patterns of Lizards and Snakes.

## LACERTILIA.

- F. E. BEDDARD, *P. Z. S.* 1904, i, pp. 436-450, figg., 465-470, figg., and ii, pp. 6-22, has contributions to the anatomy of Lacertilia.
- F. E. BEDDARD, *P. Z. S.* 1904, ii, pp. 154-157, figg., and *Nature* lxx, p. 6, describes vestiges of a parasternum in *Tiliqua*.
- J. VERSLUYS, Jun., *Anat. Anz.* xxiv, pp. 641-644, writes on the muscles of mastication in the Lacertilia.
- K. PETER, *Normentafel zur Entwickel. der Zauneidech.* (Jena, 4to), describes and figures the development of *Lacerta agilis*.
- G. ALONZO, *Atti Acc. Gioen.* (4) xvi, 1903, No. 5, has made researches on the development of the limbs and tail of *Chalcides ocellatus*.
- A. N. SEWERTZOFF, *Anat. Anz.* xxv, pp. 472-494, figg., writes on the development of the limbs of *Tarentola mauritanica*.
- F. E. BEDDARD, *P. Z. S.* 1904, ii, pp. 145-147, fig., remarks on an apparently abnormal position of the fœtus in the body of a *Chalcides lineatus*.
- K. PETER, *Arch. mikr. Anat.* lxiii, pp. 659-700, figg., pls. xxxi & xxxii, continues his studies on the gastrulation of *Lacerta*.
- A. NICOLAS, *Arch. Biol.* xx, pp. 611-658, pls. xvii-xix, describes the segmentation of the egg in *Anguis fragilis*.
- J. KUNITZKY, *Trudui St. Petersb. Obsheh.* xxxiv (2), pp. 1-19, pl. —, has investigated the origin and development of the cuticular hair-like organs of the digits of *Tarentola mauritanica*.
- A. MORGERA, *Boll. Soc. Napoli* xvii, pp. 221-224, fig., has a preliminary note on the male genital apparatus of *Lacerta viridis* and *L. muralis*.
- F. TÖLG, *Arb. Inst. Wien* xv, pp. 119-154, pls. ix-xi, has a contribution to the knowledge of femoral and præanal pores and other similar organs in the Lacertilia.
- L. COHN, *Zool. Anz.* xxvii, pp. 185-192, figg., has investigated the structure of the femoral pores of *Cnemidophorus lemniscatus*.
- On the parietal eye of *Chalcides tridactylus* and *ocellatus*: GIANNELLI, *Monit. Zool. ital.* xv, pp. 187-197, 325-332: STADERINI, t. c. pp. 341-343.
- D. CASELLA, *Arch. ital. Biol.* xlii, pp. 273-288, gives a French résumé of his observations on the effects of moisture in a fasting specimen of *Chalcides ocellatus*.

## GECKONIDÆ.

- Gymnodactylus russovi*, Strauch, described by ELPATIEBSKI, Amph. Rept. Aral Exped., p. 3.
- Gonatodes boomi*, sp. n., VAN LIDTH DE JEUDE, Notes Leyden Mus. xxv, p. 87, pl. vii, figg. 1 & 2, Surinam.
- Phyllodactylus europæus*, Gené. On its variation: CAMERANO, Boll. Mus. Torino xix, No. 471; *P. paviei*, sp. n., MOCQUARD, Mission Pavie Indo-Chine iii, p. 486, pl. xxiii, fig. 3, Siam [= *P. siamensis*, Blgr.—REC.].
- Hemidactylus garnoti*, D. & B. Note by R. MCGREGOR, P. U. S. Mus. xxviii, p. 115.
- Sphaerodactylus grandisquamis*, sp. n., STEJNEGER, Rep. U. S. Mus. for 1902, p. 602, figg., Vieques and Porto Rico.

## EUBLEPHARIDÆ.

- Eublepharis macularius*, Blyth. On a Transcaspian specimen: MICHAILOVSKY, Annuaire Mus. St. Petersb. ix, p. 39.

## AGAMIDÆ.

- Draco volans*, L. Notes on living specimens: P. KREFFT, Zool. Garten xlv, p. 246.
- Acanthosaura fruhstorferi*, sp. n., WERNER, Zool. Anz. xxvii, p. 461, Tonkin.
- Calotes brevipes*, sp. n., WERNER, t. c. p. 462, Tonkin.
- Agama galliæ*, Filhol (foss.). Note by DE STEFANO, Atti Mus. Milano xlii, p. 390.
- Chlamydosaurus kingii*, Gray. Stated to have no femoral pores: BEDDARD, P. Z. S. 1904, ii, p. 82.
- Amphibolurus websteri*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiv, p. 414, pl. xi, W. Australia.

## IGUANIDÆ.

- Anolis principalis*, L., recorded from Bermuda by VERRILL, Tr. Connect. Ac. xi, 1903, p. 57, pl. i, fig. 5. On the changes of colour: PARKER & STARRATT, P. Amer. Ac. xl, p. 457. *A. elegans*, Blgr. = *A. fasciatus*, Blgr.: PERACCA, Boll. Mus. Torino xix, No. 465, p. 3. *A. lentiginosus*, O'Sh. Note by LIDTH DE JEUDE, Notes Leyden Mus. xxv, p. 88. *A. krugi*, Peters, figured by STEJNEGER, Rep. U. S. Mus. for 1902, pl. i; *A. monensis*, p. 646, figg., Mona, *evermanni*, p. 647, figg., Porto Rico, and *poncensis*, p. 665, figg., Porto Rico, spp. nn., id. ibid.; *A. festæ*, sp. n., PERACCA, t. c. p. 4, Ecuador.
- Liolaemus*, Wieg. Synopsis of the Chilian species by WERNER, Ergebn. Hamburg. Magalhaen. Sammelr. vii, p. 10; *L. lativittatus*, sp. n., id. ibid. p. 8, pl. —, figg. 3 & 4, Chili; *L. (Saccodeira) proximus*, sp. n., id. ibid. p. 12, pl. —, figg. 1 & 2, S. W. Patagonia [= *L. magellanicus*, H. & J.—REC.]
- Iguana europæa*, Filhol (foss.) Various bones described and figured by DE STEFANO, Atti Mus. Milano xlii, p. 393, pls. ix & x.
- Sceloporos undulatus*, Daud. Egg and embryos figured by DITMARS, Rep. New York Zool. Soc. 1903, p. 159. *S. merriami*, sp. n., STEJNEGER, P. Soc. Washington xvii, p. 17, Rio Grande Valley, Texas.

## . ANGUIDÆ.

- Diploglossus cadurcensis*, Filhol (foss.). Mandibles noticed and figured by DE STEFANO, Atti Mus. Milano xlii, p. 398, pl. ix, figg. 1, 4, 6.  
*Ophisaurus ventralis*, L. Note on the eggs by DITMARS, Rep. New York Zool. Soc. 1903, p. 160. *O. gracilis*, Gray. Note on the habits by G. H. EVANS, J. Bombay Soc. xvi, p. 171.  
*Propseudopus cayluxi*, sp. n. (foss.), DE STEFANO, t. c. p. 400, pl. ix, figg. 2, 5, 10, Miocene of Quercy, France.  
*Placosaurus? rugosus*, Gerv. (foss.). Note by DE STEFANO, t. c. p. 43, pl. x, fig. 2.

## ANNIELLIDÆ.

- W. R. COE & B. W. KUNKEL, Amer. Natural. xxxviii, pp. 487-490, figg., describe the reproductive organs of *Anniella pulchra*, Gray.

## HELODERMATIDÆ.

- Heloderma suspectum*, Cope. Egg described and figured by DITMARS, Rep. New York Zool. Soc. 1903, p. 158, fig.

## VARANIDÆ.

- Palaeovaranus cayluxi*, Filhol (foss.). Note by DE STEFANO, Atti Mus. Milano xlii, p. 407, pls. ix & x. *P. filholi*, sp. n., id. ibid. p. 408, Miocene of Quercy, France.

## 'TEIIDÆ.

- Cnemidophorus sexlineatus*, L. Egg and embryos figured by DITMARS, Rep. New York Zool. Soc. 1903, p. 159.  
*Arthrosaura versteegii*, sp. n., VAN LIDTH DE JEUDE, Notes Leyden Mus. xxv, p. 89, pl. vii, figg. 5 & 6, Surinam.  
*Prionodactylus kockii*, sp. n., VAN LIDTH DE JEUDE, t. c. p. 91, pl. vii, figg. 3 & 4, Surinam.  
*Alopoglossus feste*, sp. n., PERACCA, Boll. Mus. Torino xix, No. 465, p. 7, Ecuador.  
*Proctoporus simoterus*, O'Sh. Note by PERACCA, t. c. p. 9.

## AMPHISBÆNIDÆ.

- Amphisbœna bakeri*, sp. n., STEJNEGER, Rep. U. S. Mus. for 1902, p. 681, figg., Porto Rico; *A. haugi*, sp. n., MOCQUARD, Bull. Mus. Paris 1904, p. 301, Gaboon.  
*Lipidosternum laticeps* and *carcani*, spp. nn., PERACCA, Boll. Mus. Torino xix, No. 460, pp. 3 & 5, figg., Matto Grosso, Brazil.

## LACERTIDÆ.

- Tachydromus dorsalis*, sp. n., STEJNEGER, Smithson. Collect. xlvii, p. 294, Loo Choo Ids.  
*Gastrophalis*, Fisch. Synopsis of the species by WERNER, Zool. Anz. xxvii, p. 464. *G. prasina*, sp. n., id. ibid. p. 462, German E. Africa.

- Lacerta*, L. Remarks on the affinities of the Mediterranean species : WERNER, Zool. Anz. xxvii, p. 254. *L. danfordii*, Gthr., redescribed by WERNER, t. c. p. 255. *L. viridis*, var. n. *intermedia*, MÉHELÝ, Allatt. Kozl. Magyar Tars. iii, p. 280, figg., S. W. Hungary ; *L. horvathi*, sp. n., MÉHELÝ, Ann. Mus. Hungar. ii, p. 362, figg., and Allatt. Kozl. Magyar Tars. iii, pp. 193 & 279, pl. v, S. W. Hungary. *L. lamandini*, Filhol (foss.). Note by DE STEFANO, Atti Mus. Milano xlii, p. 412.
- Pseudolacerta*, g. n. for *Lacerta mucronata*, Filhol (foss.), DE STEFANO, t. c. p. 413.
- Eremias velox*, Pall., and *arguta*, Pall., described and figured by ELPATIEBSKI, Amph. Rept. Aral Exped., pp. 11 & 18, pls. i & ii.

## SCINCIDÆ.

- Lygosoma elegantulum*, Ptrs. & Doria = *Hinulia pardalis*, Macleay, BOULENGER, Ann. Nat. Hist. (7) xiv, p. 80.
- Ablepharus boutonii poecilopleurus*, Wieg. Note by R. MCGREGOR, P. U. S. Mus. xxviii, p. 117.
- Eumeces quinquelineatus*, L., is oviparous : DITMARS, Rep. New York Zool. Soc. 1903, p. 160. *E. scutatus*, Theob. On Transcaspian specimens : MICHALOVSKY, Annuaire Mus. St. Petersb. ix, p. 41, and VASILJEV, t. c. p. xiii.
- Plestiodon cadurcensis*, Filhol (foss.). Bones noticed and figured by DE STEFANO, Atti Mus. Milano xlii, p. 397, pl. x.
- Scincus officinalis*, Laur. On variations in the head-shields : A. SOKOLOWSKY, Biol. Centrbl. xxiv, p. 754, figg.
- Protrachysaurus gaudryi*, g. and spp. nn. (foss.), DE STEFANO, t. c. p. 406, pl. ix, Miocene of Quercy, France.

## INCERTÆ SEDIS.

- Thaumastosaurus bottii*, g. and spp. nn. (foss.), DE STEFANO, Atti Mus. Milano xlii, p. 414, pl. ix, figg. 1 & 15, Miocene of Quercy, France.

## RHIPTOGLOSSA.

- G. TORNIER, Zool. Jahrb. Anat. xxi, pp. 1-40, pls. i & ii, has investigated the gular and occipital air-sacs of Chameleons.
- F. E. BEDDARD, P. Z. S. 1904, ii, pp. 6-22, figg., writes on some points in the vascular system of Chameleons.
- COUVREUR & GAUTIER, Ann. Soc. Linn. Lyon l, pp. 159 & 160, have made experiments on the respiration of Chameleons.
- Palæochamæleo europæus*, g. and sp. nn. (foss.), DE STEFANO, Atti Mus. Milano xlii, p. 391, pl. ix, figg. 7 & 12, Miocene of Quercy, France.

## PYTHONOMORPHA.

- On the systematic position and habits : S. W. WILLISTON, J. Geol. xii, pp. 43-51.
- L. DOLLO, Mem. Soc. Belge Geol. xviii, pp. 207-216, pl. vi, reviews our knowledge of the Mosasaurs of Belgium, and, pp. 217-222, remarks on the derivation of the group from the Dolichosauria.
- L. VAILLANT, Bull. Mus. Paris 1904, pp. 217 & 218, is inclined to refer the great "Sea Serpent" observed on the coast of Cochin China to the Mosasaurs.

## DOLICHOSAURIA.

- L. DOLLO, Mem. Soc. Belge Geol. xviii, pp. 217-222, and S. W. WILLISTON, J. Geol. xii, pp. 45-48, remark on the different views that have been expressed as to the phylogenetic relation between the Dolichosaurians and the Lacertilians and Pythonomorphs.

## OPHIDIA.

- F. E. BEDDARD, P. Z. S. 1903, ii, pp. 319-328, figg., 1904, i, pp. 331-370, figg., 1904, ii, pp. 107-121, figg., and pp. 147-154, figg., writes on the anatomy of various groups of Snakes.
- E. BALLOWITZ brings out the first part of a work, "Entwicklungsgeschichte der Kreuzotter," Jena, 4to, dealing with the development of *Vipera berus*.
- H. DUBUISSON, C.R. Soc. Biol. lvii, pp. 286-288, 437 & 438, describes the resorption of the vitellus in the development of Vipers.
- R. S. N. PILLAY, Ann. Nat. Hist. (7) xiii, pp. 238 & 239, remarks on the dentition of some Indian Elapine Snakes.
- N. ROSÉN, Zool. Anz. xxviii, pp. 1-7, figg., writes on the muscles of the jaws of Snakes and on their mechanical relation to the poison-gland.
- A. BRANCA, Arch. zool. exp. Notes (4) ii, pp. xxxvii-xlv, has studied the epithelial covering of the sheath of the tongue in *Tropidonotus natrix*.
- F. CREVATIN, Anat. Anz. xxiv, pp. 539-542, figg., and U. CARPI, op. cit. xxv, pp. 225-230, figg., have studied the nerves in the transparent immovable eyelid of Snakes.
- T. NEUMANN, Ber. Senckenberg. Ges. 1904, pp. 72\*-76\*, remarks on poisonous Snakes and Snake poison.
- C. PHISALIX, C.R. Ac. Sci. cxxxviii, pp. 1459-1461, and C.R. Soc. Biol. lvi, pp. 976-978, remarks on the causes of the natural immunity of Snakes to their own poison, and op. cit. lvii, pp. 486-488, has further remarks on the difference between Viperid and Colubrid venom.
- L. ROGERS, Phil. Trans. B. cxcvii, pp. 123-191, has investigated the physiological action of Colubrine and Viperine venoms; R. H. ELLIOT, P. R. Soc. London lxxiii, pp. 183-190, that of *Naja tripudians*; R. H. ELLIOT, W. C. SILLAR, & G. S. CARMICHAEL, Phil. Trans. B. cxcvii, pp. 327-345, that of *Bungarus caeruleus*; and Sir T. R. FRASER & R. H. ELLIOT, t. c. pp. 249-279, that of *Enhydryna valakadien* and *Enhydryn curtus*.
- G. LAMB, Sci. Mem. India (2), No. 10, has further observations on Snake poisons.
- F. NÖC, Ann. Inst. Pasteur xviii, pp. 387-406, remarks on certain physiological properties of the different Snake poisons.
- F. WALL, J. Bombay Soc. xv, p. 524, records cases of Snakes feeding on other Snakes.

## TYPHLOPIDÆ.

- Typhlops rostellatus*, sp. n., STEJNEGER, Rep. U. S. Mus. for 1902, p. 686, figg., Porto Rico; *T. kleebergi*, sp. n., WERNER, Zool. Anz. xxvii, p. 464, Usambara, German E. Africa.

## BOIDÆ.

- On some points in their anatomy: BEDDARD, Ann. Nat. Hist. (7) xiii, p. 233, and P. Z. S. 1904, ii, p. 107, figg.

- R. L. DITMARS, Bull. Zool. Soc. New York 1904, pp. 157-163, figg., has notes on the large Boas and Pythons in captivity.  
*Unguaticia curta*, Garm. = *U. pardalis*, Gundl., BARBOUR, Bull. Mus. Harvard xlvi, p. 59.

## PALÆOPHIIDÆ.

- Archæophis proavus*, Massalongo (foss.). Note by JANENSCH, SB. Ges. naturf. Berlin 1904, p. 133, and Zeitschr. Deutsch. geol. Ges. lvi, Protok., p. 54.

## COLUBRIDÆ.

- Stoliczkaia khasiensis*, Jerd., noticed and figured by ANNANDALE, J. Asiat. Soc. Bengal lxxiii, p. 210, pl. ix, fig. 2.  
*Polyodontophis grahami*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiii, p. 132, Yunnan.  
*Tropidonotus natrix*, L. On its mode of feeding: H. BARBIER, Feuille Natural. xxxiv, p. 55, fig. On albinos: J. BERNARDI, Boll. Naturalista xxiv, p. 12; on specimens from Leghorn, id. ibid. p. 71. *T. tessellatus*, Laur. Recorded from Gera, Germany, by TORNIER, SB. Ges. naturf. Berlin 1904, p. 197. On its habits in Hungary: VEITH, Allatt. Kozl. Maygar Tars. iii, pp. 229 & 239. *T. quadrilineatus*, p. 132, *octolineatus*, p. 133, and *pleurotania*, p. 133, spp. nn., BOULENGER, Ann. Nat. Hist. (7) xiii, Yunnan.  
*Eutania butleri*, Cope, redescribed, with notes on the habits and affinities, by RUTHVEN, Biol. Bull. vii, p. 289, fig.  
*Liopholidophis*, g. n., for *Tropidonotus lateralis*, D. & B. and allies: MOCQUARD, Bull. Mus. Paris 1904, p. 302. *L. grandidieri*, sp. n., id. ibid. p. 304, Madagascar.  
*Pseudoxenodon sinensis*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiii, p. 134, S. China.  
*Hydrathiops lævis*, sp. n., BOULENGER, t. c. p. 450, S. Cameroon.  
*Siebenrockia*, n. n. for *Simocephalus*, Gthr., nec Schödl., POCHE, Zool. Anz. xxviii, p. 38 = *Mehelya*, Csiki, 1903, CSIKI, t. c. p. 267.  
*Liparophis*, g. n., near *Tapinophis*, Blgr., PERACCA, Rev. Suisse Zool. xii, p. 663; *L. bedoti*, sp. n., id. ibid. p. 664, China.  
*Trachischium læve*, sp. n., PERACCA, t. c. p. 665, E. Indies.  
*Aspidura drummondhayi*, sp. n., BOULENGER, Spolia Zeylan. ii, p. 95, pl. —, Ceylon.  
*Lamprophis rogeri*, sp. n., MOCQUARD, Bull. Mus. Paris 1904, p. 307, Abyssinia.  
*Pseudoxyrhopus dubius*, sp. n., MOCQUARD, t. c. p. 305, Madagascar.  
*Dendrophis bifrenalis*, Blgr. Further notes by WILLEY, Spolia Zeylan. i, p. 116.  
*Dromicus. Leimadophis stahli*, sp. n., STEJNEGER, Rep. U. S. Mus. for 1902, p. 695, figg., Porto Rico.  
*Alsophis vidui*, Cope. Note by BARBOUR, Bull. Mus. Harvard xlvi, p. 60.  
*Coronella austriaca*, Laur. On its mode of feeding: H. BARBIER, Feuille Natural. xxxiv, p. 58.  
*Contia walteri*, Boettg. Note by MICHAILEVSKY, Annuaire Mus. St. Petersb. ix, p. 43; *C. angusticeps*, Blgr., figured by ANNANDALE, J. Asiat. Soc. Bengal lxxiii, pl. ix, fig. 1.  
*Atractus micheli*, sp. n., MOCQUARD, Bull. Mus. Paris 1904, p. 301, French Guiana; *A. vertebralis*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiii, p. 451, Peruvian Andes.  
*Hypsirhina multilineata*, sp. n., TIRANT, Mission Pavie Indo-Chine iii, p. 484, Cochinchina.

- Dipsadomorphus trigonatus*, Schneid., var. n. *melanocephalus*, ANNANDALE, J. Asiat. Soc. Bengal lxxiii, p. 210, pl. ix, fig. 4, Perso-Baluchistan frontier.
- Oxyrhopus bicolor*, sp. n., PERACCA, Rev. Suisse Zool. xii, p. 667, Santa Fé, Argentina.
- Tachymenis peruviana*, Wieg. On colour varieties: WERNER, Ergebn. Hamburg. Magelhaen. Sammler. vii, p. 14.
- Apostolepis borellii*, sp. n., PERACCA, Boll. Mus. Torino xix, No. 460, p. 9, fig., Matto Grosso, Brazil.
- Distira gillespiei*, Blgr. On a specimen from the Malabar coast: F. WALL, J. Bombay Soc. xv, p. 723, fig.
- Apistocolumamus pratti*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiii, p. 451, Owen Stanley Range, N. Guinea.
- Acanthophis pyrrihus*, Blgr. Note by BOULENGER, op. cit. xiv, p. 415.
- Boulengerina christyi*, sp. n., BOULENGER, t. c. p. 14, Leopoldville, Congo.
- Elaeochis duttoni*, sp. n., BOULENGER, t. c. p. 15, Leopoldville, Congo.
- Naja tripudians*, Merr. On a specimen eating eggs: C. P. GEORGE, J. Bombay Soc. xvi, p. 174.

## VIPERIDÆ.

- Vipera berus*, L. On variations in British specimens: G. LEIGHTON, P. Phys. Soc. Edinb. xv, p. 130, pl. iii & xvi, pl. 1. *V. berus*, L., var. *bosniensis*, Boettg. Note by MÉHELY, Allatt. Kozl. Magyar Tars iii, p. 285, fig. *V. russellii*, Shaw. On a very large specimen: L. L. FENTON, J. Bombay Soc. xvi, p. 173. *V. ammodytes*, L., var. n. *montandoni*, BOULENGER, Ann. Nat. Hist. (7) xiv, p. 134, Roumania.
- Lachesis monticola*, Jerd., is oviparous: G. A. MILLER, J. Bombay Soc. xv, p. 729.
- Crotalus scutulatus*, Kenn. Note by A. E. BROWN, P. Ac. Philad. lv, p. 625.

## ORNITHOSAURIA.

- S. W. WILLISTON, Geol. Mag. (v) i, p. 59, remarks on the homologies of the fingers of the Pterodactyls, the patagial finger being regarded as the fourth.
- Pteranodon longiceps*, Marsh, figured, with notes on the sclerotic circle and the vertebræ, by EATON, Amer. J. Sci. (4) xvii, p. 318, pls. xix & xx.

## ORTHOPODA.

- F. NOPCSA, Denk. Ak. Wien lxxiv, pp. 256-260, figg., remarks on the so-called prædentary bone of Orthopods.
- Trachodon*, Leidy. Notes and figures of the skeleton by F. A. LUCAS, Smithsonian. Collect. i, p. 317, figg., pls. lxxii & lxxiii.
- Mochlodon suessi*, Bunz. Further descriptions and figures of various parts of the skull: NOPCSA, t. c. p. 229, figg., 2 pls.
- Claosaurus annectens*, Marsh. On the entire skeleton: BEECHER, Tr. Connect. Ac. xi, 1903, pp. 311-323, pls. xli-xlv.
- Eubrontes platypus*, n. n. for *Amblyonyx giganteus*, Hitchcock, LULL, Mem. Boston Soc. v, p. 512.



## DINOSAURIA.

- H. F. OSBORN, *Science* (2) xix, pp. 255 & 256, remarks on the position of the bones of the fore-arm in the Sauropoda.
- H. G. SEELEY, *Ann. Nat. Hist.* (7) xiv, p. 341, remarks on the pneumatic foramina in Dinosaurian vertebræ.
- H. F. OSBORN, *Bull. Amer. Mus.* xx, pp. 181-190, figg., remarks on the structure of the manus, sacrum, and caudal vertebræ of *Diplodocus* and *Brontosaurus*.
- Monoclonius canadensis*, **sp. n.**, LAMBE, *Tr. R. Soc. Canada* x, iv, p. 7, pl. 11. On the skull: LAMBE, *Ottawa Natural.* xviii, p. 33, pl. ii.
- Centrosaurus apertus*, **g. and sp. nn.**, allied to *Monoclonius*, LAMBE, t. c. p. 33, pl. i, and *Tr. R. Soc. Canada* x, iv, p. 3, pl. i, Cretaceous of Alberta, Canada.
- Algoasaurus bauri*, **g. and sp. n.**, apparently related to *Diplodocus*, BROOM, *Geol. Mag.* (v) i, p. 445, fig., Cretaceous near Port Elizabeth.
- Ornithomimus altus*, Lambe. On the manus: LAMBE, *Ottawa Natural.* xviii, p. 33, 2 pls.
- Dryptosaurus incrassatus*, Cope. Skulls and other remains described and figured by LAMBE, *Contr. Canad. Pal.* iii (4to), pt. iii, 8 pls.
- Dystropheus vicemale*, Cope. Various bones described and figured by F. v. HUENE, *N. Jahrb. Min., Beil.* xix, p. 319, pls. xiv-xvi.
- Otouphepus magnificus*, **g. and sp. n.**, for a Dinosaurian footprint from the Trias of the Connecticut Valley, CUSHMAN, *Amer. Geol.* xxxiii, p. 154, pl. vi.
- Anthisauripus*, **g. n.** for *Eubrontes dananus*, Hitchcock, the track of *Anchisaurus colurus*, Marsh, LULL, *Mem. Boston Soc.* v, p. 486; *A. hitchcocki*, **sp. n.**, id. *ibid.* p. 488, fig., Massachusetts.
- Stenonyx*, **n. n.** for *Leptonyx*, Hitchcock, preoccupied, LULL, t. c. p. 498.
- On footprints of a Dinosaur apparently related to *Allosaurus*, Marsh, RIGGS, *Amer. J. Sci.* (4) xvii, p. 423, fig.
- On Dinosaurian remains from the Trias of Rio Grande do Sul, Brazil, A. S. WOODWARD, *Rep. Brit. Ass.* 1903, p. 663.

## EMYDOSAURIA.

- J. DOUGLAS OGILBY, *P. Soc. Queensland*, xviii, pp. 201-213, has remarks on the habits and distribution of Crocodiles, with special reference to the two Australian species.
- A. PETTIT, *C.R. Soc. Biol.* lvi, pp. 298-300, fig., and *Bull. Mus. Paris* 1904, pp. 66-68, fig., remarks on the structure of the liver of *Alligator mississippiensis*.
- A. PETTIT & F. GEAY, *C.R. Soc. Biol.* lvi, pp. 1087-1089, remark on the structure of the cloacal gland of *Caiman sclerops*.
- Crocodylus prenasalis*, **sp. n.** (foss.), LOOMIS, *Amer. J. Sci.* (4) xviii, p. 427, figg., Oligocene, White River, U.S.A.
- Thecachampsia*, Cope (foss.). On various remains: CASE, *Maryland geol. Surv.* 1904, p. 64, pl. xxvii.
- Teleorhinus*, **g. n.**, allied to *Teleosaurus*, for *T. browni*, **sp. n.** (foss.), OSBORN, *Bull. Amer. Mus.* xx, pp. 239, Cretaceous of Montana.
- Metriorhynchus jaekeli*, **sp. n.** (foss.), W. E. SCHMIDT, *Zeitschr. Deutsch. geol. Ges.* lvi, *Protok.* p. 97, figg., pls. xi & xii, Oxford Clay of Huntingdonshire.
- Notochampsia*, **g. n.**, for Mesosuchian remains, BROOM, *Geol. Mag.* (v) i, p. 582; *N. istedana* and *longipes*, **spp. nn.**, id. *ibid.* p. 583, figg., Upper Stormberg beds (Lower Jurassic), Barkly East, S. Africa.

## ICHTHYOSAURIA.

- Remarks on the relationships of the genera of Ichthyosaurs, BOULENGER, P. Z. S. 1904, i, p. 425.
- On Ichthyosaurian remains from the Upper Cretaceous of New South Wales, ETHERIDGE, Rec. Austral. Mus. v, p. 313.
- Ichthyosaurus quadriscissus*, Quenst. Remarks on the skeleton and restoration of the fleshy parts by O. JAEKEL, Zeitschr. Deutsch. geol. Ges. lvi, Verh. p. 26, fig. *I. extremus*, sp. n., BOULENGER, P. Z. S. 1904, i, p. 424, fig., Lower Lias (?) near Bath.
- Merriamia*, n. n. for *Leptochirus*, J. C. Merriam, preoccupied; BOULENGER, t. c. p. 425.

## CHELONIA.

- J. P. MUNSON, Amer. J. Anat. iii, pp. 311-347, 7 pls., has made researches on the oogenesis of *Clemmys marmorata*.
- IDA H. HYDE, Amer. J. Physiol. xii, pp. 245-249, has made experiments on the differences in electrical potential in the developing egg of *Chrysemys picta*.
- G. LOISEL, C. R. Ac. Sci. cxxxix, pp. 325 & 326, has ascertained the presence of toxic substances in the ovarian eggs of *Testudo ibera*.
- G. TORNIER, SB. Ges. naturf. Berlin 1904, pp. 297-307, remarks on the origin and signification of the colour-patterns of Chelonians.
- O. P. HAY, P. Amer. Phil. Soc. xlii, pp. 268-274, discusses the definition and nomenclature of the genera of *Trionychidae*.
- Aspideretes*, g. n. for *Trionyx gangeticus*, Cuv., and allies, HAY, t. c. p. 274. *A. becheri*, sp. n. (foss.), HAY, Ann. Carnegie Mus. iii, p. 178, and Amer. J. Sci. (4) xviii, p. 274, pl. xvi, Laramie Beds, Wyoming.
- Aspidonectes tritor*, sp. n. (foss.), O. P. HAY, Science (2) xix, p. 254, Eocene of Wyoming.
- Testudo calcarata*, Schn. Note on the young by VAILLANT, Bull. Mus. Paris 1904, p. 186, fig. *T. tabulata*, Walb., redescribed by SIEBENROCK, Denk. Ak. Wien lxxvi, p. 6; On the S. African species allied to *T. geometrica*, L., id. SB. Ak. Wien cxliii, p. 307; *T. verreauxi*, Smith, *smithii*, Blgr., and *fiskii*, Blgr., redescribed and figured, id. ibid. pp. 313, 318, 322, pls. iii-v. *T. tornieri*, Siebenr. On an imperfectly ossified shell: id. ibid. p. 29, fig. *T. boettgeri*, sp. n., id. Anz. Ak. Wiss. 1904, p. 194, and t. c. p. 310, pls. i & ii, Great Mamaqualand; *T. ammon*, Andrews (foss.), noticed and figured by ANDREWS, Geol. Mag. (v) i, p. 527, fig., pl. xvii; *T. brontops*, Marsh (foss.), described and figured by HAY, Amer. J. Sci. (4) xviii, p. 272, figg.; *T. syrmensis*, sp. n. (foss.), A. KOCH, Ann. Mus. Hungar. ii, p. 21, pls. vii & viii, Pliocene of Szerem, Hungary.
- Hadrianus majusculus*, sp. n. (foss.), HAY, Amer. J. Sci. (4) xviii, p. 271, fig., pl. xv, Eocene, New Mexico.
- Cistudo*, Flem. On the characters of the species and varieties inhabiting the S. E. United States: C. S. BRIMLEY, J. E. Mitchell Soc. xx, No. 1.
- Emys orbicularis*, L. Additional note on two anomalous specimens recorded in 1893: R. BLANCHARD, Bull. Soc. zool. France xxix, p. 161; on its attempted re-introduction in Norfolk, F. B. BROWNE, Tr. Norfolk Soc. vii, p. 754; on fossil remains from Belgium, G. FOURNIER, Bull. Soc. geol. Belgique xxxi, p. 77.
- Nicoria punctularia*, Daud., redescribed by SIEBENROCK, Denk. Ak. Wien lxxvi, p. 5.
- Orlitia borneensis*, Gray (*Brookeia baileyi*, Bartl.). On its systematic position and synonymy: SIEBENROCK, Zool. Anz. xxvii, p. 580.

- Chrysemys rugosa*, Shaw. Notes on the breeding habits, by H. M. SMITH, Smithsonian. Collect. i, p. 252. *C. wyomingensis*, Leidy (foss.), described and figured by HAY, Amer. J. Sci. (4) xviii, p. 267, figg., pl. xiv; *C. inornata*, sp. n. (foss.), LOOMIS, t. c. p. 429, figg., Oligocene, White River, U.S.A.
- Pangshura cochinchinensis*, sp. n., TIRANT, Mission Pavie Indo-Chine iii, p. 494, Cochinchina.
- Mesoclemmys gibba*, Schw. Redescribed and figured by SIEBENROCK, Denk. Ak. Wien lxxvi, p. 20, pl. iii.
- Lytoloma angusta*, Cope (foss.), described and figured by WIELAND, Amer. J. Sci. (4) xviii, p. 183, figg., pls. vi-viii.
- Baptemys wyomingensis*, Leidy (foss.), described and figured by HAY, Amer. J. Sci. (4) xviii, p. 265, figg., pl. xiii, figg. 1-3.
- Adocus punctatus*, Marsh (foss.), described and figured by WIELAND, t. c. p. 112, pls. i-iv.
- Osteopygis gibbi*, sp. n. (foss.), WIELAND, t. c. p. 118, pls. v-viii, Upper Cretaceous of New Jersey.
- Propleura borealis*, sp. n. (foss.), WIELAND, t. c. p. 129, pl. ix, Upper Cretaceous of New Jersey.
- Cinosternum scorpioides*, L., redescribed by SIEBENROCK, Denk. Ak. Wien lxxvi, p. 3.
- Baëna marshi* and *cephalica*, spp. nn. (foss.), HAY, Amer. J. Sci. (4) xviii, pp. 261 & 263, fig. pl. xi, fig. 1, and pl. xii, figg. 1 & 3, Laramie beds, Wyoming. *B. callosa*, sp. n. (foss.), HAY, Ann. Carnegie Mus. iii, p. 178, figg., Judith River Beds of Montana.
- Podocnemis*, Wagl. On the Brazilian species: SIEBENROCK, Denk. Ak. Wien lxxvi, p. 10; *P. uniftis*, figured, id. ibid. pls. i & ii.
- Rhinemys*, Wagl., *Hydraspis*, Bell, and *Platemys*, Wagl. Remarks on the generic characters and descriptions of the Brazilian species: SIEBENROCK, t. c. p. 16, figg.
- Dermochelys coriacea*, L. On the capture of a specimen on the S. W. Coast of France: PELLEGRIN, La Nature xxxii, p. 321.

## PLESIOSAURIA.

- N. JAKOWLEW, Ver. Russ. Min. Ges. (2) xli, pp. 13-16, fig., pl. i, remarks on Plesiosaurian remains from Siberia.
- On Plesiosaurian remains from the Upper Cretaceous of New South Wales, ETHERIDGE, Rec. Austral. Mus. v, p. 315.
- On a *Plesiosaurus*-skeleton from the White Lias of Westbury-on-Severn, GWINNELL, Quart. J. Geol. Soc. lx, p. 359.
- On the presence of stones in the stomach of Plesiosaurians, B. BROWN, Science (2) xx, p. 185; EASTMAN, t. c. p. 466; WILLISTON, t. c. p. 565; W. H. WICKES, P. Bristol Soc. (2) x, p. 220.
- Cimoliosaurus maccoyi*, sp. n., ETHERIDGE, Rec. Austral. Mus. v, p. 306, pls. xlii-xlv, Upper Cretaceous, New South Wales.
- Branchanchenius lucasi*, Willist., figured by LUCAS, Smithsonian. Collect. xlv, pl. xxviii.
- R. BROOM, Tr. S. African Soc. xv, pp. 109-112, remarks on the affinities of the *Mesosauria*.
- Mesosaurus tenuidens*, Gerv. (?). On a new specimen: BROOM, t. c. p. 103, pl. ix.

## THECODONTIA.

- On the relationships of this order, J. H. MCGREGOR, Science (2) xix, pp. 254 & 255.

- Palæorhinus*, g. n., allied to *Belodon* and *Phytosaurus*, for *P. bransoni*, sp. n., WILLISTON, J. Geol. xii, p. 696, fig., Upper Trias of Wyoming.  
*Stegomus longipes*, sp. n., EMERSON & LOOMIS, Amer. J. Sci. (4) xvii, p. 377, pl. xxii, Trias of Connecticut.—On probable footprints, LULL, t. c. p. 381, fig.

### PELYCOSAURIA.

- F. BROILLI, Zeitschr. Deutsch. geol. Ges. lvi, pp. 268–272, figg., pl. xvii, describes some Pelycosaurian remains from Texas.  
 E. C. CASE, Science (2) xix, p. 253, remarks on the quadrate of the Pelycosauria.  
*Dimetrodon*, Cope. On the skull and fore-foot: E. C. CASE, J. Geol. xii, pp. 304 & 312, figg.  
*Embolophorus dollonianus*, Cope. On the pelvis: BROILLI, Palæontogr. li, p. 89, pl. vii, fig. 2.  
*Lysorophus tricarinatus*, Cope, described and figured by BROILLI, t. c. p. 94, pl. xii.

### THALATTOSAURIA.

- J. C. MERRIAM, Science (2) xix, p. 218, proposes this name for a new group of marine Reptiles, standing in somewhat the same relation to the typical Rhynchocephalia as the Pythonomorpha to the Lacertilia.  
*Thalattosaurus alexandræ*, g. & sp. n., for Reptilian remains from the Trias of California: J. C. MERRIAM, Bull. geol. Univ. Calif. iii, p. 419, fig.

### RHYNCHOCEPHALIA.

- Rhynchosaurus*, Ow. (foss.). Footprints noticed and figured by A. S. WOODWARD, J. Northampt. Soc. xii, p. 22, fig.  
*Batrachopus dispar*, n. n. for a footprint from Massachusetts, LULL, Mem. Boston Soc. v, p. 483, fig.

### ANOMODONTIA.

- On the classification of the *Therocephalia*, *Theriodontia*, and *Anomodontia*, R. BROOM, Rep. S. Afric. Ass. i, pp. 292–294.  
 R. BROOM, t. c. pp. 286–294, deals with the classification of the Theriodonts and their allies.  
 R. BROOM, Rec. Albany Mus. i, pp. 75–82, remarks on some points in the anatomy of the Anomodont skull.  
 O. JAEKEL, SB. Ges. naturf. Berlin 1904, pp. 172–188, figg., remarks on the structure of the skull of Dicynodonts.  
 R. BROOM, P. Z. S. 1904, i, pp. 490–498, fig., pl. xxxv, describes the structure of the Theriodont mandible and its mode of articulation with the skull.  
 R. BROOM, Rec. Albany Mus. i, p. 177, remarks on an Anomodont tarsus, Dicynodont or Therocephalian?  
*Scapanodon duplexisi*, g. n., sp. n., allied to *Titanosuchus*, BROOM, Rec. Albany Mus. i, p. 182, Trias of S. Africa.  
*Glanosuchus macrops*, g. n., sp. n., for a Therocephalian skull from the Trias of S. Africa: BROOM, Tr. S. African Soc. xv, p. 85, pl. vi, figg. 1–6.  
*Pristerognathus baini*, sp. n., BROOM, t. c. p. 87, pl. vi, figg. 7 & 8, Trias of S. Africa.

- Cynognathus platyceps*, Seeley. Note by BROOM, Rec. Albany Mus. i, p. 82.
- Gomphognathus kannemeyeri*, Seeley. Note by BROOM, t. c. p. 85.
- Trirhachodon kannemeyeri*, Seeley. Note by BROOM, t. c. p. 86.
- Chelyoposaurus williamsi*, g. n., sp. n., for an Endotheriodont skull from the Trias of South Africa, BROOM, t. c. p. 184.
- Prodicynodon pearstonensis*, g. n., sp. n., for an Endotheriodont skull from the Trias of South Africa, BROOM, t. c. p. 70, pl. iv, figg. 3 & 4.
- Opisthoctenodon agilis*, g. n., sp. n., for another Endotheriodont skull from the Trias of South Africa, BROOM, t. c. p. 71, pl. iv, fig. 1.
- Udenodon pusillus*, sp. n., JAEKEL, SB. Ges. naturf. Berlin 1904, p. 174, figg., Trias of Orange River Colony. *U. trigoniceps* and *megalorhinus*, spp. nn., BROOM, Rec. Albany Mus. i, pp. 73 & 180, Trias of S. Africa.
- Ptychocynodon pentangulatus*, g. n., sp. n., for a tooth from the Upper Karroo beds of Cape Colony, SEELEY, Ann. Nat. Hist. (7) xiv, p. 290, figg.
- Tamboeria maraisi*, g. n., sp. n., for an Anomodont (?) vertebra from the Lower Karroo beds of Cape Colony, SEELEY, t. c. p. 336, figg.

## COTYLOSAURIA.

- Remarks on their affinities and classification by BOULENGER, P. Z. S. 1904, i, p. 476.
- Remarks on the characters of the *Cotylosauria* and *Pariosauria* by F. BROILI, Anat. Anz. xxv, pp. 577-587, figg.
- Labidosaurus hamatus*, Cope, described and figured by BROILI, Palæontogr. li, p. 53, pls. vii-x.
- Pariotichus ? isolomus*, Cope. On the skull: BROILI, t. c. p. 86, pl. xii.
- Placerias histernus*, g. n., sp. n., for a Cotylosaurian humerus from the Trias of Arizona, LUCAS, P. U. S. Mus. xxvii, p. 194, pl. iv.
- Telerpeton elginense*, Mant., redescribed and figured by BOULENGER, P. Z. S. 1904, i, p. 470, fig., pls. xxx-xxxii.
- Procolophon*, Ow. Further notes by R. BROOM, Rep. S. Afric. Ass. i, p. 288. Note on the manus: BROOM, Rec. Albany Mus. i, p. 88. On footprints possibly referable to *Procolophon*: SEELEY, Ann. Nat. Hist. (7) xiv, p. 287, figg.
- Saurosternum griesbachi*, Ow. On the hind limb: BROOM, Rec. Albany Mus. i, p. 177.

## PARIOSAURIA.

- On their classification, R. BROOM, Rep. S. Afr. Ass. i, p. 292.
- Seymouria baylorensis*, g. n., sp. n., referred to the *Pariosauridae*, BROILI, Palæontogr. li, p. 81, pl. xiii, Permian of Texas.

## INCERTÆ SEDIS.

- Dolichobrachium gracile*, g. n., sp. n., p. 689, fig., *Eubrachiosaurus brownei*, g. n., sp. n., p. 690, fig., *Brachybrachium brevipes*, g. n., sp. n., p. 694, fig., WILLISTON, J. Geol. xii, Upper Trias of Wyoming.
- Varanosaurus acutirostris*, g. n., sp. n., BROILI, Palæontogr. li, p. 71, pls. x-xii, Permian of Texas.
- Cyrtura temnospondyla*, g. n., sp. n., for a Reptilian tail from the Upper Jurassic of Solenhofen, showing pleurocentra, hypocentra, and intercentra, JAEKEL, Zeitschr. Deutsch. geol. Ges. lvi, Protok. p. 118, fig.
- Tarsoplectrus*, n. n. for *Plectropterna*, Hitchcock, preoccupied, LULL, Mem. Boston Soc. v, p. 519.
- Sustenodactylus*, n. n. for *Stenodactylus*, Hitchcock, preoccupied, LULL, t. c. p. 537.

## BATRACHIA.

- On Batsch's use of the term *Batrachia* in 1788, STEJNEGER, *Science* (2) xx, p. 924.
- GREIL, *Verh. Anat. Ges.* 1904, pp. 136 & 137, fig., remarks on the branchial derivatives.
- A. CARGIULO, *Riv. ital. Pal.* xxiv, pp. 9 & 10, compares the kidney of Batrachians to that of Fishes.
- D. P. FILATOW, *Anat. Anz.* xxv, pp. 33-47, figg., writes on the development of the excretory system.
- E. GRYNFELL, *J. Anat. Physiol.* xl, pp. 180-220, has studied the histology of the suprarenal capsule.
- R. W. HALL, *Bull. Mus. Harvard* xlv, pp. 31-125, figg., 8 pls., has investigated the development of the mesonephros and the Müllerian ducts.
- F. MEVES, *Anat. Anz.* xxiv, pp. 465-476, figg., and xxv, pp. 240-245, 465-472, figg., and *Verh. Anat. Ges.* 1904, pp. 37-40, writes on some points in the structure of the red blood-corpuscles.
- J. CAMERON, *Rep. Brit. Ass.* 1903, pp. 689 & 690, remarks on the origin of the epiphysis as a bilateral structure.
- C. BARBIERI, *Arch. zool. ital.* ii, pp. 79-105, figg., pls. v & vi, has investigated the development of the spinal cord.
- P. WINTREBERT, *C.R. Soc. Biol.* lvi, pp. 581-584, has observations on the reflex nervous system in the tail.
- E. OVERTON, *Verh. Ges. Wurzburg* (2) xxxvi, pp. 277-295, remarks on the water-economy and the osmotic properties of the skinn.

## ECAUDATA.

- Z. TÓTH, *Allatt. Kozl. Magyar Tars.* iii, pp. 89-98 & 117, pls. i-iii, has a contribution to the morphology of the nasal capsule of *Bombinator igneus*.
- ESTHER F. BYRNES, *Arch. Entwicklmech.* xviii, pp. 171-177, figg., pl. x, has made experiments on the regeneration of the fore limbs in tadpoles, and, *Biol. Bull.* vii, pp. 166-169, figg., remarks on the skeleton of regenerated anterior limbs in *Rana*.
- L. v. MÉHÉLY, *Math. naturw. Ber. Ungarn* xx, pp. 239-259, figg., describes and comments upon a *Pelobates fuscus* with supernumerary fore limb.
- A. CERRUTI, *Boll. Soc. Napoli* xvii, pp. 181-184, figg., writes on Bidder's organ in *Bufo vulgaris*.
- G. LOISEL, *C.R. Soc. Biol.* lvi, pp. 446-448, remarks on a supposed correlation between the pigmentation of the testes and that of the nuptial asperities on the inner fingers in *Rana temporaria*.
- W. WOODLAND, *Zool. Anz.* xxviii, pp. 404 & 405, fig., records an abnormal condition of the bladder in *Rana temporaria*.
- M. H. HOYER, *Bull. Ac. Cracovie* 1904, pp. 228-237, figg., writes on the lymph-hearts of Frogs.
- E. YUNG, *C.R. Ac. Sci.* cxxxix, pp. 749-751, has made observations on differences in the length of the intestine in larvæ of *Rana esculenta*.
- A. GUIEYSSÉ, *Bull. Soc. Philom.* (9) vi, pp. 189-191, remarks on the regression of the tail in tadpoles of *Bufo vulgaris*.
- N. MANICASTRI, *Boll. Naturalista* xxiv, pp. 1 & 2, writes on the regeneration of the tail in tadpoles.
- P. WINTREBERT, *C.R. Ac. Sci.* cxxxix, pp. 432-434, has made experiments on the regeneration of the tail in larvæ of *Alytes obstetricans*.
- L. MERCIER, *C.R. Soc. Biol.* lvii, pp. 660-662, has a note on the presence of exoplasma in the epithelial cells of the tail of the tadpole of *Rana temporaria*.

- E. GOGGIO, Atti Soc. Toscana xx, pp. 186-223, pls. vii & viii, has made experiments on the development of mutilated larvæ of *Bufo vulgaris*.
- LILIAN V. SAMPSON, Amer. J. Anat. iii, pp. 473-504, figg., 2 pls., has a contribution to the embryology of *Hylodes martinicensis*.
- T. W. MORGAN & E. TOULLE, Arch. Entwicklmech. xviii, pp. 507-554, pls. xxxi-xxxiii, have studied the relation between normal and abnormal development in Frogs.
- H. BRAUS, Verh. Anat. Ges. 1904, pp. 53-65, remarks on experiments on transplantation of organs in *Bombinator* larvæ.
- A. H. TODD, Arch. Entwicklmech. xviii, pp. 489-506, figg., pls. xxix & xxx, writes on the results of injuries to the blastopore region of the Frog's embryo.
- A. BRACHET, Arch. Biol. xxi, pp. 103-160, pl. iv, has made experiments on the segmentation of *Rana temporaria*.
- E. BATAILLON, C.R. Soc. Biol. lvi, pp. 749-751, has made further experiments on parthenogenetic segmentation of the ova of *Bufo vulgaris*.
- E. BATAILLON, Arch. Entwicklmech. xviii, pp. 1-56, figg., pls. i-iv, has made new experiments on artificial parthenogenesis on eggs of *Rana temporaria*.
- W. KOLMER, Anat. Anz. xxv, pp. 102-104, fig., remarks on some points in the structure of the retina of Frogs.
- A. SCHAPER, Anat. Anz. xxiv, pp. 305-326, figg., has studied the development of the lens in *Rana esculenta*.
- W. H. LEWIS, Amer. J. Anat. iii, pp. 505-536, figg., has made experimental studies on the origin of the lens in *Rana palustris*.
- G. CECCHERELLI, Anat. Anz. xxiv, pp. 428-435, figg., writes on the nerve-terminations of the dorsal muscles in Tailless Batrachians.
- R. G. HARRISON, Amer. J. Anat. iii, pp. 197-220, figg., has made an experimental study of the relation of the nervous system to the developing musculature in Frog embryos.
- On the mode of respiration in Frogs, M. D. HILL, Nature lxi, p. 489, and A. KEITH, t. c. pp. 511 & 512.
- O. HERTWIG, Festschr. Haeckel, pp. 17-30, pl. iii, has further observations on the orientation of Frog-eggs:
- T. H. MORGAN, Anat. Anz. xxv, pp. 94-96, writes on the dispensibility of the constant action of gravity and of a centrifugal force in the development of the Toad's egg.
- G. BOHN, C.R. Soc. Biol. lvi, pp. 633 & 634, 767 & 768, 789-792, has made experiments on the influence of the sun-rays on the eggs of Frogs and Toads in the evolution of the embryo and early larval stages.
- G. BOHN, C.R. Ac. Sci. cxxxviii, pp. 1244 & 1245, remarks on light, food, and chlorophyll as factors in the development of the Frog.
- J. W. JENKINSON, Rep. Brit. Ass. 1903, pp. 693 & 694, remarks on the effect of solutions of salt and other substances on the development of the Frog.
- POCHET, Arch. Sci. Nat. (4) xviii, pp. 205 & 206, has made experiments on the toxico-exciting action of copper on the development of Frogs' eggs.
- A. SCHAPER, Anat. Anz. xxv, pp. 298-314, 326-337, figg., has made experiments on the influence of Radium rays and emanations on the development of Frog larvæ.
- A. GURWITSCH, Verh. Anat. Ges. 1904, pp. 146-152, figg., has made experiments on the restoration of the protoplasm in injured Frogs' eggs.
- E. FUNAOKA, Verh. Ges. Wurzburg (2) xxxvii, pp. 1-11, figg., pl. i, remarks on the mechanism of various muscles of Frogs.
- L. LOEB & R. M. STRONG, Amer. J. Anat. iii, pp. 275-283, write on the regeneration of the pigmented skin of the Frog, and on the character of the chromatophores.

G. LOISEL, C.R. Soc. Biol. lvi, pp. 504-507, 883-886, has made experiments on the toxicity of the ovaries, testes, and other organs in *Rana esculenta* and *R. temporaria*.

### RANIDÆ.

- Rana*, L. On variations in the European species: G. DEPOLI, Riv. ital. Sci. Nat. xxiv, pp. 38, 68, 151. *R. hexadactyla*, Schn., *limnocharis*, Boie, and *breviceps*, Schn. Tadpoles described and figured by H. S. FERGUSON, J. Bombay Soc. xv, pp. 500-502, pls. A & B. *R. esculenta*, var. *lessonæ*, Camer., figured by WOLTERSTORFF, Schr. Ges. Danzig (2) xi, pl. i. fig. 6; *R. latustii*, Blgr., and *græca*, Blgr., recorded from Tessin by GHIDINI, Boll. Soc. Ticin. i, pp. 36 & 37; *R. arvalis*, var. n. *nigromaculata*, WOLTERSTORFF, t. c. p. 59, pl. i, figs. 1-3, N. Germany; *R. pleuraden*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiii, p. 131, Yunnan; *R. greenii*, sp. n., id. Spolia Zeylan. ii, p. 74, Ceylon; *R. aurantiaca*, sp. n., id. J. Bombay Soc. xv, p. 430, pl. —, fig. 1, Travancore.
- Phrynobatrachus perpalmatus*, Blgr., recorded from near Chartoum by L. G. ANDERSSON, Res. Swed. Zool. Exped., p. 10; *P. natalensis*, Smith, f. n. *gracilis*, id. ibid. p. 10, fig., S. of Kaka, White Nile; *P. tellinii*, sp. n., PERACCA, Boll. Mus. Torino xix, No. 467, p. 4, Erythræa.
- Nyctibates*, g. n., related to *Trichobatrachus*, for *N. corrugatus*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiii, p. 261, S. Cameroon.
- Bulua*, g. n., near *Petropedetes*, for *B. ventrimarmorata*, sp. n., BOULENGER, t. c. p. 262, S. Cameroon.
- Prostherapis inguinalis*, Cope. Note by PERACCA, Boll. Mus. Torino xix, No. 465, p. 15. *P. festæ*, sp. n., id. ibid. p. 16, Ecuador.
- Phyllodromus*, Esp. = *Prostherapis*, Cope, PERACCA, t. c. p. 17.
- Rhacophorus maculatus*, Gray, and *mulabaricus*, Jerd. Spawn and tadpoles described and figured by H. S. FERGUSON, J. Bombay Soc. xv, pp. 503 & 504, pls. A-C. *R. nigropalmatus*, Blgr., redescribed, with notes on the skeleton and the development, by ISENSCHMID, Mt. Ges. Bern 1903, pp. 10 & 22, pls. ii & vi; *R. georgii*, sp. n., J. ROUX, Verh. Ges. Basel xv, p. 430, pl. viii, Celebes; *R. pleurotenia*, sp. n., BOULENGER, J. Bombay Soc. xv, p. 430, pl. —, fig. 2, Ceylon.
- Ixalus halyi*, sp. n., BOULENGER, t. c. p. 431, pl. —, fig. 3, Ceylon.
- Megalixalus leptosomus*, Peters. Notes on the habits: VAILLANT, Bull. Mus. Paris 1904, p. 436.

### ENGYSTOMATIDÆ.

- Atelopus flavescens*, D. and B. Note by VAN LIDTH DE JEUDE, Notes Leyden Mus. xxv, p. 92; *A. ignescens*, Corn., *pulcher*, Blgr., and *elegans*, Blgr. Notes by PERACCA, Boll. Mus. Torino xix, No. 465, pp. 19 & 22. *A. festæ*, p. 18, *bufoniformis*, p. 20, and *boulengeri*, p. 20, spp. nn., id. ibid. Ecuador.
- Ctenophryne*, g. n., allied to *Otophryne*, Blgr., for *C. geayi*, sp. n., MOCQUARD, Bull. Mus. Paris 1904, p. 308, Colombia.
- Phrynella pulchra*, Blgr., redescribed and figured by ISENSCHMID, Mt. Ges. Bern 1903, p. 12, pl. v, fig. 1.
- Calophrynus pleurostigma*, Tsch., redescribed and figured as *Bufo studeri*, sp. n., by ISENSCHMID, t. c. p. 14, pl. v, fig. 2, Sumatra.
- Engystoma albopunctatum*, Bttgr., and *leucostictum*, Blgr., compared by PERACCA, Boll. Mus. Torino xix, No. 460, p. 12; *E. aequatoriale*, sp. n., id. ibid., No. 465, p. 23, Ecuador.



- Dermatonotus*, g. n., for *Engystoma muelleri*, Bttgr., MÉHELË, Ann. Mus. Hungar. ii, p. 207; *D. muelleri*, Bttgr., redescribed, id. ibid. p. 208, pl. xiii, figg. 1-3.
- Chiasmocleis*, g. n., for *Engystoma albopunctatum*, Bttgr., MEHELË, t. c. p. 210, pl. xiii, figg. 4 & 5.
- Microhyla rubra*, Jerd. Tadpole described and figured by H. S. FERGUSON, J. Bombay Soc. xv, p. 506, pl. A, fig. 4.
- Callula pulchra*, Gray. On the breeding habits: A. L. BUTLER, J. Bombay Soc. xv, p. 390. *C. obscura*, Gthr., tadpole described and figured by H. S. FERGUSON, t. c. p. 506, pl. A, fig. 1; *C. verrucosa*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiii, p. 131, Yunnan.
- Cacopus systema*, Schn. Tadpole described and figured by H. S. FERGUSON, t. c. p. 507, pl. B, fig. 2.

## DYSCOPHIDÆ.

Synopsis of the genera by BOULENGER, Ann. Nat. Hist. (7) xiii, p. 43.

- Colpoglossus*, g. n., BOULENGER, t. c. p. 42; *C. brooksii*, sp. n., id. ibid. p. 43, pl. ii, Sarawak.

## CYSTIGNATHIDÆ.

- Hylodes conspicillatus*, Gthr., *unistrigatus*, Gthr., *buckleyi*, Blgr., *whymperi*, Blgr., *curtipes*, Blgr., *vertebralis*, Blgr., *subsigillatus*, Blgr., and *platydactylus*, Blgr. Notes by PERACCA, Boll. Mus. Torino xix, No. 465, pp. 24-27; *H. festæ* and *macrocephalus*, spp. nn., id. ibid. pp. 28 & 29, Ecuador; *H. grandoculis*, sp. n., VAN LIDTH DE JEUDE, Notes Leyden Mus. xxv, p. 93, Surinam.
- Eleuthrodactylus richmondi* and *unicolor*, spp. nn., STEJNEGER, Rep. U. S. Mus. for 1902, pp. 593 & 597, figg., Porto Rico.
- Lithodytes*, Fitz. (type *Hylodes lineatus*, Schn.) is a valid genus: PERACCA, t. c. p. 31.
- Paludicola signifera*, Gir., and *fuscomaculata*, Stdr., redescribed by MÉHELË, Ann. Mus. Hungar. ii, pp. 211 & 214; *P. festæ*, sp. n., PERACCA, t. c., p. 32, Ecuador.
- Leptodactylus mystacinus*, Burm., and *mystaceus*, Spix, redescribed and figured by MÉHELË, t. c. pp. 217 & 219, pl. xiii, figg. 11 & 12; *L. discodactylus*, Blgr., and *pulcher*, Blgr. Notes by PERACCA, t. c. p. 34. *L. krefftii*, sp. n., WERNER, Ergebn. Hamburg. Magelhaen. Sammelr. vii, p. 18, Chili.

## BUFONIDÆ.

- Eupemphix nattereri*, Stdr., redescribed and figured by MÉHELË, Ann. Mus. Hungar. ii, p. 216, pl. xiii, figg. 8 & 9.
- Nectes subasper*, Tsch. Notes on the life coloration and habits: A. L. BUTLER, J. Bombay Soc. xv, p. 393. *N. obscurus*, sp. n., BARBOUR, P. Soc. Washington xvii, p. 51, Sarawak.
- Bufo vulgaris*, Laur. On a monstrous tadpole: BANGHI, Monit. Zool. ital. xv, p. 396, figg. *B. viridis*, Laur., *mauritanicus*, Schleg., and *regularis*, Reuss. On individual variations: CAMERANO, Mem. Acc. Torino (2) liv, p. 183. *B. granulosus*, Spix, redescribed by MÉHELË, t. c. p. 225.

## HYLIDÆ.

- Hyla andersoni*, Baird. On its occurrence in New Jersey, W. T. DAVIS, Amer. Natural. xxxviii, p. 893. *H. spegazzinii*, Blgr., p. 225, *nasica*,

- Cope, p. 227, and *phrynoderma*, Blgr., p. 228, redescribed by MÉHELÿ, Ann. Mus. Hungar. ii. *H. maxima*, Laur. Note by PERACCA, Boll. Mus. Torino xix, No. 465, p. 36; *H. festæ*, sp. n., id. ibid. p. 38, Ecuador; *H. evansi*, sp. n., BOULENGER, P. Z. S. 1904, ii, p. 106, pl. v, British Guiana.
- Hylella anisitsi*, sp. n., MÉHELÿ, t. c. p. 229, pl. xiii, figg. 13 & 14, Paraguay; *H. capellei*, sp. n., VAN LIDTH DE JEUDE, Notes Leyden Mus. xxv, p. 94, Surinam.
- Phyllomedusa hypochondrialis*, Daud., redescribed by MÉHELÿ, t. c. p. 230.

## PELOBATIDÆ.

- Pelobates fuscus*, Laur., recorded from Tessin by GHIDINI, Boll. Soc. Ticin. i, p. 38.
- Scaphiopus solitarius*, Holbr. Note on the habits by C. C. ABBOTT, P. Amer. Phil. Soc. xliii, p. 163.
- Megalophrys longipes*, Blgr. Notes on the life coloration and habits: A. L. BUTLER, J. Bombay Soc. xv, p. 400.

## DISCOGLOSSIDÆ.

- Bombinator igneus*, Laur., and *pachypus*, Bp. On hybrids: MÉHELÿ, Allatt. Kozl. Magyar Tars. iii, p. 244, fig.

## CAUDATA.

- L. DRÜNER, Zool. Jahrb. Anat. xix, pp. 361-690, figg., pls. xiv-xxv, has concluded the second part of his studies on the myology of the hyoid, branchial arches, and larynx.
- F. SIEGLBAUER, Arch. Anat. 1904, pp. 385-404, pl. xxii, writes on the anatomy of the limbs.
- P. VAN PÉE, Anat. Anz. xxv, pp. 476-482, figg., writes on the structure of the limbs of *Amphiuma*.
- P. WINTREBERT, C.R. Soc. Biol. lvi, pp. 725 & 726, has made experiments on the regeneration of the hind limbs in adult Axolotls after removal of the lumbo-sacral marrow.
- F. E. BEDDARD, P. Z. S. 1903, ii, pp. 298-315, figg., describes some points in the anatomy, chiefly of the heart and vascular system, of *Megalobatrachus maximus*.
- WENDELSTADT, Arch. mikr. Anat. lxiii, pp. 766-795, pls. xxxviii-xliii, has made experiments on the regeneration of cartilage and bone in Tailed Batrachians.
- MARIAN E. HUBBARD, Univ. Calif. publ. Zool. i, 1903, pp. 157-168, pl. xvi, and C. O. ESTERLY, t. c. pp. 227-268, pls. xx-xxiii, write on the poison glands, especially of the tail, of *Plethodon oregonensis*.
- G. M. WINSLOW, Tufts Coll. Stud. No. 8, pp. 387-410, pls. i & ii, reports and comments upon cases of abnormality in Salamandrids.
- G. A. BATES, Tufts Coll. Stud. No. 8, pp. 411-435, pls. iii & iv, has investigated the histology of the digestive tract of *Amblystoma punctatum*.
- A. REINHARDT, Morphol. Jahrb. xxxii, pp. 195-231, pls. v & vi, writes on the hypochorda in *Salamandra maculosa*.
- H. RABL, Arch. mikr. Anat. lxiv, pp. 258-359, figg., pls. xvi-xxii, and pp. 665-693, pls. xxxvii-xl, brings out the first part of a study of the pronephros and the formation of the Müllerian duct in *Salamandra maculosa*.

- J. S. KINGSLEY & F. W. THYNG, Tufts Coll. Stud. No. 8, pp. 363-378, figg., have studied the development of the hypophysis in *Amblystoma*.
- H. H. WILDER, Amer. Natural. xxxviii, pp. 93-115, figg., writes on the early development of *Desmognathus fusca*.
- A. C. EYCLESHYMER, Anat. Anz. xxv, pp. 230-240, figg., has made observations on the cleavage of the egg of *Necturus*.
- W. A. HILTON, Amer. Natural. xxxviii, pp. 498-500, figg., describes the segmentation of the egg of *Desmognathus fusca*.
- J. W. JENKINSON, Quart. J. Micr. Sci. xviii, pp. 407-482, pls. xxix-xxxiii, has made observations on the maturation and fertilisation of the egg of the Axolotl.
- L. P. DE BUSSY, Tijdschr. Nederland. Dierk. Ver. (2) viii, pp. 267-378, figg., pls. xi-xx, describes the development of the egg of *Megalobatrachus maximus*.
- E. M. REESE, Amer. Natural. xxxviii, pp. 487-490, figg., remarks on the eggs and spermatozoa of *Cryptobranchus alleghaniensis*.
- A. M. REESE, Biol. Bull. vi, pp. 220-223, figg., describes the sexual elements of *Cryptobranchus alleghaniensis*.
- A. BRANCA, C.R. Soc. Biol. lvi, pp. 243-245, 350 & 351, and 704-706, and Arch. zool. exp. Notes (4) ii, pp. cv-cxiii, figg., has made observations on the condition of the testes and spermatogenesis in Axolotls kept in confinement.
- C. B. KLUNZINGER, Verh. Deutsch. zool. Ges. 1904, pp. 36-46, figg., summarises Zeller's observations on the spermatophores and mode of fecundation in European Newts.
- C. PEREZ, C.R. Soc. Biol. lvi, pp. 783 & 784, remarks on the resorption of the spermatozoa in *Molge vulgaris*.
- F. A. JANSSENS, Anat. Anz. xxiv, pp. 648-651, has a preliminary note on the chromatic element during the development of the ovocyt in Newts.
- H. SPEMANN, Zool. Jahrb., Suppl. vii, pp. 429-470, figg., describes artificially-produced monstrous Newt-larvæ.
- C. D. SNYDER, Biol. Bull. vii, pp. 280-288, has made experiments on the locomotion of *Batrachoseps* with sectioned nerve-cords.
- Salamandra maculosa*, Laur., and *atra*, Laur. On their relationships, with special reference to the mode of parturition and development: P. KAMMERER, Arch. Entwickmech. xvii, p. 1, pl. —. Notes on the breeding habits: KNOBLAUCH, Zool. Garten xlv, p. 329 & 361.
- Molge blasii*, De l'Isle. Further observations on its hybrid nature: WOLTERSTORFF, Zool. Jahrb. Syst. xix, p. 647, and Zool. Anz. xxviii, p. 82. *M. cristata*, var. *karelinii*, Strauch. Notes by MÉHELÿ, Allatt. Kozl. Magyar Tars. iii, p. 264, figg. *M. palmata*, Schn. On its occurrence near Hamburg: WOLTERSTORFF, Zool. Anz. xxviii, p. 59. *M. vulgaris*, L. On its varieties: MÉHELÿ, t. c. p. 256, figg. *M. vulgaris*, subsp. n. *kapelana*, id. ibid. p. 260, figg., S. W. Hungary [= *meridionalis*, Blgr.—REC.]
- Salamandrina perspicillata*, Savi. On its distribution in Italy: C. PATRONI, Annuar. Mus. Univ. Napoli (2) i, No. 14.
- Siredon*, Wagl., must supersede *Amblystoma*, Tschudi, POCHÉ, Zool. Ann. i, p. 50.
- Amblystoma tigrinum*, Green. On the condition in which it undergoes metamorphosis: HERRERA, Amer. Natural. xxxviii, p. 88.
- Plethodon oregonensis*, Cope, figured, with notes on the habits, by MARIAN E. HUBBARD, Univ. Calif. publ. Zool. i, 1903, p. 157, pl. xvi.
- Megalobatrachus maximus*, Schleg. On the oviposition, nursing habits, and development: KERBERT, Zool. Anz. xxvii, p. 305, figg. Notes on the distribution in Japan, habits, and development: ISHIKAWA, P. Tokyo Mus. i, p. 19, pl. viii-xi.

## APODA.

On the distribution : ALCOCK, *Ann. Nat. Hist.* (7) xiv, pp. 267-272.

A. BRAUER, *Zool. Jahrb.*, Suppl. vii, pp. 381-408, figg., pls. xxi & xxii, continues his contribution to the knowledge of the development and anatomy of Coecilians.

*Siphonops annulatus*, Mik. Note by PERACCA, *Boll. Mus. Torino* xix, No. 460, p. 14.

*Herpele fulleri*, sp. n., ALCOCK, t. c. p. 271, pl. vii, Cachar.

## STEGOCEPHALIA.

A. S. WOODWARD, *P. Z. S.* 1904, ii, p. 171, fig., remarks on the occipital region of the Labyrinthodont skull.

*Capitosaurus stantonensis*, sp. n., A. S. WOODWARD, t. c. p. 170, pl. xi, Trias, Staffordshire.

*Aphaneramma rostratum*, g. and sp. nn., for remains of a skull from the Trias of Spitzbergen, apparently allied to *Trematosaurus*, A. S. WOODWARD, t. c. p. 173, pl. xii.

*Ekbainacanthus tschernyschewi*, Yakowlew. Further observations by YAKOWLEW, *Verh. Russ. Min. Ges.* (2) xli, p. 165, fig.

*Cyclotosaurus albertynii*, sp. n., BROOM, *Rec. Albany Mus.* i, p. 178, Trias of South Africa.

*Metoposaurus fraasi*, sp. n., LUCAS, *P. U. S. Mus.* xxvii, p. 194, pl. iii, Trias of Arizona.

*Cordyloides carbonarius*, g. and sp. nn., for vertebræ similar to *Urocordylus*, Huxley, from the Carboniferous of Nyran, Bohemia, A. FRITSCH, *Palæozoische Arachniden*, p. 79, figg.

*Diplocaulus magnicornis*, Cope, described and figured by BROILL, *Palæontogr.* li, p. 8, pls. i, iv, & v; *D. copei*, sp. n., id. *ibid.* p. 21, pls. ii & iii, Permian of Texas.

*Trimerorhachis insignis*, Cope, described and figured by BROILL, t. c. p. 31, pls. iii & iv.

*Aspidosaurus chiton*, g. and sp. nn., allied to *Dissorophus*, Cope, BROILL, t. c. p. 40, pl. vi, Permian of Texas.

*Cardiocephalus sternbergi*, g. and sp. nn., of doubtful affinities, BROILL, t. c. p. 45, pl. vi, fig. 5, Permian of Texas.

L. NEUMAYER, *Palæontogr.* li, pp. 121-128, pl. xiv, describes and figures coprolites from the Permian of Texas, referred to *Eryops* and *Diplocaulus*.

On Palæozoic Batrachian footprints from North America : G. F. MATTHEW, *Tr. R. Soc. Canada* (2) ix, iv, 1903, pp. 109-121, figg.

## INCERTÆ SEDIS.

P. E. VINASSA DE REGNY, *Boll. Soc. geol. Ital.* xxiii, describes pentadactyle footprints from the Trias (?) of Montenegro, the most distinct of which is named *Ichnytes baldacci*, n. f., p. 320, pl. ix, fig. 7.

## V. PISCES.

BY

G. A. BOULENGER, F.R.S.

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## I. TITLES.\*

- AFLALO, F. G. British Salt-water Fishes. Woburn Library of Natural History. London: 1904, 8vo, 328 pp., 12 pls.
- ALBERT DE MONACO. Sur la 5<sup>me</sup> campagne scientifique de la *Princesse Alice II*. C.R. Ac. Sci. cxxxviii, pp. 1398-1400.
- ANTIPA, Q. Die Clupeinen des westlichen Teiles des Schwarzen Meeres und der Donaumündungen. Anz. Ak. Wiss. 1904, pp. 299-303.
- ARIOLA, V. Pesci nuovi o rari per il Golfo di Genova. Ann. Mus. Genova (3) i, pp. 153-168.

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

- BALLOWITZ, E. Ueber den Bau des Geruchsorgans der Cyclostomata. SB. Ak. Berlin 1904, pp. 671-676.
- . Die Riechzellen des Flussneunauges (*Petromyzon fluviatilis* L.). Arch. mikr. Anat. lxiv, pp. 78-95, pl. vi.
- . Ueber die Spermien des Flussneunauges (*Petromyzon fluviatilis* L.) und ihre merkwürdige Kopfborste. T. c. pp. 96-120, pl. vii.
- BATAILLON, E. Nouveaux essais de parthénogénèse expérimentale chez les Vertébrés inférieurs (*Rana fusca* et *Petromyzon planeri*). Arch. Entwickmech. xviii, pp. 1-56, figg., pls. i-iv.
- BEAN, B. A. A new Pelican Fish from the Pacific. Smithson. Collect. i, p. 254, fig.
- BELLOTTI, C. Sopra una forma ibrida di Ciprinide esistente nei laghi di Varano e Monate. Atti Mus. Milano xliii, pp. 1-6, pl. i.
- BENHAM, W. B. An apparently new species of *Regalecus* (*R. parkeri*). Tr. N. Zealand Inst. xxxvi, pp. 198-200, pl. ix.
- BERG, L. S. Zur Systematik der Acipenseriden. Zool. Anz. xxvii, pp. 665-667.
- BERNSTEIN, J. & TSCHERMAK, A. Ueber das thermische Verhalten des elektrischen Organs von *Torpedo*. SB. Ak. Berlin 1904, pp. 301-313, figg.
- BIGELOW, H. B. The sense of hearing in the Goldfish, *Carassius auratus*, L. Amer. Natural. xxxviii, pp. 275-284.
- BIGOT, A. & BRASIL, L. Description de la Faune des Sables jurassiques supérieurs du Calvados. Mem. Soc. Normandie xxi, pp. 85-108, pls. i-iv.
- BING, R. & BURCKHARDT, R. Das Zentralnervensystem von *Ceratodus forsteri*. Anat. Anz. xxv, pp. 588-599, figg.
- BIZZOZERO, E. Sur la régénération de l'épithélium intestinal chez les Poissons. Arch. ital. Biol. xli, pp. 233-245, pl. —.
- BLUNTSCHLI, H. Der feinere Bau der Leber von *Ceratodus forsteri*, zugleich ein Beitrag zur vergleichenden Histologie der Fischleber. In SEMON, Zool. Forsch. i, pp. 333-375, figg., pl. xxxv.
- BÖHL, U. Beiträge zur Entwicklungsgeschichte der Leibeshöhle und der Genitalanlage bei den Salmoniden. Morphol. Jahrb. xxxii, pp. 505-586, figg., pl. xiii.
- BOLTON, H. The Palæontology of the Lancashire Coal Measures. Tr. Manchester Geol. Soc. xxviii, pp. 378-420, 578-650, & 668-689.
- BORCEA, J. Sur la glande nidamentaire de l'oviducte des Elasmobranches. C.R. Ac. Sci. cxxxviii, pp. 99-101.
- . Des différences de structure histologique et de sécrétion entre le rein antérieur et le rein postérieur chez les Elasmobranches mâles. T. c. pp. 1342 & 1343.
- . Sur le développement du rein et de la glande de Leydig chez les Elasmobranches. Op. cit. cxxxix, pp. 747-749.
- . Sur un cas de conformation anormale de l'oviducte droit chez une Petite Roussette, *Scyllium canicula*, ♀. Bull. Soc. zool. France xxix, pp. 138-140.

- [BORCEA, J.] Quelques observations sur une Epinoche, *Gasterosteus aculeatus* (Variété *leirus*, C. et V.), provenant d'une rivière se déversant au fond de la Baie Aber, près du Laboratoire de Roscoff. T. c. pp. 140 & 141.
- Sur les entonnoirs segmentaires du *Centrina risso salviani* ♂. Bull. Soc. sci. méd. Ouest France xiii, pp. 108–110.
- BORSIERI, CLEMENTINA. Materiali per una fauna dell' Arcipelago Toscano. Isola del Giglio. I. Sulla presenza nell' Isola del Giglio del *Gobius knerii* Steind., e sulla sua identità col *Gobius steindachneri* Kolomb. Ann. Mus. Genova (3) i, pp. 7–13.
- Contribuzione alla conoscenza della fauna ittologica della Colonia Eritrea. T. c. pp. 187–220.
- Contribuzione alla conoscenza delle specie Europee del genere *Atherina*. Annali di Agricoltura, Rome, 1902, 92. pp., pls. vi–x, 1904 [Separate copy].
- BOULENGER, G. A. Teleostei (Systematic Part). Cambridge Natural History vii, pp. 539–727, figg.
- Report on the Fishes collected by Mr Oscar Neumann and Baron Carlo von Erlanger in Gallaland and Southern Ethiopia. P. Z. S. 1903, pp. 328–334, pli. xxix–xxxi.
- Descriptions of three new Fishes discovered by the late Mr J. S. Budgett in the Niger. Op. cit. 1904, i, pp. 197–199, pls. vii & viii.
- On the type specimen of a West African Fish, *Clarias laviceps* Gill. T. c. pp. 200 & 201.
- A synopsis of the Suborders and Families of Teleostean Fishes. Ann. Nat. Hist. (7) xiii, pp. 161–190. Translated into German by F. HILGENDORF, Arch. Naturg. 1904, i, pp. 197–228.
- Description of a new *Barbus* from Cameroon. T. c. pp. 237 & 238.
- Diagnoses of three new species of *Barbus* from Lake Victoria. T. c. pp. 449 & 450.
- Descriptions of new West African freshwater Fishes. Op. cit. xiv, pp. 16–20.
- On a new Cyprinodontid Fish from Egypt. T. c. pp. 135 & 136.
- Description of a new Fish of the Genus *Alestes* from Natal. T. c. p. 155.
- *Barbus eutania* and *B. holotenia*, new names for *Barbus kessleri* Günther nec Steindachner. T. c. p. 218.
- BOUNHIOL, J. P. Régime respiratoire des Poissons marins vivant en captivité. C.R. Ass. Franc. xxxii, pp. 813–815.
- BOVERI, T. Ueber die phylogenetische Bedeutung der Sehorgane des Amphioxus. Zool. Jahrb., Suppl. vii, pp. 409–428, figg.
- Bemerkungen über den Bau der Nierenkanälchen des Amphioxus. Anat. Anz. xxv, pp. 599–604, fig.
- BRAUER, A. Die Gattung *Myctophum*. Zool. Anz. xxviii, pp. 377–404, figg.
- BRAUS, H. Tatsächliches aus der Entwicklung des Extremitätenskelettes bei den niedersten Formen. Zugleich ein Beitrag zur Entwicklungsgeschichte des Skelettes der Pinnæ und der Visceralbogen. Festschr. Haeckel, pp. 377–435, figg., pls. xiii & xiv.

- BRIDGE, T. W. Fishes. Cambridge Natural History vii, pp. 139-537, figg.
- BRIOT, A. Sur l'existence d'une kinase dans le venin de la Vive (*Trachinus draco*). C.R. Soc. Biol. lvi, pp. 1113 & 1114.
- . La Rascasse a-t-elle un venin? Op. cit. lvii, pp. 666 & 667.
- BROILLI, F. Ueber *Diacranodus texensis* Cope (= *Didymodus ? compressus* Cope). N. Jahrb. Min., Beil. xix, pp. 467-484, pls. xxiv & xxv.
- BYKOWSKI, L. & NUSBAUM, J. Beiträge zur Morphologie des parasitischen Knochenfisches *Fierasfer* Cuv. Bull. Ac. Cracovie 1904, pp. 409-424, pl. xi.
- CALDERWOOD, W. L. The Bull Trout of the Tay and of Tweed. P.R. Soc. Edinb. xxv, pp. 27-38, pl.
- CAMERON, J. On the presence and significance of the Superior Commissure throughout the Vertebrata. J. Anat. Physiol. norm. path. (2) xviii, pp. 275-292, pls. xxv & xxvi.
- CARAZZI, D. Sulla circolazione arteriosa cardiaca ed esofagea dello *Scyllium catulus* (= *stellare*): Nota preliminare. Monit. Zool. ital. xv, pp. 147 & 148.
- . Sulla *Selache maxima*. Zool. Anz. xxviii, pp. 161-165, figg.
- . Sulla circolazione cardiaca ed esofagea dello *Scyllium catulus*. Int. Monatsschr. Anat. xxi, pp. 1-18, fig. 1, pl. 1.
- CARGIULO, A. Contributo all' Istologia del tessuto di sostegno nelle glandole. Riv. ital. Sci. Nat. xxiv, pp. 5-12.
- CARLOS DE BRAGANÇA. Resultados duo investigaçoës scientificas fistas a bordo do Yacht 'Amelia.' Ichthyologia. II. Lisbon, 1904, 4to, 107 pp., 2 pls.
- CARLSON, A. J. The rate of the nervous impulse in the spinal cord and in the vagus and the hypoglossal nerves of the Californian Hagfish (*Bdellostoma dombeyi*). Amer. J. Physiol. x, pp. 401-418.
- CARLTON, F. C. The color changes of some Fishes. Science (2) xix, p. 245.
- CAVALIÉ, M. La vésicule biliaire et sa circulation artérielle chez *Torpedo galvani*, chez *Galeus canis* et chez *Scyllium catulus*. Trav. Lab. Arcachon vii, pp. 23-28, figg.
- . Les chromoblastes du tégument externe dorsal de *Torpedo galvani*. C.R. Soc. Biol. lvi, pp. 46 & 47.
- . Les ramifications nerveuses dans l'organe électrique de la Torpille (*Torpedo galvani*). Bibliog. anat. xiii, pp. 214-220, figg.
- CHAPMAN, F. & PRITCHARD, G. B. Fossil Fish Remains from the Tertiaries of Australia. Part I. P. Soc. Victoria (2) xvii, pp. 267-297, pls. xi & xii.
- CLIGNY, A. Sur l'éthologie du Hareng. C.R. Soc. Biol. lvii, pp. 347 & 348.
- COLLENETTE, A. Note on *Luvarus imperialis*, a very rare Fish. Rep. Guernsey Soc. 1903, pp. 235-237.
- COLLETT, R. Diagnoses of four hitherto undescribed Fishes from the depths South of the Faroe Islands. Forh. Selsk. Christian. 1904, No. 9, 7 pp.
- COOPER, C. F. Cephalochorda. Systematic and anatomical account. In J. S. GARDINER, Faun. Mald. and Laccad. Archip. i, pp. 347-360, figg., pl. xviii (1903).



- COUFFON, O. Étude critique sur les Faluns du Haguineau. Bull. Soc. Angers xxxiii, pp. 35-85.
- CULBERTSON, G. A note on the breeding habits of the Common or White Sucker. P. Indiana Ac. 1903, pp. 65 & 66.
- DAGUIN, A. Répertoire alphabétique des noms vulgaires et locaux des Poissons d'eau douce de France. Naturaliste xxvi, pp. 185-187, 206, 217 & 218, 230 & 231, 242 & 243, 254 & 255, 267 & 268, 280.
- DANNEVIG, H. C. On the first successful experiment with importation of European sea Fishes to Australian waters. Rep. Fisher. N.S.W. for 1902, ii, pp. 5-17 (1903).
- . On the reproduction of sea Fishes. The result of preliminary investigations in New South Wales waters. T. c. pp. 21-25.
- . The Sea Mullet, *Mugil dobula* Günther. T. c. pp. 26-33, pl. iii.
- DAWSON, J. The mechanism of feeding and breathing in the Lamprey. Science (2) xix, pp. 218 & 219.
- DEAN, B. Notes on Japanese Myxinoids. A new Genus *Paramyxine*, and a new Species *Homea okinoseana*. Reference also to their eggs. J. Coll. Tokyo xix, No. 2, 23 pp., figg., 1 pl.
- . Notes on Chimæra. Two Japanese species, *C. phantasma* Jordan & Snyder and *C. mitsukurii* n. s., and their egg cases. T. c. No. 3, 9 pp., 1 pl.
- . Notes on the Long-snouted Chimæroid of Japan, *Rhinochimæra (Harriotta) pacifica* (Garman) Mitsukuri. T. c. No. 4, 20 pp., figg., 2 pls.
- . Evolution in a determinate line, as illustrated by the egg-cases of Chimæroid Fishes. Biol. Bull. vii, pp. 105-112.
- . L'œuf de *Chimæra collicii* et l'adaptation de sa capsule. C.R. Soc. Biol. lvii, pp. 14 & 15.
- . The Egg-cases of Chimæroid Fishes. Amer. Natural xxxviii, pp. 486 & 487.
- . In the matter of the Permian Fish *Menaspis*. Amer. Geol. xxxiv, pp. 49-53, pl. ii.
- . In the matter of *Menaspis*. Science (2) xix, p. 253.
- . Still another Memoir on *Palæospondylus*. T. c. pp. 425 & 426.
- DEINEKA, D. Zur Frage über den Bau der Schwimmblase. Zeitschr. Wiss. Zool. lxxviii, pp. 149-164, figg., pls. viii & ix.
- DEKHUYZEN, M. C. Ergebnisse von osmatischen Studien, namentlich bei Knochenfischen, an der Biologischen Station des Bergenser Museums während eines Aufenthalts vom 23 Juli bis 27 Aug. 1904. Bergens Mus. Aarbog 1904, No. 8, 5 pp.
- DELFIN, F. T. Contribucion a la ictiologia Chilena. Revist. chilena viii, pp. 11-13, fig.
- DESTINEZ, P. Faune et flore des psammites du Condroz (Famennien). Mem. Soc. geol. Belgique xxxi, pp. 249-257.
- D'ÉVANT, T. Rudimentäre Amnionbildungen der Selachier. Anat. Anz. xxiv, pp. 490-492.
- DEWITZ, J. Bemerkungen zu Herrn E. P. Allis's Arbeit "The skull and the cranial and first spinal muscles and nerves in *Scomber scomber*." Anat. Anz. xxiv, pp. 408-410. \*

- DOHRN, A. Studien zur Urgeschichte der Wirbelthierkörper. 23. Die Mandibularhöhle der Selachier. 24. Die Prämandibularhöhle. Mt. Stat. Neapel xvii, pp. 1-294, pls. i-xvi.
- ( DOLLO, L. Expédition Antarctique Belge. Résultats du Voyage du S. Y. Belgica. Zoologie. Poissons. Antwerp, 1904, 4to, 240 pp., figg., 12 pls.
- DRZEWINA, ANNA. Sur l'organe lymphoïde de l'œsophage des Sélaciens (Note préliminaire). C.R. Soc. Biol. lvi, pp. 637-639.
- . Sur la non-spécificité des cellules granuleuses du rein de l'*Acipenser sturio* L. (note préliminaire). T. c. pp. 957-959.
- . O tkance limfatycznej w nerce niektórych ryb (Sur le tissu lymphoïde du rein de certains Poissons). Kosmos polski. xxix, pp. 504-520.
- DUNCKER, G. Die Fische der malayischen Halbinsel. Mt. Mus. Hamburg xxi, pp. 133-207, fig., 2 pls.
- EASTMAN, C. R. On the nature of *Edestus* and related forms. Mark Anniv. Vol. pp. 279-289, pl. xxi.
- . Description of Bolca Fishes. Bull. Mus. Harvard xlvi, pp. 1-36, figg., 2 pls.
- . Systematic Palæontology. Miocene Pisces. Maryland geol. Surv. 1904, pp. 71-93, pls. xxviii-xxxiii.
- . Asterolepid Appendages. Amer. J. Sci. (4) xviii, pp. 141-144.
- . On Upper Devonian Fish remains from Colorado. T. c. pp. 253-260, figg.
- . On the dentition of *Rhynchodus* and other fossil Fishes. Amer. Natural. xxxviii, pp. 295-299, figg.
- . Marginal and ridge scales in *Cephalaspis* and *Drepanaspis*. Science (2) xix, pp. 703 & 704.
- . Jordan on fossil Labroid and Chaetodont Fishes. Op. cit. xx, pp. 245 & 246.
- . The earliest mention of fossil Fishes. T. c. pp. 648 & 649.
- EHRENBAUM, E. Eier und Larven von Fischen der deutschen Bucht. III. Fische mit feststehenden Eiern. Wiss. Meeresuntersuch. vi, Helgoland, pp. 127-200, fig., pls. iii-xvi.
- & STRODTMANN, S. Eier und Jugendformen der Ostseefische. I. Bericht. T. c. pp. 57-126, figg.
- EIGENMANN, C. H. The eyes of the Blind Vertebrates of North America. v. The history of the eye of the Blind Fish *Amblyopsis* from its appearance to its disintegration in old age. Mark Anniv. Vol. pp. 167-204, pls. xii-xv.
- . The fresh-water Fishes of Western Cuba. Bull. U. S. Fish Comm. f. 1902, pp. 211-236, pls. xix-xxi (1903).
- . On a Leptocephalus of the Conger Eel. Science (2) xix, pp. 629 & 630, fig.
- EVANS, H. M. A new Cestraciont spine from the Lower Triassic of Idaho. Bull. geol. Univ. Calif. iii, pp. 397-402, pl. xlvi.
- EYCLESHYMER, A. C. The early development of *Lepidosteus osseus*. Univ. Chicago Dec. Publ. x, 1903, 17 pp., pls. xvii & xviii.

- FASCIOLO, ALBA. Due casi di deformazione nel *Labrax lupus*. Atti Soc. Ligustica xv, pp. 92-99, pl. iii.
- FERREIRA, A. R. Memoria sobre o Peixe Pirá-Urucú. Arch. Mus. Rio Janeiro xii, 1903, pp. 155-158.
- FERRER Y HERNÁNDEZ, J. Materiales para la fauna ictiológica de las Baleares. Bol. Soc. espan. iii, 1903, pp. 89-98.
- FILIPPO TROIS, E. Nota sopra un' esconplare di *Epinephelus alexandrinus* preso nell' Adriatico. Atti Ist. Veneto lxiii, pp. 93-95.
- FLOWER, S. S. Zoological Gardens, Giza, near Cairo. Report for the year 1903. Cairo, 1904, 8vo, 48 pp.
- FOWLER, H. W. Descriptions of new, little known, and typical Atherinidæ. P. Ac. Philad. lv, pp. 727-742, pls. xli-xliv.
- . New and little known Mugilidæ and Sphyrænidæ. T. c. pp. 743-752, pls. xlv & xlvi.
- . Description of a new Lantern Fish. T. c. pp. 754 & 755.
- . Note on the Characinidæ. Op. cit. lvi, p. 119.
- . New, little known and typical Berycoid Fishes. T. c. pp. 222-238, figg.
- . Description of a new race of *Notropis chalybæus* from New Jersey. T. c. pp. 239 & 240, pl. xvii.
- . Notes on Fishes from Arkansas, Indian Territory, and Texas. T. c. pp. 242-249.
- FRAAS, E. *Ceratodus priscus* E. Fraas aus dem Hauptbuntsanstein. Ber. Oberrhein. geol. Ver. xxxvii, pp. 30-32, fig.
- FRITEL, P. H. Poissons fossiles des environs de Paris. Naturaliste xxvi, pp. 40-44, figg.
- FULTON, T. W. The rate of growth of Fishes. Rep. Fish. Board Scotland xxii, iii, pp. 141-241, pls. vi-xii.
- . Ichthyological Notes. T. c. pp. 281-287, pl. xviii.
- . Spawning of the Plaice. Nature lxix, p. 535.
- FÜRBRINGER, K. Beiträge zur Morphologie des Skelettes der Dipnoer, nebst Bemerkungen über Pleuracanthiden, Holocephalen und Squaliden. In SEMON, Zool. Forsch. i, pp. 423-510, figg., pls. xxxvii-xli.
- . Notiz über einige Beobachtungen am Dipnoerkopf. Anat. Anz. xxiv, pp. 405-408.
- GARMAN, S. The Chimæroids (*Chismopnea* Raf., 1815; *Holocephala* Müll., 1834), especially *Rhinochimæra* and its allies. Bull. Mus. Harvard xli, pp. 245-272, 15 pls.
- GATTI, M. Ricerche sugli organi luminosi dei Pesci. Annali di Agricoltura, Rome, 1902, 126 pp., 1 pl., 1903 [separate copy].
- GIACOMINI, E. Contributo alla conoscenza delle capsule surrenali dei Ganoidi e particolarmente sull' esistenza della loro sostanza midollare. Monit. Zool. ital. xv, pp. 19-32.
- GIARD, A. Sur l'éthologie du Hareng des côtes du Boulonnais. C.R. Soc. Biol. lvi, pp. 1058-1061.
- GILBERT, C. H. Notes on Fishes from the Pacific Coast of North America. P. Calif. Ac. Zool. (3) iii, pp. 255-271, pls. xxv-xxix.

- [GILBERT, C. H.] & STARKS, E. C. The Fishes of Panama Bay. Mem. Calif. Ac. iv, pp. 1-304, pls. i-xxxiii.
- GILCHRIST, J. D. F. Descriptions of new South African Fishes. Mar. invest. S. Africa iii, pp. 1-16.
- . Development of South African Fishes. Part II. T. c. pp. 131-152, pls. v-xi.
- GILL, T. A remarkable genus of Fishes—the Umbras. *Smithson. Mus. Collect.* i, pp. 295-305, figg.
- . *Labracinus* the proper name for the Fish genus *Cichlops*. P. U. S. Mus. xxviii, p. 119.
- . Note on the genus *Prionurus* or *Acanthocaulos*. T. c. p. 121.
- . On the systematic relations of the Ammodytoid Fishes. T. c. pp. 159-163, figg.
- . State Ichthyology of Massachusetts. Science (2) xx, pp. 321-338.
- . Extinct Pediculate and other Fishes. T. c. pp. 845 & 846.
- GLEYS, E. Recherches sur le sang des Sélaciens. Action toxique du sérum de Torpille (*Torpedo marmorata*). C.R. Ac. Sci. cxxxviii, pp. 1547-1549, and Bull. Mus. Paris 1904, pp. 282-284.
- GOETTE, A. Ueber den Ursprung der Lungen. Zool. Jahrb. Anat. xxi, pp. 141-160, figg.
- GÜPPERT, E. Der Kehlkopf von *Protopterus annectens* (Owen). Anatomische Untersuchung. Festschr. Haeckel, pp. 115-132, figg., pl. vii.
- GREGORY, W. K. The relations of the anterior visceral arches to the chondrocranium. Biol. Bull. vii, pp. 55-66.
- GUCCINI, L. Sul contenuto gastro-enterico dei Pesci del Ticino. R. Inst. Lomb. (2) xxxvii, pp. 194-201.
- GUITEL, F. Descriptions comparatives des *Lepadogaster bimaculatus* Pennant et *microcephalus* Brook. Arch. Zool. exp. (4) ii, pp. 357-495, figg., pl. xv.
- GOODRICH, E. S. On the dermal fin-rays of Fishes, living and extinct. Quart. J. Micr. Sci. xlvi, pp. 465-522, figg., pls. xxxv-xli.
- HAMBURGER, R. Ueber die paarigen Extremitäten von *Squalius*, *Trigla*, *Periophthalmus* und *Lophius*. Rev. Suisse Zool. xii, pp. 71-148, pls. ii & iii.
- HANITSCH, R. Annual Report on the Raffles Library and Museum for the year 1903. Singapore, 1904, 4to, 16 pp.
- HAUG, E. Sur la faune des couches à *Ceratodus* crétacées du Djoua, près Timassânine (Sahara). C.R. Ac. Sci. cxxxviii, pp. 1529-1531.
- HELBIG, H. Beiträge zur Anatomie und Systematik der Laemargiden. Acta Ac. German. lxxxii, pp. 335-524, figg., pls. viii & ix.
- HERDMAN, W. A. Cephalochordata. Cambridge Natural History vii, pp. 112-138, figg.
- . Spawning of the Plaice. Nature lxix, pp. 465 & 488.
- HERRICK, C. J. The organ and sense of taste in Fishes. Bull. Denison Univ. xii, 1903, pp. 39-96, and Bull. U. S. Fish Comm. xxii, pp. 237-272, figg.

- HILGENDORF, F. Ein neuer Scyllium-artiger Haifisch, *Proscyllium habereri*, nov. subgen., n. spec. von Formosa. SB. Ges. naturf. Berlin 1904, pp. 39-41.
- HOFER, B. Handbuch der Fischkrankheiten. Munich, 1904, 8vo, 359 pp., figg.
- HOLT, E. W. L. & BYRNE, L. W. On the Fishes taken by the 'Oceana.' Ann. Nat. Hist. (7) xiv, pp. 37-40, fig.
- HOSCH, —. Das Sehorgan von *Protopterus annectens*. Arch. mikr. Anat. lxiv, pp. 99-110, pl. vi.
- HUTTON, F. W. Index Faunæ Novæ Zealandiæ. London, 1904, 8vo, 372 pp.
- . Description of a new Fish. Tr. N. Zealand Inst. xxxvi, p. — [separate copy].
- HYDE, IDA H. Localization of the respiratory centre in the Skate. Amer. J. Physiol. x, pp. 236-258, figg.
- . Differences in electrical potential in developing eggs. Op. cit. xii, pp. 241-275.
- IMMS, A. D. Notes on the Gill-rakers of the Spoonbill Sturgeon, *Polyodon spathula*. P. Z. S. 1904, ii, pp. 22-35, pl. ii.
- ISHIKAWA, C. Notes on some new or little known Fishes of Japan. 1. P. Tokyo Mus. i, pp. 1-17, pls. i-vii.
- JAEGER, A. Die Schwimmblase der Fische. Ber. Senckenberg. Ges. 1904, pp. 63\*-72\*.
- . Die Physiologie der Schwimmblase der Fische. Biol. Centrbl. xxiv, pp. 129-142.
- JAEKEL, O. Ueber die Organisation und systematische Stellung der Asterolepiden. Zeitschr. Deutsch. geol. Ges. lv, Verh., pp. 41-60, figg.
- . Ueber *Tremataspis* und Pattens Ableitung der Wirbeltiere von Arthropoden. T. c. pp. 84-93, figg.
- JENKINS, O. P. Report on collections of Fishes made in the Hawaiian Islands, with descriptions of new species. Bull. U. S. Fish Comm. xxii, pp. 417-511, figg.
- JENSEN, A. S. The North-European and Greenland *Lycodinae*. Danish Ingolf-Expedition iii, No. 4, 99 pp., figg., 10 pls.
- . The Fishes of East-Greenland. Medd. Gronland xxix, pp. 213-276, pls. xi-xiii.
- JOHANSEN, A. C. Contributions to the biology of the Plaice, with special regard to the Danish Plaice-fishery. Meddel. Komm. Havunders., Fisk. i, No. 2, 69 pp., 12 pls.
- JOHNSTONE, J. On the Marine Fishes. Suppl. Rep. Ceylon Pearl Fisheries, No. xv, pp. 201-222, 2 pls.
- . Trawling observations and results. P. Liverp. biol. Soc. xviii, pp. 100-112, pl. i.
- JORDAN, D. S. Notes on Fishes collected in the Tortugas Archipelago. Bull. U. S. Fish Comm. xxii, pp. 539-544, pls. i & ii.
- . The transplanting of Trout in the streams of the Sierra Nevada. Amer. Natural. xxxviii, pp. 885-887.

- [JORDAN, D. S.] A Loach from Nanaimo. *Science* (2) xix, pp. 634 & 635.
- & SNYDER, J. O. On a collection of Fishes made by Mr Alan Owston in the deep waters of Japan. *Smithson. Collect.* i, pp. 230-240, pls. lviii-lxiii.
- & —. On the species of White Chimæra from Japan. *P. U. S. Mus.* xxvii, pp. 223-226, figg.
- & —. Notes on Collections of Fishes from Oahu Island and Laysan Island, Hawaii, with descriptions of four new species. *T. c.* pp. 939-948.
- & —. Description of a new species of Fish (*Apogon evermanni*) from the Hawaiian Islands, with notes on other species. *Op. cit.* xxviii, pp. 123-126.
- & STARKS, E. C. A review of the Scorpænoid Fishes of Japan. *Op. cit.* xxvii, pp. 91-175, figg., pls. i & ii.
- & —. A review of the Cottidæ or Sculpins found in the waters of Japan. *T. c.* pp. 231-335, figg.
- & —. A review of the Japanese Fishes of the Family of 'Agonidæ. *T. c.* pp. 575-599, figg.
- & —. *Schmidtina*, a genus of Japanese Sculpins. *T. c.* p. 961.
- & —. Description of a new Cyprinoid Fish, *Hemibarbus joiteni*, from the Pei Ho, Tientsin, China. *Smithson. Collect.* i, pp. 241 & 242, pl. lxiv.
- & —. List of Fishes dredged by the steamer 'Albatross' off the coast of Japan in the summer of 1900, with descriptions of new species and a review of the Japanese Macrouridæ. *Bull. U. S. Fish Comm.* xxii, pp. 577-630, figg., 8 pls.
- JOSEPH, H. Ueber eigentümliche Zellstrukturen im Zentralnervensystem von Amphioxus. *Verh. Anat. Ges.* 1904, pp. 16-26.
- JUDAY, C. Fishes of Boulder County, Colorado. *Stud. Univ. Colorado* ii, pp. 113 & 114.
- JUKES-BROWNE, A. J. The Cretaceous Rocks of Great Britain. III. The Upper Chalk of England. *Mem. geol. Surv. U. K.* 1904.
- KATURÍĆ, N. M. Novo nalazište jesetre atlantske, *Acipenser sturio* L. *Rad. Jugoslav. Ak.* cliv, 1903, pp. 1-6.
- KELLCOTT, W. E. The development of the vascular system of *Ceratodus*. *Biol. Bull.* vi, pp. 320 & 321.
- KEMNA, A. Les récentes découvertes de Poissons fossiles primitifs. *Mem. Soc. Belge Geol.* xvii, pp. 339-382, figg., and xviii, pp. 3-78.
- . Les caractères généraux des Vertébrés. *Bull. Soc. malac. Belgique* xxxviii, pp. xcvi-cvii.
- KENDALL, W. C. Notes on some fresh-water Fishes from Maine, with descriptions of three new species. *Bull. U. S. Fish Comm.* xxii, pp. 353-368, figg.
- KERR, J. G. On some points in the early development of motor nerve trunks and myotomes in *Lepidosiren paradoxa* (Fitz.). *Tr. R. Soc. Edinb.* xli, pp. 119-127, 6 pls.
- KERSHAW, J. A. A colour variety of the Common Eel, *Anguilla australis* Rich. *Victorian Natural.* xx, p. 140.

- KITAHARA, T. Note on the *Leucopsarion petersi* Hilg. Annot. zool. Japon. v, pp. 113-115, pl. v.
- . Preliminary note on the Salmon and Trout of Japan. T. c. pp. 117-120.
- KLUNZINGER, C. B. Entgegnung auf Nüsslin's Ausführungen in der Gangfisch-Blaufelchen-Frage vom September 1903. Jahresh. Ver. Württemb. lx, pp. 335-343.
- KNIPOWITSCH, N. Zoologische Ergebnisse der Russischen Expedition nach Spitzbergen. Fische. Nachtrag. Annuaire Mus. St. Petersb. viii, 1903, pp. 144-156.
- KOCH, A. Die fossilen Fische des Beocsiner Cement-Mergels. Ann. Mus. Hungar. ii, pp. 1-72, pls. i-vii.
- . Fossile Haifiszähne und Säugetierreste von Felsőestergály, im Komitate Nógrád. Foldtani Kozl. xxxiv, pp. 190-203, 260-274, figg., 1 pl.
- . Kleine paläontologische Mittheilungen. T. c. pp. 332-335, 365-368.
- KOLOMBATOVIĆ, G. Contribuzioni alla fauna die Vertebrati della Dalmazia. Glasnik Naravosl. druzt. xv, pp. 1-19.
- KOROTNEFF, A. DE. Résultats d'une Expédition Zoologique au Lac Baïkal pendant l'été de 1902. Arch. Zool. exp. (4) ii, pp. 1-26, figg.
- . Ueber einen Baikalfisch. Biol. Centrbl. xxiv, pp. 641-644.
- KUNSTLER, J. Note sur les moeurs du Muge de l'étang de Mimizan. C.R. Soc. Biol. lvi, pp. 427 & 428.
- LAHILLE, F. Nota sobre un género nuevo de Escómbrido. An. Mus. Buenos Aires (3) ii, 1903, pp. 375 & 376.
- LAMBE, L. M. Progress of Vertebrate Palæontology in Canada. Tr. Soc. Canada x, iv, pp. 13-56.
- LAMS, H. Contribution à l'étude de la genèse du vitellus dans l'ovule des Téléostéens. Arch. anat. micr. vi, pp. 633-652, pls. xxi & xxii.
- LAURIE, R. D. The fecundity of the Plaice. P. Liverp. biol. Soc. xviii, pp. 153-156.
- LANGELAAN, J. W. On the form of the trunk-myotome. P. Ac. Amsterdam vii, pp. 34-40, figg.
- LARGE, T. A list of the native Fishes of Illinois, with keys. Rep. Fish Comm. Illinois 1900-1902, 30 pp., 2 pls.
- \*LEONHARDT, E. Die Bastarde der Deutschen karpfenähnlichen Fische. Neudamm, 1904, 8vo, 58 pp., figg.
- LICHTENFELT, H. Ueber die chemische Zusammensetzung einiger Fischarten, warum und wie sie periodisch wechselt. Arch. ges. Physiol. ciii, pp. 353-402, figg.
- LO BIANCO, S. Pelagische Tiefseefischerei der "Maja" in der Umgebung von Capri. Jena, 1904, 8vo, 91 pp., 31 pls.
- LOCY, W. A. A new cranial nerve in Selachians. Mark Anniv. Vol. pp. 39-55, pls. v & vi.
- LOEWENTHAL, N. Beitrag zur Kenntniss der Körnerzeller des Neunauges. Anat. Anz. xxv, pp. 81-94, figg.
- LONG, J. A. The reaction of eyeless (blinded) Fish to light. Science (2) xix, p. 248.

- LÖNNBERG, E. Bronn's Klassen und Ordnungen des Thier-Reichs. vi. 1. Pisces (Fische). Lief. 13-15, pp. 209-240, pls. x-xii.
- . On some Fishes from the lakes of the Cameroon Mountain. Ann. Nat. Hist. (7) xiii, pp. 135-139.
- . On the occurrence of *Cottus quadricornis* in Lake Malären. Bull. Geol. Inst. Upsala vi, pp. 85-91, figg.
- LUBOSCH, W. Untersuchungen über die Morphologie des Neunaugeneies. Jena. Zeitschr. xxxviii, pp. 673-724, figg., pl. xxiii.
- LUCAS, F. A. The osteology and immediate relations of the Tile-fish, *Lopholatilus chamaeleonticeps*. Bull. Bur. Fisher. xxiv, pp. 81-86, figg.
- LYDEKKER, R. Vertebrate Palæontology of Cambridgeshire. In J. E. MARR & A. E. SHIPLEY, Handbook to the Natural History of Cambridgeshire. Cambridge, 1904, pp. 51-70.
- LYDELL, D. The habits and culture of the Black Bass. Bull. U. S. Fish Comm. xxii, pp. 39-44.
- LYON, E. P. On Rheotropism. i. Rheotropism in Fishes. Amer. J. Physiol. xii, pp. 149-161.
- MAXWELL, Sir H. British Fresh-water Fishes. Woburn Library of Natural History. London, 1904, 8vo, 316 pp., figg., 12 pls.
- MCINTOSH, W. C. Note on the egg of the Shanny (*Blennius pholis* L.). Rep. Brit. Ass. 1903, p. 697.
- MEEK, A. The migrations and the growth of Plaice. Rep. Sci. Observ. Northumb. Fisher. Comm. 1904, pp. 70-80, fig.
- . Faunistic Notes. T. c. pp. 86 & 87.
- . On the Fishes of the North-East Coast. Tr. Northumb. Soc. (2) i, pp. 35-38.
- . Notes on the auditory organ and the orbit of *Orthogoriscus mola*. Anat. Anz. xxv, pp. 217-219, figg.
- MEEK, S. E. The fresh-water Fishes of Mexico North of the Isthmus of Tehuantepec. Field Mus. Zool. v, pp. 1-252, figg., pls. i-xvii.
- MICHAILOVSKY, M. On two little-known Coregonids from Lake Onega [Russian text]. Annuaire Mus. St. Petersb. viii, 1903, pp. 345-355.
- . On an exceptionally large *Orthogoriscus mola* L. [Russian text.] T. c. pp. xlvi & xlvi.
- MIRANDA RIBEIRO, A. DE. Pescas do "Annie." A Lavoura, Bol. Soc. Agric. Rio Janeiro 1904, 53 pp. [Separate copy].
- MITCHELL, E. G. Oral breathing valves of Teleosts, their modifications and relation to the shape of the mouth. Amer. Natural. xxxviii, pp. 153-164, figg., & p. 405.
- MOENKHAUS, W. T. The development of the hybrids between *Fundulus heteroclitus* and *Menidia notata*, with especial reference to the behaviour of the maternal and paternal chromatin. Amer. J. Anat. iii, pp. 29-64, 4 pls.
- MOROFF, T. Ueber die Entwicklung der Kiemen bei Fischen. Arch. mikr. Anat. lxiv, pp. 189-213, pls. xi & xii.
- MOSER, FANNY. Beiträge zur vergleichenden Entwicklungsgeschichte der Schwimmblase. Arch. mikr. Anat. lxiii, pp. 532-574, pls. xxii-xxv.



- NEAL, H. V. The development of ventral nerves in Selachii. I. Spinal ventral nerves. *Mark Anniv.* Vol. pp. 291-313, pls. xxii-xxiv.
- NEHRING, A. Ueber die geographische Verbreitung des *Pelecus cultratus* L. in Deutschland. *SB. Ges. naturf. Berlin* 1904, pp. 43-45.
- NEUMAYER, L. Die Entwicklung des Darmkanales, von Lunge, Leber, Milz, und Pankreas bei *Ceratodus forsteri*. In SEMON, *Zool. Forsch.* i, pp. 377-422, figg., pl. xxxvi.
- NEWTON, E. T. On the occurrence of *Edestus* in the Coal-Measures of Britain. *Quart. J. Geol. Soc.* lx, pp. 1-8, figg., pl. i.
- NICOLAS, A. Recherches sur le développement du pancréas, du foie et de la rate chez le Sterlet (*Acipenser ruthenus*). *Arch. Biol.* xx, pp. 425-460, pls. x-xii.
- NIKOLSKI, A. New species of Fishes from Eastern Asia [Russian text]. *Annuaire Mus. St. Petersb.* viii, 1903, pp. 356-363.
- NÜSSLIN, O. Gangfisch und Blaufelchen. *Jahresh. Ver. Wurttemb.* lx, pp. 189-197.
- OSBORN, H. F. The great Cretaceous Fish *Portheus molossus* Cope. *Bull. Amer. Mus.* xx, pp. 377-381, figg., pl. x.
- OTAKI, K., FUJITA, T. & HIGURASHI, T. Fishes of Japan. An account principally on economic species [in Japanese]. Vol. I, No. 2, 8vo text, 4to pls.
- PANTANELLI, D. Denti di *Ptychodus* nell' Appennino modenense. *Pr.-verb. Soc. Toscana* xiv, pp. 70 & 71.
- . Sugli otoliti fossili. *T. c.* pp. 71 & 72.
- PARKER, G. H. Hearing and allied senses in Fishes. *Bull. U. S. Fish Comm.* xxii, pp. 45-64, pl. ix.
- . The function of the lateral line organs of Fishes. *Amer. Natural.* xxxviii, pp. 496 & 497.
- PATTEN, W. New facts concerning *Bothriolepis*. *Biol. Bull.* vii, pp. 113-124, figg.
- PAVESI, P. Esquisse d'une Faune Valdôtaine. *Atti Mus. Milano* xliiii, pp. 191-260.
- PELLEGRIN, J. Sur les pharyngiens inférieurs chez les Poissons du genre *Orestias*. *C.R. Ac. Sci.* cxxxix, pp. 682-684, figg.
- . Contribution à l'étude anatomique, biologique et taxinomique des Poissons de la famille des Cichlidés. *Mem. Soc. zool. France* xvi, pp. 41-402, figg., pls. iv-vii.
- . Mission G. de Créqui-Montfort et E. Sénéchal de la Grange. Note sur les Poissons des Lacs Titicaca et Poopo. *Bull. Soc. zool. France* xxix, pp. 90-96. Note sur les Poissons de la Côte Chilienne. *T. c.* pp. 117-121.
- . Diagnoses préliminaires de Poissons nouveaux du Lac Victoria, recueillis par M. Alluaud. *T. c.* pp. 184-186.
- . Characinidés nouveaux de Casamance. *Bull. Mus. Paris* 1904, pp. 218-221.
- . Cyprinodontidés nouveaux du Congo et de l'Oubanghi. *T. c.* pp. 221-223.

- [PELLEGRIN, J.] Poissons du Chari et du Lac Chad, récoltés par la Mission Chevalier-Decorse. T. c. pp. 309-313.
- . Mormyridés nouveaux de la collection du Muséum. T. c. pp. 438-442.
- . Poissons recueillis par M. Ch. Gravier à Djibouti et à Obock. T. c. pp. 543-545.
- PETERSEN, C. G. J. On the larval and postlarval stages of the Long Rough Dab and the genus *Pleuronectes*. Meddel. Komm. Havurders., Fisk. i, No. 1, 12 pp., 2 pls.
- PETTIS, C. R. Albino Brook Trout. Science (2) xix, pp. 867 & 868.
- PHILIPPI, E. Ein neuer Fall von Arrhenoidie. SB. Ges. naturf. Berlin 1904, pp. 196 & 197.
- POPTA, C. M. L. Les arcs branchiaux de quelques Murænidæ. Ann. Sci. Nat. (8) xix, pp. 367-390, figg.
- . Descriptions préliminaires des nouvelles espèces de Poissons recueillies au Bornéo central par M. le Dr A. W. Nieuwenhuis en 1898 et en 1900. Notes Leyden Mus. xxiv, pp. 179-202.
- PRICE, G. C. A further study of the development of the excretory organs in *Bdellostoma stouti*. Amer. J. Anat. iv, pp. 117-138, figg.
- PRIEM, F. Sur les Poissons du Bartonien et les Siluridés et Acipenséridés de l'Éocène du Bassin de Paris. Bull. Soc. geol. France (4) iv, pp. 42-47, figg.
- . Sur les Poissons fossiles des terrains tertiaires supérieurs de l'Hérault. T. c. pp. 285-294, figg.
- PUNNETT, R. C. Cephalochorda. Note on meristic variation in the group. In J. S. GARDINER, Faun. Mald. and Laccad. Archip. i, pp. 361-367.
- . Merism and sex in *Spinax niger*. Biometrika iii, pp. 313-362, pl. i.
- QUINTON, R. Degré de concentration saline du milieu vital de l'Anguille dans l'eau de mer et dans l'eau douce et après son passage expérimental de la première eau dans la seconde. C.R. Ac. Sci. cxxxix, pp. 938-941, and C.R. Soc. Biol. lvii, pp. 170-172.
- . Communication osmotique, chez le Poisson Sélacien marin, entre le milieu vital et le milieu extérieur. Tt. cc. pp. 995-979, 513 & 514.
- REGAN, C. T. A monograph of the Fishes of the Family *Loricariidæ*. Tr. Zool. Soc. London xvii, pp. 191-350, pls. ix-xxi.
- . On a collection of Fishes made by Mr John Graham at Yunnan Fu. Ann. Nat. Hist. (7) xiii, pp. 190-194.
- . Descriptions of new or little-known Fishes from Mexico and British Honduras. T. c. pp. 255-259.
- . Descriptions of *Holocentrum osculum* Poey, and of a new Fish of the genus *Centropomus*. T. c. pp. 259-261.
- . Description of a new Fish of the genus *Chatodon* from the New Hebrides. T. c. pp. 276 & 277, fig.
- . The phylogeny of the Teleostomi. T. c. pp. 329-349, figg., pl. vii.
- . Descriptions of three new marine Fishes from South Africa. Op. cit. xiv, pp. 128-130.
- . Descriptions of two new Cyprinid Fishes from Yunnan Fu. T. c. pp. 416 & 417.
- . On the affinities of the genus *Draconetta*, with description of a new species. T. c. pp. 130 & 131.

- REIGHARD, J. The Natural History of *Amia calva* Linnæus. Mark Anniv. Vol. pp. 57-109, figg., pl. vii.
- . Further observations on the breeding habits and on the function of the pearl organs in several species of *Eventognathi*. Science (2) xix, pp. 211 & 212.
- RENNIE, J. The epithelial islets of the pancreas in Teleostei. Quart. J. Micr. Sci. xlviii, pp. 379-405, pls. xxvi-xxviii, and Rep. Brit. Ass. 1903, p. 696.
- REYNOLDS, S. H. Vertebrata, with notes on the position of the [Rhætic, South Wales] Bone-bed. Quart. J. Geol. Soc. lx, pp. 208-210.
- RICCI, O. Ricerche sulle metamorfosi dei Murenoidei. Atti. Soc. Modena (4) iv, pp. 11-35.
- RICHARDSON, R. E. A review of the Sunfishes of the current genera *Apomotis*, *Lepomis*, and *Eupomotis*, with particular reference to the species found in Illinois. Bull. Illinois Lab. vii, pp. 27-35, figg.
- RICHE, A. Description paléontologique de la zone à *Lioceras concavum* du Mont d'Or Lyonnais. Ann. Univ. Lyon (2) i, No. 14, pp. 75-214.
- RIDEWOOD, W. G. On the cranial osteology of the Fishes of the families *Elopidae* and *Albulidae*, with remarks on the morphology of the skull in the Lower Teleostean Fishes generally. P. Z. S. 1904, ii, pp. 35-81, figg.
- . On the cranial osteology of the Fishes of the Families *Mormyridæ*, *Notopteridæ* and *Hyodontidæ*. J. Linn. Soc. xxix, pp. 188-217, pls. xxii-xxv.
- ROMANOWKY, G. On the fossil Fish *Lyrolepis caucasicus* Rom. [Russian text]. Verh. Russ. Min. Ges. (2) xlii, pp. 1-8, figg., pl. 1.
- ROULE, L. La pisciculture. Mem. Ac. Toulouse (10) iii, 1903, pp. 390-402.
- . L'acclimatation des Poissons exotiques. Op. cit. iv, pp. 113-122.
- RUTTER, C. Natural history of the Quinnt Salmon. A report of investigations in the Sacramento River, 1896-1901. Bull. U. S. Fish Comm. xxii, pp. 65-141, pls. x-xvi.
- . Notes on Fishes from streams and lakes of Northeastern California not tributary to the Sacramento River. T. c. pp. 145-160, figg.
- . Notes on Fishes from the Gulf of California, with the description of a new genus and species. P. Calif. Ac. Zool. (3) iii, pp. 251-253, pl. xxiv.
- SABATIER, A. Sur les mains scapulaires et pelviennes des Poissons holo-céphales et chez les Dipneustes. C.R. Ac. Sci. cxxxviii, pp. 249-252.
- SAMARINE, C. A. The Fishes of the Government Perm. [Russian text.] Bull. Soc. Oural. xxiv, pp. 47-66.
- SARGENT, P. E. The torus longitudinalis of the Teleost brain: its ontogeny, morphology, phylogeny, and function. Mark Anniv. Vol. pp. 399-416, pl. xxix.
- . The optic reflex apparatus of Vertebrates for short-circuit transmission of motor reflexes through Reissner's fibre; its morphology, ontogeny, phylogeny, and function. Part I. The Fish-like Vertebrates. Bull. Mus. Harvard xlv, pp. 129-258, 11 pls.
- SCHMIDT, J. On pelagic post-larval Halibut (*Hippoglossus vulgaris* Flem. and *H. hippoglossoides* Walb.). Meddel. Komm. Havurders., Fisk. i, No. 3, 12 pp., 1 pl.

- SCHMIDT, P. J. On the deep-sea Fish from Japan, *Liparis (Trismegistus) owstoni* Jordan and Snyder [Russian text]. *Annuaire Mus. St. Petersb.* ix, pp. xvii-xix.
- On the *Liparis (Trismegistus) owstoni* Jordan and Snyder. *P. U. S. Mus.* xxviii, pp. 189-191, figg.
- SCHNEIDER, GUIDO. Ueber die Urgeschlechtszellen der Knochenfische. *KB. Ver. Riga* xlvi, 1903, pp. 4-9.
- Zur Fischkunde in den Ostseeprovinzen. *Op. cit.* xlvi, pp. 65 & 66.
- SCHREINER, K. E. Ueber das Generationsorgan von *Myxine glutinosa* (L.). *Biol. Centrbl.* xxiv, pp. 91-104, 121-129 and 162-173.
- SCUPIN, H. Ueber *Nephrotus chorzoviensis* H. v. Meyer. *Zeitschr. Deutsch. geol. Ges.* lv, pp. 465-474, pls. xxi & xxii.
- SEALE, A. Report of a mission to Guam. Part II. Fishes. *Pap. B. P. Bishop Mus.* i, (1903?) pp. 61-128.
- New Hawaiian Fishes. *T. c. No. 4*, pp. 1-15, figg.
- SEGRE, ROSETTA. *Res Italicæ. XII. Pesci del Cadore.* *Boll. Mus. Torino* xix, No. 472, 18 pp.
- SELLIER, J. Sur le pouvoir amylolytique du sang des Poissons et des Crustacés. *Trav. Lab. Arcachon* vii, pp. 29-31.
- SHARP, B. & FOWLER, H. W. The Fishes of Nantucket. *P. Ac. Philad.* lvi, pp. 504-512.
- SIMIONESCU, J. Vorläufige Mitteilung über eine oligocäne Fischfauna aus den rumänischen Karpathen. *Verh. geol. Reichsanst.* 1904, pp. 147-149.
- Asupra Cător-va Pesci fosili din Tertiariul Romanesc. *Publ. Ac. Romana*, No. xii, 18 pp., 2 pls.
- SMITH, H. M. Description of a new species of Blind Eel, of the genus *Anguilla*. *P. Soc. Washington* xvii, pp. 121 & 122, fig.
- A new Cottoid Fish from Behring Sea. *T. c.* pp. 163 & 164, fig.
- A Fish new to Florida waters. *Science* (2) xix, p. 314.
- & HARRON, L. G. Breeding habits of the Yellow Cat-Fish. *Bull. U. S. Fish Comm.* xxii, pp. 151-154.
- SNYDER, J. O. A catalogue of the Shore Fishes collected by the Steamer Albatross about the Hawaiian Islands in 1902. *Bull. U. S. Fish Comm.* xxii, pp. 513-538, pls. i-xiii.
- SOUTHWELL, T. Fauna and Flora of Norfolk. Additions to Part IV, Fishes (Fifth List). *Tr. Norfolk Soc.* vii, pp. 741-743.
- SOWINSKY, W. Introduction to the study of the fauna of the Pontofralo-Caspian Marine Basin, from the point of view of an independent zoo-geographical province. [Russian text.] *Zapiski Kiev. Obslch.* xviii, pp. 1-216.
- SPENGLER, J. W. Ueber Schwimmblasen, Lungen und Kiementaschen der Wirbelthiere. *Zool. Jahrb., Suppl.* vii, pp. 727-749.
- STARKS, E. C. A synopsis of characters of some Fishes belonging to the Order Haplomi. *Biol. Bull.* vii, pp. 254-262.
- The osteology of *Dallia pectoralis*. *Zool. Jahrb. Syst.* xxi, pp. 249-262, figg.
- The osteology of some Berycoid Fishes. *P. U. S. Mus.* xxvii, pp. 601-619, figg.

- STEAD, D. G. Contribution to Australian Ichthyology. Rep. Fisher. N. S. W. for 1902, ii, pp. 34 & 35, figg. (1903).
- STROMER, E. Myliobatiden aus dem Mitteleocän der bayerischen Alpen. Zeitschr. Deutsch. geol. Ges. lvi, pp. 249-263, figg., pl. xvi.
- n* — Mematognathi aus dem Fajûm und dem Natronthale in Aegypten. N. Jahrb. Min. 1904, i, pp. 1-7, pl. i.
- STRONG, O. S. The cranial nerves of *Squalus acanthias*. Biol. Bull. vi, p. 314.
- SUND, O. Die Entwicklung des Geruchsorgan bei *Spinax niger*. Biol. Centrbl. xxiv, pp. 651-659, figg.
- SUPINO, F. Morfologia del Cranio dei Teleostei. Rome: 1904, 8vo. Fasc. 1. Percidæ. 21 pp., 4 pls. Fasc. 2. Berycidæ. Rome: 1904, 8vo, 17 pp., 1 pl. Fasc. 3. Trichiuridæ. Rome: 1904, 12 pp., 1 pl.
- Contributo allo studio del tessuto osseo dell' *Orthogoriscus*. Rend. Acc. Lincei xiii, i, pp. 118-121.
- Il cranio dei Teleostei in rapporto al loro genere di vita. Op. cit. ii, pp. 625-631.
- SUWOROFF, E. Ueber dei Regeneration der Flossen bei den Knochenfischen. Trudui St. Petersb. Obshch. xxxiii, 4, pp. 1-81, pl. — [Russian text, German Résumé.]
- SWAEN, A. & BRACHET, A. Étude sur la formation des feuillets et des organes dans le bourgeon terminal et dans la queue des embryons des Poissons téléostéens. Arch. Biol. xx, pp. 461-610, pls. xiii-xvi.
- THOMSON, J. S. The periodic growth of scales in Gadidæ as an index of age. J. Mar. Biol. Ass. (2) vii, pp. 1-109, pls. i-viii.
- TRAQUAIR, R. H. A Monograph of the Fishes of the Old Red Sandstone of Britain. Part II, No. 2. The Asterolepidæ. Pal. Soc. Mon. 1904, pp. 91-118, figg., pls. xix-xxvi.
- VAILLANT, L. Poissons recueillis par M. A. Pavie en Indo-Chine. Mission Pavie Indo-Chine 1879-1895 iii, pp. 459-470, pl. xxiii.
- Sur le *Mitsukurina owstoni* Jordan. C.R. Ac. Sci. cxxxviii, pp. 1517 & 1518.
- Sur un Cyprinoïde nouveau de Tunisie, le *Leuciscus (Phoxinellus) chaignoni*. Bull. Mus. Paris 1904, pp. 188-190.
- Quelques Reptiles, Batraciens et Poissons du Haut Tonquin. T. c. pp. 297-301.
- VALLÉ-POPE, E. The Fishes of Cambridgeshire. In J. E. MARR & A. E. SHIPLEY, Handbook to the Natural History of Cambridgeshire. Cambridge, 1904, pp. 108-113.
- VERRILL, A. E. Additions to the Fauna of the Bermudas from the Yale Expedition of 1901, with notes on other species. Tr. Connect. Ac. xi, 1903, pp. 15-62.
- The Bermudas. T. c. pp. 413-956, figg.
- VIRÉ, A. Sur quelques expériences effectuées au laboratoire des Catacombes du Muséum d'histoire naturelle. C.R. Ac. Sci. cxxxviii, pp. 706-708.
- VOLZ, W. Fische von Sumatra, gesammelt von Herrn G. Schneider. Rev. Suisse Zool. xii, pp. 451-493.

- VUTSKITS, G. Ueber neuere Standorte und die geographische Verbreitung der selteneren Fischartens Ungarns and Kroatiens. Math. naturw. Ber. Ungarn xix, pp. 342 & 343.
- . A kurta baing (*Leucaspus delineatus* Heck.). Allatt. Kozl. Magyar Tars. ii, 1903, pp. 169–188, pl. xv.
- WAGNER, G. Notes on *Polyodon*. I. Science xix, pp. 554 & 555.
- WAITE, E. R. Synopsis of the Fishes of New South Wales. Mem. N. S. Wales Club, No. 2, 59 pp.
- . Additions to the Fish fauna of Lord Howe Island. No. 4. Rec. Austral. Mus. v, pp. 135–186, pls. xvii–xxiv.
- . Catalogue of the Fishes of Lord Howe Island. T. c. pp. 187–230.
- . New records or recurrences of rare Fishes from Eastern Australia. No. 3. T. c. pp. 231–244, pls. xxv & xxvi.
- . A review of the Eleotrids of New South Wales. T. c. pp. 277–286, pls. xxxiv–xxxvi.
- . The breeding habits of the Fighting Fish (*Betta pugnax* Cantor). T. c. pp. 293–295, pl. xxxviii.
- WALTHER, J. Die Fauna der Solnhofener Plattenkalke. Bionomisch betrachtet. Festschr. Haeckel, pp. 133–214, figg., pl. viii.
- WERNER, F. Die Fische der zoologisch-vergleichend-anatomischen Sammlung der Wiener Universität. I. Teil. Zool. Jahrb. Syst. xxi, pp. 263–302, figg.
- WICKES, W. H. The Rhætic Bone Beds. P. Bristol Soc. (2) x, pp. 213–227.
- WIEDERSHEIM, R. Nachträgliche Bemerkungen zu meinem Aufsatz über den Kehlkopf der Ganoiden und Dipnoer. Anat. Anz. xxiv, pp. 651 & 652.
- . Ueber das Vorkommen eines Kehlkopfes bei Ganoiden und Dipnoern sowie über die Phylogenie der Lunge. Zool. Jahrb., Suppl. vii, pp. 1–66, fig., pls. i–vi.
- \*WIJHE, J. W. VAN. Beiträge zur Anatomie der Kopfreion des *Amphioxus lanceolatus*. In Petrus Camper i, pp. 109–195, pls. viii–xi (1901).
- WILLEY, A. Leaf-mimicry. Spolia Zeylan. ii, pp. 51–55, fig.
- WILLIAMSON, H. C. On the post-larval and early young stages of the Witch (*Pleuronectes cynoglossus* Linn.). Rep. Fish. Board Scotland xxii, iii, pp. 270–273, pl. xvi.
- WOODWARD, A. S. On the jaws of *Ptychodus* from the Chalk. Quart. J. Geol. Soc. lx, pp. 133–135, fig., pl. xv.
- . *Diplomystus marmorensis*, sp. n. T. c. pp. 284 & 285.
- . Some recent discoveries concerning the teeth of extinct Animals. Tr. Odontol. Soc. xxxvi, pp. 185–198, figg.
- . On a Carboniferous Acanthodian Fish, *Gyracanthides*. Rep. Brit. Ass. 1903, pp. 662 & 663.
- WOODWARD, H. The President's Address: The evolution of Vertebrate Animals in time. J. R. Micr. Soc. 1904, pp. 137–164.
- ZARNIK, B. Ueber die Geschlechtsorgane von *Amphioxus*. Zool. Jahrb. Anat. xxi, pp. 253–338, figg., pls. xvii–xxi.
- . Ueber segmentale Venen bei *Amphioxus* und ihr Verhältniss zum Ductus Cuvieri. Anat. Anz. xxiv, pp. 609–630, figg.

## II. GENERAL SUBJECT.

Vol. VII. of the Cambridge Natural History is mainly devoted to the Fishes. The general part and the non-Teleostean orders by T. W. BRIDGE, the Teleosteans by G. A. BOULENGER, the Leptocardii by W. A. HERDMAN.

H. WOODWARD, J. R. Micr. Soc. 1904, pp. 138-141, remarks on the evolution of Fishes in time.

A. KEMNA, Bull. Soc. malac. Belgique xxxviii, pp. xcvi-cvii, remarks on the origin of Vertebrates.

A. KEMNA, Mem. Soc. Belge Geol. xvii, pp. 339-382, and xviii, pp. 3-78, figg., reviews our knowledge of the *Arthrodira*, *Ostracophori*, and *Cycliæ*.

C. T. REGAN, Ann. Nat. Hist. (7) xiii, pp. 329-349, figg., pl. vii, writes on the phylogeny of the Teleostomi, among which he includes the Placodermi (*Coccosteidae*, *Asterolepidae*, *Cephalaspidae*). The *Chondrostei* are regarded as the most generalized Teleostomi, and the *Holostei* are included in the *Teleostei*. Remarks by C. R. EASTMAN, Amer. J. Sci. (4) xviii, pp. 141-144.

W. K. GREGORY, Biol. Bull. vii, pp. 55-66, remarks on the relations of the anterior visceral arches to the chondrocranium, with special reference to the conditions known as "autostylic," "amphistylic," and "hyostylic."

K. FÜRBRINGER, in SEMON, Zool. Forsch. i, pp. 423-510, pls. xxxvii-xli, deals with the skeleton of the Dipneusti and compares it to that of Plagiostomi, Holocephali, and Dipneusti.

A. SABATIER, C.R. Ac. Sci. cxxxviii, pp. 249-252, remarks on the pectoral and pelvic arches of the *Holocephali* and *Dipneusti*.

E. S. GOODRICH, Quart. J. Micr. Sci. xlvii, pp. 465-522, figg., pls. xxxv-xli, has investigated the structure and development of the dermal fin-rays of Fishes, living and extinct.

H. BRAUS, Festschr. Hacckel, pp. 377-435, figg., pls. xiii & xiv, has a contribution to the study of the development of the fins and visceral arches.

T. MOROFF, Arch. mikr. Anat. lxiv, pp. 189-213, pls. xi & xii, remarks on the development of the gills of Fishes.

A. S. WOODWARD, Tr. Odontol. Soc. xxxvi, pp. 185-190, figg., remarks on the teeth of some fossil fishes.

A. CARGIULO, Riv. ital. Sci. Nat. xxiv, pp. 5-12, remarks on the histology of the liver and kidney in Fishes.

H. BLUNTSCHLI, in SEMON, Zool. Forsch. i, pp. 357-375, figg., pl. xxxv, investigates the histology of the liver of Fishes.

E. BIZZOZERO, Arch. ital. Biol. xli, pp. 233-245, pl. —, has made experiments on the regeneration of the intestinal epithelium in Fishes.

J. P. BOUNHIOL, C.R. Ass. Franc. xxxii, pp. 813-815, remarks on the respiration of Marine Fishes kept in aquariums.

G. H. PARKER, Bull. U. S. Fish Comm. xxii, pp. 45-64, pl. ix, writes on the sense of hearing and allied senses in Fishes.

C. J. HERRICK, Bull. Denison Univ. xii, 1903, pp. 39-96, and Bull. U. S. Fish Comm. xxii, pp. 237-272, figg., writes on the organ and sense of taste in Fishes.

P. E. SARGENT has studied the optic reflex apparatus in Fishes. Bull. Mus. Harvard xlv, pp. 129-258, 11 pls.

E. P. LYON, Amer. J. Physiol. xii, pp. 149-161, writes on the sense of orientation in Fishes.

G. H. PARKER, Amer. Natural. xxxviii, pp. 496 & 497, remarks on the function of the lateral line organs of Fishes.

M. GATTL, Annali di Agricoltura, 1902 (1903), 126 pp., 1 pl., has investigated the luminous organs of Fishes.

A. VIRÉ, C.R. Ac. Sci. cxxxviii, p. 707, remarks on the effects of perpetual darkness on Fishes.

J. SELLIER, Trav. Lab. Arcachon vii, pp. 29-31, remarks on the amyolytic properties of the blood of Fishes.

H. LICHTENFELT, Arch. ges. Physiol. ciii, pp. 353-402, figg., writes on the chemical composition of Fishes.

On the diseases of Fishes: B. HOFER, Handbuch der Fischkrankheiten. Munich: 1904, 8vo, 359 pp., figg.

On the occurrence of pebbles in the stomach of Fishes: W. H. WICKES, P. Bristol Soc. (2) x, pp. 220 & 225.

F. WERNER, Zool. Jahrb. Syst. xxi, pp. 263-302, figg., gives a list of the non-Teleostean Fishes in the Vienna University Museum.

### III. FAUNÆ.

#### EUROPE.

*Spitzbergen.* Additions to the Fish-fauna by N. KNIPOWITSCH, Annuaire Mus. St. Petersb. viii, 1903, pp. 144-156.

*British Isles.* British Fresh-water Fishes, by Sir H. MAXWELL, and British Salt-Water Fishes, by F. G. AFLALO. Woburn Library of Natural History. London: 1904, 8vo.

*N. E. Coast of England.* On additions to the list of the Fishes: A. MEEK, Tr. Northumb. Soc. (2) i, pp. 35-38. On some Fishes from Northumberland: A. MEEK, Rep. Sci. Observ. Northumb. Fisher. Comm. 1904, pp. 86 & 87.

*Norfolk.* Additions to the list of the Fishes, by T. SOUTHWELL, Tr. Norfolk Soc. vii, pp. 741-743.

*Cambridgeshire.* List of the Fishes, by E. VALLÉ-POPE, Handbook Nat. Hist. of Cambridgeshire, pp. 108-113.

*Atlantic off West Coast of Ireland.* On young or larval specimens obtained by the "Oceana": HOLT & BYRNE, Ann. Nat. Hist. (7) xiv, pp. 37-40, fig.

*France.* A. DAGUIN, Naturaliste xxvi, pp. 185-187, 206, 217 & 218, 230 & 231, 242 & 243, 254 & 255, 267 & 268, 280, gives an alphabetical index to the vernacular and local names of French fresh-water Fishes.

*Bay of Biscay.* On some deep-sea fishes dredged by the yacht "Princesse Alice II": ALBERT DE MONACO, C.R. Ac. Sci. cxxxviii, p. 1399.

*Coast of Portugal.* On the Sharks and Dog-fishes: CARLOS DE BRANGANÇA, Res. Inv. Sci. Y. Amelia, Ichthyol. ii, 107 pp., 2 pls.

*Balearic Islands.* Notes on the Fishes: J. FERRER Y HERNANDES, Bol. Soc. espan. iii, 1903, pp. 89-98.

*Italy.* S. LO BIANCO's paper on pelagic and deep-sea Fishes from near Capri (Zool. Rec. 1901, Pisc. pp. 8 & 14), translated into German. Pelagische Tiefseefischerei der "Maja." Jena: 1904, 8vo, pp. 1-24, with the addition of plates. On a collection of Fishes from the Cadore district: ROSETTA SEGRE, Boll. Mus. Torino xix, No. 472. On the Fishes of the Aosta Valley: PAVESI, Atti Mus. Milano xliii, pp. 215 & 216.

*Gulf of Genoa.* On rare Fishes: V. ARIOLA, Ann. Mus. Genova (3) i, pp. 153-168.

*Adriatic.* Synopsis of the Chondropterygians: WERNER, Zool. Jahrb. Syst. xxi, p. 277.

*Hungary and Croatia.* On the distribution of some of the rarer Fishes: G. VUTSKITS, Math. naturw. Ber. Ungarn xix, pp. 342 & 343.

*Dalmatia.* Additions to the Fish-fauna by G. KOLOMBATOVIĆ, Glasnik Naravosl. druzt. xv, pp. 1-10.



*Russia.* GUIDO SCHNEIDER, KB. Ver. Riga xlvii, pp. 65 & 66, has a supplement to his account of the Fishes of the Baltic Provinces. On the Fishes of the Government Perm: C. A. SAMARINE, Bull. Soc. Oural. xxiv, pp. 47-66 [Russian text]. List of the Fishes of Southern Russia by W. SOWINSKY, Zapiski Kiev. Obshch. xviii, pp. 162-181.

## ASIA.

*Japan.* Part 2 of OTAKI, FUJITA, and HIGURASHI's "Fishes of Japan" was issued in 1904. Further contributions by JORDAN & SNYDER, P. U. S. Mus. xxvii, pp. 223-226, figg., and JORDAN & STARKS, t. c. pp. 91-175, 231-335, and 575-599, figg. On the Fishes dredged by the "Albatross" on the Coast: JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, pp. 577-630, figg. On new deep-sea species: JORDAN & SNYDER, Smithsonian Collect. i, pp. 230-240, pls. lviii-lxiii. On new or little known Fishes: ISHIKAWA, P. Tokyo Mus. i, pp. 1-17, pls. i-vii. On the Chimæroids and Myxinoids: B. DEAN, J. Coll. Tokyo xix, Nos. 2-4, pls.

*Funnan.* Descriptions of new Fishes by REGAN, Ann. Nat. Hist. (7) xiii, pp. 190-194, and xiv, pp. 416 & 417.

*Gulf of Manaar.* On a collection of Fishes: J. JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, pp. 201-222, 2 pls.

*Indo-China.* On a collection of Fishes: L. VAILLANT, Mission Pavie iii, pp. 459-470, pl. xxiii.

*Upper Tonkin.* On a small collection of Fishes: VAILLANT, Bull. Mus. Paris 1904, pp. 297-301.

*Malay Peninsula.* List of the Fishes, with descriptions of new species by G. DUNCKER, Mt. Mus. Hamburg xxi, pp. 133-207, fig., 2 pls. List of the Fishes in the Raffles Museum, with their Malay names: R. HANITSCH, Ann. Rep. Raffles Mus. f. 1903, pp. 9-15.

*Central Borneo.* Descriptions of new Fishes by C. M. L. POPTA, Notes Leyden Mus. xxiv, pp. 179-202.

*Sumatra.* On a collection of Fishes: W. VOLZ, Rev. Suisse Zool. xii, pp. 451-493.

## AFRICA.

*Egypt.* List of Fishes kept in the Cairo Aquarium, with notes on the habits: S. S. FLOWER, Rep. Zool. Gardens Giza, f. 1903, pp. 39-47.

*Red Sea.* On a collection from Erythræa: CLEMENTINA BORSIERI, Ann. Mus. Genova (3) i, pp. 187-220. On some Fishes from Djibouti and Obock: PELLEGRIN, Bull. Mus. Paris 1904, pp. 543-545.

*Gallaland and Southern Ethiopia.* On a collection of Fishes: BOULENGER, P. Z. S. 1903, ii, pp. 328-334, pls. xxix-xxxi.

*Lake Victoria.* Diagnoses of new Fishes by PELLEGRIN, Bull. Soc. zool. France xxix, pp. 184-186.

*Lake Chad and Shari River.* List of Fishes by PELLEGRIN, Bull. Mus. Paris 1904, pp. 309-313.

*Niger.* Descriptions of new Fishes by BOULENGER, P. Z. S. 1904, i, pp. 197-199, pls. vii & viii.

*Cameroon Mountain.* On some lake Fishes: LÖNNBERG, Ann. Nat. Hist. (7) xiii, pp. 135-139.

*South Africa.* Descriptions of new Marine Fishes, by J. D. F. GILCHRIST, Mar. invest. S. Africa iii, pp. 1-16.

## AMERICA.

*East Greenland.* On the Fishes: A. S. JENSEN, Medd. Gronland xxix, pp. 213-276, pls. xi-xiii.

*Massachusetts.* T. GILL, Science (2) xx, pp. 321-338, reviews the history of the ichthyology of Massachusetts. On the Fishes of Nantucket Id. : B. SHARP & H. W. FOWLER, P. Ac. Philad. lvi, pp. 504-512.

*Maine.* On some fresh-water Fishes : W. C. KENDALL, Bull. U. S. Fish Comm. xxii, pp. 353-368, figg.

*Illinois.* List of the Fishes, with keys, by T. LARGE, Rep. Fish. Comm. Illin. 1900-02, 30 pp., 2 pls.

*Colorado.* On the Fishes of Boulder County : C. JUDAY, Stud. Univ. Colorado ii, pp. 113 & 114.

*Texas.* Notes on Fishes, by H. W. FOWLER, P. Ac. Philad. lvi, pp. 242-249.

*California.* On Fishes from streams and lakes of North-eastern California not tributary to the Sacramento Basin. Bull. U. S. Fish Comm. xxii, pp. 145-160, figg.

*Gulf of California.* On some Fishes : C. RUTTER, P. Calif. Ac. Zool. (3) iii, pp. 251-253, pl. xxiv.

*Bermudas.* On the Fishes : VERRILL, Tr. Connect. Ac. xi, 1903, pp. 55-57, 698-705, figg.

*Cuba.* On the fresh-water Fishes of Western Cuba : EIGENMANN, Bull. U. S. Fish Comm. f. 1902, pp. 211-236, pls. xix-xxi (1903).

*Tortugas Archipelago.* On a collection of Fishes : D. S. JORDAN, Bull. U. S. Fish Comm. xxii, pp. 539-544, pls. i & ii.

*Mexico.* On the fresh-water Fishes known from North of the Isthmus of Tehuantepec : S. E. MEEK, Field Mus. Zool. v, pp. 1-252, figg., pls. i-xviii.

*Mexico and British Honduras.* On new or little-known Fishes : REGAN, Ann. Nat. Hist. (7) xiii, pp. 255-261.

*Panama Bay.* On the Fishes : C. H. GILBERT & E. C. STARKS, Mem. Calif. Ac. iv, pp. 1-304, pls. i-xxxiii.

*South America.* Monograph of the *Loricariidae*, by REGAN, Tr. Zool. Soc. London xvii, pp. 191-350, pls. ix-xxi.

*Coast of Brazil.* On the Fishes collected by the SS. "Annie" : A. DE MIRANDA RIBEIRO, A Lavoura, Bol. Soc. Agric. Rio Janeiro 1904, 53 pp.

*Peru.* On a collection of Fishes from Lakes Titicaca and Poopo : PELLEGRIN, Bull. Soc. zool. France xxix, pp. 90-96.

*Chili.* On a collection of Marine Fishes : PELLEGRIN, Bull. Soc. zool. France xxix, pp. 117-121.

*Magellan Strait and Archipelago.* On the Fishes : L. DOLLO, Rés. du Voy. du S.Y. Belgica, Zool., Poiss., Antwerp 1904, 4to.

#### AUSTRALASIA and POLYNESIA.

*Eastern Australia.* Records of new or rare Fishes, by E. R. WAITE, Rec. Austral. Mus. v, pp. 231-244, figg., pls. xxv & xxvi.

*New South Wales.* List of the Fishes, by E. R. WAITE, Mem. N. S. Wales Club, No. 2, 59 pp.

*Lord Howe Island.* Fourth report and complete list of the Fishes, by E. R. WAITE, Rec. Austral. Mus. v, pp. 135-186, 187-230, pls. xvii-xxiv.

*Hawaiian Islands.* On collections of Fishes : JORDAN & SNYDER, P. U. S. Mus. xxvii, pp. 939-948 & xxviii, pp. 123-126. O. P. JENKINS, Bull. U. S. Fish Comm. xxii, pp. 417-511, figg., and J. O. SNYDER, t. c. pp. 513-538, pls. i-xiii.

*Guam Id.* On the Fishes : A. SEALE, Pap. B. P. Bishop Mus. i, pp. 61-128.

*New Zealand.* List of the Fishes : F. W. HUTTON, Index Faunæ Novæ Zealandiæ, pp. 40-55.

## ANTARCTIC SEAS.

On the Fishes : L. DOLLO, Rés. du Voy. du S. Y. Belgica, Zool., Poissons, Antwerp 1904, 4to.

## IV. PALÆONTOLOGY.

C. R. EASTMAN, Science (2) xx, pp. 648 & 649, remarks on the earliest mention of fossil Fishes.

*Chalk of England.* General list of the Fishes : JUKES-BROWNE, Upper Chalk of England (Mem. geol. Surv. U. K.), pp. 462-467.

*Rhatic of Western England.* On Fishes from the Bone Beds : W. H. WICKES, P. Bristol Soc. (2) x, pp. 216-227

*Lower Coal Measures of Lancashire.* List of the Fishes, by H. BOLTON, Tr. Manchester Geol. Soc. xxviii, pp. 401-405, 604-624.

*Cambridgeshire.* On the fossil Fishes : LYDEKKER, Handbook Nat. Hist. of Cambridgeshire, pp. 57-69.

*Rhatic of South Wales.* On some Fish-remains : S. H. REYNOLDS, Quart. J. Geol. Soc. lx, pp. 209 & 210.

*Upper Devonian of the Condroz, Belgium.* List of the Fish-remains : P. DESTINEZ, Mem. Soc. geol. Belgique xxxi, pp. 249 & 250.

*France.* P. H. FRITEL, Naturaliste xxvi, pp. 40-44, figg., gives a list of the fossil fishes known from the environs of Paris.

*Eocene of the Paris Basin.* On various Fish remains : F. PRIEM, Bull. Soc. geol. France (4) iv, pp. 42-47, figg.

*Upper Jurassic of Calvados.* On some Fish-remains : BIGOT & BRASIL, Mem. Soc. Normandie xxi, pp. 95-98, pl. iv.

*Upper Miocene of the Haguineau, Maine-et-Loire.* List of the Fish-remains : O. COUFFON, Bull. Soc. Angers xxxiii, pp. 72-75.

*Miocene and Pliocene of Herault, France.* On the Fishes : F. PRIEM, Bull. Soc. geol. France (4) iv, pp. 285-294, figg.

*Upper Jurassic of Solenhofen.* On the fauna : J. WALTHER, Festschr. Haekkel, pp. 133-214.

*Miocene and Pliocene of Italy.* On otoliths : D. PANTANELLI, Pr. verb. Soc. Toscana xiv, pp. 71 & 72.

*Eocene of Monte Bolca.* On the Fish-fauna : EASTMAN, Bull. Mus. Harvard xlvi, pp. 1-36, figg., 2 pls. Remarks by T. GILL, Science (2) xx, pp. 845 & 846.

*Miocene of Felsősztergály, Hungary.* On Selachian teeth : A. KOCH, Foldtani Kozl. xxxiv, pp. 190-203, and 260-274, fig., 1 pl.

*Pliocene of Szerem, Hungary.* On the Fishes : A. KOCH, Ann. Mus. Hungar. ii, pp. 1-72, pls. i-vii.

*Eocene of Roumania.* On some Fish-remains : J. SIMIONESCU, Publ. Adamachi Ac. Romana, No. xii, 18 pp., 2 pls.

*Oligocene of Roumania.* On Fish-remains : J. SIMIONESCU, Verh. geol. Reichsanst. 1904, pp. 147-149.

*Cretaceous of Djoua, Sahara.* On Fish-remains : E. HAUG, C.R. Ac. Sci. cxxxviii, pp. 1529-1531.

*Canada.* On the fossil Fishes : L. M. LAMBE, Tr. R. Soc. Canada x, iv, pp. 13-56.

*Miocene of Maryland.* On the Fishes : C. R. EASTMAN, Maryland geol. Surv. 1904, pp. 71-93, pls. xxviii-xxxiii.

*Upper Devonian of Colorado.* On Fish-remains : C. R. EASTMAN, Amer. J. Sci. (4) xviii, pp. 253-260, figg.

*Tertiary of Australia.* On Fish-remains : F. CHAPMAN & G. B. PRITCHARD, P. Soc. Victoria (2) xvii, pp. 267-297, pls. xi & xii.

## V. REFERENCES ARRANGED SYSTEMATICALLY.

## TELEOSTOMI.

## TELEOSTEI.

G. A. BOULENGER deals with the systematic part in the seventh volume of the Cambridge Natural History, pp. 539-727, figg. Synopsis of the Suborders and Families: idem, Ann. Nat. Hist. (7) xiii, pp. 161-190, translated into German in Arch. Naturg. 1904, i, pp. 197-228.

F. SUPINO brings out the three first fascicles of a work on the morphology of the Teleostean skull. These fascicles deal with the *Percidae*, *Serranidae*, *Berycidae*, and *Trichiuiridae*.

F. SUPINO, Rend. Acc. Lincei xiii, ii, pp. 625-631, remarks on the skull of Teleosteans, in relation to the mode of life.

J. DEWITZ, Anat. Anz. xxiv, pp. 408-410, remarks on his share in the work of E. P. Allis on the skull of *Scomber scombrus*.

R. HAMBURGER, Rev. Suisse Zool. xii, pp. 71-148, pls. ii & iii, has studied the structure of the limbs of Teleosts (*Leuciscus*, *Trigla*, *Periophthalmus*, *Lophius*).

F. SUPINO, Rend. Acc. Lincei xiii, i, pp. 118-121, has a note on the bony tissue of *Orthogoriscus*.

E. G. MITCHELL, Amer. Natural. xxxviii, pp. 153-164, figg., and p. 405, writes on the oral breathing valves of Teleosts, their modifications and relation to the shape of the mouth.

R. WIEDERSHEIM, Zool. Jahrb., Suppl. vii, pp. 1-66, fig., pls. i-vi, writes on the presence of a larynx in Bony Ganoids, Crossopterygians, and Dipnoans.

J. W. SPENGLER, Zool. Jahrb., Suppl. vii, pp. 727-749, remarks on lungs and swim-bladders.

A. GOETTE, Zool. Jahrb. Anat. xxi, pp. 141-160, figg., writes on the origin of lungs.

A. JAEGER, Ber. Senckenberg. Ges. 1904, pp. 63\*-72\*, remarks on the swim-bladder.

FANNY MOSER, Arch. mikr. Anat. lxiii, pp. 532-574, pls. xxii-xxv, has studied the development of the swim-bladder.

D. DEINEKA, Zeitschr. wiss. Zool. lxxviii, pp. 149-164, figg., pls. viii & ix, deals with the structure and physiology of the swim-bladder.

A. JAEGER, Biol. Centrbl. xxiv, pp. 129-142, gives a summary of his researches on the physiology of the swim-bladder.

L. BYKOWSKI & J. NUSBAUM, Bull. Ac. Cracovie 1904, pp. 409-424, pl. xi, have investigated the swim-bladder of *Fierasfer*.

ANNE DRZEWINA, Kosmos polski. xxix, pp. 504-520, has a paper in Polish on the lymphoid tissue of the kidney in certain Ganoid and Teleostean Fishes.

J. RENNIE, Rep. Brit. Ass. 1903, p. 696, and Quart. J. Micr. Sci. xlviii, pp. 379-405, pls. xxvi-xxviii, writes on the epithelial islets of the pancreas in Teleosteans.

U. BÖHI, Morphol. Jahrb. xxxii, pp. 505-586, figg., pl. xiii, has studied the development of the body-cavity and of the genital gland in *Salmo salar* and *S. furio*.

C. H. EIGENMANN, Mark Anniv. Vol. pp. 167-204, pls. xii-xv, has further observations on the eye of *Amblyopsis*.

P. E. SARGENT, Mark Anniv. Vol. pp. 399-416, pl. xxix, writes on the torus longitudinalis of the Teleostean brain.

J. CAMERON, J. Anat. Physiol. norm. path. (2) xviii, pp. 279 & 280, remarks on the superior commissure of the brain in Teleosteans.

E. SUWOROFF, Trudui St. Petersb. Obshch. xxxiii, 4, pp. 1-81, pl. —, writes on the regeneration of the fins in *Cyprinus auratus*.

GUIDO SCHNEIDER, KB. Ver. Riga xlvi, 1903, pp. 4-9, remarks on the primitive condition of the genital cells in Teleosteans.

H. LAMS, Arch. anat. micr. vi, pp. 633-652, pls. xxi & xxii, has investigated the genesis of the vitellus in ovarian ova of Teleosteans (*Osmerus* and *Alburnus*).

J. S. THOMSON, J. Mar. Biol. Ass. (2) vii, pp. 1-109, pls. i-viii, has a paper on the periodic growth of scales in Fishes.

E. EHRENBAUM, Wiss. Meeresuntersuch. vi, Helgoland, pp. 127-200, fig., pls. iii-xvi, continues his descriptions of the breeding habits, eggs, and larval forms of the North Sea Fishes, and the same author, in collaboration with S. STRODTMANN, t. c. pp. 57-126, figg., contributes a first report on the eggs and postlarval forms of the Baltic Fishes.

A. SWAEN & A. BRACHET, Arch. Biol. xx, pp. 461-610, pls. xiii-xvi, have made observations on the early development of Teleostean Fishes.

On the reproduction of sea Fishes in New South Wales: DANNEVIG, Rep. Fisher. N. S. W. f. 1902, ii, pp. 21-25 (1903).

T. W. FULTON, Rep. Fish Board Scotland xxii, iii, pp. 141-241, pls. vi-xii, has a further report on the rate of growth of Scottish Marine Fishes.

J. D. F. GILCHRIST, Mar. invest. S. Africa iii, pp. 131-152, pls. v-xi, continues his descriptions of the ova and young of S. African marine Fishes.

W. T. MOENKHAUS, Amer. J. Anat. iii, pp. 29-64, 4 pls., describes the development of hybrids between *Fundulus heteroclitus* and *Menidia notata*.

L. GUCCINI, Rend. Ist. Lombardo (2) xxxvii, pp. 194-201, remarks on the food of Tessin Fishes, as revealed by the contents of the stomach.

A. BRIOT, C.R. Soc. Biol. lvi, pp. 1113 & 1114, remarks on the nature of the poison of *Trachinus draco*.

H. B. BIGELOW, Amer. Natural. xxxviii, pp. 275-284, has made experiments on the sense of hearing in the Goldfish.

M. C. DEKHUYZEN, Bergens Mus. Aarbog 1904, No. 8, has made osmotic experiments on Norwegian Teleosteans.

IDA H. HYDE, Amer. J. Physiol. xii, pp. 249-252, has made experiments on the differences in electrical potential in the developing egg of *Fundulus*.

L. ROULE, Mem. Ac. Toulouse (10) iii, pp. 390-402 & iv, pp. 113-122, remarks on pisciculture and the acclimatization of exotic Fishes in France.

### PLECTOGNATHI.

A. MEEK, Anat. Anz. xxv, pp. 217-219, figg., has notes on the auditory organ and the orbit of *Orthogoriscus mola*.

*Orthogoriscus mola*, L. On an exceptionally large specimen, MICHAÏLOVSKY, Annuaire Mus. St. Petersb. viii, 1903, p. xlv.

*Diodon erinaceus*, Ag. (foss.), noticed and figured by EASTMAN, Bull. Mus. Harvard xlvi, p. 34, fig.; *D. nudifrons*, sp. n., O. P. JENKINS, Bull.

U. S. Fish Comm. xxii, p. 488, fig., Honolulu.

*Guentheridia*, g. n. for *Tetrodon formosus*, Gthr., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 158.

*Tropidichthys oakhuensis* and *epilamprus*, spp. nn., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 485, figg., Honolulu.

*Liosacus intermedius*, sp. n., MIRANDA RIBEIRA, A. Lavoura, 1904, p. 33, Coast of Brazil.

- Ostracion oahuensis*, Jord. & Everm., redescribed by O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 487.
- Lactaria galeodon*, sp. n., O. P. JENKINS, t. c. p. 487, fig., Hawaiian Islands;  
*L. schlemmeri*, sp. n., JORDAN & SNYDER, P. U. S. Mus. xxvii, p. 945, Laysan Island.
- Monacanthus tomentosus*, L. Young noticed and figured by JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 203, pl. i, fig. 2; *M. albopunctatus*, sp. n., SEALE, P. U. S. Mus. xxvii, p. 13, Honolulu [= *M. multimaculatus*, Regan.—REC.].
- Pseudomonacanthus analis*, sp. n., WAITE, Rec. Austral. Mem. v, p. 173, fig., Lord Howe Is.
- Stephanolepis pricei*, sp. n., SNYDER, Bull. U. S. Fish Comm. xxii, p. 534, fig. 22, Hawaiian Ids.
- Balistes fuscolineatus*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, No. 4, p. 9, fig., Honolulu; *B. verres*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 153, pl. xxvi, Pacific Coast of C. America.

### PEDICULATI.

- Melanocetus rotundatus*, Gilchrist, figured by GILCHRIST, Mar. invest. S. Africa ii, pl. xv.
- Antennarius laysianus*, sp. n., JORDAN & SNYDER, P. U. S. Mus. xxvii, p. 947, Laysan Is.; *A. nexilis* and *duescus*, spp. nn., SNYDER, Bull. U. S. Fish Comm. xxii, p. 537, pl. xiii, figg. 23 & 24, Hawaiian Ids.
- Histionotophorus*, n. n. for *Histiocephalus*, Zigno nec Diesing, EASTMAN, Bull. Mus. Harvard xlvi, p. 32; *H. bassani*, Zigno (foss.), redescribed and figured, id. ibid. p. 32, fig., pl. i, figg. 1-3. Referred to the *Antennariidae* by GILL, Science (2) xx, p. 845.

### ACANTHOPTERYGII.

#### TRACHYPTERIDÆ.

- Trachypterus ishikawæ*, Jord. & Snyder (= *ijimæ*, Jord. & Snyder), redescribed and figured by JORDAN & SNYDER, Smithsonian Collect. i, p. 240, pl. lxiii.
- Regalecus parkeri*, sp. n., BENHAM, Tr. N. Zealand Inst. xxxvi, p. 198, pl. ix, New Zealand.

#### OPHIDIIDÆ.

- Lepophidium fluminense*, sp. n., MIRANDA RIBEIRA, A Lavoura, 1904, p. 44, Coast of Brazil.

#### ZOARCIDÆ.

- On the North European and Greenland *Lycodinae*: A. S. JENSEN, Danish Ingolf-Exped. iii, No. 4.
- Lycodes pallidus*, Coll., var. n. *squamiventer*, JENSEN, t. c. p. 39, pl. iv, fig. 2, off Iceland and the Faroes; *L. reticulatus*, Reinh., var. n. *microcephalus*, id. ibid. p. 66, pl. viii, fig. 1, N. E. Greenland.
- Lycenchelys kolthoffi*, sp. n., JENSEN, t. c. p. 88, figg., pl. x, fig. 2, and Medd. Gronland xxix, p. 261, pl. xiii, fig. 1, N. E. Greenland.
- Selachophidium guentheri*, Gilchrist, figured by GILCHRIST, Mar. invest. S. Africa ii, pl. xvii.
- Dinematichthys longifilis*, Ogilby, noticed and figured by WAITE, Rec. Austral. Mus. v, p. 185, pl. xxiv, fig. 5.

- Lucifuga subterraneus*, Poey. Gravid specimen described and figured by EIGENMANN, Bull. U. S. Fish Comm. f. 1902, p. 236, pl. xxi.  
*Stygicola dentatus*, Poey. Noticed and figured by EIGENMANN, t. c. p. 236, pl. xxi.

## BATRACHIDÆ.

- Batrachoides boulengeri*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 182, pl. xxxi, Pacific Coast of C. America.  
*Porichthys greenei*, sp. n., GILBERT & STARKS, t. c. p. 184, pl. xxx, Panama.

## BLENNIIDÆ.

- Blennius pholis*, L. Note on the egg, McINTOSH, Rep. Brit. Ass. 1903, p. 697.  
*Hypsoblennius piersoni*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 191, pl. xxxii, fig. 60, Panama.  
*Homesthes caulopus*, Gilb., figured by GILBERT & STARKS, t. c. pl. xxxii, fig. 61.  
*Ericteis*, g. n., near *Lepisoma*, for *E. kalisheræ*, sp. n., JORDAN, Bull. U. S. Fish Comm. xxii, p. 543, pl. ii, fig. 4, Tortugas Archipelago.  
*Collybus*, g. n., near *Taractes*, for *C. drachme*, sp. n., SNYDER, Bull. U. S. Fish Comm. xxii, p. 525, pl. ix, fig. 16, Hawaiian Ids.  
*Aspidonotus brunneolus*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 510, fig., Honolulu.  
*Auchenopterus mexicanus*, sp. n., GILBERT, P. Calif. Ac. Zool. (3) iii, p. 269, pl. xxix, La Paz, Lower California.  
*Tripterygium minor*, Kolomb. Note by KOLOMBATOVIĆ, Glasnik Naravosl. druzt. xv, p. 9. *T. rufopileum*, sp. n., WAITE, Rec. Austral. Mus. v, p. 182, pl. xxiv, fig. 4, Lord Howe Is.; *T. atriceps*, sp. n., O. P. JENKINS, t. c. p. 505, fig., Honolulu.  
*Petroscirtes icelii*, Ogilby, figured by WAITE, t. c. pl. xxiv, fig. 3; *P. vinci-guerræ*, sp. n., CLEMENTINA BORSIERI, Ann. Mus. Genova (3) i, p. 211, Coast of Erythræa.  
*Salarias nigripes*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 127, Guam Is.; *S. cypho*, p. 506, fig., *saltans*, p. 508, fig., and *rutilus*, p. 509, fig., spp. nn., O. P. JENKINS, t. c. Honolulu; *S. furcatus*, sp. n., JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 213, pl. i, fig. 4, Gulf of Manaar.  
*Emblemaria oculocirrus*, Jord., redescribed by RUTTER, P. Calif. Ac. Zool. (3) iii, p. 252.  
*Lumpenus lampetiformis*, Walb. On a specimen from the N. E. Coast of England, A. MEEK, Tr. Northumb. Soc. (2) i, p. 36.

## CERDALIDÆ.

- Cerdale ionthas*, J. & G., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xxxi, fig. 58.  
*Microdesmus retropinnis*, J. & G., figured by GILBERT & STARKS, t. c. pl. xxxi, fig. 59.

## GOBIESOCIDÆ.

- Lepadogaster bimaculatus*, Penn., and *microcephalus*, Brook, described and figured by GÜTEL, Arch. Zool. exp. (4) ii, p. 357, figg., pl. xv.  
*Diplocrepis costatus*, Ogilby, figured by WAITE, Rec. Austral. Mus. v, pl. xxiv, fig. 1.  
*Lepadichthys*, g. n., allied to *Gobiesox*, for *L. frenatus*, sp. n., WAITE, t. c. p. 180, pl. xxiv, fig. 2, Lord Howe Is.

## TRICHONOTIDÆ.

- Trichonotus setigerus*, Bl. Schn., noticed and figured by JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 215, pl. i, fig. 7.  
*Limnichthys*, g. n., for *L. fasciatus*, sp. n., WAITE, Rec. Austral. Mus. v, pp. 178 & 243, pl. xxiii, fig. 4, Lord Howe Is. and New South Wales.  
*Schizochirus*, g. n., allied to *Limnichthys*, WAITE, t. c. p. 241; *S. insolens*, sp. n., id. ibid. p. 242, figg., pl. xxvi, fig. 3, New South Wales.

## URANOSCOPIDÆ.

- Gnathagnus innotabilis*, sp. n., WAITE, Rec. Austral. Mus. v, p. 238, pl. xxvi, fig. 1, New South Wales.

## NOTOTHENIIDÆ.

- Synopsis of the genera by DOLLO, Rés. Voy. Belgica, Poiss. p. 17.  
*Cryodraco antarcticus*, Dollo, described and figured by DOLLO, t. c. p. 20, pl. 1 & pl. v, fig. 7.  
*Gerlachea australis*, Dollo, described and figured by DOLLO, t. c. p. 25, pl. ii, fig. 1 & pl. v, fig. 2.  
*Racovitzia glacialis*, Dollo, described and figured by DOLLO, t. c. p. 29, pl. ii, figg. 2 & 3, pl. v, fig. 3.  
*Hypsicometes heterurus*, sp. n., MIRANDA RIBEIRA, A Lavoura, 1904, p. 43, Coast of Brazil.  
*Bovichthys roseo-pictus*, sp. n., HUTTON, Tr. N. Zealand Inst. xxxvi, p. —, New Zealand.  
*Draconetta*, Jord. & Fowl. On its affinities: REGAN, Ann. Nat. Hist. (7) xiv, p. 130.—*D. acanthopoma*, sp. n., id. ibid., North Atlantic.

## LEPTOSCOPIDÆ.

- Neoperopsis binivirgata*, sp. n., WAITE, Rec. Austral. Mus. v, p. 236, pl. xxv, fig. 3, New South Wales.

## PERCOPHIIDÆ.

- Embolichthys*, Jord. On its relationship to *Hemerocoetes* and *Ammodytes*. GILL, P. U. S. Mus. xxviii, p. 160.

## TRIGLIDÆ.

- Trigla picta*, Gthr. (*guttata*, Philippi, 1896). Note by DELFIN, Revist. chilena viii, p. 12, fig.; *T. queketti*, sp. n., REGAN, Ann. Nat. Hist. (7) xiv, p. 128, Natal.  
*Lepidotrigla guentheri*, Hilg., and *microptera*, Gthr., redescribed by JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, pp. 594 & 595; *L. abyssalis*, sp. n., id. ibid. p. 595, fig., Japan.  
*Prionotus ruscarius*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 165, pl. xxvii, Pacific Coast of C. America.  
*Peristedion amiscus*, sp. n., JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, p. 593, pl. iii, figg. 1 & 2, Japan; *P. roseum*, sp. n., MIRANDA RIBEIRA, A Lavoura, 1904, p. 37, Coast of Brazil.

## AGONIDÆ.

- Review of the Japanese species by JORDAN & STARKS, P. U. S. Mus. xxvii, pp. 575-599, figg.  
*Percis cephalopunctatus*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 124, Guam Is.



- Agonomalus jordani*, sp. n. (SCHMIDT), JORDAN & STARKS, t. c. p. 581, fig., Japan.  
*Occa iburia*, sp. n., JORDAN & STARKS, t. c. p. 585, fig., Japan.  
*Podotheucus tokubire*, sp. n., ISHIKAWA, P. Tokyo Mus. i, p. 15, Japan.  
*Xeneretmus infraspinatus*, sp. n., GILBERT, P. Calif. Ac. Zool. (3) iii, p. 262, pl. xxvii, off Cape Flattery, Washington Territory.

## CYCLOPTERIDÆ.

- Trimegistus*, g. n., near *Liparis*, for *T. owstoni*, sp. n., JORDAN & SNYDER, Smithson. Collect. i, p. 238, pl. lviii, Japan. Referred to *Liparis* and figured by P. SCHMIDT, P. U. S. Mus. xxviii, p. 189, figg., and Annuaire Mus. St. Petersb. ix, p. xvii.

## COTTIDÆ.

- Review of the *Cottidæ* of Japan by JORDAN & STARKS, P. U. S. Mus. xxvii, pp. 231-335, figg.  
*Silengis*, g. n., for *S. osensis*, sp. n., JORDAN & STARKS, t. c. p. 236, fig., Japan.  
*Schmidtia*, g. n. [changed to *Schmidtina*, p. 961], for *S. misakia*, sp. n. JORDAN & STARKS, t. c. p. 237, fig., Japan.  
*Daruma*, g. n., for *D. sagamia*, sp. n., JORDAN & STARKS, t. c. p. 241, fig., Japan.  
*Ricuzenius*, g. n., JORDAN & STARKS, t. c. p. 242; *R. pinetorum*, sp. n., iid. ibid. p. 243, fig., Japan.  
*Hemilepidotus gilberti*, sp. n., JORDAN & STARKS, t. c. p. 254, fig., Japan.  
*Ceratocottus namiyei*, sp. n., JORDAN & STARKS, t. c. p. 259, fig., Japan.  
*Cottus quadricornis*, L. On its freshwater varieties: LÖNNBERG, Bull. Geol. Inst. Upsala vi, p. 85, figg.—*C. kasika*, sp. n., JORDAN & STARKS, t. c. p. 265, fig., Japan.  
*Arteidiellus uncinatus*, Reinh., figured by JENSEN, Medd. Gronland xxix, pl. xii, fig. 2.  
*Rheopresbe*, g. n., JORDAN & STARKS, t. c. p. 269; *R. fujiyamæ*, sp. n., iid. ibid. p. 270, fig., Japan.  
*Myoxocephalus edonius* and *raninus*, spp. nn., JORDAN & STARKS, t. c. pp. 274 & 277, figg., Japan.  
*Ainocottus*, g. n., for *A. ensiger*, sp. n., JORDAN & STARKS, t. c. p. 283, fig., Japan.  
*Caracanthus maculatus*, Gray, redescribed by O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 491.  
*Gymnocanthus herzensteini*, sp. n., JORDAN & STARKS, t. c. p. 294, fig., Japan.  
*Crossias*, g. n., for *C. allisi*, sp. n., JORDAN & STARKS, t. c. p. 296, fig., Japan.  
*Cottusculus*, g. n. (SCHMIDT), JORDAN & STARKS, t. c. p. 298; *C. gonez* and *schmidti*, spp. nn., iid. ibid. pp. 298 & 299, figg., Japan.  
*Alcichthys*, g. n., for *Centridermichthys alcornis*, Herz., JORDAN & STARKS, t. c. p. 301.  
*Furcina*, g. n., JORDAN & STARKS, t. c. p. 303; *F. ishikawæ* and *osimæ*, spp. nn., iid. ibid. pp. 303 & 305, figg., Japan.  
*Ocynectes*, g. n., JORDAN & STARKS, t. c. p. 306; *O. maschalis*, sp. n., iid. ibid. p. 307, fig., Japan.  
*Pseudoblennius zonostigma* and *totomius*, spp. nn., JORDAN & STARKS, t. c. pp. 312 & 315, figg., Japan.  
*Bero*, g. n., for *Centridermichthys elegans*, Stdr., JORDAN & STARKS, t. c. p. 317.  
*Vellitor*, n. n., for *Podabrus*, Rich. nec Fisch., JORDAN & STARKS, t. c. p. 318.

- Blepsias draciscus*, sp. n., JORDAN & STARKS, t. c. p. 322, fig., Japan.  
*Theochepterus*, g. n., near *Dasycottus* and *Malacocottus*, for *T. aleuticus*,  
 sp. n., H. M. SMITH, P. Soc. Washington xvii, p. 163, fig., Behring  
 Sea.  
*Hemirhamphus nipponicus*, sp. n., ISHIKAWA, P. Tokyo Mus. i, p. 14,  
 pl. vii, fig. 2, Japan.  
*Cottunculus macrocephalus*, sp. n., GILCHRIST, Mar. invest. S. Africa iii,  
 p. 7, Cape of Good Hope, 190 fath.

#### COMEPHORIDÆ.

- A. KOROTNEFF, Biol. Centrbl. xxiv, pp. 641-644, figg., has remarks on the  
 gills and teeth of *Comephorus baicalensis*, Dyb.  
*Comephorus baicalensis*, Dyb. Note on the habits, KOROTNEFF, Arch.  
 Zool. exp. (4) ii, p. 15, fig.; *C. dybowskii*, sp. n., id. ibid. p. 17, figg.  
 L. Baikal.

#### SCORPÆNIDÆ.

- Review of the Japanese species by JORDAN & STARKS, P. U. S. Mus. xxvii,  
 pp. 91-175, figg., pls. i & ii.  
*Sebastes maderensis*, Lowe, redescribed by KOLOMBATOVIĆ, Glasnik Naravosl.  
 druzt. xv, p. 5.  
*Sebastes itinus*, p. 99, fig., *guentheri*, p. 102, fig., *tokionis*, p. 104, fig.,  
*iracundus*, p. 107, fig., and *flammeus*, p. 108, spp. nn., JORDAN &  
 STARKS, t. c. Japan.  
*Neosebastes entaxis*, sp. n., JORDAN & STARKS, t. c. p. 120, fig., Japan.  
*Thysanichthys*, g. n., near *Sebastes*, JORDAN & STARKS, t. c. p. 122;  
*T. crossotus*, sp. n., id. ibid. p. 123, fig., Japan.  
*Sebastiscus*, g. n., for *Sebastes marmoratus*, C. & V., JORDAN & STARKS,  
 t. c. p. 124.  
*Sebastes kelloggi*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii,  
 p. 492, fig., Honolulu.  
*Sebastapistes corallicola*, p. 493, fig., *conioarta*, p. 495, fig., and *galactacma*,  
 p. 496, fig., spp. nn., O. P. JENKINS, t. c., Honolulu.  
*Helicolenus emblemarius*, sp. n., JORDAN & STARKS, t. c. p. 129, fig.,  
 Japan.  
*Scorpena*, Art., A. BRIOT, C.R. Soc. Biol. lvii, pp. 666, has ascertained by  
 experiments that the stings of the Mediterranean species are not  
 poisonous; *S. izensis*, sp. n., JORDAN & STARKS, t. c. p. 134, fig.,  
 Japan.  
*Pontinus corallinus*, sp. n., MIRANDA RIBEIRA, A Lavouira 1904, p. 35,  
 Coast of Brazil.  
*Scorpenopsis cocopsis*, Jenkins, redescribed and figured by SEALE, Pap.  
 B. P. Bishop Mus. i, No. 4, p. 11, fig.  
*Lythrichthys*, g. n., near *Setarches*, for *L. eulabes*, sp. n., JORDAN & STARKS,  
 t. c. p. 140, fig., Japan.  
*Pterois nigripinnis*, sp. n., GILCHRIST, Mar. invest. S. Africa iii, p. 2,  
 Natal.  
*Ebosia*, g. n., for *Pterois bleekeri*, Stdr. & Döderl., JORDAN & STARKS, t. c.  
 p. 145.  
*Dendrochirus chloreus*, sp. n., O. P. JENKINS, t. c. p. 498, fig., Honolulu.  
*Apistus evolans* and *venenans*, spp. nn., JORDAN & STARKS, t. c. pp. 146 &  
 148, figg., Japan.  
*Minous echigonius*, sp. n., JORDAN & STARKS, t. c. p. 153, fig., Japan.  
*Decterias*, g. n., for *Minous pusillus*, Schleg., JORDAN & STARKS, t. c.  
 p. 154.

- Tetraroge kagoshimensis*, sp. n., ISHIKAWA, P. Tokyo Mus. i, p. 13, pl. viii, fig. 1, Japan.
- Aploactis aspersa*, Temm. & Schleg., noticed and figured by JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 219, pl. i, fig. 5.
- Synancia thersites*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 121, Guam Id.
- Erosa*, g. n., for *Synancia erosa*, Langsd., JORDAN & STARKS, t. c. p. 156.
- Inimicus*, g. n., for *Pelor japonicus*, C. & V., JORDAN & STARKS, t. c. p. 158.
- Ocosia*, g. n., near *Agriopus*, for *O. vespa*, sp. n., JORDAN & STARKS, t. c. p. 162, fig., Japan.
- Erispher*, g. n., for *Cocotropus pottii*, sp. n., JORDAN & STARKS, t. c. p. 170.

## GOBIIDÆ.

- E. R. WAITE, Rec. Austral. Mus. v, pp. 277-286, pls. xxxiv-xxxvi, reviews the *Eleotris* and their allies of New South Wales.
- Gobius æolosoma*, Ogilby, noticed and figured by WAITE, Rec. Austral. Mus. v, p. 176, pl. xxiii, fig. 2; *G. parvus*, Meek, and *claytoni*, Meek, figured by S. E. MEEK, Field Mus. Zool. v, pl. xvii; *G. steindachneri*, Kolomb. = *G. kneri*, Stdr., redescribed by CLEMENTINA BORSIERI, Ann. Mus. Genova (3) i, p. 7; *G. deltooides*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 125, Guam Id.; *G. elongatus*, sp. n. (foss.), SIMIONESCU, Verh. geol. Reichsanst. 1904, p. 149, and Publ. Adamachi Ac. Romana, No. xii, p. 15, pl. ii, fig. 2, Eocene of Roumania.
- Microgobius miraflorensis*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 176, pl. xxix, fig. 54, Panama.
- Evermannia panamensis*, sp. n., GILBERT & STARKS, t. c. p. 179, pl. xxx, fig. 55, Panama.
- Chlamydes*, g. n., near *Gobius*, for *C. laticeps*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 503, fig., Honolulu.
- Gobionellus lonchotus*, sp. n., O. P. JENKINS, t. c. p. 503, fig., Honolulu; *G. microdon*, Glb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xxviii, fig. 51.
- Garmannia paradoxa*, Gthr., figured by GILBERT & STARKS, t. c. pl. xxvii, fig. 52.
- Enypnius seminudus*, Gthr., figured by GILBERT & STARKS, t. c. pl. xxix, fig. 53; *E. oligolepis*, sp. n., O. P. JENKINS, t. c. p. 504, fig., Honolulu.
- Ctenogobius tortugæ*, sp. n., JORDAN, Bull. U. S. Fish Comm. xxii, p. 541, pl. i, fig. 1, Tortugas Archipelago.
- Gnatholepis thompsoni*, sp. n., JORDAN, t. c. p. 541, pl. i, fig. 2, Tortugas Archipelago.
- Clevelandia ios*, J. & G. Note by GILBERT, P. Calif. Ac. Zool. (3) iii, p. 263.
- Elacatinus*, g. n., allied to *Gobiosoma*, for *E. oceanops*, sp. n., JORDAN, t. c. p. 542, pl. ii, fig. 3, Tortugas Archipelago.
- Allogobius*, g. n., intermediate between *Gobius* and *Oxymetopon*, WAITE, Rec. Austral. Mus. v, p. 176; *A. viridis*, sp. n., id. ibid. p. 177, pl. xxiii, fig. 3, Lord Howe Id.
- Eviota*, g. n., near *Oxymetopon*, Blkr., for *E. epiphanes*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 501, fig., Honolulu.
- Leucopsarion petersii*, Hilg., figured, with notes on the habits and eggs, by KITAHARA, Annot. zool. Japon. v, p. 113, pl. v.
- Eleotris sandwicensis*, Vaill. & Sauv., redescribed by O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 499; *E. miniatus*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 125, Guam Id.

- Pycnomma*, g. n., near *Gymneleotris*, for *P. semisquamatus*, sp. n., RUTTER, P. Calif. Ac. Zool. (3) iii, p. 252, pl. xxiv, Gulf of California.  
*Carassiops compressus*, Kreffft, and *galii*, Ogilby, figured by WAITE, Rec. Austral. Mus. v, pl. xxxiv, figg. 1 & 2.  
*Kreffftius adspersus*, Cast., *australis*, Kreffft, and *cozii*, Kreffft, figured by WAITE, t. c. pl. xxxv, figg. 1 & 2, & xxxvi, fig. 1.  
*Philypnodon grandiceps*, Kreffft, figured by WAITE, t. c. pl. xxxvi, fig. 2.  
*Asterropteryx semipunctatus*, Rüpp., redescribed by O. P. JENKINS, t. c. p. 500.

## PLEURONECTIDÆ.

- Hippoglossus vulgaris*, Flem., and *hippoglossoides*, Walb. On pelagic post-larval stages: J. SCHMIDT, Meddel. Komm. Havunders., Fisk. i, No. 3, 1 pl.  
*Atheresthes evermanni*, sp. n., JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, p. 621, pl. vi, fig. 1, Japan.  
*Cleisthenes*, g. n., near *Hippoglossoides*, for *C. pinetorum*, sp. n., JORDAN & STARKS, t. c. p. 622, fig., Japan.  
*Alæops*, g. n., near *Poecilopsetta*, for *A. plinthus*, sp. n., JORDAN & STARKS, t. c. p. 623, pl. v, fig. 2, Japan.  
*Paralichthys olivaceus*, Temm. & Schleg., described and figured by OTAKI, FUJITA & HIGURASHI, Fishes of Japan i, pt. 2; *P. triocellatus*, sp. n., MIRANDA RIBEIRA, A Lavoura 1904, p. 49, Coast of Brazil.  
*Platophrys dimorphus*, sp. n., GILCHRIST, Mar. invest. S. Africa iii, p. 10, Natal.  
*Pseudorhombus natalensis* and *andersoni*, spp. nn., GILCHRIST, t. c. pp. 8 & 9, Natal.  
*Arnoglossus macrolepis*, sp. n., GILCHRIST, t. c. p. 12, Natal.  
*Psettylis pellucida*, Alc., and *ocellata*, Alc. Discussed and figured by JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 207, pl. i, fig. 3, & pl. ii.  
*Dexistes*, g. n., near *Pseudopleuronectes*, for *D. rikuzenius*, sp. n., JORDAN & STARKS, t. c. p. 624, pl. vi, fig. 1, Japan.  
*Pleuronectes*, L. On the larval and post-larval stages of the Danish species: PETERSEN, Meddel. Komm. Havunders., Fisk. i, No. 1, pl. ii. *P. platessa*, L. On its habits: JOHANSEN, t. c. No. 2. On its introduction in Australia: DANNEVIG, Rep. Fisher. N. S. W. f. 1902, ii (1903), p. 5. On a malformed specimen: J. JOHNSTONE, P. Liverp. biol. Soc. xviii, p. 111, pl. i. On its fecundity: R. D. LAURIE, t. c. p. 153. On the migration and growth: A. MEEK, Rep. Sci. Observ. Northumb. Fisher. Comm. 1904, p. 70. On the spawning season: HERDMAN, Nature lxi, pp. 465 & 488, and FULTON, t. c. p. 535. *P. cynoglossus*, L. On the post-larval and early young stages: H. C. WILLIAMSON, Rep. Fish. Board Scotland xxii, iii, p. 270, pl. xvi.  
*Drepanopsetta platessoides*, Fabr. On the larval and post-larval stages: PETERSEN, Meddel. Komm. Havunders., Fisk. 1, No. 1, pl. i.  
*Araius*, g. n., near *Pleuronectes*, for *A. ariommus*, sp. n., JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, p. 624, pl. vi, fig. 2, Japan.  
*Veruequa*, g. n., near *Microstomus* and *Limanda*, for *V. achne*, sp. n., JORDAN & STARKS, t. c. p. 625, pl. vii, fig. 1, Japan.  
*Microstomus kitaharae*, sp. n., JORDAN & STARKS, t. c. p. 625, pl. vii, fig. 2, Japan.  
*Engyrosopon ijimæ*, sp. n., JORDAN & STARKS, t. c. p. 626, pl. viii, fig. 1, Japan.  
*Ancylopsetta dendritica*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. lxii.  
*Solea turbynei* and *fulvomarginata*, spp. nn., GILCHRIST, Mar. invest. S. Africa iii, pp. 10 & 13, Cape of Good Hope.

- Gymnachirus zebrinus*, sp. n., MIRANDA RIBEIRA, A Lavoura 1904, p. 50, Coast of Brazil.  
*Synaptura melanoptera* and *aliata*, spp. nn., GILCHRIST, t. c. pp. 13 & 14, Natal.  
*Aphoristia variegata*, Gilchrist, figured by GILCHRIST, op. cit. ii, pl. xviii.  
*Cynoglossus*, Han. Buch. On the Naso-pharyngeal communications, JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 209, fig.; *C. attenuatus* and *brachycephalus*, spp. nn., GILCHRIST, t. c. pp. 11 & 12, Natal.

## ZEIDÆ.

- Cyttosoma*, g. n., for *C. boops*, sp. n., GILCHRIST, Mar. invest. S. Africa iii, p. 6, Cape of Good Hope, 120 faths.  
*Proantigonia longirostris*, Kramb., and *caprossoides*, Cosm. (foss.), described and figured by SIMIONESCU, Publ. Adamachi Ac. Romana xii, pp. 12 & 13, pl. ii, figg. 3-5.

## LUVARIDÆ.

- Lugarus imperialis*, Raf. Recorded from Guernsey by A. COLLENETTE, Rep. Guernsey Soc. 1903, p. 235.

## TRICHIURIDÆ.

- Xenogramma*, g. n., near *Gempylus*, for *X. carinatum*, sp. n., WAITE, Rec. Austral. Mus. v, p. 157, pl. xix, fig. 1, Lord Howe Id.

## SCOMBRIDÆ.

- Scomber colias*, Gm., described and figured by OTAKI, FUJITA & HIGURASHI, Fishes of Japan i, pt. 2.  
*Chenogaster*, g. n., near *Gastrochisma* and *Lepidothynnus*, for *C. holmbergi*, sp. n., LAHILLE, An. Mus. Buenos Aires (3) ii, 1903, p. 375, Montevideo.  
*Sphyrænodus pictus*, Ag. (foss.). On a fragment from the Middle Eocene of Hungary: A. KOCH, Foldtani Kozl. xxxiv, pp. 332 & 365.

## CARANGIDÆ.

- Trachurus japonicus*, Temm. & Schleg., described and figured by OTAKI, FUJITA & HIGURASHI, Fishes of Japan i, pt. 2.  
*Carangus hippoides*, p. 443, fig., *rhabdotus*, p. 444, fig., and *politus*, p. 445, fig., spp. nn., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, Honolulu; *C. cheilio*, sp. n., SNYDER, t. c. p. 524, pl. viii, fig. 14, Honolulu.  
*Carangoides ojar*, sp. n., SNYDER, t. c. p. 524, pl. viii, fig. 15, Honolulu.  
*Caranx primævus*, sp. n. (foss.), EASTMAN, Bull. Mus. Harvard xlvi, p. 28, fig., pl. i, fig. 4, Eocene of Monte Bolca; *C. petrodava*, sp. n. (foss.), SIMIONESCU, Verh. geol. Reichsanst. 1904, p. 148, and Publ. Adamachi Ac. Romana, No. xii, p. 8, pl. ii, fig. 6, Eocene of Roumania.  
*Hemicaranx zelotes*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xii, fig. 22.  
*Liognathus obscura*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 74 Guam Id.  
*Oligoplites altus*, Gthr., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xi, fig. 20; *O. refulgens*, sp. n., iid. ibid. p. 73, pl. xi, fig. 19, Panama.

- Decapterus muroatsi*, Temm. & Schleg., described and figured by OTAKI, FUJITA & HIGURASHI, Fishes of Japan i, pt. 2; *D. canonoides*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 442, pl. iv, Honolulu.  
*Seriola sparna*, sp. n., O. P. JENKINS, t. c. p. 442, fig., Honolulu.  
*Peprilus snyderi*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 87, pl. xii, fig. 23, Panama.

## SCARIDÆ.

- Scarus cretensis*, C. & V., redescribed by KOLOMBATOVIĆ, Glasnik Naravosl. druzt. xv, p. 3; *S. cypho*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 95, Guam Id.  
*Pseudoscarus platodoni*, sp. n., SEALE, t. c. p. 96, Guam Id.  
*Scaridea*, g. n., near *Scarichthys*, Blkr., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 468; *S. zonarcha*, p. 468, fig., and *balia*, p. 469, fig., spp. nn., id. ibid., Honolulu.

## LABRIDÆ.

- Crenilabrus steinegeri*, sp. n., ISHIKAWA, P. Tokyo Mus. i, p. 13, pl. vi, fig. 2, Japan.  
*Cirrhitilabrus lyukyensis*, sp. n., ISHIKAWA, t. c. p. 12, pl. vi, fig. 1, Japan;  
*C. jordani*, sp. n., SNYDER, Bull. U. S. Fish Comm. xxii, p. 529, pl. x, fig. 18, Hawaiian Ids.  
*Chilivus nigropinnatus*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 86, Guam Id.  
*Halichoeres nigropunctatus*, sp. n., SEALE, t. c. p. 89, Guam Id.; *H. macgregori*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 145, pl. xxiii, fig. 45, Panama.  
*Symphodus szajnochæ*, Zigno (foss.), described and figured by EASTMAN, Bull. Mus. Harvard xlvi, p. 29, pl. i, fig. 5.  
*Thalassoma berendti*, sp. n., SEALE, t. c. No. 4, p. 15, fig., Honolulu.  
*Calotomus cyclurus*, p. 465, fig., and *snyderi*, p. 467, fig., spp. nn., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, Honolulu.  
*Hemipteronotus jenkinsi*, sp. n., SNYDER, t. c. p. 530, pl. x, fig. 19, Hawaiian Ids.  
*Novaculichthys tattoo*, sp. n., SEALE, t. c. No. 4, p. 5, fig., Honolulu.  
*Julis turcica*, Risso, redescribed by KOLOMBATOVIĆ, Glasnik Naravosl. druzt. xv, p. 2; *J. duperrèyi*, Q. & G., redescribed by O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 463; *J. musume*, sp. n., JORDAN & SNYDER, Smithson. Collect. i, p. 236, pl. lxi, Japan; *J. punctatus*, sp. n., SEALE, t. c. p. 91, Guam Id.  
*Pseudojulis cerasina*, sp. n., SNYDER, Bull. U. S. Fish Comm. xxii, p. 528, Honolulu.  
*Stethojulis fulvoventris*, sp. n., SEALE, t. c. p. 92, Guam Id.  
*Gomphosus pacificus*, sp. n., SEALE, t. c. p. 94, Guam Id.

## POMACENTRIDÆ.

- Chromis atrilobatus*, Gill, figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xxi, fig. 43; *C. elaphrus*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 457, fig., Honolulu.  
*Amphiprion snyderi*, sp. n., ISHIKAWA, P. Tokyo Mus. i, p. 11, pl. v, Japan.

- Pomacentrus gilli*, sp. n., GILBERT & STARKS, t. c. p. 141, pl. xxii, fig. 44, Panama.  
*Glyphidodon polyacanthus*, Ogilby, figured by WAITE, Rec. Austral. Mus. v, pl. xxiii, fig. 1.  
*Parma polylepis*, Gthr., noticed and figured by WAITE, t. c. p. 169, pl. xxii.

## CICHLIDÆ.

Monographed by PELLEGRIN, Mem. Soc. zool. France xvi, pp. 41-402, figg., pls. iv-vii.

- Heros tetracanthus*, C. & V., figured by EIGENMANN, Bull. U. S. Fish Comm. f. 1902, p. 231, figg.; *H. tetracanthus terralbasi*, *griseus*, and *cinctus*, subsp. nn., id. ibid. pp. 230-234, figg., Cuba; *H. nigricans*, sp. n., id. ibid. p. 235, fig., Cuba; *H. (Cichlosoma) octofasciatus*, Reg., redescribed by REGAN, Ann. Nat. Hist. (7) xiii, p. 258; *H. callolepis*, sp. n., id. ibid. p. 258, S. Domingo de Guzman, Mexico.  
*Cichlasoma hendricki*, p. 208, fig., *evermanni*, p. 214, fig., and *mojarra*, p. 217, fig., spp. nn., S. E. MEEK, Field Mus. Zool. v, Mexico; *C. eigenmanni*, Meek, figured by S. E. MEEK, t. c. pl. xvi; *C. spinosissimum*, Vaill. & Pellegr., var. n., *immaculata*, PELLEGRIN, Mem. Soc. zool. France xvi, p. 225, Guatemala; *C. guentheri*, n. n. for *Heros oblongus*, Gthr., nec Casteln., id. ibid. p. 215.  
*Thorichthys*, g. n., near *Cichlasoma*, S. E. MEEK, t. c. p. 222; *T. ellioti*, sp. n., id. ibid. p. 223, fig., Mexico.  
*Astatheros*, subg. n., for *Heros heterodontus*, Vaill. & Pellegr., PELLEGRIN, t. c. p. 203.  
*Heterotilapia*, g. n., for *Heros multispinosus*, Gthr., PELLEGRIN, t. c. p. 247.  
*Acara geayi*, Pellegr., figured by PELLEGRIN, t. c. pl. iv, fig. 3.  
*Astronotus ocellatus*, Ag., var. n. *zebra*, PELLEGRIN, t. c. p. 147, Santarem, Brazil.  
*Geophagus camopiensis*, Pellegr., figured by PELLEGRIN, t. c. pl. iv, fig. 1.  
*Lamprologus mocquardi*, Pellegr., figured by PELLEGRIN, t. c. p. 291, fig.  
*Lepidiolamprologus*, g. n., for *Lamprologus elongatus*, Blgr., PELLEGRIN, t. c. p. 295.  
*Symphysodon discus*, Heck., var. n. *æquifasciata*, PELLEGRIN, t. c. p. 250, Brazil.  
*Pterophyllum altum*, Pellegr., figured by PELLEGRIN, t. c. pl. iv, fig. 4.  
*Pelmatochromis nigrofasciatus*, Pellegr., figured by PELLEGRIN, t. c. pl. vi, fig. 2.  
*Paratilapia dorsalis*, Pellegr., figured by PELLEGRIN, t. c. pl. v, fig. 4; *P. prognathus* and *victoriana*, spp. nn., id. Bull. Soc. zool. France xxix, p. 185, L. Victoria.  
*Nanochromis*, n. n. for *Pseudoplesiops*, Blgr. nec Blkr., PELLEGRIN, Mem. Soc. zool. France xvi, p. 273; *N. dimidiatus*, Pellegr., figured, id. ibid. pl. iv, fig. 2.  
*Tilapia boulengeri*, Pellegr., pl. v, fig. 3, *crassa*, Pellegr., p. 325, fig., *bilineata*, Pellegr., pl. v, fig. 1, and *giardi*, Pellegr., pl. v, fig. 2, figured by PELLEGRIN, t. c.; *T. guiarti*, sp. n., PELLEGRIN, Bull. Soc. zool. France xxix, p. 186, L. Victoria; *T. kotta* and *dubia*, spp. nn., LÖNNBERG, Ann. Nat. Hist. (7) xiii, pp. 135 & 137, Lake Barombibakotta, Cameroon Mountain.  
*Ophthalmotilapia*, g. n., for *Tilapia boops*, Blgr., and allies, PELLEGRIN, Mem. Soc. zool. France xvi, p. 345.  
*Boulengerochromis*, g. n., for *Tilapia microlepis*, Blgr., PELLEGRIN, t. c. p. 304.

- Astatotilapia*, **g. n.**, for *Tilapia desfontainesi*, Lacep., and allies, PELLEGRIN, t. c. p. 299.
- Astatoreochromis*, **g. n.**, between *Astatotilapia* and *Oreochromis*, PELLEGRIN, t. c. p. 384; *A. alluaudi*, **sp. n.**, id. *ibid.* p. 385, L. Victoria.
- Crenicichla geayi*, pl. vi, fig. 4, *vallanti*, Pellegr., p. 376, and *multispinosa*, pl. vi, fig. 3, figured by PELLEGRIN, t. c.; *C. saxatilis*, var. n., *albo-punctata*, id. *ibid.* p. 374, Guianas; *C. brasiliensis*, Bl., varr. nn., *fasciata* and *marmorata*, id. *ibid.* p. 383, figg., Brazil.

## OSPHROMENIDÆ.

- Osphromenus malayanus*, **sp. n.**, DUNCKER, Mt. Ges. Hamburg xxi, p. 163, pl. i, fig. 8, Kuala Lumpur, Malay Peninsula.
- Bettu pugnax*, Cantor, figured, with notes on the breeding habits, by WAITE, Rec. Austral. Mus. v, p. 293, pl. xxxviii.

## TEUTHIDIDÆ.

- Note on the limb girdles of *Teuthis oramin* by JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 217, fig.

## ACANTHURIDÆ.

- Acanthurus incipiens*, **sp. n.**, O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 480, fig., Honolulu.
- Teuthis leucopareus*, p. 476, fig., and *guentheri*, p. 477, fig., **spp. nn.**, O. P. JENKINS, t. c., Honolulu.
- Prionurus*, Lacep. Remarks on the validity of this name: GILL, P. U. S. Mus. xxviii, p. 121.
- Xesurus hopkinsi*, **sp. n.**, GILBERT & STARKS, Mem. Calif. Ac. iv, p. 155, pl. xxv, Panama.
- Callicanthus metoposophron*, **sp. n.**, O. P. JENKINS, t. c. p. 481, fig., Honolulu.
- Zabrasoma agana*, **sp. n.**, SEALE, Pap. B. P. Bishop Mus. i, p. 110, Guam Id.
- Monoceros garretti*, **sp. n.**, SEALE, t. c. p. 112, Guam Id.
- Pygæus*, Ag. (foss.) is regarded by Jordan as a generalized type allied to the *Acronuridæ*, for which he proposes a new family *Pygæidæ*, EASTMAN, Science (2) xx, p. 245; *P. agassizii*, **sp. n.** (foss.), EASTMAN, Bull. Mus. Harvard xlvi, p. 31, pl. ii, Eocene of Monte Bolca.

## CHÆTODONTIDÆ.

- Scatophagus argus*, Gm. Young noticed and figured by JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 220, pl. i, fig. 1.
- Chætodon nigrostris*, Gill, figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xxiv; *C. dixonii*, **sp. n.**, REGAN, Ann. Nat. Hist. (7) xiii, p. 276, fig., New Hebrides; *C. corallicola*, **sp. n.**, SNYDER, Bull. U. S. Fish Comm. xxii, p. 531, pl. xi, fig. 20, Hawaiian Id.
- Holacanthus fisheri*, **sp. n.**, SNYDER, t. c. p. 532, pl. xi, fig. 21, Hawaiian Ids.; *H. marianas* and *bishopi*, **spp. nn.**, SEALE, Pap. B. P. Bishop Mus. i, pp. 104 & 106, Guam Id.
- Platax vespertilio*, L., mimicking a dead leaf: WILLEY, Spolia Zeylan. ii, p. 51, fig.



## MULLIDÆ.

- Upeneus saffordi*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 72, Guam Id.  
*Pseudupeneus porphyreus*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm.  
 xxii, p. 454, fig., Honolulu.

## SPARIDÆ.

- Heterognathodon daerderleini*, sp. n., ISHIKAWA, P. Tokyo Mus. i, p. 10,  
 pl. iv, Japan.

## PRISTIPOMATIDÆ.

- Pomadasy's starri*, p. 200, pl. xiii, and *templei*, p. 201, pl. xiv, spp. nn.,  
 S. E. MEEK, Field Mus. Zool. v, Mexico.  
*Erythrichthys leucogrammicus*, Blkr. Young described and figured by  
 JOHNSTONE, Suppl. Rep. Ceylon Pearl Fisheries, No. xv, p. 221, pl. i,  
 fig. 6.

## HAPLODACTYLIDÆ.

- Haplodactylus etheridgii*, Ogilby, figured by WAITE, Rec. Austral. Mus. v,  
 pl. xxi.

## GERRIDÆ.

- Eucinostomus meeki*, sp. n., EIGENMANN, Bull. U. S. Fish Comm. f. 1902,  
 p. 229, fig., Cuba.

## SCIÆNIDÆ.

- Sagenichthys mordax*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 121,  
 pl. xvi, fig. 32, Panama.  
*Larinus effulgens*, Gilb., and *aclivis*, Jord. & Brist., figured by GILBERT &  
 STARKS, t. c. pl. xvi, figg. 33 & 34.  
*Odontoscion xanthops*, Gilb., figured by GILBERT & STARKS, t. c. pl. xvii,  
 fig. 35.  
*Stellifer illecebrosus*, Gilb., and *zestocarus*, Gilb., figured by GILBERT &  
 STARKS, t. c. pl. xviii, figg. 36 & 37.  
*Ophioscion simulus*, Gilb., and *scierus*, J. & G., figured by GILBERT &  
 STARKS, t. c. pl. xix, figg. 38 & 39.  
*Polyclenus goodei*, Gilb., figured by GILBERT & STARKS, t. c. pl. xx, fig. 40.  
*Paralonchurus petersi*, Bocourt, figured by GILBERT & STARKS, t. c. pl. xx,  
 fig. 41.  
*Eques viola*, Gilb., figured by GILBERT & STARKS, t. c. pl. xxi, fig. 42.

## HOPLOGNATHIDÆ.

- Hoplognathus insignis*, Kner. Note by PELLEGRIN, Bull. Soc. zool. France  
 xxix, p. 120.

## PSEUDOCROMIDIDÆ.

- Cichlops*, M. & T., is superseded by *Labracinus*, Schleg., GILL, P. U. S.  
 Mus. xxviii, p. 119.  
*Lopholatilus chamaeleonticeps*, Goode. On its osteology and relationship:  
 F. A. LUCAS, Bull. Bur. Fisher. xxiv, p. 81, figg.  
*Rathbunella alleni*, sp. n., GILBERT, P. Calif. Ac. Zool. (3) iii, p. 267,  
 pl. xxviii, Monterey Bay, California.

- Opisthognathus jacksoniensis*, Macleay, redescribed and figured by WAITE, Rec. Austral. Mus. v, p. 240, pl. xxvi, fig. 2.  
*Pseudoperca*, g. n., near *Pinguipes*, for *P. numida*, sp. n., MIRANDA RIBEIRA, A Lavoura, 1904, p. 41, Coast of Brazil.

## SERRANIDÆ.

- Morone labrax*, L. On cases of malformation: ALBA FASCIOLO, Atti Soc. Ligustica xv, p. 92, pl. iii.  
*Epinephelus alexandrinus*, C. & V. On a specimen from the Adriatic: FILIPPO TROIS, Atti Ist. Veneto lxiii, p. 93. *E. quernus*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, No. 4, p. 1, fig., Honolulu. Redescribed by O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 449.  
*Serranus brighami*, Seale, redescribed and referred to *Apsilus* by O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 452; *S. brighami*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, No. 4, p. 7, fig., Honolulu; *S. kysnaensis*, sp. n., GILCHRIST, Mar. invest. S. Africa iii, p. 2, Cape of Good Hope.  
*Anthias duplicidentatus*, sp. n., MIRANDA RIBEIRA, A Lavoura, 1904, p. 26, Coast of Brazil.  
*Rhegma thamasium*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xv, fig. 31.  
*Priacanthus meeki*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 450, fig., Honolulu.  
*Lates pliocenus*, sp. n. (foss.), A. KOCH, Ann. Mus. Hungar. ii, pp. 17 & 52, pl. vi, Pliocene of Szerem, Hungary.  
*Centropomus argenteus*, sp. n., REGAN, Ann. Nat. Hist. (7) xiii, p. 260, Barbadoes and British Guiana.  
*Scombrops chilodipteroides*, Blkr., described and figured by OTAKI, FUGITA & HIGURASHI, Fishes of Japan i, pt. 2.  
*Apogon queketti*, Gilchrist, figured by GILCHRIST, Mar. invest. S. Africa ii, pl. xiv; *A. evermanni*, sp. n., JORDAN & SNYDER, P. U. S. Mus. xxviii, p. 123, Honolulu; *A. mensesemus*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 448, fig., Honolulu; *A. erythrinus*, sp. n., SNYDER, t. c. p. 526, pl. ix, fig. 17, Honolulu.  
*Fowleria brachygrammus*, sp. n., O. P. JENKINS, t. c. p. 447, fig., Honolulu.  
*Ariomma*, g. n., near *Apogon*, JORDAN & SNYDER, op. cit. xxvii, p. 942; *A. lurida*, sp. n., iid. ibid. p. 943, Honolulu.  
*Howella brodiei*, Ogilby, noticed and figured by WAITE, Rec. Austral. Mus. v, p. 157, pl. xviii, fig. 4.  
*Lutianus jordani*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xiv, fig. 29.  
*Orthopristis brevipinnis*, Stdr., figured by GILBERT & STARKS, t. c. pl. xv, fig. 30.  
*Eteliscus marshi*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 452, fig., Honolulu.  
*Chilodactylus vittatus*, Garrett, redescribed by O. P. JENKINS, t. c. p. 489.  
*Cirrhitoides*, g. n., allied to *Oxyrrhites*, Blkr., for *C. bimacula*, sp. n., O. P. JENKINS, t. c. p. 489, fig., Honolulu.  
*Histioporus spinifer*, sp. n., GILCHRIST, Mar. invest. S. Africa iii, p. 3, Mossel Bay, S. Africa.  
*Smerdis macrurus*, Ag. (foss.). On a specimen from the Miocene of Hungary, A. KOCH, Foldtani Kozl. xxxiv, pp. 333 & 367.  
*Krambergia*, g. n., near *Palimphytes*, Wettst., for *K. lanceolata*, sp. n. (foss.), SIMIONESCU, Verh. geol. Reichsanst. 1904, p. 148, and Publ. Adamachi Ac. Romana, No. xii, p. 10, pl. i, fig. 9, Oligocene of Roumania.

## NANDIDÆ.

*Mesonanta surinamensis*, Sauv. = *Polycentrus schomburgki*, M. & T., PELLEGRIN, Mem. Soc. zool. France xvi, p. 221. ll

## LOBOTIDÆ.

*Lobotes pacificus*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. xiv, fig. 28.

## CENTRARCHIDÆ.

R. E. RICHARDSON, Bull. Illinois Lab. vii, pp. 27-35, figg., reviews the species of the genera *Apomotis*, *Lepomis* and *Eupomotis*.

*Centrarchus occidentalis*, Meek, figured by S. E. MEEK, Field Mus. Zool. v, pl. xii.

*Micropterus dolomieu*, Lacep. Notes on the nesting habits: D. LYDELL, Bull. U. S. Fish Comm. xxii, p. 39.

*Pomotis sparoides*, Lacep., figured by T. LARGE, Rep. Fish Comm. Illinois 1900-02, pl. —

*Kuhlia marginata*, C. & V. Noticed from Japan and figured by ISHIKAWA, P. Tokyo Mus. i, p. 9, pl. iii, fig. 1.

BERYCIDÆ. Suffraganeæ

On the osteology of the principal types: E. C. STARKS, P. U. S. Mus. xxvii, pp. 601-619, figg.

On the specimens in the collection of the Philadelphia Academy: H. W. FOWLER, P. Ac. Philad. lvi, pp. 222-238.

*Beryx decadactylus*, C. & V., redescribed by ARIOLA, Ann. Mus. Genova (3) i, p. 163.

*Trachichthodes spinosus*, Gilchrist, figured by GILCHRIST, Mar. invest. S. Africa ii, pl. xiii, fig. 1.

*Plectromus macrophthalmus*, Gilchrist, figured by GILCHRIST, t. c. pl. xiii, fig. 2.

*Myripristis murdjan*, Forsk., redescribed by H. W. FOWLER, P. Ac. Philad. lvi, p. 222; *M. scalei*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 439, fig., Honolulu.

*Holocentrum osculum*, Poey, redescribed by REGAN, Ann. Nat. Hist. (7) xiii, p. 259; *H. siccifer*, Cope, redescribed and figured by H. W. FOWLER, t. c. p. 233, fig.; *H. gladiuspinis*, p. 222, fig., Tahiti, *gracilispinis*, p. 228, fig., Honolulu, *polynesia*, p. 229, fig., Thornton Is., and *thorntonensis*, p. 231, fig., Thornton Is., spp. nn., id. ibid.

*Sargocentron*, subg. n. for *Holocentrum leo*, Cuv., H. W. FOWLER, t. c. p. 235.

*Flammeo chromopterus*, sp. n., H. W. FOWLER, t. c. p. 236, fig., Samoa.

*Bradyurus*, g. n. (Berycid. ?) for *Symphodus szajnochæ*, Zigno (foss.), GILL, Science (2) xx, p. 846.

## ANACANTHINI.

## GADIDÆ.

J. S. THOMSON, J. Mar. Biol. Ass. (2) vii, pp. 1-109, pls. i-viii, has investigated the periodic growth of scales in the principal British species, and regards the scales as giving a direct index of age in these fishes.

- Gadus pannonicus*, **sp. n.** (foss.), A. KOCH, Ann. Mus. Hungar. ii, pp. 4 & 37, pls. i, ii, iv, Pliocene of Szerem, Hungary.  
*Holargyreus affinis*, **sp. n.**, COLLETT, Forh. Selsk. Christian. 1904, No. 9, p. 6, Faroe Channel, 375-600 fath.  
*Læmonemodes compressicauda*, Gilchrist, figured by GILCHRIST, Mar. invest. S. Africa ii, pl. xvi.  
*Urophycis mystaceus* and *latus*, **spp. nn.**, MIRANDA RIBEIRA, A Lavoura, 1904, pp. 46 & 48, Coast of Brazil.  
*Motella megalocynodon*, Kolomb., redescribed by KOLOMBATOVIĆ, Glasnik Naravosl. druzt. xv, p. 1.  
*Eretmophorus kleinenbergi*, Gigl. Note by ARIOLA, Ann. Mus. Genova (3) i, p. 159.

## MACRURIDÆ.

- Synopsis of the genera by DOLLO, Rés. Voy. Belgica, Poiss., p. 38.  
 On the Japanese species: JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, pp. 600-627.  
*Gadomus colletti*, **sp. n.**, JORDAN & STARKS, t. c. p. 603, fig., Japan.  
*Regania*, **g. n.**, near *Gadomus*, JORDAN & STARKS, t. c. p. 604; *R. nipponica*, **sp. n.**, iid. *ibid.* p. 605, fig., Japan.  
*Melanobranchus antrodes*, **sp. n.**, JORDAN & STARKS, t. c. p. 606, pl. iv, fig. 1, Japan.  
*Coryphænoides awa*, p. 608, fig., *garmani*, p. 610, fig., and *misakius*, p. 611, fig., **spp. nn.**, JORDAN & STARKS, t. c., Japan.  
*Hymenocephalus striatissimus*, p. 612, fig., *papyraceus*, p. 614, fig., and *lethonemus*, p. 615, fig., **spp. nn.**, JORDAN & STARKS, t. c., Japan.  
*Coelorhynchus anatirostris*, **sp. n.**, JORDAN & STARKS, t. c. p. 619, fig., Japan.  
*Nezumia*, **g. n.**, near *Macrurus*, for *N. condylura*, **sp. n.**, JORDAN & STARKS, t. c. p. 620, pl. iv, fig. 2, Japan.  
*Nematonurus lecointei*, Dollo, described and figured by DOLLO, t. c. p. 44, pl. vii.

## PERCESOCES.

## STROMATEIDÆ.

- Stromatoides nozaræ*, **sp. n.**, ISHIKAWA, P. Tokyo Mus. i, p. 8, Japan.  
*Platystethus cultratum*, Gthr., noticed and figured by WAITE, Rec. Austral. Mus. v, p. 161, pl. xix, fig. 2.  
*Schedophilus maculatus*, Gthr., figured by WAITE, t. c. pl. xx, fig. 1; *S. heathi*, **sp. n.**, GILBERT, P. Calif. Ac. Zool. (3) iii, p. 260, pl. xxvi, California.

## SPHYRÆNIDÆ.

- Sphyræna picudilla*, Poey, diagnosed and figured by H. W. FOWLER, P. Ac. Philad. lv, p. 750, pl. xlvi; *S. ensis*, J. & G., and *borealis*, De Kay, notes by id. t. c. p. 750; *S. tome*, **sp. n.**, id. *ibid.* p. 750, pl. xlvi, Brazil (?); *S. idiaestes*, **sp. n.**, HELLER & SNODGRASS, P. Washington Ac. v, p. 190, pl. ii, Galapagos Archipelago.  
*Agriosphyræna*, **subg. n.**, for *Sphyræna snodgrassi*, Jenk., and *barracuda*, Walb., H. W. FOWLER, t. c. p. 749.  
*Sphyrænodus hexagonalis*, **sp. n.** (foss.), A. KOCH, Ann. Mus. Hungar. ii, pp. 10 & 44, pls. iv-vi, Pliocene of Szerem, Hungary.

## MUGILIDÆ.

- Mugil*, Art. On the habits of the Grey Mulletts in the Arcachon basin: KUNSTLER, C.R. Soc. Biol. lvi, p. 427; *M. dobula*, Gthr. Figured, with an account of the habits, by DANNEVIG, Rep. Fisher. N. S. W. f. 1902, ii, p. 26, pl. iii (1903); *M. brasiliensis*, Spix, and *kelaartii*, Gthr., Notes by H. W. FOWLER, P. Ac. Philad. iv, p. 743; *M. cephalus*, L., and *curama*, C. & V., Young figured, id. ibid. p. 744, figg.; *M. incilis*, Hancock, redescribed and figured, id. ibid. p. 744, pl. xlv.
- Liza caldwelli*, Fowl., note by H. W. FOWLER, t. c. p. 747; *L. atosoides*, sp. n., id. ibid. p. 746, pl. xlv, Gaboon.
- Oedalechilus*, subg. n., for *Agonostoma monticola*, Griff., H. W. FOWLER, t. c. p. 748.

## ATHERINIDÆ.

- Atherina*, Art. On the European species: CLEMENTINA BORSIERI, Ann. di Agricolt. Rome, 1902 [1904], 92 pp. The five species: *A. presbyter*, C. & V., *hepsetus*, L., *boyeri*, Risso, *mochon*, C. & V., and *rissoi*, C. & V., figured, pls. vi-x. *A. insularum*, Jord. & Everm., redescribed by O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 437. *A. lacustris*, Bp., redescribed by H. W. FOWLER, P. Ac. Philad. iv, p. 727. *A. sardinella*, sp. n., id. ibid. p. 729, pl. xli, Italy. *A. evermanni*, sp. n., EIGENMANN, Bull. U. S. Fish Comm. f. 1902, p. 228, fig., Cuba.
- Atherinomorus*, subg. n. for *Atherina laticeps*, Poey, H. W. FOWLER, P. Ac. Philad. p. 730.
- Ischnomembras*, g. n., near *Atherina*, H. W. FOWLER, t. c. p. 730; *I. gabunensis*, sp. n., id. ibid. p. 731, pl. xlii, Gaboon.
- Atherinella panamensis*, Sldr., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. ix, fig. 17.
- Phoxargyrea*, g. n., near *Menida*, for *P. dayi*, sp. n., H. W. FOWLER, P. Ac. Philad. p. 732, India.
- Basilichthys regia*, Humb. & Val., redescribed by H. W. FOWLER, t. c. p. 734.
- Thyrina guatemalensis*, Gthr., redescribed and figured by H. W. FOWLER, t. c. p. 736, pl. xliii.
- Protistius semotilus*, Cope, redescribed and figured by H. W. FOWLER, t. c. p. 737, pl. xlv.
- Gasteropterus archæus*, Cope, redescribed and figured by H. W. FOWLER, t. c. p. 738, pl. xliii.
- Atherinopsis californiensis*, Gir., redescribed by H. W. FOWLER, t. c. p. 739; *A. magdalena*, sp. n., id. ibid. p. 740, pl. xlii, Lower California.
- Tropidostethus rhothophilus*, Ogilby, noticed and figured by WAITE, Rec. Austral. Mus. v, p. 234, pl. xxv, fig. 2.
- Chirostoma mezquital*, sp. n., S. E. MEEK, Field Mus. Zool. v, p. 170, fig., Durango, Mexico.

## AMMODYTIDÆ.

- Remarks by GILL, P. U. S. Mus. xxviii, p. 159, figg.

## SCOMBRESOCIDÆ.

- Hemirhamphus fluviatilis*, Blkr. Note on the anal fin of the male: DUNCKER, Mt. Mus. Hamburg xxi, p. 170, fig. *H. saltator*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 53, pl. ix, fig. 16, Panama.
- Cypsilurus simus*, C. & V., redescribed by O. P. JENKINS, Bull. U. S. Fish

Comm. xxii, p. 435; *C. atrisignis*, sp. n., id. ibid. p. 436, pl. iii, Honolulu.

*Exonautes gilberti*, sp. n., SNYDER, Bull. U. S. Fish Comm. xxii, p. 522, pl. vii, fig. 13, Hawaiian Ids.

### CATOSTEOMI.

*Syngnathus incompletus*, Cosm. (foss.), described and figured by SIMIONESCU, Publ. Adamachi Ac. Romana xii, p. 6, pl. i, fig. 1. *S. cosmovicii*, sp. n. (foss.), id., Verh. geol. Reichsanst. 1904, p. 148, Oligocene of Roumania.

*Siphostoma brevicaudum*, sp. n., S. E. MEEK, Field Mus. Zool. v, p. 163, fig., Vera Cruz, Mexico.

*Dorichthys boaja*, Blkr., figured by DUNCKER, Mt. Mus. Hamburg xxi, pl. ii, fig. 9; *D. fluviatilis*, sp. n., id. ibid. p. 188, pl. ii, fig. 10, Kuala Lumpur, Malay Peninsula.

*Fistularia corneta*, sp. n., GILBERT & STARKS, Mem. Calif. Ac. iv, p. 56, pl. x, fig. 18, Pacific Coast of C. America.

*Macrorhamphosus scolopax*, L., recorded from Florida by H. M. SMITH, Science (2) xix, p. 314.

*Gastrostheus aculeatus*, L. On its life in salt and fresh waters: BORCEA, Bull. Soc. zool. France xxix, p. 140.

*Lampris immaculata*, sp. n., GILCHRIST, Mar. invest. S. Africa iii, p. 4, False Bay, S. Africa.

### HETEROMI.

*Furaster dentatus*, Cuv. On a larva: FULTON, Rep. Fish Board Scotland xxii, iii, p. 283, pl. xviii, fig. 3. *F. acus*, Brünn. Larva figured by LO BIANCO, Pelag. Tiefseefisch. 'Maja,' pl. iv, fig. 9.

### HAPLOMI.

On the characters of this Suborder and of its principal constituent families and subfamilies: E. C. STARKS, Biol. Bull. vii, pp. 254-262.

### CYPRINODONTIDÆ.

F. C. CARLTON, Science (2) xix, p. 245, has made experiments on the colour changes of *Fundulus heteroclitus*, to show their relation to nervous influences. J. A. LONG, t. c. p. 248, has made similar experiments on blinded specimens of this fish.

On hybrids between *Fundulus heteroclitus* and *Menidia notata*: MOENKHAUS, Amer. J. Anat. iii, p. 29.

*Haplochilus macrurus*, p. 19, Angola, and *schoelleri*, p. 136, Egypt, spp. nn., BOULENGER, Ann. Nat. Hist. (7) xiv; *H. chevalieri* and *decorsei*, spp. nn., PELLEGRIN, Bull. Mus. Paris 1904, pp. 222 & 223, Congo.

*Procatopus*, g. n., near *Haplochilus*, for *P. nototeniæ*, sp. n., BOULENGER, t. c. p. 20, Cameroon.

*Fundulus cubensis*, sp. n., EIGENMANN, Bull. U. S. Fish. Comm. f. 1902, p. 222, fig., Cuba.

*Cynodonichthys*, g. n., near *Fundulus*, for *C. tenuis*, sp. n., S. E. MEEK, Field Mus. Zool. v, p. 101, fig., Oaxaca, Mexico.

*Glaridichthys fulcatus* and *torralbasi*, spp. nn., EIGENMANN, t. c. pp. 224 & 225, figg., Cuba.

- Girardinus caudimaculatus*, HENS. On a female assuming the male character of the anal fin: E. PHILIPPI, SB. Ges. naturf. Berlin 1904, p. 196. *G. garmani*, sp. n., EIGENMANN, t. c. p. 226, fig., Cuba.
- Toxus*, g. n., near *Glaridichthys* and *Girardinus*, for *T. riddlei*, sp. n., EIGENMANN, t. c. p. 226, figg., Cuba.
- Heterandria cubensis*, sp. n., EIGENMANN, t. c. p. 227, fig., Cuba.
- Zoogoneticus maculatus*, sp. n., REGAN, Ann. Nat. Hist. (7) xiii, p. 257, Rio Santiago, Mexico.
- Characodon geddesi*, sp. n., REGAN, t. c. p. 257, Lake Tezcoco, S. Mexico; *C. multiradiatus*, sp. n., S. E. MEEK, Field Mus. Zool. v, p. 119, Lerma, Mexico.
- Goodea luitpoldii*, Stdr., figured by S. E. MEEK, Field Mus. Zool. v, pl. i; *G. whitei* and *toweri*, spp. nn., id. ibid. pp. 137 & 138, figg., Mexico.
- Skiffia lermæ*, Meek, figured by S. E. MEEK, t. c. pl. viii.
- Platyæcilus maculatus*, Gthr., figured by S. E. MEEK, t. c. pl. ix; *P. variatus*, p. 146, pl. x, and *nelsoni*, p. 147, fig., spp. nn., id. ibid., Mexico.
- Pæcilia latipunctata*, sp. n., S. E. MEEK, t. c. p. 150, fig., Mexico.
- Xiphophorus jalapæ*, Meek, figured by S. E. MEEK, t. c. pl. xi.
- Pseudoxiphophorus pauciradiatus*, sp. n., REGAN, Ann. Nat. Hist. (7) xiii, p. 256, Orizaba, Mexico.
- Orestias*, Cuv. On united lower pharyngeal bones in this genus: PELLEGRIN, C.R. Ac. Sci. cxxxix, p. 682, figg. *O. tschudii*, Cast. Note by PELLEGRIN, Bull. Soc. zool. France xxix, p. 92. *O. agassizii*, C. & V., vars. nn., *inornata*, *typica*, *senechali*, *crequii*, id. ibid. pp. 93 & 94, L. Titicaca; *O. nevewi*, sp. n., id. ibid. p. 95, L. Titicaca.
- Gambusia fasciata*, p. 129, fig., Oaxaca, and *bonita*, p. 132, fig., Vera Cruz, spp. nn., S. E. MEEK, Field Mus. Zool. v.
- Paragambusia*, g. n., for *Gambusia nicaraguensis*, Gthr., S. E. MEEK, t. c. p. 133.

## ALEPIDOSAURIDÆ.

- Alepidosaurus æsculapius*, Bean = *A. ferox*, Lowe, JORDAN & SNYDER, Smithson. Collect. i, p. 235.

## SCOPELIDÆ.

- Scopelus*, Cuv., or *Myctophum*, Raf. Remarks on the disposition of the photophores, and synopsis of the subgenera and species, by BRAUER, Zool. Anz. xxviii, p. 377.
- Scopelus rissoi*, Cocco, and *crocodilus*, Risso, figured, by LO BIANCO, Pelag. Tiefseefisch. "Maja," pl. ii, figg. 2 & 3; *S. argenteus*, sp. n., GILCHRIST, Mar. invest. S. Africa iii, p. 15, Cape of Good Hope.
- Myctophum valdiviæ*, p. 398, fig., Atlantic and Indian Oceans, *splendidum*, p. 399, fig., Atlantic and Indian Oceans, *luetkeni*, p. 400, Indian Ocean, *microps*, p. 400, fig., Indian Ocean, *elucens*, p. 401, fig., Indian Ocean, *fulgens*, p. 402, fig., Indian Ocean, *procerum*, p. 402, fig., Agulhas Bank, *nigrescens*, p. 403, Indian Ocean, and *macropterum*, p. 404, fig., Indian Ocean, spp. nn., BRAUER, t. c.
- Neoscopelus atcocki*, sp. n., JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, p. 580, pl. ii, figg. 1 & 2, Japan.
- Diaphus watasei*, sp. n., JORDAN & STARKS, t. c. p. 580, fig., Japan.
- Notoscopelus ejectus*, sp. n., WAITE, Rec. Austral. Mus. v, p. 150, pl. xviii, fig. 2, Lord Howe Id.
- Dasy Scopelus naufragus*, sp. n., WAITE, t. c. p. 154, pl. xviii, fig. 3, Lord Howe Id.

- Centrobranchus*, g. n., close to *Rhinoscopelus*, Lützk., for *Rhinoscopelus coruscans*, Fowl., which is redescribed, H. W. FOWLER, P. Ac. Philad. iv, p. 754.
- Æthopora perspicillata*, Ogilby, redescribed and figured by WAITE, t. c. p. 149, pl. xviii, fig. 1.
- Chlorophthalmus punctatus*, sp. n., GILCHRIST, Mar. invest. S. Africa iii, p. 15, Cape of Good Hope, 154 fath.; *C. albatrossis*, sp. n., JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, p. 579, pl. i, fig. 1, Japan.
- Goodella hypozona*, Ogilby = *Trachinocephalus myops*, Forst., WAITE, t. c. p. 232, pl. xxv, fig. 1.
- Holosteus esocinus*, Ag. (foss.). Note by EASTMAN, Bull. Mus. Harvard xlvi, p. 28.

## DALLIIDÆ.

On the osteology : STARKS, Zool. Jahrb. Syst. xxi, pp. 249-262, figg.

## ESOCIDÆ.

*Umbra*, Kram. Notes on the habits by GILL, Smithson. Collect. i, p. 295, figg.

## ENCHODONTIDÆ.

*Ischyrrhiza antiqua*, Leidy (foss.) = *Onchosaurus radicalis*, Gerv., EASTMAN, Amer. Natural. xxxviii, p. 298.

## HAPLOCHITONIDÆ.

*Prototroctes maræna*, Gthr. Notes on its habits by D. G. STEAD, Rep. Fisher. N. S. W. f. 1902, ii, p. 34, figg. (1903).

## GALAXIIDÆ.

Geographical list of the species by DOLLO, Rés. Voy. Belgica, Poiss. p. 150.

## APODES.

- C. M. L. PORTA, Ann. Sci. nat. (8) xix, pp. 367-390, figg., has studied the differences in the branchial arches and their appendages in a large number of Apodal Fishes.
- O. RICCI, Atti Soc. Modena (4) iv, pp. 11-35, remarks on the researches on the metamorphoses of the Mediterranean Apodal Fishes.
- Muraena clepsydra*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. vii, fig. 13; *M. lampra* and *kauila*, spp. nn., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, pp. 423 & 424, figg., Honolulu.
- Echidna vineta*, p. 429, fig., *obscura*, p. 430, fig., and *psalion*, p. 431, fig., spp. nn., O. P. JENKINS, t. c., Honolulu; *E. uniformis*, sp. n., SEALE, Pap. B. P. Bishop Mus. i, p. 62, Guam Id.
- Gymnothorax chalazius*, sp. n., WAITE, Rec. Austral. Mus. v, p. 145, pl. xvii, fig. 2, Lord Howe Id.; *G. leucostictus*, p. 425, fig., *gracili-cauda*, p. 426, fig., *thalassopterus*, p. 427, pl. ii, *leucacme*, p. 427, fig., *ercodes*, p. 428, fig., and *leihala*, p. 428, fig., spp. nn., O. P. JENKINS, t. c., Honolulu; *G. nuttingi*, p. 518, pl. iv, fig. 7, *berndti*, p. 518, pl. iv, fig. 8, *mucifer*, p. 519, pl. v, fig. 9, *xanthostomus*, p. 519, pl. v, fig. 10, and *waiakuae*, p. 520, pl. vi, fig. 11, spp. nn., SNYDER, Bull. U. S. Fish Comm. xxii, Hawaiian Ids.



- Uropterygius leucurus*, sp. n., SNYDER, t. c. p. 521, pl. vi, fig. 12, Hawaiian Ids.
- Muraenichthys nicholsæ*, sp. n., WAITE, Rec. Austral. Mus. v, p. 142, pl. xvii, fig. 1, Lord Howe Id.
- Moringua hawaiiensis*, sp. n., SNYDER, Bull. U. S. Fish Comm. xxii, p. 517, pl. iii, fig. 6, Hawaiian Ids.
- Gastrostomus pacificus*, sp. n., B. A. BEAN, Smithson. Collect. i, p. 254, fig., Pacific Ocean, 5269 faths.
- Nemichthys avocetta*, J. & G., redescribed by GILBERT, P. Calif. Ac. Zool. (3) iii, p. 256.
- Conger vulgaris*, Cuv. On the larva and young: FULTON, Rep. Fish. Board Scotland xxii, iii, p. 281, pl. xviii, figg. 1 & 2. On a larva: EIGENMANN, Science (2) xix, p. 629, fig.
- Congrellus boversii*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 422, fig., Honolulu.
- Veternio*, g. n., near *Conger*, for *V. verrens*, sp. n., SNYDER, t. c. p. 516, pl. ii, fig. 3, Honolulu.
- Anguilla vulgaris*, Turt., R. QUINTON, C.R. Ac. Sci. cxxxix, pp. 938-941, and C.R. Soc. Biol. lvii, p. 170, has made experiments on the changes taking place in Eels artificially transferred from fresh into salt water, and vice-versa. The larva, *Leptocephalus brevirostris*, figured by LO BIANCO, Pelag. Tiefseefisch. "Maja," pl. i. *A. vulgaris*, var. *kieneri*, Kaup. Note by ARIOLA, Ann. Mus. Genova (3) i, p. 156. *A. australis*, Rich. On a case of icterism: J. A. KERSHAW, Victorian Natural. xx, p. 140. *A. cæca*, sp. n., H. M. SMITH, P. Soc. Washington xvii, p. 121, fig., Atlantic, 60 miles S. of Nomans Land.
- Sphagebranchus flavicaudus*, sp. n., SNYDER, Bull. U. S. Fish Comm. xxii, p. 516, pl. ii, fig. 4, Hawaiian Ids.
- Callechelys luteus*, sp. n., SNYDER, t. c. p. 517, pl. iii, fig. 5, Hawaiian Ids.
- Brachysomophis henshawi*, sp. n., JORDAN & SNYDER, P. U. S. Mus. xxvii, p. 940, Honolulu.
- Pisodonophis diaspilotus*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. vii, fig. 12.
- Microdonophis macgregori*, sp. n., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, p. 422, fig., Hawaiian Ids.
- Eomyrus ventralis*, Ag. (foss.). Fragment noticed and figured by SIMIONESCU, Publ. Adamachi Ac. Romana xii, p. 5, pl. i, fig. 3.

## OSTARIOPHYSI.

## LORICARIIDÆ.

Monographed by C. T. REGAN, Tr. Zool. Soc. London xvii, pp. 191-350, pls. ix-xxi.

- Plecostomus festæ*, Blgr., pl. ix, fig. 1, *cordova*, Gthr., pl. ix, fig. 3, *borellii*, Blgr., pl. ix, fig. 2, and *wuchereri*, Gthr., pl. x, fig. 2, figured by REGAN, t. c.; *P. latirostris*, p. 213, pl. xi, fig. 1, Matto Grosso and Goyaz, *garmani*, p. 214, pl. x, fig. 1, Rio dal Velhas, Brazil, and *pellegrini*, p. 218, Upper Amazon, spp. nn., id. ibid.
- Anicstrus oligospilus*, Gthr., pl. xii, fig. 1, *platycephalus*, Blgr., pl. xii, fig. 4, and *setosus*, Blgr., pl. xii, fig. 2, figured by REGAN, t. c.; *A. annectens*, p. 225, pl. xi, fig. 2, N. W. Ecuador, and *guentheri*, p. 241, pl. xii, fig. 3, British Guiana, spp. nn., id. ibid.
- Chatostomus anomalus*, Regan, pl. xiii, fig. 2, and *microps*, Gthr., pl. xiv, fig. 3, figured by REGAN, t. c.; *C. maculatus*, p. 246, pl. xiv, fig. 4, High Peru, *marcapata*, p. 246, pl. xiv, fig. 1, E. Peru, *brevis*, p. 247, pl. xiii, fig. 3, E. Ecuador, *marginatus*, p. 249, pl. xiii, fig. 1, N. W.

- Ecuador, and *thomsoni*, p. 250, pl. xiv, fig. 2, Colombia, **spp. nn.**, id. *ibid.*
- Xenocara*, **g. n.**, near *Chaetostomus*, REGAN, t. c. p. 251; *X. latifrons*, Gthr., pl. xv, fig. 1, and *chagresi*, Eigenm., pl. xiv, fig. 7, figured, id. *ibid.*; *X. occidentalis*, p. 257, pl. xiv, fig. 5, E. Ecuador, *brevipinnis*, p. 257, Rio Grande do Sul, and *montana*, p. 258, pl. xiv, fig. 6, Andes of Bolivia, **spp. nn.**, id. *ibid.*
- Hypoptopoma guentheri*, Blgr., figured by REGAN, t. c. pl. xv, fig. 2.
- Otocinclus vittatus*, **sp. n.**, REGAN, t. c. p. 267, pl. xv, fig. 3, Matto Grosso.
- Loricaria jubata*, Blgr., pl. xv, fig. 5, and *latirostris*, Blgr., pl. xvi, fig. 1, figured by REGAN, t. c.; *L. nigricauda*, p. 275, pl. xv, fig. 2, Rio Janeiro, *steindachneri*, p. 281, E. Brazil, *microlepidogaster*, p. 283, pl. xv, fig. 4, Rio Grande do Sul, *punctata*, p. 285, pl. xvii, fig. 1, Amazon, *macrops*, p. 290, pl. xvii, fig. 3, R. La Plata, *simillima*, p. 292, pl. xvii, fig. 2, E. Ecuador, and *laticeps*, p. 295, pl. xx, fig. 1, Paraguay, **spp. nn.**, id. *ibid.*
- Oxyloricaria frenata*, Blgr., figured by REGAN, t. c. pl. xviii, fig. 2; *O. guentheri*, p. 299, pl. xviii, fig. 1, Upper Amazon, *robusta*, p. 300, pl. xix, fig. 1, Paraguay, and *lyra*, p. 300, pl. xix, fig. 2, R. Jurua, **spp. nn.**, id. *ibid.*
- Farlowella gladiolus*, Gthr., figured by REGAN, t. c. pl. xx, fig. 2; *F. gracilis*, **sp. n.**, id. *ibid.* p. 303, pl. xx, fig. 3, Cauca Valley, Colombia.
- Arges guentheri*, Blgr., pl. xxi, fig. 2, *orientalis*, Blgr., pl. xxi, fig. 4, *brachycephalus*, Gthr., pl. xxi, fig. 8, and *festæ*, Blgr., pl. xxi, fig. 7, figured by REGAN, t. c.; *A. homodon*, p. 309, pl. xxi, fig. 1, Andes of Colombia, *boulengeri*, p. 310, E. Ecuador, *eigenmanni*, p. 312, pl. xxi, fig. 3, Andes of Ecuador, *vaillantii*, p. 312, Andes of Ecuador, *chotæ*, p. 313, pl. xxi, fig. 5, N. Ecuador, *marmoratus*, p. 314, pl. xxi, fig. 6, Andes of Colombia, *fissidens*, p. 316, Andes of Ecuador, and *simonsii*, p. 317, pl. xxi, fig. 9, Andes of Peru, **spp. nn.**, id. *ibid.*

## SILURIDÆ.

- Clarias læviceps*, Gill, redescribed by BOULENGER, P. Z. S. 1904, i, p. 200; *C. fuscus*, Lacep. Note by VAILLANT, Bull. Mus. Paris 1904, p. 298; *C. pulcher*, **sp. n.**, POPTA, Notes Leyden Mus. xxiv, p. 179, C. Borneo.
- Silurus mento*, **sp. n.**, REGAN, Ann. Nat. Hist. (7) xiii, p. 192, Yunnan.
- Silurichthys schneideri* and *indragiriensis*, **spp. nn.**, VOLZ, Rev. Suisse Zool. xii, pp. 463 & 464, Sumatra.
- Macrones pluriradiatus*, Vaill., described and figured by VAILLANT, Miss. Pavie iii, p. 462, pl. xxiii, fig. 2; *M. bimaculatus*, **sp. n.**, VOLZ, Rev. Suisse Zool. xii, p. 466, Sumatra; *M. howong*, p. 181, *bongan*, p. 182, *bo*, p. 183, *kajan*, p. 184, and *fortis*, p. 185, **spp. nn.**, POPTA, Notes Leyden Mus. xxiv, C. Borneo; *M. medianalis*, **sp. n.**, REGAN, Ann. Nat. Hist. (7) xiii, p. 194, Yunnan.
- Pseudobagrus ornatus*, **sp. n.**, DUNCKER, Mt. Mus. Hamburg xxi, p. 173, pl. ii, fig. 13, Muar R., Malay Peninsula.
- Liocassis fuscus*, **sp. n.**, POPTA, t. c. p. 186, C. Borneo.
- Neopangasius*, **g. n.**, near *Pseudopangasius*, Blkr., for *N. nieuwenhuisii*, **sp. n.**, POPTA, t. c. p. 180, C. Borneo.
- Liobagrus reini*, Hilg., figured by ISHIKAWA, P. Tokyo Mus. i, pl. i; *L. nigricauda*, **sp. n.**, REGAN, Ann. Nat. Hist. (7) xiii, p. 193, Yunnan.
- Fajunia schweinfurthi*, **g. and sp. nn.** (foss.), STROMER, N. Jahrb. Min. 1904, i, p. 3, pl. 1, figg. 1 & 2, Middle Eocene of Egypt.
- Socnopaëa grandis*, **g. and sp. nn.** (foss.), STROMER, t. c. p. 6, pl. 1, fig. 3, Middle Eocene of Egypt.

- Amiurus nebulosus*, Les. Notes on the breeding habits by H. M. SMITH & L. G. HARRON, Bull. U. S. Fish Comm. xxii, p. 151; *A. melas*, Raf., figured by T. LARGE, Rep. Fish Comm. Illin. 1900-02, pl. —; *A. australis*, p. 13, S. Vera Cruz, and *mexicanus*, R. Panuco, Mexico, **spp. nn.**, S. E. MEEK, Field Mus. Zool. v.
- Rhamdia oaxacae*, Meek, figured by S. E. MEEK, t. c. pl. v.
- Amphilius atesuensis*, **sp. n.**, BOULENGER, Ann. Nat. Hist. (7) xiv, p. 17, Gold Coast.
- Acrochordonichthys obscurus*, p. 187, *buettikoferi*, p. 188, and *varius*, p. 189, **spp. nn.**, POPTA, Notes Leyden Mus. xxiv, C. Borneo.
- Arius bonneti*, **sp. n.** (foss.), PRIEM, Bull. Soc. geol. France (4) iv, p. 44, fig., Upper Bartonian of the Paris Basin.
- Netrema mazatlanæ*, **sp. n.**, GILBERT, P. Calif. Ac. Zool. (3) iii, p. 255, pl. xxv, Mazatlan, Mexico.
- Galeichthys xenarchen*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. iv, fig. 8; *G. eigenmanni*, **sp. n.**, id. *ibid.* p. 21, pl. iv, fig. 7, Panama; *G. agudulce*, **sp. n.**, S. E. MEEK, Field Mus. Zool. v, p. 9, pl. iv, R. Papaloapan, Mexico.
- Tachysurus emmelane*, Gilb., figured by GILBERT & STARKS, t. c. pl. vi; *T. steindachneri*, p. 29, pl. v, fig. 9, and *evermanni*, p. 32, pl. v, fig. 10, **spp. nn.**, *ibid.*, Panama.
- Synodontis resupinatus*, **sp. n.**, BOULENGER, P. Z. S. 1904, i, p. 199, pl. viii, Upper Niger.
- Chiloglanis*, Peters. Synopsis of the species by BOULENGER, P. Z. S. 1903, ii, pp. 333; *C. modjensis*, **sp. n.**, id. *ibid.* p. 332, pl. xxxi, fig. 3, Modjo R., Gallaland; *C. camerounensis* and *batesii*, **spp. nn.**, id. Ann. Nat. Hist. (7) xiv, pp. 18 & 19, Cameroon.
- Bagarius nieuwenhuisii*, **sp. n.**, POPTA, Notes Leyden Mus. xxiv, p. 190, C. Borneo.
- Glyptosternum laak*, p. 190, and *tiong*, p. 191, **spp. nn.**, POPTA, t. c., C. Borneo.
- Pseudecheneis paviei*, Vaill., described and figured by VAILLANT, Miss. Pavie iii, p. 464, pl. xxiii, fig. 3.
- Callomystax schmidti*, **sp. n.**, VOLZ, Rev. Suisse Zool. xii, p. 470, Sumatra.
- Trichomycterus dispar*, Tsch., and *rivulatus*, C. & V. Notes by PELLEGRIN, Bull. Soc. zool. France xxix, p. 91.

## CYPRINIDÆ.

- J. REIGHARD, Science (2) xix, pp. 211 & 212, has made observations on the breeding habits of American Cyprinids, and on the function of the nuptial pearl-like warts of the males.
- On hybrids of German Cyprinids: E. LEONHARDT, Die Bastarde der Deutschen karpfenähnlichen Fische. Neudamm, 1904, 8vo, 58 pp., figg.
- Catostomus commersonii*, Lacep. On the breeding habits: CULBERTSON, P. Indiana Ac. 1903, p. 65. *C. tahoensis*, Gill & Jord., redescribed by RUTTER, Bull. U. S. Fish Comm. xxii, p. 147; *C. sonorensis*, Meek, and *conchos*, Meek, figured by S. E. MEEK, Field Mus. Zool. v, pls. vi & vii.
- Pantosteus lahontan*, **sp. n.**, RUTTER, t. c. p. 146, fig., N. E. California.
- Carpioides grayi*, Cope. Note by H. W. FOWLER, P. Ac. Philad. lvi, p. 242; *C. microstomus*, p. 27, fig., *elongatus*, p. 28, fig., and *labiosus*, p. 29, fig., **spp. nn.**, S. E. MEEK, t. c. Mexico.
- Moxostoma congestum*, B. & G. Note by H. W. FOWLER, t. c. p. 243.
- Dangila koedjem* and *rosea*, **spp. nn.**, POPTA, Notes Leyden Mus. xxiv, pp. 192 & 193, C. Borneo.

- Osteochilus jentinki*, p. 194, *vittatoides*, p. 195, *kelabau*, p. 196, *repang*, p. 196, and *bellus*, p. 197, **spp. nn.**, POPTA, Notes Leyden Mus. xxiv, C. Borneo.
- Labeo neumanni*, **sp. n.**, BOULENGER, P. Z. S. 1903, ii, p. 329, pl. xxix, Modjo and Wabbi Rivers, Gallaland; *L. chariensis*, **sp. n.**, PELLEGRIN, Bull. Mus. Paris 1904, p. 311, Shari R.
- Tylognathus kajanensis* and *bo*, **spp. nn.**, POPTA, t. c. pp. 198 & 199, C. Borneo.
- Zezera hilgendorfi*, Ishikawa, described and figured by ISHIKAWA, P. Tokyo Mus. i, p. 3, pl. ii, fig. 1.
- Discoognathus*, Heck. Synopsis of the African species by BOULENGER, P. Z. S. 1903, ii, p. 331; *D. blanfordii*, Blgr., figured, id. ibid. pl. xxxi, fig. 2; *D. makiensis*, **sp. n.**, id. ibid. p. 330, pl. xxxi, fig. 3, Maki R., L. Zwai.
- Crossochilus oblongus*, C. & V., var. n. *nigroloba*, POPTA, t. c., p. 200, C. Borneo; *C. pseudobagroides*, **sp. n.**, DUNCKER, Mt. Mus. Hamburg xxi, p. 176, pl. ii, fig. 12, Muar R., Malay Peninsula.
- Paracrossochilus*, **g. n.**, near *Crossochilus*, for *P. bicornis*, **sp. n.**, POPTA, t. c. p. 200, C. Borneo.
- Barbus maculatus*, C. & V. Note by DUNCKER, Mt. Mus. Hamburg xxi, p. 177. *B. proctozyrson*, Blkr., redescribed by VOLZ, Rev. Suisse Zool. xii, p. 477; *B. halei*, p. 178, pl. ii, fig. 15, *soroides*, p. 178, pl. i, fig. 7, *pahangensis*, p. 179, pl. i, fig. 4, and *lineatus*, p. 180, pl. ii, fig. 14, **spp. nn.**, DUNCKER, Mt. Mus. Hamburg xxi, Malay Peninsula; *B. grahami* and *yunnanensis*, **spp. nn.**, REGAN, Ann. Nat. Hist. (7) xiii, pp. 190 & 191, Yunnan; *B. linnelli*, **sp. n.**, LÖNNBERG, Ann. Nat. Hist. (7) xiii, p. 138, Elephant Lake, Cameroon Mountain; *B. erlangeri*, **sp. n.**, BOULENGER, P. Z. S. 1903, ii, p. 331, pl. xxx, Wabbi, Modjo, and Iraro Rivers, Gallaland; *B. micronema*, p. 237, Cameroon, *nummifer*, p. 449, L. Victoria, *macropristis*, p. 449, L. Victoria, and *doggetti*, p. 450, L. Victoria, **spp. nn.**, id. Ann. Nat. Hist. (7) xiii; *B. ansorgii*, p. 16, Angola, *walkeri*, p. 16, Gold Coast, *eutænia*, p. 218, Angola, and *holotænia*, p. 218, Cameroon to Congo, **spp. nn.**, id. op. cit. xiv.
- Luciocyprinus*, **g. n.**, near *Barbus* and *Gobio*, for *L. lang-soni*, **sp. n.**, VAILLANT, Bull. Mus. Paris 1904, p. 299, Upper Tonkin.
- Oreinus grahami*, **sp. n.**, REGAN, Ann. Nat. Hist. (7) xiv, p. 416, Yunnan.
- Acanthogobio paitchevskii* and *oxyrhynchus*, **spp. nn.**, NIKOLSKI, Annuaire Mus. St. Petersb. viii, 1903, pp. 356 and 358, L. Chanka, E. Asia.
- Hemibarbus joi teni*, **sp. n.**, JORDAN & STARKS, Smithson. Collect. i, p. 241, p. lxiv, Tientsin, China.
- Pimephales avuli*, **sp. n.**, KENDALL, Bull. U. S. Fish Comm. xxii, p. 360, fig., Maine.
- Chasmistes chamberlaini*, **sp. n.**, RUTTER, Bull. U. S. Fish Comm. xxii, p. 147, N.E. California.
- Agosia robusta*, **sp. n.**, RUTTER, t. c. p. 148, fig., N.E. California.
- Notropis chalybeus abbotti*, subsp. n., H. W. FOWLER, P. Ac. Philad. lvi, p. 239, pl. xvii, New Jersey; *N. nazas* and *fortionensis*, **spp. nn.**, S. E. MEEK, Field Mus. Zool. v, p. 70, figg., Mexico.
- Paranotropis*, subg. n., for *Notropis luciodus*, Cope, and, *N. pilsbryi*, **sp. n.**, H. W. FOWLER, t. c. p. 245, fig., White River Basin, Arkansas.
- Leuciscus erythrophthalmus*, L., and *L. aula*, Bp. On a hybrid: BELLOTTI, Atti Mus. Milano xliii, p. 1, pl. i. On a hybrid between *L. erythrophthalmus*, L., and *L. muticellus*, Bp., ROSETTA SEGRE, Boll. Mus. Torino xix, No. 472, p. 10; *L. dorobaz*, **sp. n.**, ISHIKAWA, P. Tokyo Mus. i, p. 6, pl. iii, fig. 2, Japan; *L. carletoni*, **sp. n.**, KENDALL, Bull. U. S. Fish Comm. xxii, p. 357, fig., Maine; *L. (Phaximellus) chaignoni*, **sp. n.**, VAILLANT, Bull. Mus. Paris 1904, p. 188, Tunisia.

- Tinca vulgaris*, Cuv., var. n. *cestella*, ROSETTA SEGRE, Boll. Mus. Torino xix, No. 472, p. 2, Cadore, N.E. Italy.
- Rasbora vulgaris*, p. 181, *maculata*, p. 182, pl. i, fig. 6, *dorsiocellata*, p. 182, pl. i, fig. 2, and *heteromorpha*, p. 182, pl. i, fig. 5, spp. nn., DUNCKER, Mt. Mus. Hamburg xxi, Malay Peninsula.
- Acanthorhodeus tonkinensis*, Vaill., described and figured by VAILLANT, Miss. Pavie iii, p. 465, pl. xxiii, fig. 4.
- Leucaspilus delineatus*, Heck., redescribed (in Hungarian) and figured by G. VUTSKITS, Allatt. Kozl. Magyar Tars. ii, 1903, p. 169, pl. xv.
- Barilius polylepis*, sp. n., REGAN, Ann. Nat. Hist. (7) xiii, p. 191, Yunnan; *B. andersoni*, sp. n., id. op. cit. xiv, p. 416, Yunnan.
- Zacco mitsukurii*, sp. n., ISHIKAWA, P. Tokyo Mus. i, p. 4, pl. ii, fig. 2, Japan.
- Neobola argentea*, sp. n., PELLEGRIN, Bull. Soc. zool. France xxix, p. 184, L. Victoria.
- Chanodichthys affinis*, Vaill., described and figured by VAILLANT, Miss. Pavie iii, p. 467, pl. xxiii, fig. 5.
- Pelecus cultratus*, L. On its distribution in Germany: NEHRING, SB. Ges. naturf. Berlin 1904, p. 43.
- Hemiculter varpachovskii*, sp. n., NIKOLSKI, Annuaire Mus. St. Petersb. viii, 1903, p. 359, L. Buir-Nor, E. Mongolia.
- Hemicultrella soldatovi*, sp. n., NIKOLSKI, t. c. p. 361, E. Mongolia.
- Pseudolaribuca (?) clupeoides*, sp. n., DUNCKER, Mt. Mus. Hamburg xxi, p. 183, pl. i, fig. 1, Kuala Lumpur, Malay Peninsula.
- Nemachilus pleurotaenia* and *nigromaculatus*, spp. nn., REGAN, Ann. Nat. Hist. (7) xiii, p. 192, Yunnan; *N. selangoricus*, sp. n., DUNCKER, t. c. p. 175, Kuala Lumpur, Malay Peninsula.
- Orthrias*, Jord. On a specimen from Vancouver (imported?): JORDAN, Science (2) xix, p. 634.
- Ussuria*, g. n., allied to *Lepidocephalichthys*, for *U. leptcephala*, sp. n., NIKOLSKI, Annuaire Mus. St. Petersb. viii, 1903, p. 362, Ussuri R. and E. Mongolia.

## CHARACINIDÆ.

- Alestes natalensis*, sp. n., BOULENGER, Ann. Nat. Hist. (7) xiv, p. 155, near Durban.
- Hemigrammus compressus*, sp. n., S. E. MEEK, Field Mus. Zool. v, p. 87, fig., R. Papaloapam, Mexico.
- Eucynopotamus*, n. n. for *Evermannella*, Eigenm. nec Fowler, H. W. FOWLER, P. Ac. Philad. lvi, p. 119.
- Neoborus quadrilineatus*, sp. n., PELLEGRIN, Bull. Mus. Paris 1904, p. 219, Casamanza R.
- Nannocharax dimidiatus*, sp. n., PELLEGRIN, t. c. p. 220, Casamanza R.

## MALACOPTERYGII.

- W. G. RIDWOOD, P. Z. S. 1904, ii, pp. 35-81, figg., gives detailed descriptions and figures of the skulls of the *Elopidae* and *Albulidae*, and remarks on the morphology of the skull in the lower Teleosteans generally. The same author deals in similar manner with the cranial osteology of the *Mormyridæ*, *Notopteridæ*, and *Hyodontidæ*, J. Linn. Soc. xxix, pp. 188-217, pls. xxii-xxv.

## GONORHYNCHIDÆ.

- Gonorhynchus greyi*, Rich. Young described and figured by WAITE, Rec. Austral. Mus. v, p. 147, pl. xvii, fig. 3; *G. abbreviatus*, Schleg., figured by JORDAN & SNYDER, Smithson. Collect. i, pl. lix.

## STOMIATIDÆ.

- Chauliodus sloanii*, Bl. Schn., figured by LO BIANCO, Pelag. Tiefseefisch. "Maja," pl. iii, fig. 6; *C. emmelas*, sp. n., JORDAN & STARKS, Bull. U. S. Fish Comm. xxii, p. 579, pl. i, fig. 2, Japan.
- Cyclothone microdon*, Gthr., figured by LO BIANCO, t. c. pl. ii, fig. 4.
- Argyroleucus hemigygnus*, Cocco. On a larval specimen: HOLT & BYRNE, Ann. Nat. Hist. (7) xiv, p. 38, fig.
- Polyipnus stereope*, sp. n., JORDAN & STARKS, t. c. p. 581, pl. ii, fig. 3, Japan.

## SALMONIDÆ.

- On the Japanese species: KITAHARA, Annot. zool. Japon. v, pp. 117-120.
- D. S. JORDAN, Amer. Natural. xxxviii, pp. 885-887, remarks on the present distribution of Californian Trout, natural and through human agency.
- Salmo salar*, L., and *S. trutta*, L. On specimens from the Tay and Tweed: CALDERWOOD, P. R. Soc. Edinb. xxv, p. 27, pl. —. *S. fontinalis*, Mitch. On albino specimens and their progeny: C. R. PRTTIS, Science (2) xix, p. 867.
- Oncorhynchus quinnat*, Rich. On the habits: C. RUTTER, Bull. U. S. Fish Comm. xxii, p. 65, pls. x-xvi.
- Coregonus*, L. On the species found in Maine: KENDALL, Bull. U. S. Fish Comm. xxii, p. 363, figg. *C. stanleyi*, sp. n., id. ibid. p. 366, fig., Maine; *C. macrophthalmus*, Nüssl., and *exiguus*, Klunz. Remarks by NÜSSLIN, Jahresh. Ver. Württemb. lx, p. 189, and KLUNZINGER, t. c. p. 335; *C. albula*, Art., var. n. *Kiletz*, MICHAÏLOVSKY, Annuaire Mus. St. Petersb. viii, 1903, p. 347, L. Omega; *C. fera*, var. *tscholmugensis*, Danil., redescribed, id. ibid. p. 352.

## CLUPEIDÆ.

- G. ANTIPA, Anz. Ak. Wiss. 1904, pp. 299-303, has a preliminary report on the Clupeines of the Western Coast of the Black Sea and the mouth of the Danube.
- Clupea harengus*, L., A. GIARD, C.R. Soc. Biol. lvi, pp. 1058-1061, has further notes on the movements of the Herring on the Boulogne coast. Remarks by CLIGNY, op. cit. lvii, p. 347. *C. pilchardus*, L. On a specimen from the Moray Firth: FULTON, Rep. Fish. Board Scotland xxii, iii, p. 284. *C. sprattus*, L. On its fecundity: FULTON, t. c. p. 285. *C. sulina*, sp. n., ANTIPA, t. c. p. 302, Black Sea; *C. (Opis-thonema) bulleri*, sp. n., REGAN, Ann. Nat. Hist. (7) xiii, p. 255, Jalisco, Mexico.
- Alosa pontica*, Eichw., varr. nn. *nigrescens*, *danubii*, and *russac*, ANTIPA, t. c. pp. 300 & 301, Black Sea; *A. nordmanni*, sp. n., id. ibid. p. 301, Black Sea.
- Sardina dobrogica*, sp. n., ANTIPA, t. c. p. 302, Black Sea.
- Dorosoma anale*, sp. n., S. E. MEEK, Field Mus. Zool. v, p. 93, fig., Mexico.
- Meletta crenata*, Heck. (foss.), redescribed and figured by SIMIONESCU, Publ. Adamachi Ac. Romana xii, p. 4, pls. i & ii.
- Diplomystus marmorensis*, sp. n. (foss.), A. S. WOODWARD, Quart. J. Geol. Soc. lx, p. 284, pl. xxiv, fig. 28, Miocene of Sarkeni, Sea of Marmora.
- Copeichthys*, n. n. for *Diplomystus*, Cope, nec Blkr., DOLLO, Res. Voy. Belgica, Poiss. p. 159.
- Engraulis (Stolephorus) argentivittatus*, sp. n., REGAN, Ann. Nat. Hist. (7) xiii, p. 255, Jalisco, Mexico.

- Anchovia rostralis*, Gilb. & Piers., and *spinifera*, C. & V., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. viii.  
*Lyrolepis caucasicus*, g. and sp. nn. (foss.), ROMANOWKY, Verh. Russ. Min. Ges. (2) xlii, p. 1, figg., pl. i, Caucasus.

## SAURODONTIDÆ.

- Portheus molossus*, Cope (foss.). On a complete skeleton: OSBORN, Bull. Amer. Mus. xx, p. 377, figg., pl. x.

## OSTEOGLOSSIDÆ.

- Arapaima gigas*, Cuv., described, with notes on the habits, by A. R. FERREIRA, Arch. Mus. Rio Jan. xii, p. 155.

## NOTOPTERIDÆ.

- On the cranial osteology and systematic position: RIDEWOOD, J. Linn. Soc. xxix, pp. 202-215, pl. xxiv.

## HYODONTIDÆ.

- On the cranial osteology and systematic position: RIDEWOOD, J. Linn. Soc. xxix, pp. 206-215, pl. xxv.

## MORMYRIDÆ.

- On the cranial osteology and systematic position: RIDEWOOD, J. Linn. Soc. xxix, pp. 188-214, pls. xxii & xxiii.  
*Marcusenius budgetti*, sp. n., BOULENGER, P. Z. S. 1904, i, p. 197, pl. vii, fig. 1, Niger Delta.  
*Gnathonemus gilli*, sp. n., BOULENGER, t. c. p. 198, pl. vii, fig. 2, Niger Delta; *G. lambouri*, p. 439, Diélé, Congo, *fritelii*, p. 440, Diélé, Congo, and *bruyerei*, p. 441, Ivory Coast, spp. nn., PELLEGRIN, Bull. Mus. Paris 1904.  
*Mormyrus curvifrons*, sp. n., PELLEGRIN, t. c. p. 438, Congo.  
*Hyperopisus tenuicauda*, sp. n., PELLEGRIN, t. c. p. 312, Shari R.

## ALBULIDÆ.

- Monopterus gigas*, Volta (foss.), redescribed by EASTMAN, Bull. Mus. Harvard xlvi, p. 27.

## GANOIDEI.

## HOLOSTEI.

- Amia calva*, L., figured, with full account of its habits, by REIGHARD, Mark Anniv. Vol. p. 57, pl. vii.  
 A. C. EYCLESHYMER, Univ. Chicago Publ. x, 1903, 17 pp., pls. xvii & xviii, has investigated the early development of *Lepidosteus osseus*.  
 On the occurrence of a Pycnodont in the Lower Oligocene of Hungary: A. KOCH, Foldtani Kozl. xxxiv, pp. 334 & 367.

## CHONDROSTEI.

- A. NICOLAS, Arch. Biol. xx, pp. 425-460, pls. x-xii, has investigated the development of the pancreas, the liver, and the spleen in *Acipenser ruthenus*.
- E. GIACOMINI, Monit. Zool. ital. xv, pp. 19-32, writes on the suprarenal capsule of *Acipenser sturio*.
- ANNA DRZEWINA, C.R. Soc. Biol. lvi, pp. 957-959, has a preliminary note on the granular cells of the kidney of *Acipenser sturio*.
- G. WAGNER, Science xix, p. 554, points out the presence of minute rostral barbels and of small scales near the branchial region in *Polyodon*.
- A. D. IMMS, P. Z. S. 1904, ii, pp. 22-35, pl. ii, writes on the gill-rakers of *Polyodon*.
- Acipenserida*. Definitions of the four recent genera, and list of the species, by L. S. BERG, Zool. Anz. xxvii, pp. 665-667.
- Acipenser*, L. Notes on the specimens in the Vienna University Museum: WERNER, Zool. Jahrb. Syst. xxi, pp. 266-269. *A. sturio*, L. Notes by N. M. KATURIC, Rad. Jugoslav. Ak. cliv, 1903, p. i.
- Huso*, g. n., for *Acipenser huso*, L., and *dauricus*, Georgi, L. S. BERG, t. c. p. 665.
- Nephrotus chorzoviensis*, H. v. Meyer (foss.), redescribed and figured by SCUPIN, Zeitschr. Deutsch. geol. Ges. lv, p. 465, pls. xxi & xxii.

## DIPNEUSTI.

- On the morphology of the skeleton: K. FÜRBRINGER in SEMON, Zool. Forsch. i, pp. 423-510, figg., pls. xxxvii-xli.
- K. FÜRBRINGER, Anat. Anz. xxiv, pp. 405-408, remarks on some points in the anatomy of the head of the Dipneusti.
- R. WIEDERSHEIM, Anat. Anz. xxiv, pp. 651 & 652, has further remarks on the larynx of the Dipneusti.
- E. GÖPERT, Festschr. Haeckel, pp. 115-132, figg., pl. vii, has investigated the larynx of *Protopterus annectens*.
- L. NEUMAYER in SEMON, Zool. Forsch. i, pp. 377-422, figg., pl. xxxvi, deals with the development of the viscera of *Neoceratodus forsteri*.
- H. BLUNTSCHLI in SEMON, Zool. Forsch. i, pp. 333-356, figg., pl. xxxv, deals with the histology of the liver of *Neoceratodus forsteri*.
- W. E. KELLICOTT, Biol. Bull. vi, pp. 320 & 321, has a note on the development of the vascular system of *Neoceratodus forsteri*.
- J. G. KERR, Tr. R. Soc. Edinb. xli, pp. 119-127, 6 pls., writes on the early development of the motor nerve trunks and of the myotomes in *Lepidosiren paradoxa*.
- R. BING & R. BURCKHARDT, Anat. Anz. xxv, pp. 588-599, figg., write on the central nervous system of *Neoceratodus forsteri*.
- HOSCH, Arch. mikr. Anat. lxiv, pp. 99-110, pl. vi, has studied the structure of the eye in *Protopterus annectens*.
- Ceratodus priscus*, sp. n. (foss.), E. FRAAS, Ber. Oberrhein. geol. Ver. xxxvii, p. 30, fig., Trias, Black Forest; *C. africanus*, sp. n. (foss.), HAUG, C.R. Ac. Sci. cxxxviii, p. 1529, Cretaceous of Djoua, Sahara.

## CROSSOPTERYGII.

- Polypterus*, Geoffr. On the specimens in the Vienna University Museum: WERNER, Zool. Jahrb. Syst. xxi, p. 271.



## OSTRACOPHORI.

- R. H. TRAQUAIR, Pal. Soc. Mon. 1904, pp. 91-118, figg., pls. xix-xxvi, continues his monograph of the *Asterolepidæ* of Britain.
- O. JAEKEL, Zeitschr. Deutsch. geol. Ges. lv, Verh., pp. 41-60, figg., discusses the structure and systematic position of the *Asterolepidæ*, and gives a restoration of *Asterolepis milleri*, Ag.
- C. R. EASTMAN, Science (2) xix, pp. 703 & 704, remarks on the marginal and ridge scales in *Cephalaspis* and *Drepanaspis*.
- O. JAEKEL, Zeitschr. Deutsch. geol. Ges. lv, Verh., pp. 84-93, figg., comments on Patten's views on *Tremataspis*.
- Bothriolepis*, Eichw. New observations by PATTEN, Biol. Bull. vii, p. 113, figg.; *B. coloradensis*, sp. n., EASTMAN, Amer. J. Sci. (4) xviii, p. 254, fig., Upper Devonian of Colorado.

## CHONDROPTERYGII.

## HOLOCEPHALI.

- S. GARMAN, Bull. Mus. Harvard xli, pp. 245-272, 15 pls., writes on the classification of the living Chimæroids, and describes and figures the external characters and anatomy of *Rhinochimæra pacifica*, Mitsukuri, and *Harriotta raleighana*, Goode & Bean.
- Synopsis of the recent genera and species by WERNER, Zool. Jahrb. Syst. xxi, p. 275.
- B. DEAN, Amer. Natural. xxxviii, pp. 486 & 487, and Biol. Bull. vii, pp. 105-112, writes on the egg-cases of Chimæroids.
- Chimæra colliciei*, Benn. On the egg and its capsule: B. DEAN, C.R. Soc. Biol. lvii, p. 14; *C. monstrosa*, L. Notes by WERNER, t. c. p. 273, figg.; *C. phantasma*, not specifically separable: id. ibid. p. 275. *C. phantasma*, Jord. & Snyder. Note by JORDAN & SNYDER, P. U. S. Mus. xxvii, p. 223, fig. Described and figured by B. DEAN, J. Coll. Tokyo xix, No. 3, p. 3, pl. 1, fig. 3; *C. mitsukurii*, sp. n., id. ibid. p. 6, pl. i, fig. 1, Japan; *C. (Bathyalopea) mirabilis*, sp. n., COLLETT, Forh. Selsk. Christian. 1904, No. 9, p. 5, Faroe Channel, 375-600 faths.
- Rhinochimæra pacifica*, Mitsuk. Notes and figure by B. DEAN, t. c. No. 4, 2 pls.
- Rhynchodus*, Newb. (foss.). On the dentition: EASTMAN, Amer. Natural. xxxviii, p. 295. *R. pertenuis*, sp. n., id. ibid. p. 297, fig., Devonian of Delaware County, New York.
- Menaspis*, Ewald (foss.), is referred to the Holocephali by BASHFORD DEAN, Science (2) xix, p. 253, and Amer. Geol. xxxiv, p. 49, pl. ii.

## PLAGIOSTOMI.

- A. DOHRN, Mt. Stat. Neapel xvii, pp. 1-294, pls. i-xvi, continues his studies on Selachian development, with the object of elucidating the question of the origin of Vertebrates.
- H. HELBIG, Acta Ac. German. lxxxii, pp. 335-524, figg., pls. viii & ix, deals with the structure and systematic relationships of the *Læmargidæ*.
- R. C. PUNNETT, Biometrika iii, pp. 313-362, pl. i, has a paper on merism and sex in *Spinax niger*, as a contribution to the question of the origin of limbs.

- J. W. LANGELAAN, P. Ac. Amsterdam vij, pp. 36-40, figg., describes the trunk-mytome of *Acanthias vulgaris*.
- H. V. NEAL, Mark Anniv. Vol. pp. 291-313, pl. xxii-xxiv, writes on the development of the spinal ventral nerves in Plagiostomes.
- J. BORCEA, C.R. Ac. Sci. cxxxviii, pp. 1342 & 1343, remarks on the difference in structure and in secretory power between the anterior and the posterior kidney in male Plagiostomes.
- J. BORCEA, op. cit. cxxxix, pp. 747-749, has a note on the development of the kidney and of Leydig's gland in the Plagiostomes.
- J. BORCEA, Bull. Soc. sci. med. Ouest France xiii, pp. 108-110, remarks on the male genital ducts of *Centrina salvianni*.
- J. BORCEA, Bull. Soc. zool. France xxix, pp. 138-140, records a case of anomalous conformation of the right oviduct in a *Scyllium canicula*.
- J. BORCEA, C.R. Ac. Sci. cxxxviii, pp. 99-101, has investigated the gland secreting the envelop of the egg in Plagiostomes.
- ANNA DRZEVINA, C.R. Soc. Biol. lvi, pp. 637-639, has a preliminary note on the lymphoid organ of the œsophagus in Plagiostomes.
- D. CARAZZI, Monit. Zool. ital. xv, pp. 147 & 148, and Int. Monatschr. Anat. xxi, pp. 1-18, fig., pl. i, has notes on the cardiac and œsophageal arterial circulation in *Scyllium catulus*.
- M. CAVALIÉ, Trav. Lab. Arcachon vij, pp. 23-28, figg., remarks on the bile vesicle and its arterial circulation in various Plagiostomes.
- T. D'EVANT, Anat. Anz. xxiv, pp. 490-492, remarks on rudiments of the amnion in *Pristiurus* and *Scyllium*.
- O. S. STRONG, Biol. Bull. vi, p. 314, has a note on the cranial nerves of *Acanthias*.
- W. A. LOOY, Mark Anniv. Vol. pp. 39-55, pls. v & vi, describes a new cranial nerve in Plagiostomes.
- O. SUND, Biol. Centrbl. xxiv, pp. 651-659, figg., writes on the development of the olfactory organ of *Spinax niger*.
- IDA H. HYDE, Amer. J. Physiol. x, pp. 236-258, figg., has made experiments to determine the localization of the respiratory centre in *Ruia*.
- R. QUINTON, C.R. Ac. Sci. cxxxix, pp. 995-997, and C.R. Soc. Biol. lvii, pp. 513 & 514, has made experiments on Plagiostomes to establish the relation between the saline concentration of the fish and that of the water in which it lives.
- J. BERNSTEIN & A. TSCHERMAK, SB. Ak. Berlin 1904, pp. 301-313, figg., have made thermodynamic experiments on the electric organ of *Torpedo*.
- M. CAVALIÉ, Bibliog. anat. xiii, pp. 214-220, figg., writes on the nervous ramifications in the electric organ of *Torpedo galvani*.
- M. CAVALIÉ, C.R. Soc. Biol. lvi, pp. 46 & 47, remarks on the chromoblasts of *Torpedo galvani*.
- E. GLEY, C.R. Ac. Sci. cxxxviii, pp. 1547-1549, writes on the toxicity of the blood of *Torpedo marmorata*.
- A. KOCH, Foldtani Kozl. xxxiv, pp. 190-203, & 260-274, fig., 1 pl., describes and figures Selachian teeth from the Miocene of Felsőesztergály, Hungary.
- Carcharias velox*, Gilb., and *cerdale*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. i, fig. 3, and pl. ii, fig. 4; *C. azureus*, sp. n., GILBERT & STARKS, t. c. p. 11, pl. ii, fig. 5, Panama; *C. insularum* and *nesiotus*, spp. nn., SNYDER, Bull. U. S. Fish Comm. xxii, pp. 513 & 514, pl. i, figg. 1 & 2, Hawaiian Ids.; *C. cuvieri*, Ag. (foss.), noticed and figured by EASTMAN, Bull. Mus. Harvard xlvi, p. 25, fig.; *C. collata* and *incidens*, spp. nn. (foss.), EASTMAN, Maryland geol. Surv. 1904, pp. 85 & 87, pl. xxxii, Miocene of Maryland.
- Galeocерdo davisii*, n. n. for *Notidanus marginalis*, Davis, part. (foss.), CHAPMAN & PRITCHARD, P. Soc. Victoria (2) xvii, p. 273; *G. triquetter*,

- sp. n.** (foss.), EASTMAN, Maryland geol. Surv. 1904, p. 89, pl. xxxii, fig. 12, Miocene of Maryland.
- Carcharodon humilis*, **sp. n.** (foss.), A. KOCH, Foldtani Kozl. xxxiv, pp. 194 & 265, pl. i, figg. 3-5, Miocene of Felsőesztergály, Hungary.
- Lamna macrota*, Ag., var. n. *hungarica* (foss.), A. KOCH, t. c. pp. 195 & 266, pl. i, fig. 6, Miocene of Felsőesztergály, Hungary.
- Odontaspis nasutus*, **sp. n.**, CARLOS DE BRAGANÇA, Res. Inv. Amelia, Ichthyol. ii, p. 49, pl. i, Coast of Portugal.
- Mitsukurina owstoni*, Jord. On the skeleton and systematic position: VAILLANT, C.R. Ac. Sci. cxxxviii, p. 1517.
- Selache maxima*, L. On various external and anatomical characters: CARAZZI, Zool. Anz. xxviii, p. 161, fig.
- Pseudotriacis acrales*, **sp. n.**, JORDAN & SNYDER, Smithson. Collect. i, p. 232, pl. lxii, Japan.
- Scyllium natalense*, **sp. n.**, REGAN, Ann. Nat. Hist. (7) xiv, p. 128, Natal.
- Proscyllium*, **g. n.**, for *Scyllium habeneri*, **sp. n.**, HILGENDORF, SB. Ges. naturf. Berlin 1904, p. 39, Formosa.
- Pristivurus murinus*, **sp. n.**, COLLETT, Forh. Selsk. Christian. 1904, No. 9, p. 4, Faroe Channel, 600 fath.; *P. eastmani*, **sp. n.**, JORDAN & SNYDER, Smithson. Collect. i, p. 230, pl. lx, Japan.
- Ginglymostoma miqueli*, **sp. n.** (foss.), PRIEM, Bull. Soc. geol. France (4) iv, p. 288, fig., Miocene of Herault, France.
- Cestracion japonicus*, Macleay. Note by WERNER, Zool. Jahrb. Syst. xxi, p. 288. *C. cainozicus*, **sp. n.** (foss.), CHAPMAN & PRITCHARD, P. Soc. Victoria (2) xvii, p. 270, pl. xi, figg. 5-8 & xii, fig. 2, Tertiary (Balcombian) of Australia.
- Cosmacanthus elegans*, **sp. n.** (foss.), H. M. EVANS, Bull. geol. Univ. Calif. iii, p. 398, pl. xlvi, Lower Trias of Idaho.
- Asteracanthus cocaenicus*, Tate (foss.), noticed and figured by CHAPMAN & PRITCHARD, P. Soc. Victoria (2) xvii, p. 271, pl. xi, figg. 3 & 4 & xii, fig. 1; *A. ornatiissimus*, Ag. (foss.). On a fragment of a tooth: A. RICHE, Ann. Univ. Lyon (2) i, No. 14, p. 75, pl. i, fig. 1.
- Edestus*, Leidy (foss.). C. R. EASTMAN, Mark Anniv. Vol. pp. 279-289, pl. xxi, further deals with the question of the nature of *Edestus* and related forms. Remarks by E. T. NEWTON, Quart. J. Geol. Soc. lx, p. 1. *E. triserratus*, **sp. n.**, id. ibid. p. 6, fig., pl. 1, Carboniferous, Staffordshire.
- Notidanus jenningsi*, **sp. n.** (foss.), CHAPMAN & PRITCHARD, P. Soc. Victoria (2) xvii, p. 268, pl. xi, figg. 1 & 2, Tertiary (Kalimnan beds?) of Port Phillip, Australia. *N. diffusidens*, **sp. n.** (foss.), A. KOCH, Foldtani Kozl. xxxiv, pp. 203 & 274, fig., Miocene of Tarnócz, Hungary.
- Etmopterus spinax*, L., and *pusillus*, Lowe, figured by CARLOS DE BRAGANÇA, Res. Inv. Amelia, Ichthyol. ii, pl. ii; *E. princeps*, **sp. n.**, COLLETT, Forh. Selsk. Christian. 1904, No. 9, p. 3, Faroe Channel, 375-600 fath.
- Acanthias geelongensis*, **sp. n.** (foss.), CHAPMAN & PRITCHARD, t. c. p. 269, p. xi, fig. 15, Tertiary (Balcombian) of Geelong, Australia.
- Squatina occidentalis*, **sp. n.** (foss.), EASTMAN, Maryland geol. Surv. 1904, p. 71, pl. xxviii, fig. 1, Miocene of Maryland.
- Pristis*, L. Synopsis of the species by WERNER, Zool. Jahrb. Syst. xxi, p. 294.
- Trygon pastinaca*, L. Note by FULTON, Rep. Fish. Board Scotland xxii, iii, p. 283. *T. schmardaë*, **sp. n.**, WERNER, Zool. Jahrb. Syst. xxi, p. 298, Jamaica.
- Raia agassizii*, varr. nn. *picta* and *meta*, MIRANDA RIBEIRA, A Lavoura, 1904, pp. 19 & 20, Coast of Brazil; *R. arctowskii*, **sp. n.**, for egg-cases from the Antarctic region, DOLLO, Rés. Voy. Belgica, Poiss. p. 52, pl. ix, fig. 10.
- Myliobatis*, Cuv. On fossil remains from the Middle Eocene of the

Bavarian Alps: E. STROMER, Zeitschr. Deutsch. geol. Ges. lvi, pp. 249-263, figg., pl. xvi. *M. asperrimus*, Gilb., figured by GILBERT & STARKS, Mem. Calif. Ac. iv, pl. iii. *M. frangens*, sp. n. (foss.), EASTMAN, Maryland geol. Surv. 1904, p. 75, pl. xxix, fig. 3, Miocene of Maryland.

*Aëtobatis biochei*, sp. n. (foss.), PRIEM, Bull. Soc. geol. France (4) iv, p. 286, fig., Miocene of Herault, France.

*Dasyatis hawaiiensis* and *sciara*, spp. nn., O. P. JENKINS, Bull. U. S. Fish Comm. xxii, pp. 420 & 421, pl. 1, Hawaiian Islands.

*Ptychodus*, Ag. (foss.). On teeth from the Modenese Appennine: PANTANELLI, Pr-verb. Soc. Toscana xiv, p. 70. *P. decurrens*, Ag. (foss.). On the jaws and dentition: A. S. WOODWARD, Quart. J. Geol. Soc. lx, p. 133, fig., pl. xv.

### ICHTHYOTOMI.

*Diacranodus texensis*, Cope. Skull described and figured by BROILI, N. Jahrb. Min., Beil. xix, p. 467, pls. xxiv & xxv.

### ACANTHODII.

*Gyracanthides*, A. S. Woodw. Note by A. S. WOODWARD, Rep. Brit. Ass. 1903, p. 662.

### CYCLIÆ.

B. DEAN, Science xix, p. 425, comments on the recent contributions to the knowledge of *Palæospondylus*.

### CYCLOSTOMI.

B. DEAN, J. Coll. Tokyo xix, No. 2, 23 pp., figg., 1 pl., has notes on the Myxinids of Japan.

J. W. LANGELAAN, P. Ac. Amsterdam vii, pp. 34-36, figg., describes the trunk-myotome of *Petromyzon fluviatilis*.

E. BALLOWITZ, SB. Ak. Berlin 1904, pp. 671-676, has studied the structure of the olfactory organ in the Cyclostomes.

E. BALLOWITZ, Arch. mikr. Anat. lxiv, pp. 78-95, pl. vi, writes on the olfactory glands of *Petromyzon fluviatilis*, and, pp. 96-120, pl. vii, on the spermatozoa of the same.

— K. E. SCHREINER, Biol. Centrbl. xxiv, pp. 91-104, 121-129, and 162-173, writes on the genital organs and the mode of reproduction of *Myxine glutinosa*.

G. C. PRICE, Amer. J. Anat. iv, pp. 117-138, figg., has made further observations on the development of the excretory organs in *Bdellostoma stouti*.

N. LOEWENTHAL, Anat. Anz. xxv, pp. 81-94, figg., has a contribution to the knowledge of the cells of the epidermis in *Petromyzon*.

W. LUBOSCH, Jena. Zeitschr. xxxviii, pp. 673-724, figg., pl. xxiii, has investigated the morphology of the egg of *Petromyzon fluviatilis*.

E. BATAILLON, Arch. Entwicklmech. xviii, pp. 1-56, figg., pls. i-iv, has made experiments on artificial parthenogenesis in *Petromyzon fluviatilis*.

— J. DAWSON, Science (2) xix, pp. 218 & 219, remarks on the mechanism of feeding and breathing in *Petromyzon*.

A. J. CARLSON, Amer. J. Physiol. x, pp. 401-418, has investigated the rate of the nervous impulse in the spinal cord and in the vagus and the hypoglossal nerves of *Bdellostoma dombeyi*.

- Homea okinoseana*, sp. n., B. DEAN, J. Coll. Tokyo xix, No. 2, p. 8, figg., pl. i, figg. 1 & 2, Japan.  
*Paramyxine atami*, g. & sp. nn., B. DEAN, t. c. p. 14, figg., pl. i, figg. 3-5, Japan.

## LEPTOCARDII.

- W. A. HERDMAN contributes the chapter on the Leptocardii or Cephalochordata in vol. vii of the Cambridge Natural History, pp. 112-138, figg.  
 E. LÖNNBERG, Bronn's Klassen Ordnungen vi, i, pp. 209-240, pls. x-xii, continues his account of the Leptocardii.  
 R. C. PUNNETT, in GARDINER, Faun. Mald. Arch. i, p. 361, investigates meristic variation in the Maldives Leptocardii.  
 J. W. VAN WIJHE, in Petrus Camper, i, pp. 109-195, pls. viii-xi (1901) has a contribution to the anatomy of the head of *Branchiostoma lanceolatum*.  
 B. ZARNIK, Zool. Jahrb. Anat. xxi, pp. 253-338, figg., pls. xvii-xxi, has a paper on the sexual organs of the Amphioxus.  
 T. BOVERI, Anat. Anz. xxv, pp. 599-604, fig., remarks on the excretory canals of the Amphioxus.  
 B. ZARNIK, Anat. Anz. xxiv, pp. 609-630, figg., writes on the segmental veins in the Amphioxus, and on their relation to the Ductus Cuvieri.  
 T. BOVERI, Zool. Jahrb. Suppl. vii, pp. 409-428, figg., writes on the organs of light-perception in the Amphioxus.  
 H. JOSEPH, Verh. Anat. Ges. 1904, pp. 16-26, remarks on peculiar cell-structures in the central nervous system of the Amphioxus.  
*Branchiostoma lanceolatum*, Pall., recorded from Djibouti by PELLEGRIN, Bull. Mus. Paris 1904, p. 544. *B. pelagicum*, Gthr. Note by C. F. COOPER in GARDINER, Faun. Mald. Arch. i, p. 348, p. 352, fig.  
*Asymmetron lucayanum*, Andrews. On specimens from the Maldives: C. F. COOPER, t. c. pl. xviii, fig. 1 (1903).  
*Heteropleuron maldivense*, sp. n., C. F. COOPER, t. c. p. 349, pl. xviii, fig. 2, Maldives.



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BY

W. T. CALMAN, D.Sc.

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1. ANON. Bull. internat. expl. Mer. Année 1903-1904, No. 3, Partie D. Plankton, pp. 115-146. [Tables.]
2. APSTEIN, C. Salpes d'Amboine (Voyage de MM. M. Bedot et C. Pictet dans l'archipel Malais). Rev. Suisse Zool. xii, pp. 649-656, pl. xii.
3. BLUNTSCHLI, H. Beobachtungen am Ovarialei der Monascidie *Cynthia microcosmus*. Morphol. Jahrb. xxxii, pp. 391-450, pls. ix & x, 5 text-figg.
4. CONKLIN, EDWIN G. Organ-forming germ regions in the eggs of Ascidians and Snails. Amer. Natural. xxxviii, pp. 501 & 502.
5. ———. The Organization and Orientation of the Ascidian egg. Biol. Bull. vi, p. 322.

6. DAMAS, DÉSIRÉ. Contribution à l'étude des Tuniciers. Arch. Biol. xx, pp. 745-833, pls. xx-xxiii.
- I. La segmentation de la queue des Appendiculaires.
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7. —. Les Molgules de la côte belge. Op. cit. xxi, pp. 161-181, 6 text-figg.
8. ENRIQUES, PAOLO. Della circolazione sanguigna nei Tunicati (*Ciona intestinalis*). Arch. zool. ital. ii, pp. 11-17.
9. FERNANDEZ, MIGUEL. Zur mikroskopischen Anatomie des Blutgefäß-systems der Tunikaten. Nebst Bemerkungen zur Phylogenese des Blutgefäß-systems im allgemeinen. Jena. Zeitschr. xxxix, pp. 323-422, pls. xv-xviii.
10. GUTHERZ, S. Selbst- und Kreuzbefruchtung bei solitären Ascidien. Arch. mikr. Anat. lxiv, pp. 111-120.  
Abstract by O. SEELIGER, Zool. Zentrbl. xii, pp. 252 & 253.
11. HARTMEYER, ROBERT. Zoologische Ergebnisse einer Untersuchungsfahrt.....nach der Bäreninsel und Westspitzbergen.....von Dr. CL. HARTLAUB. v. Die Ascidien. Wiss. Meeresuntersuch. Abth. Helgoland v (2), pp. 87-95.
12. —. Tunicaten von Ægina. Zool. Anz. xxvii, pp. 321-327, 2 text-figg.
13. HERDMAN, W. A. Ascidians and Amphioxus. Cambridge Natural History vii, pp. 33-138, text-figg. 15-90.
14. JULIN, CHARLES. Recherches sur la phylogénèse des Tuniciers. Développement de l'appareil branchial. Zeitschr. wiss. Zool. lxxvi, pp. 544-611, 42 text-figg.  
Abstract and criticism by O. SEELIGER, Zool. Zentrbl. xii, pp. 209-214.
15. —. Recherches sur la phylogénèse des Tuniciers. *Archiascidia neapolitana* nov. gen., nov. sp. Mt. Stat. Neapel xvi, pp. 489-552, pl. xx.
16. KOROTNEFF, A. Ueber den Polymorphismus von *Dolchinia*. Biol. Centrbl. xxiv, pp. 61-65, 3 text-figg.
17. —. Notes sur les Cyclomyaires. Mt. Stat. Neapel xvi, pp. 480-488, pl. xix, 2 text-figg.
18. MARINE BIOLOGICAL ASSOCIATION. Plymouth Marine Invertebrate Fauna. Being Notes of the local distribution of species occurring in the neighbourhood. J. Mar. Biol. Ass. vii, pp. 155-298, 1 chart. [Tunicata, pp. 295-298.]
19. MICHAELSEN, W. Revision der compositen Styeliden oder Polyzoinen. Jahrb. Hamburg. Anst. xx, 2 Beiheft, Mt. Mus. Hamburg, pp. 1-124, pls. i & ii, 1 text-fig., 1 map.
20. —. Die stolidobranchiaten Ascidien der deutschen Tiefsee-Expedition. Wiss. Ergeb. deutschen Tiefsee-Exp. "Valdivia" vii, pp. 183-260, pls. x-xiii.  
Quoted hereafter as Stolid. Ascidien Valdivia.  
Abstract by O. SEELIGER, Zool. Zentrbl. xii, pp. 253 & 254.



21. NERESHEIMER, EUGEN. Ueber *Lohmannella catenata*. Zeitschr. wiss. Zool. lxxvi, pp. 137-166, pls. x & xi, 6 text-figg. [Parasite of *Fritillaria*.]
22. NOBRE, AUGUSTO. Subsídios para o estudo da fauna marinha do sul de Portugal. Ann. Sci. nat. Porto viii, pp. 153-160.
23. PÉREZ, CH. Sur un mode nouveau d'association des blastozoïtes en chaînes chez une Salpe du golfe Persique. Pr.-verb. Soc. Sci. Bordeaux 1902-1903, p. 35.  
Abstract of (4) Zool. Rec. 1903.
24. RETZIUS, G. Zur Kenntnis der Spermien der Evertibraten. Biol. Untersuch. (n. s.) xi, pp. 1-32, pls. i-xii.
25. RITTER, WILLIAM E. The structure and affinities of *Herdmania claviformis*, the type of a new genus and family of Ascidians from the coast of California. Mark Anniversary Volume (4to, New York, 1903), pp. 237-261, pls. xviii & xix.  
Abstract by O. SEELIGER, Zool. Zentrbl. xii, pp. 254 & 255.
26. ——. *Euherdmania* vs. *Herdmania* preoccupied. Zool. Anz. xxvii, pp. 650 & 651.
27. SEELIGER, OSWALD. Tunicata (Manteltiere). Bronn's Klassen und Ordnungen des Tier-Reichs. iii, Suppl., Lief. 44-47, pp. 689-752, pls. xxix & xxx, figg. in text, and Lief. 48-52, pp. 753-832, pls. xxxi & xxxii, figg. in text.
28. SLUITER, C. PH. Die Tunicaten der Siboga-Expedition. I. Abtheilung. Die socialen und holosomen Ascidien. Monogr. Ivia. Uitkomsten... H. M. Siboga... uitgegeven door Dr Max Weber. 126 pp., 15 pls.  
Quoted hereafter as Tunic. Siboga i.  
Abstract by O. SEELIGER, Zool. Zentrbl. xii, pp. 255 & 256.
29. SOWINSKY, W. Introduction a l'étude de la faune du bassin marin Ponto-Aralo-Kaspien sous le point de vue d'une province zoogéographique indépendante [Russian text]. Zapiski Kiev. Obshch. xviii, pp. i-xiii, 1-487, 1-216, i-iv, 4 pls.

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- Microcosmus albidus*, Cape, p. 213, pl. x, fig. 4, pl. xi, figg. 25 & 26; MICHAELSEN, Stolid. Ascidien Valdivia : *M. hemisphaerium*, p. 52, pl. xi, figg. 12-14, *arenaceus*, p. 53, pl. xi, figg. 15-18; SLUITER, Tunic. Siboga i : n. spp.
- Molgula echinosiphonica*, branchia, p. 782; DAMAS, Arch. Biol. xx : *M. occulta*, p. 167, text-fig. 2, *ampulloides*, p. 170, text-fig. 3, *socialis*, p. 174, text-fig. 4, *macrosiphonica*, p. 177, text-fig. 5; DAMAS, op. cit. xxi.
- M. dentifera* (Ed. v. Beneden MS.), Belgium, p. 179, text-fig. 6; DAMAS, t. c. : *M. longipedata*, p. 113, pl. xiv, figg. 1-3, *flagrifera*, p. 114, pl. xiv, figg. 4-6, *crinita*, 69-694 metres, pl. xiii, figg. 16-18, *calvata*, p. 116, pl. xiv, figg. 7-10, *sordida*, 1788 metres, p. 118, pl. xiv, figg. 11-16, *vitrea*, p. 119, pl. xiv, figg. 17-19; SLUITER, Tunic. Siboga i : n. spp.

- Monandrocarpa*, n. g. (*Polyzoine*), p. 53, *tritonis*, Cape, p. 54; MICHAELSEN, Mt. Mus. Hamburg xxi: *M. tritonis*, Cape, p. 240, pl. x, fig. 2, pl. xiii, figg. 55-57; MICHAELSEN, Stolid. Ascidien Valdivia, n. sp.
- Oikopleura dioica*, segmentation of tail, p. 747; DAMAS, Arch. Biol. xx.
- Peropthera listeri*, development of branchia, p. 785; DAMAS, t. c.
- Phallusia mammillata*, cross- and self-fertilisation, p. 114; GUTHERZ, Arch. mikr. Anat. lxiv.
- Podoclavella molluccensis*, p. 5, *detorta*, p. 6, pl. iii, figg. 18-22, *secunda*, p. 7, pl. iii, figg. 23 & 24, *procera*, p. 8, pl. iii, figg. 14-17; SLUITER, Tunic. Siboga i : n. spp.
- Polyandrocarpa* n. g. (*Polyzoine*) *lapidosa*, p. 34, pl. i, figg. 2 & 3; MICHAELSEN, Mt. Mus. Hamburg xxi.
- Polyzoa*, p. 55, *opuntia*, p. 58, subsp. *patagonica* n. subsp. E. Patagonia, p. 59, subsp. *pictonis*, p. 60, subsp. *waerni*, p. 61, subsp. *opuntia* (*typica*), p. 61, subsp. *gordiana*, p. 63, subsp. *lennoxensis*, p. 64, subsp. *coccinea*, p. 64; MICHAELSEN, Mt. Mus. Hamburg xxi.
- P. reticulata*, p. 65, pl. i, figg. 6a-d, & 7, *falclandica*, p. 68; MICHAELSEN, t. c. : *P. reticulata*, p. 244; MICHAELSEN, Stolid. Ascidien Valdivia.
- Polyzoine*, def. p. 26, key to genera, p. 28; MICHAELSEN, Mt. Mus. Hamburg xxi.
- Pterygascidia* n. g. (*Corellidae*), p. 21, *mirabilis*, 216 metres, p. 21, pl. ii, fig. 3, pl. vii, figg. 1-5; SLUITER, Tunic. Siboga i, n. sp.
- Rhabdocynthia latisinuosa*, 204 metres, p. 55, pl. xi, figg. 10 & 11; SLUITER, t. c. n. sp.
- Rhodosoma papillosum*, p. 26, pl. i, fig. 2, pl. iv, figg. 4-6; SLUITER, t. c.
- Rhopalopsis fusca*, p. 13, pl. ii, fig. 6; SLUITER, t. c.
- Rhopalopsis defecta*, p. 14, pl. iii, figg. 9-11, *tenuis*, p. 15, pl. iii, figg. 12 & 13; SLUITER, t. c. n. spp.
- Salpa henseni*, p. 651, pl. xii, fig. 1; APSTEIN, Rev. Suisse Zool. xii.
- S. amboinensis*, p. 651, pl. xii, figg. 2-10, *picteti*, p. 655, pl. xii, figg. 12-14, Amboina; APSTEIN, t. c. n. spp.
- Stonica*, p. 68, *socialis*, p. 69; MICHAELSEN, Mt. Mus. Hamburg xxi.
- Styela gelatinosa*, p. 236; MICHAELSEN, Stolid. Ascidien Valdivia : *S. aurata*, p. 57, pl. vii, fig. 16, *palinorsa*, p. 60, pl. vii, fig. 17; SLUITER, Tunic. Siboga i.
- S. braueri*, off Sumatra, 750 metres, p. 232, pl. x, fig. 12, pl. xiii, figg. 52-54; MICHAELSEN, Stolid. Ascidien Valdivia : *S. sobria*, p. 63, pl. viii, fig. 1, *floccosa*, p. 64, pl. viii, figg. 2-4, *albomarginata*, p. 65, pl. viii, figg. 5-8, *contacta*, p. 66, pl. viii, figg. 9-12, *reniformis*, p. 67, pl. viii, figg. 13-16, *thelyphanes*, p. 68, pl. viii, figg. 17-19, *circummarata*, p. 70, pl. i, fig. 4, pl. ix, fig. 1, *orbicularis*, 538-694 metres, p. 71, pl. i, fig. 5, pl. ix, figg. 2 & 3, *reducta*, p. 72, pl. ix, figg. 4-6, *sedata*, p. 74, pl. ix, figg. 7-10, *incubita*, p. 75, pl. ii, fig. 7, pl. ix, figg. 11-14, *albopunctata*, p. 76, pl. ix, figg. 15-17, *mæandria*, p. 77, pl. ix, figg. 18-20, *biforis*, p. 78, pl. x, figg. 1-4, *robusta*, p. 79, pl. x, fig. 5, *pustulosa*, p. 80, pl. x, figg. 6-9, *profunda*, 959 metres, p. 81, pl. x, figg. 10-13, *ambonensis*, p. 83, pl. x, figg. 14 & 15, *psammodes*, p. 84, pl. x, figg. 16-19, *glebosa*, p. 85, pl. x, figg. 20-22, *nutrix*, p. 86, pl. x, figg. 23 & 24, *asymmetrica*, p. 87, pl. x, figg. 25 & 26, *cylindrica*, p. 88, pl. xi, figg. 19-21; SLUITER, Tunic. Siboga i : n. spp.
- Styelopsis grossularia*, development of branchia, p. 771; DAMAS, Arch. Biol. xx.
- S. scævola*, p. 89, pl. vii, figg. 10-15; SLUITER, Tunic. Siboga i, n. sp.









## VII. MOLLUSCA.

BY

E. R. SYKES, B.A.

Assisted by E. A. SMITH, I.S.O.

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## INTRODUCTION.

THOUGH the literature for the year 1904 shows an increase over that for the previous year, this may, in a measure, be accounted for by the fact that the 'Record' has been kept open until a slightly later date.

As in past years, TRYON'S (619) 'Manual' has regularly appeared, Mr Pilsbry being now engaged on the account of the *Achatinidae*. Eleven parts of the 'Conchylien-Cabinet' (426) have been issued, dealing with *Helix*, *Naninidae*, *Agnatha*, and *Chitonidae*. A small portion of BRONN'S (86) 'Klassen, &c.' has appeared, and a further livraison of COSSMANN'S (140) very useful 'Essais de Paléoconchologie.' The latter author has also commenced, with PISSARRO (144), an illustrated 'Iconographie' in which it is proposed to figure all the known fossils of the Paris Basin; the checklist of this fauna compiled by CHÉDÉVILLE (111) has now been completed. HIDALGO (304, 305) has issued a further portion of his 'Obras,' and commenced a catalogue of the Philippine fauna. KOBELT (355) has made progress with his account of the European Marine Mollusca, and has in ROSSMÄSSLER (543) given a summary of the non-marine shells, with an index to previous volumes of this work. To SACCO (546) we owe a supplement, with a necessary index, to his Tertiary fauna of Liguria. The Pteropods of the 'Siboga' Expedition have been dealt with by TESCH (610), and the Heteropods collected during several voyages of the 'Princesse-Alice' have received attention from VAYSSIÈRE (627). It may also be mentioned that a list of papers published in the 'Nachrbl. Deutsch. malak. Ges.', complete from the beginning, has been issued.

The papers dealing solely with the descriptions of new forms appear to be slightly less numerous than usual. Amongst those dealing with non-marine Molluscs, we may specially note PILSBRY and HIRASE (495-497) upon Japanese forms. ANDREAE (16) has described the shells collected in Central Asia during Futterer's Expedition, and GUDE (273) has completed his list of the Helicoids of that continent by some additions and corrections. A reprint of MORLET'S (450) papers on the fauna of Indo-China, will prove of service, as also the list of the shells of that region given by FISCHER and DAUTZENBERG (223). SIMROTH (567) has published a useful paper on the slugs of Abyssinia; and ROCHEBRUNÉ and GERMAIN (534) have issued, unfortunately without figures, diagnoses of some Central African shells. A little work, of a popular type, on the Molluscs of Germany, has been written by LEHMANN (393), while TAYLOR (609) has continued his account of the British fauna. Two papers by HUDLESTON (314) and SMITH (575), dealing with the fauna of Lake Tanganyika, in the light of the hypothesis put forward some years ago as to its origin, should not be overlooked.

HUTTON'S (317) 'Index' to the New Zealand fauna, and KEP'S (345) work on West American shells relate both to marine and non-marine molluscs.

Turning to marine shells, we may notice HÄGG'S (277) account of the forms collected during the Swedish Polar Expedition. JATTA (330) and KWIETNIEWSKI (377) have dealt, respectively, with Mediterranean Cephalopods and Pteropods, while SYKES (604) has commenced a supplemental account to that published of the 'Porcupine' Expedition. Some molluscs from Northern Africa have been catalogued and described by PALLARY (467, 468), though it is doubtful whether the validity of all his new species can be maintained. Some new forms have been described from South Africa by SOWERBY (589), and SMITH (578) has issued a useful addendum to the known fauna, while he has also (579) dealt with some forms from the Bay of Bengal. The Nudibranch fauna of East Africa has been noticed by ELIOT (208-210), and MELVILL (433, &c.) has described some species from the

Persian Gulf, &c. PILSBRY (492, 493) has published diagnoses of new forms from Japan, and STREBEL (599) has added to our knowledge of the fauna of the Magellanic Region. The Australian fauna has, as in past years, formed the subject of papers by HEDLEY (291, &c.), including an interesting note on the 'Bassian Isthmus' as bearing on the present fauna, while he has also (293) described some deep water shells from New Zealand. PRITCHARD and GATLIFF (505, 506) have continued their work on the Victorian fauna. Two papers by HOYLE (312, 313) on Cephalopods may also be noticed, one dealing with some species from Ceylon, and the other with those collected by the 'Albatross.'

Anatomical papers have been numerous and valuable. Development and Embryology have been studied by CASTEEL (99, 100), CONKLIN (133-135), FUJITA (237), GLASER (258), JANSSENS & ELLINGTON (329), KOSTANECKI (372, 373), LEE (391, 392), LOEB (399), OSBORN (461, 462), SMALLWOOD (570), THEISING (611), and WILSON (653) and others. The larval eye of *Chiton* has been dealt with by HEATH (285), while MAZZARELLI (431) has written on the free Opisthobranchiate larva. Statocysts in the Cephalopods have attracted FRÖHLICH (235), and GROSVENOR (269) has issued an interesting paper on nematocysts in Nudibranchs. DISTAÑO (192) has written on the nervous system of *Oscamius*, JORDAN (342) on that of the Pulmonata, while HYDE (318, 319) has dealt with the nerves and their endings in the eye of *Pecten*. MARCEAU (412, &c.) has published several notes on general anatomy, and of the other papers of this class we may mention ABRIC (1, &c.) and CUÉNOT (159) on Nudibranchs, BOISSEVAIN (73) on *Dentalium*, FLEURE (226, &c.) on *Haliotis*, GODWIN-AUSTEN (260) on *Eurystoma*, HEATH (286, &c.) on the Aplacophora, HERDMAN (298, &c.) on the pearl oyster, KESTEVEN (350) on *Megalatractus*, MEISENHEIMER (432) on *Desmopterus*, PÖTZSCH (501) on *Planorbis*, RANGLES (509) on some *Trochidae*, SIMROTH (566) on several slugs, VAYSSIÈRE (629) on some Mediterranean Opisthobranchs, and WISSEL (656) on the Chitons collected by Schauinsland.

Turning to the more strictly systematic papers, we may notice DALL'S (171) work on the 'Frog-Shells and Tritons,' with the criticism by PILSBRY & VANATTA (498). With BARTSCH (172), Dr Dall has also issued a review of the *Pyramidellidae*, including a number of new generic names. CASEY (98) has described, unfortunately without any review of the family, a number of genera in the *Pleurotomidae*. Other papers of interest include BARTSCH (35) on *Sonorella*; a list of *Sphaerospira* by FULTON (240), and some notes on *Arcaida* by LAMY (380, &c.). HOYLE (310) has published a key to the recent Dibranchiate Cephalopods, and GRABAU (265) has issued a very interesting work on the phylogeny of *Fusus*.

Variation has continued to prove an attractive subject, DAVENPORT (178, 179) having, separately, and with HUBBARD (180) continued his work on *Pecten*, MALARD (409), METCALF (445), and WELDON (647) having dealt, respectively, with *Patella*, *Neritina*, and *Clausilia*, while the ever-present subject of *Helix nemoralis* has formed the subject of a work by LANG (384).

Pearls and their formation have been written on by DUBOIS (202-205), HERDMAN (298, &c.), and MCINTOSH (404).

Nomenclature, in the broad sense, has been once or twice the subject of serious discussion, and, were the law of the survival of the fittest applied to specific names, one cannot help feeling that a small landshell, rejoicing in the name of *Macrochlamys izushichitajimana* would be somewhat handicapped.

## CORRIGENDA IN ZOOLOGICAL RECORD FOR 1903, VOL. XI.

- p. 42. Under Mexican Region, insert Costa Rica:—New species of *Bulimulus* and *Helicina*; PRESTON (427).  
 p. 56. Transfer entry of *Conulinus* to *Buliminidae* on p. 61.  
 p. 59. For *Papuina pseudosatsumana* read *P. pseudosatsuma*.

## I. TITLES\*.

1. ABRIC, P. Sur quelques variations expérimentales de coloration chez les Nudibranches. C.R. Soc. Biol. lvii, pp. 5-7.
2. —. Sur les nématoblasts et les nématocysts des Eolidiens. T. c. pp. 7-9.
3. —. Sur un nouveau Doridien de Wimereux. T. c. pp. 232-234.
4. —. Les cellules agglutinantes des Eolidiens. C.R. Ac. Sci. cxxxix, pp. 611-613.
5. AIRAGHI, C. Inocerami del Veneto. Boll. Soc. geol. Ital. xxiii, pp. 178-199, pl. iv.
6. ALDRICH, T. H. A new Oyster from the Eocene of Alabama. Nautilus xviii, p. 62, pl. iii.
7. ALMERA, J. Una playa de Terreno Cuaternario antiguo en el Llano de San Juan de Vilasar. Mem. Ac. Barcel. iv, No. 39, 11 pp.
8. AMI, H. M. Bibliography of Canadian Geology and Palæontology for the year 1902. Tr. R. Soc. Canada ix, sect. iv, pp. 173-188.
9. ANCEY, C. F. On some non-marine Hawaiian Mollusca. P. Malac. Soc. London vi, pp. 117-128, pl. vii.
10. —. New land snails from South America. Nautilus xvii, pp. 102-104.
11. —. Notes on a few shells. Op. cit. xviii, pp. 21 & 22.
12. —. Report on semi-fossil land shells found in the Hamakua District, Hawaii. J. Malac. xi, pp. 65-71, pl. v.
13. —. Études sur la faune malacologique des îles Sandwich (5<sup>e</sup> Partie). J. Conchyl. li, pp. 295-307, pl. xii.
14. —. Notes critiques et synonymiques, xxxi-lxxv. Op. cit. lii, pp. 288-316.
15. ANDREAE, A. Dritter Beitrag zur Binnenconchylienfauna des Miocäns von Oppeln in Schlesien. Mt. Mus. Hildesheim xx, 22 pp., figg.
16. —. Land- und Susswasserschnecken aus Zentral- und Ostasien. In 'Durch Asien,' by K. Fütterer, iii, pp. 43-90, 1 pl., 1903. [Pp. 43-56 appear to be a reprint of Title No. 12 in 1900.]
17. ANDRUSOW, N. [Geologische Untersuchungen auf der Halbinsel Taman.] Mater. Geol. Russlands xxi, pp. 255-382, pls. ix-xvi.
18. ANON. Les perles. Naturaliste 1904, pp. 22-24, 72-74, 85-87.

\* An asterisk prefixed to a title indicates that the Recorder has not seen the work in question.

19. ANTHONY, R. Note sur la forme et la structure des Muscles adducteurs des Mollusques Acéphales. Bull. Soc. Philom. vi, pp. 175-188, figg.
20. —. Organisation et Morphologie des Tridacnides. C.R. Ac. Sci. cxxxviii, pp. 296-298, figg.
21. —. L'acquisition de la forme arrondie chez les mollusques acéphales dimyaires fixés en position pleurothétique. (Note préliminaire.) Arch. zool. exp. Notes ii, pp. clxxiii-clxxxvii, 10 figg.
22. ARKANGHEL'SKIĪ, A. D. Paleotzenovuiya Otlozheniya Saratovskagho Povolzh'ya i ikh fauna. [Fauna of Paleocene Strata of Saratov District.] Mater. Geol. Russlands xxii, pp. 1-207, pls. i-xii.
23. BACCI, P. E. & BERNARDI, I. I Molluschi. Riv. ital. Sci. Nat. xxiv, pp. 33-38, 105-110.
24. \*BAKER, F. C. Shells of land and water; a familiar introduction to the study of Mollusks. Chicago, 8vo. [Fide Nautilus xviii, p. 72.]
25. —. The Mollusks of Cedar Lake, Indiana. Nautilus xvii, pp. 112 & 113.
26. —. New varieties of American Lymnæas. Op. cit. xviii, pp. 10-12.
27. —. New American Lymnæas. T. c. pp. 62 & 63.
28. —. The arrangement of the Collection of Mollusca in the Chicago Academy of Sciences. Museums J. iii, pp. 354-360, 1 pl.
29. —. The Molluscan Fauna of the Dells of Wisconsin. Tr. Ac. St. Louis xiv, pp. 99-105.
30. —. Notes on *Planorbis truncatus* Miles. T. c. pp. 107-110.
31. —. Spire variation in *Pyramidula alternata*. Amer. Natural. xxxviii, pp. 661-668.
32. BALDWIN, J. W. *Jamnia muscorum* m. *sinistrorsum*. J. Conch. xi, p. 11.
33. BARRON, T. On the occurrence of Lower Miocene Beds between Cairo and Suez. Geol. Mag. i, pp. 603-608.
34. BARTSCH, P. A new *Ashmunella* [*A. townsendi*] from New Mexico. Smithsonian. Collect. xvii, pp. 13 & 14.
35. —. Notes on the Genus *Sonorella*, with descriptions of new species. T. c. pp. 187-200, pls. xxviii-xxxiii.
36. —. A new species of *Amphidromus*. T. c. pp. 292 & 293, pl. xlvi.  
— [See also DALL & BARTSCH (172).]
37. BASEDOW, H. Note on Tertiary Exposures in the Happy Valley District, with description of a new species of *Septifer*. Tr. R. Soc. S. Austral. xxviii, pp. 248-252, pls. xxxv & xxxvi.
38. BAUMBERGER, E. Fauna der untern Kreide im Westschweizerischen Jura. Teil i, pp. 1-60, maps. [Abh. Schweiz. pal. Ges.]
39. BAVAY, A. Descriptions de quelques nouvelles espèces du genre *Pecten* et rectifications. J. Conchyl. lii, pp. 197-206, pl. vi.
40. —. Mission de Créqui-Montfort et Sénéchal de la Grange en Amérique du Sud. Mollusques terrestres et fluviatiles récoltés par le Dr Neveu-Lemaire. Bull. Soc. zool. France xxix, pp. 152-156, 7 figg.

- [BAVAY, A.] [See also DAUTZENBERG & BAVAY (176).]
41. BECK, H. Lias bei Vareš in Bosnien. Jahrb. geol. Reichsanst. liii, pp. 473-480.
  42. BÉDÉ, P. Sur une nouvelle variété de *Murex trunculus* Linné du Pleistocène Tunisien. Bull. Mus. Paris ix, pp. 372-374.
  43. —. Observations sur les Couches Quaternaires de Sfax (Tunisie). T. c. pp. 422-425.
  44. —. Nouveau gisement quaternaire au Bas-Meudon, près Paris. Op. cit. x, pp. 24-26.
  45. —. Contributions à l'étude de la géologie des environs de Sfax (Tunisie). Feuille Natural. 1904, xxxiv, pp. 243-246, 255-267.
  46. — & VINCHON, A. Contribution à l'étude du gisement quaternaire d'Arrest (Somme). Bull. Mus. Paris x, pp. 79-83.
  47. BEEDE, J. W. & ROGERS, A. F. Coal Measures Faunal Studies iii. Lower Coal Measures. Kansas Univ. Science Bull. ii, pp. 459-473.
  48. BEESTON, H. & WRIGHT, C. E. The land and freshwater Mollusca of Ilfracombe and district. J. Conch. xi, pp. 72-82.
  49. BELLEVOYE, A. Les variétés de l'*Helix pomatia*. Bull. Soc. Reims xii, pp. 89-96, 1 pl.
  50. BELLINI, R. La faune des Mollusques fossiles néogènes du périmètre du golfe de Naples. Ann. Soc. malac. Belgique xxxviii, pp. 22-37.
  51. —. The Freshwater shells of Naples and the neighbourhood. J. Conch. xi, pp. 33-41.
  52. BERGH, R. Semper's Reisen im Archipel der Philippinen. Wissenschaftliche Resultate ix, Theil vi, Lief. 1, pp. 1-55, pls. 1-4. [*Nudi-branchiata*.]
  - BERNARDI, I. [See BACCI & BERNARDI (23).]
  53. BIGOT, A. Description de la Faune des Sables jurassiques supérieurs du Calvados. 1<sup>o</sup> Partie. Vertébrés, Céphalopodes, et Gastropodes. Mem. Soc. Normandie xxi, pp. 99-108, pl. iv.
  54. — & MATTE, H. Catalogue Critique de la collection Defrance, conservée au musée d'Histoire naturelle de Caen. Bull. Soc. Normand. vi, pp. 152-185; vii, pp. 243-268.
  55. BLACKBURN, E. P. Mollusca of Driffield and neighbourhood. Naturalist 1904, pp. 364-367.
  56. BLAKE, J. F. The Silurian Cephalopoda. P. Geol. Ass. xviii, pp. 451-454.
  57. —. Notes on the species '*Am. plicatus*' and '*Am. bplex*' of Sowerby. Geol. Mag. i, pp. 162-166.
  58. BLANEY, D. Shell collecting days at Frenchman's Bay [Maine]. Nautilus xvii, pp. 109-111.
  59. —. The Land-shells of Ironbound Island, Maine. Op. cit. xviii, pp. 45 & 46.
  60. BOEHM, G. Beiträge zur Geologie von Niederländisch-Indien. Erste Abteilung: Die Südküsten der Sula-Inseln Taliabu und Mangoli. 1 Abschnitt: Grenzsichten zwischen Jura und Kreide. Paläontogr. Suppl. iv, Lief. 1, 46 pp., 7 pls.

61. BÖHM, J. Ueber cretaceische und eocäne Versteinerungen aus Ferghana. In 'Durch Asien' by K. Futterer, iii, pp. 95-114, 1 pl. [1903].
62. —. Über die obertriadische Fauna der Bäreninsel. Svenska Ak. Handl. xxxvii, No. 3, 76 pp., 7 pls.
63. —. Description de la Faune des Couches de Pereiros. Commu. geol. Portugal v, pp. 1-48, pls. i-iii. [Translation of Title No. 58, 1901.]
64. BOETTGER, O. Neue Clausilie aus dem oberoligoceen Landschneckenkalk von Hochheim. Nachrbl. Deutsch. malak. Ges. 1904, pp. 79 & 80.
65. —. Eine neue Form der Paludinidengattung *Emmericia* im Mainzer Becken. T. c. pp. 112-116.
66. —. Nekrolog. Geh. Reg.-Rat. Prof. Dr. Eduard von Martens. Zool. Garten xlv, p. 318.
67. —. Nekrolog. Prof. Dr. Rud. A. Philippi. T. c. p. 356.
68. —. Nochmals über Trockenzeitanpassung eines *Ancylus* von Südamerika. Zool. Anz. xxvii, pp. 264-267.
69. —. Beschreibung einer neuen Melanie von den Marschall-Inseln. Zool. Jahrb. Syst. xx, p. 408.
70. —. Landschnecken der Insel Nauru (Marschall-Inseln). T. c. pp. 409-412.
71. BOHN, G. Périodicité vitale des animaux soumis aux oscillations des hautes mers. C.R. Ac. Sci. cxxxix, pp. 610 & 611.
72. —. Oscillations des animaux littoraux synchrones de la marée. T. c. pp. 646-648.
73. BOISSEVAIN, M. Beiträge zur Anatomie und Histologie von *Dentalium*. Jena. Zeitschr. xxxviii, pp. 553-572, pls. xvii-xix.
74. BOLTON, H. On the occurrence of a Shell-bearing Gravel at Dumball Island. P. Bristol. Soc. x, pp. 241-244.
75. —. The Palæontology of the Lancashire Coal Measures. Tr. Manchester Geol. Soc. xxviii, pp. 378-415, 578-650, 668-689.
- BONNET, A. [See CONTE & BONNET (137).]
76. BONNEVIE, K. *Enteraxenos ostergreni*, ein neuer, in Holothurien schmarotzender Gastropode. Zool. Jahrb. Anat. xv, pp. 731-792, pls. xxxvii-xli, figg. [1902].
77. —. Zur Kenntniss der Spermiogenese bei den Gastropoden (*Enteraxenos ostergreni*). Biol. Centrbl. xxiv, pp. 267-274, 306-310.
78. BORISSJAK, A. Die Pelecypoden der Jura-Ablagerungen in Europäischen Russland. I. *Nuculidae*. Trudui geol. Kom. n.s. 11, 49 pp., 3 pls.
79. BOSANQUET, R. C. An early Purple-fishery. Rep. Brit. Ass. 1903, pp. 817 & 818.
80. BOUTAN, L. Les perles fines, leur origine réelle. Arch. Zool. exp. ii, pp. 47-90, pl. iii, and 7 figg.
81. BRADLEY, H. C. The occurrence of Zinc in certain Invertebrates. Science xix, pp. 196 & 197.
82. —. The occurrence of Taurin in Invertebrate Muscle. Op. cit. xx p. 25.

83. BRINDLEY, H. H. Mollusca. In 'Handbook Nat. Hist. Cambridge-shire,' 1904, pp. 114-138, 257 & 258.
84. BRIOT, A. Sur la sécrétion rouge des Aplysiens. C.R. Soc. Biol. lvi, pp. 899-901.
85. BROILLI, F. Die Fauna der Pachycardientuffe der Seiser Alp. Palæontogr. l, pp. 145-227, pls. xvii-xxvii.
86. BRONN'S Klassen und Ordnungen des Thier-Reichs.....Bd. III. Mollusca.....bearbeitet von H. SIMROTH. Lief. 66-74. Abth. ii, pp. 601-712, pls. xliii-liii. [Relates to Gastropoda.]
87. BROWNE, T. J. Report on an enquiry into the conditions under which oysters and certain other edible Molluscs are cultivated and stored on the coast of Ireland, &c. Rep. Local Government Board Ireland. Dublin, 1904, 82 pp., 34 maps.
88. BRUSINA, S. Iconographia Molluscorum fossilium in Tellure tertiaria Hungariae, Croatiae, Slavoniae, Dalmatiae, Bosniae, Herzegovinae, Serbiae, et Bulgariae inventorum. Zagreb (Agram), 4to, 10 pp., 30 pls. 1902.
89. ——. Zur Rettung unserer Mollusken-Fauna. Nachrbl. Deutsch. malak. Ges. 1904, pp. 157-168.
90. BUCKMAN, S. S. A monograph of the Inferior Oolite Ammonites of the British Islands. Part xii, Supplement. I, Revision of, and addition to, the *Hildoceratidae*, pp. lxx-clxviii, pls. xv-xix. [Pal. Soc. Mon.]
91. BUDINGTON, R. A. Nervous Regulation of the Heart of *Venus mercenaria*. Biol. Bull. vi, pp. 311 & 312.
92. BULLEN, R. A. Descriptions of new species of non-marine shells from Java, and a new species of *Corbicula* from New South Wales. P. Malac. Soc. London vi, pp. 109-111, pl. vi.
93. BURNE, R. H. Notes on the nervous system of the Pelecypoda. P. Malac. Soc. London vi, pp. 41-47, figg.
94. ——. Summary of the discussion at the meeting held on June 10th upon the two following questions of nomenclature. I. A species is described as belonging to genus A and is subsequently transferred to genus B, in which there is already a species bearing the same name. Which species, assuming that the one described in genus A is prior in date, requires a new name? II. A form is described as a variety of one species, and subsequently is described as a new species, with a new name. Which name stands? T. c. pp. 130-133.
95. CAMPANA, D. DEL. Faunula del Giura Superiore di Collalto di Solagna (Bassano). Boll. Soc. geol. Ital. xxiii, pp. 239-269, pl. vii.
96. CARLSON, A. J. The rhythm produced in the resting heart of Molluscs by the stimulation of the Cardio-accelerator nerves. Amer. J. Physiol. xii, pp. 55-66.
97. CARPENTER, G. D. H. [See NAPIER & CARPENTER (453).]
98. CARTER, C. S. Mollusca of Hubbard's Valley. Naturalist 1904, pp. 60-63.
99. CASEY, T. L. Notes on the *Pleurotomidae* with description of some new Genera and Species. Tr. Ac. St. Louis xiv, pp. 123-170.



99. CASTEEL, D. B. The development of the germ layers in a Nudibranch Mollusc. Amer. Natural. xxxviii, pp. 505 & 506.
100. —. The cell-lineage and early larval development of *Fiona marina*, a Nudibranch Mollusk. P. Ac. Philad. 1904, pp. 325-405, pls. xxi-xxxv.
101. CAZIOT, E. On the dispersal of Mollusca. P. Malac. Soc. London vi, p. 3.
102. —. Études sur quelques espèces de la Région circa-Méditerranéenne. Ann. Soc. Linn. Lyon I, pp. 135-158.
103. —. *Helix niciensis*. Note complémentaire. Feuille Natural. 1903, xxxiv, p. 35.
104. —. Faune du tumulus de Saint-Christophe près Grasse (Alpes-Maritimes). Op. cit. 1904, xxxiv, pp. 221-224.
105. —. Note sur l'*Helix aperta*. Op. cit. 1904, xxxv, pp. 6 & 7.
106. —. Complément à l'étude de la faune Corse. Mem. Soc. zool. France xvi, pp. 33-40, 5 figg.
107. —. Étude sur quelques coquilles de la région circa-Méditerranéenne: *Helix vermiculata*. Bull. Soc. zool. France xxix, pp. 19-23.  
— [See also DEPÉRET & CAZIOT (188).]
108. CHAPMAN, F. On a collection of Upper Palæozoic and Mesozoic Fossils from West Australia and Queensland, in the National Museum, Melbourne. P. Soc. Victoria xvi, pp. 306-335, pls. xxvii-xxx.
109. —. New or little-known Victorian fossils in the National Museum. Some Palæozoic Pteropoda. T. c. pp. 336-342, pl. xxxi.
110. CHASTER, G. W. Irish Field Club Union. Conference and excursion at Sligo. Marino Mollusca. Irish Natural. xiii, p. 193.  
CHATELET, C. [See FISCHER & CHATELET (222).]
111. CHÉDEVILLE, J. Liste générale et synonymique des fossiles tertiaires du Bassin de Paris, pp. 375-438. In Bull. Soc. Elbeuf xxii.
112. —. Description de fossiles nouveaux du Bassin Tertiaire de Paris. T. c. pp. 101-106, 1 pl.
113. —. Fossiles nouveaux du Bassin de Paris. Feuille Natural. 1904, xxxiv, pp. 85-87, pl. iv.
114. CHUN, C. Jugendliche Octopoden, deren gesammte Körperoberfläche einen Besatz von Borstenbüscheln aufweist. Verh. Deutsch. zool. Ges. xiv, pp. 243 & 244.
115. CLAPP, G. H. A new *Omphalina* from Alabama. Nautilus xviii, p. 30.
116. —. New forms of *Polygyra* from Alabama. T. c. pp. 85 & 86.
117. CLARK, W. B. & MARTIN, G. C. Mollusca. In 'Maryland Geological Survey, Eocene,' pp. 122-203, pls., 1901.
118. CLARKE, J. M. A Fauna Siluriana Superior do Rio Trombetas, Estado do Pará, Brazil. Arch. Mus. Rio Janeiro x, pp. 1-48, 2 pls., 1899.
119. —. Molluscos Devonianos de Estado do Pará, Brazil. T. c. pp. 49-174, 6 pls., 1899. [Inserted as not seen in 1902.]

120. CLESSIN, S. Pisidien aus Zentralasien. In 'Durch Asien,' by K. Futterer, iii, pp. 81 & 82 [1903].  
— [See also MARTINI & CHEMNITZ (426).]
121. COCKERELL, T. D. A. *Agriolimax agrestis* in Colorado. *Nautilus* xviii, pp. 90 & 91.  
COLE, L. J. [See PEARL & COLE (472).]
122. COLLET, P. Notices géologiques et paléontologiques pour servir à la Géologie de l'Arrondissement de Sainte-Ménéhould, avec la description des fossiles nouveaux par MM. P. Fliche, A. Peron, et J. Lambert. *Bull. Soc. Reims* xii, pp. 17-87, figg.
123. COLLIE, G. L. Ordovician section near Bellefonte, Pennsylvania. *Bull. Geol. Soc. Amer.* xiv, pp. 407-420, pl. lix.
124. COLLIER, E. *Helix nemoralis* m. *sinistrorsum* in Switzerland. *J. Conch.* xi, p. 57.
125. —. The Conchological differences between the genera and sections of the *Pupinidae*. *T. c.* pp. 110-115.
126. COLLINGE, W. E. Some remarks on the Genera *Damayantia* Issel, *Collingea* Simr., and *Isselentia* Cllge. *P. Malac. Soc. London* vi, pp. 9-12.
127. —. Notes on Slugs and slug-like Molluscs. 5. On a new and interesting genus of Slugs. 6. *Arion subfuscus* from the Orkney Isles. 7. Absence of the male generative organs in *Arion hortensis* Fér. *J. Malac.* xi, pp. 14 & 15.
128. —. Description of a new species of *Ariunculus* from Algeria. *T. c.* p. 47.
129. —. Note on *Parmacella deshayesii* Moq.-Tand. *T. c.* p. 49.
130. —. Note on two varieties of *Arion subfuscus* Drap. *T. c.* p. 98.
131. —. Land and Freshwater Mollusca [of the Faroes]. *P. Phys. Soc. Edinb.* 1902-1904, pp. 153 & 154.
132. COLTON, H. S. Land shells of Mt. Desert, Maine. *Nautilus* xvii, pp. 99-102.
133. CONKLIN, E. G. Organ-forming Germ Regions in the Eggs of Ascidi-ans and Snails. *Amer. Natural.* xxxviii, pp. 501 & 502.
134. —. The Cause of Inverse Symmetry. *Anat. Anz.* xxiii, pp. 577-588, figg. [1903].
135. —. Experiments on the origin of the cleavage centrosomes. *Biol. Bull.* vii, pp. 221-226, 12 figg.
136. CONNER, C. H. *Margaritana margaritifera* in Pennsylvania. *Nautilus* xviii, p. 91.
137. CONTE, A. & BONNET, A. Sur un Nématode nouveau (*Angiostoma helicis*, n. sp.) Parasite de l'appareil génital d'*Helix aspersa* Müll. *Ann. Soc. Linn. Lyon* l, pp. 63-68, figg. [Compare Title 109, last year.]
138. COOKE, A. H. Note on *Testacella haliotide* Drap. *J. Malac.* xi, p. 49.
139. COOKE, C. M. Distribution and Variation of *Achatinella multizonata* from Nuuanu Valley. *Pap. B. P. Bishop Mus.* ii, pp. 65-76, table.

140. COSSMANN, M. Essais de Paléonchologie comparée. Livr. vi. Paris, 8vo, 151 pp., 9 pls.
141. ——. Observations sur quelques coquilles crétaciques recueillies en France. C.R. Ass. Franc. 1903, Pt. ii, pp. 626-639, pls. ii & iii.
142. ——. Note sur l'Infralias de la Vendée et des Deux-Sèvres (Suite). II, Pélécy-podes. Bull. Soc. geol. France iii, pp. 497-537, pls. xvi-xviii.
143. ——. Mollusques Éocéniques de la Loire-Inférieure. Tom III, fasc. 1. Bull. Soc. Ouest France xiv, pp. 147-213, 8 pls.
144. — & PISSARRO, G. Iconographie complète des Coquilles fossiles de l'Éocène des environs de Paris. Fasc. i, pls. i-xvi. Paris, 1904.
145. — & ——. Faune Éocénique du Cotentin (Mollusques), 5<sup>e</sup> Article. Bull. Soc. geol. Normand. xxiii, pp. 11-30, 5 pls.  
COTTER, J. C. B. [See DA COSTA (160).]
146. COUFFON, O. Étude critique sur les Faluns de Haguineau. Bull. Soc. Angers xxxiii, pp. 35-94.
147. COUTAGNE, G. Des caractères polytaxiques chez les espèces à l'état sauvage. C.R. Ac. Sci. cxxxviii, pp. 1521-1523.
148. COUTURIER, M. Catalogue des Coquilles Paléarctiques de la Collection Hagenmüller. Ann. Mus. Marseille viii, pp. 19-67.
149. COUVREUR, E. Sur le sang des Gastéropodes marins. Ann. Soc. Linn. Lyon xlix, pp. 79-81.
150. CREMA, C. Sul piano Siciliano nella Valle del Crati (Calabria). Bol. Com. geol. Ital. xxxiv, pp. 245-270, pls. iii & iv.
151. CRICK, G. C. Description of a Nautiloid, *Pleuronautilus pulcher*, n. sp., from the Carboniferous Rocks of England. P. Malac. Soc. London vi, pp. 15-20, pl. ii.
152. ——. On a new form of Carboniferous Nautiloid (*Amphoreopsis paucicamerata*) from the Isle of Man. T. c. pp. 134-137, pl. viii.
153. ——. Note on a remarkable Belemnoid from the chalk of Flam-borough Head. P. Geol. Ass. xviii, pp. 283-285.
154. ——. Note on *Pericyclus fasciculatus* M'Coy, sp. Geol. Mag. i, pp. 27-33, figg.
155. ——. Notes on the Cephalopoda belonging to the Strachey Collection. T. c. pp. 61-70, 115-124.
156. ——. Note on *Actinocamax* Miller, its identity with *Atractilites* Link. T. c. pp. 407-410.
157. ——. Note on two Cephalopods obtained by Lieut.-Col. Skinner, R.A.M.C., from the Valley of the Tochi River on the north-west frontier of India. T. c. pp. 490-493, figg.
158. CSIKI, E. Három magyarországi új *Clausilia*. Ann. Mus. Hungar. i, pp. 107 & 108 [1903].
159. CUENOT, L. Contributions a la Faune du Bassin d'Arcachon. III. Doridiens. Trav. Lab. Arcachon vii, pp. 1-22, 1 pl.
160. DA COSTA, F. A. P. Mollusques Tertiares du Portugal. Planches de Céphalopodes, Gastéropodes, et Pélécy-podes laissées par F. A. PEREIRA DA COSTA, accompagnées d'une explication sommaire et d'une esquisse géologique par G. F. DOLLFUS, J. C. BERKELEY COTTER, et J. P. GOMES. Commis. geol. Portugal xlvi, expln. & 28 pls., 1904.

161. DA COSTA, S. I. Descriptions of new species of Land-shells from Central and South America. P. Malac. Soc. London vi, pp. 5 & 6, pl. i.
162. DACQUÉ, E. Beiträge zur Geologie des Somalilandes. I. Theil: Untere Kreide. Beitr. Pal. Oesterr.-Ung. xvii, pp. 7-20, pls. ii & iii.
163. DAINELLI, G. Contributo allo studio dell' Eocene medio dei dintorni di Ostrovisa in Dalmazia. Atti Acc. Lincei xiii, Pt. 2, pp. 277-282.
164. —. La fauna Eocenica di Bribir in Dalmazia. Parte Prima. Palæontogr. ital. x, pp. 141-273, pls. xv-xvii.
165. DALL, W. H. Notes on the Genus *Ampullaria*. J. Conch. xi, pp. 50-55.
166. —. Die Systematik der Cyrenacea. Nachrbl. Deutsch. malak. Ges. 1904, pp. 74-76. [Reprinted from Title no. 135 of last year.]
167. —. *Grundlachia* and *Ancylus*. Nautilus xvii, pp. 97 & 98.
168. —. Notes on the nomenclature of the Pupacea and associated forms. T. c. pp. 114-116.
169. —. A new species of *Periploma* from California. T. c. pp. 122 & 123.
170. —. A singular Eocene *Turbinella*. Op. cit. xviii, pp. 9 & 10.
171. —. An historical and systematic review of the Frog-shells and Tritons. Smithson. Collect. xlvii, pp. 114-144.
172. — & BARTSCH, P. Synopsis of the Genera, Subgenera, and sections of the Family *Pyramidellidae*. P. Soc. Washington xvii, pp. 1-16.
173. DAUPHIN, L. C. Faunule malacologique de Brides-les-Bains et ses environs (Savoie). Echange xx, pp. 95 & 96.
174. DAUTZENBERG, P. Récolte malacologique de M. Weyers dans le Sultanat de Sambas (Bornéo). Ann. Soc. malac. Belgique xxxviii, pp. 3-8, figg.
175. —. Variations et cas tératologiques chez le *Murex brandaris* Linné. J. Conchyl. lii, pp. 285-287, pl. viii.
176. — & BAVAY, A. Description d'un *Amussium* nouveau dragué par le Siboga dans la mer de Celebes. T. c. pp. 207-211, figg.
177. — & DOLLFUS, G. F. Études critiques sur la nomenclature avec examen des genres *Pectunculus* et *Glycimeris*. T. c. pp. 109-122.  
— [See also DOLLFUS & DAUTZENBERG (195), FISCHER & DAUTZENBERG (223).]
178. DAVENPORT, C. B. The animal ecology of the Cold Spring Sand Spit. Decem. Publ. Chicago Univ., 22 pp., 1903.
179. —. A comparison of some Pecten from the East and the West coasts of the United States. Mark Annivers. Vol., New York, 1903, pp. 121-136, pl. ix.
180. — & HUBBARD, M. E. Studies in the evolution of *Pecten*. iv. Ray variability in *Pecten varius*. J. Exper. Zool. i, pp. 607-616.
181. DAVIS, C. A. Notes on the Mollusca of the Bermuda Islands. Nautilus xvii, pp. 125-130, pl. iv.
182. DEAN, B. Japanese oyster culture. Bull. U. S. Fish Comm. xxii, pp. 17-37, 4 pls., 27 figg.

183. DEAN, J. D. Note on the Land and Freshwater Shells of Lancaster. *J. Conch.* xi, p. 47.
184. DEECKE, W. Über ein reichliches Vorkommen von Tertiär-gesteinen im Diluvialkies bei Polzin, Hinterpommern. *Zeitschr. Deutsch. geol. Ges.* lvi, pp. 53-57.
185. DELGADO, J. F. N. Faune Cambrienne du Haut-Alemtejo (Portugal). *Commis. geol. Portugal v*, pp. 307-374, pls.
186. DELHEID, D. Un gîte de *Rostellaria ampla*. *Ann. Soc. malac. Belgique xxxviii*, Bull. pp. cxlv & cxlvi.
187. DENNANT, J. & KITSON, A. E. Catalogue of the described species of fossils (except Bryozoa and Foraminifera) in the Cainozoic Fauna of Victoria, South Australia, and Tasmania. *Rec. Geol. Surv. Victoria i*, pp. 89-147, map.
188. DEPÉRET, C. & CAZIOT, E. Note sur les gisements pliocènes et quaternaires marins des environs de Nice. *Bull. Soc. geol. France iii*, pp. 322-347.
189. DHÉRÉ, C. Présence de cuivre et de fer dans l'œuf de la sèche. *C.R. Soc. Biol.* lvii, pp. 209 & 210.
190. DIENER, C. Note on *Cyclolobus haydeni* Diener. *Rec. Geol. Surv. India xxxi*, pp. 56-58.
191. —. Permian Fossils of the Central Himalayas. *Mem. geol. Surv. India, Ser. 15, Vol. i, Pt. 5*, 204 pp., 9 pls.
192. DISTASO, A. Sul sistema nervoso di *Oscanius membranaceus* e *Pleurobranchea meckeli*. *Anat. Anz.* xxv, pp. 535-541, 4 figg.
193. DOLLFUS, G. F. Faune Malacologique du Miocène supérieur de Rennes (étage Redonien, gîte d'Apigné) (Ille-et-Vilaine). *C.R. Ass. Franc.* 1903, Pt. ii, pp. 656-663.
194. —. Les Calcaires et Sables Tertiaires du Bassin de la Loire. *Bull. Soc. geol. France iv*, pp. 113-118.
195. — & DAUTZENBERG, P. Conchyliologie du Miocène moyen du Bassin de la Loire. Première partie: Pélécy-podes (Suite). Pp. 107-162, pls. vi-x. *Mem. Soc. geol. France, Pal.* xi, fasc. 3 & 4.  
— [See also DA COSTA (160), DAUTZENBERG & DOLLFUS (177).]
196. DONCIEUX, L. Note sur les terrains Tertiaires et le Quaternaire marin du sud-est du Département de l'Aude. *Bull. Soc. geol. France iii*, pp. 695-710.
197. DREGER, J. Die Lamellibranchiaten von Häring bei Kirchbichl in Tirol. *Jahrb. geol. Reichsanst.* liii, pp. 253-284, pls. xi-xiii.
198. DREVERMANN, F. Die Fauna der Siegener Schichten von Seifen unweit Dierdorf (Westerwald). *Palæontogr.* l, pp. 229-288, pls. xxviii-xxxii.
199. DREW, G. A. The Lamellibranch Nervous System. *Amer. Natural.* xxxviii, p. 508.
200. —. The anatomy and embryology of *Pecten tenuicostatus*. *Biol. Bull.* vi, p. 307.
201. DUBOIS, R. Sur le sens de l'olfaction de l'Escargot. *C.R. Soc. Biol.* lvi, pp. 198 & 199.
202. —. A propos de diverses communications récentes sur les perles fines. *T. c.* pp. 438-441.

203. [DUBOIS, R.] Application des rayons X à la recherche des perles fines. C.R. Ac. Sci. cxxxviii, pp. 301 & 302.
204. —. Sur les perles de nacre. T. c. pp. 583 & 584.
205. —. Sur le mécanisme sécrétoire producteur des perles. T. c. pp. 710-712.
206. DUDINSZKY, E. Kisebb közlemények. Rendellenes kagylóhéjak. Allatt. Kozl. Magyar Tars. iii, p. 112.
207. ELIOT, C. N. E. On the *Doris planata* of Alder & Hancock. P. Malac. Soc. London vi, pp. 180 & 181.
208. —. On some Nudibranchs from East Africa and Zanzibar. Part III. *Dorididae Cryptobranchiata*, I. P. Zool. Soc. London 1903, ii, pp. 354-385, pls. xxxii-xxxiv.
209. —. On some Nudibranchs from East Africa and Zanzibar. Part IV. *Dorididae Cryptobranchiata*, II. Op. cit. 1904, i, pp. 380-406, pls. xxiii & xxiv.
210. —. On some Nudibranchs from East Africa and Zanzibar. Part V. Op. cit. 1904, ii, pp. 83-105, pls. iii & iv.  
ELRINGTON, G. A. [See JANSSENS, F. A. & ELRINGTON, G. A. (329).]
211. ETHERIDGE, R. Cretaceous fossils of Natal, collected by Mr William Anderson, Government Geologist. Part I. The Umkwelane Hill Deposit. Rep. geol. Surv. Natal ii, pp. 71-93.
212. —. On the occurrence of a Lituitean in the Upper Silurian Rocks of Bowring, New South Wales. Rec. Austral. Mus. v, pp. 75-77, pl. viii.
213. —. On the occurrence of the Genus *Ptychoceras* (?) and other additional fossils in the Cretaceous Beds of the Northern Territory of South Australia. T. c. pp. 108-115, pls. xiv & xv.
214. —. Notes on Australian Cretaceous Fossils. T. c. pp. 248-252.
215. —. An Endophyte (*Stichus mermisoides*) occurring in the test of a Cretaceous Bivalve. T. c. pp. 254-257, pls. xxx & xxxi.
216. EVANS, W. Note on *Limax tenellus* (Müll.), with exhibition of living examples from the "Forth" Area. P. Phys. Soc. Edinb. xvi, pp. 22-24.
217. FALKNER, C. & LUDWIG, A. Beiträge zur Geologie der Umgebung St Gallens. Jahrb. St. Gall. Ges. 1901-1902, pp. 474-620.
218. FERRISS, J. H. Southwestern Shells. Nautilus xviii, pp. 49-54.
219. FISCHER, H. Remarques sur le *Columbella terpsichore* Sowerby et sur l'*Euchelus erythraensis* Sturany. J. Conchyl. lii, pp. 59 & 60.
220. —. Le R. P. Heude. T. c. pp. 372-376.
221. —. Mollusques. Considerations générales. Mission Pavie Indo-Chine, Études Diverses iii, pp. 339-349.
222. — & CHATELET, C. Description d'une espèce nouvelle du Genre *Glandina* [*G. lamyi*, Mexico]. J. Conchyl. li, pp. 321 & 322, pl. xiii.
223. — & DAUTZENBERG, P. Catalogue des Mollusques terrestres et fluviatiles de l'Indo-Chine orientale cités jusqu'à ce jour. Mission Pavie Indo-Chine, Études Diverses iii, pp. 390-450.
224. FISCHER, H. Neue Aufschlüsse im Weichbild der Stadt Frankfurt am Main. Ber. Senckenberg. Ges. 1904, pp. 47-58.

225. FISHER, W. K. The anatomy of *Lottia gigantea*. Zool. Jahrb. Anat. xx, pp. 1-66, 4 pls., 13 figg.
226. FLEURE, H. J. Zur Anatomie und Phylogenie von *Haliotis*. Jena. Zeitschr. xxxix, pp. 245-322, pls. ix-xiv.
227. ——. Some points in the history of the Ormer (*Haliotis tuberculata*). Rep. Guernsey Soc. 1903, pp. 227-233.
228. ——. On the evolution of topographical relations among the Docoglossa. Tr. Linn. Soc. London ix, pp. 269-290, pls. xv-xvii.
229. FLICK, — & PERVINQUÈRE, —. Sur les Plages Soulevées de Monastir et de Sfax (Tunisie). Bull. Soc. geol. France iv, pp. 195-206.
230. FONT Y SAGUÉ, N. Moluscos recogidos en Rio de Oro (Sahara español). Bol. Soc. espan. iii, pp. 209-211.
231. FOURTAU, R. Contribution à l'étude de la faune crétacique d'Égypte. Bull. Inst. Egypt iv, pp. 231-349, 5 pls.
232. FOX-STRANGWAYS, C. The Geology of the Oolite and Cretaceous Rocks south of Scarborough. Mem. geol. Surv. U. K. 1904, 119 pp.
233. FRIERSON, L. S. Notes on the structure of the shells of *Unio*. Nautilus xvii, pp. 98 & 99.
234. ——. Observations on the Genus *Quadrula*. T. c. pp. 111 & 112.
235. FRÖHLICH, A. Studien über die Statocysten. I. Versuche am Cephalopoden und Einschlägiges aus der menschlichen Pathologie. Arch. ges. Physiol. cii, pp. 415-472, 20 figg.
236. FUCINI, A. Cefalopodi Liassici del Monte di Cetona. Parte Quarta. Palæontogr. ital. x, pp. 275-298, pls. xviii-xxi.
237. FUJITA, T. On the formation of the germinal layers in Gastropoda. J. Coll. Tokyo xx, No. 1, 42 pp., 3 pls.
238. FULTON, H. Descriptions of some new Species and Varieties of *Cataulus* from the Collection of the late Hugh Nevill, Esq. Ann. Nat. Hist. xiii, pp. 452 & 453.
239. ——. Notes on *Thersites* (*Hadra*) *bellendenkerensis* Braz. and *beddomæ* Braz. J. Malac. xi, p. 1.
240. ——. A critical list of the *Spharospira* section of *Thersites*. T. c. pp. 2-11, pl. i.
241. ——. On some new species of *Melania* and *Jullienia* from Yunnan and Java. T. c. pp. 51 & 52, pl. iv.
242. ——. On a collection of land shells from Gebi Island, Moluccas, with descriptions of new species. T. c. pp. 53 & 54, pl. iv.
243. ——. Note on *Leptopoma crenilabre* Strubell. T. c. p. 55, pl. iv.
244. FUSCO, A. Sopra un Gasteropodo fossile e sinistrorso rinvenuto nella Piana di Catania. Boll. Naturalista xxiv, pp. 33 & 34.  
GATLIFF, J. H. [See PRITCHARD & GATLIFF (505 & 506).]
245. GAUTIER, C. & VILLARD, J. Recherches sur le pigment vert jaune du tégument des Aplysies. C.R. Soc. Biol. lvi, pp. 1037-1039.
246. \*GEMMELLARO, G. G. I Cefalopodi del Trias Superiore della Regione occidentale della Sicilia. Palermo, 1904.
247. GERMAIN, L. Considérations générales sur la Faune malacologique vivante du département de Maine-et-Loire. C.R. Ass. Franc. 1903, Pt. ii, pp. 764-773.

248. [GERMAIN, L.] Sur quelques "Helices Xerophiliennes" du groupe *Variabiliana* recueillies aux environs de Dieppe (Seine-Inférieure). *Feuille Natural.* 1904, xxxiv, pp. 102 & 103.
249. —. Catalogue des Mollusques terrestres et fluviatiles des environs d'Angers et du département de Maine-et-Loire. *Bull. Soc. Ouest France* xiv, pp. 1-125, 2 pls., figg.  
— [See also ROCHEBRUNE & GERMAIN (534).]
250. GEYER, —. Beiträge zur Vitrellenfauna Württembergs. *Jahresh. Ver. Württemb.* lx, pp. 298-334, pls. viii-xiv.
251. GIARD, A. Sur la prétendue nocivité des huitres. Paris, 8vo, 29 pp. *From Rev. d'Hygiène*, Aug. 1904.
252. —. Sur la synonymie de la petite Pintadine de la Méditerranée. *C.R. Soc. Biol.* lvi, pp. 255-257.
253. —. Les précurseurs des idées modernes sur l'origine des perles. (Androsthène, Rondelet et Bohadsch.) *Feuille Natural.* 1904, xxxiv, pp. 45-49.
254. \*—. Controverses transformistes. Paris, 1904, 8vo, 179 pp., figg. [Fide J. Conchyl. lii, p. 325.]
255. GIRTY, G. H. New Molluscan Genera from the Carboniferous. *P. U. S. Mus.* xxvii, pp. 721-736, pls. xlv-xlvii.
256. —. The Carboniferous formations and faunas of Colorado. *Pap. U. S. Geol. Survey* xvi, 546 pp., 10 pls.
257. —. The typical species and generic characters of *Aviculipecten* M'Coy. *Amer. Geol.* xxxiii, pp. 291-296.
258. GLASER, O. C. Excretory Activities in the nuclei of Gastropod Embryos. *Amer. Natural.* xxxviii, pp. 513-516, figg.
259. GLENN, L. C. Pelecypoda. In "Maryland Geol. Survey, Miocene," pp. 274-402, pls.
260. GODWIN-AUSTEN, H. H. On the Genus *Eurystoma* of Albers (type *vittata* Müller), its anatomy and reference to other Indian species. *P. Malac. Soc. London* vi, pp. 48-50, pl. iv.
261. —. Note on *Damayantia smithi* Collinge & Godwin-Austen. *T. c.* p. 133.
262. GOLDFUSS, O. Beiträge zur Molluskenfauna Schlesiens. *Nachrbl. Deutsch. malak. Ges.* 1904, pp. 61-73, 128.  
GOMES, J. P. [See DA COSTA (160).]
263. GOPPELSROEDER, F. Studien über die Anwendung der Capellaranalyse. *Verh. Ges. Basel* xviii, 198 pp., pls. [Cf. p. 158.]
264. GORKA, A. Az ehető csiga (*Helix pomatia* L.) nyálmirigyének élettani szerepe. [Über die physiologische Funktion der Speicheldrüsen von *Helix pomatia* L.] *Allat. Kozl. Magyar Tars.* iii, pp. 211-226.
265. GRABAU, A. W. Phylogeny of *Fusus* and its allies. *Smithson. Collect.* xlv, 192 pp., 18 pls.
266. GREENE, C. List of the Marine Mollusca recorded as found in Suffolk. *P. Suffolk Inst.* xi, pp. 320-323.
267. —. Additions and corrections to Suffolk Land and Freshwater Shells. *T. c.* pp. 324 & 325.



268. GRIERSON, P. H. Notes on the Mollusca of North Cork and Waterford. Irish Natural. xiii, pp. 164-169.
269. GROSVENOR, G. H. On the Nematocysts of Aeolids. P. R. Soc. London lxxii, pp. 462-486.
270. GROSSOUVRE, A. DE. Quelques observations sur les Bélemnites et en particulier sur celles des Corbières. Bull. Soc. Aude xiv, pp. 71-78.
271. GUDE, G. K. Report on a small collection of Helicoids from British New Guinea. P. Malac. Soc. London vi, pp. 114-116, fig.
272. —. Note on *Corilla erronella* Nev. MS. J. Malac. xi, pp. 45 & 46, figg.
273. —. The Helicoid Land Shells of Asia. Corrections and Additions. T. c. pp. 93-97.
274. GULICK, A. The fossil land shells of Bermuda. P. Ac. Philad. 1904, pp. 405-425, pl. xxxvi.
275. GULICK, J. T. Divergence under the same environment as seen in the Hawaiian Snails. Amer. Natural. xxxviii, pp. 494-496.
276. GURICH, G. Das Devon von Debnik bei Krakau. Beitr. Pal. Oesterr.-Ung. xv, pp. 127-164, pls. xiv & xv, figg.
277. HÄGG, R. Mollusca und Brachiopoda gesammelt von der Schwedischen zoologischen Polarexpedition nach Spitzbergen, dem nordöstlichen Grönland und Jan Mayen im J. 1900. Archiv. Zool. ii, pp. 31-66, pl. i.
278. —. Two new Opisthobranchiate Mollusca from the Red Sea. Results Swedish Zool. Exped. Egypt and the White Nile 1901, under L. A. JÄGERSKIÖLD. Upsala, 1904, 16 pp., pl. i.
279. —. Land and fresh-water Mollusca from the Upper Nile (Shendy—Fashoda). T. c. 26 pp.
280. HALL, T. S. & PRITCHARD, G. B. The Geology of the Barwon about Innerleigh. P. Soc. Victoria xvi, pp. 292-305.
281. HANDMANN, R. Zur Kenntnis der Congerienfauna von Leobersdorf und Umgebung. Verh. geol. Reichsanst. 1904, pp. 48-59.
282. \*HAUPT, H. Am Ufer des Schwarzen Meeres. Natur und Haus xii, pp. 193-196, figg.
283. \*—. Leuchtende Organismen. Naturw. Wochenschr. xix, pp. 65-71, figg.
284. HEALEY, M. Notes on Upper Jurassic Ammonites, with special reference to specimens in the University Museum, Oxford. Quart. J. Geol. Soc. lx, pp. 54-62, pls. ix & x.
285. HEATH, H. The Larval Eye of Chitons. P. Ac. Philad. 1904, pp. 257-259.
286. —. The habits of a few Solenogastres. Zool. Anz. xxvii, pp. 457-461.
287. —. A new genus and species of Solenogastres. Op. cit. xxviii, pp. 329-331.
288. —. The nervous system and subradular organ in two genera of Solenogastres. Zool. Jahrb. Anat. xx, pp. 399-408, pl. xxvii.
289. — & SPAULDING, M. H. The anatomy of a Pteropod, *Corolla (Cymbuliopsis) spectabilis* Dall. T. c. pp. 67-80, pl. v.

290. HEDLEY, C. Le Père Lambert, S.M. *Nautilus* xvii, p. 119.
291. —. The effect of the Bassian Isthmus upon the existing marine fauna: a study in ancient geography. *P. Linn. Soc. N. S. Wales* xxviii, pp. 876-883.
292. —. Studies on Australian Mollusca. Part VIII. *Op. cit.* xxix, pp. 182-211, pls. viii-x.
293. —. Additions to the Marine Molluscan Fauna of New Zealand. *Rec. Austral. Mus.* v, pp. 86-97, figg.
294. —. The habitat of *Gomphina moerchii* Angas. *T. c.* p. 134.
295. —. On the change of name of *Poroleda lanceolata* Tate. *Victorian Natural.* xxi, p. 112.
296. HEINRICH, H. Über der Schlundkopf einiger dibranchiaten Cephalopoden. *Zeitschr. Naturw.* lxxvii, pp. 1-40, pls. i & ii.
297. HENSHAW, H. W. On certain deposits of semi-fossil shells in Hamakua District, Hawaii, with descriptions of new species. *J. Malac.* xi, pp. 56-64, pl. v.
298. HERDMAN, W. A. Recent investigations on Pearls in Shellfish. *Tr. Liverp. biol. Soc.* xviii, pp. 168-177.
299. —. Sewage and Shell-fish. *T. c.* pp. 178-188.
300. —. History of the principal Pearl Banks. Report... Pearl Oyster Fisheries of the Gulf of Manaar, Part ii, pp. 1-36.
301. —. Anatomy of the Pearl Oyster. *T. c.* pp. 37-76, 9 pls.
302. — & HORNELL, J. Note on Pearl-formation in the Ceylon Pearl Oyster. *Rep. Brit. Ass.* 1903, p. 695.
303. HEYNEMANN, D. F. Some recent Slug papers. *J. Malac.* xi, pp. 48 & 49.
304. HIDALGO, J. G. Obras Malacológicas. Atlas, Entrega 6 (contains pls. cxlvi, cli-cliv, clvi-clxx). Madrid, 1904, 4to.
305. —. Catalogo de los Moluscos testaceos de las Islas Filipinas, Jolo, y Marianas. *Livr. i.* 1904. 192 pp. [From *Rev. Ac. Ciencias Madrid* i.]
306. HIND, W. A monograph of the British Carboniferous Lamelli-branchiata. Vol. ii. (Part iii), pp. 125-216, pls. xxii-xxv. [*Pal. Soc. Mon.*]
307. HINKLEY, A. A. List of Alabama shells collected in October and November, 1903. *Nautilus* xviii, pp. 37-45, 54-57.
308. HINTON, M. A. C. & KENNARD, A. S. The Vertebrate and Molluscan Remains from Cleeve Hill. *P. Cotteswold Club* xv, pp. 58-67.
- HIRASE, Y. [See PILSBRY & HIRASE (495-497).]
- HORNELL, J. [See HERDMAN & HORNELL (302), SHIPLEY & HORNELL (558).]
309. HORSLEY, J. W. The Land Shells of Majorca. *J. Conch.* xi, pp. 65-71.
310. HOYLE, W. E. A diagnostic key to the genera of Recent Dibranchiate Cephalopoda. *Mem. Manchester Soc.* xlvi, No. 23, 20 pp.  
Reprinted as *Notes Manchester Mus.*, No. 18.

311. [HOYLE, W. E.] *Sepia burnupi* n. sp. from Natal. J. Conch. xi, pp. 27 & 28, pl. i.
312. —. Reports on the Cephalopoda. U. S. Fish Commission Steamer "Albatross" Expedition 1891. Bull. Mus. Harvard xliii, No. 1, 71 pp., 12 pls., 7 figg.
313. —. On the Cephalopoda. In Report.....Pearl Oyster Fisheries of the Gulf of Manaar, Part ii, Suppl. Rep. xiv, pp. 185-200, 3 pls. HUBBARD, M. E. [See DAVENPORT & HUBBARD (180).]
314. HUDLESTON, W. H. On the origin of the Marine (Halolimnic) Fauna of Lake Tanganyika. J. Victoria Inst. xxxvi, pp. 300-351, 2 pls. Also in Geol. Mag. i, pp. 337-382, 2 pls.
315. HUNT, A. R. Thirty-five years' natural history notes. Rep. Devon. Ass. xxxvi, pp. 445-486.
316. HUTTON, F. W. Three new generic names for Mollusca. P. Linn. Soc. N. S. Wales xxix, p. 461.
317. —. Index faunæ Novæ Zealandiæ. London, 8vo, 1904. *Mollusca*, pp. 57-95, 348 & 349.
318. HYDE, J. H. The nerve distribution in the eye of *Pecten irradians*. Mark Annivers. Vol. New York, 1903, pp. 473-482, pl. xxxiv.
319. —. The Retinal nerve-endings in the eye of *Pecten*. Biol. Bull. vi, p. 317.
320. HYNING, T. VAN. A Molluscan stampede. Nautilus xviii, pp. 31 & 32, fig.
321. IAKHONTOV, G. Communication de l'excursion sur le lac Baical, faite en été de l'année 1902. Protok. Kazan. Univ. 1902-1903, No. 212, 11 pp. [In Russian.]
322. IHERING, H. VON. Zur Kenntnis der Naiaden von Goyaz. Nachrbl. Deutsch. malak. Ges. 1904, pp. 154-157.
323. —. Les Mollusques des Terrains Crétaciques Supérieurs de l'Argentine orientale. An. Mus. Buenos Aires ii, pp. 193-229, 2 pls.
324. ISERLE, J. Zpráva o novém nalezišti fauny v břidlici pásma D-dly u Rokycan. [Über einen neuen Fundort der Fauna im Schiefer der Etage D-dly bei Rokycan.] SB. Bohmisch. Ges. 1903, No. xxix, 7 pp.
325. JACKSON, J. W. & MOORE, C. H. Further observations on the Molluscan Fauna of Grange-over-Sands, Lancs., and district. J. Conch. xi, pp. 45-47.
326. — & TAYLOR, F. Observations on the habits and reproduction of *Paludestrina taylori*. T. c. pp. 9-11.
327. JACKSON, R. T. Charles Emerson Beecher. Amer. Natural. xxxviii, pp. 407-426, port.
328. JAHN, J. J. Einige neue Fossilienfundorte in der ostböhmisches Kreideformation. Jahrb. geol. Reichsanst. liv, pp. 75-90.
329. JANSSENS, F. A. & ELRINGTON, G. A. L'élément nucléinien pendant les divisions de maturation dans l'œuf de l'*Aplysia punctata*. Cellule xxi, pp. 315-326, pls. i & ii.
330. JATTA, G. A proposito di alcuni Cefalopodi del Mediterraneo. Boll. Soc. Napoli xvii, pp. 193-207.

331. JENNINGS, F. B. *Helix pomatia* m. *sinistrorsum* in Surrey. J. Conch. xi, p. 96.
332. JENSEN, C. A. & SELL, C. Beiträge zur Kenntniss der Molluskenfauna Dänemarks. Nachrbl. Deutsch. malak. Ges. 1904, pp. 117-123.
333. JENSEN, A. S. *Pecten frigidus*, nomen Pectini profundorum maris polaris incolæ novum datum. Vid. Medd. 1904, pp. 305-311, figg.
334. ——. Bemærkninger om Molluskerne i de hævdede Lag ved Båländshöfði. Ov. Danske Selsk. Vorh. 1904, pp. 382-396.
335. JOHNSON, C. W. *Ancylti* adhering to Water Beetles. Nautilus xvii, p. 120.
336. ——. Description of two new Tertiary fossils. T. c. pp. 143 & 144, figg.
337. ——. On the generic position of *Teredo fistula* H. C. Lea. Op. cit. xviii, pp. 13 & 14, fig.
338. ——. Notes on some Cape Cod Mollusca. T. c. pp. 47 & 48.
339. ——. *Panopea bitruncata* Conrad. T. c. pp. 73-75, pl. iv.
340. JOHNSON, J. P. Notes on Sections at Shark River and the Creek, Algoa Bay. Tr. geol. Soc. S. Africa vi, pp. 9-11.
341. JONES, K. H. & PRESTON, H. B. List of Mollusca collected during the Expedition of H.M.S. "Waterwitch" in the China Seas, 1900-1903, with descriptions of new species. P. Malac. Soc. London vi, pp. 138-151, figg.
342. JORDAN, J. Untersuchungen zur Physiologie des Nervensystems bei Pulmonaten. Arch. ges. Physiol. cvi, pp. 189-223, 2 figg.
343. JUKES-BROWNE, A. J. The Cretaceous Rocks of Britain. Vol. iii. The Upper Chalk of England. Mem. Geol. Surv. 1904, 566 pp. [Cf. p. 468.]
344. ——. On some questions of Nomenclature. J. Conch. xi, pp. 97-103.
345. KEEP, J. West American Shells..... San Francisco, 1904, 8vo, 360 pp., figg.
346. KELSEY, F. W. A peculiar *Haliothis*. Nautilus xviii, p. 67.
347. KENNARD, A. S. & WARREN, S. H. On the recent Tufaceous Deposit of Totland Bay, Isle of Wight. Geol. Mag. i, pp. 19-22.
348. — & WOODWARD, B. B. On the specific identity of *Vivipara diluviana* Kunth and *Vivipara clactonensis* S. V. Wood. P. Malac. Soc. London vi, pp. 66 & 67.
- . [See also HINTON & KENNARD (308).]
349. KENYON, A. F. Note on *Cassis paucirugis* Menke. J. Conch. xi, pp. 12 & 13.
350. KESTEVEN, H. L. The anatomy of *Megalatractus*. Mem. Austral. Mus. iv, pp. 419-450, pls. xxxix-xlii.
- . [See DENNANT & KITSON (187).]
351. KITTL, E. *Entogonites*, eine Cephalopodengattung aus dem bosnischen Kulm. Verh. geol. Reichsanst. 1904, p. 322.
352. ——. Geologie der Umgebung von Sarajevo. Jahrb. geol. Reichsanst. liii, pp. 515-738, pls. xxi-xxiii, figg.

353. KNIPOWITSCH, N. Zoologische Ergebnisse der Russischen Expeditionen nach Spitzbergen. Mollusca und Brachiopoda, iv. Nachtrag. Annuaire Mus. St. Petersb. viii, pp. 133-143.
354. KOBELT, A. Verzeichnis der in den Bänden 1-35 des Nachrichtenblattes enthaltenen Arbeiten. Nachrbl. Deutsch. malak. Ges. 1904, Suppl., 42 pp.
355. KOBELT, W. Iconographie der schalentragenden europäischen Meeresconchylien. Lief. xxii & xxiii (Band III, pp. 201-272, pls. lxxix-lxxxiv, lxxxvi, lxxxvii). Wiesbaden, 1904.
356. —. Streifzüge in Süditalien. Nachrbl. Deutsch. malak. Ges. 1904, pp. 1-21, 49-57, 97-103, 131-154.
357. —. Diagnosen neuer *Murella*-Arten. T. c. pp. 21-24, 57-61.
358. —. Die systematische Stellung der Chinesischen *Ennea*. T. c. pp. 26-30.
359. —. Unsere Kenntnis der Fauna europaea. T. c. pp. 33 & 34.
360. —. *Cassidaria echinophora* L., forma gigantea. T. c. pp. 39 & 40.
361. —. Museum Loebbeckeanum. T. c. pp. 81-87.
362. —. Eine *Stenogyra* aus Turkestan. T. c. p. 87.
363. —. *Iberus* Montfort und *Otala* Schum. T. c. p. 88.
364. [—.] Eine merkwürdige Abnormität von *Helix pomatia* L. T. c. p. 125.
365. —. *Helix albescens* (Jan) Rossmäessler. Monit. Zool. ital. xv, pp. 206 & 207.  
— [See also MARTINI & CHEMNITZ (426), ROSSMAESSLER (543).]
366. KOENEN, A. VON. Ueber die Untere Kreide Helgolands und ihre Ammonitiden. Abh. Ges. Gotting. iii, No. 2, 63 pp., 4 pls.
367. KOKEN, E. *Eurydesma* und der Eurydesmen-Horizont in der Saltrange. Centrbl. Mineral. 1904, pp. 97-107, figg.
368. KORMOS, T. Új adatok a Püspökfürdő élő csigáinak ismeretéhez [Neue Beiträge zur recenten Gastropoden Fauna von Püspökfürdő.] Allatt. Kozl. Magyar Tars. iii, pp. 102-111.
369. —. A *Succinea (Lucena) oblonga* Drp. eredetéről [Über den Ursprung der *Succinea (Lucena) oblonga* Drap.]. T. c. p. 184.
370. —. Palaontologische Mittheilungen. I. Beiträge zur Kenntnis der thermalen *Melanopsis*-Arten von Püspökfürdő bei Nagyvarad. II. Über die Übergangsformen und eine neue Varietät von *Planorbis multiformis* Bronn, sp. Foldtani Kozl. xxxiii, pp. 496-508.
371. KOROTNEFF, A. DE. Résultats d'une expédition zoologique au Lac Baikal. Arch. Zool. exp. ii, pp. 1-26, map, 13 figg.
372. KOSTANECKI, K. Zmiany w jajku mieczaka *Mastry*, rozwijajacem się partenogenetycznie pod wpływem chlorku potasowego. [Über die Veränderungen im Innern des unter dem Einfluss von KCl-Gemischen künstlich parthenogenetisch sich entwickelnden Eis von *Mastry*.] Bull. Ac. Cracovie 1904, pp. 70-91.
373. —. Cytologische Studien an künstlich parthenogenetisch sich entwickelnden Eiern von *Mastry*. Arch. mikr. Anat. lxiv, pp. 1-98, 5 pls., figg.

374. KROULIKOWSKY, L. C. Notices Zoologiques. v. Données sur les Mollusques du district d'Ourjoum du gouv. de Viatka. Bull. Soc. Oural. xxiv, pp. 43-45.
375. KÜNKEL, K. Zur Biologie des *Limax variegatus*. Zool. Anz. xxvii, pp. 571-578.
376. KURCK, C. Studier öfver några skånska kaektuffer. Arkiv. Svenska Ak. Kem. i, pp. 277-328.
377. \*KWIETNIEWSKI, C. Contribuzioni alla conoscenza anatomo-zoologica degli Pteropodi gimnosomi del Mare Mediterraneo. Ric. Labor. anat. Roma ix, 97 pp., 2 pls.
378. LAJOS, S. Magyarországi új Helicidák. Ann. Mus. Hungar. ii, pp. 292-295.
379. LAMPLUGH, G. W. Land-shells in the infra-glacial Chalk-rubble at Sewerby, near Bridlington Quay. P. Yorks. geol. Soc. xv, pp. 91-95.
380. LAMY, E. De l'identité d'une Arche figurée par Savigny (*Arca pharaonis* P. Fischer) avec l'*A. ehrenbergi* Dunker. J. Conchyl. li, pp. 323-325.
381. —. Liste des Arches conservées avec étiquettes de Lamarck dans les collections du Muséum de Paris. Op. cit. lii, pp. 132-167, pl. v.
382. —. Sur le prétendu genre *Savignyarca* (Jousseau) Lamelli-branché. Bull. Mus. Paris ix, pp. 140-142.
383. —. Sur une variété de l'*Arca rhombea* Born. T. c. pp. 393-397.
384. LANG, A. Ueber Vorversuche zu Untersuchungen über die Varietätenbildung von *Helix hortensis* Müller und *Helix nemoralis* L. Denk. Ges. Jena xi (Festschr. Haeckel), pp. 437-506.
385. \*—, Ob die Wassertiere hören. Mt. Ges. Winterthur iv, pp. 1-55, figg. [1903.]
386. LANGENHAM, R. Versteinerungen der deutschen Trias (des Bundsandsteins, Muschelkalks and Keupers)... Liegnitz, 1903, 22 pp., 17 pls.
387. LASKAREW, W. Die Fauna der Buglowka-Schichten in Volhynien. Trudni geol. Kom. n. s. 5, 148 pp., 5 pls.
388. LASSWITZ, R. Die Kreide-Ammoniten von Texas (collectio F. Roemer). Pal. Abh. vi, pp. 223-259, pls. xiii-xx, figg.
389. LÉBOUCHER, J. & LETACQ, A. L. Catalogue des Mollusques observés dans le département de l'Orne. Bull. Soc. Normand. vi, pp. 186-221.
390. LÉBOUR, M. V. Additions to the list of the Marine Mollusca of Northumberland. Rep. Northumberland Sea Fish. Comm. 1903, p. 50.
391. LEE, A. B. La structure du spermatozoïde de l'*Helix pomatia*. Cellule xxi, pp. 77-116, 1 pl.
392. —. L'évolution du spermatozoïde de l'*Helix pomatia*. T. c. pp. 399-445, 2 pls.
393. LEHMANN, A. Die Schnecken und Muscheln Deutschlands. Zwickau, 1904, 8vo, viii+82 pp., 2 pls.
394. LENDENFELD, R. VON. Die Nesselinrichtungen der Aeoliden. Biol. Centrbl. xxiv, pp. 413-416.
- LETACQ, A. L. [See LÉBOUCHER & LETACQ (389).]

395. LHOMME, —. Coquilles fossiles trouvées en 1903 dans les sables de Saint-Gobain (Yprésien). Feuille Natural. 1904, xxxiv, pp. 103-106.
396. LINDHOLM, W. A. Zur Molluskenfauna der Gouvernements Kursk und Orenburg. Annuaire Mus. St. Petersb. viii, pp. 338-344.
397. \*LO BIANCO, S. Pelagische Tiefseefischerei der 'Maja' in der Umgebung von Capri. Jena, 8vo, 91 pp., 42 pls.
398. LOCARD, A. Notices Conchyliologiques. LVIII. Les huitres des mers d'Europe. Echange xx, pp. 62 & 63, 71 & 72, 79 & 80, 84-87.
399. LOEB, J. Artificial Parthenogenesis in Molluscs. Univ. Calif. Publ. Physiol. i, pp. 7-9.
400. LÖRENTHEY, E. Pteropodenmergel in alttertiären Bildungen von Budapest. Foldtani Kozl. xxxiii, pp. 520-524.
401. LORIOL, P. DE. Étude sur les Mollusques et Brachiopodes de l'Oxfordien Supérieur et Moyen du Jura Lédonien. Pp. 77-160, pls. vi-xix. [Abh. Schweiz. pal. Ges.]
402. LOWE, H. N. A dredging trip to Santa Catalina Island. Nautilus xviii, pp. 18-20.
403. LUCAS, B. R. Notes on Isle of Man Mollusca. J. Conch. xi, p. 90.  
LUDWIG, A. [See FALKNER & LUDWIG (217).]
404. MCINTOSH, W. C. The story of a pearl. Zoologist 1904, pp. 41-56, pl. i.
405. MADER, —. Sur les fibres musculaires du cœur chez la Nasse. C.R. Ac. Sci. cxxxviii, p. 1537.
406. MADOUÉ, A. Observations sur le Mode de distribution des Mollusques terrestres vivant soit en colonies, soit plus ou moins isolément. Bull. Soc. Rouen xxxviii, pp. 312-314.
407. MADSEN, V. On Jurassic Fossils from East Greenland. Medd. Gronland xxix, pp. 157-216, pls. vi-x.
408. \*MAISONNEUVE, P. La Faune de Maine-et-Loire. In 'Angers et l'Anjou,' 1903, pp. 99-150. Mollusca at pp. 140-142.
409. MALARD, A. E. Les méthodes statistiques appliquées à l'étude des variations des Patelles. Bull. Mus. Paris ix, pp. 270-274.
410. —. Sur un Lamellibranche nouveau, parasite des Synaptes. T. c. pp. 342-346.
411. MALUQUEZ Y NICOLAU, J. Moluscos marinos de Llansa (Cataluña). Bol. Soc. espan. iii, pp. 226-235.
412. MARCEAU, F. Sur la structure du cœur chez les Céphalopodes. C.R. Ac. Sci. cxxxviii, pp. 1177-1179.
413. —. Sur les fonctions respectives des deux parties des muscles adducteurs chez les Lamellibranches. T. c. pp. 1343 & 1344.
414. —. Sur le mécanisme de la contraction des fibres musculaires lisses dites à double striation oblique ou à fibrilles spiralées et en particulier de celles des muscles adducteurs des Lamellibranches. Op. cit. cxxxix, pp. 70-73.
415. —. Sur la structure du cœur chez les Gastéropodes et les Lamellibranches. T. c. pp. 150-152.
416. —. Sur la structure des muscles de l'*Anomia ephippium*. T. c. pp. 548-550.

417. [MARCEAU, F.] Note sur la structure du cœur chez les Gastéropodes et les Lamellibranches. Bull. Soc. Philom. vi, pp. 273-275.
418. MARGIER, E. Mollusques terrestres de la haute vallée du Verdon (Basses-Alpes). Feuille Natural. 1904, xxxiv, pp. 64 & 65.
419. MARINE BIOLOGICAL ASSOCIATION. Plymouth Marine Invertebrate Fauna. J. Mar. Biol. Ass. vii, pp. 155-298.
420. MARQUAND, E. D. [Addenda to Marine Fauna of Channel Islands.] Rep. Guernsey Soc. 1903, pp. 202 & 203.
421. —. Imperforate *Haliotis tuberculata*. J. Conch. xi, pp. 48 & 49.
422. MARTELLI, A. Cefalopodi Triasici di Boljevici presso vir nel Montenegro. Palæontogr. ital. x, pp. 75-140, pls. v-xiv.
423. MARTENS, E. VON. Conchylien von Urmia See. SB. Ges. naturf. Berlin 1904, pp. 18 & 19.
424. —. Verbreitungskärtchen von Landschnecken im deutschen Reiche. T. c. pp. 123-133.
425. MARTIN, G. C. Cephalopoda, Gastropoda, Amphineura, Scaphopoda. In "Maryland Geol. Survey, Miocene," pp. 130-274, pls.  
— [See also CLARK & MARTIN (117).]
426. MARTINI & CHEMNITZ. Systematisches Conchylien-Cabinet, Lief. 486-496. *Helix* by W. KOBELT, pp. 121-200, pls. cccxxiii-cccxlvi; *Naninidæ* by W. KOBELT, pp. 1093-1116, pls. cclxxvi-cclxxxi; *Agnatha* by W. KOBELT, pp. 33-296, pls. vii-xxxv; *Chitonidæ* by S. CLESSIN, pp. 97-135, pls. xl & xli.  
MATTE, H. [See BIGOT & MATTE (54).]
427. MAYER-EYMAR, C. Description de Coquilles fossiles des terrains tertiaires inférieurs (Suite). J. Conchyl. li, pp. 308-320, pl. xiii.
428. —. Revue des grandes Ovules ou *Gisortia* Jousseau. Vierteljahrshr. Ges. Zurich xlix, pp. 35-39.
429. MAZZARELLI, G. I reni primitivi dei Molluschi. Monit. Zool. ital. xiv, pp. 354-357 [1903].
430. —. La detorsione negli Opistobranchi, e la voluta primitività del gen. *Acteon*. T. c. pp. 357-360.
431. —. Contributo alla conoscenza delle larve libere degli Opistobranchi. Arch. Zool. ii, pp. 19-78, pls. ii-iv.
432. MEISENHEIMER, J. Zur Anatomie und systematischen Stellung von *Desmopterus papilio* Chun. Zool. Anz. xxvii, pp. 331-334, 337-340, figg.
433. MELVILL, J. C. Descriptions of twenty-three species of Gastropoda from the Persian Gulf, Gulf of Oman, and Arabian Sea, dredged by Mr F. W. Townsend, of the Indo-European Telegraph Service, in 1903. P. Malac. Soc. London vi, pp. 51-60, pl. v.
434. —. On *Berthais*, a proposed new Genus of Marine Gastropoda from the Gulf of Oman. T. c. pp. 61-63, figg.
435. —. Note upon *Oliva gibbosa* Born and its limits of variation. T. c. pp. 64 & 65, fig.
436. —. Descriptions of twenty-eight species of Gastropoda from the Persian Gulf, Gulf of Oman, and Arabian Sea, dredged by Mr F. W. Townsend, of the Indo-European Telegraph Service, 1900-1904. T. c. pp. 158-169, pl. x.



437. [MELVILL, J. C.] *Conus coromandelicus* Smith, its probable affinities, and systematic position in the Family *Conidae*. T. c. pp. 170-173, figg.
438. —. Descriptions of twelve new species and one variety of Marine Gastropoda from the Persian Gulf, Gulf of Oman, and Arabian Sea, collected by Mr F. W. Townsend, 1902-1904. J. Malac. xi, pp. 79-85, pl. viii.
439. —. Note on *Mitra stephanucha* Melv., with description of a proposed new variety. T. c. p. 86, pl. viii.
440. — & STANDEN, R. *Cypræide* of the Persian Gulf, Gulf of Oman, and North Arabian Sea, as exhibited in Mr F. W. Townsend's Collections, 1893-1904. J. Conch. xi, pp. 117-122.
441. — & —. Descriptions of sixty-eight new shells from the Persian Gulf, Gulf of Oman, and North Arabian Sea, dredged by Mr F. W. Townsend, of the Indo-European Telegraph Service, 1901-1903. J. Bombay Soc. xvi, pp. 86-98, pls. A & B.  
[Reprint of first portion of Title No. 351, last year.]
442. MENZEL, H. Zwei neue Arten von *Valvata* Müller (Gruppe *Cincinna* Hübner). Nachrbl. Deutsch. malak. Ges. 1904, pp. 77-79, 96, figg.
443. MERCIAI, G. Lamellibranchi Liassici del calcare cristallino della montagna del Casale presso Busambro in provincia di Palermo. Boll. Soc. geol. Ital. xxiii, pp. 211-238, pl. vi.
444. MERRIAM, J. C. A note on the Fauna of the Lower Miocene in California. Bull. Calif. Univ. Geol. iii, pp. 377-381.
445. METCALF, M. M. *Neritina virginea* variety *minor*. Amer. Natural. xxxviii, pp. 565-569, 1 pl.
446. METZMACHER, A. Die Fauna des Miocänen Glimmertons von Kummer, Hohenwoos, und Bockup. Arch. Ver. Mecklenb. lviii, pp. 166-181.
447. MIKHAILOVSKY, G. Die Mediterran-Ablagerungen von Tomakowka (Gouvernement Jekaterinoslaw). Trudui geol. Kom. xiii, No. 4, 311 pp., 4 pls.
448. MOLOT, E. Sur la découverte à la Montagne de Berru de la Faune du Thanétien. Bull. Soc. Reims xiii, pp. 50 & 51.
449. MOORE, C. E. On the northernmost habitat of *Liguus fasciatus* on the Florida East Coast. Nautilus xviii, pp. 88 & 89.  
MOORE, C. H. [See JACKSON & MOORE (325).]
450. MORLET, L. Descriptions de Mollusques nouveaux recueillis par M. A. Pavie en Indo-Chine. Mission Pavie Indo-Chine, Études Diverses iii, pp. 351-389, pls. xix-xxii. [Reprinted matter from various vols. of J. Conchyl.]
451. MURIE, J. Report on the sea fisheries and fishing industries of the Thames Estuary. London, 8vo, 1903. Mollusca, pp. 172-224, 7 figg.
452. \*MUSKENS, L. J. J. Ueber eine eigenthümliche compensatorische Augenbewegung der Octopoden mit bemerkungen über deren Zwangsbewegungen. Arch. Physiol. 1904, pp. 49-56.
453. NAPIER, H. C. & CARPENTER, G. D. H. Record of Mollusca [near Oxford]. Rep. Ashmolean Soc. 1903, pp. 52-54.

454. NEWTON, R. B. Notes on the Post-Tertiary and Tertiary Fossils obtained by Col. English from the District surrounding the Dardanelles. *Quart. J. Geol. Soc.* lx, pp. 277-292, pl. xxiv.
455. NOBRE, A. Mollusques et Brachiopodes de Portugal (suite). *Ann. Sci. Nat. Porto* viii, pp. 141-151.
456. NOETLING, F. Ueber *Medlicottia* Waag. und *Episageceras* n. g. aus den permischen und triadischen Schichten Indiens. *N. Jahrb. Min. B.B.* xix, pp. 334-376, pls. xvii-xx.
457. NORDMANN, V. En Klump sammenkittede Molluskskaller fra Havbunden ved Læsø. *Medd. Dansk Geol. For.* ix, pp. 37-44.
458. ——. Østersens (*Ostrea edulis* L.) Udbredelse i Nutiden og Fortiden i Havet omkring Danmark. *T. c.* pp. 45-60, figg.
459. OLDHAM, C. W. D. Crick, F.G.S. *J. Conch.* xi, p. 116.
460. OPPENHEIM, P. Über Tertiärfossilien, wahrscheinlich eozänen alters, von Kamerun. In 'Beiträge zur Geologie von Kamerun,' pp. 245-285, pls. vi-ix.
461. OSBORN, H. L. Amitosis in the Embryo of *Fasciolaria*. *Science* xix, p. 213.
462. ——. Amitosis in the Embryo of *Fasciolaria*. *Amer. Natural.* xxxviii, pp. 869-884, figg.
463. OVERTON, H. Notes on the Anatomy of the Generative Organs of *Ariophanta juliana* Gray. *J. Malac.* xi, pp. 12-14, figg.
464. PALÆONTOLOGIA UNIVERSALIS. Fasc. ii & iii (pls. xiv-lxxv). 1904.
465. PALFY, M. VON. Zwei neue Inoceramus-Riesen aus den oberen Kreideschichten der siebenburgischen Landesteile. *Foldtani Kozl.* xxxiii, pp. 489-495, pls. xi & xii.
466. PALLARY, P. Quatrième Contribution à l'étude de la Faune Malacologique du Nord-Ouest de l'Afrique. *J. Conchyl.* lii, pp. 5-58, pls. i-iii.
467. ——. Addition à la Faune Malacologique du Golfe de Gabès. *T. c.* pp. 212-248, pl. vii.
468. ——. Addition à la Faune Conchyliologique de la Méditerranée. *Ann. Mus. Marseille* viii, pp. 1-16, pl. i.
469. PARKINSON, H. Über eine neue Culmfauna von Königsberg unweit Giessen, und ihre Bedeutung für die Gliederung des rheinischen Culm. *Zeitschr. Deutsch. geol. Ges.* lv, pp. 331-374, pls. xv & xvi.
470. PARONA, C. F. Una rudista della scaglia veneta. *Atti Acc. Torino* xxxix, pp. 303-307, 1 pl.
471. PATTERSON, R. L. The Common Mussel in Belfast Lough. *Irish Natural.* xiii, pp. 148-150.
472. \*PEARL, R. & COLE, L. J. The effect of very intense light on Organisms. *Third Rep. Mich. Ac. Sci.* pp. 77 & 78.
473. \*— & WITT, M. M. DE. Certain reactions of the Common Slug *Agriolimax campestris*. *T. c.* p. 79.
474. PELSENEER, P. L'Acclimatation de certains Mollusques marins. *C.R. Ass. Franc.* 1903, Pt. ii, pp. 774-776.
475. ——. Quelques problèmes zoologiques de l'Antarctique. *T. c.* pp. 810-812.

476. [PELSENEER, P.] La forme archaïque des Ptéropodes Thécosomes. C.R. Ac. Sci. cxxxix, pp. 546-548.
477. PERNER, J. Gastéropodes. Tom. I (*Patellidæ* et *Bellerophonidæ*). In Syst. Silurien.....Bohême, 1903, 164 pp., 89 pls.  
Owing to the misleading title the recorder did not detect last year that many of the plates bore no relation to the text, and that the 'explanations' of these plates contained a number of names with 'n. g.' added. These are now inserted as accurately as the recorder is enabled to do.
- PERVINQUIÈRE, —. [See FLICK & PERVINQUIÈRE (229).]
478. PETCH, T. The published records of the Land and Freshwater Mollusca of the East Riding, with additions. Tr. Hull Club iii, pp. 121-172.
479. PETERSEN, H. Die Conchylien-Fauna des Nieder-Elbegebietes. Verh. Ver. Hamburg Unterh. xii, pp. 60-89.
480. PETITCLERC, P. Note sur l'*Ammonites (Oppelia) baylei* Coquand, de l'Oxfordien inférieur des environs de Besançon (Doubs). Feuille Natural. 1904, xxxiv, pp. 109-112, 129-133, pls. v & vi.
481. PETRASCHECK, W. Über die jüngsten Schichten der Kreide Sachsens. SB. Ges. Isis 1904, pp. 3-10.
482. PETTIT, A. Oedème expérimental chez le Poulpe (*Octopus vulgaris* Lam.) Bull. Mus. Paris ix, pp. 284 & 285, fig.
483. PEYROT, A. Fossiles du Redonien d'Ille-et-Vilaine. Feuille Natural. 1904, xxxiv, pp. 237 & 238.
484. PHILIPP, H. Paläontologisch-geologische Untersuchungen aus dem Gebiet von Predazzo. Zeitschr. Deutsch. geol. Ges. lvi, pp. 1-98, pls. i-vi, figg.
485. PICARD, E. Beitrag zur Kenntniss der Glossophoren der mitteldeutschen Trias. Jahrb. geol. Landesanst. Berlin xxii, pp. 445-540, pls. ix-xiv.
486. PILSBRY, H. A. A new Floridian *Amnicola*. Nautilus xvii, pp. 113 & 114.
487. —. A new subspecies of *Polygyra tridentata*. T. c. pp. 142 & 143.
488. —. *Plectopylis* in the Riukiu Islands. Op. cit. xviii, pp. 58 & 59.
489. —. A new Lower Californian *Sonorella*. T. c. p. 59.
490. —. New species of *Buccinum* from the Kuril Islands. T. c. pp. 87 & 88.
491. —. New land snails from North Carolina. T. c. pp. 89 & 90.
492. —. New Japanese Marine Mollusca : Gastropoda. P. Ac. Philad. 1904, pp. 3-37, pls. i-vi.
493. —. New Japanese Marine Mollusca : Pelecypoda. T. c. pp. 550-561, pls. xxxix-xli.
494. —. New *Clausiliidæ* of the Japanese Empire. x. T. c. pp. 809-838, pls. lii-lvii [?1905].
495. — & HIRASE, Y. Descriptions of new Japanese Land Shells. Nautilus xvii, pp. 104-107, 116-119.

496. [PILSBRY, H. A. & HIRASE, Y.] Descriptions of new Japanese Land Shells. Op. cit. xviii, pp. 3-9, 32-34.
497. — & —. Descriptions of new land snails of the Japanese Empire. P. Ac. Philad. 1904, pp. 616-638.
498. — & VANATTA, E. G. On certain Rhachiglossate Gastropoda eliminated from the *Aquillidae*. T. c. pp. 592-595, figg.  
— [See also TRYON (619).]
499. \*PIPER, H. Das elektromotorische Verhalten der Retina bei *Eledone moschata*. Arch. Physiol. 1904, pp. 453-474, figg.  
PISSARRO, G. [See COSSMANN & PISSARRO (144 & 145).]  
POLLONERA, C. [See CAZIOT (104).]
500. PONSONBY, J. H. Description of a Helicoid Land-shell (*Xanthomelon bednalli*) from Central Australia. P. Malac. Soc. London vi, p. 182, fig.
501. PÖTZSCH, O. Ueber die Entwicklung von Niere, Pericard und Herz bei *Planorbis corneus*. Zool. Jahrb. Anat. xx, pp. 409-438, 3 pls. & 10 figg.
502. PRESTON, H. B. Descriptions of some new species of Cingalese and Indian Marine Shells. J. Malac. xi, pp. 75-78, pls. vi & vii.  
— [See also JONES & PRESTON (341).]
503. PRINZ, G. Ueber Rückschlagsformen bei liassischen Ammoniten. N. Jahrb. Min. 1904, i, pp. 30-38, pl. ii.
504. PRITCHARD, G. B. Contributions to the Palæontology of the older Tertiary of Victoria. Gastropoda. Part II. P. Soc. Victoria xvii, pp. 320-337, pls. xviii & xix.
505. — & GATLIFF, J. H. Catalogue of the Marine Shells of Victoria. Part VIII. T. c. pp. 220-266.
506. — & —. On some new species of Victorian Mollusca. No. 7. T. c. pp. 338 & 339, pl. xx.  
— [See also HALL & PRITCHARD (280).]
507. QUINTARET, G. Sur la disposition générale du système nerveux chez la *Rissoa elata* var. *oblonga* (Desmaret). C.R. Ac. Sci. cxxxix, pp. 301 & 302.
508. RAJAT, H. Influence de la température sur la croissance des Mollusques. Ann. Soc. Linn. Lyon I, pp. 131-133.
509. RANGLES, W. B. Some observations on the anatomy and affinities of the *Trochidae*. Quart. J. Micr. Sci. xlviii, pp. 33-78, pls. iv-vi.
510. RANGE, P. Das Diluvialgebiet von Lübeck und seine Dryastone nebst einer vergleichenden Besprechung der Glazialpflanzen führenden Ablagerungen überhaupt. Zeitschr. Naturw. lxxvi, pp. 161-291.
511. RAVN, J. P. J. The Tertiary Fauna at Kap Dalton in East Greenland. Medd. Gronland xxix, pp. 95-140, pls. iii-v.
512. RAYMOND, W. J. A new *Dentalium* from California. Nautilus xvii, pp. 123 & 124.
513. —. Two new species of *Pleurotoma* from California. Op. cit. xviii, pp. 1-3.
514. —. A new species of *Pleurotoma* from the Pliocene of California. T. c. pp. 14-16.

515. REBOUL, P. Catalogue des types paléontologiques contenus dans les collections de Grenoble. Trav. Lab. geol. Grenoble vii, pp. 127-149.
516. REED, F. R. C. Mollusca from the Bokkeveld Beds. Ann. S. African Mus. iv, pp. 239-274, pls. xxx-xxxii.
517. REEKER, H. Selbstverstümmelung oder Autotomie. Jahresber. Westfal. Ver. xxxi, pp. 173-175.
518. REIS, O. M. Ueber Lithiotiden. Abh. geol. Reichsanst. xvii, Heft 6, 44 pp., 7 pls.
519. REMEŠ, M. Nachträge zur Fauna von Stramberg iv. Ueber Bivalven der Stramberger Schichten. Beitr. Pal. Oesterr.-Ung. xv, pp. 185-219, pls. xviii-xxii.
520. RENZ, C. Der Jura von Daghestan. N. Jahrb. Min. 1904, ii, pp. 71-85.
521. RETZIUS, G. Zur Kenntniss der Spermien der Evertebraten. Anat. Anz. xxv, Ergänzungsheft, pp. 154-156.
522. REYNOLDS, S. H. & VAUGHAN, A. The Rhaetic Beds of the South-Wales direct Line. Quart. J. Geol. Soc. lx, pp. 194-213, pl. xviii.
523. RHOADS, S. N. A glimpse at the shell fauna of Delaware. Nautilus xviii, pp. 63-67.
524. RIBEIRO, A. DE M. *Limax variegatus* Drap. Arch. Mus. Rio Janeiro xii, pp. 138 & 139.
525. RICE, E. L. Preliminary Report on the Development of the Gill in *Mytilus*. Ohio Natural. iv, p. 51.
526. RICHARDSON, L. A Handbook to the Geology of Cheltenham and neighbourhood. Cheltenham, 8vo, 1904, 303 pp., figg., map.
527. RICHE, A. Étude stratigraphique et paléontologique sur la zone à *Lioceras concavum* du Mont d'Or Lyonnais. Ann. Univ. Lyon, fasc. xiv, 252 pp., 8 pls.
528. RIGGENBACH, E. Die Selbstverstümmelung der Tiere. Mollusca. Anat. Hefte Ergebn. xii, pp. 817-828 [1903].
529. ROCHEBRUNE, A. T. Sur une Collection d'*Unionidæ* du département de la Charente. Bull. Mus. Paris ix, pp. 388-393.
530. —. Observations sur le genre *Bartlettia*. Op. cit. x, pp. 60-62.
531. —. Monographie du genre *Harmandia*. T. c. pp. 138-141.
532. —. Sur une Collection de *Limnæidæ* du département de la Charente. T. c. pp. 190-194, fig.
533. —. Recherches sur la validité de certains genres d'*Unionidæ* Africains. T. c. pp. 254-263.
534. — & GERMAIN, L. Diagnoses de Mollusques nouveaux provenant de la mission du Bourg de Bozas. T. c. pp. 141-144.
535. ROEBUCK, W. D. Molluscan Fauna of Langstrothdale. Naturalist 1904, pp. 293-297.
536. —. *Limax tenellus* in Scotland. Ann. Scott. Nat. Hist. 1904, pp. 218-221.
537. —. Re-establishment of *Limax tenellus* as a British species. J. Conch. xi, pp. 106-109.
538. —. Radnorshire Slugs. J. Conch. xi, p. 128.

- ROGERS, A. F. [See BEEDE & ROGERS (47).]
539. ROLLE, H. Drei neue Najadeen aus Tonkin. *Nachrbl. Deutsch. malak. Ges.* 1904, pp. 25 & 26, 4 pls.
540. ——. Diagnosen neuer Arten [Peru]. *T. c.* pp. 35–39, pl. v.
541. ROMAN, F. Contributions à l'étude des Bassins Lacustres de l'Éocène et de l'Oligocène du Languedoc. *Bull. Soc. geol. France* iii, pp. 546–616, pls. xix & xx.
542. ROSEN, O. VON. Zwei neue *Buliminus* Arten aus Centralasien. *Nachrbl. Deutsch. malak. Ges.* 1904, pp. 169 & 170.
543. ROSSMAESSLER, E. A. Iconographie der Europäischen Land- und Süßwasser Mollusken. Fortgesetzt von W. KOBELT. Neue Folge xi, pp. xii+342, 6 maps. [Includes Index to entire work.]
544. ROVERETO, G. Contributo allo studio dei Vermeti fossili. *Boll. Soc. geol. Ital.* xxiii, pp. 67–83, pl. iii.
545. ROWE, A. W. The Zones of the White Chalk of the English Coast. Part iv. Yorkshire. *P. Geol. Ass.* xviii, pp. 193–296, pls.
546. SACCO, F. I Molluschi dei Terreni terziari del Piemonte e della Liguria. Parte xxx (Aggiunte e Correzioni). Turin, 4to, 1904, 203+xxxvi pp., 31 pls.
547. SCALES, F. S. Collecting Land and Fresh-Water Mollusca. *Knowledge* 1904, i, p. 164.
548. SCHELLWIEN, E. Palaeozoische und triadische Fossilien aus Ostasien. In 'Durch Asien' by K. Futterer, iii, pp. 125–174, 5 pls. [1903].
549. SCHIEDT, R. C. Some phenomena of animal pigmentation. *Amer. J. Physiol.* x, pp. 365–372.
550. SCHWEIKART, A. Die Bildung der Eihüllen und ihrer Anhänge bei den Chitoniden. *Zool. Anz.* xxvii, pp. 636–648, 13 figg.
551. ——. Beiträge zur Morphologie und Genese der Eihüllen der Cephalopoden und Chitoniden. *Zool. Jahrb. Suppl.* vi. Fauna chilensis iii, Heft 2, pp. 353–406, 4 pls., figg.
552. \*SCHULZ, N. Über das Vorkommen von Gallenfarbstoffen im Gehäuse von Mollusken. *Zeitschr. Physiol.* iii, pp. 91–130, 1903.
553. SEIBOLD, W. Anatomie von *Vitrella quenstedtii* (Wiedersheim) Clessin. *Jahresh. Ver. Württemb.* lx, pp. 198–226, pls. vi & vii.
- SELL, C. [See JENSEN & SELL (332).]
554. SEURAT, L. G. Observations sur l'évolution de l'Huitre perlière des Tuamotu et des Gambier (*Margaritifera margaritifera* L. var. *cumingi* Reeve). Papeete, 8vo, 1904, 12 pp.
555. ——. Sur les Méléagrines du Lagon de Temoe (Crescent). *C.R. Soc. Biol.* lvi, pp. 293 & 294.
556. ——. Sur la biologie des huitres perlières et nacrières des îles Gambier. *T. c.* pp. 294 & 295.
557. SHIMEK, B. Loess Papers. *Bull. Lab. Iowa* v, pp. 298 bis–381 bis, pls.
558. SHIPLEY, A. E. & HORNEILL, J. Parasites of the Pearl Oyster. In *Report... Pearl Oyster Fisheries of the Gulf of Manaar, Part II*, pp. 77–106, 4 pls.

559. SIEMIRADZKI, J. Geologia ziem Polskich. I. Formacye Starsze du Jurajskief Wlacznie, 1903, 8vo, 472 pp.
560. —. Fauna Kopalna warstw Oxfordzkich i Kimerydzkich w okregu Krakowskim i Przyleglych Czesciach Krolestwa Polskiego. [Fossil fauna of the Oxfordian and Kimeridgian beds in the neighbourhood of Cracow and the adjacent parts of the kingdom of Poland.] Pam. Ak. Krakow. xviii, 92+50 pp., 5 pls. [1891, 1892.]
561. SIMIONESCU, J. Studii Geologice si Paleontologice din Carpatii Sudici. II. Fauna Neocomiana din basenul dimboviciorei. Publ. Ac. Romana ii, pp. 101-167, 8 pls., 1898.
562. —. Studii Geologice si Paleontologice din Carpatii Sudici. III. Fauna Calloviana din Valea Lupului (Rucar). Op. cit. iii, 42 pp., 3 pls. 1899.
563. —. Fauna Cretacica Superiora de la Ürmös (Transilvania). Op. cit. iv, 38 pp., 3 pls. 1899.
564. —. Descrierea Cător-Va Fosile Tertiare din Nordul Moldovei. Op. cit. vi, 25 pp., 2 pls. 1901.
565. SIMROTH, H. Neuere Arbeiten über die Verbreitung der Gastropoden. Zool. Zentrbl. xi, pp. 605-650.
566. —. Über *Ostracolethe* und einige Folgerungen für das System der Gastropoden. Zeitschr. wiss. Zool. lxxvi, pp. 612-672, pl. xxxii.
567. —. Ueber die von Herrn Dr Neumann in Abessinien gesammelten anlacopoden Nacktschnecken. Zool. Jahrb. Syst. xix, pp. 673-726, 4 pls., figg.  
— [See also BRONN (86).]
568. SKEAT, E. G. The Jurassic Rocks of East Greenland. P. Geol. Ass. xviii, pp. 336-350.
569. SMALLWOOD, W. M. Notes on the Natural History of some of the Nudibranchs. Bull. Syracuse Univ. ser. 4, No. 1, pp. 14-17 [1903].
570. —. The Maturation, Fertilization, and early Cleavage of *Haminea solitaria* (Say). Bull. Mus. Harvard xlv, pp. 261-318, 13 pls.
571. —. Natural History of *Haminea solitaria* Say. Amer. Natural. xxxviii, pp. 207-225.
572. SMITH, E. A. Note on the Epiphragms of *Thaumastus sangoe* and *T. biteniatus*. P. Malac. Soc. London vi, pp. 3 & 4, fig.
573. —. Description of a new species of *Cassis* [*C. fortisulcata*, Kauai]. T. c. pp. 21 & 22, fig.
574. —. Descriptions of new species of *Ena*, *Pseudoglessula*, and *Subulina* from British and German East Africa. T. c. pp. 68-70, figg.
575. —. Some remarks on the Fauna of Lake Tanganyika. T. c. pp. 77-104.
576. —. Description of a new species of *Opisthostoma* from Borneo. T. c. p. 105, fig.
577. —. Note on *Voluta brazieri* Cox. T. c. pp. 178 & 179, fig.
578. —. On a collection of Marine Shells from Port Alfred, Cape Colony. J. Malac. xi, pp. 21-44, pls. ii & iii.

579. [SMITH, E. A.] Natural History Notes from H. M. Indian Marine Survey Steamer 'Investigator,' Commander T. H. Heming, R.N.—Series III, No. 1. On Mollusca from the Bay of Bengal and the Arabian Sea. *Ann. Nat. Hist.* xiii, pp. 453-473; xiv, pp. 1-14.
580. —. Note on *Terebra hedleyi* Tate. *P. Linn. Soc. N. S. Wales* xxix, pp. 211 & 212.
581. SMITH, J. P. Periodic Migrations between the Asiatic and the American Coasts of the Pacific Ocean. *Amer. J. Sci.* xvii, pp. 217-233.
582. SMYČKA, F. O vzácných zbytcích Belemnita z ostravského Karbonu [Belemnites-Reste aus dem Ostrauer Carbon]. *Vestník Klub. Prostejove* v, pp. 70-80.
583. SOBOLEW, D. Zur Stratigraphie des oberen Mitteldevons im polnischen Mittelgebirge. *Zeitschr. Deutsch. geol. Ges.* lvi, Mt. pp. 63-72.
584. SOLGER, F. Über *Pseudocucullæa*, einen neuen Taxodontentypus. *Op. cit.* lv, Protok. pp. 76-83, figg.
585. —. Die fossilen der Mungokreide in Kamerun und ihre geologische Bedeutung, mit besonderer berücksichtigung der Ammoniten. In 'Beitrage zur Geologie von Kamerun,' pp. 83-242, pls. iii-v, figg.
586. SOOS, L. Magyarország Helicidái [Die Heliciden Ungarns]. *Allatt. Kozl. Magyar Tars.* iii, pp. 134-184.
587. SOWERBY, G. B. Descriptions of *Dolium magnificum*, n. sp., and *Murex multispinosus*, n. sp. *P. Malac. Soc. London* vi, pp. 7 & 8, figg.
588. —. Descriptions of six new species of marine Mollusca from the collection of the late Admiral Keppel. *T. c.* pp. 174-177, figg.
589. —. Mollusca of South Africa (Pelecypoda). Cape Town, 1904, 19 pp., 2 pls. Also to form part of 'Marine Investigations in South Africa,' Vol. iv.
590. SOWINSKY, W. Introduction à l'étude de la faune du bassin marin Ponto-Aralo-Kaspien sous le point de vue d'une province zoo-géographique indépendante. *Zapiski Kiev. Obshch.* xviii, pp. 1-487, 1-216.
- SPAULDING, M. H. [See HEATH & SPAULDING (289).]
591. STAHL, E. Die Schutzmittel der Flechten gegen Tiesfrass. *Denk. Ges. Jena* xi (Festschr. Haeckel), pp. 355-376.
592. STANDEN, R. The Zebra-Mussel (*Dreissensia polymorpha* Pallas). *J. Conch.* xi, pp. 83-90, figg.
- [See also MELVILL & STANDEN (440, 441).]
593. STEARNS, R. E. C. *Limax maximus* and other slugs in California. *Nautilus* xviii, pp. 34-36.
594. STEFANO, G. DI. Il calcare con grandi Lucine dei dintorni di Centuripe in provincia di Catania. *Atti Acc. Gioen.* xvi, No. 12, 71 pp., 3 pls.
- STELFOX, A. W. [See WELCH & STELFOX (645, 646).]
595. STEPHAN, P. Remarques sur le tissu conjonctif d'*Aplysia punctata*. *C.R. Soc. Biol.* lvi, pp. 1097-1099.
596. —. Spermies oligopyrènes et apyrènes chez les Prosobranches. *C.R. Ass. Franc.* 1903, Pt. ii, pp. 780-783.



597. STOPES, C. Palaeolithic Implements from the Shelly Gravel Pit at Swanscombe, Kent. Rep. Brit. Ass. 1903, pp. 803 & 804.
598. STRAUB, W. Fortgesetzte Studien am Aplysienherzen (Dynamik, Kreislauf und dessen Innervation) nebst Bemerkungen zur vergleichenden Muskelphysiologie. Arch. ges. Physiol. ciii, pp. 429-449, 12 figg.
599. STREBEL, H. Beiträge zur Kenntnis der Molluskenfauna der Magalhaen-Provinz. Zool. Jahrb. Syst. xxi, pp. 171-248, 6 pls.
600. STURANY, R. Ueber einige von Herrn G. Paganetti-Hummler entdeckte Höhlenschnecken. Nachrbl. Deutsch. malak. Ges. 1904, pp. 103-107, figg.
601. ——. Ueber Kreta-Mollusken. T. c. pp. 108-112, fig.
602. SUTER, H. New Land-shells from New Zealand. P. Malac. Soc. London vi, pp. 155-157, figg.
603. SYKES, E. R. Descriptions of two new species of *Melania* from the New Hebrides. T. c. pp. 13 & 14, figg.
604. ——. On the Mollusca procured during the 'Porcupine' Expeditions, 1869-1870. Supplemental Notes, Pt. i. T. c. pp. 23-40, pl. iii.
605. ——. The Hawaiian Species of *Opeas*. T. c. pp. 112 & 113, figg.
606. ——. Notes on the Genus *Anoma*. T. c. pp. 152-154, pl. ix.
607. ——. On some non-marine shells from the Austro- and Indo-Malayan Regions. J. Malac. xi, pp. 87-92, pl. ix.
608. ——. On a new Species of *Amastra* from the Hawaiian Islands. Ann. Nat. Hist. xiv, pp. 159 & 160.
- 608A. TATÉ, —. Rondelle percée en Coquille (Nouvelles-Hébrides). Bull. Soc. Anthrop. Paris 1904, p. 115.
- TAYLOR, F. [See JACKSON & TAYLOR (326).]
609. TAYLOR, J. W. Monograph of the Land and Freshwater Mollusca of the British Isles. Pt. x (Vol. II, pp. 105-160, pls. vii, xiii, xiv, xvi, xvii). Leeds, 8vo, 1904.
610. TESCH, J. J. The Thecosomata and Gymnosomata of the Siboga-Expedition. Leiden, 1904, 92 pp., 6 pls.
611. THESING, C. Beiträge zur Spermatogenese der Cephalopoden. Zeitschr. wiss. Zool. lxxvi, pp. 94-136, pls. viii & ix.
612. THORNEWILL, C. F. Obituary notice of Philip Brookes Mason. J. Conch. xi, pp. 104 & 105.
613. TOMLIN, J. R. LE B. *Paludestrina anatina* Drap. new to Britain. T. c. p. 11.
614. TOMMASI, A. Una *Lima* nuova ed una *Pinna* nel Muschelkalk di Recoaro. Boll. Soc. geol. Ital. xxiii, pp. 301-306, pl. viii.
615. \*TÖNNIGES, C. Schnecken als Parasiten. Naturw. Wochenschr. xix, pp. 241-246, figg.
616. TORNUST, A. Die Gliederung und Fossilführung der ausser-alpinen Trias auf Sardinien. SB. Ak. Berlin xxxviii, pp. 1098-1117.
617. TOUCAS, A. Études sur la classification et l'Évolution des *Hippurites*. Deuxième partie. Pp. 65-128, pls. ix-xviii. Mem. Soc. geol. France, Pal. xii, fasc. 4.

618. TRAUTH, F. Ein Beitrag zur Kenntniss der Jura-fauna von Olo-mutschan. Verh. geol. Reichsanst. 1904, pp. 236-242.
619. TRYON'S Manual of Conchology.....Continuation by H. A. PILSBRY. Second Series. Vols. xvi (Pts. 64, 64a), pp. i-xl, 193-329, pls. xvi-xxxvii; xvii (Pts. 65, 66), pp. 1-112, pls. i-xxiii. *Achatinidæ*.
620. TSCHERNYSCHEW, T. The Upper Palæozoic formations of Eurasia. Rec. geol. Surv. India xxxi, pp. 111-141. [From Mem. Com. geol. St Petersburg. xvi.]
621. TUTCHER, J. W. The Lower Oolites near Bristol. P. Bristol Soc. x, pp. 150-168.  
 —. [See also VAUGHAN & TUTCHER (625).]
622. UHLIG, V. Himalayan Fossils. Vol. iv. The Fauna of the Spiti Shales. Mem. geol. Surv. India, ser. 15, 1903, 132 pp., 18 pls.
623. VALLENTIN, R. Notes on the Falkland Islands. Mem. Manchester Soc. xlviii, No. 23, 50 pp.  
 VANATTA, E. G. [See PILSBRY & VANATTA (498).]
624. VASSEL, E. Sur la question de l'acclimatation de la mère-perle. C.R. Soc. Biol. lvi, pp. 2-4.
625. VAUGHAN, A. & TUTCHER, J. W. The Lias of the neighbourhood of Keynsham. P. Bristol Soc. x, pp. 3-55.  
 —. [See also REYNOLDS & VAUGHAN (522).]
626. VAUGHAN, J. W. A contribution towards a list of the land and fresh-water Mollusca of Breconshire and Radnorshire. J. Conch. xi, pp. 56 & 57.
627. VAYSSIÈRE, A. Mollusques Hétéropodes provenant des campagnes des Yachts Hironnelle et Princesse-Alice. Result. Campag. Scient. Albert I de Monaco, Fasc. xxvi, 65 pp., 6 pls.
628. —. Étude Zoologique de l'*Archidoris stellifera* H. von Ihering. J. Conchyl. lii, pp. 123-130, pl. iv.
629. —. Recherches zoologiques et anatomiques sur les Mollusques Opisthobranches du Golfe de Marseille. Supplément. Ann. Mus. Marseille viii, No. 3, pp. 71-108, pls. ii & iii.
630. VERCO, J. C. Notes on South Australian Marine Mollusca, with descriptions of new species. Part i. Tr. R. Soc. S. Austral. xxviii, pp. 135-145, pl. xxvi.
631. VERRILL, A. E. Additions to the Fauna of the Bermudas from the Yale Expedition of 1901, with notes on other species. Tr. Connect. Ac. xi, pp. 15-62, pls. i-ix.
632. VIGIER, P. Structures des fibres musculaires du cœur chez les Mollusques. C.R. Ac. Sci. cxxxviii, pp. 1534-1537.
633. — & VLÈS, F. Sur l'histologie du myocarde chez des Mollusques primitifs. Op. cit. cxxxix, pp. 1226-1228.  
 VILLARD, J. [See GAUTIER & VILLARD (245).]  
 VINCHON, A. [See BÉDÉ & VINCHON (46).]
634. VLÈS, F. Technique pour une étude morphologique nouvelle de la coquille des Lamellibranches. Bull. Soc. zool. France xxviii, pp. 196-202, 5 figg.
635. —. Locomotion de la Nucule. Op. cit. xxix, pp. 191-196.  
 —. [See also VIGIER & VLÈS (633).]

636. VREDENBURG, E. On the occurrence of a species of *Halorites* in the Trias of Baluchistan. Rec. Geol. Surv. India xxxi, pp. 162-166, pl. xvii.
637. WALKER, B. New species of *Somatogyrus*. Nautilus xvii, pp. 133-142, pl. v.
638. ——. Notes on Eastern American Ancyli. Op. cit. xviii, pp. 16 & 17, 25-30, 75-83, pls. i & ii, v & vi.
639. ——. Hints on collecting Land and Fresh-Water Mollusca. J. Applied Micro. vi, pp. 2365-2368.
640. WALTHER, J. Die Fauna der Solnhofener Plattenkalke. Denk. Ges. Jena xi (Festschr. Haeckel), pp. 133-214, pl. viii.  
WARREN, S. H. [See KENNARD & WARREN (347).]
641. WEBSTER, W. H. New [Land] Mollusca from New Zealand. P. Malac. Soc. London vi, pp. 106-108, figg.
642. WELCH, R. Rare or local Irish Land and Freshwater Mollusca. J. Conch. xi, pp. 16-19.
643. ——. Some Results of a Flood in North Ireland. T. c. p. 28.
644. ——. Decalcification of Freshwater Shells. Irish Natural. xiii, p. 29.
645. — & STELFOX, A. W. The Mollusca of Bushy Park, Dublin. T. c. pp. 121-126.
646. — & ——. Irish Field Club Union. Conference and Excursion at Sligo. Mollusca (Land and Freshwater). T. c. pp. 183-193, pls. viii & ix.
647. WELDON, W. F. R. Note on a race of *Clausilia itala* (von Martens). Biometrika iii, pp. 299-307.
648. WELLER, S. The Stokes Collection of Antarctic Fossils. Contrib. Walker Mus. i, pp. 65-71, pls. xi & xii. [Reprint of No. 553, last year.]
649. WHITEAVES, J. F. The Canadian species of *Trocholites*. Ottawa Natural. xviii, pp. 13-18.
650. WHITFIELD, R. P. Notice of six new species of Unios from the Laramie Group. Bull. Amer. Mus. xix, pp. 483-487, pls. xxxviii-xl.
651. WHITWELL, W. *Physa acuta* Drap. at Kew Gardens. J. Conch. xi, p. 19.
652. WILCKENS, O. Beitrage zur Geologie und Palaeontologie von Südamerika. XI. Revision der Fauna der Quiriquina-Schichten. N. Jahrb. Min. B.B. xviii, pp. 186-284, pls. xvii-xx.
653. WILSON, E. B. Experimental Studies in Germinal Localization. II. Experiments on the Cleavage-Mosaic in *Patella* and *Dentalium*. J. Exper. Zool. i, pp. 197-268, figg.
654. WINKLEY, H. W. *Helix hortensis* in New England. Nautilus xvii, pp. 121 & 122.
655. WINKWORTH, J. T. Varieties of *Helix nemoralis*. Essex Natural. xiii, p. 256.
656. WISSEL, C. VON. Pacifische Chitonen der Sammlungen Schauinsland und Thilenius nebst einem Anhang über drei neuseeländische Species der Gattung *Oncidiella*. Zool. Jahrb. Syst. xx, pp. 591-676, 5 pls. & 10 figg.

- WITT, M. M. DE. [See PEARL & WITT (473).]
657. WOJCIK, K. Dolno-oligocénska fauna Kruhela małego pvd Przemyslem (Warstwy z *Clavulina* Szaboi). I. Otwornice i mieczaki [Die unteroligocäne Fauna von Kruhel mały bei Przemysł (Die *Clavulina* Szaboischichten). I. Die Foraminiferen und Mollusken. Bull. Ac. Cracovie 1903, pp. 798-809, pl. xvii.
658. WOLLEMANN, A. Ein Aufschluss im Mukronatensenon bei Rotenkamp, nordwestlich von Königslutter. Jahresber. Ver. Braunschweig xiii, pp. 40-42.
659. WOODS, H. A monograph of the Cretaceous Lamellibranchs of England. Vol. ii (Part i), pp. 1-56, pls. i-vii. *Limide*. [Pal. Soc. Mon.]
660. WOODWARD, B. B. The British species of *Vallonia*. J. Conch. xi, p. 82.
661. —. Mollusca. In the 'Victoria History of the County of Bedfordshire,' vol. i, pp. 69 & 70.
662. —. Mollusca. In the 'Victoria History of the County of Warwick,' vol. i, pp. 67 & 68.
- [See also KENNARD & WOODWARD (348).]
663. WRIGHT, C. E. *Succinea oblonga* Drap. var. *alba*. J. Conch. xi, p. 96.
- [See also BEESTON & WRIGHT (48).]
664. WÜST, E. Weitere Beobachtungen über fossilführende pleistozäne Flussablagerungen im unteren Unstrutgebiete. Zeitschr. Naturw. lxxvii, pp. 71-80.
665. YABE, H. Cretaceous Cephalopoda from the Hokkaido. Part II. J. Coll. Tokyo xx, No. 2, 45 pp., 6 pls.
666. YAKOVLEW, N. Un représentant paléozoïque des *Crassatellitidae* (*Schizodus planus* Golowk.). Bull. Com. geol. St. Petersb. xxi, pp. 755-759, pl. x.
667. YOKOYAMA, M. On some Jurassic Fossils from Rikusen. J. Coll. Tokyo xviii, No. 6, 13 pp., 2 pls.
668. —. Jurassic Ammonites from Echizen and Nagato. Op. cit. xix, No. 20, 17 pp., 4 pls.
669. YUNG, E. Sur le sens olfactif de l'Escargot. C.R. Soc. Biol. lvi, pp. 291 & 292.
670. ZUGMAYER, E. Über Sinnesorgane an den Tentakeln des Genus *Cardium*. Zeitschr. wiss. Zool. lxxvi, pp. 478-508, pl. xxix, figg.

#### BIOGRAPHIES, OBITUARY NOTICES, ETC. (arranged alphabetically)

- Beecher, C. E.; JACKSON, Amer. Natural. xxxviii, pp. 407-426, port. :  
 CLARKE, Amer. Geol. xxxiv, p. 1, port. : ANON, Geol. Mag. i, p. 284.  
 Bernier, J.; FISCHER, J. Conchyl. lii, pp. 96-98.  
 Crick, W. D.; OLDHAM (459).  
 Etheridge, R.; H. W., Geol. Mag. i, p. 42.  
 Gaudion, H.; VAYSSIERE, Ann. Mus. Marseille viii, pp. 11-16, port.  
 Heude, P. M.; FISCHER (220).  
 Hudleston, W. H.; ANON, Geol. Mag. i, p. 431.  
 Hyatt, A.; CROSBY, Bull. Soc. geol. Amer. xiv, pp. 504-512, port.

- Kowalewsky, A. O. ; VAYSSIÈRE, Ann. Mus. Marseille viii, pp. 7-10, port.  
 Lambert, P. ; HEDLEY (290) : FISCHER, J. Conchyl. lii, pp. 99 & 100.  
 Loebbecke, T. ; KOBELT (361).  
 Martens, E. von ; BOETTGER, Zool. Garten xlv, p. 318 : KOBELT, Nachrbl. Deutsch. malak. Ges. 1904, p. 129.  
 Mason, P. B. ; THORNEWILL (612).  
 Moellendorff, O. F. von ; ANON, P. Malac. Soc. London vi, pp. 73 & 74 : FISCHER, J. Conchyl. lii, pp. 106-108.  
 Munier-Chalmas, E. P. A. ; DOLLFUS, t. c. 100-106.  
 Philippi, R. A. ; BOETTGER, Zool. Garten xlv, p. 356 : KOBELT, Nachrbl. Deutsch. malak. Ges. 1904, p. 129.  
 Rossiter, R. C. ; DAUTZENBERG, J. Conchyl. lii, pp. 94-96.  
 Zittel, K. A. M. ; POMPECKJ, Palæontogr. 1 : KITCHIN, Geol. Mag. i, p. 90.

## II. BIOLOGY.

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- General :—Structure of the Molluscan heart ; MARCEAU (412, &c.).  
 Cephalopoda :—Statocysts ; FRÖHLICH (235).—The pharynx of the Cephalopods ; HEINRICH (296).—Notes on some Cephalopods ; HOYLE (312, &c.).  
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 Scaphopoda :—Anatomy and Histology of *Dentalium* ; BOISSEVAIN (73).  
 Pelecypoda :—Morphology and anatomy of *Tridacna* ; ANTHONY (20).—Anatomy of *Pecten tenuicostatus* ; DREW (200).—Subradular organ in *Proneomenia* and *Rhopalomenia* ; HEATH (288).—Anatomy of pearl oyster ; HERDMAN (301).—Anatomy of *Margaritifera* ; SEURAT (556, &c.).  
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## 7. BIBLIOGRAPHIES, MUSEUMS, &c.

Museums:—List of types of Gastropods and Scaphopods from Oolites in Mus. Practical Geol., London; ALLEN, Summary Progr. Geol. Surv. 1903, pp. 175–187.—Storer Collection is now in Amer. Mus.; ANON., Amer. Mus. J. iv, p. 37.—Arrangement of Collection of Chicago Academy; BAKER (28).—Catalogue, with critical notes of DeFrance collection; BIGOT & MATTE (54).—Catalogue of the Hagenmüller Palearctic collection; COUTURIER (148).—Loebbecke collection; KOBELT (361).—Catalogue of fossil types in Grenoble collection; REBOUL (515).—Gaudion collection has gone to Marseilles Museum; VAYSSIÈRE, Ann. Mus. Marseille viii, p. 15.

Bibliographies:—Canadian Palæontology for the year 1902; AMI (8).—Bibliography of W. H. Hudleston; ANON., Geol. Mag. i, p. 431.—Bibliography of A. Hyatt; CROSBY, Bull. Soc. Geol. Amer. xiv, p. 504.—Notes on Bolten's names; DALL, Nautilus xviii, p. 84.—Bibliography of Robert Etheridge; H. W., Geol. Mag. i, p. 42.—On Dates of species described by Tenison-Woods; HEDLEY (292), p. 210.—Bibliography of C. E. Beecher; JACKSON (327).—Bibliography of Zittel; KITCHIN, Geol. Mag. i, p. 90.—Contents of Vols. i–xxxv of Nachrbl. Deutsch. malak. Ges.; KOBELT, A. (354).

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## B.—DISTRIBUTION.

## GEOGRAPHICAL.

N.B.—The numbers in brackets refer to the "Titles." A reference is thus given to each memoir containing any notice affecting the Molluscan fauna of the several geographical divisions here adopted. Synonymic notes and changes of systematic position are, however, not noticed here. References to minor notes, which are not included in the "List of Titles," but which contain faunistic notes of any value, are given to the work direct.

## NON-MARINE MOLLUSCA. [For Marine see p. 48.]

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Hebrides:—Landshells from Tiree; GODFREY, *Ann. Scott. Nat. Hist.* 1904, p. 193.

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Roumania :—Land and freshwater shells near Bucharest ; GAUDET, Bull. Soc. Bucarest xiii, p. 491.—List of eighteen landshells from Sinaia ; KOBELT (359).

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Central Africa :—New species, from various localities, of *Corbicula*, *Limax*, *Limicolaria* (sic), *Limnæa*, *Physopsis*, *Planorbis*, *Spathella*, *Subulina*, *Succinea*, *Trochonantina*, and *Vitrina* ; ROCHEBRUNE & GERMAIN (534).

Lake Tanganyika :—Critical review of the fauna, with notes on its affinities ; SMITH (575) : Origin of fauna ; HUDLESTON (314) : Notes on fauna ; GRAVIER, Bull. Mus. Paris ix, p. 347.

British East Africa :—*Limicolaria longa*, n. sp. ; PILSBRY in TRYON (619) : New species of *Ena* and *Subulina* ; SMITH (574).

German East Africa :—New species of *Pseudoglossula* ; SMITH (574).

E. Africa :—New species of *Spirotoxon* ; SIMROTH (567).

8. *West African Region.*

West Africa :—New species of *Limicolaria* and *Pseudachatina* ; PILSBRY in TRYON (619).

Corisco I. :—*Achatina occidentalis*, n. sp. ; PILSBRY in TRYON (619).

Camerroons :—*Varania loeunbergi*, n. g. and n. sp. ; SIMROTH (567).

9. *South African Region.*

[None.]

10. *Malagasy Region.*

Nossi-Bé:—*Edentulina stumpffii*, n. sp. ; KOBELT in MARTINI & CHEM-NITZ (426).

11. *Afro-Arabian Region.*

Abyssinia:—N. spp. of *Agriolimax* and *Atoxon* ; SIMROTH (567).

## c. PALEOTROPICAL ORIENTAL ZONE.

12. *Indian Region.*

Ceylon:—*Corilla erronella*, n. sp. ; GUDE (272): New species and varieties of *Cataulus* ; FULTON (238).

13. *Indo-Chinese Region.*

Indo-China:—Reprinted diagnoses of shells ; MORLET (450): List of Fauna ; FISCHER & DAUTZENBERG (223).

Cochin China:—*Harmandia castelneau*, n. sp. ; ROCHEBRUNE (531).

Tonkin:—New species of *Hygriopsis* and *Unio* ; ROLLE (539).

Yunnan:—New species of *Jullienia* and *Melania* ; FULTON (241).

14. *Indo-Malay Region.*

Borneo:—*Amphidromus gossei*, n. sp. ; BARTSCH (36): Non-marine shells from Sambas, with *Amphidromus weyersi*, n. sp. ; DAUTZENBERG (174): *Opisthostoma beddomei*, n. sp. ; SMITH (576): List of some shells collected ; JONES & PRESTON (341).

Java:—New species of *Corbicula*, *Lagochilus*, *Melania*, and *Vivipara* ; BULLEN (92): New species of *Melania* ; FULTON (241).

Engano:—New species of *Trochomorpha* ; SYKES (607).

15. *Philippine Region.*

Philippine Islands:—Illustrations of some landshells ; HIDALGO (304).

## d. AUSTRALIAN ZONE.

16. *Austro-Malayan Region.*

British New Guinea:—On some Helicoids, with *Euplecta pratti*, n. sp. ; GUDE (271).

Batjan:—New species of *Obba* and *Papuina* ; SYKES (607).

Gebi I.:—Shells from, with n. spp. of *Albersia*, *Leptopoma*, and *Papuina* ; FULTON (242): New species of *Papuina* and *Planispira* ; SYKES (607).

Waigiou:—*Albersia waigiouensis*, n. sp. ; SYKES (607).

Obi:—New species of *Ameria*, *Leptopoma*, *Perrieria*, and *Planispira* ; SYKES (607).

17. *Australian Region.*

Victoria :—Few landshells from near Melbourne ; ANON, *Victorian Natural*, xx, p. 125.

New South Wales :—*Corbicula faba*, n. sp. ; BULLEN (92).

Central Australia :—*Xanthomelon bednalli*, n. sp. ; PONSONBY (500).

Queensland :—Review of *Sphaerospira* section of *Thersites*, with *T. concors*, n. sp. ; FULTON (240).

18. *Austro-Polynesian Region.*

New Hebrides :—New species of *Melania* ; SYKES (603).

19. *Polynesian Region.*

Hawaiian Is. :—Notes on *Opeas*, with *O. henshawi*, n. sp. ; SYKES (605) : Notes on *Tornatellina*, with n. spp. ; ANCEY (13) : Notes on shells, with n. varr., and n. spp. of *Auriculella*, *Helicina*, *Kaliella*, *Lyropupa*, *Microcystis*, *Nesopupa*, *Succinea*, and *Vitrea* ; ANCEY (9) : Several new subfossil *Succinea* from Hawaii, with notes on the deposit ; HENSHAW (297) : New species of *Punctum* (Oahu), and *Vitrea* (Hawaii) and several species described as subfossil from Hawaii which may prove to be recent ; ANCEY (12) : *Amastra rex*, n. sp. ; SYKES (608).

Marshall Is. :—N. spp. of *Helicina*, *Opeas*, and *Trochomorpha* ; BOETTGER (70) : Of *Melania* ; BOETTGER (69).

20. *Neozelanian Region.*

New Zealand :—Notes on some shells with n. spp. of *Endodonta* and *Rhytida* ; SUPPER (602) ; Catalogue of all the known species ; HUTTON (317) : New species of *Endodonta* and *Laoma* ; WEBSTER (641) : Some species of *Oncidiella* noted ; WISSELL (656).

Chatham Is. :—*Oncidiella flavescens*, n. sp. ; WISSELL (656).

## e. NEANTARCTIC ZONE.

21. *Patagonian Region.*

Argentina :—New species of *Odontostomus* ; ANCEY (10).

22. *Chilian Region.*

[None.]

## f. NEOTROPICAL ZONE.

23. *Peruvian Region.*

Peru :—New species of *Bulimulus*, *Bulimus* (?), *Nenia*, and *Systrophia* ; ROLLE (540).

24. *Colombian Region.*

Colombia :—New species of *Glandina* and *Strophocheilus* ; DA COSTA (161).

25. *Brazilian Region.*

Bolivia :—Some freshwater species, with n. spp. of *Ancylus*, *Paludestrina*, *Planorbis*, *Pyrgula* ; BAVAY (40) : *Drymæus multispira*, n. sp. ; DA COSTA (161).

Brazil :—Occurrence of *Limax variegatus* ; RIBEIRO (524) : *Strophocheilus miersi*, n. sp. ; DA COSTA (161) : *Unionidæ* from Goyaz ; IHERING (322) : New species of *Bulinulus* and *Odontostomus* ; ANCEY (10).

26. *Mexican Region.*

Panama :—*Neocyclotus panamensis*, n. sp. ; DA COSTA (161).

Costa Rica :—*Streptostyla costaricensis*, n. sp. ; DA COSTA (161).

Mexico :—*Spiraxis cacahuamilpensis*, n. sp. ; HERRERA, Mem. Soc. Ant. Alzate v, p. 219 [1891] : New species of *Sonorella* ; BARTSCH (35) : *Glandina lamyi*, n. sp. ; FISCHER & CHATELET (222).

New Mexico :—*Ashmunella townsendi*, n. sp. ; BARTSCH (34) : Shells, with *Ashmunella walkeri*, n. sp. ; FERRISS (218).

Lower California :—*Sonorella merrilli*, n. sp. ; BARTSCH (35) : New subspecies of *Sonorella lohrii* ; PILSBRY (489).

27. *Caribbean Region.*

[None.]

## g. NEARCTIC ZONE.

28. *American Region.*

United States :—Notes on *Somatogyrus*, with n. spp. ; WALKER (637) : New varieties of *Lymnæa* ; BAKER (26, 27).—Eastern American *Ancylus* ; WALKER (638).

Alabama : List of shells collected, with some critical notes ; HINKLEY (307) : New forms of *Polygyra* ; CLAPP (116) ; *Omphalina pilsbryi* ; CLAPP (115).—Arizona : Shells, with *Oreohelix clappi*, n. sp. ; FERRISS (218) : New species of *Sonorella* ; BARTSCH (35).—Colorado : *Agriolimnaea agrestis* ; COCKERELL (121) : Few shells from Pike's Peak at 10,000 feet ; COCKERELL, Nautilus xvii, p. 130.—Delaware : List of shells collected ; RHOADS (523).—Florida : *Ammicola augustina*, n. sp. ; PILSBRY (486) : Northernmost habitat of *Liguus fasciatus* ; MOORE (449).—Indiana : Fauna of Cedar Lake ; BAKER (25) : Range of *Polygyra tridentata* var. *discoidea* ; DANIELS, Nautilus xviii, p. 92.—Iowa : Shells from near Des Moines ; HYNING, Nautilus xvii, p. 130.—Maine : Landshells of Ironbound Island ; BLANEY (59) : Landshells of Mt Desert ; COLTON (132).—Massachusetts : Few shells from Cape Cod ; JOHNSON (338).—New England : *Helix hortensis* ; WINKLEY (654).—New York : *Arion circumscriptus* at Niagara Falls ; COCKERELL, Nautilus xviii, p. 91.—Pennsylvania : *Margaritana margaritifera* ; CONNER (136).—Wisconsin : Collection of shells from ; BAKER (29).—Bernuda : Post tertiary landshells, some of which may be recent ; GULICK (274) : Few landshells ; DAVIS (181).

29. *Californian Region.*

West America :—Popular account of fauna, with systematic list ; KEEP (345).

California :—*Sonorella fisheri*, n. sp. ; BARTSCH (35) : *Limax maximus* ; BARTSCH, Nautilus xviii, p. 12 : *Limax maximus* ; VANATTA, t. c. p. 23 : *Limax maximus* and other slugs ; STEARNS (593).

30. *Canadian Region.*

- Canada:—Additions to fauna ; WALKER, *Ottawa Natural*. xviii, p. 18.—  
 Ottawa : Occurrence of *Margaritana deltoidea* ; F. R. L., t. c. p. 91.  
 Alaska :—*Lymnaea randolphi*, n. sp. ; BAKER (27).  
 Newfoundland :—Occurrence of *Helicigona arbustorum* ; WHITEAVES,  
*Ottawa Natural*. xvii, p. 192.

*MARINE MOLLUSCA.* [For Non-Marine, see p. 41.]

- European Seas :—Review of *Ostrea* ; LOCARD (398).  
 Study of fauna of European Seas continued ; KOBELT (355).  
 Supplement to Mollusca of 'Porcupine' Expeditions commenced, with  
 n. spp. of *Cylichna* and *Retusa* ; SYKES (604).

1. *Arctic Province.*

- Polar Sea :—*Pecten frigidus*, n. sp. ; JENSEN (333).  
 Jan Mayen :—*Portlandia kolthoffi*, n. sp. ; HÄGG (277).  
 Greenland :—Some species quoted ; HÄGG (277).  
 Spitzbergen :—Supplement to Mollusca collected by Russian Expedition ;  
 KNIPOWITSCH (353) : List of some species ; HÄGG (277).

2. *Boreal Province.*

- North Atlantic :—*Spirialis retroversus* ; OSTENFELD & PAULSEN, *Medd. Gronland* xxvi, p. 169.  
 Norway :—*Enterovenos ostergreni*, apparently n. gen. and sp. ; BONNEVIE (76).

3. *Celtic Province.*

- North Sea :—Acclimatization of *Petricola* ; PELSENEER, *C.R. Ass. Franc.* 1903, pt. i, p. 223  
 British Isles :—Lancashire : Marine shells from Fleetwood ; JACKSON, *J. Conch.* xi, p. 115.—*Barnea candida* on Wirtal Peninsula ; STANDEN, t. c. p. 49.—Review of fauna of Plymouth District ; MARINE BIOLOGICAL ASSOCIATION (419).—Suffolk : List of Fauna ; GREENE (266).—Few shells from Tetley Lock, Lincs. ; CASTLE, *Naturalist* 1904, p. 254.—Occurrence of *Crepidula* in Whitstable Bay ; SAUNDERS, *Rep. East Kent Soc.* i, p. 45.—*Ostrea unguolata* on East Coast ; PLOWRIGHT, *Tr. Norfolk Soc.* vii, p. 753.  
 Northumberland : Species new to the coast ; LEBOUR (390).—Marine shells from Achill ; MASSY, *Irish Natural.* xiii, p. 44.—Shells from Raghly ; CHASTER (110).  
 Scilly Isles :—Few shells mentioned ; VALLENTIN, *J. Inst. Cornwall* xvi, p. 129.

4. *Lusitanian Province.*

- Atlantic Ocean :—Collection of Heteropoda, with n. spp. of *Cardiapoda*, *Carinaria*, *Firola*, and *Firoloida* ; VAYSSIÈRE (627).  
 Channel Is. :—Addenda to fauna ; MARQUAND (420).  
 France :—*Synapticola perrieri*, n. gen. and sp. ; MALARD (410).—Gulf of Gascony : Two or three shells dredged ; GRUVEL, *Pr. verb. Soc. Sci. Bordeaux* 1897, p. 248.—Wimereux : *Doris giardi*, n. sp. ; ABRIC (3).—Gulf of Marseilles : *Madrella aurantiaca*, n. sp. ; VAYSSIÈRE (629) : *Archidoris stellifera*, n. sp. ; VAYSSIÈRE (628).—Arcachon : On some Nudibranchs ; CUENOT (159).



Portugal :—Review of *Patellidae*, Polyplacophora, and Scaphopoda ; NOBRE (455).

Mediterranean :—List of shells from Llansa ; MALUQUEZ Y NICOLAU (411) : Notes on shells, with n. varr., and n. spp. of *Cyclonassa*, *Mitra*, and *Mytilus* ; PALLARY (468) : Notes on Cephalopods ; JATTA (330).

Adriatic :—*Cerithium sykesi*, n. sp. ; BRUSINA (89).

Capri :—Fauna near ; LO BIANCO (397).

Black Sea :—Some shore forms ; HAUPT (282).

Algiers :—Occurrence of *Natica prietoi* ; ANCEY (11).

Gulf of Gabes :—Fauna, with supposed n. varr. and subspp., and n. spp. of *Clathromangilia* (?), *Eulima*, *Ginnania*, *Homotoma*, *Mangilia*, *Megaxinus*, *Philbertia*, *Retusa*, and *Turbonilla* ; PALLARY (467).

### 5. Aralo-Caspian Province.

On the fauna ; SOWINSKY (590).

### 6. West African Province.

West Africa :—List of shells from Rio de Oro ; FONT Y SAGUÉ (230) : *Chlamys weberi*, n. sp. ; BAVAY (39).

Sierra Leone :—*Cardita umbonata*, n. sp. ; SOWERBY (588).

St Helena :—*Helenella insolens*, n. gen. and sp. ; CASEY (98).

Ascension I. :—*Marginella robusta*, n. sp. ; SOWERBY (588).

### 7. South African Province.

South Africa :—New species of *Arca*, *Cardita*, *Cardium*, *Chlamys*, *Crassatella*, *Crenella*, *Cuspidaria*, *Nucula*, *Nuculana*, *Poromya*, *Tellina*, and *Venus* ; SOWERBY (589).

Cape Colony :—List of shells from Port Alfred, with notes, and n. spp. of *Ampullarina*, *Ancilla*, *Bullia*, *Cardita* (?), *Carditella*, *Clathurella*, *Cultellus*, *Cynisca*, *Drillia*, *Ethalia*, *Eulima*, *Eulimella*, *Fusus*, *Glyphostoma*, *Hochstetteria*, *Lepton*, *Lima*, *Limopsis*, *Lucina*, *Mangilia*, *Marginella*, *Modiola*, *Nassa*, *Natica*, *Purpura*, *Rissoa*, *Rissoina*, *Semele*, *Tellimya*, *Tellina*, *Terebra*, *Theora*, *Trifora*, and *Turbonilla* ; SMITH (578).

Natal :—*Sepia burnupi*, n. sp. ; HOYLE (311).

### 8. Indo-Pacific Province.

E. Africa and Zanzibar :—On Nudibranchiata, with n. spp. of *Archidoris*, *Fracassa*, *Halgerda*, *Peltodoris*, *Platydorid*, *Sclerodoris* (n. gen.), *Staurodorid*, *Thordissa*, *Trippa* ; ELIOT (208) : n. spp. of *Chromodoris* ; ELIOT (209) : n. spp. of *Bornella*, *Marionia*, *Nembrotha*, *Notodoris*, *Pleuroleura*, *Trevelyana* ; ELIOT (210).

Red Sea :—*Hexabranchus plicatus* and *Notarchus brevipes*, n. spp. ; HÄGG (278).

Gulf of Oman :—New species of *Aclis*, *Daphnella*, *Eulima*, *Mangilia*, *Oscilla*, and *Rissoina* ; MELVILL (438) : New species of *Basilissa*, *Bittium*, *Cerithium*, *Clathurella*, *Cyclostrema*, *Cylichna*, *Daphnella*, *Ethalia*, *Mangilia*, *Mucronalia*, *Pleurotoma*, *Retusa*, *Scissurella*, *Trifora*, and *Turbonilla* ; MELVILL (436).

Persian Gulf, &c. :—Review of *Cypræidæ* ; MELVILL & STANDEN (440) : New species of *Actæon*, *Mangilia*, and *Mitra* ; MELVILL (436) : New species of *Aclis*, *Ancistrosyrinx*, *Bullia*, *Clathurella*, *Columbella*, *Cyclostrema*, *Eulimella*, *Fenella*, *Fossarus*, *Lotorium*, *Mangilia*, *Philine*, *Rissoa*, *Scala*,

*Syrnola*, and *Turbonilla*; MELVILL (433): New species of *Eulimella*, *Odostomia*, *Omphalius*, and *Turritella*; MELVILL (438).

Arabian Sea:—*Mumiola carbasea*, n. sp.; MELVILL (438): New species of *Eulimella* and *Pleurotoma*; MELVILL (433).

Bay of Bengal, &c.:—Deep Sea shells, with n. spp. of *Acmaea*, *Anatina*, *Alys*, *Capulus*, *Chiton*, *Clathurella*, *Cylichna*, *Drillia*, *Lacuna*, *Myrina*, *Pecten*, *Pleurotoma*, *Psanmobia*, *Scaphander*, *Vesicomya*, and *Xylophaga*; SMITH (579).

Pacific Ocean:—*Peronodoris cancellata*, n. gen. and sp., and *Tritonia incerta*, n. sp.; BERGH (52).

Calcutta:—*Nassa gangetica*, n. sp.; PRESTON (502).

Ceylon:—New species of *Clathurella*, *Coralliophila*, *Cythara*, *Mastra*, *Mucronalia*, *Murex*, *Nassa*, *Styloptygma*, and *Thala*; PRESTON (502): Cephalopods, with n. spp. of *Polypus*; HOYLE (313).

Singapore:—New species of *Odostomia* and *Turbonilla*; DALL & BARTSCH (172).

Borneo:—List of some shells collected; JONES & PRESTON (341): *Modiola sambasensis*, n. sp.; DAUTZENBERG (174).

East Indies:—A collection of Gymnosomata and Thecosomata, with n. spp. [cf. last year's Record for names]; TESCH (610).

Celebes:—*Amussium sibogai*, n. sp.; DAUTZENBERG & BAVAY (176).

China Sea:—*Chlamys ambiguus*, n. sp.; BAVAY (39): *Linguella variolosa*, n. sp.; BERGH (52): *Dotium magnificum*, n. sp.; SOWERBY (587): List of some Mollusca, with n. spp. of *Assiminea* and *Pecten*; JONES & PRESTON (341).

Philippines, Iolo, and Marianes:—Fauna commenced; HIDALGO (305).

Philippines:—*Murex multispinosus*, n. sp.; SOWERBY (587): *Lophiotoma microsticta*, n. gen. and sp.; CASEY (98).

Pacific Ocean:—*Chlamys cythereus*, n. sp.; BAVAY (39).

Hawaiian Islands:—*Cassia fortisulcata*, n. sp.; SMITH (573): Unnamed species of *Pronomenia* and *Ihopalomenia*; HEATH (287).

Pacific Is.:—Some species of Chitons enumerated and discussed; WISSELL (656).

Timoe:—Notes on *Meleagrina*; SEURAT (555).

Marquesas Is.:—*Cirrobrachium filiferum* and *Rhynchoteuthis chuni*, n. spp.; HOYLE (312).

New Caledonia:—*Chlamys wilhelmine*, n. sp.; BAVAY (39).

## 9. Australo-Zealandic Province.

Southern Australia:—Distribution of fauna explained by a former isthmus across Bass' Straits; HEDLEY (291).

South Australia:—Notes on shells, with n. spp. of *Cancellaria*, *Cassidea*, *Macella*, and *Stephopoma*; VERCO (630).

New South Wales:—Addenda to fauna, with critical notes, and n. spp. of *Alys*, *Capulus*, *Chione*, *Dacrydium*, *Daphnella*, *Epigrus*, *Philobrya*, *Phos*, *Rissoa*, *Stiva* (n. gen.), *Strebloceras*, and *Thraciopsis*; HEDLEY (292).

Victoria:—List of fauna continued; PRITCHARD & GATLIFF (505): New species of *Cyclopecten* and *Tellina*; PRITCHARD & GATLIFF (506).

Tasmania:—New species of *Daphnella* and *Philippiella*; HEDLEY (292): *Alloidoris marmorata*, n. gen. and sp., and *Discodoris dubii*, n. sp.; BERGH (52).

New Zealand:—On shells, with n. spp. of *Caecum*, *Couthouzia*, *Eulima*, *Leiostraca*, *Liotia*, *Pleurodon*, *Puncturella*, *Rissoa*, *Schismope*, *Scissurella*, and *Verticiproxus* (n. gen.); HEDLEY (293): Catalogue of all the known species; HUTTON (317): N. spp. of *Archidoris* and *Homoidoris*; BERGH (52): *Onithochiton marmoratus*, n. sp.; WISSELL (656).

10. *Japonic Province.*

Japan :—Notes on Gastropods, with new forms, and n. spp. of *Cerithium*, *Clathurella*, *Collonia*, *Columbella*, *Cyllene*, *Daphnella*, *Drillia*, *Euchelus*, *Fusus*, *Mangilia*, *Mitra*, *Ocenebra*, *Parviterebra* (n. gen.), *Polinices*, *Purpura*, *Rissoa*, *Rissoina*, *Siphonaria*, *Terebra*, *Thala*, *Tornatina*, *Tritonidea*, *Trochus*, and *Turbonilla*; PILSBRY (492): Notes on Pelecypods, with new forms, and n. spp. of *Arca*, *Cardium*, *Chione*, *Kellia*, *Mactra*, *Ostrea*, *Pitar*, *Spisula*, and *Tellina*; PILSBRY (493): New species of *Chlamys*; BAVAY (39): *Cuthona* (?) *bicolor*, n. sp.; BERGH (52).

11. *Aleutian Province.*

Alaska :—*Limifossor talpoideus*, n. gen. and n. sp. of Amphineura; HEATH (287).

Kuril Is. :—New species of *Buccinum*; PILSBRY (490).

12. *Californian Province.*

West America :—Popular account of fauna, with systematic list; KEEP (345): Origin of fauna; SMITH (581).

N. America, West Coast :—*Melibe pellucida*, n. sp.; BERGH (52).

California :—*Odostomia americana*, n. sp.; DALL & BARTSCH (172): *Dentalium vallicolens*, n. sp.; RAYMOND (512): *Coryphella californica*, n. sp.; BERGH (52): *Periploma sulcata*, n. sp.; DALL (169): New species of *Pleurotoma*; RAYMOND (513).—List of shells dredged off Santa Catalina Island; LOWE (402).

13. *Panamic Province.*

Central America :—*Chiton angustus*, n. sp.; CLESSIN in MARTINI & CHEMNITZ (426).

Panama :—N. spp. of *Froekenia*, *Stawroteuthis*, and *Tremoctopus*; HOYLE (312).

Mexico :—*Loligo diomedea*, n. sp.; HOYLE (312).

Colombia :—*Chiton sowerbyanus*, n. sp.; CLESSIN in MARTINI & CHEMNITZ (426).

Galapagos Is. :—*Mastigoteuthis dentata* and *Polypus oculifer*, n. spp.; HOYLE (312).

14. *Peruvian Province.*

Chile :—*Chiton glaber*, n. sp.; CLESSIN in MARTINI & CHEMNITZ (426).

15. *Antarctic Province.*

On the distribution of the Antarctic fauna; PELSENEER (475).

Magellan Region :—List of sp. of *Trophon*, with 14 n. spp.; STREBEL (599).

Falkland Islands :—Notes on fauna; VALLENTIN (623).

16. *Argentine Province.*

[None.]

17. *Caribbean Province.*

Brazil :—*Fusus brasiliensis*, n. sp.; GRABAU (265).

18. *Transatlantic Province.*

Florida:—*Pyramidella dodona*, n. sp.; DALL & BARTSCH (172).  
 Maine:—Notes on shells from Frenchman's Bay; BLANEY (58).  
 Massachusetts:—Few shells from Cape Cod; JOHNSON (338).  
 Bermudas:—Notes on fauna, with n. spp. of *Dolabrifera*, *Elysia*, *Facelina*, *Lamellidoris*, *Placobranchopsis*, *Runcina*, and *Tethys*; VERRILL (631):  
 Notes on fauna with n. varr., and n. spp. of *Cerithium* and *Gastrochena*;  
 DAVIS (181).

## GEOLOGICAL.

N.B.—The remarks given at the beginning of the preceding section, p. 37, also apply here.

Classification of several Families of Gastropoda, with new genera, sections, and species; COSSMANN (140).—Catalogue, with critical notes, of DeFrance collection; BIGOT & MATTE (54).—Revision of Cephalopoda of Strachey collection: CRICK (155).—On genera *Actinocamax* and *Atractilites*; CRICK (156).—Review of fossil *Vermetidae*, with n. spp.; ROVERETO (544).—Notes on *Orthoceras*; JAEKEL, Zeitschr. Deutsch. geol. Ges. lv, Protok. p. 67.—Note on type of *Aviculopecten*; HIND, Amer. Geol. xxxiv, p. 200; GIRTY, t. c. p. 332; GIRTY (257).—Types of several species figured, with notes; PALAONTOLOGIA UNIVERSALIS (464).

Lists of fossils from Belfast; LAMPLUGH, &c., Geology...Belfast. Mem. geol. Surv. Ireland.—Few fossils from Calabria; STEFANO, Mem. Carta geol. Ital. ix, App.—Lists of fossils from French Pyrenees; ROUSSEL, Bull. Carte geol. France xv, p. 23.—Lists of fossils from various formations of Lot, Aveyron, Tarn, and Tarn-et-Garonne; THEVENIN, Bull. Carte geol. France xiv, p. 353.—Fossils from various Danish formations; USSING, Danmarks geol. Unders. iii, No. 2.—Fauna of the Peninsula of Taman; ANDRUSOW (17).

## 1. POST-TERTIARY.

Specific identity of *Vivipara diluviana* and *clactonensis*; KENNARD & WOODWARD (348).

British Isles: List of shells from gravel at Dumball Island; BOLTON (74).—Shells from Cleeve Hill; HINTON & KENNARD (308).—Holocene shells from Totland Bay; KENNARD & WARREN (347).—Infra-glacial landshells from near Bridlington Quay; LAMPLUGH (379).—Landshells in infra-glacial Chalk-rubble near Bridlington; LAMPLUGH, Rep. Brit. Ass. 1903, p. 659.—Few shells from excavation near Watford; LONES, Tr. Hertfordsh. Soc. xii, p. 17.—List of shells from gravel pit at Swanscombe, Kent; STOPES (597).

Iceland:—Post-Tertiary fossils; JENSEN (334).

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Germany:—List of fossils from South Germany; PARKINSON, Geol. Mag. i, p. 472.—A Culm fauna near Giessen; PARKINSON (469).

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- Few fossils from Celechovic, with n. spp.; SMYČKA, op. cit. vii, p. 65.
- Poland :—Middle Devonian forms; SOBOLEW (583).
- Africa :—New species of Mollusca from Bokkeveld Beds, S. Africa; REED (516).
- America :—New species and genera from Brazil; CLARKE (119).—List of fossils from Arizona; RANSOME, Pap. U. S. geol. Survey xxi, p. 37.
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- British Isles :—Few Ludlow fossils from Cornwall; GREEN, Geol. Mag. i, p. 289.
- Bohemia :—Many new genera and species; PERNER (477).
- America :—New species from Brazil; CLARKE (118).—Ordovician fossils from Pennsylvania, with n. spp.; COLLIE (123).—Two Cephalopods from Lower Silurian of Venezuela; DREVERMANN, N. Jahrb. Min. 1904, i, p. 91.
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*Froekenia*, n. gen. for *F. clara*, n. sp., Cape Mala, Panama; HOYLE, t. c. p. 7, fig.

*Loligo diomedea*, Acapulco, Mexico; HOYLE, t. c. p. 29, fig. : n. sp.

*Mastigoteuthis dentata*, Galapagos Is.; HOYLE, t. c. p. 34, fig. : n. sp.

*Octopus*, young stages; CHUN (114): Structure of the heart; MARCEAU (412).

*Polypus oculifer*, Galapagos Is.; HOYLE, Bull. Mus. Harvard xliii, No. 1, p. 14, fig. : *P. herdmanni*, p. 187, *arborescens*, p. 189, Ceylon; HOYLE (313), figg. : n. spp.

*Rhynchoteuthis chuni*, N. of Marquesas; HOYLE, Bull. Mus. Harvard xliii, No. 1, p. 32, fig. : n. sp.

*Sepia*, note on the egg; DHÉRÉ (189).

*Sepia buruupi*, Natal; HOYLE, J. Conch. xi, p. 27, fig. : n. sp.

*Stauroteuthis hippocrepium*, Malpelo I., Gulf of Panama; HOYLE, Bull. Mus. Harvard xliii, No. 1, p. 6, fig. : n. sp.

*Tremoctopus scalenus*, Panama; HOYLE, t. c. p. 13, fig. : n. sp.

## AMMONEA.

†*Arctoceras*, Böhm, renamed *Nathorstites*, q. v.

†*Braunsella*, n. n. for *Braunsina*, Buckman, preocc.; BUCKMAN (90), p. cii.

†*Braunsina*, renamed *Braunsella*, q. v.

†*Canavarella*, n. gen., type *C. belophora*, n. sp., Oolite, Brit. Is.; BUCKMAN (90), p. cxxix.

†*Canavaria*, Buckm., renamed *Canavarina*, q. v.

†*Canavarina*, n. n. for *Canavaria*, Buckman; BUCKMAN (90), p. cxli.

†*Darellella*, n. gen., type *D. recticostata*, n. sp., Oolite, Brit. Is.; BUCKMAN (90), p. cvii.

†*Darellina*, n. gen., type *D. planaris*, n. sp., Oolite, Brit. Is.; BUCKMAN (90), p. cvi.

†*Dawsonites*, n. gen. for *Trachyceras canadense*, Whiteaves, Trias; BÖHM (62), p. 56.

†*Deltatoceras*, correction for *Deltoceras*, Buckman, 1902; BUCKMAN (90), p. cxix.

†*Entogonites*, n. n. for *Tetragonites*, Kittl non Kossmat; KITTL, Verh. geol. Reichsanst. 1904, p. 322.

†*Episageceras*, n. gen. for *Sageceras wynnei*, Waagen, &c., Trias, India; NOETLING, N. Jahrb. Min. B.B. xix, p. 363.

†*Frechiella*, n. subgen. of? for *Phylloceras subcarinatum*, Young & Bird; PRINZ, op. cit. 1904, i, p. 31.

†*Hemalayites* (Uhlig MS.) n. gen. for *H. treubi*, &c., n. spp., Secondary, Sula Is.; BÖHM (60), p. 38.

†*Hugia*, n. gen., type *H. curva*, n. sp., Oolite, Brit. Is.; BUCKMAN (90), p. cxi.

†*Lopadoceras*, n. gen., type *L. arcuatum*, n. sp., Oolite, Brit. Is.; BUCKMAN (90), p. cxi.

†*Nathorstites*, n. n. for *Arctoceras*, Böhm non Hyatt; BÖHM (62), p. 61.

†*Nipponites*, n. gen. for *N. mirabilis*, n. sp., Cretaceous, Japan; YABE, J. Coll. Tokyo xx, No. 2, p. 20.

- †*Eadiana*, n. gen., type *E. falcigera*, n. sp., Oolite, Brit. Is. ; BUCKMAN (90), p. cvii.  
 †*Osmanoceras*, n. gen. for *O. undulatum*, n. sp., Carboniferous, Sarajevo ; KITTL, Jahrb. geol. Reichsanst. liii, p. 674.  
 †*Paineia*, n. gen., type *P. nitens*, n. sp., Oolite, Brit. Is. ; BUCKMAN (90), p. lxxvi.  
 †*Spiticeras*, n. subgen. of *Holcostephanus* for *H. spitiensis*, Blanfd., &c., Spiti Shales ; UHLIG (622), p. 85.  
 †*Stokeia*, n. gen., type *S. marmorea*, n. sp., Oolite, Brit. Is. ; BUCKMAN (90), p. cxxvii.  
 †*Taramellia*, Campana, renamed *Taramelliceras*, q. v.  
 †*Taramelliceras*, n. n. for *Taramellia*, Campana, preocc. ; CAMPANA, Boll. Soc. geol. Ital. xxiii, p. 251.  
 †*Tetragonites*, n. gen. for *T. grimmeri*, n. sp., Carboniferous, Sarajevo ; KITTL, Jahrb. geol. Reichsanst. liii, p. 677 : Renamed *Entogonites*, q. v.  
 †*Uhligia*, n. gen., type *Hamites minutus*, Neum. & Uhlig ; KOENEN (366), p. 57.

## TETRABRANCHIATA.

- †*Amphoreopsis*, n. gen. for *A. paucicamerata*, n. sp., Carboniferous, Isle of Man ; CRICK, P. Malac. Soc. London vi, p. 134.  
*Nautilus*, popular notes on ; MANGER, P. South London Soc. 1903, p. 1.

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- (426): *E. (Gulella) girardi*, n. n. for *E. hidalgoi*, Girard non Moellendorff; KOBELT in MARTINI & CHEMNITZ (426), p. 287.
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- Glandina bogotensis*, Colombia; DA COSTA, P. Malac. Soc. London vi, p. 6, fig.: *G. lamyi*, Mexico; FISCHER & CHATELET, J. Conchyl. li, p. 321, fig.: n. spp.
- Indoennea*, n. subgen. of *Ennea* for *E. vara*, Bens., &c.; KOBELT, Nachrbl. Deutsch. malak. Ges. 1904, p. 28: also in MARTINI & CHEMNITZ (426), p. 154.
- Pseudelma*, n. gen. for *Ennea incisa*, Morel., and *E. martensiana*, Morel.; KOBELT, Nachrbl. Deutsch. malak. Ges. 1904, p. 29: also in MARTINI & CHEMNITZ (426), p. 125.
- Ptychorhytida* (Moellendorff MS.), n. subgen. of *Rhytida*, type *R. beraudi* (Gassies); KOBELT in MARTINI & CHEMNITZ (426), p. 65.
- Pupa canaliculata*, Crosse, is a synonym of *Gibbus uvula*, Desh.; ANCEY, J. Conchyl. lii, p. 305.
- Rhytida beraudi*, Gass., is a synonym of *R. bisulcata*, Pfr.; ANCEY, t. c. p. 289: *R. (Macrocycloides) euglypta*, n. n. for *R. lutea*, Moellendorff; KOBELT in MARTINI & CHEMNITZ (426), p. 45.
- Rhytida duplicata*, New Zealand; SUTER, P. Malac. Soc. London vi, p. 155, fig.: n. sp.
- Sinoennea*, n. subgen. of *Ennea*, type *Ennea strophiodes*, Gredler; KOBELT, Nachrbl. Deutsch. malak. Ges. 1904, p. 27: also in MARTINI & CHEMNITZ (426), p. 142.
- Streptaxis rollandi*, Bern., note on; ANCEY, J. Conchyl. lii, p. 307.
- S. paradiscus*, Mlldff., is a synonym of *S. discus*, Pfr.; ANCEY, t. c. p. 289.
- Streptostyla costaricensis*, Costa Rica; DA COSTA, P. Malac. Soc. London vi, p. 6, fig.: n. sp.
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- Agriolimax afer*, p. 676, *uataderensis*, p. 678, *gardullanus*, p. 679, *gofanus*, p. 680, *glandulosus*, p. 681, *koschanus*, p. 685, *kontanus*, *concrementosus*, p. 687, *kaffanus*, *abessinicus*, p. 689, *deckeni*, p. 690, *gimirranus*, p. 691, *fuscus*, p. 693, *limacoïdes*, p. 694, Abyssinia; SIMROTH, Zool. Jahrb. Syst. xix, figg.: n. spp.
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- Collingea*, notes on; COLLINGE (126).
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- Ctenoglypta*, n. gen. for *Helix newtoni*, Nevill; ANCEY, J. Conchyl. lii, p. 306.
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- Euplecta pratti*, British New Guinea; GUDE, P. Malac. Soc. London vi, p. 114, fig.: n. sp.
- Hirasea insignis*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 636: n. sp.
- Hyalinia adjaciensis*, Corsica; CAZIOT, Mem. Soc. zool. France xvi, p. 34, fig.: n. sp.
- Isselentia*, notes on; COLLINGE (126).

- Kaliella gudei*, n. subsp., *pallida*, Pils., note on; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 634.
- Kaliella sororeula*, Japan; PILSBRY & HIRASE, Nautilus xvii, p. 107 : *K. thaanumi*, p. 119, *lubricella*, p. 120, Hawaii; ANCEY, P. Malac. Soc. London vi, figg. : *K. kikaigashimae*, *humiliconus*, *okinoshimana*, *bimaris*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 633 : n. spp.
- Limax variegatus*, biology; KÜNKEL (375).
- Limax sidamoensis*, Sidamo; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 143 : *L. subfossilis*, *duplex*, Alpes-Maritimes; POLLONERA in CAZIOT, Feuille Natural. 1904, xxxiv, p. 223, figg. : n. spp.
- Macrochlamys dulcis*, p. 635, *gudei*, p. 636, n. subsp.; PILSBRY & HIRASE, P. Ac. Philad. 1904 : *M. cerasina*, n. subsp.; PILSBRY & HIRASE, Nautilus xviii, p. 6.
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- Microcystina vaga*, *lampra*, Japan; PILSBRY & HIRASE, t. c. p. 634 : n. spp.
- Microcystis rufobrunnea*, Hawaii; ANCEY, P. Malac. Soc. London vi, p. 119, fig. : n. sp.
- Navinidae*, monograph continued, with figg. of *N. (Nesta) kaledupana*, p. 1097, *perfragilis*, Moellendorff, p. 1098; KOBELT in MARTINI & CHEMNITZ (426).
- Omphalina pilsbryi*, Alabama; CLAPP, Nautilus xviii, p. 30 : n. sp.
- Parmacella deshayesii*, eggs, &c.; COLLINGE (129).
- Pliotropis*, n. subgen. of *Otesia*, type *O. biangulata*, Pfr.; KOBELT in MARTINI & CHEMNITZ (426), p. 1093.
- Sitala latissima*, n. subsp.; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 632.
- Sitala insignis*, Japan; PILSBRY & HIRASE, t. c. p. 632 : n. sp.
- Spirotraxon elegans*, Sinr., figd.; SIMROTH, Zool. Jahrb. Syst. xix, p. 702.
- Spirotraxon stuhlmanni*, *neumannii*, E. Africa; SIMROTH, t. c. p. 704, figg. : n. spp.
- Trochomorpha (Nigritella) contigua*, Pse., n. var.; BOETTGER, Zool. Jahrb. Syst. xx, p. 409.
- Trochomorpha (Nigritella) insolata*, Marshall Is.; BOETTGER, t. c. p. 410 : *T. cultrata*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 632 : *T. gulielmi*, *dautzenbergi*, Engano; SYKES, J. Malac. xi, p. 87, figg. : n. spp.
- Trochonanina bonhourii*, Lake Albany, *zeltneri*, Oualaimo; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 143 : n. spp.
- Varania*, n. g., type *V. loennbergi*, n. sp., Cameroons; SIMROTH, Zool. Jahrb. Syst. xix, p. 710, fig.
- Vaucheria*, n. gen. for *V. tingitana*, n. sp., N. W. Africa; PALLARY, J. Conchyl. lii, p. 7, fig.
- Vitrea radiatula*, n. var.; PILSBRY & HIRASE, Nautilus xvii, p. 117.
- Vitrea hawaiiensis*, Hawaii; ANCEY, P. Malac. Soc. London vi, p. 120, fig. : n. sp.
- Vitrina comorensis*, Pfr., is a young *Helix aperta*; ANCEY, J. Conchyl. lii, p. 288 : *V. keppelli*, Pfr., *ultima*, Mouss., and *kermadecensis*, Smith, are all the same; ANCEY, t. c. p. 307.
- Vitrina bozasi*, Riv. Oubangui; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 143 : n. sp.
- Nesta sparsa*, Mousson, notes on; ANCEY, J. Conchyl. lii, p. 298.
- Zonitoides apertus*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 636 : *Z. chishimannus*, Japan; PILSBRY & HIRASE, Nautilus xviii, p. 5 : n. spp.

## ARIONIDÆ.

- Arion hortensis*, absence of male generative organs; COLLINGE, J. Malac. xi, p. 15: *A. subfuscus*, note on var.; COLLINGE (130).  
*Arionculus pallaryi*, Algeria; COLLINGE, J. Malac. xi, p. 47: **n. sp.**  
*Ostracolethe*, anatomy; SIMROTH, Zeitschr. wiss. Zool. lxxvi, pp. 612-672, figg.

## ENDODONTIDÆ.

- Carthæa*, Hutton, renamed *Serpho*, q. v.  
*Delos*, **n. n.** for *Rhenea*, Hutton non Saalmuller; HUTTON, P. Linn. Soc. N. S. Wales xxix, p. 461.  
*Endodonta (Charopa) transenna*, New Zealand; SUTER, P. Malac. Soc. London vi, p. 156, fig.: *E. (Charopa) ochra*, (*C. chrysaugæia*, p. 107, *alloia*, p. 108, New Zealand; WEBSTER, t. c. figg.: **n. spp.**  
*Helix matkinæ*, Petterd, *hookeriana*, Johnston, figd.; HEDLEY (292).  
*Laoma moellendorffi*, Suter, sinistral specimen; SUTER, P. Malac. Soc. London vi, p. 157.  
*Laoma (Phriagnathus) francesci*, (*P. elaiodes*, New Zealand; WEBSTER, t. c. p. 106, figg.: **n. spp.**  
*Punctum horneri*, Oahu; ANCEY, J. Malac. xi, p. 66, fig.: *P. infans*, Japan; PILSBRY & HIRASE, Nautilus xvii, p. 107: *P. elachistum*, *apertum*, Japan; PILSBRY & HIRASE, op. cit. xviii, p. 5: *P. atomus*, p. 636, *rota*, p. 637, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904: **n. spp.**  
*Pyramidula alternata*, spire variation; BAKER (31).  
*Pyrrha*, Hutton, renamed *Thermia*, q. v.  
*Ithenea*, Hutton, renamed *Delos*, q. v.  
*Serpho*, **n. n.** for *Carthæa*, Hutton non Walker; HUTTON, P. Linn. Soc. N. S. Wales xxix, p. 461.  
*Thermia*, **n. n.** for *Pyrrha*, Hutton non Cabanis; HUTTON, t. c. p. 461.

## HELICIDÆ.

- Alabastrina*, **n. subgen.** of *Iberus*, for *I. alabastrites*, Mich., etc.; KOBELT in ROSSMAESSLER (543), pp. 132, 194.  
*Albersia subspherica*, Gebi I.; FULTON, J. Malac. xi, p. 54, fig.: *A. waigiouensis*, Waigiou; SYKES, t. c. p. 88, fig.: **n. spp.**  
*Ashmunella walkeri*, New Mexico; FERRISS, Nautilus xviii, p. 53: *A. townsendi*, New Mexico; BARTSCH, Smithsonian. Collect. xlvii, p. 13: **n. spp.**  
*Botteria*, **n. gen.** for *Campylæa setosa*, Zgl.; BRUSINA, Nachrbl. Deutsch. malak. Ges. 1904, p. 162.  
*Cathaica orithya, pulveratrix, nodulifera*, **n. var.**; ANDREAE (16).  
*Cathaica (Eucathaica) sturanyi*, Rolle, (*Campylocathaica) hermanni*, Mlldff., Western Turkestan; GUDE, J. Malac. xi, p. 93: *C. (Eucathaica) subtilistriatu*, p. 59, (*Xerocathaica) ohlmeri*, (*X.*) *holdereri*, p. 64, (*Pseudiberus) futtereri*, p. 66, Central Asia; ANDREAE (16), figg.: **n. spp.**  
*Cattania*, **n. gen.** for *Campylæa trizona*, Zgl.; BRUSINA, Nachrbl. Deutsch. malak. Ges. 1904, p. 162.  
*Chloritis tosanus*, **n. subsp.**; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 629.  
*Chloritis obscurus*, Japan; PILSBRY & HIRASE, t. c. p. 628, fig.: **n. sp.**  
*Corilla erronella* (Nevill MS.), Ceylon; GUDE, J. Malac. xi, p. 45, fig.: **n. sp.**  
*Discolepis*, **n. gen.** for *Helix desidens*, Rang. (of which *H. ancylochila*,



- Crosse, is a synonym), and *sumichrasti*; ANCEY, J. Conchyl. lii, p. 298.
- Drobacia*, n. gen. for *Campylæa banatica*, Partsch; BRUSINA, Nachrbl. Deutsch. malak. Ges. 1904, p. 162.
- Dupotetia*, n. subgen. of *Iberus*, for *I. dupotetianus*, Terver, etc.; KOBELT in ROSSMAESSLER (543), pp. 132, 195.
- Epiaphragmophora remondi*, Tryon, *verrilli*, Ancey, notes on; ANCEY, J. Conchyl. lii, p. 312.
- Eulota pannosa*, *shikokuensis*, p. 3, *mimula*, p. 4, *friedeliana*, p. 33, *kobensis*, p. 34, n. varr.; PILSBRY & HIRASE (496): *E. kobensis*, *commoda*, *shikokuensis*, n. varr.; PILSBRY & HIRASE, Nautilus xvii, p. 105; *E. friedeliana*, p. 625, *callizona*, p. 626, *despecta*, p. 627, n. varr.; PILSBRY & HIRASE, P. Ac. Philad. 1904.
- Eulota endo*, p. 105, *chishimana*, p. 116, Japan; PILSBRY & HIRASE, Nautilus xvii: *E. (Ægista) eminens*, p. 4, (*Euhadra*) *irrediviva*, p. 32, (*Ægista*) *tokunoshimana*, (*Plectotropis*) *pressa*, p. 33, Japan; PILSBRY & HIRASE, op. cit. xviii: *E. globosa*, Shantung; JONES & PRESTON, P. Malac. Soc. London vi, p. 140, fig.: *E. (Ægista) omma*, p. 625, (*Euhadra*) *okinocerabuensis*, p. 626, *niyaka*, p. 627, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904: n. spp.
- Eurystoma vittata*, Albers, anatomy; GODWIN-AUSTEN (260).
- Faustina*, n. subgen. of *Campylæa*, for *C. faustina*, Ziegl.; KOBELT in ROSSMAESSLER (543), p. 186.
- Fruticicola erjavecii*, Brus., n. var.; LAJOS (378).
- Fruticicola dacica*, Hungary; LAJOS, Ann. Mus. Hungar. ii, p. 294: n. sp.
- Ganesella myomphala*, *selasia*, n. subspp.; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 630.
- Ganesella tokunoshimana*, Japan; PILSBRY & HIRASE, t. c. p. 629: n. sp.
- Helix*, monograph continued; KOBELT in MARTINI & CHEMNITZ (426): Review of Hungarian species; SOOS (586): A number of forms figured from N.W. Africa, with newly named varieties; PALLARY (466): *H. pomatia*, structure of the spermatozooids; LEE (391): *H. pomatia*, evolution of the spermatozooids; LEE (392): *H. nemoralis*, variation; WINKWORTH (655): *H. nemoralis*, sinistral; COLLIER (124): *H. pomatia*, monstrosity; KOBELT, Nachrbl. Deutsch. malak. Ges. 1904, p. 125: *H. pomatia*, sinistral; JENNINGS (331): *H. aspersa*, reversed; WELCH & STELFOX, Irish Natural. xiii, p. 189, fig.: *H. auridens*, Rang, n. var.; ANCEY, J. Conchyl. lii, p. 311: *H. pomatia*, monstrosities; BELLEVOYE (49): *H. pomatia*, olfactory sense; DUBOIS (201): YUNG (669): *H. primeana*, *hidalgoiana*, *cailleti*, *mabillei*, *leucolena*, all of Crosse, *duroi*, Hidalgo, *calculus*, Pfr., are all synonyms of various spp.; ANCEY (14): *H. hortensis* and *nemoralis*, study of variation; LANG (384): *H. pomatia*, function of salivary glands; GORKA (264): *H. aperta*, distribution and variability; CAZIOT (105): *H. niciensis*, varr.; CAZIOT (103): *H. (Helicogena) blumi*, *critica*, *pseudopomatia*, Kobelt, *escherichi*, Btgr., *pathetica*, Albers, *philibensis*, Pfr., figd.; KOBELT in MARTINI & CHEMNITZ (426): *H. albescens* (Jan) Rossm., note on; KOBELT (365): *H. vermiculata*, synonymy and distribution; CAZIOT (107): *H. ciliciana*, *pachya*, *adanensis*, *moabitica*, *vulgaris*, *lutescens*, *figulina*, *pelasgica*, *pathetica*, *cavata*, n. varr.; KOBELT in MARTINI & CHEMNITZ (426).
- Helix paoliana*, p. 35, *mauryi*, p. 36, Corsica; CAZIOT, Mem. Soc. zool. Franco xvi, figg.: *H. arnouldi*, p. 100, *joubini*, p. 101, France; GERMAIN, Bull. Soc. Ouest France xiv, figg.: *H. (Helicogena) rueppelli*, Egypt, p. 122, *oestreichi*, Albania, *frivaldszkyi*, Turkey, p. 146, *ciliciana*, Cilicia, p. 152, *dickharti*, Jerusalem, p. 185, *straubei*, Turkey, p. 190, *anthesi*, Bosphorus, p. 191, *pelasgica*, Greece, p. 192; KOBELT in

- MARTINI & CHEMNITZ (426), figg. : *H. (Xerophila) redassiana*, p. 12, (*X.*) *misslei*, p. 14, (*X.*) *castriesi*, p. 15, (*X.*) *foucauldi*, p. 16, N.W. Africa; PALLARY, J. Conchyl. lii, figg. : **n. spp.**
- Iberus*, notes on; KOBELT (363) : *I. mariannæ*, n. var., pp. 198, 284; KOBELT in ROSSMAESSLER (543).
- Kosicua*, **n. gen.** for *Campylæa intermedia*, Fer.; BRUSINA, Nachrbl. Deutsch. malak. Ges. 1904, p. 162.
- Murella galdensis*, p. 21, *saprensis*, p. 22, *coccovelli*, p. 23, *marateensis*, p. 24, *mingardi*, p. 57, *consigliana*, p. 58, *lucana* (Westlnd.), p. 59, *sirinenis*, p. 60, Italy; KOBELT, t. c. : **n. spp.**
- Obba subgranulata*, Batjan; SYKES, J. Malac. xi, p. 89, fig. : **n. sp.**
- Oreohelix*, **n. gen.** for the Rocky Mountain Helices of the *H. strigosa* group; PILSBRY, Nautilus xvii, p. 131.
- Oreohelix clappi*, Arizona; FERRISS, Nautilus xviii, p. 53 : **n. sp.**
- Otala*, notes on; KOBELT (363).
- Papaina unicolor*, Pfr., comes from Waigiou; ANCEY, J. Conchyl. lii, p. 291 : *P. unicolor*, Pfr., comes from Gebi I.; FULTON, J. Malac. xi, p. 53 : *P. barnadei*, Smith, is a synonym of *P. alfredi* var. *trichroa*, Mart.; ANCEY, J. Conchyl. lii, p. 291 : *P. lintera*, Mildff., is a synonym of *P. secans*, Hedley; ANCEY, t. c. p. 311 : *P. lanceolata*, n. var.; SYKES, J. Malac. xi, p. 91.
- Papaina fallax*, Gebi I.; FULTON, J. Malac. xi, p. 53, fig. : *P. ecolorata*, Batjan, *semibrunnea*, Gebi I.; SYKES, J. Malac. xi, p. 90, figg. : **n. spp.**
- Planispira endoptycha*, Martens, n. var.; SYKES, J. Malac. xi, p. 88.
- Planispira (Cristigibba) gebiensis*, Gebi I., p. 88, (*C.*) *fruhstorferi*, Obi, p. 89; SYKES, J. Malac. xi, figg. : **n. spp.**
- Plectopylis (Sinicola) hirasei*, Riukiu Is.; PILSBRY, Nautilus xviii, p. 58 : **n. sp.**
- Pleurodonte gudeana*, **n. n.** for *Helix neogranadensis*, Kobelt non Pfr.; ANCEY, J. Conchyl. lii, p. 297.
- Polygyra tridentata*, **n. subsp.**; PILSBRY, Nautilus xvii, p. 142 : *P. stenotrema*, n. var.; CLAPP, op. cit. xviii, p. 86 : *P. appressa*, p. 89, *wheatleyi*, p. 90, n. varr.; PILSBRY, t. c. : *P. monodon* and *hirsuta*, albino; HYNING, t. c. p. 92.
- Polygyra (Stenotrema) barbata*, Alabama; CLAPP, Nautilus xviii, p. 85 : **n. sp.**
- Sabljaria*, **n. gen.** for *Campylæa stenomphala*, Menke; BRUSINA, Nachrbl. Deutsch. malak. Ges. 1904, p. 162.
- Sonorella*, review of group, *S. walcottiana* should be *walcottiana*; BARTSCH (35) : *S. lohrii*, n. subsp.; PILSBRY, Nautilus xviii, p. 59.
- Sonorella ashmuni*, p. 190, Arizona, *nelsoni*, p. 191, *goldmani*, Mexico, *merrilli*, p. 192, Lower California, *dalli*, Arizona, p. 193, *mearnsi*, Mexico, p. 194, *baileyi*, p. 195, Mexico, *fisheri*, p. 197, California; BARTSCH, Smithsonian. Collect. xvii, figg. : **n. spp.**
- Systrophia moellendorffi*, Peru; ROLLE, Nachrbl. Deutsch. malak. Ges. 1904, p. 35, fig. : **n. sp.**
- Thersites*, critical list of the *Sphaerospira* section with forms figd. and **n. var.** of *T. lessoni*; FULTON (240) : *T. beddomæ* is a variety of *bellendenkerensis*; FULTON, J. Malac. xi, p. 1.
- Thersites concors*, Queensland; FULTON, t. c. p. 8, fig. : **n. sp.**
- Trishoplita mesogonia*, n. var.; PILSBRY & HIRASE, Nautilus xvii, p. 106.
- Trishoplita nitens*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 628 : **n. sp.**
- Vidoviccia*, **n. gen.** for *Campylæa lacticina*, Zgl.; BRUSINA, Nachrbl. Deutsch. malak. Ges. 1904, p. 162.
- Vulnus*, **n. sect.** for *Planispira endoptycha*, Martens; SYKES, J. Malac. xi, p. 88.

- Westerlundia*, n. subgen. of *Fruticicola* for *F. schuberti*, Roth, etc. ;  
 KOBELT in ROSSMAESSLER (543), pp. 131, 181.  
*Xanthomelon bednalli*, Central Australia ; PONSONBY, P. Malac. Soc.  
 London vi, p. 182 fig. : n. sp.  
*Xerophila ammonis*, n. var. ; KOBELT in ROSSMAESSLER (543), p. 201.  
*Xerophila adelpha*, p. 292, *homoleuca* (Sabljar and Kučik), p. 293, Hungary ;  
 LAJOS, Ann. Mus. Hungar. ii : n. spp.

## BULIMIDÆ and BULIMULIDÆ.

- Amphidromus palaceus*, subcarinate var. ; BULLEN, P. Malac. Soc. London  
 vi, p. 109.  
*Amphidromus weyersi*, Borneo ; DAUTZENBERG, Ann. Soc. malac. Belgique  
 xxxviii, p. 4, fig. : *A. gossei*, Borneo ; BARTSCH, Smithsonian. Collect.  
 xlvii, p. 292, fig. : n. spp.  
*Bulimulus pallidior*, Sby., notes on, *B. pluto*, Crosse, and *nuciformis*, Petit,  
 are respectively synonyms of *B. tupaciti*, D'Orb., and *nux*, Brod. ;  
 ANCEY, J. Conchyl. lii, pp. 301 & 302.  
*Bulimulus (Drymæus) abruptus*, p. 35, *loxostylus*, *pergracilis*, p. 37, Peru ;  
 ROLLE, Nachrbl. Deutsch. malak. Ges. 1904, figg. : *B. ephippium*, *gontio-*  
*tropis*, Brazil ; ANCEY, Nautilus xvii : n. spp.  
*Bulimus (?) illustris*, Peru ; ROLLE, Nachrbl. Deutsch. malak. Ges. 1904, fig. :  
 n. sp.  
*Drymæus nubilus*, Preston, is a synonym of *D. reclusianus* var. *martensianus* ;  
 ANCEY, Nautilus xviii, p. 22.  
*Drymæus multispira*, Bolivia ; DA COSTA, P. Malac. Soc. London vi, p. 5,  
 fig. : n. sp.  
*Odontostomus inflatus*, Wagner, n. varr. ; ANCEY, J. Conchyl. lii, p. 303.  
*Odontostomus squarrosus*, Brazil, *glabratus*, *deraini*, Argentina ; ANCEY,  
 Nautilus xvii, p. 103 : n. spp.  
*Porphyrobaphe sarcostoma*, Ancey, is a synonym of *P. yatesi* ; ANCEY,  
 t. c. p. 104.  
*Strophocheilus mabillei*, Crosse, is a synonym of *Bulimus pulicarius*, Reeve,  
 and *S. dalmasi*, Dtz., comes from Colombia ; ANCEY, J. Conchyl. lii,  
 pp. 300 & 301 : *S. argenteus*, Jouss., note on ; ANCEY, t. c. p. 314.  
*Strophocheilus (Eurytus) auriformis*, Colombia, *miersi*, Brazil ; DA COSTA,  
 P. Malac. Soc. London vi, p. 5, figg. : n. spp.  
*Thaumastus sangocæ*, *biteniatus*, epiphragms ; SMITH (572).

## BULIMINIDÆ, UROCOPTIDÆ, and PUPIDÆ.

- Anoma*, notes on with figg. of several forms and n. var. of *A. fuscolabris* ;  
 SYKES (606).  
*Brachypodella obesula*, n. n. for *Cylindrella obesa*, Weinl. non Ad. ;  
 PILSBRY in TRYON (619), xvi, p. 195.  
*Buliminus bieti*, Ancey, is a good species ; ANCEY, J. Conchyl. lii, p. 299.  
*Buliminus silvestris*, (*Napæus*) *karagoinensis*, Central Asia ; ROSEN, Nachrbl.  
 Deutsch. malak. Ges. 1904, p. 169 : n. spp.  
*Clausilia dubia*, *procera*, n. varr. ; CSIKI (158) : *C. bocki*, Sykes, note on ;  
 ANCEY, J. Conchyl. lii, p. 307 : *C. itala*, study of variation ; WELDON  
 (647) : *C. pilsbryana*, n. n. for *C. oscariana*, Pilsbry non Gredler ;  
 ANCEY, Nautilus xviii, p. 21 : *C. ducalis*, p. 809, *platydera*, p. 813,  
*aurantiaca*, p. 815, *hyperoptyx*, p. 830, *dæmonorum*, p. 833, *tryoni*,  
 p. 837, n. varr. ; PILSBRY, P. Ac. Philad. 1904.  
*Clausilia (Albinaria) holtzi*, Crete ; STURANY, Nachrbl. Deutsch. malak.  
 Ges. 1904, p. 110 : *C. millennaris*, Hungary ; CSIKI, Ann. Mus. Hungar. i,

- p. 108: *C. cymatodes*, *nagashimana*, p. 180, *ventriluna*, p. 811, *ikiensis*, p. 812, *mikawa*, p. 813, *hosayaka*, *koshikijimana*, p. 814, *okinoerabuensis*, *azumai*, p. 816, *nakadai*, p. 818, *tokunoshimana*, p. 819, *ophidoon*, p. 820, *subhickonis*, p. 821, *purissima*, *asperata*, p. 826, *hyperaptyx*, p. 827, *kikaiensis*, p. 828, *sarissa*, p. 829, *yaeyamensis*, p. 831, *pattalus*, p. 832, *thamatopoma*, p. 834, *hedleyi*, p. 835, *cladoptyx*, p. 836, Japanese Empire; PILSBRY, P. Ac. Philad. 1904, figg.: n. spp.
- Coryna biarmata* (Bttgr. MS.), Hertzgovina; STURANY, Nachrbl. Deutsch. malak. Ges. 1904, p. 105, fig.: n. sp.
- Diceratoptyx*, n. sect. of *Clausilia*, type *C. cladoptyx*, n. sp.; PILSBRY, P. Ac. Philad. 1904, p. 836.
- Ena* (*Cerastus*) *lagariensis*, British East Africa; SMITH, P. Malac. Soc. London iv, p. 68, fig.: n. sp.
- Hemizaptyx*, n. sect. of *Clausilia*, type *C. pinto*, Pils.; PILSBRY, P. Ac. Philad. 1904, p. 824.
- Jaminia muscorum*, sinistral; BALDWIN (32).
- Lycopupa lyrata*, Gould, note on, *mirabilis*, Ancey, *perlonga*, Pease, figd.; ANCEY, P. Malac. Soc. London vi, pp. 125 & 126: *L. mirabilis*, *magdalena*, n. varr.; ANCEY, J. Malac. xi, p. 68.
- Lycopupa clathratula*, Hawaii, *carbonaria*, p. 125, *microthauma*, Oahu, p. 126; ANCEY, P. Malac. Soc. London vi, figg.: n. spp.
- Metazaptyx*, n. sect. of *Clausilia*, for *C. hachijoensis*, Pils., &c.; PILSBRY, P. Ac. Philad. 1904, p. 811.
- Nenia huancabambensis*, Peru; ROLLE, Nachrbl. Deutsch. malak. Ges. 1904, p. 38, fig.: n. sp.
- Nesiophadusa*, n. sect. of *Clausilia*, type *C. bernardii*, Pfr.; PILSBRY, P. Ac. Philad. 1904, p. 815.
- Nesopupa tamagonari*, Japan; PILSBRY & HIRASE, Nautilus xvii, p. 118: *N. baldvini*, Maui and Hawaii, *pliocifera*, Oahu, p. 122, *thaanumi*, Hawaii, *wesleyana*, Hawaiian Is., p. 123, *kauiensis*, Kauai, p. 124; ANCEY, P. Malac. Soc. London vi, figg.: n. spp.
- Oligozaptyx*, n. sect. of *Clausilia*, type *C. hedleyi*, n. sp.; PILSBRY, P. Ac. Philad. 1904, p. 835.
- Oophadusa*, n. sect. of *Clausilia* for *C. ophidoon*, n. sp.; PILSBRY, t. c. p. 820.
- Parazaptyx*, n. sect. of *Clausilia*, type *C. thamatopoma*, n. sp.; PILSBRY, t. c. p. 834.
- Perrieria canefriana*, Obi; SYKES, J. Malac. xi, p. 91, fig.: n. sp.
- Pholeteras*, n. gen. for *P. euthrix*, n. sp., Hertzgovina; STURANY, Nachrbl. Deutsch. malak. Ges. 1904, p. 106, fig.: n. sp.
- Pupida*, notes on nomenclature; DALL (168): *P. cupa*, Jan, n. var.; ANDREAE (16).
- Pupa insulivaga*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 631: n. sp.
- Serrulina collasi*, Corfu; STURANY, Nachrbl. Deutsch. malak. Ges. 1904, p. 103, fig.: n. sp.
- Vertigo hirasei*, n. subspp.; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 631: *V. andrusiana*, Pils., note on; PILSBRY, Nautilus xvii, p. 131.
- Vertigo japonica*, Japan; PILSBRY & HIRASE, Nautilus xvii, p. 118: n. sp.

## STENOGRYRIDÆ and ACHATINELLIDÆ.

- Achatinidæ*, review of commenced, with n. varr. of *A. achatina*, L., p. 10, *panthera*, Fer., p. 45, *fulica*, Fer., p. 58; PILSBRY in TRYON (619), xvii.

- Achatina occidentalis*, Corisco I. ; PILSBRY in TRYON (619), xvii, p. 23, fig. : **n. sp.**
- Achatinella multizonata*, notes on variation ; COOKE (139).
- Amastra luctuosa*, Pfr., n. var., with fig. of *A. henshawi*, Ancey ; ANCEY, P. Malac. Soc. London vi, p. 121.
- Amastra rex*, Hawaiian Is. ; SYKES, Ann. Nat. Hist. xiv, p. 159, fig. : **n. sp.**
- Archachatina marginata*, Swains., n. var. ; PILSBRY in TRYON (619), xvii, p. 111.
- Auriculella pulchra*, Pease, is a var. of *A. auricula* ; ANCEY, J. Conchyl. lii, p. 304.
- Auriculella malleata*, Oahu, p. 120, *canalifera*, Molokai, p. 121 ; ANCEY, P. Malac. Soc. London vi, figg. : **n. spp.**
- Burtoa nilotica*, Pfr., n. var. ; PILSBRY in TRYON (619), xvi, p. 303.
- Carelia turricula*, Mighels, *fuliginea*, Pfr., n. var. ; ANCEY, P. Malac. Soc. London vi, pp. 121, 122.
- Leptocallista*, n. sect. of *Leptocala* for *Achatina raffrayi*, Jouss., and *grandidieriana*, Brgt. ; PILSBRY in TRYON (619), xvii, p. 75.
- Limicolaria lucatana*, n. n. for *Bulimus jaspideus*, Morelet, 1866 non 1863, p. 262, *felina*, Shuttl., n. var., p. 266, *saturata*, Smith, n. var., p. 286 ; PILSBRY in TRYON (619), xvi : *L. hidalgoi*, Crosse, note on ; ANCEY, J. Conchyl. lii, p. 305.
- Limicolaria agathina* (Gabb), *tryoniana*, West Africa, p. 250, *longa*, British East Africa, p. 284 ; PILSBRY in TRYON (619), xvi, figg. : **n. spp.**
- Limicotaria* (sic) *joubini*, Congo ; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 142 : **n. sp.**
- Metachatina*, **n. gen.**, type *Bulimus kraussi*, Pfr. ; PILSBRY in TRYON (619), xvi, p. 307.
- Opeas*, notes on with n. var. of *O. prestoni* ; SYKES, P. Malac. Soc. London vi, p. 112.
- Opeas heptagyrum*, Marshall Is. ; BOETTGER, Zool. Jahrb. Syst. xx, p. 411 : *O. henshawi*, Hawaii ; SYKES, P. Malac. Soc. London vi, p. 112 : *O. brevispira*, *kyotoensis*, p. 637, *obesipira*, p. 638, Japan ; PILSBRY & HIRASE, P. Ac. Philad. 1904 : **n. spp.**
- Partulina physa*, n. var. ; ANCEY, P. Malac. Soc. London vi, p. 121.
- Pseudachatina pyramidata*, Kob., n. var. ; PILSBRY in TRYON (619), xvi, p. 210.
- Pseudachatina daillyana*, West Africa ; PILSBRY in TRYON (619), xvi, p. 214, fig. : **n. sp.**
- Pseudoglessula prestoni*, p. 68, *gracilior*, p. 69, German East Africa ; SMITH, P. Malac. Soc. London vi, figg. : **n. spp.**
- Pseudotrochus moreletianus*, Desh., p. 228, *interstinctus*, Gould, p. 240, n. var. ; PILSBRY in TRYON (619), xvi.
- Spiraxis cacahumilpensis* [apparently **n. sp.**], Mexico ; HERRERA, Mem. Soc. Ant. Alzate v, p. 219 [1891] : **n. sp.**
- Stenogyra retteri* (Rosen MS.), Turkestan ; KOBELT, Nachrbl. Deutsch. malak. Ges. 1904, p. 87 : **n. sp.**
- Subulina lagariensis*, British East Africa ; SMITH, P. Malac. Soc. London vi, p. 69, fig. : *S. kassaiana*, Central Africa ; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 142 : **n. sp.**
- Tornatellina*, notes on Hawaiian species ; ANCEY (13).
- T. monodonta*, Japan ; PILSBRY & HIRASE, Nautilus xviii, p. 6 : *M. macromphala*, Maui and Oahu, p. 296, *cincta*, Hawaiian Is., p. 297, *abbreviata*, Maui, p. 298, *henshawi*, Hawaii, p. 299, *procerula*, p. 302, *subangulata*, *terebra*, p. 303, Maui, *pyramidata*, Hawaii, p. 304, *macroptychia*, Maui, p. 305, *fusca*, Hawaii, p. 306 ; ANCEY, J. Conchyl. li, figg. : **n. spp.**

## SUCCINEIDÆ, VERONICELLIDÆ and ONCIDIIDÆ.

Notes on a new but unnamed genus (*Veronicellidæ*); COLLINGE, J. Malac. xi, p. 14.

*Oncidiella flavescens*, Chatham Is.; WISELL, Zool. Jahrb. Syst. xx, p. 668, fig. : n. sp.

*Succinea wrighti*, Crosse, is a synonym of *S. lauta*, Gould; ANCEY, J. Conchyl. lii, p. 306 : *S. casta*, n. varr.; ANCEY, P. Malac. Soc. London vi, p. 117 : *S. oblonga*, white var.; WRIGHT, J. Conch. xi, p. 96.

*Succinea ikiana*, Japan; PILSBRY & HIRASE, Nautilus xvii, p. 117 : *S. brumpti*, River Omo; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 142 : *S. kuhnsi*, p. 117, *tenerima*, Hawaii, *apicalis*, p. 118, *tetragona*, Maui, *quadrata*, Hawaii, p. 119; ANCEY, P. Malac. Soc. London vi, figg. : n. spp.

## BASOMMATOPHORA.

## AURICULIDÆ, LIMNÆIDÆ and PHYSIDÆ.

*Ameria plicaxis*, Obi; SYKES, J. Malac. xi, p. 92, fig. : n. sp.

*Ancylus* adhering to water-beetles; JOHNSON (335): Eastern American species; WALKER (638) : *Ancylus* during the dry season in S. America; BOETTGER (68).

*Ancylus crequi*, Lake Titicaca, Bolivia; BAVAY, Bull. Soc. zool. France xxix, p. 156, fig. : n. sp.

*Carychium pessimum*, n. var.; PILSBRY & HIRASE, Nautilus xvii, p. 119.

*Carychium nipponense*, Japan; PILSBRY & HIRASE, op. cit. xviii, p. 7 : n. sp.

*Gundlachia* is an *Ancylus* which by forming an epiphragm has survived winter; DALL (167).

*Limnæa reftexa*, n. varr.; BAKER (26) : *L. decollata*, n. var.; BAKER, Nautilus xviii, p. 62 : *L. truncatula*, n. var.; BELLINI, J. Conch. xi, p. 38 : *L. maroccana*, figd.; PALLARY, J. Conchyl. lii, p. 33 : *L. palustris*, n. var.; LINDHOLM, Annuaire Mus. St. Petersb. viii, p. 339 : *L. lagotis*, n. var.; ANDREAE (16).

*Limnæa rochebruni* (Germain), France; ROCHEBRUNE, Bull. Mus. Paris x, p. 191, fig. : *L. randolphi*, Alaska; BAKER, Nautilus xviii, p. 63 : *L. nimoulensis*, White Nile; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 141 : *L. mars*, p. 141, (*Gulnaria*) *whartoni*, (*G.*) *shantungensis*, (*G.*) *pettiti*, p. 142, Shantung; JONES & PRESTON, P. Malac. Soc. London vi, figg. : n. spp.

*Melampus flavus*, Gmel., *coffeus*, L., n. varr.; DAVIS (181).

*Physopsis didieri*, White Nile; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 142 : n. sp.

*Planorbis corneus*, kidney, pericardium and heart; PÖTZSCH (501) : *P. truncatus*, Miles, notes on; BAKER (30) : *P. montanus*, d'Orb., carinate var. figd.; BAVAY (40).

*Planorbis bozasi*, Lake Challa; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 141 : n. sp.

## SIPHONARIIDÆ and AMPHIBOLIDÆ.

*Ampullarina africana*, Port Alfred; SMITH, J. Malac. xi, p. 38, fig. : n. sp.

*Siphonaria alternata*, n. varr.; DAVIS (181).

*Siphonaria subatrata*, *rucuana*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 36, figg. : n. spp.

## OPISTHOBRANCHIATA.

Opisthobranchs, free larvæ of ; MAZZARELLI (431).  
Nervous system ; VAYSSIÈRE (629).

## NUDIBRANCHIATA.

Notes on some Genera ; ELIOT (208, &c.).

Spawn of some Nudibranchs ; SMALLWOOD (569).

Nudibranchiata, nematocysts ; GROSVENOR (269) : ABRIC (2, 4) : LENDEN-  
FELD (394).

Variation of colour ; ABRIC (1).

Anatomy of several Nudibranchs ; VAYSSIÈRE (629).

*Alloiodoris*, n. gen. for *A. marmorata*, n. sp., Tasmania ; BERGH (52),  
p. 41, fig.

*Archidoris stellifera* (Ihering), Gulf of Marseilles ; VAYSSIÈRE, J. Conchyl.  
lii, p. 130, fig. : *A. africana*, p. 361, *minor*, p. 362, E. Africa ; ELIOT,  
P. Zool. Soc. London 1903, ii : *A. violacea*, p. 31, *nanula*, p. 33, New  
Zealand ; BERGH (52), figg. : n. spp.

*Asteronotus hemprichi*, Ehrenberg, figd. ; ELIOT, P. Zool. Soc. London  
1903, ii, p. 384.

*Bornella digitata*, Adams, *excepta*, Bergh, p. 102, radula ; ELIOT, op. cit.  
1904, ii.

*Bornella simplex*, Zanzibar ; ELIOT, t. c. p. 103, fig. : n. sp.

*Chromodoris reticulata*, Pease, p. 386, figd., *elizabethina*, Bergh, n. var.,  
p. 392, *lineata*, Souleyet, n. var., p. 397 ; ELIOT, P. Zool. Soc. London  
1904, i : *C. (?) roseopicta*, Verrill, note on ; VERRILL, Tr. Connect.  
Ac. xi, p. 33.

*Chromodoris sykesi*, p. 387, *cava*, p. 388, *annulata*, p. 389, *splendens*, p. 390,  
*vicina*, p. 392, *nigrostriata*, p. 394, *inconspicua*, p. 398, (?) *flava*, p. 399,  
Zanzibar ; ELIOT, P. Zool. Soc. London 1904, i, several figd. : n. spp.

*Coryphella californica*, California ; BERGH (52), p. 6, fig. : n. sp.

*Cuthona* (?) *bicolor*, Japan ; BERGH (52), p. 3, fig. : n. sp.

*Discodoris cærulescens*, n. subsp., Zanzibar ; ELIOT, P. Zool. Soc. London  
1903, ii, p. 365.

*Discodoris dubia*, p. 53, *egena*, p. 54, Tasmania ; BERGH (52), figg. :  
n. spp.

*Doris planata*, notes on ; ELIOT (207).

*Doris giardi*, Wimereux ; ABRIC, C.R. Soc. Biol. lvii, p. 232 : n. sp.

*Elysia subornata*, p. 29, *flava*, *picta*, p. 30, *papillosa*, p. 31, Bermudas ;  
VERRILL, Tr. Connect. Ac. xi, figg. : n. spp.

*Facelina goslingii*, Bermudas ; VERRILL, t. c. p. 34, fig. : n. sp.

*Fiona*, development of germ layers ; CASTEEL (99) : *F. marina*, early  
larval development ; CASTEEL (100).

*Fracassa tuberculosa*, Zanzibar ; ELIOT, P. Zool. Soc. London 1903, ii,  
p. 371 : n. sp.

*Halgerda willeyi*, Loyalty Is., p. 372, *wasinensis*, E. Africa, p. 373 ; ELIOT,  
t. c. figg. : n. spp.

*Hexabranchnus plicatus*, Red Sea ; HÄGG (278), p. 5, fig. : n. sp.

*Homodoris nov. zealandiae*, New Zealand ; BERGH (52), p. 35, fig. : n. sp.

*Kentodoris rubescens*, Bergh, figd. ; ELIOT, P. Zool. Soc. London 1903, ii,  
p. 374.

*Lamellidoris aureopuncte*, p. 31, *miniata*, p. 32, Bermudas ; VERRILL,  
Tr. Connect. Ac. xi, figg. : n. spp.

*Linguella variolosa*, China Sea ; BERGH (52), p. 21, fig. : n. sp.

- Madrella aurantiaca*, Gulf of Marseilles ; VAYSSIÈRE, Ann. Mus. Marseille viii, p. 89, fig. : **n. sp.**
- Marionia pellucida*, E. Africa, *levis*, figd., p. 94, *ramosa*, p. 96, Zanzibar, *albotuberculata*, p. 97, *viridescens*, p. 98, E. Africa ; ELIOT, P. Zool. Soc. London 1904, ii : **n. spp.**
- Melibe pellucida*, Columbia R., Washington ; BERGH (52), p. 11, fig. : **n. sp.**
- Nembrotha cœrulea*, E. Africa, p. 91, *affinis*, Zanzibar, p. 92, figd. ; ELIOT, P. Zool. Soc. London 1904, ii : **n. spp.**
- Notodoris minor*, Zanzibar ; ELIOT, t. c. p. 84, fig. : **n. sp.**
- Peltodoris angulata*, p. 365, *aurea*, p. 366, E. Africa ; ELIOT, op. cit. 1903, ii : **n. spp.**
- Peronodoris*, **n. gen.** for *P. cancellata*, **n. sp.**, Pacific Ocean ; BERGH (52), p. 45, fig.
- Platydoris pulcra* (sic), E. Africa, p. 377, *incerta*, p. 378, *papillata*, p. 379, Zanzibar ; ELIOT, P. Zool. Soc. London 1903, ii : **n. spp.**
- Pleuroleura alba*, Zanzibar ; ELIOT, op. cit. 1904, ii, p. 104 : **n. sp.**
- Sclerodoris*, **n. gen.** for *Doris osseosa*, Kel., and *S. tuberculata*, p. 381, *minor*, *rubra*, p. 382, *coriacea*, p. 383, **n. spp.**, Zanzibar ; ELIOT, op. cit. 1903, ii, figg. : Genus is a synonym of *Peronodoris*, q. v. ; ELIOT, op. cit. 1904, i, p. 380.
- Sphaerodoris levis*, Bergh, n. var. ; ELIOT, op. cit. 1904, i, p. 403.
- Staurodoris verrucosa*, Cuv., figd. ; CUÉNOT (159).
- Staurodoris depressa*, E. Africa, p. 363, *calva*, Zanzibar, p. 364 ; ELIOT, P. Zool. Soc. London 1903, ii : **n. spp.**
- Thordisa villosa*, figd. ; ELIOT (208).
- Thordisa stellata*, *crosslandi*, Zanzibar ; ELIOT, P. Zool. Soc. London 1903, ii, p. 368, figg. : **n. spp.**
- Trevelyana ceylonica*, Kelaart, p. 86, *crocea*, Bergh, p. 87, *bicolor* (?), Alder and Hancock, figd. ; ELIOT, op. cit. 1904, ii.
- Trevelyana coccinea*, E. Africa ; ELIOT, t. c. p. 85, fig. : **n. sp.**
- Trippa monsoni*, Zanzibar ; ELIOT, op. cit. 1903, ii, p. 371, fig. : **n. sp.**
- Tritonia incerta*, Pacific Ocean ; BERGH (52), p. 24, fig. : **n. sp.**

### TECTIBRANCHIATA (including PTEROPODA).

- Anatomy of some Gymnosomate Pteropods ; KWIETNIEWSKI (377).
- Archaic form of Thecosomate Pteropod ; PELSENEER (476).
- Species of Gymnosomata and Thecosomata from Siboga Expedition, recorded last year, fully described and figured with localities and anatomy ; TESCH (610).
- Actæon*, note on anatomy ; MAZZARELLI (430) : *A. globulinus*, Forbes, figd. ; SYKES, P. Malac. Soc. London vi, p. 29.
- Actæon pulchrior*, Persian Gulf ; MELVILL, P. Malac. Soc. London vi, p. 168, fig. : **n. sp.**
- Akera bullata*, anatomy ; VAYSSIÈRE (629).
- Aplysia*, the heart ; STRAUB (598) : Notes on British forms ; HUNT (315) : *A. punctata*, chromosomes during maturation of the egg ; JANSSENS & ELRLINGTON (329).
- Atya pransa*, New South Wales ; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 191, fig. : *A. submalleata*, off the Andamans ; SMITH, Ann. Nat. Hist. xiv, p. 6 : **n. spp.**
- Bulla striatula*, Forbes, figd. ; SYKES, P. Malac. Soc. London vi, p. 37.
- Bullina elongata*, Jeffreys, figd. ; SYKES, t. c. p. 36.
- Corolla (Cymbulopsis) spectabilis*, Dall, anatomy ; HEATH & SPAULDING (289).
- Cylichna hoernesi*, Weink., figd. ; SYKES, P. Malac. Soc. London vi, p. 36.



- Cylichna pithiscus*, Gulf of Oman ; MELVILL, P. Malac. Soc. London vi, p. 168, fig. : *C. obscura*, off S. of Ireland ; SYKES, t. c. p. 37, fig. : *C. andamanica*, off the Andamans ; SMITH, Ann. Nat. Hist. xiv, p. 6 : **n. spp.**
- Cylichnopsis*, n. sect. of *Cylichna*, type *C. acrotoma*, COSSMANN (140), p. 118.
- Desmopterus papilio*, Chun, anatomy and systematic position ; MEISENHEIMER (432).
- Dolabrifera virens*, Bermudas ; VERRILL, Tr. Connect. Ac. xi, p. 24, fig. : **n. sp.**
- Haminea solitaria*, anatomy, &c. ; SMALLWOOD (570) : Maturation, fertilization, &c. ; SMALLWOOD (571).
- Notarchus brevipes*, Red Sea ; HÄGG (278), p. 1, fig. : **n. sp.**
- Oscanius membranaceus*, nervous system ; DISTASO (192).
- Peraclis reticulata*, D'Orb., n. var. ; TESCH (610), p. 15.
- Philine punctata*, anatomy ; VAYSSIÈRE (629).
- Philine sykesii*, Persian Gulf ; MELVILL, P. Malac. Soc. London vi, p. 60, fig. : **n. sp.**
- Placobranchopsis niveus*, Bermudas ; VERRILL, Tr. Connect. Ac. xi, p. 27, fig. : **n. sp.**
- Pleurobranchea meckeli*, nervous system ; DISTASO (192).
- Retusa excavata*, *lactea*, figd. ; SYKES, P. Malac. Soc. London vi, p. 31.
- Retusa dilatata*, Gulf of Gabes ; PALMARY, J. Conchyl. lii, p. 215, fig. : *R. marshalli*, off Portugal ; SYKES, P. Malac. Soc. London vi, p. 31, fig. : *R. bysma*, Gulf of Oman ; MELVILL, t. c. p. 168, fig. : **n. spp.**
- Runcina inconspicua*, Bermudas ; VERRILL, Tr. Connect. Ac. xi, p. 28, fig. : **n. sp.**
- Scaphander ceylanica*, off Ceylon ; SMITH, Ann. Nat. Hist. xiv, p. 5 : **n. sp.**
- Tethys (Aplysia) morio*, p. 25, *tarda*, p. 26, Bermudas ; VERRILL, Tr. Connect. Ac. xi, figg. : **n. spp.**
- Tornatina insignis*, p. 36, *decorata*, p. 37, Japan ; PILSBRY, P. Ac. Philad. 1904, figg. : **n. spp.**

## NUCLEOBRANCHIATA.

- Anatomy of some Heteropoda ; VAYSSIÈRE (627).
- Cardiapoda richardi*, Atlantic Ocean ; VAYSSIÈRE (627), p. 24, fig. : **n. sp.**
- Carinaria mediterranea*, Per. & Les., n. var. ; VAYSSIÈRE (627), p. 17.
- Carinaria grimaldii*, p. 18, *pseudorugosa*, p. 20, Atlantic Ocean ; VAYSSIÈRE (627), figg. : **n. spp.**
- Firola souleyeti*, p. 37, *gegenbauri*, p. 39, Atlantic Ocean ; VAYSSIÈRE (627), figg. : **n. spp.**
- Firoloida kowalewskyi*, Atlantic Ocean ; VAYSSIÈRE (627), p. 45, fig. : **n. sp.**

## PROSOBRANCHIATA.

### PECTINIBRANCHIATA.

#### TOXOGLOSSA.

#### TEREBRIDÆ, CONIDÆ, PLEUROTOMIDÆ, and CANCELLARIIDÆ.

- Ancistrosyrinx orientis*, Persian Gulf ; MELVILL, P. Malac. Soc. London vi, p. 56, fig. : **n. sp.**
- Cancellaria pergradata*, South Australia ; VERCO, Tr. R. Soc. S. Austral. xxviii, p. 142, fig. : **n. sp.**

- †*Cancellariella*, **n. subgen.** of *Cancellaria*, type *C. neritoidea*, **n. sp.**, Miocene, Maryland; MARTIN (425), p. 168.
- Clathromangilia* (?) *strigilata*, Gulf of Gabes; PALLARY, J. Conchyl. lii, p. 222, fig.: **n. sp.**
- Clathurella perlissa*, off the Andamans; SMITH, Ann. Nat. Hist. xiii, p. 460: *C. polyhymnia*, Gulf of Oman; MELVILL, P. Malac. Soc. London vi, p. 165, fig.: *C. bulleni*, Ceylon; PRESTON, J. Malac. xi, p. 75, fig.: *C. chichijimana*, *centrosa*, p. 11, *lischkeana*, p. 12, Japan; PILSBRY, P. Ac. Philad. 1904, figg.: *C. crassilirata*, Port Alfred; SMITH, J. Malac. xi, p. 27, fig.: *C. amphiblestrum*, p. 58, *epixantha*, *hedleyi*, p. 59, Persian Gulf; MELVILL, P. Malac. Soc. London vi, figg.: **n. spp.**
- †*Cochlespiropsis*, **n. gen.** for *C. engonata*, Conrad, and *C. blanda*, **n. sp.**; CASEY, Tr. Ac. St. Louis xiv, p. 143.
- Conus coromandelicus* is a *Conorbis*, with notes; MELVILL, P. Malac. Soc. London vi, p. 170.
- Cythara nevilliana*, Ceylon; PRESTON, J. Malac. xi, p. 75, fig.: **n. sp.**
- Daphnella cassandra*, New South Wales and Tasmania; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 187, fig.: *D. eulimenes*, Gulf of Oman; MELVILL, J. Malac. xi, p. 84, fig.: *D. radula*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 8, fig.: *D. dea*, *lucasi*, Gulf of Oman; MELVILL, P. Malac. Soc. London vi, p. 167, figg.: **n. spp.**
- Drillia worthingtoni*, off Andaman Islands; SMITH, Ann. Nat. Hist. xiii, p. 460: *D. streptonotus*, p. 7, *albiguttata*, p. 8, Japan; PILSBRY, P. Ac. Philad. 1904, figg.: *D. thetis*, *subcontracta*, p. 26, *albonodulosa*, *prætermissa*, *nivosa*, p. 27, Port Alfred; SMITH, J. Malac. xi, figg.: **n. spp.**
- †*Eoclathurella*, **n. gen.** for *E. jacksonica*, *obesula*, **n. spp.**, Eocene; CASEY, Tr. Ac. St. Louis xiv, p. 166.
- †*Eodrillia*, **n. gen.** for *Pleurot. depygis*, Conrad, &c.; CASEY, t. c. p. 159.
- †*Eosurcula*, **n. gen.** for *Pleurot. moorei*, Gabb, &c.; CASEY, t. c. p. 145.
- Exechoptychia*, Coosm., is a synonym of *Cancellaria*; COSSMANN (140), p. 120.
- †*Fusitoma*, **n. gen.**, type *Fusus siphio*; CASEY, Tr. Ac. St. Louis xiv, p. 163. *Genota*, note on species; RAYMOND, Nautilus xviii, p. 15.
- Ginnania taprurenensis*, Gulf of Gabes; PALLARY, J. Conchyl. lii, p. 218, fig.: **n. sp.**
- Glyphostoma siren*, Port Alfred; SMITH, J. Malac. xi, p. 28, figg.: **n. sp.**
- †*Glyptotoma*, **n. gen.** for *Pleurotoma crassiplicata*, Gabb, &c.; CASEY, Tr. Ac. St. Louis xiv, p. 140.
- Helenella*, **n. gen.** for *Pleurot. multigranosa*, Smith, and *H. insolens*, **n. sp.**, p. 168, St Helena; CASEY, t. c. p. 167.
- †*Hemisurcula*, **n. gen.**, type *Pleurot. silicata*, Aldr.; CASEY, t. c. p. 150.
- Homotoma mirabilis*, p. 219, *bracteata*, p. 220, Gulf of Gabes; PALLARY, J. Conchyl. lii, figg.: **n. spp.**
- †*Leptosurcula*, **n. gen.** for *Pleurot. beadata*, Harris; CASEY, Tr. Ac. St. Louis xiv, p. 157.
- Lophiotoma*, **n. gen.** for *Pleurotoma tigrina*, Lamk., &c., with *L. microsticta*, **n. sp.**, Philippine Is.; CASEY, t. c. p. 130.
- †*Lyrosurcula*, **n. gen.** for *L. elegans*, **n. sp.**, Eocene, &c.; CASEY, t. c. p. 156.
- Mangilia cinnamomea*, **n. subsp.**; PILSBRY, P. Ac. Philad. 1904, p. 10.
- Mangilia kochi*, Gulf of Gabes; PALLARY, J. Conchyl. lii, p. 221, fig.: *M. posidonia*, Gulf of Oman; MELVILL, J. Malac. xi, p. 84, fig.: *M. alfredi*, Port Alfred; SMITH, t. c. p. 29, fig.: *M. adamantina*, Gulf of Oman, *aglaia*, Persian Gulf, p. 165, *apollinea*, *barbiton*, *callistephana*, Gulf of Oman, p. 166, *koweitensis*, Persian Gulf, p. 167; MELVILL, P. Malac. Soc. London vi, figg.: *M. pura*, *semicarinata*, p. 9, *kamakurana*, (*Cythara*) *hirasei*, p. 10, Japan; PILSBRY, P. Ac. Philad. 1904, figg.: *M. bathmisi*, p. 57, *ecphora*, (*Glyphostoma*) *pycnochila*, p. 58, Persian Gulf; MELVILL, P. Malac. Soc. London vi, figg.: **n. spp.**

- Megasurcula*, n. gen. for *Surcula carpenteriana*, Gabb, &c.; CASEY, Tr. Ac. St. Louis xiv, p. 147.
- †*Microsurcula*, n. gen., type *M. nucleola*, n. sp., Eocene; CASEY, t. c. p. 154.
- Mitromorpha volva*, Sby., var.; SMITH, J. Malac. xi, p. 31.
- Orthosurcula*, n. gen. for *Pleurot. longiforma* (sic), Aldr., and *Surcula transversaria*, Lamk.; CASEY, Tr. Ac. St. Louis xiv, p. 151.
- Parviterebra*, n. gen., type *P. paucivolvis*, n. sp., Japan; PILSBRY, P. Ac. Philad. 1904, p. 5, fig.
- Philbertia papillosa*, Gulf of Gabes; PALLARY, J. Conchyl. lii, p. 220, fig.: n. sp.
- Pleurotomida*, on classification; CASEY (98): *P. travancorica*, Smith, n. var.; SMITH (579).
- Pleurotoma trypanodes*, Arabian Sea; MELVILL, P. Malac. Soc. London vi, p. 57, fig.: *P. (Surcula) margarita*, off the Andamans; SMITH, Ann. Nat. Hist. xiii, p. 458: *P. (Oligotoma) patricia*, (*Surcula*) *halicyria*, Gulf of Oman; MELVILL, P. Malac. Soc. London vi, p. 164, figg.: *P. (Genota) stearnsiana*, p. 1, (*Antiplanes*) *catalinae*, p. 2, California; RAYMOND, Nautilus xviii: n. spp.
- †*Protosurcula*, n. gen., type *Pleurot. gabbi*, Conrad; CASEY, Tr. Ac. St. Louis xiv, p. 144.
- †*Ruscula*, n. gen. for *Fusus plicatus*, Lea, and *R. extricata*, n. sp.; CASEY, t. c. p. 161.
- †*Surculoma*, n. gen. for *Pleurot. tabulata*, Conr., &c.; CASEY, t. c. p. 153.
- Terebra histrio*, Desh., is West African; ANCEY, Nautilus xviii, p. 21: *T. hedleyi*, Tate, is an unnecessary name; SMITH (580).
- Terebra suspensa*, Port Alfred; SMITH, J. Malac. xi, p. 30, fig.: *T. hedleyi*, p. 3, *hizenensis*, *awajiensis*, p. 4, Japan; PILSBRY, P. Ac. Philad. 1904, figg.: n. spp.
- Tomopleura*, n. gen., type *Pleurotoma nivea*, Phil.; CASEY, Tr. Ac. St. Louis xiv, p. 138.
- †*Tropisurcula*, n. gen. for *Drillia caseyi*, Aldr., and *T. crenula*, n. sp.; CASEY, t. c. p. 153.
- †*Varicobela*, n. gen., type *Strombus smithi*, Aldr.; CASEY, t. c. p. 162.

## RACHIGLOSSA.

## OLIVIDÆ, MARGINELLIDÆ, VOLUTIDÆ, and MITRIDÆ.

- Ancilla albozonata, reevei*, Port Alfred; SMITH, J. Malac. xi, p. 29, figg.: n. spp.
- Margarella (Cryptospira) robusta*, Ascension Island; SOWERBY, P. Malac. Soc. London vi, p. 175, fig.: *M. munda*, *pura*, p. 31, *differens*, *dulcis*, *pseustes*, p. 32, Port Alfred; SMITH, J. Malac. xi, figg.: n. spp.
- Mitra stephanucha*, Melv., note on with n. var.; MELVILL, J. Malac. xi, p. 86.
- Mitra hirasei*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 12, fig.: *M. tunetana*, Gulf of Gabes; PALLARY, Ann. Mus. Marseille viii, No. 1, p. 8, fig.: *M. townsendi*, Persian Gulf; MELVILL, P. Malac. Soc. London vi, p. 163, fig.: n. spp.
- Oliva gibbosa*, Born, variation; MELVILL (435).
- Thala ogasavarana*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 13, fig.: *T. ceylanica*, Ceylon; PRESTON, J. Malac. xi, p. 76, fig.: n. spp.
- Volvaria avena*, n. var.; DAVIS (181).
- Voluta brazieri*, Cox, is, from the type, probably a monstrosity of *V. deliciosa*, Montrz.; SMITH, P. Malac. Soc. London vi, p. 178.

FASCIOLARIIDÆ, TURBINELLIDÆ, BUCCINIDÆ, NASSIDÆ,  
COLUMBELLIDÆ, MURICIDÆ, and CORALLIOPHILIDÆ.

- Amycla corniculatum*, n. subsp.; PALLARY, J. Conchyl. lii, p. 228.  
*Buccinum inclitum*, *chishimanum*, Kuril Is.; PILSBRY, Nautilus xviii, p. 87 : n. spp.  
*Bullia trifasciata*, Port Alfred; SMITH, J. Malac. xi, p. 34, fig.: *B. (Pseudostrombus) strenaria*, Persian Gulf; MELVILL, P. Malac. Soc. London vi, p. 51, fig. : n. spp.  
*Caducifer*, Dall (p. 77), belongs to *Buccinidæ*; PILSBRY & VANATTA (498).  
†*Clavellofusius*, n. gen., type *C. spiratus*, n. sp., Eocene, Paris Basin; GRABAU, Smithsonian. Collect. xlv, p. 99.  
*Columbella pyramidalis*, Sby., note on; SMITH, J. Malac. xi, p. 30: *C. turturina*, p. 13, *albinodulosa*, p. 14, n. subsp.; PILSBRY, P. Ac. Philad. 1904: *C. terpsichore*, *fauroti*, notes on; FISCHER, J. Conchyl. lii, p. 59.  
*Columbella (Astyris) agatha*, Persian Gulf; MELVILL, P. Malac. Soc. London vi, p. 52, fig.: *C. liocyma*, p. 14, *somnium*, *hahajimana*, p. 15, *divaricata*, p. 16, Japan; PILSBRY, P. Ac. Philad. 1904, figg. : n. spp.  
*Cominella* (?) *sulcata*, Sby., is probably a *Daphnella*; SMITH, J. Malac. xi, p. 28: *C. unifasciata*, Sby., is a synonym of *Purpura castanea*, Dkr.; SMITH, t. c. p. 33.  
*Coralliophila jeffreysi*, n. var.; PILSBRY, P. Ac. Philad. 1904, p. 16.  
*Coralliophila dissimulans*, Ceylon; PRESTON, J. Malac. xi, p. 77, fig. : n. sp.  
†*Cosmolithes*, n. gen., type *Fusus uniplicatus*, Lam.; GRABAU, Smithsonian. Collect. xlv, p. 142.  
*Cyclonassa vaysierei*, Bizerta; PALLARY, Ann. Mus. Marseille viii, No. 1, p. 9, fig. : n. sp.  
*Cyllene japonica*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 19, fig. : n. sp.  
†*Falsifusus*, n. gen., type *Fusus meyeri*, Aldr.; GRABAU, Smithsonian. Collect. xlv, p. 80.  
*Fasciolaria*, amitosis in the embryo; OSBORN (461, 462).  
†*Fulgurofusius*, n. gen., type *Fusus quercollis*, HARRIS; GRABAU, Smithsonian. Collect. xlv, p. 86.  
*Fuside*, notes on family, genera, protoconch, &c.; GRABAU (265): *F. longicaudus*, Bory, p. 28, *nodosoplicatus*, Dkr., p. 32, *perplexus*, A. Ad., p. 33, *dupetit-thouarsi*, Kien., p. 46, n. varr.; GRABAU (265).  
*Fusus suboblitus*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 18, fig.: *F. brasiliensis*, Brazil; GRABAU, Smithsonian. Collect. xlv, p. 66, fig.: *F. cingulatus*, Port Alfred; SMITH, J. Malac. xi, p. 30, fig. : n. spp.  
*Heilprina*, n. gen., type *Fusus caloosaensis*, Heilprin; GRABAU, Smithsonian. Collect. xlv, p. 87.  
*Latiaris kieneri*, apparently n. n. for *Murex cariniferus*, auct. non Sby.; HIDALGO (305), p. 23.  
*Maculotriron*, Dall (p. 78), belongs to *Muricidæ*, with n. var. of *M. bracteatus*, Hinds; PILSBRY & VANATTA (498).  
*Megalatractus*, notes on, with anatomy; KESTEVEN (350).  
*Metula mitrella*, Ad. & Rve., is a synonym of *M. hindsi*, Ad.; SMITH (579).  
*Mitrella spelta*, Monts., figd.; PALLARY, J. Conchyl. lii, p. 229.  
*Murex trunculus*, n. var.; PALLARY (468): *M. brandaris*, note on variation, with n. varr.; DAUTZENBERG (175).  
*Murex multispinosus*, Philippines; SOWERBY, P. Malac. Soc. vi, p. 7, fig. : *M. (Pteronotus) exquisitus*, Hab. incert.; SOWERBY, t. c. p. 176, fig. : *M. (Ocinebra) sykesi*, Ceylon; PRESTON, J. Malac. xi, p. 76, fig. : n. spp.  
*Nassa semiplicata*, n. subsp.; PILSBRY, P. Ac. Philad. 1904, p. 20: *N. ferussaci*, n. subsp.; PALLARY, J. Conchyl. lii, p. 226.  
*Nassa pæciliosticta*, Port Alfred; SMITH, J. Malac. xi, p. 33, fig. : *N.*

- (*Phrontis siva*, Ceylon, (*P. gangetica*, Calcutta; PRESTON, t. c. p. 76, fig. : n. spp.  
*Ocinebra monopectera*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 17, fig. : n. sp.  
*Ocinebrina edwardsi*, n. var.; PALLARY, J. Conchyl. lii, p. 231.  
*Phos tabidus*, New South Wales; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 191, fig. : n. sp.  
*Pseudofusus locardi*, n. n. for *P. rusticulus*, Locard non Monts.; PALLARY, J. Conchyl. lii, p. 225.  
†*Psilocoelthis*, n. subgen. of *Turbinella* for *T. m<sup>c</sup>Callie*, n. sp., Eocene, Georgia; DALL, *Nautilus* xviii, p. 9.  
*Purpura texturata*, Port Alfred; SMITH, J. Malac. xi, p. 32, fig. : *P. tosana*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 17, fig. : n. spp.  
†*Rhopalithes*, n. gen., type *Fusus noae*, Lam.; GRABAU, *Smithson. Collect.* xlv, p. 135.  
*Sistrum morus*, n. var.; PILSBRY, P. Ac. Philad. 1904, p. 18.  
*Tritonidea tosana*, Japan; PILSBRY, t. c. p. 19, fig. : n. sp.  
*Trophon*, Magellan fauna reviewed; STREBEL (599): *T. truncatus*, n. var.; JENSEN (334).  
*Trophon ohlini*, p. 203, *pæssleri*, p. 213, *elongatus*, p. 217, *pseudolongatus*, p. 220, *albus*, p. 221, *obesus*, *acuminatus*, p. 222, *fenestratus*, p. 225, *hoylei*, p. 227, *brucei*, p. 230, *ornatus*, p. 231, *standeni*, p. 232, *couihouyi*, p. 236, *elegans*, p. 241, *ringei* (Pfeffer), p. 242, Magellan Province; STREBEL, *Zool. Jahrb. Syst.* xxi, figg. : n. spp.

## TÆNIOGLOSSA.

LITORIIDÆ, COLUMBELLINIDÆ, CASSIDIDÆ, DOLIIDÆ,  
CYPRÆIDÆ, STROMBIDÆ, APORRHAIIDÆ, and STRUTHIOLARIIDÆ.

- Aporrhaidæ*, classification; COSSMANN (140).  
*Aquillus* and allies, notes on, as on *A. labiosus* (Wood); PILSBRY, P. Ac. Philad. 1904, p. 21.  
*Caducifer*, n. sect. of *Colubraria*, type *Triton truncatus*, Hinds; DALL, *Smithson. Collect.* xlvii, p. 136: Belongs to *Buccinidæ*; PILSBRY & VANATTA (498).  
*Cassidaria echinophora*, large form; KOBELT (360).  
*Cassidea sinuosa*, South Australia; VERCO, *Tr. R. Soc. S. Austral.* xxviii, p. 141, fig. : n. sp.  
*Cassis paucirugis*, Menke, note on; KENYON (349).  
*Cassis (Semicassis) fortisulcata*, Hawaiian Is.; SMITH, P. Malac. Soc. London vi, p. 21, fig. : n. sp.  
*Columbellinidæ*, classification; COSSMANN (140).  
*Craspedotriton*, n. sect. of *Bufo*, type *Triton convolutus*, Brod.; DALL, *Smithson. Collect.* xlvii, p. 119.  
*Cypræidæ* of Persian Gulf, &c., with n. varr. of *C. caurica*, *ocellata*, *pulchella*; MELVILL & STANDEN (440): *C. onyx*, malformed; MELVILL, P. Malac. Soc. London vi, p. 3: *C. umbilicata*, white var.; SOWERBY, t. c. p. 1: *C. caputanguis*, Phil., type is at Santiago; BYNE, J. Conch. xi, p. 57.  
*Dientomochilus*, n. gen., type *Strombus ornatus*, Desh.; COSSMANN (140), p. 38.  
†*Dilatilabrum*, n. n. for *Oncoma*, Mayer non Fieb.; COSSMANN (140), p. 12.  
*Dolium magnificum*, China Sea; SOWERBY, P. Malac. Soc. London vi, p. 7, fig. : n. sp.  
*Eugyrina*, n. n. for *Gyrina*, Schum., non *Gyrinus*, L.; DALL, *Smithson. Collect.* xlvii, p. 132.  
*Eutritonium*, n. gen., type *Murex tritonis*, L.; COSSMANN (140), p. 123.

- Lotorium spengleri*, eggs of; HEDLEY (292).  
*Lotorium (Colubraria) concinnatum*, Persian Gulf, &c.; MELVILL, P. Malac. Soc. London vi, p. 51, fig.: n. sp.  
*Maculotriton*, n. sect. of *Colubraria*, type *Triton bracteatus*, Hinds; DALL, Smithson. Collect. xlvii, p. 136: Belongs to *Muricidæ*; PILSBRY & VANATTA (498).  
 †*Maussenetia*, n. sect. of *Chenopus*, type *M. staadti*, n. sp., Tertiary, France; COSSMANN (140), p. 71.  
*Monostiolum*, n. sect. of *Colubraria*, type *Triton swifti*, Tryon; DALL, Smithson. Collect. xlvii, p. 136.  
*Paralagena*, n. n. for *Lagena*, Mörch non Walker; DALL, t. c. p. 132.  
*Phrygiomurex*, n. subgen. of *Colubraria*, type *Triton sculptilis*, Rve.; DALL, t. c. p. 137.  
 †*Pietteia*, n. subgen. of *Dicroloma*, type *Rostellaria hamus*, Desh.; COSSMANN (140), p. 90.  
 †*Quadrinervus*, n. subgen. of *Chenopus*, type *Pterocera ornata*, Buv.; COSSMANN (140), p. 61.  
*Ranellidæ*, review of; DALL (171).  
*Septidæ* (or *Lotoridæ*), review of; DALL (171).  
*Strombidæ*, classification; COSSMANN (140).  
*Struthiolariidæ*, classification; COSSMANN (140).  
 †*Struthiolariopsis*, n. gen., type *Fusus ferrieri*, Phil., Tertiary, Chili; WILCKENS, N. Jahrb. Min. B.B. xviii, p. 208.  
*Tæniola*, n. sect. of *Colubraria*, type *Triton decollatus*, Sby.; DALL, Smithson. Collect. xlvii, p. 137.  
*Tritoniscus*, n. sect. of *Cymatium*, type *Triton lotoisii*, Petit; DALL, t. c. p. 134.  
*Tritonocauda*, n. sect. of *Cymatium*, type *Murex caudatus*, Gmel.; DALL, t. c. p. 133.  
*Turritriton*, n. sect. of *Cymatium*, type *Triton gibbosus*, Brod.; DALL, t. c. p. 133.

CERITHIIDÆ, PLANAXIDÆ, VERMETIDÆ, TURRITELLIDÆ,  
 and CÆCIDÆ.

- Bittium caudatum*, Gulf of Oman; MELVILL, P. Malac. Soc. London vi, p. 161 fig.: n. sp.  
*Bittium furvum*, Watson, is the young of *Cerithium icarus*, Bayle; HEDLEY (292).  
*Cæcum digitulum*, New Zealand; HEDLEY, Rec. Austral. Mus. v, p. 94, fig.: n. sp.  
*Cerithium trailli*, n. subsp.; PILSBRY, P. Ac. Philad. 1904, p. 25.  
*Cerithium sykesi*, Adriatic; BRUSINA, Nachrbl. Deutsch. malak. Ges. 1904, p. 167: *C. subscalatum*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 25, fig.: *C. albocoopertum*, Bermuda; DAVIS, Nautilus xvii, p. 129, fig.: *C. anembatum, pervicax*, Gulf of Oman; MELVILL, P. Malac. Soc. London vi, p. 161, fig.: n. spp.  
 †*Discovermetulus*, n. gen., type *D. pissarroii*, n. sp., Tertiary, France; ROVERETO, Bull. Soc. geol. Ital. xxiii, p. 68.  
*Mathilda carystia*, figd.; MELVILL, J. Malac. xi, p. 84.  
*Pirenella conica*, n. subsp.; PALLARY, J. Conchyl. lii, p. 232.  
*Planaxis brasilianus*, Lam., notes on; HEDLEY (292).  
*Stephopoma nucleogranosum*, South Australia; VERCO, Tr. R. Soc. S. Austral. xxviii, p. 143, fig.: n. sp.  
*Strebloceras cygnicollis*, New South Wales; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 189, fig.: n. sp.  
*Trifora concatenata*, Gulf of Oman; MELVILL, P. Malac. Soc. London vi,

- p. 162, fig. : *T. fuscescens, fuscomaculata, convexa*, Port Alfred; SMITH, J. Malac. xi, p. 37, figg. : **n. spp.**  
*Triphora princeps*, p. 174, *smithi*, p. 175, Hab. incert.; SOWERBY, P. Malac. Soc. London vi, figg. : **n. spp.**  
*Turritella illustris*, Persian Gulf; MELVILL, J. Malac. xi, p. 81, fig. : **n. sp.**

## MELANIIDÆ, PSEUDOMELANIIDÆ, LITTORINIDÆ, and FOSSARIDÆ.

- Burtonilla*, **n. gen.** for *Turbonilla* (?) *terebriformis*, Smith; SMITH, P. Malac. Soc. London vi, p. 97.  
*Couthouyia corrugata*, New Zealand; HEDLEY, Rec. Austral. Mus. v, p. 95, fig. : **n. sp.**  
*Fossarus (Couthouyia) quinquecarinalis, (C.) thelacme*, Persian Gulf; MELVILL, P. Malac. Soc. London vi, p. 54, figg. : **n. spp.**  
*Giraudia minor, tanganyicensis*, figd.; SMITH, t. c. p. 96.  
*Lacuna globosa*, Bay of Bengal; SMITH, Ann. Nat. Hist. xiii, p. 472 : **n. sp.**  
*Lechaptosia ponsonbyi*, figd.; SMITH, P. Malac. Soc. London vi, p. 94.  
*Littorina rudis*, habits; BOHN (71, 72).  
*Melania libertina*, **n. var.**; PILSBRY & HIRASE, Nautilus xviii, p. 9.  
*Melania morti*, p. 13, *cingulifera*, p. 14, New Hebrides; SYKES, P. Malac. Soc. London vi, figg. : *M. vara*, Java; BULLEN, t. c. p. 110, fig. : *M. hahajimana*, Japan; PILSBRY & HIRASE, Nautilus xviii, p. 8 : *M. (Plotia) schneeii*, Marshall Is.; BOETTGER, Zool. Jahrb. Syst. xx, p. 408 : *M. ceruginosa*, Java, *dulcis*, Yunnan, *fortitudinis*, p. 51, Java, *lauta*, p. 52, Yunnan; FULTON, J. Malac. xi, figg. : **n. spp.**  
*Melanopsis*, **n. varr.** with fig. of *M. mourebeyensis*; PALLARY (466).  
*Melanopsis hungarica*, Hungary; KORMOS, Allatt. Kozl. Magyar Tars. iii, p. 107, fig. : **n. sp.**  
† *Pauluccia*, "**nov. Melanopsidarum subgen.**" for *P. boettgeri*, **n. sp.**, Tertiary, S. Europe; BRUSINA (88), p. viii.  
*Stanleya rotundata*, Lake Tanganyika; SMITH, P. Malac. Soc. London vi, p. 93 : **n. sp.**

SOLARIIDÆ, RISSOIDÆ, HYDROBIIDÆ, VIVIPARIDÆ,  
VALVATIDÆ, AMPULLARIIDÆ, and ASSIMINEIDÆ.

- Ammicola positura*, Petterd, is a synonym of *Hydrobia brazieri*, Smith; HEDLEY (292).  
*Ammicola augustina*, Florida; PILSBRY, Nautilus xvii, p. 113 : **n. sp.**  
*Ampullaria* and allied groups, notes on; DALL (165).  
*Assiminea narburyi*, Lin Chao; JONES & PRESTON, P. Malac. Soc. London vi, p. 147, fig. : **n. sp.**  
*Bythinia richmondiana*, Petterd, and *Pupa anodonta*, Musson & Hedley, are synonyms of *Hydrobia petterdi*, Smith; HEDLEY (292).  
*Emmericia*, notes on, with new names; BRUSINA (89).  
*Epigrus simsoni*, Tate & May, is a synonym of *E. ischnus*, Tate; HEDLEY (292).  
*Epigrus protractus*, New South Wales; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 185, fig. : **n. sp.**  
*Fenella xanthacme*, Persian Gulf; MELVILL, P. Malac. Soc. London vi, p. 56, fig. : **n. sp.**  
*Jullienia carinata*, Yunnan; FULTON, J. Malac. xi, p. 52, fig. : **n. sp.**  
*Limnopomus*, **n. sect.** of *Ampullaria*, type *A. columellaris*, Gould; DALL, J. Conch. xi, p. 54.  
† *Morphotropis*, **n. gen.** for *M. tremulans*, Barr., &c., Silurian, Bohemia; PERNER (477), Expln. pl. lxxvii.

- †*Pachystrophia* (Koken MS.), **n. gen.**, type *P. devexa*, Eichw., sp., Silurian; PERNER (477), Explan. pl. lxxiii.
- Paludestrina taylori*, habits and reproduction; JACKSON & TAYLOR (326): *P. culminea*, d'Orb. = *P. andecola*, d'Orb., figd.; BAVAY (40).
- Paludestrina popoensis*, Lake Popo, Bolivia; BAVAY, Bull. Soc. zool. France xxix, p. 154, fig.: **n. sp.**
- †*Pleuromphalus*, **n. gen.** for *P. seductor*, Barr., Silurian, Bohemia; PERNER (477), Explan. pl. lxxvii.
- †*Prosolarium*, **n. gen.** for *P. procerum*, Barr., Silurian, Bohemia; PERNER (477), Explan. pl. lxxii.
- Pyrgula neveui*, Lake Titicaca, Bolivia; BAVAY, Bull. Soc. zool. France xxix, p. 155, fig.: **n. sp.**
- †*Rhabdospira*, **n. gen.** for *R. bifrons*, Barr., Silurian, Bohemia; PERNER (477), Explan. pl. lxxv.
- Rissoa elata*, nervous system; QUINTARET (507): *R. monodonta*, n. var., *spongicola*, Monts., figd.; PALLARY, J. Conchyl. lii, p. 234: *R. woodsi*, **n. n.** for *R. cyclostoma* var. *rosea*, Woods, which is a species; PRITCHARD & GATLIFF, P. Soc. Victoria xiv, p. 104 [omitted, 1902]: *R. agnewi*, Woods, note on; HEDLEY (292).
- Rissoa tokyoensis*, *ogasawarana*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 26, figg.: *R. suteri*, New Zealand; HEDLEY, Rec. Austral. Mus. v, p. 96, fig.: *R. integella*, New South Wales; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 185, fig.: *R. (Scrobs) columen*, Persian Gulf; MELVILL, P. Malac. Soc. London vi, p. 53, fig.: *R. perspecta*, *conspecta*, Port Alfred; SMITH, J. Malac. xi, p. 35, fig.: **n. spp.**
- Rissolina tridentata*, Mich., note on with synonymy; PILSBRY, P. Ac. Philad. 1904, p. 28.
- Rissolina alfredi*, Port Alfred; SMITH, J. Malac. xi, p. 35, fig.: *R. (Phosinella) phormis*, Gulf of Oman; MELVILL, t. c. p. 80, fig.: *R. rex*, *matrinsulae*, (*Rissolina*) *levicostulata*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 27, figg.: **n. spp.**
- Seguenziella*, **n. n.** for *Taramellia*, Seguenza non Campana; SACCO (546), p. 123.
- †*Sinutropis*, **n. gen.** for *S. interrumpens*, Barr., Silurian, Bohemia; PERNER (477), Explan. pl. lxxvii.
- Solarium admirandum*, figd.; MELVILL, J. Malac. xi, p. 84.
- Somatogyrus hinkleyi*, *constrictus*, p. 135, *nanus*, p. 136, *umbilicatus*, *coosensis*, p. 137, *obtusus*, *crassus*, p. 138, Alabama, *georgianus*, p. 139, Georgia and Alabama, *pennsylvanicus*, p. 140, Pennsylvania, *virginicus*, p. 141, Virginia, *pilsbryanus*, p. 142, Alabama; WALKER, Nautilus xvii, figg.: **n. spp.**
- Stenothyra formosana*, Formosa; PILSBRY & HIRASE, Nautilus xviii, p. 8: **n. sp.**
- Stiva*, **n. gen.** for *S. ferruginea*, **n. sp.**, New South Wales; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 192, fig.
- Taramellia*, Seguenza, renamed *Seguenziella*, q. v.
- Valvata piscinalis*, n. var.; ANDREAE (16).
- Valvata maroccana*, N. W. Africa; PALLARY, J. Conchyl. lii, p. 41, fig.: *V. (Cincinna) geyeri*, Bavaria; MENZEL, Nachrbl. Deutsch. malak. Ges. 1904, p. 78, fig.: **n. spp.**
- Vitrella*, review of Wurtemberg fauna, with n. varr.; GEYER (250): *V. quenstedtii*, Clessin, anatomy; SEIBOLD (553).
- Vitrella putei*, p. 317, *exigua*, *labiata*, p. 320, *franconia*, p. 323, Wurtemberg; GEYER, Jahresb. Ver. Wurttemb. lx, figg.: **n. spp.**
- Vivipara rouyeri*, Java; BULLEN, P. Malac. Soc. London vi, p. 110, fig.: **n. sp.**



## CYCLOPHORIDÆ and CYCLOSTOMATIDÆ.

- Alycaeus awaensis*, Japan; PILSBRY & HIRASE, Nautilus xvii, p. 117 :  
*A. oshimanus*, Japan; PILSBRY & HIRASE, op. cit. xviii, p. 7 : *A. purus*,  
*tokunoshimanus*, p. 617, *levicervix*, p. 618, Japan; PILSBRY & HIRASE,  
P. Ac. Philad. 1904 : n. spp.
- Angigaster*, n. sect. of *Diplommatina*, type *D. vespa*, n. sp., Japan; PILSBRY  
& HIRASE, P. Ac. Philad. 1904, p. 619.
- Cataulus marginatus*, Pfr., *nevilli*, Sykes, n. varr.; FULTON (238).  
*Cataulus rugosa*, *sykesi*, Ceylon; FULTON, Ann. Nat. Hist. xiii, p. 452 :  
n. spp.
- Cyathopoma iota*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 619 :  
n. sp.
- Cyclophorus atomus*, Morel., note on; ANCEY, J. Conchyl. lii, p. 309.
- Cyclostoma andreweae*, Ancey, is a *Colobostylus*; ANCEY, t. c. p. 308 : *C.*  
*moniliatum*, n. var.; ANCEY, t. c. p. 310.
- Cyclotus nudus*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 618 :  
n. sp.
- Diplommatina asopus*, Bav. and Dtz., note on; ANCEY, J. Conchyl. lii,  
p. 315.
- Diplommatina tosana*, *tosanella*, *gibbera*, p. 620, *goniobasis*, *kiushuensis*,  
p. 621, *tokunoshimana*, *ventriosa*, p. 622, *kumejimana*, *lateralis*,  
*immersidens*, p. 623, *vespa*, p. 624, Japan; PILSBRY & HIRASE, P. Ac.  
Philad. 1904 : n. spp.
- Japonia toshimana*, Japan; PILSBRY & HIRASE, Nautilus xvii, p. 104 :  
*J. tokunoshimana*, Japan; PILSBRY & HIRASE, P. Ac. Philad. 1904,  
p. 616 : n. spp.
- Lagochilus obliquistriatus*, Java; BULLEN, P. Malac. Soc. London vi, p. 110,  
fig. : n. sp.
- Leptopoma crenilabre*, Strubell, note on with fig.; FULTON (243) : *L.*  
*leucorraphe*, Martens, n. var.; SYKES, J. Malac. xi, p. 92.
- Leptopoma gebiensis*, Gebi I.; FULTON, J. Malac. xi, p. 54, fig. : *L.*  
*ponsonbyi*, Obi; SYKES, t. c. p. 91, fig. : n. spp.
- Mascaria bifasciata*, Sby., note on; ANCEY, J. Conchyl. lii, p. 309.
- Nakadaella*, n. gen. for *Cyclotus* (?) *micron*, Pilsbry; ANCEY, t. c. p. 315.
- Neocyclotus panamensis*, Panama; DA COSTA, P. Malac. Soc. London vi,  
p. 6, fig. : n. sp.
- Omphalotropis varians*, Mlldff, is a synonym of *O. pæcila*, Ancey; ANCEY,  
J. Conchyl. lii, p. 308.
- Opisthostoma*, notes on sectional names; ANCEY, t. c. p. 315.
- Opisthostoma beddomei*, Borneo; SMITH, P. Malac. Soc. London vi, p. 105,  
fig. : n. sp.
- Pupinida*, notes on; COLLIER (125) : *P. miokoana*, Mlldf, is a synonym  
of *P. beddomei*, Ancey; ANCEY, J. Conchyl. lii, p. 308.
- Pupinella oshimæ*, n. subsp.; PILSBRY & HIRASE, P. Ac. Philad. 1904,  
p. 618.
- Realia turriculata*, Pfr., n. subsp.; SUTER, P. Malac. Soc. London vi,  
p. 157.

## ACICULIDÆ and TRUNCATELLIDÆ.

- Coxiella*, note on, *C. confusa*, Smith, is a synonym of *C. badgerensis*,  
Johnston; HEDLEY (292).
- +*Pseudotruncatella*, n. gen., type *Pupa microceras*, Braun; ANDREAE,  
Mt. Mus. Hildesheim xx, p. 15.

HIPPONYCIDÆ, CAPULIDÆ, XENOPHORIDÆ, NARICIDÆ and  
NATICIDÆ.

- Amalthea conica*, Schum., note on ; PILSBRY, P. Ac. Philad. 1904, p. 24.  
 †*Antispira*, n. gen. for *A. præcox*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lii.  
 †*Auripygma*, n. gen. for *A. fortior*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxi.  
 †*Berberia*, n. gen., type *B. ledonica*, n. sp., Ledonian Jura ; LORIOI (401), p. 131.  
*Capulus fragilis*, Bay of Bengal ; SMITH, Ann. Nat. Hist. xiv, p. 1 : *C. devotus*, New South Wales ; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 190, fig. : n. spp.  
*Crepidula*, origin of cleavage centrosomes ; CONKLIN (135).  
*Ergæa walshi*, note on ; PILSBRY, P. Ac. Philad. 1904, p. 24.  
 †*Fritschia*, n. gen. for *F. multicostata*, *paucicostata*, n. spp., Trias, Germany ; PICARD, Jahrb. geol. Landesanst. Berlin xxii, p. 487.  
 †*Læogyra*, n. gen. for *L. bohémica*, Perner, Silurian, Bohemia ; PERNER (477), Explan. pl. lii.  
*Natica millepunctata*, *hebræa*, n. var. ; PALLARY (468).  
*Natica napus*, *decepiens*, Port Alfred ; SMITH, J. Malac. xi, p. 34, fig. : n. spp.  
 †*Naticonema*, n. gen. for *N. similis*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. liv.  
 †*Otospira*, n. gen. for *O. squamulata*, Perner, Silurian, Bohemia ; PERNER (477), Explan. pl. lvi.  
 †*Palæonustus*, n. gen. for *P. comes*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lviii.  
*Polinices sagamiensis*, Japan ; PILSBRY, P. Ac. Philad. 1904, p. 23, fig. : n. sp.  
 †*Pseudotylostoma*, n. gen. for *P. romeroi*, n. sp., Cretaceous, Argentina ; IHERING, An. Mus. Buenos Aires ii, p. 207.  
 †*Ptychonema*, n. gen. for *P. nigra*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lvii.  
 †*Versispira*, n. gen. for *V. contraria*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lvii.

## PTENOGLLOSSA.

## SCALIDÆ.

- Acis beltista*, Persian Gulf ; MELVILL, P. Malac. Soc. London vi, p. 53, fig. :  
*A. thesauraria*, Gulf of Oman ; MELVILL, J. Malac. xi, p. 79, fig. : n. spp.  
*Berthais*, n. gen. for *Scala intertexta*, M. and St., and *Onoba egregia*, A. Ad., figd. ; MELVILL, P. Malac. Soc. London vi, p. 61.  
*Scala fimbriolata*, Melv., is a synonym of *S. kieneri*, Canefri ; SMITH (579).  
*Scala* (*Acrilla* ?) *cophinodes*, Persian Gulf ; MELVILL, P. Malac. Soc. London vi, p. 53, fig. : n. sp.  
*Scalaria jolyi*, Monts., figd. ; PALLARY (468).

## GYMNOGLOSSA.

## EULIMIDÆ and PYRAMIDELLIDÆ.

- Actæopyramis bulinea*, Lowe, n. var ; PALLARY, J. Conchyl. lii, p. 235.  
*Asmunda*, n. subgen. of *Turbonilla*, type *Chemnitzia turrata*, C. B. Ad. ; DALL & BARTSCH, P. Soc. Washington xvii, p. 9.

- Baldra*, n. subgen. of *Turbonilla*, type *T. archeri*, n. sp. ; DALL & BARTSCH, t. c. p. 9.
- Besla*, n. subgen. of *Odostomia*, type *Chrysallida convexa*, Cptr. ; DALL & BARTSCH, t. c. p. 10.
- Callolongcheus*, n. subgen. of *Pyramidella*, type *Pyramidella jamaicensis*, Dall ; DALL & BARTSCH, t. c. p. 5.
- Cingulina brazieri*, Angas, is correctly placed and the name *Terebra hedleyi*, Tate, unnecessary ; SMITH (580).
- Cossmannica*, n. subgen. of *Pyramidella*, type *P. clandestina*, Desh. ; DALL & BARTSCH, P. Soc. Washington xvii, p. 6.
- Egila*, n. subgen. of *Odostomia*, type *Chrysallida lacunata*, Cptr. ; DALL & BARTSCH, t. c. p. 11.
- Enteroxenos*, n. gen. for *E. ostergreni*, n. sp., Norway ; BONNEVIE, Zool. Jahrb. Anat. xv, p. 731, fig. : Spermiogenesis ; BONNEVIE (77).
- Eulima pavillus*, New Zealand ; HEDLEY, Rec. Austral. Mus. v, p. 96, fig. : *E. (Subularia) hypolysina*, Gulf of Oman ; MELVILL, J. Malac. xi, p. 83, fig. : *E. praeurta*, Gulf of Gabes ; PALLARY, J. Conchyl. lii, p. 239, fig. : *E. distincta*, Port Alfred ; SMITH, J. Malac. xi, p. 35, fig. : n. spp.
- Eulimella nivea, minor*, Port Alfred ; SMITH, J. Malac. xi, p. 36, fig. : *E. aeva*, Persian Gulf ; MELVILL, t. c. p. 81, fig. : *E. gedrosica*, Persian Gulf, p. 55, *venusta*, Arabian Sea, p. 56 ; MELVILL, P. Malac. Soc. London vi, figg. : n. spp.
- Evalina*, n. subgen. of *Odostomia*, type *O. americana*, n. sp. ; DALL & BARTSCH, P. Soc. Washington xvii, p. 12.
- Folinella*, n. subgen. of *Odostomia*, type *Amoura anguliferens*, Folin ; DALL & BARTSCH, t. c. p. 10.
- Haldra*, n. subgen. of *Odostomia*, type *Chrysallida photis*, Cptr. ; DALL & BARTSCH, t. c. p. 11.
- Heida*, n. subgen. of *Odostomia*, type *Syrnola caloosaensis*, Dall ; DALL & BARTSCH, t. c. p. 13.
- Iphiana*, n. subgen. of *Pyramidella*, type *Syrnola densistriata*, Garrett ; DALL & BARTSCH, t. c. p. 6.
- Ividia*, n. subgen. of *Odostomia*, type *Parthenia armata*, Cptr. ; DALL & BARTSCH, t. c. p. 11.
- Lancellata*, n. subgen. of *Turbonilla*, type *T. (Lancea) elongata*, Pse. ; DALL & BARTSCH, t. c. p. 9.
- Leiostraca murchochi*, New Zealand ; HEDLEY, Rec. Austral. Mus. v, p. 97, fig. : n. sp.
- Lysacme*, n. subgen. of *Odostomia*, type *Chrysallida clausiliformis*, Cptr. ; DALL & BARTSCH, P. Soc. Washington xvii, p. 14.
- Milda*, n. subgen. of *Pyramidella*, type *Obeliscus ventricosus*, Quoy ; DALL & BARTSCH, t. c. p. 4.
- Mucronalia birtsi*, Ceylon ; PRESTON, J. Malac. xi, p. 77, fig. : *M. oxytenes*, Gulf of Oman ; MELVILL, P. Malac. Soc. London vi, p. 163, fig. : n. spp.
- Mumiola carbasea*, Arabian Sea ; MELVILL, J. Malac. xi, p. 83, fig. : n. sp.
- Odostomia callipyrga*, n. n. for *Odetta elegans*, Folin ; DALL & BARTSCH, P. Soc. Washington xvii, p. 12.
- Odostomia (Vilia, n. subgen.) pilsbryi*, Singapore, p. 15, (*Evalina*, n. subgen.) *americana*, California, p. 16 ; DALL & BARTSCH, t. c. : *O. dorica*, Persian Gulf ; MELVILL, J. Malac. xi, p. 82, fig. : n. spp.
- Orinella*, n. subgen. of *Pyramidella*, type *Orina pinguicula*, A. Ad. ; DALL & BARTSCH, P. Soc. Washington xvii, p. 6.
- Oscilla faceta, jocosa*, Gulf of Oman ; MELVILL, J. Malac. xi, p. 82, figg. : n. spp.
- Pyramidellidae*, review of genera and sections ; DALL & BARTSCH (172).
- Pyramidella (Sulcorinella, n. subgen.) dodona*, Florida ; DALL & BARTSCH, P. Soc. Washington xvii, p. 14 : n. sp.

- Saccoina*, n. subgen. of *Turbonilla*, type *Spica monterosatoi*, Sacco ; DALL & BARTSCH, t. c. p. 8.
- Stomega*, n. sect. of *Odstomia*, type *O. conspicua*, Alder ; DALL & BARTSCH, t. c. p. 13.
- Styloptygma lacteola*, Ceylon ; PRESTON, J. Malac. xi, p. 77, fig. : n. sp.
- Sulcorinella*, n. subgen. of *Pyramidella*, type *P. dodona*, n. sp. ; DALL & BARTSCH, P. Soc. Washington xvii, p. 6.
- Syrnola ambagiosa*, Persian Gulf ; MELVILL, P. Malac. Soc. London vi, p. 55, fig. : n. sp.
- Syrnolina*, n. subgen. of *Pyramidella*, type *Syrnola rubra*, Pse. ; DALL & BARTSCH, P. Soc. Washington xvii, p. 6.
- Tropæas*, n. subgen. of *Pyramidella*, type *P. subulata*, A. Ad. ; DALL & BARTSCH, t. c. p. 5.
- Turbonilla terebra, cingulata*, Dkr., notes on with figg. ; PILSBRY, P. Ac. Philad. 1904, p. 30.
- Turbonilla (Baldra, n. subgen.) archeri*, Singapore ; DALL & BARTSCH, P. Soc. Washington xvii, p. 15 : *T. gemmula, decora*, Port Alfred ; SMITH, J. Malac. xi, p. 36, figg. : *T. stricta*, p. 236, *mirifica*, p. 237, *tenuis*, p. 238, Gulf of Gabes ; PALLARY, J. Conchyl. lii, figg. : *T. angustissima*, Persian Gulf ; MELVILL, P. Malac. Soc. London vi, p. 55, fig. : *T. inequalis, microperone*, p. 162, *recticostata*, p. 163, Gulf of Oman ; MELVILL, t. c. figg. : *T. hiradoensis*, p. 29, (*Cingulina*) *triarata*, p. 31, Japan ; PILSBRY, P. Ac. Philad. 1904, figg. : n. spp.
- Ufa*, n. subgen. of *Pyramidella*, type *P. cossmanni* (n. n. for *Syrnola striata*, Cossm.) ; DALL & BARTSCH, P. Soc. Washington xvii, p. 5.
- Vagna*, n. subgen. of *Pyramidella*, type *P. paumotensis*, Tryon ; DALL & BARTSCH, t. c. p. 5.
- Vilia*, n. subgen. of *Odstomia*, type *O. pilsbryi*, n. sp. ; DALL & BARTSCH, t. c. p. 10.
- Visma*, n. subgen. of *Turbonilla*, type *Eulimella tenuis*, Sby. ; DALL & BARTSCH, t. c. p. 8.
- Voluspa*, n. subgen. of *Pyramidella*, type *Pyramidella auricoma*, Dall ; DALL & BARTSCH, t. c. p. 4.

## SCUTIBRANCHIATA.

## RHIPHIDOGLOSSA.

## HELICINIDÆ.

- Helicina verecunda*, n. subsp. ; PILSBRY & HIRASE, P. Ac. Philad. 1904, p. 625 : *H. pterophora*, Sykes, is a synonym of *H. oxyrhynca* ; ANCEY, Nautilus xviii, p. 22 : *H. euglypta*, Crosse, is a synonym of *H. plicatula*, Pfr. ; ANCEY, t. c. p. 309.
- Helicina subsuturalis*, Marshall Is. ; BOETTGER, Zool. Jahrb. Syst. xx, p. 411 : *H. baldwini*, Kauai, p. 126, *dissotropis*, Oahu, *sulculosa*, Hawaii, p. 127 ; ANCEY, P. Malac. Soc. vi, figg. : n. spp.

## NERITIDÆ, MACLURITIDÆ, TURBINIDÆ, TROCHIDÆ, and

## CYCLOSTREMATIDÆ.

- Basilissa (Ancistrobasis) compsa*, Gulf of Oman ; MELVILL, P. Malac. Soc. London vi, p. 160, fig. : n. sp.
- Chlorostoma rugatum*, Gld., n. subsp. ; PILSBRY, P. Ac. Philad. 1904, p. 33.
- †*Cirropsis*, n. gen. for *C. præpostera*, Barr., Silurian, Bohemia, PERNER (477), Expln. pl. lix.
- Clanculopsis jussieuï*, n. subsp. ; PALLARY, J. Conchyl. lii, p. 240.

- Clanculus hizenensis*, n. var., with fig. of *C. gemmulifer* v. *pallidus* ; PILSBRY, P. Ac. Philad. 1904, p. 33.
- Collonia rosa*, Japan ; PILSBRY, t. c. p. 31, fig. : n. sp.
- †*Cosmina*, n. gen. for *C. complacens*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxxv.
- Cyclostrema gyalum*, Persian Gulf ; MELVILL, P. Malac. Soc. London vi, p. 54, fig. : *C. eumares*, p. 158, *eupoietum*, p. 159, Gulf of Oman ; MELVILL, t. c. figg. : n. spp.
- †*Cyclotropis*, n. gen. for *C. indocilis*, Barr., &c., Silurian, Bohemia ; PERNER (477), Explan. pls. lxi, lxxvii.
- Cynisca fortisulcata*, Port Alfred ; SMITH, J. Malac. xi, p. 38, fig. : n. sp.
- Ethalia carneolata*, Melv., n. var. ; MELVILL, t. c. p. 80, fig.
- Ethalia jucunda*, Gulf of Oman ; MELVILL, P. Malac. Soc. London vi, p. 159, fig. : *E. africana*, Port Alfred ; SMITH, J. Malac. xi, p. 38, fig. : n. spp.
- Euchelus cancellatus*, n. subsp. ; PILSBRY, P. Ac. Philad. 1904, p. 35 ; *E. erythraensis*, Sturany, is a synonym of *Clanculus gennesi* ; FISCHER, J. Conchyl. lii, p. 59.
- Euchelus lischkei*, p. 34, *hachijoensis*, p. 35, Japan ; PILSBRY, P. Ac. Philad. 1904, figg. : n. spp.
- Gibbula incarnata*, *vittata*, Pils., figd. ; PILSBRY, t. c. p. 34.
- †*Horostomella*, n. gen. for *H. otiosa*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxxiii.
- Leiopyrga* belongs to *Trochidae*, with note on *L. octona*, Tate ; VERCO (630).
- Liotia polypleura*, New Zealand ; HEDLEY, Rec. Austral. Mus. v, p. 93, fig. : n. sp.
- †*Meandrella*, n. gen. for *M. sculpta*, Perner, Silurian, Bohemia ; PERNER (477), Explan. pl. lxxxiv.
- †*Michaletia*, n. gen. for *M. semigranulata*, n. sp., Cretaceous, France ; COSSMANN, C.R. Ass. Franc. 1903, pt. ii, p. 634.
- Monilea nucleolus*, Pils., figd. ; PILSBRY, P. Ac. Philad. 1904, p. 34.
- †*Nematrochus*, n. gen. for *N. concurrens*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxii.
- Neritina virginea*, variation ; METCALF (445).
- Omphalium collingei*, Persian Gulf ; MELVILL, J. Malac. xi, p. 80, fig. : n. sp.
- †*Pagodea*, n. gen. for *P. concomitans*, Barr. ; PERNER (477), Explan. pl. lxiv.
- Phasianella tristis*, Pils., figd. ; PILSBRY, P. Ac. Philad. 1904, p. 32.
- †*Planitrochus*, n. gen. for *P. amicus*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxiv.
- †*Ploconema*, n. gen. for *P. protendens*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lix.
- †*Pseudotectus*, n. gen. for *P. carinatus*, Perner, &c., Silurian, Bohemia ; PERNER (477), Explan. pls. lxiv, lxv.
- †*Pycnotrochus*, n. gen. for *P. viator*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxv.
- †*Rotellomphalus*, n. gen. for *R. tardus*, Barr. MS., Silurian, Bohemia ; PERNER (477), Explan. pl. xlii.
- †*Sellinema*, n. gen. for *S. dives*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxiii.
- †*Tectospira*, n. gen. for *T. chopi*, n. sp., Trias, Germany ; PICARD, Jahrb. geol. Landesanst. Berlin xxii, p. 479.
- †*Temnospira*, n. subgen. of *Brochidium*, for *B. percinctum*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxxix.
- †*Tortilla*, n. gen. for *T. disjuncta*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lix.

*Trochus*, anatomy of British species ; RANGLES (509).

*Trochus hirasei*, Japan ; PILSBRY, P. Ac. Philad. 1904, p. 32, fig. : **n. sp.**

†*Tubogyra*, **n. gen.** for *T. primula*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pls. lxxxiv, lxxxvi.

†*Tubomphalus*, **n. gen.** for *T. crenistria*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. xlii.

†*Umbospira*, **n. gen.** for *U. nigricans*, Barr. MS., Silurian, Bohemia ; PERNER (477), Explan. pl. xlii.

†*Umbotrochus*, **n. gen.** for *U. aspersus*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lxvi.

†*Umbotropis*, **n. gen.** for *U. albicans*, Barr. MS., Silurian, Bohemia ; PERNER (477), Explan. pl. xlii.

### HALIIOTIDÆ, BELLEROPHONTIDÆ, and FISSURELLIDÆ.

Some new Silurian genera in the last section may belong here.

†*Donaldia*, **n. gen.** for *D. altera*, Barr., Silurian, Bohemia ; PERNER (477), Explan. pl. lviii.

*Haliotis tuberculata*, anatomy and phylogeny ; FLEURE (226) : *Haliotis* without perforations ; KELSEY (346) : *H. tuberculata*, imperforate ; MARQUAND, J. Conch. xi, p. 48, also Rep. Guernsey Soc. 1903, p. 233.

*Incisura*, **n. gen.** for *Scissurella lyttletonensis* (sic), Smith ; HEDLEY, Rec. Austral. Mus. v, p. 91.

†*Lessuerella* (Koken MS.), **n. gen.** for *L. bohémica*, Perner, Silurian, Bohemia ; PERNER (477), Explan. pl. lxxiii.

†*Plectonotus*, **n. gen.** for *P. derbyi*, **n. sp.**, Devonian, Brazil ; CLARKE, Arch. Mus. Rio Janeiro x, p. 70.

†*Ptomatis*, **n. gen.** for group of *Bellerophon patulus*, Hall ; CLARKE, t. c. p. 75.

*Puncturella demissa*, New Zealand ; HEDLEY, Rec. Austral. Mus. v, p. 93, fig. : **n. sp.**

*Schismope brevis*, New Zealand ; HEDLEY, t. c. p. 90, fig. : **n. sp.**

*Scissurella jacksoni*, Gulf of Oman ; MELVILL, P. Malac. Soc. London vi, p. 160, fig. : *S. rosea*, New Zealand ; HEDLEY, Rec. Austral. Mus. v, p. 90, fig. : **n. spp.**

### DOCOGLOSSA.

#### ACMÆIDÆ, and PATELLIDÆ.

*Docoglossa*, evolution in ; FLEURE (228).

*Acmaea octoradiata*, Hutton, *alticostata*, Angas, notes on ; HEDLEY (292).

*Acmaea minutissima*, off the Andamans ; SMITH, Ann. Nat. Hist. xiv, p. 4 : **n. sp.**

*Lottia gigantea*, Gray, anatomy ; FISHER (225).

*Nucella crebristriata*, South Australia ; VERCO, Tr. R. Soc. S. Austral. xxviii, p. 144, fig. : **n. sp.**

*Patella*, development ; WILSON (653).

### III. SCAPHOPODA.

*Cadulus acuminatus*, Tate, notes on ; VERCO (630).

†*Clavulites*, **n. gen.**, type *C. howardensis*, **n. sp.**, Carboniferous, Kansas ; Girty, P. U. S. Mus. xxvii, p. 732.

*Dentalium*, development ; WILSON (653) : Anatomy and histology ;

BOISSEVAIN (73): *D. intercalatum*, of which *D. bednalli*, Sharp and Pils., is a synonym, notes on; VERCO (630).  
*Dentalium vallicolens*, California; RAYMOND, *Nautilus* xvii, p. 123:  
 n. sp.

## IV. PELECYPODA.

Assumption of rounded form in attached bivalves; ANTHONY (21).  
 Adductor muscles in Pelecypods; ANTHONY (19).  
 Pelecypoda, morphology; VLÈS (634).

## SEPTIBRANCHIATA.

*Cuspidaria optima*, p. 17, *nasuta*, (*Cardiomya gilchristi*, (*C.*) *forticostata*, p. 18, South Africa; SOWERBY (589), figg.: n. spp.  
*Poromya gilchristi*, p. 15, *striata*, *granosissima*, p. 16, *curta*, p. 17, South Africa; SOWERBY (589), figg.: n. spp.

## EULAMELLIBRANCHIATA.

*Synapticola*, n. gen. for *S. perrieri*, n. sp., parasite of *Synapta*, France; MALARD, *Bull. Mus. Paris* ix, p. 344.

## ANATINACEA.

*Anatina andamanica*, off the Andamans; SMITH, *Ann. Nat. Hist.* xiv, p. 8: n. sp.  
*Halistrepta*, n. sect. of *Periploma* for *P. sulcata*, n. sp.; DALL, *Nautilus* xvii, p. 123.  
*Myodora recveana*, Smith, figd. with note; PILSBRY, *P. Ac. Philad.* 1904, p. 558.  
*Periploma sulcata*, California; DALL, *Nautilus* xvii, p. 122: n. sp.  
 †*Pleurophorella*, n. gen., type *P. papillosa*, n. sp., Carboniferous, Texas; GIRTY, *P. U. S. Mus.* xxvii, p. 728.  
*Thraciopsis arenosa*, New South Wales; HEDLEY, *P. Linn. Soc. N. S. Wales* xxix, p. 197, fig.: n. sp.

## PHOLADACEA.

*Gastrochena mowbrayi*, Bermuda; DAVIS, *Nautilus* xvii, p. 128, fig.: n. sp.  
 †*Girardotia*, n. gen., type *G. elegans*, n. sp., Ledonian Jura; LORIOU (401), p. 133.  
*Xylophaga indica*, off the Andamans; SMITH, *Ann. Nat. Hist.* xiv, p. 7: n. sp.

## MYACEA and CARDIACEA.

*Cardium*, sensory organs in the tentacles; ZUGMAYER (670): *C. hungerfordi*, Sby., n. subspp.; PILSBRY, *P. Ac. Philad.* 1904, pp. 555 & 556: *C. bechei*, Rve., note on; HEDLEY (292).  
*Cardium anae*, Japan; PILSBRY, *P. Ac. Philad.* 1904, p. 557, fig.: *C. gilchristi*, South Africa; SOWERBY (589), p. 11, fig.: n. spp.  
 †*Ceroniola*, n. gen., type *Cultellus australis*, Gabb, Tertiary, Chili; WILCKENS, *N. Jahrb. Min. B.B.* xviii, p. 249.

- Cultellus decipiens*, Port Alfred; SMITH, J. Malac. xi, p. 39: **n. sp.**  
*Panopea bitruncata*, Conrad, notes on species and synonymy; JOHNSON (339).  
*Tridacna*, morphology and anatomy; ANTHONY (20).

### VENERACEA and TELLINACEA.

- Chione nitida*, Q. and G., notes on synonymy; HEDLEY (292).  
*Chione despecta*, New South Wales; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 193, fig.: *C. micra*, p. 552, *hizenensis*, p. 553, Japan; PILSBRY, P. Ac. Philad. 1904, figg.: **n. spp.**  
*Codakia bella*, n. subsp.; PILSBRY, t. c. p. 555.  
*Cytherea crispata*, n. subsp.; PILSBRY, t. c. p. 551.  
*Gomphina moerchii* occurs at New Hebrides; HEDLEY (294).  
*Mactra*, artificial development of ova; KOSTANECKI (372): Artificial parthenogenesis in the egg; KOSTANECKI (373).  
*Mactra carneopicta*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 550, fig.: *M. delicatula*, *taprobanensis*, Ceylon; PRESTON, J. Malac. xi, p. 78, figg.: **n. spp.**  
*Pitar sulfurea*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 553, fig.: **n. sp.**  
*Psummbiura arakanensis*, Arakan Coast; SMITH, Ann. Nat. Hist. xiv, p. 10: **n. sp.**  
*Semele capensis*, Port Alfred; SMITH, J. Malac. xi, p. 39, fig.: **n. sp.**  
*Spisula (Oxyperas) bernardi*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 550, fig.: **n. sp.**  
*Tellina laevigata*, n. var.; DAVIS (181).  
*Tellina hirasei*, p. 554, *fabrefacta*, p. 555, Japan; PILSBRY, P. Ac. Philad. 1904, figg.: *T. kenyoniana*, Victoria; PRITCHARD & GATLIFF, P. Soc. Victoria xvii, p. 339, fig.: *T. regularis*, Port Alfred; SMITH, J. Malac. xi, p. 39, fig.: *T. gilchristi*, *analogica*, p. 12, *vidalensis*, (*Macoma*) *levior*, p. 13, (*M.*) *ordinaria*, (*M.*) *africana*, (*M.*) *inclinata*, p. 14, South Africa; SOWERBY (589), figg.: **n. spp.**  
*Theora ovalis*, Port Alfred; SMITH, J. Malac. xi, p. 39, fig.: **n. sp.**  
*Venus mercenaria*, nervous regulation of heart; BUDINGTON (91): *V. arakana*, Nevill, note on; PILSBRY, Nautilus xviii, p. 23.  
*Venus (Anaitis) intersculpta*, South Africa; SOWERBY (589), p. 11, fig.: **n. sp.**

### SUBMYTILACEA.

- Anodonta bouvieri* (Locard), Charente; ROCHEBRUNE, Bull. Mus. Paris ix, p. 391: *A. chivoti*, France; GERMAIN, Bull. Soc. Ouest France xiv, p. 87: **n. spp.**  
*Astarte crenata*, n. varr.; HÄGG, Arkiv Zool. ii, p. 37, figg.  
*Bartlettia*, notes on species and young shell; ROCHEBRUNE (530).  
*Cardita pulcherrima*, South Africa; SOWERBY (589), p. 7, fig.: *C. umbonata*, Sierra Leone; SOWERBY, P. Malac. Soc. London vi, p. 177, fig.: *C. (?) minima*, Port Alfred; SMITH, J. Malac. xi, p. 41, fig.: **n. spp.**  
*Carditella laticosta*, Port Alfred; SMITH, J. Malac. xi, p. 41, fig.: **n. sp.**  
*Crassatella gilchristi*, p. 8, *angulata*, *africana*, p. 9, *abrupta*, *tenuis*, p. 10, South Africa; SOWERBY (589), figg.: **n. spp.**  
†*Choniocardia*, **n. subgen.** of *Venericardia*, type *V. oppenheimeri*, **n. sp.**, Tertiary, France; COSSMANN, Bull. Soc. Ouest France xiv, p. 209.  
*Corbicula doufflei*, White Nile; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 144: *C. subrostrata*, Java, p. 109, *faba*, New South Wales, p. 110; BULLEN, P. Malac. Soc. London vi, figg.: **n. spp.**  
*Crassatellites ponderosus*, Gmelin, note on synonymy; HEDLEY (292).



- Diplodonta tasmanica*, Woods, is a synonym of *D. zelandica*, Gray; HEDLEY (292).
- Dreissensia polymorpha*, habits, &c.; STANDEN (592).
- Grandidieria*, notes on; ROCHEBRUNE (533).
- Harmandia*, notes on; ROCHEBRUNE (531).
- Harmandia castelneauvi*, Cochinchina; ROCHEBRUNE, Bull. Mus. Paris x, p. 140: **n. sp.**
- Hyriopsis goliath*, Tonkin; ROLLE, Nachrbl. Deutsch. malak. Ges. 1904, p. 25, fig.: **n. sp.**
- Isocardia cor*, L., n. var.; PALLARY (468).
- Kellia porculus*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 558, fig.: **n. sp.**
- Lepton fortidentatus*, Port Alfred; SMITH, J. Malac. xi, p. 41, fig.: **n. sp.**
- Lucina despecta, valida*, Port Alfred; SMITH, t. c. p. 40, figg.: **n. spp.**
- Megaxinus unguiculinus* (Mouts. MS.), Gulf of Gabes; PALLARY, J. Conchyl. lii, p. 247, fig.: **n. sp.**
- †*Miocardiella*, **n. subgen.** (? of *Isocardia*), type *M. taurinensis*, **n. sp.**, Tertiary; SACCO (546), p. 161.
- Nodularia*, notes on, of which *Pharaonia*, *Zairia*, *Reneus*, and *Parreysia* are synonyms; ROCHEBRUNE (533).
- Parreysia*, Conr., is a synonym of *Nodularia*; ROCHEBRUNE (533).
- Pharaonia*, Brgt., is a synonym of *Nodularia*; ROCHEBRUNE (533).
- Pisidium supinoides*, p. 81, *ovale, Futtereri, kukuenerense, obliquatum, lateumbonatum*, p. 82, Central Asia; CLESSIN (120): **n. spp.**
- Quadrula*, notes on embryology; FRIERSON (234).
- Reneus*, Jouss., is a synonym of *Nodularia*; ROCHEBRUNE (533).
- Solecardia vitrea*, Q. & G., n. subsp.; PILSBRY, P. Ac. Philad. 1904, p. 558.
- Spathella bozasi, brumpti*, near Lake Rudolph; ROCHEBRUNE & GERMAIN, Bull. Mus. Paris x, p. 144: **n. spp.**
- Tellinmya similis*, Port Alfred; SMITH, J. Malac. xi, p. 41, fig.: **n. sp.**
- Unionide*, notes on French species, with n. var.; GERMAIN (249): Structure of the shell; FRIERSON (233): *U. postumus*, **n. n.** for *U. duponti*, Brgt.; ROCHEBRUNE, Bull. Mus. Paris x, p. 258: *U. ater*, Nilss., n. var.; LINDHOLM, Annuaire Mus. St. Petersb. viii, p. 343: *U. tumidus, pictorum*, notes on; DUDINSZKY (206).
- Unio subniger*, France; GERMAIN, Bull. Soc. Ouest France xiv, p. 31: *U. gliscerus* (Locard), Charente; ROCHEBRUNE, Bull. Mus. Paris ix, p. 390: *U. (Quadrula) liedtkei*, p. 25, (*Nodularia gracillimus*, p. 26, Tonkin; ROLLE, Nachrbl. Deutsch. malak. Ges. 1904, figg.: **n. spp.**
- Verticipronus*, **n. gen.** for *V. mytilus*, **n. sp.**, New Zealand; HEDLEY, Rec. Austral. Mus. v, p. 88, fig.
- Vesicomya indica*, Travancore and off the Andamans; SMITH, Ann. Nat. Hist. xiv, p. 9: **n. sp.**
- Zairia*, Rochbr., is a synonym of *Nodularia*; ROCHEBRUNE (533).

## PSEUDOLAMELLIBRANCHIATA.

- †*Acanthopecten*, **n. subgen.** of *Aviculopecten*, for *A. carboniferus*, STEVENS, Carboniferous, N. America; GIRTY (256), p. 417.
- Amussium sibogai*, Celebes; DAUTZENBERG & BAVAY, J. Conchyl. lii, p. 207, fig.: **n. sp.**
- Aviculopecten*, notes on genus and type; GIRTY (257): HIND, Amer. Geol. xxxiv, p. 200: GIRTY, t. c. p. 332.
- Chlamys gloriosa*, Rve., note on, *hyalina*, Poli, n. var.; PALLARY (468).
- Chlamys hirasei*, Japan, p. 197, *ambiguus*, China Sea, p. 198, *wilhelmina*, New Caledonia, p. 200, *weberi*, West Africa, p. 202, *joussecaumei*, Japan, p. 203, *cythereus*, Pacific Ocean, p. 204; BAVAY, J. Conchyl.

- lii, figg. : *C. gilchristi*, p. 1, *fultoni*, p. 2, *humilis*, p. 3, South Africa; SOWERBY (589), figg. : **n. spp.**
- †*Cochlearites*, **n. gen.** for *Lithiotis problematica*, of some authors; REIS (518), p. 2.
- †*Cultriopsis*, **n. sect.** of *Gervilleia*, type *G. falciiformis*, **n. sp.**, Lias, France; COSSMANN, Bull. Soc. geol. France iii, p. 510.
- Cyclopecten nepeanensis*, Victoria; PRITCHARD & GATLIFF, P. Soc. Victoria xvii, p. 338, fig. : **n. sp.**
- Dacrydium fubale*, New South Wales; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 199, fig. : **n. sp.**
- Lima sydneyensis*, **n. n.** for *L. brunnea*, Hedley non Cooke, with fig. of *L. bassii*, Woods; HEDLEY (292).
- Lima perfecta*, Port Alfred; SMITH, J. Malac. xi, p. 43, fig. : **n. sp.**
- †*Limnipecten*, **n. gen.**, type *L. texanus*, **n. sp.**, Carboniferous, Texas; GIRTY, P. U. S. Mus. xxvii, p. 721.
- †*Mantellina*, **n. subgen.** (? of *Lima*), type *M. inoceramoides*, **n. sp.**, Tertiary; SACCO (546), p. 148.
- Margaritifera vulgaris*, anatomy; HERDMAN (301): Parasites; SHIPLEY & HORNELL (558): *M. margaritifera*, L., notes on; SEURAT (554, &c.): *M. albina*, Lam., is correct name for Mediterranean pearl oyster; GIARD (252).
- †*Nothamustum*, **n. gen.** for *N. radiatum*, *transversum*, **n. spp.**, Carboniferous, Brit. Is.; HIND (306), p. 159.
- Ostrea*, distorted form; WINKLEY, Nautilus xviii, p. 24: Pigmentation; SCHIEDT (549).
- Ostrea circumpicta*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 559, fig. : **n. sp.**
- †*Parvochlamys*, **n. subgen.** (? of *Pecten*) for *P. oolevis*, **n. sp.**, Tertiary; SACCO (546), p. 145.
- Pecten*, retinal nerve-endings in eye; HYDE (319): Variation in some American species; DAVENPORT (179): Nervous system; DREW (199): *P. vescoi*, Bavay, is a var. of *P. opercularis*; BAVAY, J. Conchyl. lii, p. 206: *P. tenuicostatus*, anatomy and embryology; DREW (200): *P. varius*, rib variation; DAVENPORT & HUBBARD (180): *P. irradians*, nerve distribution in the eye; HYDE (318).
- Pecten (Chlamys) farreri*, Shantung; JONES & PRESTON, P. Malac. Soc. London vi, p. 149, fig. : *P. frigidus*, Polar Sea; JENSEN, Vid. Medd. 1904, p. 305, fig. : *P. alcocki*, off South India; SMITH, Ann. Nat. Hist. xiv, p. 13 : **n. spp.**
- Philippiella rubra*, Tasmania; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 207, fig. : **n. sp.**
- Philobrya inornata*, New South Wales; HEDLEY, t. c. p. 207, fig. : **n. sp.**

## FILIBRANCHIATA.

- Anomia*, structure of muscles; MARCEAU (416).
- Arca*, critical notes on Lamarck's species and their synonymy; LAMY (381): *A. pistachia*, Lam., of which *A. radula*, Smith, is a synonym, and *A. uschkei*, Dkr., notes on; HEDLEY (292): *A. pharaonis*, Fischer, is a synonym of *A. ehrenbergi*, Dunker; LAMY, J. Conchyl. li, p. 323: *A. rhombea*, **n. var.**; LAMY, Bull. Mus. Paris ix, p. 393.
- Arca (Scapharca) africana*, South Africa; SOWERBY (589), p. 4, fig. : *A. kobeltiana*, Japan; PILSBRY, P. Ac. Philad. 1904, p. 559, fig. : **n. spp.**
- Crenella striatissima*, South Africa; SOWERBY (589), p. 3, fig. : **n. sp.**
- Glycymeris* stands for *Pectunculus*; JUKES-BROWNE, J. Conch. xi, p. 101: Notes on name; DAUTZENBERG & DOLLFUS (177).
- Hochstetteria velaini*, *limoides*, Port Alfred; SMITH, J. Malac. xi, p. 42, figg. : **n. spp.**

- Limopsis pumilio*, Port Alfred; SMITH, t. c. p. 43, fig.: **n. sp.**  
*Modiola tenerima*, Port Alfred; SMITH, t. c. p. 42, fig.: *M. sambasensis*,  
 Borneo; DAUTZENBERG, Ann. Soc. malac. Belgique xxxviii, p. 7, fig.:  
**n. spp.**  
*Myrina minima*, Smith, is a synonym of *Hochstetteria trapezina*, Bernard;  
 HEDLEY, Rec. Austral. Mus. v, p. 89.  
*Myrina indica*, off the Andamans; SMITH, Ann. Nat. Hist. xiv, p. 11:  
**n. sp.**  
*Mytilus*, development of gill; RICE (525).  
*Mytilus orbicularis*, Mediterranean; PALLARY, Ann. Mus. Marseille viii,  
 No. 1, p. 14, fig.: **n. sp.**  
*Pectunculus*, notes on name; DAUTZENBERG & DOLLFUS (177).  
*Pleurodon maorianus*, New Zealand; HEDLEY, Rec. Austral. Mus. v, p. 87,  
 fig.: **n. sp.**  
 †*Pseudocucullæa*, **n. gen.**, type *P. lens*, **n. sp.**, Cretaceous, Kameruns;  
 SOLGER, Zeitschr. Deutsch. geol. Ges. lv, Protok. p. 76: Is identical  
 with *Lopatinia*, Schmidt; SCHMIDT, Zeitschr. Deutsch. geol. Ges. lvi,  
 Protok. p. 120.  
*Savignyarca*, Jouss., is unnecessary, and type, *S. savignyarca*, is a form of  
*Arca obliquata*, Gray; LAMY (382).  
 †*Tæchomya*, **n. subgen.** [of ?], for *T. rathbuni*, **n. sp.**, Devonian, Brazil, &c.;  
 CLARKE, Arch. Mus. Rio Janeiro x, p. 96.  
*Volsella*, Scopoli, should be dropped; JUKES-BROWNE (344).

## PROTOBRANCHIATA.

- Nucula nucleus*, locomotion; VLÈS (635): *N. nucleus*, nervous system;  
 BURNE (93): *N. hedleyi*, **n. n.** for *N. minuta*, Woods non Gould;  
 PRITCHARD & GATLIFF, P. Soc. Victoria xvii, p. 237.  
*Nucula irregularis, sculpturata*, South Africa; SOWERBY (589), p. 7, figg.:  
**n. spp.**  
*Nuculana* does not replace *Leda*; JUKES-BROWNE, J. Conch. xi, p. 100:  
*N. belcheri*, Hinds, note with fig.; SOWERBY (589), p. 4.  
*Nuculana lamellata*, p. 5, *gemmulata, compta*, p. 6, South Africa; SOWERBY  
 (589), figg.: **n. spp.**  
*Portlandia kolthoffi*, Jan Mayen; HÄGG, Arkiv Zool. ii, p. 12, fig.: **n. sp.**  
*Yoldia keppeliana*, Hab. incert.; SOWERBY, P. Malac. Soc. London vi,  
 p. 176, fig.: **n. sp.**

## V. AMPHINEURA.

### APLACOPHORA.

- Solenogastres, habits of; HEATH (286).  
*Limifossor*, **n. gen.**, type *L. talpoideus*, **n. sp.**, Alaska; HEATH, Zool. Anz.  
 xxviii, p. 329.  
*Proneomenia*, sp., Hawaiian Is., with anatomy; HEATH (288).  
*Rhopalomenia*, sp., Hawaiian Is., with anatomy; HEATH (288).

### POLYPLACOPHORA.

- Larval eye of Chitons; HEATH (285).  
*Chitonidae*, egg-integument; SCHWEIKART (551): Monograph completed;  
 CLESSIN in MARTINI & CHEMNITZ (426): Egg-covering and its append-

- ages; SCHWEIKART (550): *C. assimilis*, p. 118, *setiger*, p. 119, n. varr.; CLESSIN in MARTINI & CHEMNITZ (426).
- Chiton ceylanicus*, off Ceylon; SMITH, Ann. Nat. Hist. xiv, p. 7: *C. hindsi-anus*, Hab. ?, p. 107, *maculatus*, Hab. ?, p. 112, *sowerbyanus*, Colombia, p. 117, *glaber*, Chile, p. 118, *angustus*, Central America, p. 120; CLESSIN in MARTINI & CHEMNITZ (426), figg. : n. spp.
- Onithochiton marmoratus*, New Zealand; WISSELL, Zool. Jahrb. Syst. xx, p. 660, fig. : n. sp.

## VIII. BRACHIOPODA.

BY

E. R. SYKES, B.A.

ASSISTED BY

E. A. SMITH, I.S.O.

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### I. TITLES.

1. AMI, H. M. Bibliography of Canadian Geology and Palæontology for the year 1902. Tr. R. Soc. Canada ix, sect. iv, pp. 173-188.
2. BEEDE, J. W. & ROGERS, A. F. Coal Measures faunal studies, iii. Lower Coal Measures. Kansas Univ. Sci. Bull. ii, pp. 459-473.
3. BÖHM, J. Über die obertriadische Fauna der Bäreninsel. Svenska Ak. Handl. xxxvii, No. 3, 76 pp., 7 pls.
4. BROILI, F. Die Fauna der Pachycardientuffe der Seiser Alp. Palæontogr. l, pp. 145-227, pls. xvii-xxvii.
5. BUCKMAN, S. S. Some Ludlowian Brachiopods; and a question about Silurian time. P. Geol. Ass. xviii, pp. 454-458.
6. ——. Jurassic Brachiopoda. Ann. Nat. Hist. xiv, pp. 389-397.

7. CHAPMAN, F. On some Brachiopods and a Bivalve from Heathcote. *Rec. Geol. Surv. Victoria* i, pp. 222-226, pl. xxi.
8. —. On a collection of Upper Palæozoic and Mesozoic Fossils from West Australia and Queensland, in the National Museum, Melbourne. *P. Soc. Victoria* xvi, pp. 306-335, pls. xxvii-xxx.
9. CHOFFAT, P. Découverte du *Terebratula renierii* Cat. en Portugal. *Comm. geol. Portugal* v, pp. 115-117, figg.
10. CLARKE, J. M. A Fauna Siluriana Superior do Rio Trombetas, Estado do Pará, Brazil. *Arch. Mus. Rio Janeiro* x, pp. 1-48, 2 pls. [1899].
11. —. Molluscos Devonianos do Estado de Pará, Brazil. *T. c.* pp. 49-174, 6 pls. [1899].
12. COULON, L. Les Brachiopodes du Musée d'Histoire Naturelle d'Elbeuf, et la faune Brachiopodique fossile de la Seine-inférieure. *Bull. Soc. Elbeuf* xxii, pp. 107-145.
13. DELGADO, J. F. N. Faune Cambrienne du Haut-Alemtejo (Portugal). *Comm. geol. Portugal* v, pp. 307-374, pls.
14. DESTINEZ, P. Nouvelles découvertes paléontologiques dans le Carboniférien et le Famennien du Condroz. *Ann. Soc. geol. Belgique* xxxi, Mem. pp. 143-151.
15. —. Faune et flore des psammites du Condroz (Famennien). *T. c.* Mem. pp. 247-257.
16. DIENER, C. Permian Fossils of the Central Himalayas. *Mem. geol. Surv. India*, ser. 15, vol. i, pt. v, 204 pp., 9 pls.
17. DOUVILLÉ, H. Note sur l'Infralias de la Vendée et des Deux-Sèvres. III. *Terebratula punctata* Sow. var. *lata*. *Bull. Soc. geol. France* iii, pp. 537 & 538.
18. DREVERMANN, F. Die Fauna der Siegener Schichten von Seifen unweit Dierdorf (Westerwald). *Palæontogr.* l, pp. 229-288, pls. xxviii-xxxiii.
19. DUN, W. S. Notes on some new species of Palæozoic Brachiopoda from New South Wales. *Rec. Geol. Survey N. S. Wales* vii, pp. 318-325, pls. lx & lxi.
20. FOX-STRANGWAYS, C. The Geology of the Oolite and Cretaceous Rocks South of Scarborough. *Mem. geol. Surv. U. K.* 1904, 119 pp.
21. GIRTY, G. H. The Carboniferous formations and faunas of Colorado. *Rep. U. S. Geol. Surv.* xvi, 546 pp., 10 pls.
22. —. New Molluscan Genera from the Carboniferous. *P. U. S. Mus.* xxvii, pp. 721-736, pls. xlv-xlvii.
23. GREGER, D. K. The distribution and synonymy of *Ptychospira sexplicata* (White and Whitfield). *Amer. Geol.* xxxiii, pp. 15-17.
24. —. On the genus *Rhynchopora* King, with notice of a new species. *T. c.* pp. 297-301, figg.
25. GURICH, G. Angeblicher Find von *Spirifer mosquensis* bei Krakau. *Zeitschr. Deutsch. geol. Ges.* lvi, Mt. p. 16.
26. —. Das Devon von Debnik bei Krakau. *Beitr. Pal. Oesterr.-Ung.* xv, pp. 127-164, pls. xiv & xv, figg.

27. HÄGG, R. Mollusca und Brachiopoda gesammelt von der Schwedischen zoologischen Polarexpedition nach Spitzbergen, dem nordöstlichen Grönland und Jan Mayen im J. 1900. Arkiv Zool. ii, pp. 31-66, pl. i.
  28. HAYDEN, H. H. Note on *Spirifer curzoni* Diener. Mem. geol. Surv. India, ser. 15, vol. i, pt. 5, 4 pp.
  29. HEDLEY, C. Studies on Australian Mollusca. Part VIII. P. Linn. Soc. N. S. Wales xxix, pp. 182-211, pls. viii-x.
  30. IHERING, H. VON. Les Brachiopodes tertiaires de Patagonie. An. Mus. Buenos Aires ii, pp. 321-349, pl. iii.
  31. IŠERLE, J. Zpráva o novém nalezišti fauny v břidlici pásma D-d1γ u Rokycan [Über einen neuen Fundort der Fauna im Schiefer der Etage D-d1γ bei Rokycan]. SB. Bohmisch. Ges. 1903, No. xxix, 7 pp.
  32. JAHN, J. J. Über die Brachiopodenfauna der Bande d<sub>1</sub>. Verh. geol. Reichsanst. 1904, pp. 269-280.
  33. JUKES-BROWNE, A. J. The Cretaceous Rocks of Britain. Vol. III. The Upper Chalk of England. Mem. geol. Surv. U. K. 1904, 566 pp. [Cf. p. 483.]
  34. KEEP, J. West American Shells... San Francisco, 1904, 8vo, 360 pp., figg.
  35. KITTL, E. Geologie der Umgebung von Sarajevo. Jahrb. geol. Reichsanst. liii, pp. 515-738, pls. xxi-xxiii, figg.
  36. LANGENHAM, R. Versteinerungen der deutschen Trias (des Bundsandsteins, Muschelkalks, und Keupers)..... Liegnitz, 1903, 22 pp., 17 pls.
  37. LIMANOWSKI, M. W sprawie *Spirifer mosquensis* i *supramosquensis* (?) sprostowanie. Kosmos polski. xxix, pp. 101 & 102.
  38. PALAEONTOLOGIA UNIVERSALIS. Fasc. ii & iii (pls. xiv-lxxv). 1904.
  39. PARKINSON, H. Über eine neue Culmfauna von Königsberg unweit Giessen, und ihre Bedeutung für die Gliederung des rheinischen Culm. Zeitschr. Deutsch. geol. Ges. lv, pp. 331-374, pls. xv & xvi.
  40. PHILIPP, H. Paläontologisch-geologische Untersuchungen aus dem Gebiet von Predazzo. Zeitschr. Deutsch. geol. Ges. lvi, pp. 1-98, pls. i-vi, figg.
  41. RAYMOND, P. E. The Developmental Changes in some common Devonian Brachiopods. Amer. J. Sci. xvii, pp. 279-300, pls. xii-xviii.
  - 41A. —. The *Tropidoleptus* Fauna at Canandaigua Lake, New York, with the Ontogeny of twenty species. Part I.—On the developmental changes of some of the common Devonian Brachiopods. Part II.—A study of a Hamilton Faunule from Canandaigua Lake. Ann. Carnegie Mus. iii, pp. 79-177, 8 pls., figg.
  42. REBOUL, P. Catalogue des types paléontologiques contenus dans les collections de Grenoble. Trav. Lab. geol. Grenoble vii, pp. 127-149.
  43. REED, F. R. C. Brachiopoda from the Bokkeveld Beds. Ann. S. African Mus. iv, pp. 165-200, pls. xx-xxiii.
  44. RICHARDSON, L. A Handbook to the Geology of Cheltenham and neighbourhood. Cheltenham, 8vo, 1904, 303 pp., figg., map.
- ROGERS, A. F. [See BEEDE & ROGERS (2).]

45. ROWE, A. W. The Zones of the White Chalk of the English Coast. Part IV.—Yorkshire. P. Geol. Ass. xviii, pp. 193–296, pls.
46. ROWLEY, R. R. The Echinodermata of the Missouri Silurian, and a new Brachiopod. Amer. Geol. xxxiv, pp. 269–282, pl. xvi.
47. RZEHAŁ, A. *Rhynchonella polymorpha* Mass. im Karpathischen Eocän Mährens. Verh. geol. Reichsanst. 1904, pp. 182–184.
48. SCHELLWIEN, E. Palaeozoische und triadische Fossilien aus Ostasien. In 'Durch Asien' by K. Futterer, iii, pp. 125–174, 5 pls. [1903].
49. SCHEPOTIEFF, A. Ueber abnorme Berippung der dorsalen Schalen von *Crania anomala* O. F. M. Centrbl. Mineral. 1904, pp. 12 & 13, fig.
50. SIEMIRADZKI, J. Geologia ziem Polskich. I. Formacje Starsze du Jurajskief Wlacznie, 1903, 8vo, 472 pp.
51. ——. Fauna Kopalna warstw Oxfordzkich i Kimeridzkich w okregu Krakowskim i Przyleglych Czesciach Krolestwa Polskiego. [Fossil fauna of the Oxfordian and Kimeridgian beds in the neighbourhood of Cracow and the adjacent parts of the kingdom of Poland.] Pam. Ak. Krakow. xviii, 92+50 pp., 5 pls. [1891, 1892].
52. SIMIONESCU, J. Studii Geologice si Paleontologice din Carpatii Sudici. II. Fauna neocomiana din basenul dimbovicioarei. Publ. Adamachi Ac. Romana ii, pp. 101–167, 8 pls. [1898].
53. ——. Studii Geologice si Paleontologice din Carpatii Sudici. III. Fauna Calloviana din Valea Lupului (Rucar). Op. cit. iii, 42 pp., 3 pls. [1899].
54. ——. Descrierea Cător-Va Fosile Tertiare din Nordul Moldovie. Op. cit. vi, 25 pp., 2 pls. [1901].
55. SOBOLÉW, D. Zur Stratigraphie des oberen Mitteldevons im polnischen Mittelgebirge. Zeitschr. Deutsch. geol. Ges. lvi, Mt. pp. 63–72.
56. TSCHERNYSCHÉW, T. The Upper Palaeozoic formations of Eurasia. Rec. Geol. Surv. India xxxi, pp. 111–141. [From Mem. Com. geol. St. Petersb. xvi.]
57. VAUGHAN, A. Notes on the Corals and Brachiopods obtained from the Avon section and preserved in the Stoddart collection. P. Bristol Soc. x, pp. 90–134, 2 pls.
58. WAAGEN, L. Brachiopoden aus den Pachycardientuffen der Seiser Alpe. Jahrb. geol. Reichsanst. liii, pp. 443–452, figg.
59. YABE, H. The Upper Carboniferous Marine Sediments in the Environs of Vladivostock. J. geol. Soc. Tokyo xi, pp. 184–187.
60. ——. Devonian fossils from Honan, China. T. c. pp. 435–445.

## II. BIOLOGY.

### A. ANATOMY, &C.

Morphology :—Development changes in some Devonian species ; RAYMOND (40, 41A).

Bibliography :—Canadian Palaeontology for 1902 ; AMI (1).

Museums :—List of species in Elbeuf Museum ; COULON (12).—List of fossil types in Grenoble collection ; REBOUL (42).



## B. DISTRIBUTION.

## GEOGRAPHICAL.

- Greenland :—Three species quoted ; HÄGG (27).  
 Portugal :—Fauna of North Portugal ; NOBRE, *Ann. Sci. nat. Porto* viii, p. 87.  
 West America :—Popular account of fauna, with systematic list ; KEEP (34).  
 South America :—Fauna ; IHERING (30).  
 New South Wales :—*Terebratulina radula*, n. sp. ; HEDLEY (29).

## GEOLOGICAL.

Types of several species figured with notes ; PALAEOLOGIA UNIVERSALIS (38).—Distribution and synonymy of *Ptychospira sexplicata* ; GREGER (23).—Note on *Spirifer mosquensis* ; LIMANOWSKI (37).—Lists of fossils from Belfast ; LAMPLUGH, &c., *Geology.....Belfast. Mem. geol. Surv. Ireland.*—Few fossils from Calabria ; STEFANO, *Mem. Carta geol. Ital.* ix, App.—Occurrence of *Terebratula renierii* in Secondary of Portugal ; CHOFFAT (9).—List of fossils from French Pyrenees ; ROUSSEL, *Bull. Carte geol. France* xv, p. 23.—Lists of fossils from various formations of Lot, Aveyron, Tarn, and Tarn-et-Garonne ; THEVENIN, *op. cit.* xiv, p. 353.—Fauna of 'Seine-inférieure' ; COULON (12).—Primary and Secondary Fauna near Sarajevo, with n. spp. ; KITTL (35).—Secondary fossils from near Rokycan ; ISEKLE (31).—Lists of Primary fossils from Spiti ; HAYDEN, *Mem. geol. Surv. India* xxxvi, pt. 1.—Few Mesozoic fossils from Victoria ; ETHERIDGE, *Rec. geol. Surv. Victoria* i, p. 10.

## Tertiary :—

Europe :—Few Miocene shells from Haguineau ; COUFFON, *Bull. Soc. Angers* xxxiii, p. 54.—Two Miocene species from Rennes ; DOLLFUS, *C.R. Ass. Franc.* 1903, pt. ii, p. 659.—Fossils from North Moldavia ; SIMIONESCU (54).—*Rhynchonella polymorpha* in Moravia ; RZEHAŁ (47).

America :—Eocene Brachiopods of Maryland ; CLARK & MARTIN, *Maryland geol. Surv.*, Eocene, p. 203.—*Discinisca lugubris* in Miocene of Maryland ; MARTIN, *op. cit.*, Miocene, p. 402.—Few fossils from Patagonia ; TOURNOUER, *Bull. Soc. geol. France* iii, p. 463.—Fauna of Patagonia, with n. spp. ; IHERING (30).

Australasia :—Fauna of Victoria, S. Australia, and Tasmania ; DENNANT & KITSON, *Rec. geol. Surv. Victoria* i, p. 89.—Four species from the Barwon Valley, Victoria ; HALL & PRITCHARD, *P. Soc. Victoria* xvi, p. 304.

## Cretaceous :—

British Isles :—Lists of English fauna ; JUKES-BROWNE (33).—Few species from Upper Gault of Barnwell ; FEARN SIDES, *Quart. J. Geol. Soc.* lx, p. 360.—Lists of fossils from Yorkshire Coast ; ROWE (45).—Few species from North Lincolnshire ; BURNET, *Geol. Mag.* i, p. 172.—Few fossils from near Croydon ; HINDE, *t. c.* p. 482.—Fossils from near Merstham and Croydon ; HOLMES, *P. Croydon Club* 1904, p. 45.—Fossils from Scarborough ; FOX-STRANGWAYS (20).

Europe :—Some Spanish forms mentioned ; MALLADA, *Mem. Com. geol. Espana* v.—Few Lower Cretaceous fossils from Western Swiss Jura ; BAUMBERGER, *Abh. Schweiz. pal. Ges.* x.—Neocomian Fauna from the South Carpathians, with n. sp. of *Waldheimia* ; SIMIONESCU (52).—*Terebratula* in Senonian near Königslutter ; WOLLEMAN, *Jahresber. Ver. Braunschweig* xiii, p. 42.—Few Cenomanian fossils from near Saint-Jouin ;

NIBELLE, Bull. Soc. Rouen xxxix, p. 177.—Few fossils from the Iser region; ZAHÁLKA, SB. Bohmisch. Ges. 1903, No. xxxii.

**Jurassic**:—Notes on nomenclature of some Jurassic species, with new names; BUCKMAN (6).

British Isles:—Oolite fossils near Scarborough; FOX-STRANGWAYS (20).—Oolite fossils from Cheltenham; RICHARDSON (44).—Lower Oolite forms near Bristol; TUTCHER, P. Bristol Soc. x, p. 150.

Europe:—Fossils from East Greenland; MADSEN, Medd. Gronland xxix, p. 173.—Few species from zone of *Lioceras concavum* of Mont d'Or; RICHE, Ann. Univ. Lyon i, fasc. 14.—Upper Jura fossils from Bassano; CAMPANA, Boll. Soc. geol. Ital. xxiii, p. 239.—Oxfordian and Kimeridgian fossils from Poland, with n. spp.; SIEMIRADZKI (51).—Jurassic fossils from Poland; SIEMIRADZKI (50).—Callovian fauna of Lupului (Rucar), South Carpathians, with n. spp.; SIMIONESCU (53).

**Lias**:—

British Isles:—Fossils from Cheltenham; RICHARDSON (44).—Fossils near Keynsham; VAUGHAN & TUTCHER, P. Bristol Soc. x, p. 3.

Europe:—Occurrence of *Terebratula punctata* in La Vendée; DOUVILLÉ (17).

**Trias**:—

British Isles:—Lists of Rhaetic fossils from near Bristol; SHORT, Quart. J. Geol. Soc. lx, p. 170.

Europe:—Fauna of the *Pachycardium*-strata of the Seiser Alp; BROILI (4).—Brachiopods, with n. spp., from 'Pachycardientuffen' of the Seiser Alp; WAAGEN (58).—Notes on German fossils; LANGENHAM (36).—Lists of fossils from near Predazzo, with n. spp.; PHILIPP (40).

Asia:—Fossils from Eastern Asia; SCHELLWIEN (48).—Fauna of the Bären Is., with n. spp.; BÖHM (3).

**Palæozoic**:—

Europe:—Few species from near Komorau; JAHN, Verh. geol. Reichsanst. 1904, p. 209; also JAHN (32).

Asia:—The Fauna of Asia; TSCHEERNYSCHEW (56).—Fossils from Eastern Asia; SCHELLWIEN (48).

Australasia:—New species of Brachiopods from New South Wales; DUN (19).

**Permian**:

Asia:—Fauna of the Himalayas, with n. spp.; DIENER (16).—Note on *Spirifer curzoni*, near Muth; HAYDEN (28).

**Carboniferous**:—

British Isles:—Fossils from Lancashire Coal Measures; BOLTON, Tr. Manchester Geol. Soc. xxviii, pp. 378, 578, 668.—Few species from Ayrshire; SMITH, Geol. Mag. i, p. 283.—Lower Culm fossils of North Devon; HIND, t. c. p. 392.—Some Lower Culm fossils from North Devon; VAUGHAN, t. c. p. 530; also HIND, t. c. p. 584.—Fossils from near Bristol, with *Seminula ficoidea*, n. sp.; VAUGHAN (57).

Europe:—A Culm fauna near Giessen; PARKINSON (39).—Fossils from the Oural; KONIOUSCHEVSKY, Mem. Com. geol. St. Petersb. xxii, p. 417.—Fossils from near Budua, S. Dalmatia; RENZ, Zeitschr. Deutsch. geol. Ges. lv, Mt. p. 16.—Few fossils from Galicia; RENIER, Ann. Soc. geol. Belgique xxxi, Bull. p. 73.—Fossils from Condroz; DESTINEZ (14).—List of fossils from South Germany; PARKINSON, Geol. Mag. i, p. 272.

America:—Fossils from Kansas; BEEDE & ROGERS (2).—Notes on *Rhynchopora*, with n. sp. from Missouri; GREGER (24).—Fossils from

Arizona ; GIRTY in RANSOME, Pap. U. S. Geol. Surv. xxi, p. 46.—Fauna of Colorado ; GIRTY (21).

Asia :—Upper Carboniferous fossils from near Vladivostock ; YABE (59).

Australasia :—Carbo-Permian fossils from Western Australia ; CHAPMAN (8).

#### Devonian :—

Europe :—List of fossils from near Remscheid ; SPRIESTERSBACH, Centrbl. Mineral. 1904, p. 599.—Fauna from near Dierdorf ; DREVERMANN (18).—List of fossils from district of Tomsk ; PEETZ, Trav. geol. St. Petersb. vi, Livr. 1.—Middle Devonian forms from Poland ; SOBOLEW (55).—Fauna from near Krakau, with n. spp. ; GURICH (26).—Few fossils from Celechovic ; SMYCKA, Vestnik. Klub. Prostejove vii, p. 61.—*Spirifer mosquensis* from Krakau ; GURICH (25).—Famennian fossils from Condroz ; DESTINEZ (14).—Fossils from Moravia ; SPITZNER, Vestnik. Klub. Prostejove v, p. 88.

Asia :—Fossils from Honan, China ; YABE (60).

Africa :—Brachiopods from the Bokkeveld Beds, S. Africa ; REED (43).

America :—On fossils from Brazil ; CLARKE (11).—List of fossils from Arizona ; RANSOME, Pap. U. S. Geol. Surv. xxi, p. 37.—On some Hamilton fossils from New York State ; RAYMOND (41A).

#### Silurian :—

British Isles :—Brachiopods of the Ludlow Series ; BUCKMAN (5).

America :—New species from Brazil, with *Anabaia*, n. subgen. ; CLARKE (10).—Ordovician and Silurian fossils from Indiana ; FOERSTE, Amer. J. Sci. xviii, p. 321.—*Skenidium* (?) *nodocostatum*, n. sp., Missouri ; ROWLEY (46).—Ordovician fossils from Pennsylvania ; COLLIE, Bull. Geol. Soc. Amer. xiv, p. 407.—Lists of fossils from junction beds of Ordovician and Silurian in Indiana ; FOERSTE, Amer. J. Sci. xviii, p. 321.

#### Cambrian :—

Europe :—Fauna of Haut-Alemtejo (Portugal), with n. spp. ; DELGADO (13).

Australasia :—New species of Brachiopods from Victoria ; CHAPMAN (7).

### III. SYSTEMATIC.

Developmental changes in some Devonian species ; RAYMOND (41, 41A).

†*Anabaia*, n. subgen. of *Anoplothecca*, type *A. parata*, n. sp., Silurian, Brazil ; CLARKE, Arch. Mus. Rio Janeiro x, p. 24.

*Crania anomala*, abnormal sculpture ; SCHEPOTIEFF (49).

†*Schuchertella*, n. gen., type *Streptorhynchus lens*, White ; GIRTY, P. U. S. Mus. xxvii, p. 734.

*Terebratulina radula*, N. S. Wales ; HEDLEY, P. Linn. Soc. N. S. Wales xxix, p. 209, fig. : n. sp.



## IX. BRYOZOA.

BY

ALICE L. EMBLETON, B.Sc., F.L.S.

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## INTRODUCTION.

*Bryozoa* literature this year is distinguished by a monograph by CALVET (11) in which he gives descriptions of many species; in another paper (10) he gives diagnoses of numerous sub-antarctic forms from the Atlantic, several of which are new to science. MICHAELSEN (82) discusses the affinities of *Bryozoa*, and NEVIANI (84) continues his bibliography of living and fossil forms. He has also written on a collection from the Mediterranean. WATERS (116) reports on the species from Franz-Josef Land collected in 1896 & 1897 by the Jackson Harmsworth Expedition, DAVENPORT (22) on the fresh-water forms of the United States, and GARRARD (40) writes on English fresh-water representatives.

STIASNY (106) has worked on the excretory apparatus of the *Entoprocta*. Fossil *Bryozoa* have this year been the subject of five papers by CANU. In one (13) he deals with Egyptian forms; another he devotes to describing *Pustulopora semiclausa* (14); in a third and important memoir he writes

on Tertiary *Bryozoa* from the region South of Tunis (15); his fourth work is also on Tertiary representatives, but in this case from Patagonia, with many new species (16). His last paper is a small contribution on general points in the study of fossil *Bryozoa*.

MAPLESTONE (76, 77) again adds much valuable information to the subject of fossil forms. This year he has published a tabulated list of fossil Cheilostomatous Polyzoa from the Victorian Tertiary deposits. He also describes a collection from Lord Howe Island. ULRICH & BASSLER (108) have made a revision of Paleozoic *Bryozoa* of the genera and species of *Ctenostomata* and of *Trepotomata*, of which many are new. In another paper these authors deal with Miocene forms (109).

JUKES-BROWNE (55) gives lists of species found in the upper chalk of England, and CUMINGS (21) writes on the development of some Paleozoic *Bryozoa*.

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### I. TITLES.\*

1. ALLEN, E. J., TODD, R. A., PACE, S. & others. Marine Biological Association. Plymouth marine invertebrate fauna, being notes of the local distribution of species occurring in the neighbourhood. Compiled from the records of the laboratory of the Marine Biological Association. J. Mar. Biol. Ass. vii, 2, pp. 155-298, 1 chart. [*Bryozoa*, pp. 259-267.]
2. [ANON.] *Polyzoa* as food of fishes. Pennsylvania State Department of Agriculture; Monthly Bull. ii, 8, 1904, p. 243.
3. ——. Classification. Natural. Canad. xxxi, pp. 210-218. [*Bryozoa*, p. 212, 2 figg.]
4. ——. An expanded polypide of *Alcyonella stagnorum*. Rep. Hastings Nat. Hist. Soc. xi, pl. opp. p. 51.  
BASSLER, R. S. [See ULRICH & BASSLER (107-109).]
5. BEEDE, J. W. & ROGERS, A. J. Coal measure faunal studies, iii. Lower Coal measures. Kansas Univ. Bull. ii, 15, pp. 459-473. [Lists of spp. found.]
6. BOGOJAWLENSKI, N. W. Zur Frage über die Vermehrung von *Zoobotryon pellucidus* Ehrbg. Mt. Ges. Nat. Moskau xcvi. Review by ADELUNG, Zool. Zentrbl. xi, pp. 250 & 251.
7. BOLTON, H. The palæontology of the Lancashire coal measures. Tr. Manchester Geol. Soc. xxviii. i. pp. 378-420. ii. pp. 578-650. iii. pp. 668-689.
8. BONARELLI, G. Appunti sulla costituzione geologica dell' isola di Creta. Atti Acc. Lincei (5) iii, pp. 518-548, 1 pl., 4 figg. [*Bryozoa*, pp. 536 & 537 by NEVIANI.]
9. \*BOVERI, T. Ergebnisse über die Konstitution der chromatischen Substanz des Zellkerns. Jena, 1904, 130 pp., 75 figg. Review by FICK, Zool. Zentrbl. xi, pp. 97-99.
10. CALVET, L. Diagnoses de quelques espèces de Bryozoaires nouvelles ou incomplètement décrites de la région sub-Antarctique de l'océan Atlantique. Bull. Soc. zool. France xxix, 3, pp. 50-59.

---

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

11. [CALVET, L.] Bryozoen. *Ergebn. Hamburg. Maghalaen. Reise 1904*, 45 pp., 3 pls.
12. —. La distribution géographique des Bryozoaires marins et la théorie de la bipolarité. *C.R. Ac. Sci. cxxxviii*, pp. 384-387.
13. CANU, F. Bryozoaires fossiles d'Égypte. *Bull. Inst. Egypt iv*, 4, pp. 223-229, pls. i & ii.
14. —. *Bryozoa*. *Pal. Univ. 1904. Pustulopora semiclausa*, 6 figg. with diagnosis.
15. —. Étude des Bryozoaires tertiaires recueillis en 1885 et 1886 par M. Ph. Thomas dans la région sud de la Tunisie. *Explor. Sci. Tunis 1904*, 37 pp., pls. xxxii-xxxv.
16. —. Les Bryozoaires du Patagonien échelle des Bryozoaires pour les terrains tertiaires. *Mem. Soc. geol. France, Pal. xii (3)*, pp. 1-30, 8 pls.
17. CHIRICA, C. Notes sur les Bryozoaires de Roumanie. *Ann. Univ. Jassy iii*, pp. 4-14. ✓
18. CLARKE, J. M. Limestones of Central and Western New York interbedded with bituminous shales of the Marcellus stage, with notes on the nature and origin of their faunas. *Rep. N. York Mus. Iv*, pp. 115-138.  
List of fossils, p. 133.
19. CLAUS & GROBBEN. *Lehrbuch der Zoologie, begründet von C. Claus, neu bearbeitet von Karl Grobben. Marburg, 1904*, 480 pp., 507 figg. Review by SCHUBERG, *Zool. Zentrbl. xi*, pp. 233-238.
20. COUFFON, O. Étude critique sur les faluns du Haguineau. *Bull. Soc. Angers xxxiii*, pp. 35-85.  
*Cyclostomata*, p. 44, *Cheilostomata*, p. 48, list of 36 spp.
21. CUMINGS, E. R. Development of some Paleozoic *Bryozoa*. *Amer. J. Sci. xvii*, pp. 49-78, 83 figg.
22. DAVENPORT, C. B. Report on the fresh-water *Bryozoa* of the United States. *P. U. S. Mus. xxvii*, pp. 211-221, pl. vi.
23. DENNANT, J. Catalogue of the described species of fossils (except *Bryozoa* and *Foraminifera*) in the Cainozoic fauna of Victoria, South Australia and Tasmania. *Rec. Geol. Surv. Victoria i*, 2, pp. 89-147.  
Refers to *Bryozoa*.
24. —. Report on fossiliferous ironstone conglomerate from Cape Patton. *Op. cit. 1*, p. 36.  
List of spp.
25. DESTINEZ, P. Deuxième note sur les fossiles du calcaire noir (v 1 a) de Petit-Modave. *Ann. Soc. geol. Belgique xxvi*, pp. lix & lx, 1899.
26. —. Nouvelles découvertes paléontologiques dans le Carboniférien et le Famennien du Condroz. *Op. cit. xxxi, 1*, pp. 143-151.  
List of spp. found.
27. —. Fossiles viséens de Seille et de Comblain-au-Pont. *Op. cit. xxvi*, 1899, pp. cix-cxiii.
28. —. Faune et flore des psammites du Condroz (Famonnien). *Op. cit. xxxi, 3*, pp. 247-257. [*Bryozoa*, p. 257.]
29. —. Quelques fossiles de Pair (Clavier). *Op. cit. xxiv*, 1897-99, pp. xxxviii & xxxix.

30. [DESTINEZ, P.] Troisième note sur les fossiles du marbre noir de Pair. Op. cit. xxv, pp. xxxiv-xxxvi.
31. ——. Quatrième note sur les fossiles du calcaire noir de Pair. Op. cit. xxvi, pp. lviii & lix.
32. DEWALQUE, G. Les fossiles du Bolderberg et les fossiles boldériens. Ann. Soc. géol. Belgique xxv, 1899, pp. 117-122.
33. DIENER, C. Himalayan Fossils. 1. 5. Permian fossils of the Central Himalayas. Pal. Ind. xv, 204 pp., pls. i-x. [*Bryozoa*, p. 199.]
34. DREVERMANN, F. Die Fauna der Siegener Schichten von Seifen unweit Dierdorf (Westerwald). Palæontogr. 1, 6, pp. 229-282.
35. ENTZ, G. Az édesviziek élete. Termes. Kozl. Magyar Tars. 1904, pp. 616-636, 9 text-figg.
36. ETHERIDGE, R. Determinations of palæozoic and mesozoic fossils. Rec. Geol. Surv. Victoria i, 1, pp. 10-12.
37. FOERSTE, A. F. Silurian and Devonian Limestones of Tennessee and Kentucky. Bull. Geol. Soc. Amer. xi, pp. 395-445, 8 figg.
38. ——. The Ordovician-Silurian contact in the Ripley Island area of Southern Indiana, with notes on the age of the Cincinnati geanticline. Amer. J. Sci. (4) xviii, pp. 321-342, 1 pl.
39. FOX-STRANGWAYS, C. The geology of the Oolitic and Cretaceous rocks south of Scarborough. Mem. geol. Surv. England and Wales 54 & 55, pp. 1-112, xi pls., 12 text-figg.  
Lists of spp. found.
40. GARRARD, G. E. Freshwater *Polyzoa*. J. Northampt. Soc. xii, 97, pp. 158-164.
41. GILSON, G. Exploration de la mer sur les côtes de la Belgique en 1899. Mem. Mus. Belgique i, 81 pp.
42. GINESTE, C. L'organogénèse et l'histogénèse au point de vue phylogénique. Tr. Lab. Arcachon vii, 1903, pp. 87-161.
43. Girty, G. H. The Carboniferous formations and faunas of Colorado. Prof. Papers U. S. Geol. Surv. No. 16, 1903, 546 pp.
44. GRABAU, A. W. Paleozoic Coral reefs. Bull. Geol. Soc. Amer. xiv, pp. 337-352, pls. xlvii & xlviii.  
Bryozoan reefs, p. 348.
45. GRÄNTZ, —. Pflanzengeographisches und Floristisches von Chemnitz. Ber. Ges. Chemnitz xv, p. 1. (See Abhandlungen.) [*Alcyonella fungosa*.]  
GROBBEN. [See CLAUS & GROBBEN (19).]
46. HALL, T. S. Remarks on the deposits. Appendix to Maplestone's tabulated list [182-218]. P. Soc. Victoria xvii, i, pp. 218 & 219.
47. HAYDEN, H. H. Memoirs of the Geological survey of India. Mem. Geol. Surv. India xxxvi, i, pp. 1-129.
48. HICKSON, S. J. [President's address to the Zoological Section.] Rep. Brit. Ass. 1903. [Manchester mains choked by fresh-water *Polyzoa* sp.]
49. HIND, W. On the homotaxial equivalents of the Lower Culm of North Devonshire. Geol. Mag. i, 8, pp. 397-403.
50. HINDE, G. J. On the zones of Marsupites in the chalk at Beddington, near Croydon, Surrey. Geol. Mag. i, 10, pp. 482-487.  
Lists of spp.



51. HOLMES, W. MURTON. List of fossils collected. [Surrey.] P. Croydon Club 1903 & 1904, pp. 45 & 46.
52. HOLM, G. Palæontologiska notiser. Sveriges geol. Unders. Afh. No. 179, 104 pp., 14 pls.
53. HUDLESTON, W. H. On the origin of the marine (halolimnic) fauna of Lake Tanganyika. Geol. Mag. i, 7, pp. 337-382, 2 pls.
54. HURRELL, H. E. *Polyzoa*. Tr. Norfolk Soc. vii, 5, p. 755.
55. JUKES-BROWNE, A. J. The Cretaceous rocks of Britain. The upper chalk of England. Mem. geol. Surv. U. K. iii, 1904, 566 pp.  
Important list of Bryozoan spp. pp. 484-493.
56. KARASKASCH, N. I. Note sur la faune contenue dans les galets de Bolschезemelskaïa toundra. Protok. St. Peterb. Obsch. xxxv, 1904, 3, pp. 130-146. [French résumé, p. 162.]
57. KISHINOUE, K. Notes on the natural history of Corals. J. Imp. Fisheries Bureau Tokyo xiv, i, 32 pp., pls. i-ix. [Refers to *Bryozoa*.]
58. KITSON, A. E. Report on the Bryozoan limestone at Flinders. Rec. Geol. Surv. Victoria i, 1, pp. 44-51.  
List of spp. found.
59. KITTL, E. Geologie der Umgebung von Sarajevo. Jahrb. geol. Reichsanst. Wien liii, pp. 515-748, 3 pls., 47 figg.
60. KNIPOWITSCH, N. Explorations zoologiques sur le bateau casse-glace "Ermak" en été de 1901. Ann. Mus. Zool. Acad. St. Petersb. vi, pp. i-xx, 1 pl.
61. KOFORD, C. A. Biological survey of the waters of Southern California at San Diego. Science xix, pp. 505-508.
62. LAMPLUGH, S. W., KILROE, J. R., M'HENRY, A., SEYMOUR, H. J., WRIGHT, W. B. & MUFF, H. B. The geology of the county of Belfast. Mem. geol. Surv. Ireland 1904, 166 pp.
63. LANG, W. D. The Jurassic forms of the "genera" *Stomatopora* and *Proboscina*. Geol. Mag. i, 7, pp. 315-322, 11 figg.
64. LAUTERBORN, R. Beiträge zur Fauna und Flora des Oberrheins und seiner Umgebung. Mt. Pollichia Jahrb. lx, No. 19, pp. 42-130.
65. LHOMME. Coquilles fossiles trouvées en 1903 dans les sables de Saint-Gobain (Yprésien). Feuille Natural. (4) xxxiv, pp. 103-106.  
List of spp. collected.
66. LINDER, C. Étude de la faune pélagique du Lac de Bret. Rev. Suisse Zool. xii, pp. 144-158, pl. iv.
67. LINDINGER, L. Verzeichnis der in und um Erlangen beobachteten Mollusken. Anhang: Ein neue Fundort von *Cristatella mucedo* Cuv. Abh. Ges. Nürnberg xv, pp. 65-84.
68. LOHMANN, H. Eier und sogennante Cysten der Plankton-Expedition. Anhang: *Cyphonautes*. Ergebn. Plankton-Exped. iv, pp. 1-61, pls. i-vii.
69. LOMAS, J. On *Polyzoa* as rock-cementing organisms. Rep. Brit. Ass. 1903, pp. 663 & 664.
70. LONGCHAMPS, M. DE SELYS. Développement postembryonnaire et affinités des *Phoronis*. Mem. Ac. Belgique i, 1904, 150 pp., 7 pls.  
Affinities with *Bryozoa*, pp. 129 & 130.

71. LOPPENS, K. Sur une variété de *Membranipora membranacea* L. et sur quelques animaux marins vivant dans l'eau saumâtre. Ann. Soc. Zool. Belgique xxxviii, Bull. pp. cxlii & cxliii.
72. ——. Bryozoaires et Cnidozoaires nouveaux pour la faune Belge trouvés par la plupart pendant l'année 1903. Bull. Soc. zool. Belg. xxxix, pp. xlv-xlvii.
73. LUTHER, A. Planktologiska och hydrofaunistiska studier i Lojo sjö under sommaren 1901. Medd. Soc. Faun. Fenn. xxviii, A, pp. 52-55.
74. MAEHRENTHAL, F. C. v. Entwurf von Regeln der zoologischen nomenclatur. Als Grundlage für eine Neubearbeitung der internationalen Regeln der internationalen nomenclatur. Zool. Ann. i, 2, pp. 89-138.
75. MALAISE, C. Découverte d'une porphyroïde fossilifère, à Grand-Manil. Ann. Soc. geol. Belgique xxix, pp. B145-B148, 1 fig.
76. MAPLESTONE, C. M. Tabulated list of the fossil Cheilostomatous *Polyzoa* in the Victorian Tertiary deposits. P. Soc. Victoria xvii, 1, pp. 182-218.
77. ——. Lord Howe Island *Polyzoa*. P. R. Soc. Victoria xvii, pp. 386-390, pl. xviii & xix.
78. MARCHAL, P. Recherches sur la biologie et le développement des Hyménoptères parasites. I. La polyembryonie spécifique ou germinogonie. Arch. Zool. exp. xxxii, No. 3, 1904, pp. 257-335, pls. ix-xiii. Relations of germinogony to ontogeny of *Bryozoa*, pp. 322-324.
79. MATZDORFF, C. Jahresbericht über die Bryozoen für 1899-1902. Arch. Naturg. 1897, ii, 3, published in 1904, pp. 97-146.
80. MEISENHEIMER, J. Review of ROMER & SCHAUDINN'S Fauna Arctica i, 1. Einleitung, Plan des Werkes und Reisebericht. Jena, 1900, pp. 1-84, 2 pls. Zool. Zentrbl. xi, pp. 179-183.
81. MEYER, E. [Affinities of *Bryozoa*.] Zool. Jahrb. Anat. xxi, 2, 1904, pp. 21-34.
82. MICHAELSEN, W. Revision der composition Styeliden oder Polyzoinen. Mt. Mus. Hamburg xxi, pp. 1-124, 2 pls. Affinities of *Bryozoa* discussed.
83. MUNTHE, H. Stratigrafiska studier öfver Gotlands Silurlager. Sveriges geol. Unders. Afh. No. 192, 55 pp.
84. NEVIANI, A. Materiali per una Bibliografia italiana degli studi sui Briozoi viventi e fossili dal 1800 al 1900. [Continuazione.] Boll. Naturalista xxiv, pp. 1, 4, 5, 6, 7, 10.
85. ——. *Schizotheca serratumargo* Hincks sp. (rettificazione di nomenclatura). Boll. Soc. geol. Ital. xxiii, pp. 270-276, pl. x.
86. ——. Appunti sui Briozoi del Mediterraneo. II. Boll. Soc. zool. Ital. xiii, pp. 1-3.
87. ——. Novità Bibliografiche. Op. cit. xii, 1904, pp. 1 & 2.
88. NOBRE, A. Subsídios para o estudo da fauna marinha do norte de Portugal. Ann. Sci. nat. Porto viii, pp. 37-94. [*Bryozoa*, pp. 78-86.]
89. ——. Subsídios para o estudo da fauna marinha do sul de Portugal. T. c. pp. 153-160. [*Bryozoa*, p. 159, 18 spp.]
90. OSTROUMOFF, A. Comptes-rendus des dragages et du plancton de l'expédition du "Selianik." Bull. Ac. St. Petersb. (5) v, 1896, pp. 33-92.

91. PARKINSON, J. H. The zoning of the culm in South Germany. Geol. Mag. (5), i, pp. 272-276.
92. POLÉNOFF, B. Description géologique de partie nord-ouest de la 15-me feuille du viii zone et de la partie sud-ouest de la 15-me feuille du vii zone de la carte générale du gouvernement Tomsk. Trav. geol. St. Petersb. iii, pp. 133-339.
93. PROCHÁZKA, V. J. Das ostböhmisches Miocæn. Arch. nat. Böhmen x, 2, 173 pp., 72 figg.
94. RANGE, P. Das Diluvialgebiet von Lübeck und seine Dryastone nebst einer vergleichenden Besprechung der Glazialpflanzen führenden Ablagerungen überhaupt. Zeitschr. Naturw. lxxvi, pp. 161-273, 1 pl. [*Bryozoa*, p. 238.]
95. RANSOME, F. L. The geology and ore deposits of the Bisbec Quadrangle, Arizona. Prof. Papers U. S. Geol. Surv. 21, 1904, 112 pp. Lists of spp. pp. 36-38.
96. RETZIUS, G. Zur Kenntnis der Spermien der Evertebraten. Biol. Untersuch. xi, pp. 1-32, pls. i-xiii.
97. RICHE, A. Étude stratigraphique et paléontologique sur la zone à *Lioceras concavum* du Mont d'Or Lyonnais. Ann. Univ. Lyon, fasc. xiv, 252 pp., viii pls. [*Bryozoa*, p. 207, note of occurrence.]  
ROGERS, A. J. [See BEEDE & ROGERS (5).]
98. ROSENFELD, G. Studien über das Fett der Meeresorganismen. Wiss. Meeresuntersuch. v, 2, pp. 57-85.
99. ROUSSEL, M. Tableau stratigraphique des Pyrénées. Bull. Carte geol. France xv, No. 97, pp. 1-116, 3 pls., 66 figg.
100. ROUSSELET, C. F. On a new fresh-water Polyzoön from Rhodesia, *Lophopodella thomasi* gen. et sp. nov. J. Quekett Club (2) ix, pp. 45-56, 1 pl.
101. RUEDEMANN, R. Paleontologic Papers. II. Trenton conglomerate of Rysedorph Hill Rensselaer Co. N. Y. and its fauna. Rep. N. York Mus. lv, pp. 3-114. [*Bryozoa*, pp. 12-14.]
102. SCHEPOTIEFF, A. Zur organisation von *Rhabdopleura*. Bergens Mus. Aarbog 1904, No. 2, 21 pp., 3 pls. [Faunistic.]
103. SCHULTZ, E. Aus dem Gebiete der Regeneration. III. Ueber Regenerationserscheinungen bei *Phoronis mülleri* Sel. Long. Zeitschr. wiss. Zool. lxxv, pp. 391-420. IV. Ueber Regenerationserscheinungen bei *Actinotrocha branchiata* Müller, pp. 473-494, pl. xxxiii. [Contains references to *Bryozoa*.]
104. SMYČKA, F. Novější nálezy v čelechovském devonu. Vestník. Klub. Prostejove 1905, vii, pp. 53-72. [*Bryozoa*, p. 61.]
105. SOWINSKY, W. Introduction à l'étude de la faune du bassin marin Ponto-Aralo-Kaspian sous le point de vue d'une province zoo-géographique indépendante. Zapiski Kiev. Obshch. xviii, pp. i-xiii; 1-487; 1-216, xiv pls. [In Russian.]
106. STIASNY, G. Beitrag zur Kenntnis des exkretionsapparates der *Entoprocta*. Arb. Inst. Wien xv, 2, pp. 183-197, 1 pl.
107. ULRICH, E. O. & BASSLER, R. S. A revision of the Paleozoic *Bryozoa*. Smithson. Collect. xlv, pp. 256-294, pls. xlv-xlviii.
108. — & —. On genera and species of *Trepostomata*, op. cit. xlvii, pp. 15-55, pls. vi-xiv. On genera and species of *Ctenostomata*, t. c. pp. 256-294.

109. [ULRICH, E. O. & BASSLER, R. S.] *Bryozoa*. Miocene. Maryland geol. Surv. 1904, pp. 404-429, pls.
110. USSING, N. V. Danmarks Geologi i almenfatteligt Omrids. Danmarks geol. Unders. iii, 2, pp. 1-359, 3 pls.
111. VAN BENEDEN, E. On demande de nouvelles recherches sur l'organisation et le développement d'un *Phoronis*, en vue d'élucider les rapports existant entre les animaux de ce genre, les genres *Rhabdopleura* et *Cephalodiscus*, et le groupe des Enteropneustes. Bull. Ac. Belgique 1903, pp. 1216-1232.
112. VANHÖFFEN, E. Die Tierwelt des Südpolargebiets. Zeit. Ges. Erd. Berlin 1904, pp. 362-370, 11 figg.
113. VERRILL, A. E. The Bermuda Islands. Tr. Connect. Ac. xi (2), pp. 413-913.
114. ——. Additions to the fauna of the Bermudas from the Yale Expedition of 1901, with notes on other species. Op. cit. (1), pp. 15-62, pls. i-xi. [*Bryozoa*, p. 54, list of spp. only.]
115. ——. Additions to the *Tunicata* and *Molluscoidea* of the Bermudas. Tr. Connect. Ac. x (2), pp. 588-594, 4 figg.
116. WATERS, A. W. *Bryozoa* from Franz-Josef Land, collected by the Jackson-Harmsworth Expedition, 1896-1897. II. *Cyclostomata*, *Ctenostomata*, and *Endoprocta*. J. Linn. Soc. London xxix, pp. 161-185, pls. xix-xxi.
117. ——. *Bryozoa*. Exp. Antarctique Belge, 4to, 1904, 100 pp., 9 pls. [See Zool. Rec. 1903, xl (96).]
118. WEIGELT, C. L'assainissement et le repeuplement des rivières. Mem. Cour. Ac. Belgique lxiv. [*Bryozoa*, p. 516, fig. 83.]
119. \*WESENBERG-LUND, C. Studier over de Danske Soers Plankton. Specielle Del. [English résumé.] 223 pp., Copenhagen, 1904. [Review by ZSCHOKKE, Zool. Zentrbl. xi, pp. 680-687.]
120. WOLLEMANN, A. Ein Aufschluss im Mukronatensenon bei Rotenkamp, nordwestlich von Königslutter. xliii. Jahresber. Ver. Braunschweig, pp. 40-42.
121. WOLTERSTORFF, W. Beiträge zur Fauna der Tucheler Heide. Bericht über eine Zoologische Bereisung der Kreise Tuchel und Schwetz im Jahre 1900. Schr. Ges. Danzig xi, 1 & 2, pp. 140-234, 1 pl., 1904.
122. WOOD, ELVIRA. Marcellus (Stafford) limestones of Lancaster, Erie Co., N.Y. Rep. N. York Mus. lv, pp. 139-181. [*Bryozoa*, p. 156. List of spp. found.]

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- WATERS, Exp. Antarct. Belge 1904; †*C. contigua*, *C. angustiloba*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 9, pl. ii, figg. 17, 19 & 20.
- †*C. subsetigera*, Patagonia, CANU, t. c. p. 9, pl. ii, figg. 16-18, n. sp.
- †*Cellarina patagonica*, Patagonia, CANU, t. c. p. 8, pl. i, figg. 12-14, n. sp.
- †*Cellepora plana*, Egypt, CANU, Bull. Inst. Egypt iv, p. 228, pl. ii, figg. 9; †*C. castrocarensis*, *C. retusa*, Tunis, CANU, Explor. Sci. Tunis 1904, pp. 23 & 27, pls. xxxiv & xxxv, figg. 30, 39-42.
- †*C. massalis*, *C. cribrosa*, pp. 428 & 429, pl. cxvii, figg. 3-6, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904, n. spp.
- Chaperia spinosissima*, CALVET, Ergebn. Hamburg. Magalhaen. Reise 1904, p. 12, pl. i, fig. 2.
- C. spinosissima*, Atlantic Ocean, sub-antarctic region, CALVET, Bull. Soc. zool. France xxix, 3, p. 51, n. sp.
- †*Cribricella* n. gen. for *C. crassicollis* n. sp., Tunis, CANU, Explor. Sci. Tunis 1904, p. 20, pl. xxxiv, fig. 24.
- †*Cribrilina radiata*, Tunis, CANU, t. c. p. 19, pl. xxxiv, fig. 23.
- †*Cupularia denticulata*, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904, p. 414, pl. cxii, fig. 6.
- †*C. bioculata*, *C. punctata*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 10, pl. ii, figg. 21-23, n. spp.
- Cyphonautes compressus*, North Sea, LOHMANN, Ergebn. Plankton Exped. iv, p. 54, pl. vii, fig. 21.
- C. sargassi*, *C. æquatorialis*, *C. gibbus*, *C. oblongus*, *C. parvus*, North Sea, LOHMANN, t. c. pp. 53-57, pl. vii, figg. 22-26, n. spp.
- †*Ditaxia lerichei*, *D. orbiculata*, Egypt, CANU, Bull. Inst. Egypt iv, p. 225, figg. 4 & 5.
- †*Electra sinuosa*, Patagonia, CANU, Mem. Soc. geol. France xii (3), p. 5, pl. i, figg. 1 & 2, n. sp.
- †*Eschara* sp., USSING, Danmarks geol. Unders. ii, 2, p. 98, fig. 30.
- Flustra renilla*, CALVET, Ergebn. Hamburg. Magalhaen. Reise 1904, p. 10, pl. i, fig. 3.
- †*Hiantopora patagonica*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 18, pl. iv, figg. 49 & 50, n. sp.
- †*Hippoporina hypostoma*, Tunis, CANU, Explor. Sci. Tunis 1904, p. 22, pl. xxxiv, figg. 28 & 29, †*H. varians*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 14, pl. iii, fig. 38.
- †*H. radificera*, Patagonia, CANU, t. c. p. 14, pl. iii, figg. 34-37, n. sp.
- Hippothoa divaricata*, *H. distans*, pp. 53 & 54, pl. vii, fig. 3, pl. iii, fig. 8, Antarctic, WATERS, Exp. Antarct. Belge 1904.
- Lepralia galeata*, Antarctic, WATERS, t. c. p. 48, pl. viii, fig. 11.
- L. gemelliporoides*, Atlantic Ocean, sub-antarctic region, CALVET, Bull. Soc. France xxix (3), p. 55; †*L. maculata*, p. 423, pl. cxv, figg. 8 & 9, pl. cxviii, fig. 7, *L. montifera*, p. 424, pl. cxvi, fig. 5, *L. marylandica*, p. 425, pl. cxvii, fig. 2, *L. reversa*, p. 226, pl. cxiii, figg. 1 & 2, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904, n. spp.
- †*Lunulites parvula*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 8, pl. i, figg. 10 & 11, n. sp.
- †*Mastigophora hyndmanni*, Tunis, CANU, Explor. Sci. Tunis 1904, p. 26, pl. xxxv, fig. 36.
- Membranipora membranacea*, characters, LOPPENS, Ann. Soc. zool. Belgique xxxviii, Bull. pp. cxlii & cxliii; *M. membranacea*, natural history in Roumania, CHIRICA, pp. 13 & 14, Ann. Univ. Jassy iii; *M. incrustans*, Antarctic, WATERS, Exp. Antarct. Belge 1904, p. 31, pl. ii, fig. 15; *M. longispina*, CALVET, Ergebn. Hamburg. Magalhaen. p. 14, pl. i, fig. 1; †*M. artini*, Egypt, CANU, Bull. Inst. Egypt iv, p. 228, pl. ii, figg. 6 & 7; †*M. elliptica*, p. 13, pl. xxxiii, fig. 1, *M. lacroixii*, p. 14, fig. 2, *M. eocena*, p. 15, fig. 5-11, *M. laxa*, p. 17, pl. xxxiv, fig. 18, Tunis, CANU, Explor.

- Sci. Tunis 1904; †*M. concatenata*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 6, pl. i, figg. 5, 6, 7.
- †*M. oblongula*, p. 407, pl. cx, figg. 2-5, *M. fossulifera*, p. 408, fig. 1, *M. caminosa*, p. 409, pl. cxi, figg. 3 & 4, *M. germana*, p. 410, figg. 8 & 9, *M. parvula*, figg. 1 & 2, *M. bifoliata*, p. 411, pl. cxii, figg. 2-4, *M. nitidula*, p. 412, fig. 1, *M. fistula*, p. 413, fig. 5, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904; †*M. varians*, p. 14, pl. xxxiii, fig. 3, *M. excavata*, p. 15, fig. 4, *M. quadrata*, p. 16, fig. 12, *M. flicki*, p. 16, figg. 13-15, *M. bioculata*, p. 17, pl. xxxiv, figg. 16 & 17, *M. rotundicella*, p. 18, fig. 19, Tunis, CANU, Explor. Sci. Tunis 1904; †*M. lavigata*, *M. flabellata*, Patagonia, CANU, Mem. Soc. geol. France xii, pp. 6 & 7, pl. i, figg. 3, 4 & 8; *M. longispina*, Atlantic Ocean, sub-antarctic region, CALVET, Bull. Soc. zool. France xxix, 3, p. 52, n. spp.
- Membraniporella magellanica*, CALVET, Ergebn. Hamburg. Magalhaen. p. 15, pl. i, fig. 4.
- †*M. magellanica*, Atlantic Ocean, sub-antarctic region, CALVET, Bull. Soc. zool. France xxix, 3, p. 53, n. sp.
- †*Micropora crassopora*, Egypt, CANU, Bull. Inst. Egypt iv, p. 227, pl. ii, fig. 8; †*M. coriacea*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 10, pl. i, fig. 15.
- †*Microporella malusi*, Patagonia, CANU, t. c. p. 11, pl. iii, fig. 27; *M. malusii*, *M. divaricata*, Antarctic, WATERS, Exp. Antarct. Belge 1904, p. 42, pl. iii, fig. 4, p. 46, pl. iii, fig. 1; †*M. violacea*, *M. ciliata*, pp. 21 & 22, pl. xxxiv, figg. 25, 26 & 27, Tunis, CANU, Explor. Sci. Tunis 1904.
- †*M. fallax*, *M. divaricata*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 11, pl. ii, figg. 24 & 25; †*M. præciliata*, p. 415, pl. cx, fig. 6, pl. cxiii, fig. 3, *M. inflata*, p. 416, pl. cx, fig. 7, *M. ? bifoliata*, p. 417, pl. cxiii, figg. 6-8, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904, n. spp.
- Mucronella centrota*, Lord Howe Island, MAPLESTONE, P. R. Soc. Victoria xvii, p. 389, pl. xxix, fig. 9, n. sp.
- †*Onychocella angulosa*, *O. magniaperta*, pp. 18 & 19, pl. xxxiv, figg. 20-22, Tunis, CANU, Explor. Sci. Tunis 1904; †*O. boulei*, Egypt, CANU, Bull. Inst. Egypt iv, 4, p. 223, fig. 1.
- Osthmosia signata*, Antarctic, WATERS, Exp. Antarct. Belge 1904, p. 73, pl. vii, fig. 4.
- †*Palmicellaria convoluta*, p. 427, pl. cxvi, figg. 2-4, *P. punctata*, p. 428, pl. cxvi, fig. 1, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904, n. spp.
- †*Phylaciella ? orbiculata*, *P. ventricosa*, Tunis, CANU, Explor. Sci. Tunis 1904, pp. 26 & 27, pl. xxxv, figg. 37 & 38, n. spp.
- Porella rouzaudi*, CALVET, Ergebn. Hamburg. Magalhaen. p. 30, pl. ii, fig. 6; †*P. escharella*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 17, pl. iv, fig. 53.
- P. rouzaudi*, Atlantic Ocean, sub-antarctic region, CALVET, Bull. Soc. zool. France xxix, 3, p. 57, n. sp.
- †*Poricella* n. gen. for *P. maçonica* n. sp., Tunis, CANU, Explor. Sci. Tunis 1904, p. 28, pl. xxxv, fig. 43.
- †*Retepora prisca*, SMYČKA, Vestník. Klub. Prostejove vii, p. 61.
- †*R. quadripunctata*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 15, pl. iv, fig. 54; †*R. doverensis*, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904, p. 422, pl. cxi, figg. 5-7, pl. cxv, figg. 1-5; n. spp.
- †*Rhamphostomella perforata*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 15, pl. iii, fig. 39, n. sp.
- Schizoporella simplex*, *S. hosteensis*, *S. eatoni*, pp. 51 & 52, pl. iii, figg. 6, 11 & 10, Antarctic, WATERS, Exp. Antarct. Belge 1904; *S. isabelliana ?* Bermudas, VERRILL, Tr. Connect. Ac. x (2), p. 593, fig. 5; †*S. unicornis*,

- S. linearis*, *S. auriculata*, Tunis, CANU, Explor. Sci. Tunis 1904, pp. 24-26, pl. xxxiv, figg. 31-35; *S. ornata*, p. 26, pl. ii, fig. 4, *S. pellucidula*, p. 27, pl. ii, fig. 3, CALVET, Ergebn. Hamburg. Magalhaen.; †*S. informata*, p. 419, pl. cxiv, figg. 6-10, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904.
- S. gibberula*, *S. heteromorpha*, pp. 387 & 388, figg. 3-6, Lord Howe Island, MAPLESTONE, P. Soc. Victoria xvii; *S. ornata*, *S. pellucidula*, Atlantic Ocean, sub-antarctic region, CALVET, Bull. Soc. zool. France xxix, 3, p. 56; †*S. subquadrata*, p. 420, pl. cxiv, fig. 1, pl. cxviii, figg. 5 & 6, *S. latisinuata*, p. 421, pl. cxiv, figg. 2-4, *S. doverensis*, p. 421, pl. cxvii, fig. 1, *S. cumulata*, p. 422, pl. cxvii, fig. 7, Maryland, ULRICH & BASSLER, Maryland geol. Surv. 1904 : n. spp.
- †*Schizotheca serratimargo*, nomenclature, NEVIANI, Boll. Soc. geol. Ital. xxiii, pp. 270-276, pl. x.
- Scrupocellaria funiculata*, Antarctic, WATERS, Exp. Antart. Belge 1904, p. 23, pl. viii, fig. 1.
- Smittia marsupium*, *S. marionensis*, pp. 61 & 62, pl. iv, 4, pl. viii, 8, Antarctic, WATERS, t. c.; †*S. (Reussia) seguenzai*, p. 16, pl. iv, fig. 42, *S. (Mucronella) grotriani*, fig. 46, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3).
- †*S. incisa*, p. 15, pl. iv, figg. 39 & 40, *S. subtorquata*, fig. 44, *S. patagonica*, p. 16, fig. 45, *S. expectans*, fig. 43, *S. coronata*, figg. 51 & 52, Patagonia, CANU, t. c. n. spp.
- Thalamoporella michaelsoni*, CALVET, Ergebn. Hamburg. Magalhaen. p. 18, pl. ii, fig. 1.
- T. howensis*, Lord Howe Island, MAPLESTONE, P. Soc. Victoria xvii, p. 387, fig. 2; *T. michaelsoni*, Atlantic Ocean, sub-antarctic region, CALVET, Bull. Soc. zool. France xxix, 3, p. 54 : n. spp.
- †*Tremopora radicefera*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 7, pl. i, fig. 9.
- Turritigera stellata*, Antarctic, WATERS, Exp. Antart. Belge 1904, p. 76, pl. v, fig. 3, pl. viii, fig. 13.
- †*Umbonula ceratomorpha*, Patagonia, CANU, Mem. Soc. geol. France, Pal. xii (3), p. 18, pl. iv, fig. 47.

## CTENOSTOMA.

- †*Alcyonidium*, Paleozoic, development, CUMINGS, Amer. J. Sci. xvii, p. 55, fig. 31; *A. gelatinosum*, Franz-Josef Land; characters, WATERS, Tr. Linn. Soc. London xxix, p. 179, pl. xx, fig. 7, pl. xxi, figg. 6 & 7; *A. gelatinosum*, spermatozoa, RETZIUS, Biol. Untersuch. xi, p. 13, pl. v, figg. 1-13.
- †*Allonema botellus*, p. 281, pl. lxvii, fig. 1, *A. moniliforme* n. var. *aggregatum*, p. 282, p. lxv, fig. 14, pl. lxvii, fig. 9, *A. fusiforme*, p. 284, pl. lxvii, fig. 8, occurrence and characters, ULRICH & BASSLER, Smithsonian. Collect. xlv.
- †*A.* n. gen. for *A. botelloides*, p. 281, pl. lxvii, figg. 2-4, *A. waldronense*, p. 283, fig. 5, *A. subfusiforme*, p. 283, figg. 6 & 7, *A. ? minimum*, p. 284, figg. 10-12, American Paleozoic, ULRICH & BASSLER, t. c. n. spp.
- †*Ascodictyon siluriense*, p. 286, pl. lxviii, figg. 11 & 12, *A. stellatum*, p. 287, figg. 9 & 10, synonymy and characters, ULRICH & BASSLER, t. c.
- †*A. florale*, p. 288, pl. lxviii, fig. 13, *A. parvulum*, p. 288, fig. 14, *A. sparsum*, p. 289, fig. 15, American Paleozoic, ULRICH & BASSLER, t. c. n. spp.
- †*Heteronema* n. gen. for *H. capillare*, p. 278, pl. lxv, fig. 11, *H. ? contextum*, p. 279, fig. 12, *H. carbonarium*, p. 279, fig. 13, American Paleozoic, ULRICH & BASSLER, t. c. n. spp.

- Paludicella articulata*, ENTZ, Termes. Kozl. Magyar Tars. 1904, p. 619, 2 figg.; *P. ehrenbergi*, natural history, regeneration, CHIRICA, pp. 10-13, Ann. Univ. Jassy iii; *P. ehrenbergii*, Massachusetts, DAVENPORT, P. U. S. Mus. xxvii, p. 215, pl. vi, fig. 3.
- Pottsiella erecta*, Pennsylvania, DAVENPORT, t. c. p. 215, pl. vi, fig. 2.
- †*Ptychocladia* n. gen. for *P. agellus* n. sp., American Paleozoic, ULRICH & BASSLER, Smithson. Collect. xlv, p. 290, pl. lxvii, fig. 10.
- †*Rhopalonaria venosa*, p. 268, pl. lxvi, figg. 2 & 3, Indiana, *R. capillaris* (n. n. for *Terebripora* Dollfus), p. 271, fig. 32, *R. ? vetusta* (n. n. for *Terebripora* Oehlert), p. 271, fig. 33, France, Devonian, ULRICH & BASSLER, t. c.
- †*R. attenuata*, p. 268, pl. lxvi, figg. 4 & 5, *R. robusta*, p. 269, fig. 6, *R. tenuis*, p. 270, figg. 7-9, *R. medialis*, p. 270, fig. 10, *R. keokukensis*, p. 272, fig. 11, American Paleozoic, ULRICH & BASSLER, t. c. n. spp.
- †*Vinellidae* n. fam., characters and composition, ULRICH & BASSLER, t. c. p. 273.
- †*Vinella repens*, p. 274, pl. lxviii, figg. 1-3, *V. radialis*, p. 274, fig. 4, *V. radiformis*, fig. 7, *V. radiformis conferta*, p. 275, figg. 5 & 6, *V. ? radians*, p. 276, pl. lxv, figg. 9 & 10, synonymy, characters, ULRICH & BASSLER, t. c.
- †*Vinella ? multiradiata*, New York, Paleozoic, ULRICH & BASSLER, t. c. p. 276, pl. lxviii, fig. 8, n. sp.

### PHYLACTOLÆMA.

- Alcyonella stagnorum*, Rep. Hastings Nat. Hist. Soc. xi, pl. opp. p. 51.
- Cristatella* in ponds in Norfolk, HURRELL, Tr. Norfolk Soc. vii, 5, p. 755; *C.*, budding, MARCHAL, Arch. Zool. exp. xxxii, 3, pp. 321 & 322; *C. mucedo*, occurrence in a new locality, LINDINGER, Abh. Ges. Nurnberg xv, pp. 65-84; *C. mucedo*, DAVENPORT, P. U. S. Mus. xxvii, p. 220, pl. vi, fig. 9.
- Fredericella sultana*, natural history, CHIRICA, Ann. Univ. Jassy iii, pp. 5 & 6; *F. sultana* (= *regina* Leidy), United States, DAVENPORT, P. U. S. Mus. xxvii, p. 216, pl. vi, fig. 4.
- Lophopus*, budding, MARCHAL, Arch. Zool. exp. xxxii, 3, pp. 321 & 322; *Lophopus*, in ponds in Norfolk, HURRELL, Tr. Norfolk Soc. vii, 5, p. 755; *L. crystallinus*, WEIGELT, Mem. Cour. Belgique lxiv, p. 516, fig. 83; *L. crystallinus*, anatomy and biology, GARRARD, J. Northampt. Soc. xii, 97, pp. 158-164.
- Pectinatella magnifica*, DAVENPORT, P. U. S. Mus. xxvii, p. 219, pl. vi, fig. 8.
- Plumatella*, natural history notes on Roumanian, CHIRICA, pp. 6-10, Ann. Univ. Jassy iii; *P. princeps*, p. 217, pl. vi, fig. 5, *P. polymorpha*, p. 217, fig. 6, *P. punctata*, p. 218, fig. 7, DAVENPORT, P. U. S. Mus. xxvii.



## X. CRUSTACEA.

(Including  
GIGANTOSTRACA AND PYCNOGONIDA.)

BY

W. T. CALMAN, D.Sc.

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## INTRODUCTION.

THE number of titles recorded under Crustacea is less than last year (258 as against 280) but this is accounted for by the fact that the list has been closed at a much earlier date, before some of the foreign periodicals had reached the London libraries.

One of the most notable works published during 1904 is DOFLEIN'S (53) Report on the *Brachyura* of the "Valdivia" Expedition. Besides descriptions of some important new genera and species this memoir contains the results of an elaborate investigation into the structure of the eyes in deep-sea crabs. GRUVEL'S (71) Monograph of the Cirripedes is a very useful compendium of the group of which the author has done much to extend our knowledge during recent years. It is nothing short of an absurdity however that a book which was certainly published not later than November, 1904, should bear on its title page the date 1905.

THIELE'S memoirs on *Phyllocarida* (219) and *Branchiura* (218) contain many new observations on the morphology as well as on the classification of these interesting groups. ZOGRAF'S (252) investigation of the median eye and certain associated structures in the *Branchiopoda* is of great morphological interest. SMITH (198) has elucidated some points hitherto obscure in the remarkable metamorphosis of the Isopod *Gnathia*. BONNIER'S (17) important account of a remarkable parasitic Copepod was published in 1898 but appears to have escaped notice in other bibliographies as well as in our own. Miss MOSELEY (138) has discovered an additional gill hitherto overlooked by the innumerable students of the common Crayfish.

The chief physiological paper of the year is KEEBLE & GAMBLE'S (101) work on the colouration of Decapods, a subject to which they have previously made important contributions. Experiments on the "psychology" of Crustacea are recorded and discussed by BOHN (15), SPAULDING (200 & 201) and YERKES & HUGGINS (248). Regeneration is treated of by REED (170), MORGAN (137) and ARIOLA (11).

Plankton research as usual forms the subject of a large number of papers among which those of EKMAN (56) and WESENBERG-LUND (234) may be specially mentioned.



BOUVIER'S (19) preliminary account of "Mutations" in certain fresh-water prawns is of great interest in connection with current discussions on variation and heredity.

Among the many purely systematic works there may be mentioned the series of papers by various authors on collections from the Maldives (18 & 207), from Ceylon (34, 127 & 229) and from North Western America (87, 165 & 172).

Important papers on *Pycnogonida* are published by CARPENTER (1), COLE (2) and LOMAN (5 & 6). The most interesting discovery however is HODGSON'S (3) *Pentanympyon*, which will necessitate a considerable modification of our views on the morphology of the group.

It may be mentioned that a second instalment of BUDE-LUND'S "Revision of Crustacea Isopoda Terrestria" has appeared but is not included in the present Record since it seems probable that, like the first part (Zool. Rec. 1901, Crustacea, No. 25), it may have been published in some periodical not yet seen.

Though this is not the place for an expression of opinion on matters of nomenclature, the Recorder may draw attention to the grave danger of confusion arising out of the practice, now unhappily becoming common, of using old and well-known generic names in a new sense. It would greatly facilitate the work of the Recorder, at any rate, if authors who did so were careful to indicate in some way the particular genus with which they are dealing. To give an example, Miss RATHBUN (167) describes a new crab under the name of *Uca arstedii*. Without a knowledge of the particular views which Miss Rathbun held on the subject of nomenclature at the date when the paper was published it would be difficult to discover to which of two well-known genera the new crab is supposed to belong.

## CRUSTACEA.

### I. TITLES\*.

1. ABRIC, PAUL. Les premiers stades du développement de la Sacculine (*Sacculina carcini*, Rathke). C.R. Ac. Sci. cxxxix, pp. 430-432.
2. ALCOCK, A. Description of and reflections upon a new species of Apodous Amphibian from India. [Distrib. compared with that of *Paguridae*, p. 268.] Ann. Nat. Hist. (7) xiv, pp. 267-273, pl. vii.
3. — & MCARDLE, A. F. Illustrations of the Zoology of the... Investigator. Crustacea. Part ix, pls. xlix-lv, Calcutta, 1901. Part x, pls. lvi-lxvii, 1902.
4. ALZONA, CARLO. Brevi notizie sulle raccolte zoologiche nelle caverne (continuazione). Boll. Naturalista xxiv, pp. 119-123.
5. ANDREWS, E. A. Breeding habits of Crayfish. Amer. Natural. xxxviii, pp. 165-206, 10 text-figg.
6. — Crayfish spermatozoa. Anat. Anz. xxv, pp. 456-463, 7 text-figg.
7. — An aberrant limb in a Crayfish. Biol. Bull. vi, pp. 75-83, 5 text-figg.
8. ANGLAS, J. Les animaux de laboratoire. L'Écrevisse (Anatomie et dissection). 8vo, Paris, n.d., 27 pp., 3 col. pls., 5 text-figg.

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

- ANNANDALE, NELSON. [See SCHARFF (187).]
9. ANON. Bull. internat. expl. Mer, Année 1903-1904, No. 3, Partie D, Plankton. pp. 115-146. [Tables.]
10. —. The giant spider crab. Amer. Mus. J. iv, pp. 25 & 60.
11. ARIOLA, V. Rigenerazione naturale eteromorfa dell' oftalmopodite in *Palinurus vulgaris*. Arch. Entwicklmech. xviii, pp. 248-252, pl. xiv.  
Abstract with remarks by F. v. WAGNER, Zool. Zentrbl. xi, pp. 830-832.
12. BAKER, W. H. Notes on South Australian Decapod Crustacea. Part i. Tr. R. Soc. S. Austral. xxviii, pp. 146-161, pls. xxvii-xxxii.  
BASSLER, R. S. [See ULRICH & BASSLER (225).]
13. BAUDOIN, MARCEL. Le *Lernaenicus Spratte* parasite de la Sardine en Vendée. C.R. Ac. Sci. cxxxix, pp. 998-1000.
14. BENEDICT, JAMES E. A new genus and two new species of Crustaceans of the family *Albuneidae* from the Pacific Ocean; with remarks on the probable use of the antennulæ in *Albunea* and *Lepidopa*. P. U. S. Mus. xxvii, pp. 621-625, 5 text-figg.
15. BOHN, GEORGES. Coopération, hiérarchisation, intégration des sensations chez les Artiozoaires. C.R. Ac. Sci. cxxxviii, pp. 112-114.
16. BOLTON, H. The Palæontology of the Lancashire Coal Measures. Tr. Manchester Geol. Soc. xxviii, pp. 378-415 and 578-650.
17. BONNIER, JULES. Note sur le *Pionodesmotes phormosoma*, Copépode parasite du *Phormosoma uranus*. [Appendix to KOEHLER'S "Echinides et Ophiures.....Hirondelle".] Res. Camp. scient.....Monaco, Fasc. xii (1898), pp. 61-66, pl. x.
18. BORRADAILE, L. A. Marine Crustaceans. xiii. The Hippidea, Thalassinidea and Scyllaridea. In "The Fauna and Geography of the Maldives and Laccadive Archipelagoes," edited by J. Stanley Gardiner, Cambridge, 4to, vol. ii, pt. 3, pp. 750-754, pl. lviii.
19. BOUVIER, E. L. Sur le genre *Ortmannia* Rathb. et les mutations de certains Atyidés. C.R. Ac. Sci. cxxxviii, pp. 446-449.  
[Translated as] On the genus *Ortmannia* Rathb. and the Mutations of certain Atyids. Ann. Nat. Hist. (7) xiii, pp. 377-381.
20. —. Crevettes de la famille des Atyidés; espèces qui font partie des collections du Muséum d'Histoire naturelle. Bull. Mus. Paris x, pp. 129-138.
21. —. Sur un exemplaire remarquable d'*Astacus fluviatilis* var. *torrentium* Schrank. Bull. Soc. ent. France 1904, pp. 254 & 255.  
— [See GRUVEL (71).]
22. BRADY, G. STEWARDSON. On Entomostraca collected in Natal by Mr James Gibson. P. Zool. Soc. London 1904, ii, pp. 121-128, pls. vi-viii.
23. —. Notes on Entomostraca found at the Roots of Laminariæ. Tr. Soc. Northumb. i (1), pp. 3-8, pls. i & ii.  
— [See NORMAN & BRADY (149).]
24. BRAZHNĪKOV, V. Zamyetka o novom rodye i vidye iz sem. *Hippolytidae*. (Sur un nouveau genre et une nouvelle espèce de Décapodes, famille *Hippolytidae*.) Annuaire Mus. St. Petersb. viii, Nouvelles pp. xliv-xlvi (1903).

25. BREHM, V. & ZEDERBAUER, E. Beiträge zur Planktonuntersuchung alpiner Seen. ii. Verh. Ges. Wien liv (10), pp. 635-643, 5 text-figg.
26. BROWNE, E. T. & VALENTIN, RUPERT. On the marine fauna of the Isles of Scilly. J. Inst. Cornwall xvi, pp. 120-132.
27. BROŽEK, ARTHUR. Variálně statistická zkoumání na *Atyaephyra desmarestii* (Joly) z jezera Skadarského. (Variations-statistische Untersuchungen an *Atyaephyra desmarestii* Joly, aus dem Scutarisee.) SB. Bohmisch Ges. 1904, xi, 71 pp., 1 pl. & text-figg. [German Resumé, pp. 68-70.]  
Abstract by K. THON, Zool. Zentrbl. xii, p. 25.
28. BRUES, CHARLES T. The internal factors of regeneration in *Alpheus*. Biol. Bull. vi, pp. 319 & 320.
29. BRUNTZ, L. Sur l'existence de trois sortes de cellules phagocytaires chez les Amphipodes normaux. C.R. Ac. Sci. cxxxix, pp. 368-370.
30. ——. Sur l'existence de trois sortes de cellules phagocytaires chez les Amphipodes normaux. C.R. Soc. Biol. lvii, pp. 145-147.
31. BULLOT, G. On the toxicity of distilled water for the fresh-water *Gammarus*. Suppression of this toxicity by the addition of small quantities of Sodium Chloride. Univ. Calif. Publ. Physiol. i (22), pp. 199-217.
32. CALMAN, W. T. On the classification of the Crustacea Malacostraca. Ann. Nat. Hist. (7) xiii, pp. 144-158, 2 text-figg.
33. ——. On *Munidopsis polymorpha* Koelbel, a cave-dwelling marine Crustacean from the Canary Islands. Ann. Nat. Hist. (7) xiv, pp. 213-218, 1 text-fig.  
See also P. Zool. Soc. London 1904, ii, p. 82.
34. ——. Report on the Cumacea collected by Professor Herdman at Ceylon in 1902. In "Report to the Government of Ceylon on the Pearl Oyster Fisheries of the Gulf of Manaar," by W. A. HERDMAN, 4to, Royal Society, London. Part ii, Supplementary Report xii, pp. 159-180, 5 plates, 1904.  
Quoted hereafter as "Rep. Ceylon Pearl Fisheries ii."
35. CARL, J. Materialien zur Höhlenfauna der Krim. I. Aufsatz. Neue Höhlen-Crustaceen. Zool. Anz. xxviii, pp. 322-329, 11 text-figg.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xii, p. 78.
36. CHAPMAN, FREDERICK. Foraminifera and Ostracoda from the Cretaceous of East Pondoland, South Africa. Ann. S. African Mus. iv (5), pp. 221-237, pl. xxix.
37. ——. On some Foraminifera and Ostracoda from Jurassic (Lower Oolite) Strata near Geraldton, Western Australia. P. Soc. Victoria xvi (2), pp. 185-206, pls. xxii & xxiii.
38. ——. New or little-known Victorian Fossils in the National Museum, Melbourne. Part iv. Some Silurian Ostracoda and Phyllocarida. Op. cit. xvii (1), pp. 298-319, pls. xiii-xvii.
39. CHECCHIA-RISPOLI, GIUSEPPE. *L'Harpactocarcinus punctulatus* Desmarest, dell' Eocene di Peschici. Boll. Soc. zool. Ital. (2) v, pp. 49-57, 1 pl.
40. CHEVREUX, ED. Mission de Créqui-Montfort et Sénéchal de la Grange. Note préliminaire sur les Amphipodes recueillis par M. le Dr Neveu-Lemaire dans le lac Titicaca (Juillet, 1903). Bull. Soc. zool. France xxix, pp. 131-134, 2 text-figg.

41. CHOBOUT, A. Exploration zoologique de la grotte de Tharoux (Gard). Bull. Soc. Nîmes xxxi, pp. 84-90.
- 41A. CHUN, CARL. Aus den Tiefen des Weltmeeres. Schilderungen von der Deutschen Tiefsee-Expedition. pp. vi + 549, illustr., Jena, 1900. *Scyramathia hertwigi*, n. sp. figured on p. 497 attributed to DOFLEIN.
- 41B. \*——. The same. Zweite Auflage 1903. According to DOFLEIN (53) two n. spp. of Brachyura, *Trichopeltarium alcocki* and *Geryon paulensis*, are figured on p. 531 of this edition.
42. CLARKE, JOHN M. Notes on Paleozoic crustaceans. Rep. N. York Mus. liv (1), pp. 83-119, pls. i-iv (1902).  
CLAUS, C. [See GROBEN (68).]
43. CLEVE, P. T. Report on Plankton collected by Mr Thorild Wulff during a voyage to and from Bombay. Arkiv Zool. i, pp. 329-381, pls. xvi-xix, 2 text-figg.
44. COLLET, PIERRE. Notices géologiques et paléontologiques pour servir à la géologie de l'arrondissement de Sainte-Ménéhould. Bull. Soc. Reims xii, pp. 18-87, 3 pls. [Crustacea, p. 32.]
45. COUFFON, OLIVIER. Étude critique sur les Faluns du Haguineau. Bull. Soc. Angers xxxiii, pp. 35-85, 1 pl.
46. COUTIÈRE, H. Note sur le commensalisme de l'*Arete dorsalis* var. *Pacificus* H. Coutière, d'après les notes de M. L. Seurat, naturaliste, à Rikitea (Iles Gambier). Bull. Mus. Paris x, pp. 58-60.
47. ———. Sur un type nouveau d'amphipode, *Grandidierella mahafalensis*, provenant de Madagascar. Bull. Soc. Philom. (9) vi, pp. 166-174, 19 text-figg.
48. CUNNINGTON, W. A. The Crustacea of Cambridgeshire. [In] "Handbook to the Natural History of Cambridgeshire," edited by J. E. MARR and A. E. SHIPLEY. 8vo, Cambridge, 1904, pp. 204-208.
49. CUSHMAN, JOSEPH A. Miocene Barnacles from Gay Head, Mass., with notes on *Balanus proteus* Conrad. Amer. Geol. xxxiv, pp. 293-296, 3 text-figg.
50. CUSSANS, MARGARET. L. M. B. C. Memoirs, No. XII. Gammarus. P. Liverp. biol. Soc. xviii, pp. 327-373, pls. i-iv, 6 text-figg.  
Also published separately.
51. DADAY, E. VON. Mikroskopische Süßwasserthiere aus Turkestan. Zool. Jahrb. Syst. xix, pp. 469-553, pls. xxvii-xxx, 5 text-figg.  
DALL, W. H. [See HOLMES (87), RATHBUN (165) & RICHARDSON (172).]  
DE MAN, J. G. [See MAN, J. G. DE (122-124).]
52. DENNANT, JOHN & KITSON, A. E. Catalogue of the described species of fossils (except *Bryozoa* and *Foraminifera*) in the Cainozoic fauna of Victoria, South Australia and Tasmania. Rec. Geol. Survey Victoria i (2), pp. 89-147, 1 map.
53. DOFLEIN, FRANZ. Brachyura. Wiss. Ergeb. deutschen Tiefsee-Exp. "Valdivia" vi, pp. xiv + 314, 58 pls., 1 pl. & 68 figg. in text.  
Quoted hereafter as Brachyura "Valdivia."  
———. [See CHUN (41A & 41B) & SCHNEE (189).]
54. DOLLFUS, A. Sur un nouveau genre et une nouvelle espèce de Crustacé Isopode fossile découvert à Bouzigues (Hérault). Feuille Natural. (4) xxxiv, pp. 145 & 146, 3 text-figg.

55. DYDUCH, T. Materialien zu einer Isopodenfauna Galiziens. Bull. Ac. Cracovie 1903, pp. 61-64, 6 text-figg.
56. EKMAN, SVEN. Die Phyllopoden, Cladoceren und freilebenden Copepoden der nordschwedischen Hochgebirge. Ein Beitrag zur Tiergeographie, Biologie und Systematik der arktischen, nord- und mittel-europäischen Arten. Zool. Jahrb. Syst. xxi, pp. 1-170, pls. i & ii, 12 text-figg.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xi, pp. 720-729.
57. ENTZ, GÉZA. A sósvizek faunája. Potfuz. Termes. Kozl. lv (1900), pp. 99-119, 5 text-figg.  
[Translated as] Die Fauna der kontinentalen Kochsalzwässer. Math. naturw. Ber. Ungarn xix, pp. 89-124, 5 text-figg. (1904).
58. FLORENTIN, R. La faune des grottes de Sainte-Reine. Feuille Natural. (4) xxxiv, pp. 176-179.  
FOWLER, G. HERBERT. [See STEBBING & FÖWLER (209).]
59. FOX-STRANGWAYS, C. The Geology of the Oolitic and Cretaceous Rocks south of Scarborough. Second Edition. Mem. Geol. Surv. England & Wales 1904, pp. viii+119, 11 pls. & figg. in text.
60. GADD, PEHR. Parasit-Copepoder i Finland. Acta Soc. Faun. Fenn. xxvi, No. 8, 60 pp., 2 pls.
61. GADZIKIEWICZ, WITOLD. Ueber den feinern Bau des Herzens bei Malakostraken. Jena. Zeitschr. xxxix, pp. 203-234, pls. v-viii, 6 text-figg.
62. ———. Ueber den histologischen Bau des Herzens bei den dekapoden Crustaceen. Bull. Ac. Cracovie 1904, pp. 424-434, 7 text-figg.
63. GAL, JULES. *Niphargus* et *Cacospheroma*. Observations physiologiques. Bull. Soc. Nimes xxxi, pp. 48-51.  
GAMBLE, F. W. [See KEEBLE & GAMBLE (101 & 102).]
64. GARDINER, J. STANLEY. Notes and observations on the Distribution of the larvæ of marine animals. Ann. Nat. Hist. (7) xiv, pp. 403-410.
65. GENTHE, KARL WILHELM. Some notes on *Alcippe lampas* (Hanc.) and its occurrence on the American Atlantic shore. Zool. Jahrb. Syst. xxi, pp. 181-200, pls. xi & xii.
66. GIARD, A. À propos des travaux de Miss Harriet Richardson sur les Bopyriens. C.R. Soc. Biol. lvi, pp. 591-593.
67. GRABAU, AMADEUS W. Guide to the Geology and Paleontology of Niagara Falls and vicinity. Rep. N. York Mus. liv (4), pp. 1-284, 18 pls., 190 text-figg.
68. GROBEN, KARL. Lehrbuch der Zoologie begründet von C. CLAUS, neubearbeitet von Dr Karl Grobben. 1<sup>ste</sup> Hälfte, 480 pp., 507 text-figg. Marburg in Hessen, 1904.
69. GROCHOWSKI MIECZYŚLAW. O rodzaju Studniczka (*Niphargus*). (Recherches sur les crustacés du genre *Niphargus*.) Część i, ii, iii [with different sub-titles]. Kosmos polski xxix, pp. 31-50, 81-100, 266-301, 1 pl.

As this paper is entirely in the Polish language it cannot be fully recorded, but it appears to deal at length with the classification of the *Amphipoda* in general and of the *Gammaride* in particular as well as with the genus *Niphargus*.

70. GRÜNBERG, —, LUCAS, — & THIELE, —. Bericht über die Leistungen in der Carcinologie während der Jahre 1895, 96 und 97. Arch. Naturg. lxxiii (1897). II, 3 Heft. (December 1904), pp. 341-506.
71. GRUVEL, A. Monographie des Cirrhipèdes ou Thécostracés. Préface de M. le Professeur BOUVIER. pp. xii+472, 427 figg. in text and table of autographs, 8vo, Paris, 1905. [Received in London, 18th November 1904.]
72. —. Sur quelques points de l'anatomie des Cirrhipèdes. C.R. Ac. Sci. cxxxix, pp. 73-75.
73. —. De quelques phénomènes d'ovogenèse chez les Cirrhipèdes. T. c. pp. 148-150.
74. —. Sur quelques points de l'anatomie des Cirrhipèdes. T. c. pp. 216-218.
75. —. Études anatomiques sur quelques Cirrhipèdes Operculés du Chili. Zool. Jahrb. Suppl. vi (Fauna chilensis.....L. PLATE) Bd. iii, pp. 307-352, pls. xx-xxii.  
— [Numerous preliminary notes dealing with *Cirripedia*.] Pr.-verb. Soc. Sci. Bordeaux since 1897-8.
76. GUCCINI, LUIGI. Sul contenuto gastro-enterico dei pesci del Ticino. Rend. Ist. Lombardo (2) xxxvii, pp. 194-201.
77. GUILYSSÉ, A. Étude du système digestif de la Langouste. Bull. Soc. Philom. (9) vi, pp. 117-128, 3 text-figg.
78. GURNEY, ROBERT. The fresh- and brackish-water Crustacea of East Norfolk. Tr. Norfolk Soc. vii, pp. 637-660, with table.
79. HANSEN, H. J. Two new forms of *Choniostomatidae*: Copepoda parasitic on Crustacea Malacostraca and Ostracoda. Quart. J. Micr. Sci. (n. s.) xlviii, pp. 347-358, pl. xxii.
80. HARRIS, J. ARTHUR. An ecological catalogue of the Crayfishes belonging to the genus *Cambarus*. Kansas Univ. Sci. Bull. ii (3), pp. 51-187, pls. i-v (Kansas Univ. Bull. iv (6)) 1903.
81. HAY, W. P. On the habits of *Cambarus uhleri* Faxon. P. Soc. Washington xvii, p. 167.
82. HEIDECKE, PAUL. Untersuchungen über die ersten Embryonalstadien von *Gammarus locusta*. Jena. Zeitschr. xxxviii, pp. 505-552, pls. xiii-xvi.
83. HERDMAN, W. A. An outline of the Shrimp question. P. Liverp. biol. Soc. xviii, pp. 157-167.
84. —. Lobster Hatching. Nature lxx, p. 296.  
HILL, WILLIAM. [See JUKES-BROWNE (96).]
85. HOEK, P. P. C. An interesting case of reversion. P. Ak. Amsterdam vii, pp. 90-94, 1 pl. [*Cirripedia*.]
86. HOFFENDAHL, KURT. Beitrag zur Entwicklungsgeschichte und Anatomie von *Pacilasma aurantium* Darwin. Zool. Jahrb. Anat. xx, pp. 363-398, pls. xxiii-xxvi.
87. HOLMES, SAMUEL J. Amphipod Crustaceans of the Expedition. Harriman Alaska Exped. x, pp. 233-246, text-figg. 118-128.  
Review by W. H. DALL, Science (n. s.) xx, pp. 462-464.
88. —. Remarks on the Sexes of Sphæromids, with a description of a new species of *Dynamene*. P. Calif. Ac. (3) Zool. iii, pp. 295-306, pl. xxxiv.

89. [HOLMES, SAMUEL J.]. On some new or imperfectly known species of West American Crustacea. T. c. pp. 307-328, pls. xxxv-xxxvii.
90. HOLMES, W. MURTON. List of fossils collected. P. Croydon Club 1904, pp. 45 & 46. [Chalk.]  
HUGGINS, G. E. [See YERKES & HUGGINS (248).]
91. HUTTON, F. W. (edited by). Index Faunæ Novæ Zealandiæ. 8vo, London, 1904, pp. viii + 372.  
IAKHONTOFF, G. [See YAKHONTOV (246).]
92. JENSEN, SØREN. Biologiske og systematiske Undersøgelser over Ferskvands-Ostracoder. Udgivne efter hans Død af Dr FR. MEINERT og Dr C. WESENBERG-LUND. Vid. Medd. 1904, pp. 1-78, pls. i-iii.
93. JONES, T. RUPERT. Note on a palaeozoic *Cypridina* from Canada. Geol. Mag. (5) i, pp. 438 & 439, 1 text-fig.
94. JORDAN, H. Zur physiologischen Morphologie der Verdauung bei zwei Evertebraten. Biol. Centrbl. xxiv, pp. 321-332, 4 text-figg.
95. ——. Beiträge zur vergleichenden Physiologie der Verdauung. iv. Die Verdauung und der Verdauungsapparat des Flusskrebses (*Astacus fluviatilis*). Arch. ges. Physiol. ci, pp. 263-310, pl. vii, 6 text-figg.
96. JUKES-BROWNE, A. J. The Cretaceous Rocks of Britain. III. The Upper Chalk of England. With contributions by WILLIAM HILL. Mem. geol. Surv. U. K. 1904, pp. x + 566, 1 pl. & text-figg. [Crustacea, esp. pp. 493-496.]
97. JURICH, BRUNO. Die Stomatopoden der deutschen Tiefsee-Expedition. Wiss. Ergeb. deutschen Tiefsee-Exp. "Valdivia" vii, pp. 361-408, pls. xxv-xxx.  
Quoted hereafter as Stomatopoden "Valdivia."
98. KANE, W. F. DE VISMES. *Niphargus kochianus* Bate, in an Irish Lake, and *N. subterraneus* Leach, in Kent. Ann. Nat. Hist. (7) xiv, pp. 274-283, pl. viii.
99. ——. Further captures of *Mysis relicta* in Ireland. Irish Natural. xiii, pp. 107-109, 2 text-figg.
100. ——. Entomostraca [from Sligo]. T. c. p. 203.
101. KEEBLE, FREDERICK, & GAMBLE, F. W. The Colour-physiology of Higher Crustacea. Phil. Trans., Ser. B. cxcvi, pp. 295-388, pls. xviii-xxiii, 1 text-fig.
102. — & —. On the presence of mobile fat in the Chromatophores of the Crustacea (*Hippolyte varians*). Zool. Anz. xxvii, pp. 262-264.
103. KEILHACK, LUDWIG. *Bosmina coregoni gibbera* Schoedler, ♂. T. c. p. 564, 1 text-fig.  
KITSON, A. E. [See DENNANT & KITSON (52).]
104. KOBERT, —. Ueber Hämocyanin. Arch. Ver. Mecklenb. lviii (2), SB. Ges. Rostock, pp. xxi-xxxiv (1903).
105. KOCH, L. Die Isopoden Süddeutschlands und Tirols. Festschr. Ges. Nürnberg 1901, pp. 17-72.  
Abstract by K. W. v. DALLA TORRE, Zool. Zentrbl. xi, p. 70.
106. KOROTNEFF, A. DE. Résultats d'une expédition zoologique au lac Baikal pendant l'été de 1902. Arch. Zool. exp. (4) ii, pp. 1-26, 1 map, 12 text-figg.

107. LABBÉ, ALPHONSE. Sur la formation des tétrades et les divisions maturatives dans le testicule du Homard. C.R. Ac. Sci. cxxxviii, pp. 96-99.
108. —. Sur la polyspermie normale et la culture des spermatozoïdes. Op. cit. cxxxix, pp. 75-77.
109. —. La maturation des spermatides et la constitution des spermatozoïdes chez les crustacés décapodes. (Note préliminaire.) Arch. zool. exp. Notes (4) ii, pp. i-xiv, 27 text-figg.
110. LAMPLUGH, G. W. & others. The Geology of the country around Belfast. Mem. Geol. Survey Ireland 1904, pp. vii+166, 4 pls. & figg. in text.
111. LANKESTER, E. RAY. The structure and classification of the Arthropoda. Quart. J. Micr. Sci. (n. s.) xlvii, pp. 523-582, pl. xlii, 11 text-figg.  
Reprint with additions, of article "Arthropoda" from Encycl. Brit. xxv (Zool. Rec. 1902, Crust. 147). The additions relating to Crustacea are unimportant.
112. —. An undescribed rudimentary gill-plume in the Crayfish. Nature lxi, p. 270.  
See also MOSELEY (138).  
LARSEN, E. [See WESENBERG-LUND (234).]
113. LATTEr, OSWALD H. The Natural History of some Common animals. 8vo, Cambridge, 1904, pp. vi+331, text-figg. [The Crayfish, pp. 48-70.]
114. LINDER, CHARLES. Étude de la faune pélagique du lac de Bret. Rev. Suisse Zool. xii, pp. 149-258, pl. iv.
115. LINDSAY, JOHN. Millport Marine Biological Station. Tr. Edinb. Field Soc. v (2), pp. 66-75. [Notes on Crustacea by T. SCOTT, pp. 73 & 74.]
116. LO BIANCO, SALVATORE. Pelagische Tiefseefischerei der "Maja" in der Umgebung von Capri. Beiträge zur Kenntnis des Meeres und seiner Bewohner. I. Jena, 1904, pp. vi+91, 42 col. pls. & 1 map.  
This is a translation of No. 159, Zool. Rec. 1902, with the addition of the plates. The figures are not all original.
117. LOEB, JACQUES. On the relative toxicity of distilled water, sugar solutions, and solutions of the various constituents of the sea-water for marine animals. Univ. Calif. Publ. Physiol. i (7), pp. 55-69 (1903).  
Translation of No. 136, Zool. Rec. 1903.
118. LOŠKO, JAROSLAV. Morfologie exkréčních orgánů Crustacci. SB. Bohmisch. Ges. 1903, xxvi, 29 pp., 1 pl., 2 text-figg.  
Abstract by K. THON, Zool. Zentribl. xi, pp. 101-103, 1 text-fig.  
LUCAS, —. [See GRÜNBERG, LUCAS & THIELE (70).]  
MCARDLE, A. F. [See ALCOCK & MCARDLE (3).]
119. McINTOSH, D. C. On variation in the number and arrangement of the male-genital apertures and on the proportion of the sexes in the Norway Lobster (*Nephrops norvegicus*). P. Cambridge Soc. xii, pp. 441-444.
120. McINTOSH [W. C.]. On the distribution of Marine animals. Ann. Nat. Hist. (7) xiii, pp. 117-130.



121. MAGRI, FRANCESCO. Primo contributo alla conoscenza dei Crostacei decapodi abissali del Compartimento marittimo di Catania. Atti Acc. Gioen. (4) xvii, Mem. xiv, 15 pp.
122. MAN, J. G. DE. Crustacés Decapodes terrestres et d'eau douce de l'Indo-Chine. Mission Pavie, Indo-Chine, 1879-1895. Études diverses, III, Recherches sur l'Histoire Naturelle de l'Indo-Chine orientale, par AUGUSTE PAVIE. Paris, 4to, 1904, pp. 311-331, pls. xvii & xviii.
123. ——. On some species of the genus *Palæmon* Fabr., from Tahiti, Shanghai, New Guinea, and West Africa. Tr. Linn. Soc. London (2) Zool. ix (8), pp. 291-327, pls. xviii-xx.
124. ——. Beschreibung einiger Brachyurer Krebse aus post-tertiären Schichten der Minahassa, Celebes. Samm. geol. Mus. Leiden (1) vii, pp. 254-278, pls. ix & x.
125. MARINE BIOLOGICAL ASSOCIATION. Plymouth Marine Invertebrate Fauna. Being Notes of the local distribution of species occurring in the neighbourhood. J. Mar. Biol. Ass. vii, pp. 155-298, 1 chart. [Crustacea, pp. 233-258.]
126. MARTIN, G. C. *Malacostraca* and *Cirripedia*. Maryland Geol. Surv. Miocene 1904, pp. 94-97, pls. xxxiii & xxxiv.
127. MAYER, P. Report on the Caprellidæ collected by Professor Herdman at Ceylon in 1902. In "Report to the Government of Ceylon on the Pearl Oyster Fisheries in the Gulf of Manaar," by W. A. Herdman. 4to, Royal Society, London, Part II, Supplementary Report xvi, pp. 223-227, 9 text-figg.  
Quoted hereafter as "Rep. Ceylon Pearl Fisheries ii."
128. MAZIARSKI, STANISLAS. Contribution à l'étude de la relation du noyau avec le protoplasme cellulaire. Bull. Ac. Cracovie 1904, pp. 345-366, pls. vii & viii.
129. MEEK, ALEX. Animal Types. The Norway Lobster, *Nephrops norvegicus*. Newcastle upon Tyne, 1903, 8vo, 22 pp., 3 pls.
130. ——. The Crab and Lobster Fisheries of Northumberland. Rep. Northumberland Sea Fisheries Committee for 1904, pp. 21-67, with 12 tables and charts.  
MEINERT, FR. [See JENSEN (92).]
131. MEISSNER, WALERIAN. Notiz über das Plankton des Flusses Murgab (Merw, Turkestan). Zool. Anz. xxvii, pp. 648-650, 3 text-figg.
132. MICULICICH, MIROSLAV. Ein neuer Lernæopodide. Zool. Anz. xxviii, pp. 47-52, 3 text-figg.
133. MIKHAILOVSKY, G. Die Mediterran-Ablagerungen von Tomakowka (Gouvernement Jekaterinoslaw). [Russian, with German resumé.] Trudui geol. Kom. xiii, pp. 311, 4 pls. (1903).
134. \*MOENKHAUS, W. J. An extra pair of appendages modified for copulatory purposes in *Cambarus viridis*. Indiana Univ. Bull. i, pp. 17 & 18, 2 figg.
135. MONACO, PRINCE ALBERT I<sup>er</sup> DE. Sur la 5<sup>e</sup> campagne scientifique de la Princesse Alice II. C.R. Ac. Sci. cxxxviii, pp. 1398-1400. Reprinted, Bull. Mus. Monaco xiii, 4 pp.
136. MONTI, RINA. Limnologische Untersuchungen über einige italienische Alpenseen. Forscherber. Plon xi, pp. 252-275, figg. in text.

137. MORGAN, T. H. Germ-Layers and Regeneration. Arch. Entwickl.-mech. xviii, pp. 261-264.  
Remarks on REED (170).
138. MOSELEY, MARGERY. On the existence of an anterior rudimentary gill in *Astacus fluviatilis* Fabr. Quart. J. Micr. Sci. xlviii (3), pp. 359-366, pls. xxiii & xxiv.  
See also LANKESTER (112).
139. MUNTHE, HENR. Om faunan i Vestgötaslättens yoldialera mellan Skara-Herrljunga och Venern. Geol. Foren. Stockholm Forh. xxiii, pp. 95-138, 1 map, 2 text-figg. (1901).  
Reprinted as Sveriges geol. Unders. Afh., Ser. C., No. 187.
140. —. Stratigrafiska studier öfver Gotlands silurlager. Geol. Foren. Stockholm Forh. xxiv, pp. 221-273, text-figg. (1902).  
Reprinted as Sveriges geol. Unders. Afh., Ser. C., No. 192.
141. MURIE, JAMES. Report on the Sea Fisheries and Fishing Industries of the Thames Estuary. Kent and Essex Sea Fisheries Committee, 8vo, London, 1903. [Crustacea, pp. 224-250, text-figg. and map.]
142. NAPOLI, FERDINANDO. Sopra alcuni caratteri e sulle abitudini del *Birgus latro* Fabr. Boll. Soc. zool. Ital. xiii, pp. 193-197.
143. NOBILI, G. Description d'une nouvelle espèce de *Pseudothelphusa* recueillie par M. F. Geay dans la Guyane française. Bull. Mus. Paris x, pp. 127-129, 1 text-fig.
144. —. Diagnoses préliminaires de vingt-huit espèces nouvelles de Stomatopodes et Décapodes Macroures de la mer Rouge. T. c. pp. 228-237.
145. NOBRE, AUGUSTO. Subsídios para o estudo da fauna marinha do norte de Portugal. Ann. Sci. nat. Porto viii, pp. 37-94, pl. i.
146. —. Subsídios para o estudo da fauna marinha do sul de Portugal. T. c. pp. 153-160.
147. NORMAN, A. M. British Isopoda of the families *Ægideæ*, *Cirolanidæ*, *Idoteidæ* and *Arcturidæ*. Ann. Nat. Hist. (7) xiv, pp. 430-448, pls. xii & xiii.  
Includes also some Mediterranean and N. Atlantic spp. Some descriptions by T. R. R. STEBBING.
148. —. *Euthemisto compressa* at Redcar. Naturalist 1904, p. 159.
149. — & BRADY, G. S. British Land Isopoda. Second Supplement. Ann. Nat. Hist. (7) xiv, pp. 449 & 450.
150. NUSBAUM, JÓZEF. Nouveaux recherches sur l'embryologie des Isopodes (*Cymothoa*). [Polish.] Kosmos polski. xxviii, pp. 154-177, 2 pls. [Zool. Rec. 1903, No. 168.]  
Abstract by H. HOYER, Zool. Zentrbl. xii, pp. 130-133.
151. OSTWALD, WOLFGANG. Experimentelle Untersuchungen über den Saisonpolymorphismus bei Daphniden. Arch. Entwickl.-mech. xviii, pp. 415-451, 7 text-figg.
152. PATIENCE, ALEXANDER. Report on the Crustacea collected during the dredging cruise of the Millport Marine Biological Association's Steamer 'Mermaid' since May 1902. Rep. Brit. Ass. lxxiii, 1903 (1904), pp. 308-310.
153. PATTERSON, ROBERT. Amphipoda and Isopoda [from Sligo]. Irish Natural. xiii, p. 202.

154. PAULMIER, F. C. The Edible Crab. A preliminary study of its life history and economic relationships. [*Callinectes hastatus*.] Rep. N. York Mus. lv, pp. r 129-r 138 (1903).
155. PAVESI, P. Esquisse d'une faune Valdôtaine. Atti Mus. Milano xliii, pp. 191-260.  
PAVIE, AUGUSTE. [See DE MAN (122).]
156. PEARSE, A. S. A new species of *Diaptomus* from Mexico. Amer. Natural. xxxviii, pp. 889-891, 4 text-figg.
157. PEARSON, JOSEPH. [Records of Copepoda.] Irish Natural. xiii, pp. 43 & 93.
158. PÉREZ, CH. Sur un Isopode parasite d'une Sacculine. Pr.-verb. Soc. Sci. Bordeaux 1902-1903, pp. 109 & 110.
159. ——. Sur un Microsporidie parasite du *Carcinus mœnas*. C.R. Soc. Biol. lvii, pp. 214 & 215.
160. PETCH, T. Shore collecting at Withernsea, &c. Naturalist 1904, pp. 19-22, also notes on pp. 158 & 285.
161. PORTER, CARLOS E. Materiales para la fauna carcinológica de Chile. III. Algunos datos sobre dos Parastácidos. Revist. chilena viii, pp. 254-261, pl. ix, text-figg. 24 & 25.
162. PUNNETT, R. C. Note on the proportion of the sexes in *Carcinus mœnas*. P. Cambridge Soc. xii (4), pp. 293-296.
163. RANGE, PAUL. Das Diluvialgebiet von Lübeck und seine Dryastone, nebst einer vergleichenden Besprechung der Glazialpflanzen fuhrenden Ablagerungen überhaupt. Zeitschr. Naturw. lxxvi, pp. 161-272.
164. RANKIN, W. Decapoda [from Sligo]. Irish Natural. xiii, p. 202.
165. RATHBUN, MARY J. Decapod Crustaceans of the Northwest Coast of North America. Harriman Alaska Exped. x, pp. 1-210, pls. i-x, text-figg. 1-95.  
Review by W. H. DALL, Science (n. s.) xx, pp. 462-464.
166. ——. A preoccupied crab name. P. Soc. Washington xvii, p. 102.
167. ——. Descriptions of three new species of American crabs. T. c. pp. 161 & 162.
168. ——. Some changes in Crustacean nomenclature. T. c. pp. 169-172.
169. RAVN, J. P. J. The Tertiary Fauna at Kap Dalton in East-Greenland. Medd. Gronland xxix (1), pp. 93-140, pls. iii-v.
170. REED, MARGARET A. The regeneration of the first leg of the Crayfish. [Gen. & sp. not stated.] Arch. Entwickmech. xviii, pp. 307-316, pls. xvii & xviii, 3 text-figg.
171. RICHARD, JULES. Campagne scientifique du yacht "Princesse-Alice" en 1903. Observations sur la Sardine, sur le Plankton, sur les Cétacés, sur des filets nouveaux &c. &c. Avec résumé esperanto. Bull. Mus. Monaco xi, 29 pp.
172. RICHARDSON, HARRIET. Isopod Crustaceans of the Northwest Coast of North America. Harriman Alaska Exped. x, pp. 213-230, text-figg. 96-117.  
Reprinted, see (174).  
Review by W. H. DALL, Science (n. s.) xx, pp. 462-464.

173. [RICHARDSON, HARRIET]. Contributions to the Natural History of the Isopoda. P. U. S. Mus. xxvii, pp. 1-89, 92 text-figg.  
 Preface, pp. 1 & 2, Introduction, pp. 2-31. i. Isopoda collected in Japan in the year 1900 by the U. S. Fish Commission Steamer Albatross, and in the year 1881 by the U. S. S. Palos, pp. 32-45.  
 ii. Isopoda collected in Japan by Jordan and Snyder, pp. 46-51.  
 iii. Two new Cymothoids from the West Coast of Central America, pp. 51-53. iv. American Epicaridea, pp. 54-89.
174. —. Contributions to the Natural History of the Isopoda. (Second Part.) T.c. pp. 657-681, 39 text-figg.  
 v. Isopod Crustaceans of the Northwest Coast of North America, [Reprint of (172) above] pp. 657-671. vi. Isopods collected at the Hawaiian Islands by the U. S. Fish Commission Steamer Albatross, [Although it is not so stated, this part appears to be a reprint of No. 191 Zool. Rec. Crust. for 1903. The "new" genera and species are described without any reference to previous publication] pp. 671-681.
175. —. A reply to certain criticisms of Prof. Alfred Giard respecting the Bopyrids. C.R. Soc. Biol. lvi, pp. 856-858.  
 Reprinted, Science (n. s.) xx, pp. 51-53.
176. RICHET, CHARLES. De la thalassine pruritogène chez les crevettes (*Crangon*). C.R. Soc. Biol. lvi, pp. 777 & 778.
177. RIGGIO, G. Contributo alla Carcinologia del Mediterraneo. i. Nota sopra alquanti crostacei nel mare di Messina. Natural. Sicil. xvii, pp. 93-96, 117-120, 134-140, pl. ii [continued in 1905].
178. ROUX, JEAN. Décapodes d'eau douce de Célèbes (Genres *Caridina* et *Potamon*). Rev. Suisse Zool. xii, pp. 539-572, pl. ix, 2 text-figg.
179. RUEDEMANN, RUDOLF. Hudson river beds near Albany and their taxonomic equivalents. Rep. N. York Mus. liv (3), pp. 485-596, 2 pls. & text-figg. (1901).
180. SAMTER, M. & WELTNER, W. Biologische Eigentümlichkeiten der *Mysis relicta*, *Pallasiella quadrispinosa* und *Pontoporeia affinis*, erklärt aus ihrer eiszeitlichen Entstehung. Zool. Anz. xxvii, pp. 676-694.  
 Abstract by F. ZSCHOKKE, Zool. Zentrbl. xi, pp. 688-691.
181. SARS, G. O. An account of the Crustacea of Norway. v. *Copepoda Harpacticoida*, Pts. iii & iv, pp. 29-56, pls. xvii-xxxii, and Pts. v & vi, pp. 57-80, pls. xxxiii-xlviii.  
 Quoted hereafter as Crust. Norway v.
182. —. On a remarkable new Chydorid *Saycia orbicularis* G. O. Sars, from Victoria, South Australia. Arch. Naturv. Christian. xxvi, No. 8, pp. 1-15, 1 pl.
183. —. Description of *Paracartia Grani* G. O. Sars, a peculiar Calanoid occurring in some of the Oyster-beds of Western Norway. Bergens Mus. Aarbog 1904, No. 4, pp. 1-16, pls. i-iv.
184. —. On a new (planktonic) species of the genus *Apherusa* [*Amphipoda*]. Publ. internat. expl. Mer, No. 10, 4 pp., 1 pl.
185. —. Pacifische Plankton-Crustaceen. (Ergebnisse einer Reise nach dem Pacific. SCHAUMSLAND, 1896-97.) i. Plankton aus Salzseen und Süßwasserteichen. Zool. Jahrb. Syst. xix, pp. 629-646, pls. xxxiii-xxxviii.
186. SAYCE, O. A. Pond-Life [from Mt. Buffalo]. Victorian Natural. xx, p. 151.

187. SCHARFF, R. F. Isopoda. In "Contributions to the Terrestrial Zoology of the Faroes" by NELSON ANNANDALE. P. Phys. Soc. Edinb. xv (2), pp. 154 & 155.
188. SCHERREN, HENRY. [Meristic variations in *Cancer pagurus* and *Astacus gammarus*.] P. Zool. Soc. London 1903, ii, pp. 195 & 196.
189. SCHNEE, PAUL. Die Landfauna der Marschall-Inseln nebst einigen Bemerkungen zur Fauna der Insel Nauru. Zool. Jahrb. Syst. xx, pp. 387-412.  
Krebse, det. Dr DOFLEIN, p. 406.
190. SCOTT, ANDREW. Some parasites found on fishes in the Irish Sea. P. Liverp. biol. Soc. xviii, pp. 113-125.
191. SCOTT, THOMAS. Notes on some rare and interesting marine Crustacea. Rep. Fish. Board Scotland xxii (3), pp. 242-261, pls. xiii-xv.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xii, p. 81.
192. ——. On some parasites of fishes new to the Scottish Marine Fauna. T. c. pp. 275-280, pl. xvii.  
———. [See LINDSAY (115).]
193. SELLIER, J. Sur le pouvoir amylolytique du sang des poissons et des crustacés. Trav. Lab. Arcachon vii, pp. 29-31.
194. ——. Sur le pouvoir amylolytique du sang des poissons et des crustacés. C.R. Soc. Biol. lvi, pp. 261-263.
195. SENNA, A. *Thaumonectes*, un nuovo genere di Anfipodo Iperide del Mare Caraibico. Comunicazione preliminare. Bull. Soc. ent. Ital. xxxv, pp. 93-95, 1 fig. in text.
196. SKORIKOW, A. S. Contribution a l'histoire de la faune du lac Abraon (près de Novorossiisk) [Russian text]. Annuaire Mus. St. Petersb. ix, Nouvelles, pp. xix-xxii.
197. ——. Ueber das Sommer-Plankton der Nawa und aus einem Teile des Ladoga-Sees. Biol. Centrbl. xxiv, pp. 353-366 & 385-391, 1 text-fig.
198. SMITH, GEOFFREY. Metamorphosis and Life-history of *Gnathia maxillaris* [Isopoda]. Mt. Stat. Neapel xvi, pp. 469-479, pl. xviii.
199. SOWINSKY, W. Introduction à l'étude de la faune du bassin marin Ponto-Aralo-Kaspien sous le point de vue d'une province zoogéographique indépendante [Russian text]. Zapiski Kiev. Obsch. xviii, pp. i-xiii, 1-487, 1-216, i-iv, 4 pls.
200. SPAULDING, E. G. The establishment of "Association by contiguity" in Hermit Crabs, *Eupagurus longicarpus*. Biol. Bull. vi, p. 325.
201. ——. An establishment of association in hermit crabs, *Eupagurus longicarpus*. Journ. Compar. Neurology and Psychology xiv, pp. 49-61.
202. SPRAGUE, Miss. Note on the occurrence of certain Cladocera in the Edinburgh district. P. Phys. Soc. Edinb. xv (2), p. 111.
203. STAHL, ERNST. Die Schutzmittel der Flechten gegen Tierfrass. [Isopoda.] Denk. Ges. Jena xi (Festschr. .... Ernst Haeckel), pp. 355-376.
204. STAMM, R. H. Om musklernes befæstelse til det ydre skelet hos Leddyrene. Danske Selsk. Skr. (7) i (2), pp. 127-164, 2 pls. Résumé en Français.

205. STEAD, —. [Parasites of a whale.] P. Linn. Soc. N. S. Wales xxviii, pp. 944 & 945.
206. STEBBING, T. R. R. The Amphipoda collected during the voyages of the Willem Barents in the Arctic Seas in the years 1880-1884. Bijdr. Dierk. 17<sup>e</sup> en 18<sup>e</sup> Aflevering, pp. 1-48, pls. i-vii, 2 text-figg. The cover of this part bears the date "1893-1904" and was received in London in January 1905. Copies of Mr. Stebbing's paper were distributed many years ago. The title only is recorded in Zool. Rec. for 1895. Includes also description of a parasitic Isopod.
207. —. Marine Crustaceans. XII. Isopoda, with description of a new genus. In "The Fauna and Geography of the Maldive and Laccadive Archipelagoes," edited by J. Stanley Gardiner, Cambridge, 4to, vol. ii, pt. 3, pp. 699-721, pls. xlix-liii.
208. —. Gregarious Crustacea from Ceylon. Spolia Zeylan. ii, pp. 1-29, pls. i-vi & one unnumbered plate.
209. — & FOWLER, G. HERBERT. Biscayan Plankton collected during a cruise of H.M.S. "Research," 1900. Part. II. The Amphipoda and Cladocera, with notes on a larval Thyrostracan, by T. R. R. STEBBING, and an Appendix on their distribution by G. HERBERT FOWLER. Tr. Linn. Soc. London (2) Zool. x, pt. 2, pp. 13-54, pls. ii & iii, 7 text-figg.
- [See also NORMAN (147).]
210. STENTA, M. *Thynnicola ziegleri* Miculicich = *Brachiella thynni* Cuv. Zool. Anz. xxviii, pp. 345-347.
211. STEUER, ADOLF. Copepoden der Valdivia-Expedition. Zool. Anz. xxvii, pp. 593-598, 4 text-figg.
212. —. Mitteilungen aus der k. k. zoologischen Station in Triest. No. 9. Ueber zwei interessante Larvenformen aus dem Plankton des Triester Golfes. Op. cit. xxviii, pp. 228-230.
213. STINGELIN, THEODOR. Die familie der *Holopedidae*. Rev. Suisse Zool. xii, pp. 53-64, pl. 1.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xi, pp. 448 & 449.
214. —. Entomostraken gesammelt von Dr G. Hagemann im Mündungsgebiet des Amazonas. Zool. Jahrb. Syst. xx, pp. 575-590, pl. xx, 1 text-fig.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xii, p. 82.
215. —. Untersuchungen über die Cladocerenfauna von Hinterindien, Sumatra und Java, nebst einem Beitrage zur Cladoceren-Kenntnis der Hawaii-Inseln. (Reise von Dr Walter Volz.) Op. cit. xxi, pp. 327-370, pls. xi-xiii.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xii, pp. 245 & 246.
216. —. Ueber Entomostraken aus dem Mündungsgebiet des Amazonas. (Vorläufige Mitteilung.) Zool. Anz. xxviii, pp. 153 & 154.
217. STOLLER, JAMES H. Two new land Isopods. Rep. N. York Mus. liv (1), pp. r208-r213, 2 text-figg. (1902).
218. THIELE, JOH. Beiträge zur Morphologie der Arguliden. Mt. Mus. Berlin ii, 4 Heft, pp. 1-51, pls. vi-ix.
219. —. Die Leptostraken. Wiss. Ergebn. deutschen Tiefsee-Exp. "Valdivia" viii, pp. 1-26, pls. i-iv.
220. —. Ueber eine von Herrn O. Neumann gefundene Phyllopoden-Art. Zool. Jahrb. Syst. xx, pp. 371-374, pl. xiii.  
— [See GRÜNBERG, LUCAS & THIELE (70).]

221. THOMSON, GEORGE M. A new family of Crustacea Isopoda. Ann. Nat. Hist. (7) xiv, pp. 66-69, pl. i.
222. TOULA, FRANZ. Ueber eine neue Krabbe (*Cancer Bittneri* n. sp.) aus dem miocänen Sandsteine von Kalksburg bei Wien. Jahrb. geol. Reichsanst. liv, pp. 161-168, 5 figg. in text.
223. TRYBOM, FILIP. Two new species of the genus *Euconaxius*. Arkiv Zool. i, pp. 383-393, pls. xx & xxi.
224. ULMER, GEORG. Zur Fauna des Eppendorfer Moores bei Hamburg. Verh. Ver. Hamburg naturw. (3) xi, pp. 1-25, 1 map.
225. ULRICH, E. O. & BASSLER, R. S. *Ostracoda*. Maryland Geol. Surv., Miocene, 1904, pp. 98-130, pls. xxxv-xxxviii.
226. VALLENTIN, RUPERT. Notes on the Falkland Islands. Mem. Manchester Soc. xlviii (3), pp. 23-48, 3 pls.  
 —. [See BROWNE & VALLENTIN (26).]
227. VIRÉ, ARMAND. Sur quelques expériences effectuées au laboratoire des Catacombes du Muséum d'Histoire naturelle. C.R. Ac. Sci. cxxxviii, pp. 706-708.
228. —. La faune souterraine du Puits de Padirac (Lot). T. c. pp. 826-828.
229. WALKER, ALFRED O. Report on the Amphipoda collected by Prof. Herdman at Ceylon in 1902. In "Report to the Government of Ceylon on the Pearl Oyster Fisheries in the Gulf of Manaar," by W. A. HERDMAN. 4to, Royal Society, London, Part II, Supplementary Report xvii, pp. 229 & 300, 8 plates.  
 Quoted hereafter as "Rep. Ceylon Pearl Fisheries ii."
230. WALTHER, JOHANNES. Die fauna der Solnhofener Plattenkalke bionomisch betrachtet. Denk. Ges. Jena xi (Festschr.....Ernst Haeckel), pp. 133-214, pl. viii, 21 text-figg.
231. WEIGELT, C. L'assainissement et le repeuplement des rivières. Mem. Cour. Ac. Belgique (8vo) lxiv, pp. 668, figg. in text.
232. WELCH, R. Rare Woodlice from Co. Dublin and Co. Down. Irish Natural. xiii, pp. 260 & 261.  
 WELTNER, W. [See SAMTER & WELTNER (180).]
233. WENIG, JAROMIR. Ueber neue Sinnesorgane der Isopoden. SB. Bohmisch. Ges. 1903, xxxix, 12 pp., 1 pl.
234. WESENBERG-LUND, C. Studier over de Danske Sjøers Plankton..... med bistand af E. LARSEN. Dansk Ferskvands-Biologisk Laboratorium. Op. 5, pp. 223 + 44 (English resumé), and atlas of 8 maps, 10 plates & 9 plankton tables. 4to, Copenhagen, 1904.  
 Abstract by F. ZSCHOKKE, Zool. Zentrbl. xi, pp. 680-687.  
 —. [See JENSEN (92).]
235. WHEELER, WILLIAM MORTON. A Crustacean-eating Ant (*Leptogenys elongata* Buckley). Biol. Bull. vi, pp. 251-259, 1 text-fig.
236. WHITELEGGE, THOMAS. Scientific results of the trawling expedition of H.M.C.S. "Thetis" off the coast of New South Wales in February and March 1898. Part 7. Crustacea, Part iv. Isopoda, Part iii. Mem. Austral. Mus. iv, pp. 405-416, 16 figg. in text.

237. WILLIAMSON, H. CHAS. Contributions to the life-histories of the edible crab (*Cancer pagurus*) and of other decapod Crustacea:— Impregnation; Spawning; Casting; Distribution; Rate of Growth. Rep. Fish. Board Scotland xxii, pt. iii, pp. 100–140, pls. i–v. Abstract, Amer. Natural. xxxviii, pp. 897 & 898.
238. WILSON, CHARLES BRANCH. A new species of *Argulus*, with a more complete account of two species already described. P. U. S. Mus. xxvii, pp. 627–655, 38 text-figg.
239. \*WITTEN, E. P. On the structural changes accompanying the Ecdysis of the Crab *Cancer pagurus*. Rep. Coll. Physic. Edinburgh ix, No. 19, 7 pp., 9 text-figg. See Zool. Rec. 1903 (259).
240. WOLF, EUGEN. Beiträge zur Biologie der Süßwasser-Copepoden. Verh. Deutsch. zool. Ges. 1904, pp. 224–235. Abstract by F. ZSCHOKKE, Zool. Zentrbl. xi, pp. 793–795.
241. WOLFENDEN, R. NORRIS. Notes on the Copepoda of the North Atlantic Sea and the Farøe Channel. J. Mar. Biol. Ass. vii, pp. 110–146, pl. ix, 1 text-fig.
242. WOLFF, MAX. Studien über Kutikulargenese und -Struktur und ihre Beziehungen zur Physiologie der Matrix. I. Das Ephippium von *Daphnia pulex*. Biol. Centrbl. xxiv, pp. 644–650, 697–722, & 761–767, 11 text-figg.
243. WOLTERECK, R. Zweite Mitteilung über die Hyperiden der Deutschen Tiefsee-Expedition. "*Physosoma*," ein neuer pelagischer Larventypus; nebst Bemerkungen zur Biologie von *Thaumatops* und *Phronima*. Zool. Anz. xxvii, pp. 553–563, 7 text-figg.
244. ———. Dritte Mitteilung über die Hyperiden der Deutschen Tiefsee-Expedition: *Spheromimonectes Valdiviæ*, nov. gen., nov. spec. Mit ergänzenden Bemerkungen zur Biologie von *Phronima* und *Mimonectes*. T. c. pp. 621–627, 4 text-figg.
245. ———. Erste Notiz über die Amphipoden der Deutschen Südpolar-Expedition; *Spheromimonectes Gaussi*, nov. spec. (Mit einer tabellarischen Übersicht der Familie). T. c. pp. 627–629.
246. YAKHONTOV, GH. Communication de l'excursion sur le lac Baical, faite en été de l'année 1902. [Russian text.] Protok. Kazan. Univ. 1902–3, No. 212, 11 pp.
247. YERKES, ROBERT MEARNS. Reactions of *Daphnia pulex* to light and heat. Mark Anniversary Volume (4to, New York, 1903), pp. 359–377, 2 figg. in text.
248. \*——— & HUGGINS, GURRY E. Habit formation in the Crawfish *Cambarus affinis*. Harvard Psychological Studies i, pp. 565–577, 4 figg., 1902. Abstract by A. PÜTTER, Zool. Zentrbl. xi, pp. 193–200.
249. ZACHARIAS, OTTO. Ueber die Komposition des planktons in thüringischen, sächsischen und schlesischen Teichgewässern. Forschber. Plon xi, pp. 181–251, 7 text-figg. ZEDERBAUER, E. [See BREHM & ZEDERBAUER (25).]
250. ZIMMER, CARL. Die arktischen Schizopoden. In RÖMER & SCHAUDINN'S Fauna Arctica iii (3), pp. 415–492, 172 text-figg.
251. ———. *Amphionides valdiviæ*, n. g., n. sp. Zool. Anz. xxviii, pp. 225–228.



252. ZOGRAF, NICOLAUS VON. Das unpaare Auge, die Frontalorgane und das Nackenorgan einiger Branchiopoden. 4to, Berlin, 1904, 44 pp., 3 pls. & 3 text-figg.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xi, pp. 729-734.
253. ZYKOFF, W. Ueber das Plankton des Flusses Seim. Zool. Anz. xxvii, pp. 214 & 215.
254. —. Das Plankton des Seliger Sees. T. c. pp. 388-394.
255. —. Bemerkung über *Laophonte mohammed* Rich. Op. cit. xxviii, pp. 246-249.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xii, pp. 82 & 83.
256. —. Zur Crustaccenfauna der Insel Kolgujev. T. c. pp. 337-345, 2 figg.  
Abstract by F. ZSCHOKKE, Zool. Zentrbl. xii, p. 83.

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E. coast of S. America, *Epicaridea* n. spp.; RICHARDSON (173).

Falkland Ids., *Decapoda* and *Isopoda*; VALLENTIN (226).

b. *Indo-Pacific.*

E. Indian Seas, *Brachyura* n. spp.; DOFLEIN (53): Indian Ocean, *Stomatopoda* (larvæ) n. spp.; JURICH (97): *Decapoda* (larvæ) n. sp.; ZIMMER (251).

Red Sea, Gulf of Aden and Arabian Sea, *Copepoda* n. spp., *Cladocera*, *Ostracoda*; CLEVE (43): Red Sea, *Macrura* n. spp., *Stomatopoda* n. sp.; NOBILI (144).

E. Africa, *Brachyura* n. spp.; DOFLEIN (53): Zanzibar, *Stomatopoda* n. sp.; JURICH (97).

- Agulhas Bank, *Brachyura* n. spp.; DOFLEIN in CHUN (41 A), DOFLEIN (53).
- Maldive Ids., *Hippidea* n. sp., *Thalassinidea* n. sp., *Loricata*; BORRADAILE (18): Maldive and Laccadive Ids., *Isopoda* n. spp.; STEBBING (207).
- India, distribution of sub-littoral genera of *Paguridae*; ALCOCK (2).
- Ceylon: *Cumacea* n. spp.; CALMAN (34): *Caprellidae* n. sp.; MAYER (127): *Brachyura* n. sp., *Macrura*, *Tanaidacea* n. sp., *Isopoda* n. spp., *Amphipoda* n. spp.; STEBBING (208): *Amphipoda* n. spp.; WALKER (229).
- Singapore, *Amphipoda* n. sp.; WALKER (229).
- Near Jedan Ids. (S. of New Guinea), *Cirripedia* n. sp.; HOEK (85).
- New South Wales, *Isopoda*; WHITELEGGE (236): South Australia, *Caridea* n. spp.; BAKER (12).
- New Zealand: list of Crustacea; HUTTON (91): parasitic *Copepoda* n. spp.; HANSEN (79): *Cirripedia*, *Amphipoda*; STEAD (205): *Phyllocarida* n. spp.; THIELE (219): *Isopoda*; THOMSON (221).
- Saghalien, *Caridea* n. sp.; BRAZHNIKOV (24).
- Japan, *Isopoda* n. spp.; RICHARDSON (173).
- Marshall Is., *Decapoda*; DOFLEIN in SCHNEE (189).
- Samoa, *Hippidea* n. sp.; BENEDICT (14).
- Gambier Ids., *Caridea*; COUTIÈRE (46).
- N.W. America: *Decapoda* n. sp.; RATHBUN (165): *Amphipoda* n. spp.; HOLMES (87): *Isopoda* n. spp.; RICHARDSON (172): *Epicaridea* n. sp.; RICHARDSON (173).
- California: *Hippidea* n. sp.; BENEDICT (14): *Isopoda* n. sp.; HOLMES (88): *Macrura* n. sp., *Amphipoda*, *Isopoda*; HOLMES (89).
- W. coast of Centr. America, *Isopoda* n. spp.; RICHARDSON (173): Realejo, Nicaragua, *Brachyura* n. sp.; RATHBUN (167): Punta Arenas, Costa Rica, *Brachyura* n. sp.; RATHBUN (167).
- Valparaiso, *Brachyura* n. sp.; RATHBUN (167).

### c. Arctic and Antarctic.

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- Arctic Ocean, *Amphipoda* n. spp., *Isopoda*; STEBBING (206).
- Kerguelen, *Phyllocarida* n. sp.; THIELE (219).

## 2. GEOLOGICAL.

- Post-tertiary, Celebes, *Brachyura* n. spp.; DE MAN (124): Sweden, *Ostracoda*; MUNTHE (139): Glacial beds, Lübeck, *Phyllopora*, *Cladocera*, *Ostracoda*; RANGE (163).
- Tertiary (?), Bouzigues, Hérault, *Isopoda* n. sp.; DOLLFUS (54): Tertiary, E. Greenland, *Macrura* n. sp., *Brachyura* n. sp.; RAVN (169): Australia, *Cirripedia*; DENNANT & KITSON (52): Upper Miocene, Haguineau, *Cirripedia*, *Brachyura*; COUFFON (45): Miocene, Kalksburg near Vienna, *Brachyura* n. sp.; TOULA (222): Maryland, *Ostracoda* n. spp.; ULRICH & BASSLER (225): Maryland, *Cyclometopa* and *Cirripedia*; MARTIN (126): Massachusetts, *Cirripedia*; CUSHMAN (49): Mediterranean stage, S. Russia, *Cirripedia*; MIKHAILOVSKY (133): Eocene, Peschici, Italy, *Cyclometopa* n. sp.; CHECOHIA-RISPOLI (39).
- Cretaceous, Scarborough, *Ostracoda*, *Cirripedia*; FOX-STRANGWAYS (59): East Pondoland, S. Africa, *Ostracoda* n. spp.; CHAPMAN (36): Upper Cretaceous, Belfast, *Callianassa*; LAMPLUGH (110): Chalk, England, *Brachyura*, *Macrura*, *Cirripedia*, *Ostracoda*; JUKES BROWN (96): Surrey, *Cirripedia* and *Decapoda*; HOLMES (90): Greensand, Sainte Ménehould, *Hoploparia*; COLLET (44).
- Jurassic, Solnhofen Limestones, *Isopoda*, *Stomatopoda*, *Decapoda*, "bionomisch betrachtet"; WALTHER (230): Oolite, Scarborough, *Decapoda*,



*Cirripedia*; FOX-STRANGWAYS (59): Lower Oolite, Geraldton, W. Australia, *Ostracoda* n. spp.; CHAPMAN (37).

Palæozoic, Niagara Region, *Ostracoda* and *Phyllocarida*; GRABAU (67).

Carboniferous, Belfast, *Ostracoda*; LAMPLUGH (110): Coal Measures, Lancashire, Crustacea; BOLTON (16): Ohio, *Phyllopoda* n. sp., CLARKE (42).

Devonian, New York, *Phyllocarida* and *Phyllopoda*; CLARKE (42).

Silurian, Gothland, *Ostracoda*, *Phyllocarida*; MUNTHE (140): New York State, *Ostracoda* n. sp., *Cirripedia* n. sp.; RUEDEMANN (179): Salina, New York, *Phyllocarida* n. spp.; CLARKE (42): Silurian, Victoria,

*Ostracoda* n. spp., *Phyllocarida* n. spp.; CHAPMAN (38).

Ordovician (?), Canada, *Ostracoda* n. sp.; JONES (93).

#### IV. SYSTEMATIC.†

[In addition to papers quoted below, see ANON. (9), †BOLTON (16), GARDINER (64), GUCCINI (76), HUTTON (91), LABBÉ (108), LANKESTER (111), McINTOSH (120), MONACO (135), SELLIER (194), SKORIKOW (196), STAMM (204), WEIGELT (231), YAKHONTOV (246).]

#### A. MALACOSTRACA.

Classification of *Malacostraca*:

Series *Leptostraca*.

Division *Phyllocarida* (Order, *Nebaliacea* n. nom.).

Series *Eumalacostraca*.

Divisions *Syncarida* (Order, *Anaspidacea* nov.), *Peracarida* n. nom.

(Orders, *Mysidacea*, *Cumacea*, *Tanaidacea*, *Isopoda*, *Amphipoda*),

*Eucarida* n. nom. (Orders, *Euphausiacea*, *Decapoda*), *Hoplocarida*

n. nom. (Order, *Stomatopoda*),

with discussion of characters and diagnoses of series and divisions;

CALMAN, Ann. Nat. Hist. (7) xiii, pp. 144-158.

*Malacostraca* divided into Legions *Leptostraca*, *Thoracostraca*, *Stomatopoda*, *Anomostraca* nov. (for *Anaspides* &c.), *Arthrostraca*; GROBBEN, Claus' Lehrbuch, pp. 431-468.

#### I. DECAPODA.

[See also ANDREWS (6), BROWNE & VALLENTIN (26), †FOX-STRANGWAYS (59), GADZIKIEWICZ (62), †HOLMES (90), KEEBLE & GAMBLE (102), ROBERT (104), LABBÉ (109), SCOTT in LINDSAY (115), LO BIANCO (116), LOŠKO (118), MAGRI (121), MAR. BIOL. ASS. (125), MEEK (130), MURIE (141), NOBRE (145 & 146), PATIENCE (152), PETCH (160), RANKIN (164), RICHARD (171), DOFLEIN in SCHNEE (189), SELLIER (193), VALLENTIN (226), †WALTHER (230).]

*Decapoda*, attachment of eggs to parent; WILLIAMSON, Rep. Fish. Board Scotland xxii, pt. iii, p. 116.

#### a. BRACHYURA.

[See also †COUFFON (45), †JUKES-BROWNE (96), †MARTIN (126).]

† This sign when prefixed to a quotation indicates a fossil form or forms. Where the character of a reference is not indicated the words "description" or "descriptive notes" are to be understood.

## OXYRHYNCHA.

- Anasimus rostratus*, p. 171, pl. x, fig. 4; RATHBUN, Harriman Alaska Exped. x.
- Cyrtomaia goodridgei*, pl. lix, fig. 1-1c; ALCOCK & MCARDLE, Illustr. Zool. Investigator: *C. sukmi*, p. 53, subsp. *typica*, p. 54, pl. xix, figg. 1 & 2, subsp. *platyceros* n. subsp., p. 55, pl. xix, fig. 3, pl. xl, figg. 1-7, pl. xliii, fig. 4, pl. xlv, figg. 1-5; DOFLEIN, Brachyura "Valdivia."
- Daldorfia* n. nom. for *Parthenope* Leach, non Weber, type *horrída*, p. 171; RATHBUN, P. Soc. Washington xvii.
- Dasygygius tuberculatus*, p. 172, pl. x, figg. 3 & 3a, and text-fig. 92; RATHBUN, Harriman Alaska Exped. x.
- Ereileptus spinosus*, p. 171, pl. x, fig. 1; RATHBUN, t. c.
- Hyastenus brevirostris*, S. of Sumatra, 614 metres, p. 85, pl. xxvii, figg. 13 & 14; DOFLEIN, Brachyura "Valdivia," n. sp.
- Inachus antarcticus*, Agulhas Bank, 155 metres, p. 74, pl. xxviii, figg. 2 & 3; DOFLEIN, t. c. n. sp.
- Kæmpferia* [= *Macrocheira*] *kæmpferi*, size; ANON., Amer. Mus. J., pp. 25 & 60.
- Lambrus* synonym of *Parthenope*, p. 171; RATHBUN, P. Soc. Washington xvii.
- L. macrocheles*, p. 87, pl. xxxii, fig. 5; DOFLEIN, Brachyura "Valdivia."
- Mamaia* n. nom. for [*Maia*] *squinado*, p. 2; STEBBING, Spolia Zeylan. ii.
- Oregonia bifurca*, p. 171, pl. vi, fig. 5; RATHBUN, Harriman Alaska Exped. x.
- Parthenope* Weber, 1795 (= *Lambrus* Leach, 1815), type *longimana* Linn., p. 170; RATHBUN, P. Soc. Washington xvii (see *Daldorfia*).
- Physachæus ctenurus*, p. 71, pl. xxiv, figg. 1-4, pl. xlii, figg. 1-7, pl. xlvi, DOFLEIN, Brachyura "Valdivia."
- Platymaia wyville-thomsoni*, p. 59, pls. ii, xx, xxii, xxiii, xxxix, xliii, figg. 5 & 6, pl. 1, figg. 2, 5 & 6, text-figg. 2-5; DOFLEIN, t. c.
- Pleistacantha moseleyi*, p. 76, pl. xxiv, figg. 5 & 6, pls. xxv & xxvi; DOFLEIN, t. c.
- Podocheila hemphillii*, p. 171, pl. x, fig. 2; RATHBUN, Harriman Alaska Exped. x.
- Pugettia dalli*, p. 173, pl. ii, figg. 1 & 1a; RATHBUN, t. c.
- Scyramathia hertwigi*, Agulhas Bank, fig. on p. 497; DOFLEIN in CHUN, "Aus den Tiefen des Weltmeeres," 1900, n. sp.
- S. hertwigi*, p. 81, pl. xxvii, figg. 1-7, pl. xxviii, fig. 1, *pulchra*, p. 84, pl. xxvii, fig. 12, *rivers-andersoni*, p. 84, pl. xxvii, figg. 8-11, *globulifera*, p. 85; DOFLEIN, Brachyura "Valdivia."
- Stenorhynchus falcifer*, p. 70, text-fig. 6; DOFLEIN, t. c.

## CYCLOMETOPA.

- Actæa hirsutissima*, p. 102, pl. xxxii, figg. 1 & 2; DOFLEIN, Brachyura "Valdivia."
- Alpheus* Weber, 1795, synonym of *Cancer*, p. 170; RATHBUN, P. Soc. Washington xvii.
- Benthochascon hemingi*, p. 90, pl. xxix, figg. 1 & 2, pl. xli, figg. 1 & 2; DOFLEIN, Brachyura "Valdivia."
- Callinectes hastatus*, life history, fishery &c.; PAULMIER, Rep. N. York Mus. lv, pp. r129-r138.
- Cancer amphixetus*, p. 175, pl. vi, fig. 3, *anthonyi*, p. 176, pl. vi, fig. 2, *jordani*, p. 176, pl. vi, fig. 4, *oregonensis*, p. 178, pl. vii, fig. 1; RATHBUN, Harriman Alaska Exped. x: *C. pagurus*, abnormal chelæ, p. 195;

- SCHERREN, P. Zool. Soc. London 1903, ii: *C. pagurus*, breeding habits, post-larval development, rate of growth &c.; WILLIAMSON, Rep. Fish. Board Scotland xxii, pl. iii, pp. 100-140, pls. i-v: *C. pagurus*, ecdysis; WITTEN, Rep. Coll. Physic. Edinburgh ix, No. 19, 7 pp., 9 text-figg.
- +*C. bittneri*, Miocene, Vienna, p. 161, text-figg. 1-5; TOULA, Jahrb. geol. Reichsanst. liv, n. sp.
- Carcinus mœnas*, microsporidian parasite; PÉREZ, C.R. Soc. Biol. lviii, pp. 214 & 215: proportions of sexes; PUNNETT, P. Cambridge Soc. xii (4), pp. 283-296: breeding habits, post-larval development &c.; WILLIAMSON, Rep. Fish. Board Scotland xxii, pt. iii, pp. 100-140, pls. i-v.
- Corystes* [see *Euryala*].
- Domecia glabra*, pl. liv, figg. 3 & 3a; ALCOCK & McARDLE, Illustr. Zool. Investigator.
- Elliptodactylus* n. g. (*Portunidae*), p. 93, *rugosus*, mouth of Congo, p. 94, pl. xxx, figg. 1-3, pl. xxxii, fig. 7, text-figg. 7 & 8; DOFLEIN, Brachyura "Valdivia," n. sp.
- Euryala* Weber (= *Corystes* Latr.), type *cassivelanus*, p. 171; RATHBUN, P. Soc. Washington xvii.
- Geryon paulensis*, p. 531; DOFLEIN in CHUN, "Aus den Tiefen des Weltmeeres," ii Aufl. 1903, n. sp.
- G. affinis*, p. 106, many figg., *paulensis*, p. 112, pl. xxxi, figg. 1 & 2; DOFLEIN, Brachyura "Valdivia."
- +*Harpactocarcinus punctulatus*, p. 50, pl. i, figg. 1-3; CHECCHIA-RISPOLI, Boll. Soc. zool. Ital. (2) v.
- Lioxantho punctatus*, p. 256, pl. x, fig. 3; DE MAN, Samm. geol. Mus. Leiden (1) vii.
- Lophopanopeus bellus*, p. 180, *frontalis*, p. 181, pl. vii, fig. 8, *heathii*, p. 182, pl. vii, fig. 9, *leucomanus*, p. 182, *lockingtoni*, p. 183, pl. vii, fig. 7, *diegensis*, p. 184, pl. ix, fig. 3; RATHBUN, Harriman Alaska Exped. x.
- L. nicaraguensis*, Realejo, Nicaragua, p. 162; RATHBUN, P. Soc. Washington xvii, n. sp.
- Lybia*, H. M.-E., revived for *Melia* Latr., non Billberg; RATHBUN, t. c. p. 102.
- Melia* [see *Lybia*].
- +*Metopoxantho* n. g. (*Xanthidae*), p. 255, *martini*, post-tertiary, Celebes, p. 257, pl. ix, fig. 1; DE MAN, Samm. geol. Mus. Leiden (1) vii, n. sp.
- Ovalipes trimaculatus*, p. 92, pl. xxxii, fig. 6; DOFLEIN, Brachyura "Valdivia."
- Parathelphusa sinensis*, p. 316, pl. xvii, figg. 1 & 2, var. ?, p. 318, pl. xvii, fig. 3; DE MAN, Mission Pavie Indo-Chine iii.
- P. paviei* Laos, p. 320, pl. xvii, fig. 4; DE MAN, t. c. n. sp.
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- +*Podophthalmus vigil*, post-tertiary, Celebes, p. 274; DE MAN, Samm. geol. Mus. Leiden (1) vii.
- Potamon*, key to spp. from Celebes, p. 567, *celebense* var. *lokaensis*, p. 561, var. *linduensis*, n. var., p. 562, fig. A, var. *possoensis*, n. var., p. 564, fig. B; ROUX, Rev. Suisse Zool. xii.
- P. (Potamon) cochinchinense*, Cochinchina, p. 323, pl. xviii, fig. 5; DE MAN, Mission Pavie Indo-Chine iii, n. sp.
- Pseudothelphusa geayi*, French Guiana, p. 127, text-fig. 1; NOBILI, Bull. Mus. Paris x, n. sp.
- Trichopeltarium alcocki*, p. 531; DOFLEIN in CHUN, "Aus den Tiefen des Weltmeeres," ii Aufl. 1903, n. sp.

- T. alcocki*, p. 88, pl. xxviii, figg. 4 & 5; DOFLEIN, Brachyura "Valdivia."  
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 DE MAN, Samm. geol. Mus. Leiden (1) vii.

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*Ceratoplax hispida*, pl. lxi, fig. 4; ALCOCK & McARDLE, Illustr. Zool. Investigator.  
*Chasmocarcinops gelasmoides*, pl. lxii, figg. 2, 2a, 3, 3a; ALCOCK & McARDLE, t. c.  
*Clistostoma dotilliforme*, pl. lxiv, figg. 1 & 1a; ALCOCK & McARDLE, t. c.  
 †*Caeloma bicarinatum*, Tertiary, East Greenland, p. 120, pl. iv, fig. 6, pl. v, figg. 1-6; RAVN, Medd. Gronland xxix (1), n. sp.  
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*Hymenicus wood-masoni*, pl. lxiv, fig. 3, *inachoides*, pl. lxv, fig. 1; ALCOCK & McARDLE, Illustr. Zool. Investigator.  
*Lambdophallus sexpes*, pl. lxii, figg. 1-1b; ALCOCK & McARDLE, t. c.  
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 †*Macrophthalmus granulatus*, post-tertiary, Celebes, p. 266, pl. x, fig. 5; DE MAN, Samm. geol. Mus. Leiden (1) vii, n. sp.  
*Notonyx vitreus*, pl. lxi, fig. 3; ALCOCK & McARDLE, Illustr. Zool. Investigator.  
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*Psopheticus insignis*, pl. liv, fig. 2; ALCOCK & McARDLE, Illustr. Zool. Investigator: *P. stridulans*, p. 118, pl. xxx, fig. 4; DOFLEIN, Brachyura "Valdivia."  
*Ptychognathus onyx*, pl. lxv, figg. 2 & 2a, *andamanica*, figg. 3 & 3a; ALCOCK & McARDLE, Illustr. Zool. Investigator.  
*Pyxidognathus fluviatilis*, pl. lxvi, figg. 3 & 3a; ALCOCK & McARDLE, t. c.  
*Raphonotus lowei*, p. 186, text-fig. 93; RATHBUN, Harriman Alaska Exped. x.

- Retropluma chuni*, off Sumatra, 614 metres, p. 131, pl. xxxvii, figg. 1 & 2; DOFLEIN, Brachyura "Valdivia," n. sp.  
*Scleroplax granulata*, p. 188, pl. vii, fig. 5; RATHBUN, Harriman Alaska Exped. x.  
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*Sesarma lanatum*, pl. lxxv, figg. 4 & 4a, *finni*, pl. lxxvi, fig. 1, *latifemur*, fig. 2; ALCOCK & McARDLE, t. c.  
*Speocarcinus californiensis*, p. 190, pl. ix, fig. 1; RATHBUN, Harriman Alaska Exped. x.  
*Tylodiplax indica*, pl. lxiv, figg. 2-2c; ALCOCK & McARDLE, Illustr. Zool. Investigator.  
*Uca* [= *Gelasimus*] *brevifrons*, p. 308, pl. xxxv, figg. 1-5; HOLMES, P. Calif. Ac. (3) Zool. iii.  
*U. arstedii*, Costa Rica, p. 161; RATHBUN, P. Soc. Washington xvii, n. sp.

## OXYSTOMATA.

- Atlantotlos* n. g. (*Leucosiidae*), p. 49, *rhomboifer*, mouth of Congo, p. 50, pl. xv, figg. 7 & 8; DOFLEIN, Brachyura "Valdivia," n. sp.  
 †*Calappa lophos*, post-tertiary, Celebes, p. 277; DE MAN, Samm. geol. Mus. Leiden (1) vii.  
*Clythrocerus planus*, p. 168, pl. ix, fig. 4; RATHBUN, Harriman Alaska Exped. x.  
*Cosmonotus grayi*, p. 51, pl. xviii, figg. 5-8; DOFLEIN, Brachyura "Valdivia."  
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- D. atlantica*, mouth of Congo, p. 10, pl. vii, figg. 3 & 4; DOFLEIN, t. c. n. sp.  
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*Galaacantha areolata*, pl. lv, figg. 5 & 5a; ALCOCK & McARDLE, t. c.  
*Munidopsis polymorpha*, remarkable habitat; CALMAN, Ann. Nat. Hist. (7) xiv, pp. 213-218, 1 text-fig.: *M. wardeni*, pl. lv, fig. 1, *hemingi*, pl. lv, fig. 4, *M. (Orophorhynchus) granosa*, pl. lvi, fig. 1, *edwardsii*, fig. 2, (*Elasmonotus) sinclairi*, fig. 4, *M. orcina*, fig. 5, (*Orophorhynchus) ceratophthalmus*, pl. lvii, fig. 3; ALCOCK & McARDLE, Illustr. Zool. Investigator.  
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*Uroptychus nigricapillus*, pl. lvi, fig. 3, *nanophyes*, pl. lvii, figg. 1, 1a; ALCOCK & McARDLE, t. c.

## PAGURIDEA.

[See also ALCOCK (2).]

- Birgus latro*, characters and habits; NAPOLI, Boll. Soc. zool. Ital. xiii, pp. 193-197.  
*Chlenopagurus andersoni*, pls. liii & liv, figg. 1 & 1a; ALCOCK & ANDERSON, Illustr. Zool. Investigator.  
*Eupagurus bernhardus*, correlation of sensations; BOHN, C.R. Ac. Sci. cxxxviii, p. 113: *E. longicarpus*, psychological experiments; SPAULDING, Biol. Bull. vi, p. 325 and Journ. Compar. Neurology and Psychology xiv, pp. 49-61.  
*Pagurus* [see also *Eupagurus*] *capillatus*, p. 157, pl. iv, fig. 3, *brandtii*, p. 157, pl. iv, fig. 4, *dalli*, p. 158, pl. iv, fig. 1, *rathbuni*, p. 158, pl. iv, fig. 2, *tanneri*, p. 158, pl. iv, fig. 7, *confragosus*, p. 158, pl. iv, fig. 8, *cornutus*, p. 158, pl. v, fig. 3, *townsendi*, p. 158, pl. iv, fig. 5, *beringanus*, p. 159, pl. v, fig. 5, *undosus*, p. 159, pl. iv, fig. 6, *kennerlyi*, p. 159, pl. v, fig. 4, *setosus*, p. 159, pl. v, fig. 1, *samuelsi*, p. 160, pl. v, fig. 7, *granosimanus*, p. 160, pl. v, fig. 8, *hemphillii*, p. 160, pl. v, fig. 9, *munitus*, p. 161, pl. v, fig. 2, *gilli*, p. 161, pl. v, fig. 10; RATHBUN, Harriman Alaska Exped. x.  
*Parapagurus mertensii*, p. 162, pl. v, fig. 6; RATHBUN, t. c.  
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*A. elioti*, Samoa, p. 623, fig. 2 ; BENEDICT, t. c. n. sp.

*Idotea* Weber, 1795, type *emerita* Fabr. (syn. of *Emerita* Gronovius, 1764), p. 171 ; RATHBUN, P. Soc. Washington xvii.

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## c. MACRURA.

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## NEPHROPSIDEA.

The Crayfish [genus and species not stated] regeneration of first leg ; REED, Arch. Entwickmech. xviii, pp. 307-316, pls. xvii & xviii, 3 text-figg.

*Astacus fluviatilis*: guide to dissection ; ANGLAS, L'Écrevisse : structure and physiology of digestive apparatus ; JORDAN, Biol. Centrbl. xxiv, pp. 321-332, 4 text-figg. and Arch. ges. Physiol. ci, pp. 263-310, pl. vii, 6 text-figg.: rudimentary gill ; LANKESTER, Nature lxi, p. 270 ; MOSELEY, Quart. J. Micr. Sci. xlvi (3), pp. 359-366, pls. xxiii & xxiv : *A. fluviatilis* var. *torrentium*, colour-variety, p. 254 ; BOUVIER, Bull. Soc. ent. France 1904 : *A. torrentium*, bionomics and physiology ; LATTEr, Nat. Hist. Common Animals, pp. 48-70.

*Astacus* [*Homarus*] *gammarus*, abnormal chelæ, p. 195 ; SCHERREN, P. Zool. Soc. London 1903, ii.

*Cambarus affinis*, breeding habits, young stages, &c. ; ANDREWS, Amer. Natural. xxxviii, pp. 165-206, 10 text-figg. : *C. bartoni*, abnormal leg ; ANDREWS, Biol. Bull. vi, p. 75, 5 text-figg. : *C.* lists of spp., distrib. oecology, &c. ; HARRIS, Kansas Univ. Sci. Bull. ii (3), pp. 51-187 : *C. uhleri*, habits ; HAY, P. Soc. Washington xvii, p. 167 : *C. viridis*, copulatory appendages ; MOENHKAUS, Indiana Univ. Bull. i, pp. 17 & 18, 2 figg. : *C. affinis*, habit formation ; YERKES & HUGGINS, Harvard Psychological Studies i, pp. 565-577, 4 figg.

*Homarus* [see also *Astacus*] *vulgaris*, hatching ; HERDMAN, Nature lxx, p. 296 : maturation divisions in testis ; LABBÉ, C.R. Ac. Sci. cxxviii, pp. 96-99.

†*Hoplopatria granulosa*, p. 32, pl. ii, fig. 1 ; COLLET, Bull. Soc. Reims xii.

†*H. groenlandica*, Tertiary, East Greenland, p. 115, pl. iv, figg. 1 & 2 ; RAVN, Medd. Gronland xxix (1), n. sp.

*Nephrops norvegicus*, variation of ♂ gen. apertures, and proportions of sexes ; MCINTOSH, P. Cambridge Soc. xii, pp. 441-444 : general account of structure ; MEEK, The Norway Lobster, 1903.

*Nephropsis ensirostris*, pl. lviii, figg. 1, 1a ; ALCOCK & MCARDLE, Illustr. Zool. Investigator.

*Parastacus hassleri*, p. 256, text-figg. 24 & 25, *agassizii*, p. 258, pl. ix ; PORTER, Revist. chilena viii.

*Phoberus cæcus* var. *tenuimanus*, pl. lx ; ALCOCK & MCARDLE, Illustr. Zool. Investigator.

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- Eryonicus indicus*, pl. l, fig. 3; ALCOCK & McARDLE, Illustr. Zool. Investigator.  
*Willemoesia indica*, pl. lvii, figg. 5, 5a; ALCOCK & McARDLE, t. c.

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- Palinurus vulgaris*, eye replaced by "antenna"; ARIOLA, Arch. Entwick-mech. xviii, pp. 248-252, pl. xiv: histology of alimentary system; GUIEYSSÉ, Bull. Soc. Philom. (9) vi, pp. 117-128, 3 text-figg.  
*Scyllarus martensi* var., p. 754, pl. lviii, fig. 4; BORRADAILE, Fauna Maldive ii.

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*Callianassa (Callichirus) longiventris* (?), p. 752, pl. lviii, fig. 2; BORRADAILE, Fauna Maldive ii: *C.* key to N.W. American spp., p. 153, *goniophthalma*, p. 154, pl. viii; RATHBUN, Harriman Alaska Exped. x.  
 †*C.*, Upper Cretaceous, Belfast, p. 35; LAMPLUGH and others, Geol. Belfast, Mem. Geol. Survey 1904.  
*C. (Trypaea) maldivensis*, Maldive Ids., p. 753, pl. lviii, fig. 3; BORRADAILE, Fauna Maldive ii: *C. (Cheramus) jousseaumei* and *calmani*, p. 236, (*Trypaea*) *bouvieri*, p. 236, (*Callichirus*) *rosæ* and *coutieri*, p. 237, Red Sea; NOBILI, Bull. Mus. Paris x: n. spp.  
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*Gebicula exigua*, pl. lvii, fig. 4; ALCOCK & McARDLE, Illustr. Zool. Investigator.  
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*Alope australis*, S. Australia, p. 154, pl. xxx, figg. 1-7; BAKER, Tr. R. Soc. S. Austral. xxviii, n. sp.  
*Alpheus* Weber, 1795, synonym of *Cancer*, replaced by *Crangon* Weber, p. 170; RATHBUN, P. Soc. Washington xvii: *A.* regeneration, p. 319; BRUES, Biol. Bull. vi: *A. heterochelis*, p. 5; STEBBING, Spolia Zeylan. ii.



- Angasia elongata*, p. 147, pl. xxvii, figg. 1-4, *kimberi*, p. 149, pl. xxvii, fig. 5, *robusta*, p. 150, pl. xxviii, figg. 1-8, *tomentosa*, p. 152, pl. xxix, figg. 1-4, South Australia; BAKER, Tr. R. Soc. S. Austral. xxviii, n. spp.
- Arete dorsalis* var. *pacificus*, commensalism with *Heterocentrotus mamillatus*; COUTIÈRE, Bull. Mus. Paris x, pp. 58-60.
- Atya serrata*, mutation *alluaudi* nov. Madagascar, p. 448 [see also *Ortmannia*]; BOUVIER, C.R. Ac. Sci. cxxxviii.
- A. intermedia*, W. Africa, p. 137, *africana*, Ogowé, p. 138; BOUVIER, Bull. Mus. Paris x, n. spp.
- Atyaephyra desmarestii*, variation statistically examined; BROŽEK, SB. Bohmisch. Ges. 1904, xi.
- Betæus harrimani*, Sitka, p. 108, text-fig. 49; RATHBUN, Harriman Alaska Exped. x, n. sp.
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- Crangon* Weber, 1795 (= *Alpheus* Fabr. 1798), type *malabaricus*, p. 170; RATHBUN, t. c. [See *Crango*.]
- Crangon vulgaris*, fishery problems; HERDMAN, P. Liverp. biol. Soc. xviii, pp. 157-167: *C. lockingtonii* n. nom. for *C. munitus* Lockington, non Dana, p. 312, pl. xxxv, figg. 14-16; HOLMES, P. Calif. Ac. (3) Zool. iii: *C.* spp., colour physiology; KEEBLE & GAMBLE, Phil. Trans. B, cxcvi, pp. 295-388: *C.*, key to N.W. American spp., p. 111, *nigricauda*, p. 112, fig. 50, *nigromaculata*, p. 114, fig. 51, *alaskensis*, p. 114, figg. 52 & 53, subsp. *elongata*, p. 115, fig. 54, *septemspinosa*, p. 116, fig. 55, *alba*, p. 117, figg. 56 & 57, *holmesi*, p. 118, fig. 58, *stylirostris*, p. 118, fig. 59, *dalli*, p. 119, fig. 60, *franciscorum*, p. 120, fig. 61, subsp. *angustimana*, p. 121, figg. 62 & 63, *intermedia*, p. 122, *communis*, p. 123, fig. 64, *resima*, p. 124, fig. 65, *abyssorum*, p. 125, fig. 66, *munita*, p. 127, fig. 67, *acclivis*, p. 129, fig. 68, *variabilis*, p. 129, fig. 69, *spiniosissima*, p. 130, fig. 70, *spinirostris*, p. 131, fig. 71, *munitella*, p. 132; RATHBUN, Harriman Alaska Exped. x.
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- Ortmannia*, spp. except *O. mexicana* are mutations of spp. of *Atya*; BOUVIER, C.R. Ac. Sci. cxxxviii, pp. 446-449.
- Palæmon* [= *Leander*] spp., colour physiology; KEEBLE & GAMBLE, Phil. Trans. B, cxcvi, pp. pp. 295-388.
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*Metapeneus stebbingi*, *cognatus*, *consobrinus*, *vaillanti*, Red Sea, p. 229; NOBILI, Bull. Mus. Paris x, n. spp.

*Peneus* (*Parapeneus*) *rectacutus*, pl. xlix, fig. 5, (*Metapeneus*) *coniger*, pl. l, figg. 2, 2a & b; ALCOCK & McARDLE, Illustr. Zool. Investigator.

*Sergestes bisulcatus*, pl. l, figg. 1, 1a & b; ALCOCK & McARDLE, t. c.: *S. atlanticus*, p. 145, sp. p. 146; RATHBUN, Harriman Alaska Exped. x.

*Solenocera* (*Parasolenocera*) *annectens*, pl. xlix, fig. 6; ALCOCK & McARDLE, Illustr. Zool. Investigator.

#### INCERTÆ SEDIS.

*Amphionides* n. g. (near *Amphion*) *valdivia*, Atlantic and Indian Oceans, descr. from larvæ, p. 225; ZIMMER, Zool. Anz. xxviii, n. sp.

## 2. SCHIZOPODA.

[See also CLEVE (43), GADZIKIEWICZ (61), SCOTT in LINDSAY (115), LO BIANCO (116), MAR. BIOL. ASS. (125), NOBRE (145), PATENCE (152), PETCH (160), RICHARD (171), ZYKOFF (256).]

Revision of Arctic spp.; ZIMMER, Fauna Arctica iii (3), pp. 415-491, 172 text-figg. Only spp. of which new figures are given are noted below.

*Anaspides*, evidence as to systematic position from chromatophore system, p. 330; KEEBLE & GAMBLE, Phil. Trans. B. cxcvi.

*Boreophausia* [see *Rhoda*].

*Euphausia intermedia*, p. 118, pl. ii, figg. 3-6; RIGGIO, Natural. Sicil. xvii: *E. pellucida*, p. 422, figg. 12-15; ZIMMER, Fauna Arctica iii.

*Macromysis*, spp., colour-physiology; KEEBLE & GAMBLE, Phil. Trans. B, cxcvi, pp. 295-388.

*M. nigra*, coast of England, p. 331, pl. xviii, figg. 1-3, pl. xix, figg. 4-6, pl. xxi, figg. 10, 11 & 17; KEEBLE & GAMBLE, t. c. n. sp.

*Mysis relicta*: embryos figured, p. 107, figg. 1 & 2; KANE, Irish Natural. xiii: habits, distribution &c., p. 677; SAMTER & WELTNER, Zool. Anz. xxvii.

*Neomysis vulgaris* in E. Norfolk, p. 649; GURNEY, Tr. Norfolk Soc. vii.

*Nyctiphanes norvegica*, p. 419, figg. 2-5; ZIMMER, Fauna Arctica iii.

*Rhoda* [= *Boreophausia*] *inermis*, p. 420, figg. 6-9, *ruschii*, p. 421, figg. 10 & 11; ZIMMER, t. c.

*Thysanoëssa neglecta*, p. 423, figg. 16 & 17, *longicaudata*, p. 424, figg. 18-21; ZIMMER, t. c.

## 3. STOMATOPODA.

[See also GADZIKIEWICZ (61), MAR. BIOL. ASS. (125), NOBRE (145), †WALTHER (230).]

*Alima robusta*, Indian Ocean, p. 379, pl. xxvii, fig. 6, *macrocephala* (locality ?), p. 380, pl. xxvii, figg. 1-1c, *subtruncata*, S. Atlantic, p. 382, pl. xxvii, fig. 4, *longicauda*, Benguela current, p. 384, pl. xxvii, figg. 8 & 8a, *strigosa*, Indian Ocean, p. 384, pl. xxvii, figg. 3 & 3a, *punctifera*, S. Atlantic, p. 386, pl. xxviii, figg. 1 & 1a, *triangularis*, Mediterranean, p. 387, pl. xxvii, figg. 7 & 7a, *paradoxa*, Águlhas Bank, p. 387, pl. xxvii, figg. 2-2b, sp., pl. xxvii, fig. 5; JURICH, Stomatopoden "Valdivia," n. spp. (larvæ).

*Coroniderichthus bituberculatus*, p. 394, pl. xxviii, fig. 3; JURICH, t. c.

*Erichthus proprius* (locality ?), p. 397, pl. xxviii, figg. 2-2e, *pygmaeus*, Atlantic, p. 398, pl. xxxviii, figg. 6 & 6a, *acer*, Indian Ocean, p. 399, pl. xxviii, figg. 8, 8a & 9, sp., p. 399, pl. xxviii, fig. 7; JURICH, t. c. n. spp. (larvæ).

*Gonodactylus chiragra*, p. 375, pl. xxvi, figg. 4, 4a, 5 & 5a; JURICH, t. c.

*Lysierichthus pulcher*, p. 390, pl. xxix, figg. 2-2b, *vitreus*, p. 391, pl. xxvi, figg. 6 & 6a, *duvaucellei*, p. 393, pl. xxvi, fig. 7; JURICH, t. c.

*Lysiosquilla eusebia*, p. 117; RIGGIO, Natural. Sicil. xvii.

*L. vicina*, Red Sea, p. 228; NOBILI, Bull. Mus. Paris x: *L. valdiviensis* (locality ?), p. 372, pl. xxvi, figg. 2-2g; JURICH, Stomatopoden "Valdivia": n. spp.

*Odonterichthus tenuicornis*, Indian Ocean, p. 396, pl. xxviii, fig. 4; JURICH, t. c. n. sp. (larva).

*Pseuderichthus distinguendus*, p. 394, pl. xxviii, fig. 5, *communis*, p. 395, pl. xxix, fig. 1; JURICH, t. c.

*Squilla empusa*, p. 366, pl. xxv, fig. 3, *microphthalma*, p. 368, pl. xxvi,

fig. 1, *leptosquilla*, p. 370, pl. xxv, figg. 1 & 1b, var. *dentata*, n. var., p. 372, pl. xxv, fig. 2; JURICH, t. c.  
*S. minor*, Zanzibar, p. 364, pl. xxv, figg. 4 & 4a; JURICH, t. c. n. sp.

#### 4. CUMACEA.

[See also GADZIKIEWICZ (61), LOŠKO (118), MAR. BIOL. ASS. (125), SCOTT (191).]

*Cyclaspis costata*, p. 168, pl. iii, figg. 39-53, *picta*, p. 170, pl. iii, figg. 54 & 55, *herdmani*, p. 171, pl. iii, figg. 56-59, pl. iv, figg. 60-66, *hornelli*, p. 172, pl. iv, figg. 67-71, Ceylon; CALMAN, Rep. Ceylon Pearl Fisheries ii, n. spp.

*Eocuma*, p. 160, key to spp. p. 161, *sarsii*, p. 166, pl. ii, figg. 35-38; CALMAN, t. c.

*E. taprobatica*, p. 162, pl. i, figg. 1-20, pl. ii, figg. 21-28, *affinis*, p. 165, pl. ii, figg. 29-34, Ceylon; CALMAN, t. c. n. spp.

*Iphinoë macrobrachium*, Ceylon, p. 173, pl. iv, figg. 72-75; CALMAN, t. c. n. sp.

*Nannastacus stebbingi*, Ceylon, p. 176, pl. v, figg. 91-93; CALMAN, t. c. n. sp.

*Paradiastylis* n. g. (*Diastylidæ*), p. 173, *brachyura*, Ceylon, p. 174, pl. v, figg. 76-90; CALMAN, t. c. n. sp.

#### 5. TANAIIDACEA.

[See also MAR. BIOL. ASS. (125).]

*Tanaioidea* n. nom. for *Isopoda chelifera*, p. 3; RICHARDSON, P. U. S. Mus. xxvii.

*Tanais*, list of spp. p. 7, *philetærus*, Ceylon, p. 7, pl. ii; STEBBING, Spolia Zeylan. ii, n. sp.

#### 6. ISOPODA.

[See also ALZONA (4), CHOBOUT (41), FLORENTIN (58), GADZIKIEWICZ (61), GIARD (66), GURNEY (78), LO BIANCO (116), LOŠKO (118), MAR. BIOL. ASS. (125), MAZIARSKI (128), NOBRE (145 & 146), PATIENCE (152), PATTERSON (153), PETCH (160), RICHARD (171), RICHARDSON (175), SCHARFF (187), DOFLEIN in SCHNEE (189), SCOTT (191), ULMER (224), VALLENTIN (226), VIRÉ (227 & 228), +WALTHER (230), WELCH (232), WHEELER (235).]

Review of morphology, development, habits and distribution; RICHARDSON, P. U. S. Mus. xxvii, pp. 2-31.

#### ASELLOTA.

*Aselloidea* n. nom. for *Asellota*, p. 3; RICHARDSON, P. U. S. Mus. xxvii.

*Asellus tomalensis*, p. 321, pl. xxxvii, figg. 39-42; HOLMES, P. Calif. Ac. (3) Zool. iii: *A. aquaticus*, p. 70, *cavaticus*, p. 71; KOCH, Festschr. Ges. Nurnberg 1901.

*A. tomalensis*, p. 224, figg. 110-112; RICHARDSON, Harriman Alaska Exped. x, n. sp.

*Heterias* n. nom. for *Janirella* Sayce non Bonnier, p. 6; RICHARDSON, P. U. S. Mus. xxvii.

*Janirella*, see *Heterias*.

*Janiropsis kincaidi*, Alaska, p. 221, figg. 102-107, *californica*, California, p. 223, figg. 108 & 109; RICHARDSON, Harriman Alaska Exped. x, n. spp.

## PHREATOICOIDEA.

*Phreatoicus australis*; SAYCE, Victorian Natural. xx, p. 151.

## FLABELLIFERA.

- Cymothoidea*, n. nom. for *Flabellifera*, p. 3; RICHARDSON, P. U. S. Mus. xxvii.
- Aga ventrosa*, p. 432, pl. xii, figg. 5-8, pl. xiii, figg. 8 & 9, *deshayesiana*, p. 434, pl. xii, figg. 1-4, pl. xiii, figg. 10 & 11; NORMAN, Ann. Nat. Hist. (7) xiv.
- A. megalops*, off coast of Portugal, 45 fath., p. 434, pl. xiii, figg. 1-7; NORMAN & STEBBING, t. c. n. sp.
- Aegide*, notes on British spp., p. 432; NORMAN, t. c.
- Alcirona*, key to spp., p. 708, *maldivensis*, Maldive Ids., p. 708, pl. li, b; STEBBING, Fauna Maldive ii, n. sp.
- Cecospheroma*, sp., habits, &c.; GAL, Bull. Soc. Nimes xxxi.
- Calathura*, key to spp., p. 700, *borradalei*, Maldive Ids., p. 700, pl. xlix a; STEBBING, Fauna Maldive ii, n. sp.
- Cirolana harfordi*, p. 319, pl. xxxvii, figg. 32-38; HOLMES, P. Calif. Ac. (3), Zool. iii: *C. latistylis*, p. 702; STEBBING, Fauna Maldive ii.
- C. japonensis*, Japan, p. 35, figg. 3-5; RICHARDSON, P. U. S. Mus. xxvii: *C. sulcaticauda*, Maldive Ids., p. 701, pl. xlix, b; STEBBING, Fauna Maldive ii: *C. willleyi*, Ceylon, p. 11, pl. iii; STEBBING, Spolia Zeylan. ii: n. spp.
- Cirolanidae*, notes on British spp., p. 437; NORMAN, Ann. Nat. Hist. (7) xiv.
- Corallana hirsuta*, p. 704, pl. l, b; STEBBING, Fauna Maldive ii: *C. nodosa*, p. 14, pl. i, b; STEBBING, Spolia Zeylan. ii.
- Corallanidae*, notes on genera, p. 703; STEBBING, Fauna Maldive ii.
- Cyathura pusilla*, Ceylon, p. 9, pl. vi, b; STEBBING, Spolia Zeylan. ii, n. sp.
- Cymodocea acuta*, Japan, p. 38, figg. 8-10; RICHARDSON, P. U. S. Mus. xxvii: *Cymodocea bicarinata*, Maldive Ids., p. 712, pl. lii, b; STEBBING, Fauna Maldive ii: n. spp.
- Cymothoa*, embryology (abstract of paper by NUSBAUM); HOYER, Zool. Zentrbl. xii, pp. 130-133: *C. borbonica*, p. 709; STEBBING, Fauna Maldive ii.
- Dynamene cordata*, p. 302, pl. xxxiv, figg. 8-10, *glabra*, p. 304; HOLMES, P. Calif. Ac. (3) Zool. iii.
- D. sculpta*, California, p. 300, pl. xxxiv, figg. 1-7; HOLMES, t. c. n. sp.
- Excorallana* n. g. (= *Corallana* Hansen & Richardson, non Dana), p. 704; STEBBING, Fauna Maldive ii.
- Excorallanidae* n. fam. for *Excorallana*, p. 704; STEBBING, t. c.
- Gnathia maxillaris*, metamorphosis and life-history; SMITH, Mt. Stat. Neapel xvi, pp. 469-479, pl. xviii.
- Indusa carinata* (on *Mugil hospes*), W. coast of Panama, p. 52, figg. 29-31; RICHARDSON, P. U. S. Mus. xxvii, n. sp.
- Lanocira gardineri*, p. 706, pl. li, a, *rotundicauda*, p. 707, pl. l, a, Maldive Ids.; STEBBING, Fauna Maldive ii, n. spp.
- Limnoria*, key to spp., p. 714, *pfefferi*, Maldive Ids., p. 714, pl. lii, a; STEBBING, t. c. n. sp.
- Livoneca propinqua*, Japan, p. 37, figg. 6 & 7; RICHARDSON, P. U. S. Mus. xxvii, n. sp.

- Meinertia gilberti* (on *Mugil hospes*), Mazatlan, p. 53, figg. 32 & 33 ; RICHARDSON, t. c. n. sp.
- Rocinela angustata*, p. 33, affinis, p. 33, figg. 1 & 2, Japan ; RICHARDSON, t. c. n. spp.
- Sphaeroma pentodon*, p. 323, pl. xxxvii, fig. 43 ; HOLMES, P. Calif. Ac. (3) Zool. iii : *S. (Exosphaeroma?) globicauda*, p. 711 ; STEBBING, Fauna Maldive ii : *S. terebrans*, p. 16, pl. iv ; STEBBING, Spolia Zeylan. ii.
- S. pentodon*, California, p. 214, fig. 96 ; RICHARDSON, Harriman Alaska Exped. x : *S. retrolævis*, Japan, p. 47, fig. 23 ; RICHARDSON, P. U. S. Mus. xxvii : n. spp.
- Sphaeromida*, remarks on relations of genera ; HOLMES, P. Calif. Ac. (3) Zool. iii, p. 295.

## VALVIFERA.

- Idoteoidea*, n. nom. for *Valvifera*, p. 3 ; RICHARDSON, P. U. S. Mus. xxvii.
- Arcturida*, notes on British spp., p. 444 ; NORMAN, Ann. Nat. Hist. (7) xiv.
- Arcturus scabrosus*, Faroe Channel, 327-430 fath., p. 445 ; NORMAN, t. c. :  
*A. hirsutus*, Japan, p. 41, fig. 16 ; RICHARDSON, P. U. S. Mus. xxvii :  
*A. simplicissimus*, p. 406, figg. 114 a-c, *dentatus*, p. 408, figg. 115 a-c, *alcicornis*, p. 410, figg. 116 a-c, *nodosus*, p. 412, figg. 117 a-d, *serrulatus*, p. 414, figg. 118 a-c, New South Wales ; WHITELEGGE, Mem. Austral. Mus. iv : n. spp.
- Astacilla bocagei*, Porto, p. 93, pl. i ; NOBRE, Ann. Sci. nat. Porto viii, n. sp.
- Holognathida*, n. fam., p. 67 ; THOMSON, Ann. Nat. Hist. (7) xiv.
- Holognathus* n. g. (*Holognathida*), *stewarti* (Filhol), p. 67, pl. i ; THOMSON, t. c.
- Idotea* Weber 1795, type *emerita* Fabr. [see *Hippidea*], p. 171 ; RATHBUN, P. Soc. Washington xvii : *I. gracillima*, p. 216, figg. 97 & 98 ; RICHARDSON, Harriman Alaska Exped. x.
- Idoteida*, notes on British spp., p. 440 ; NORMAN, Ann. Nat. Hist. (7) xiv.
- Pentias* n. g. (*Idoteida*) *hayi*, Japan, p. 47, figg. 24 & 25 ; RICHARDSON, P. U. S. Mus. xxvii, n. sp.
- Symmium* n. g. (*Idoteida*), p. 39, *caudatus*, Japan, p. 40, figg. 11-15 ; RICHARDSON, t. c. n. sp.
- Synidotea ritteri*, San Francisco, p. 219, figg. 99-101 ; RICHARDSON, Harriman Alaska Exped. x, n. sp.

## EPICARIDEA.

- Bopyroidea*, n. nom. for *Epicaridea*, p. 4 ; RICHARDSON, P. U. S. Mus. xxvii.
- Revision of American spp. (Pacific and Atlantic) with new hosts and localities for many spp. ; RICHARDSON, t. c. pp. 58-89.
- Cryptoniscan stage of one of the *Epicaridea*, from *Onisimus plantus* (*Gammaridea*) descr. but not named, p. 46, 2 text-figg. ; STEBBING, Bijdr. Dierk. 17/18.
- Argeia pugettensis*, p. 60, figg. 35-40 ; RICHARDSON, P. U. S. Mus. xxvii.
- Bopyrina abbreviata* (on *Hippolyte zostericola*) Florida, p. 71, figg. 56-59, *urocaridis* (on *Urocaris longicaudata*) Florida, p. 73, figg. 60-62, *thorii* (on *Thor floridanus*), Florida, p. 74, fig. 63 ; RICHARDSON, t. c. n. spp.
- Diplophryxus* n. g. (*Bopyrida*), p. 50, *jordani* (on *Palæmon serrifer*), p. 50, figg. 26-28 ; RICHARDSON, t. c. n. sp.
- Eumetor* (?) sp. in *Sacculina* on *Pinnotheres* in *Spondylus*, Persian Gulf ; PÉREZ, Pr.-verb. Soc. Bordeaux 1902-1903, pp. 109 & 110.

- Ione thompsoni* (on *Callianassa stimpsoni*), Massachusetts, p. 75, figg. 64-68; RICHARDSON, P. U. S. Mus. xxvii, n. sp.
- Munidion parva* (on *Munida quadrispina*), Straits of Fuca, p. 81, pp. 76-79; RICHARDSON, t. c. n. sp.
- Parapenæon* n. g. (*Bopyridæ*) *consolidata* (on *Parapenæus dalei*), Japan, p. 43, figg. 17-20; RICHARDSON, t. c. n. sp.
- Phryxus* sp., p. 45, figg. 21 & 22; RICHARDSON, t. c.
- Probopyrus palæmoneticola*, p. 66, figg. 41-43, *alpei*, p. 67, figg. 44 & 45; RICHARDSON, t. c.
- P. bithynis* (on *Bithynis ohionis* and *B. acanthurus*), Louisiana and Nicaragua, p. 68, figg. 46-51, *floridensis* (on *Palæmonetes exilipes*), Florida, p. 70, figg. 52-55; RICHARDSON, t. c. n. spp.
- Pseudione galacanthæ*, p. 83, figg. 80-82; RICHARDSON, t. c.
- P. furcata* (? host), Virginia, p. 79, figg. 69-71, *curtata* (on *Petrolisthes sexspinosus*), Key West, p. 80, figg. 72-75, *tuberculata* (on *Lithodes diomedæe*), Patagonia, p. 84, figg. 83-87, *paucisecta* (on *Munida curvipes*), Patagonia, p. 85, figg. 88-91; RICHARDSON, t. c. n. spp.
- Stegius* n. g. (*Bopyridæ*) *clibanarii* (on *Clibanarius tricolor*), Bermudas, p. 59, fig. 34; RICHARDSON, t. c. n. sp.
- Tylokepon* n. g. (*Bopyridæ*), p. 716, *bonnieri* (on *Tylocarcinus styx*), Maldive Ids., p. 716, pl. liii; STEBBING, Fauna Maldive ii, n. sp.
- Urobopyrus* n. g. (*Bopyridæ*) *processæ* [*processi* on p. 87] (on *Processa canaliculata*), E. coast of S. America, p. 86, fig. 92; RICHARDSON, P. U. S. Mus. xxvii, n. sp.

## ONISCOIDEA.

- Notes on British spp.; NORMAN & BRADY, Ann. Nat. Hist. (7) xiv, pp. 449-450.
- Keys to genera and spp. of S. Germany and the Tyrol; KOCH, Festschr. Ges. Nurnberg 1901, pp. 17-72.
- Supposed statocysts in *Oniscoidea*; WENIG, SB. Bohmisch Ges. 1903, xxxix, 12 pp., 1 pl.
- Armadillidium depressum*, p. 23, *nasatum*, p. 23, *versicolor*, p. 24, *pulchellum*, p. 27, *vulgare*, p. 29, *opacum*, p. 30, *pictum*, p. 32, *decipiens*, p. 33; KOCH, Festschr. Ges. Nurnberg 1901.
- A. albifrons*, Meran, p. 25, *petræum*, Torbole, p. 26, *riparium*, Torbole, p. 28, *olivei*, Torbole, p. 31; KOCH, t. c.: *A. quadrifrons*, New York State, p. r211, text-fig. 2; STOLLER, Rep. N. York Mus. liv (i) : n. spp.
- Cylisticus convexus*, p. 53; KOCH, Festschr. Ges. Nurnberg 1901.
- Éoarmadillidium* n. g., *granulatum*, Tertiary (?), Hérault, p. 146, text-figg. 1-3; DOLLFUS, Feuille Natural. (4) xxxiv, n. sp.
- Haplophthalmus menzei*, p. 68; KOCH, Festschr. Ges. Nurnberg 1901.
- Ligidium hypmorum*, p. 69; KOCH, t. c.
- L. cæcum*, Crimea, p. 327, text-figg. 9-11; CARI, Zool. Anz. xxviii : *L. longicaudatum*, New York State, p. r208, text-fig. 1; STOLLEB, Rep. N. York Mus. liv (i) : n. spp.
- Ligia* Weber, 1795, syn. of *Cancer*, p. 172; RATHBUN, P. Soc. Washington xvii.
- Metoponorthus major*, p. 64, text-fig. 5, *orientalis*, fig. 6; DYDUCH, Bull. Ac. Cracovie 1903: *M. amœnus*, p. 54, *pruinus*, p. 55; KOCH, Festschr. Ges. Nurnberg 1901.
- M. benaci*, Torbole, p. 56; KOCH, t. c. n. sp.
- Oniscus murarius*, p. 61, *tæniola*, p. 62, *madidus*, p. 64, *minutus*, p. 65; KOCH, t. c.: *O. murarius*, feeding on lichens, p. 367; STAHL, Denk. Ges. Jena xi.



- O. languidus*, Ludwigsburg, p. 63, *lamperti*, Hohenlandsberg, p. 63; KOCH, Festschr. Ges. Nurnberg 1901, n. spp.  
*Philoscia muscorum*, p. 57, *madida*, p. 58; KOCH, t. c.  
*P. fischeri*, Teck, p. 59; KOCH, t. c. n. sp.  
*Platyarthrus hoffmannseggii*, p. 34; KOCH, t. c.  
*Porcellio rathkei*, p. 62, text-fig. 1, *affinis*, fig. 2, *gallicus*, fig. 3, *politus*, fig. 4; DYDUCH, Bull. Ac. Cracovie 1903: *P. scaber*, p. 38, *ochraceus*, p. 39, *lævis*, p. 40, *pictus*, p. 41, *conspersus*, p. 43, *dubius*, p. 44, *confluens*, p. 45, *ratzeburgi*, p. 46, *rathkei*, p. 50; KOCH, Festschr. Ges. Nurnberg 1901.  
*P. tirolensis*, S. Tyrol, p. 36, *cruentatus*, Sugenheim, p. 37, *mildei*, Meran, p. 41, *saltuum*, S. Alps, p. 48, *parietinus*, Landstuhl, p. 49, *sociabilis*, Vahrn, p. 51, *cognatus*, S. Tyrol, p. 52; KOCH, t. c. n. spp.  
*Styloniscus gracilis*, p. 318, pl. xxxvi, figg. 29-31; HOLMES, P. Calif. Ac. (3) Zool. iii.  
*Trichoniscus pusillus*, p. 66, *roseus*, p. 67; KOCH, Festschr. Ges. Nurnberg 1901.  
*T. papillicornis*, Alaska, p. 227, figg. 113-117; RICHARDSON, Harriman Alaska Exped. x, n. sp.

## 7. AMPHIPODA.

[See also ALZONA (4), BRUNTZ (29 & 30), GADZIKIEWICZ (61), GURNEY (78), KOROTNEFF (106), LO BIANCO (116), LOŠKO (118), MAR. BIOL. ASS. (125), NOBRE (145 & 146), NORMAN (148), PATTERSON (153), PETCH (160), RICHARD (171), SAYCE (186), SCOTT (191), STEAD (205), ULMER (224), VIRÉ (227 & 228), ZYKOFF (256).]

GROCHOWSKI (69), appears to deal with the general classification of Amphipoda. On p. 33 the group is divided into four orders *Antennuloremidæ* nov. (for *Constantia Branickii* Dyb.), *Crevettina*, *Hyperina* and *Læmodipoda*.

## GAMMARINA.

- Acanthonotozoma inflatum*, p. 32, pl. vi; STEBBING, Bijdr. Dierk. 17/18.  
*Acanthostepheia behringanus*, p. 315, pl. xxxvi, figg. 25-28; HOLMES, P. Calif. Ac. (3) Zool. iii.  
*Acanthozone hystrix*, p. 29; STEBBING, Bijdr. Dierk. 17/18.  
*Allorchestes ochotensis*, p. 233, fig. 118; HOLMES, Harriman Alaska Exped. x.  
*Ampelisca*, key to some spp., p. 249, *tridens*, p. 249, pl. ii, fig. 11, pl. iv, fig. 11, *scabripes*, p. 250, pl. ii, fig. 12, *brachyceras*, p. 251, pl. ii, fig. 13, *cyclops*, p. 253, pl. ii, fig. 14, *chevreuxi*, p. 254, pl. iii, fig. 15, Ceylon; WALKER, Rep. Ceylon Pearl Fisheries ii, n. spp.  
*Amphithoë scitula*, p. 314, pl. xxxvi, figg. 21-24; HOLMES, P. Calif. Ac. (3) Zool. iii.  
*A. intermedia*, Ceylon, p. 290, pl. vii, fig. 46; WALKER, Rep. Ceylon Pearl Fisheries ii, n. sp.  
*Anamixis stebbingi*, Ceylon, p. 259, pl. iii, fig. 18; WALKER, t. c. n. sp.  
*Anonyx nugax*, p. 313, pl. xxxv, figg. 17-19, pl. xxxvi, fig. 20; HOLMES, P. Calif. Ac. (3) Zool. iii: *A. lilljeborgii*, p. 8; STEBBING, Bijdr. Dierk. 17/18.  
*Apherusa clevei*, Skagerak; SARS, Publ. internat. expl. Mer, No. 10, 4 pp., 1 pl., n. sp.  
*Barentsia* (see *Gulbarentsia*) n. g. (*Ædiceridæ*), p. 25, *hoeki*, 71° 32' N., 64° 37' E., p. 25, pl. v; STEBBING, Bijdr. Dierk. 17/18, n. sp.

- Byblis intermedius*, 72° 9' N., 24° 42' E., 145 fath., p. 18; STEBBING, t. c. n. sp.
- Cheiriphotis* n. g. (*Photidæ*), p. 283, *megacheles*, Ceylon, p. 284, pl. vi, fig. 42; WALKER, Rep. Ceylon Pearl Fisheries ii.
- Chevalia* n. g. (*Photidæ*), p. 288, *aviculæ*, Ceylon, p. 288, pl. vii, fig. 50, pl. viii, fig. 50; WALKER, t. c. n. sp.
- Chironisimus debruyinii*, p. 13; STEBBING, Bijdr. Dierk. 17/18.
- Corophium trienonyx*, Ceylon, p. 25, pl. vi, A; STEBBING, Spolia Zeylan. ii, n. sp.
- Dezamine serraticrus*, Ceylon, p. 265, pl. iv, fig. 24; WALKER, Rep. Ceylon Pearl Fisheries ii, n. sp.
- Elasmopus subcarinatus*, p. 275, pl. v, fig. 34; WALKER, t. c.
- E. dubius*, p. 276, pl. v, fig. 35, *spinimanus*, p. 277, pl. v, fig. 36, *serrula*, p. 277, pl. viii, fig. 37, Ceylon; WALKER, t. c. n. spp.
- Erichthonius macrodactylus*, p. 292, pl. vii, fig. 48; WALKER, t. c.
- Eusirogenes* n. g. (*Eusiridæ*), p. 15, *dolichocarpus*, Bay of Biscay, 1000–2000 fath., p. 15, pl. ii, A; STEBBING, Tr. Linn. Soc. London (2) Zool. x, n. sp.
- Eusiroides cesaris* var., p. 264, pl. iv, fig. 22; WALKER, Rep. Ceylon Pearl Fisheries ii.
- E. orchomenipes*, Ceylon, p. 264, pl. iv, fig. 23; WALKER, t. c. n. sp.
- Gallea* n. g. (*Amphilochidæ*), p. 256, *tecticauda*, Ceylon, p. 256, pl. iii, fig. 16, pl. viii, fig. 16; WALKER, t. c. n. sp.
- Gammaridæ*, revision of genera (in Polish); GROCHOWSKI, Kosmos polski. xxix, p. 37.
- Gammaropsis tenuicornis*, Puget Sound, p. 239, fig. 124; HOLMES, Harriman Alaska Exped. x: *G. zeylanicus*, Ceylon, p. 282, pl. vi, fig. 41; WALKER, Rep. Ceylon Pearl Fisheries ii: n. spp.
- Gammarus* sp., toxicity of distilled water; BULLOT, Univ. Calif. Publ. Physiol. i (22), pp. 199–217: *G. pulex*, external and internal anatomy, habits, reproduction, development; CUSSANS, P. Liverp. biol. Soc. xviii, pp. 327–373, pls. i–iv, 6 text-figg.: *G. locusta*, embryology; HEIDECCKE, Jena. Zeitschr. xxxviii, pp. 505–552, pls. xiii–xvi: *G. similis*, p. 396, pl. i, figg. 5 & 14, pl. ii, figg. 44, 45, 67, pl. iii, figg. 72–75 & 91, pl. iv, figg. 103–106, *robustoides*, p. 401, pl. i, figg. 2, 9, 16, 21, 26, 31, 32, pl. ii, figg. 34, 35, 55, 56, pl. iii, figg. 78, 80, 84, 85, 90, pl. iv, figg. 94, 96, 112, 120–123, *crassus*, p. 403, pl. i, figg. 3, 10, 17, 22, 27, pl. ii, figg. 36–41, pl. iii, figg. 68, 69, 79, 81, 86, 87, pl. iv, figg. 95, 113, 114, 118, *obesus*, pl. i, figg. 7, 12, 19, 24, 29, pl. ii, figg. 48–53, pl. iii, figg. 76, 77, 92, 93, pl. iv, figg. 107–109, 115–117; SOWINSKY, Zapiski Kiev. Obshch. xviii.
- G. obvianus*, p. 399, pl. i, figg. 6 & 13, pl. ii, figg. 46, 47, 57–64, *sarsii*, p. 401 [localities?]; SOWINSKY, t. c. n. spp.
- Grandidierella* n. g. (*Corophiidæ*), p. 173, *mahafalensis*, in a salt lake, Madagascar, p. 166, figg. 1–19; COUTIÈRE, Bull. Soc. Philom. (9) vi, n. sp.
- Guerneu levis*, p. 267, pl. iv, fig. 26; WALKER, Rep. Ceylon Pearl Fisheries ii.
- Gulbarentsia* n. nom. for *Barentsia*, Stebbing non Hincks, p. 2; STEBBING, Bijdr. Dierk. 17/18.
- Haploops robusta*, p. 18, *tubicola*, p. 19, *levis*, p. 19, pl. iii; STEBBING, t. c.
- Hippomedon squamosus*, 72° 9' N., 24° 42' E. 154 fath., p. 4, pl. i; STEBBING, t. c. n. sp.
- Hornellia* n. g. (*Gammaridæ* or *Melphidippidæ*), p. 268, *incerta*, Ceylon, p. 269, pl. iv, fig. 27; WALKER, Rep. Ceylon Pearl Fisheries ii, n. sp.
- Hyalé nilssoni* var. (name *kuriensis* suggested if species distinct), p. 238; WALKER, t. c.

- Hyalella neveri-lemairi*, Lake Titicaca, p. 132, figg. 1 & 2; CHEVREUX, Bull. Soc. zool. France xxix, n. sp.
- Ichnopus taurus*, p. 238, pl. i, fig. 3; WALKER, Rep. Ceylon Pearl Fisheries ii.
- Jassa falcata*, p. 292, pl. vii, fig. 47; WALKER, t. c.
- Lembos podocerooides*, p. 279, pl. vi, fig. 39, *chelatus*, p. 280, pl. vi, fig. 40, Ceylon; WALKER, t. c. n. spp.
- Leucothoë hornelli*, Ceylon, p. 258, pl. iii, fig. 17, *stegoceras*, Singapore, p. 259, pl. iii, fig. 17A; WALKER, t. c. n. spp.
- Lysianax cinghalensis*, p. 242, pl. i, fig. 6; WALKER, t. c.
- L. cœlochir*, Ceylon, p. 243, pl. i, fig. 7; WALKER, t. c. n. sp.
- Mæra rubro-maculata*, p. 272, pl. v, fig. 30, *tenella*, p. 272, pl. v, fig. 31, *scissimana*, p. 273, pl. v, fig. 32, *tenuicornis*, p. 273, pl. v, fig. 33; WALKER, t. c.
- M. othonides*, Ceylon, p. 271, pl. v, fig. 29; WALKER, t. c. n. sp.
- Melita anisochir*, p. 270, pl. iv, fig. 28; WALKER, t. c.
- M. zeylanica*, Ceylon, p. 22, pl. v; STEBBING, Spolia Zeylan. ii, n. sp.
- Monoculodes hanseni*, 71° 32' N., 67° 37' E., p. 22, pl. iv; STEBBING, Bijdr. Dierk. 17/18, n. sp.
- Niphargus* sp., habits, &c.; GAL, Bull. Soc. Nimes xxxi: N.; GROCHOWSKI, Kosmos polski xxix, pp. 81, &c.: *N. kochianus*, Lough Mask, p. 274, pl. viii, figg. 1-3, *N. subterraneus*, Kent, p. 280, pl. viii, figg. 4 & 5; KANE, Ann. Nat. Hist. (7) xiv.
- Odius carinatus*, p. 238, fig. 123; HOLMES, Harriman Alaska Exped. x.
- Onisimus caricus*, p. 11, *brevicaudatus*, p. 12; STEBBING, Bijdr. Dierk. 17/18.
- Pullasiella quadrispinosa*, habits, distribution, &c., p. 683; SAMTER & WELTNER, Zool. Anz. xxvii.
- Paratyclus granulatus*, Ceylon, p. 265; WALKER, Rep. Ceylon Pearl Fisheries ii, n. sp.
- Pareiasmopus suluensis*, p. 278, pl. vi, fig. 38; WALKER, t. c.
- Paronesimus* n. g. (*Lysianassidae*) *Barentsi*, 75° 49' N., 53° 42' E., p. 14, pl. ii; STEBBING, Bijdr. Dierk. 17/18, n. sp.
- Periculodes serra*, Ceylon, p. 262, pl. iv, fig. 20; WALKER, Rep. Ceylon Pearl Fisheries ii, n. sp.
- Photis longicaudata*, p. 286, pl. vi, fig. 43; WALKER, t. c.
- P. longimanus*, p. 286, pl. vii, fig. 44, *nana*, p. 287, pl. vii, fig. 45, Ceylon; WALKER, t. c. n. spp.
- Platophium læve*, p. 295, pl. vii, fig. 51; WALKER, t. c.
- P. synoptochir*, p. 296, pl. viii, fig. 52, *zeylanicum*, p. 297, pl. viii, fig. 53, Ceylon; WALKER, t. c. n. spp.
- Platyischnopus herdmani*, Ceylon, p. 247, pl. ii, fig. 10; WALKER, t. c. n. sp.
- Pontogammarus* n. subg. of *Gammarus*, p. 394; SOWINSKY, Zapiski Kiev. Obsheh. xviii.
- Pontoporeia affinis*, habits, distribution, &c., p. 686; SAMTER & WELTNER, Zool. Anz. xxvii.
- Rozinante* n. g. (near *Paramphithoë*), p. 38, *fragilis* (Goës), p. 39; STEBBING, Bijdr. Dierk. 17/18.
- Siphonæcetes orientalis*, Ceylon, p. 294, p. vii, fig. 49; WALKER, Rep. Ceylon Pearl Fisheries ii, n. sp.
- Socarnella* n. g. (*Lysianassidae*), p. 239, *bonnieri*, Ceylon, p. 239, pl. i, fig. 4; WALKER, t. c. n. sp.
- Stenothoë marina* var. *sinalensis* [n. var.], Ceylon, p. 261; WALKER, t. c.
- S. alaskensis* Pribyloff Is., p. 236, figg. 121 & 122; HOLMES, Harriman Alaska Exped. x: *S. gallensis*, Ceylon, p. 261, pl. iii, fig. 19; WALKER, Rep. Ceylon Pearl Fisheries ii: n. spp.

- Tiron thompsoni*, Ceylon, p. 263, pl. iv, fig. 21; WALKER, t. c. n. sp.  
*Tritæta antarctica*, Ceylon, p. 266, pl. iv, fig. 25; WALKER, t. c.  
*Tryphosa nugax*, Alaska, p. 234, figg. 119 & 120; HOLMES, Harriman Alaska  
 Exped. x: *T. cucullata*, Ceylon, p. 244, pl. iv, fig. 8; WALKER, Rep.  
 Ceylon Pearl Fisheries ii: n. spp.  
*Urothoë spinidigitus*, Ceylon, p. 245, pl. i, fig. 9; WALKER, t. c. n. sp.  
*Vijaya* n. g. (*Lystianassidae*), p. 241, *tenuipes*, Ceylon, p. 241, pl. i, fig. 5;  
 WALKER, t. c. n. sp.  
*Weyprechtia heuglini*, p. 41; STEBBING, Bijdr. Dierk. 17/18.

## HYPERINA.

- Key to some families, p. 17; STEBBING, Tr. Linn. Soc. London (2) Zool. x.  
 Notes on spp. from Messina; RIGGIO, Natural. Sicil. xvii, p. 95.  
*Archæoscina* n. g. (*Scinidae*), p. 19, *bonnieri*, Bay of Biscay, 300-400 fath., p. 19, pl. iii, a; STEBBING, Tr. Linn. Soc. London (2) Zool. x, n. sp.  
*Brachyscelus*, notes on spp., p. 40; STEBBING, t. c.  
*Elsia indica*, p. 237, pl. i, fig. 2; WALKER, Rep. Ceylon Pearl Fisheries ii.  
*Hyperia luzoni*, p. 33; STEBBING, Tr. Linn. Soc. London (2) Zool. x: *H. bengalensis*, p. 235, dimorphism of ♂, p. 236; WALKER, Rep. Ceylon Pearl Fisheries ii.  
*Hyperioides*, notes on spp., p. 34; STEBBING, Tr. Linn. Soc. London (2) Zool. x.  
*Lanceola*, notes and key to spp., p. 28; STEBBING, t. c.  
*Parahyperia*, referred to *Hyperioides*, p. 34; STEBBING, t. c.  
*Parascelus parvus*, p. 236, pl. i, fig. 1; WALKER, Rep. Ceylon Pearl Fisheries ii.  
*Parascina* n. g. (*Scinidae*), p. 20, *fowleri*, Bay of Biscay, to 2000 fath., p. 21, pl. ii, b; STEBBING, Tr. Linn. Soc. London (2) Zool. x, n. sp.  
*Parathemisto obliua*, p. 36; STEBBING, t. c.  
*Primno macropa*, p. 38, text-fig. 1 & 2; STEBBING, t. c.  
*Scina*, notes and key to spp., p. 22, *lepisma*, p. 27, pl. iii, b; STEBBING, t. c.  
*Scinidae*, def. and key to genera, p. 18; STEBBING, t. c.  
*Spheromimonectes* n. g. (*Mimonectidae*) *valdiviæ* [Atlantic?], p. 621, text-fig. 1 & 3, *gaussi*, Atlantic, p. 627; WOLTERECK, Zool. Anz. xxvii, n. spp.  
*Thaumatops*, larval stages described under name "*Physosoma*," p. 553; WOLTERECK, t. c.  
*Thaumonectes* n. g. (*Thaumatopsidae*), p. 93, *ducis aprutii*, Caribbean Sea, p. 93 and text-fig.; SENNA, Bull. Soc. ent. Ital. xxxv, n. sp.  
*T.*, compared with larva of *Thaumatops*, p. 563; WOLTERECK, Zool. Anz. xxvii.  
*Vibilia*, notes on spp., p. 31; STEBBING, Tr. Linn. Soc. London (2) Zool. x.

## CAPRELLINA.

- Caprella alaskensis*, p. 241, fig. 125, *scabra*, p. 243, fig. 126, *kincaidi*, p. 245, figg. 127 & 128, Alaska; HOLMES, Harriman Alaska Exped. x, n. spp.  
*Metaprotella excentrica*, p. 224; MAYER, Rep. Ceylon Pearl Fisheries ii.  
*Monoliropus falcimanus*, Ceylon, p. 225, text-figg. 1-9; MAYER, t. c. n. sp.

## 8. PHYLLOCARIDA.

[See also BROWNE & VALLENTIN (26), GADZIKIEWICZ (61), †GRABAU (67), MAR. BIOL. ASS. (125), †MUNTHE (140).]

- +*Aptychopsis victoriae*, Silurian, Victoria, p. 315, pl. xvii, fig. 4; CHAPMAN, P. Soc. Victoria xvii, n. sp.  
 +*Ceratiocaris murchisoni* (?), p. 313, pl. xvii, figg. 5 & 6, *C. sp.*, p. 313, pl. xvii, figg. 7 & 8; CHAPMAN, t. c.  
 +*C. pritchardi*, Silurian, Victoria, p. 312, pl. xvii, figg. 2 & 2a; CHAPMAN, t. c.: *C. (Limnocaris) praecedens*, Salina, New York, p. 92, pl. iii, figg. 5-10; CLARKE, Rep. N. York Mus. liv (1) : n. spp.  
 +*Dithyrocaris praecox*, Silurian, Victoria, p. 314, pl. xvii, fig. 3; CHAPMAN, P. Soc. Victoria xvii, n. sp.  
 +*Eleutherocaris n. g. whitfieldi*, p. 103; CLARKE, Rep. N. York Mus. liv (1) (see also Zittel's "Textbook of Palaeontology," English trans., p. 656).  
 +*Emmelezoë decora*, Salina, New York, p. 95, pl. ii, figg. 4-11, pl. iii, figg. 1-4; CLARKE, t. c. n. sp.  
*Nebalia bipes*, p. 9, pl. iv, figg. 79 & 80, subsp. *geoffroyi*, p. 13, pl. iv, figg. 70 & 71, subsp. *valida* n. subsp. p. 13, pl. iv, fig. 74, subsp. (?) *japanensis*, p. 13, pl. iv, fig. 72, subsp. *chilensis*, p. 13, pl. iv, fig. 73; THIELE, Wiss. Ergebn. Valdivia viii.  
*N. longicornis*, p. 9, pl. iv, figg. 66-69, subsp. *magellanica* n. subsp. p. 13, pl. iv, fig. 76, subsp. *soror* n. subsp. p. 14, pl. iv, fig. 77; THIELE, t. c.  
*Nebaliella n. g.* p. 3, *antarctica*, Kerguelen and New Zealand, p. 4, pls. i & ii, figg. 1-24; THIELE, t. c. n. sp.  
*Nebaliopsis typica* (? var. *atlantica* n. var. p. 24), p. 19, pl. iii, figg. 37-54, pl. iv, figg. 55-62; THIELE, t. c.  
*Paranebalia longipes*, p. 14, pl. ii, figg. 25-36, pl. iv, figg. 63 & 64; THIELE, t. c.  
 +*Rhinocaris columbina*, p. 101, pl. iv, fig. 14, var. *livonensis* n. var., p. 101, figg. 15 & 16, *scaphoptera*, p. 101, figg. 10 & 11, (*Elymocaris capsella*, p. 101, figg. 12 & 13, *bipennis*, p. 101, fig. 9; CLARKE, Rep. N. York Mus. liv (1)).

## B. ENTOMOSTRACA.

## 1. BRANCHIOPODA.

Unpaired eye, frontal organs &c.; ZOGRAF (252).

## a. PHYLLOPODA.

[See also DADAY (51), EKMAN (56), ENTZ (57), †RANGE (163).]

- Artemia salina* var. *pacifica* n. var., salt lakes, Honolulu and Laysan I. p. 630, figg. 1a-g; SARS, Zool. Jahrb. Syst. xix.  
*Estheria propinqua*, p. 342, text-fig. 2; ZYKOFF, Zool. Anz. xxviii.  
 +*E. membranacea*, p. 103, pl. iv, figg. 1-4; CLARKE, Rep. N. York Mus. liv (1).  
 +*E. ortonii*, Coal Measures, Ohio, p. 109, pl. iv, figg. 5-8; CLARKE, t. c. n. sp.  
*Streptocephalus neumanni*, Galla country, p. 371, pl. xiii; THIELE, Zool. Jahrb. Syst. xx, n. sp.

## b. CLADOCERA.

[See also BROWNE & VALLENTIN (26), CLEVE (43), CUNNINGTON (48), ENTZ (57), KANE (100), LINDER (114), LOŠKO (118), MAR. BIOL. ASS.

- (125), MONTI (136), PAVESI (155), †RANGE (163), SKORIKOW (197), SPRAGUE (202), STINGELIN (216), WESENBERG-LUND (234), ZACHARIAS (249), ZYKOFF (253, 254 & 256).]
- Seasonal distribution in East Norfolk; GURNEY, Tr. Norfolk Soc. vii, p. 656.
- Acroperus harpæ* var. *frigida* n. var. p. 23, text-figg. A & B; EKMAN, Zool. Jahrb. Syst. xxi.
- Alona cambouei*, p. 633, figg. 6a-d; SARS, Zool. Jahrb. Syst. xix: *A. acuticostata*, var. *tridentata* n. var. p. 349, pl. xii, figg. 18 & 19, *verrucosa*, var. p. 350, pl. xii, figg. 20 & 21, *intermedia*, var. *minor* n. var. p. 351, pl. xii, fig. 22, *davidi*, p. 352, pl. xii, fig. 23; STINGELIN, op. cit. xxi.
- A. novæ-zealandiæ*, New Zealand, p. 634, figg. 7a & b; SARS, op. cit. xix, n. sp.
- Alonella sculpta*, p. 353, pl. xii, figg. 24 & 25, var. *insulcata* n. var. p. 354, pl. xii, fig. 26, pl. xiii, figg. 27 & 28; STINGELIN, op. cit. xxi.
- A. breviceps*, Siam, p. 354, pl. xiii, figg. 29 & 29a; STINGELIN, t. c. n. sp.
- Bosmina coregoni gibbera*, male, p. 564, text-fig.; KEILHACK, Zool. Anz. xxvii.
- B. meridionalis*, New Zealand, p. 631, figg. 3a-c; SARS, Zool. Jahrb. Syst. xix: *B. hagmanni*, Amazons, p. 582, pl. xx, figg. 5 & 6; STINGELIN, op. cit. xx: n. spp.
- Bosminopsis deitersi*, Amazons, p. 584, pl. xx, figg. 7-10; STINGELIN, t. c.
- Bythotrephes longimanus*, structure of eye, p. 138, pl. ii; EKMAN, op. cit. xxi.
- Camptocercus australis* var. p. 347, pl. xii, fig. 17; STINGELIN, t. c.
- Ceriodaphnia asperata*, p. 650, text-fig. 3; MEISSNER, Zool. Anz. xxvii: *C. dubia*, p. 631, figg. 2a & b; SARS, Zool. Jahrb. Syst. xix: *C. cornuta*, p. 339, pl. xi, figg. 9-11; STINGELIN, op. cit. xxi.
- Chydorus barroisi* var. *lævis* n. var. p. 636, figg. 9 & 9a; SARS, op. cit. xix: *C.*, variation in Indian region, p. 357, pl. xiii, figg. 32 & 33, *sphericus* var. *parvus*, p. 359, pl. xiii, fig. 34; STINGELIN, op. cit. xxi.
- C. robustus*, Sumatra, p. 360, pl. xiii, figg. 35-38; STINGELIN, t. c. n. sp.
- Dadaya macrops*, p. 587, pl. xx, figg. 11 & 12; STINGELIN, op. cit. xx: *D. macrops*, p. 356; STINGELIN, op. cit. xxi.
- Daphnia hyalina*, forma *pavesii*, p. 639, 1 fig.; BREHM & ZEDERBAUER, Verh. Ges. Wien liv: *D.* classification of alpine forms discussed, pp. 122-137, text-figg.; EKMAN, Zool. Jahrb. Syst. xxi: *D. pulex-pennata*, variation under influence of temperature, p. 439; OSTWALD, Arch. Entwicklmech. xviii: *D. pulex*, formation and structure of ephippium; WOLFF, Biol. Centrbl. xxiv, pp. 644, 697 & 761, 11 text-figg.: *D. pulex*, reactions to light and heat; YERKES, Mark Anniversary Volume, pp. 359-377.
- Diaphanosoma excisum*, p. 337, pl. xi, figg. 3 & 4, *sarsi*, p. 338, pl. xi, fig. 5, var. *volzi* n. var. p. 339, pl. xi, figg. 6-8; STINGELIN, Zool. Jahrb. Syst. xxi.
- Drepanothrix dentata*, p. 209, fig. 4; ZACHARIAS, Forschber. Plon xi.
- Dunhevedia crassa*, p. 357, pl. xiii, figg. 30 & 31; STINGELIN, Zool. Jahrb. Syst. xxi.
- Evadne*, notes and key to spp., p. 41; STEBBING, Tr. Linn. Soc. London (2) Zool. x.
- Holopedium gibberum*, p. 57, pl. i, figg. 3 & 4; STINGELIN, Rev. Suisse Zool. xii.
- H. amazonicum*, Amazons; STINGELIN, Zool. Jahrb. Syst. xx, p. 577, pl. xx, figg. 1 & 2, and Rev. Suisse Zool. xii, p. 55, pl. i, figg. 1 & 2, n. sp.
- Hyalodaphnia cristata*, variation under influence of temperature, p. 421; OSTWALD, Arch. Entwicklmech. xviii.
- Ilyocryptus halyi* var. p. 346; STINGELIN, Zool. Jahrb. Syst. xxi.
- Macrothrix spinosa*, p. 633, figg. 5a & b; SARS, op. cit. xix.
- M. affinis*, Natal, p. 127, pl. viii, figg. 63-65; BRADY, P. Zool. Soc. London

- 1904, ii: *M. cornuta*, Turkestan, p. 508, figg. on pls. xxviii & xxix; DADAY, Zool. Jahrb. Syst. xix: *M. schauinslandi*, New Zealand, p. 632, figg. 4a & b; SARS, Zool. Jahrb. Syst. xix: **n. spp.**
- Moina propinqua*, p. 345, pl. xii, fig. 16; STINGELIN, Zool. Jahrb. Syst. xxi.
- Moinodaphnia brasiliensis*, Amazons, p. 580, pl. xx, figg. 3 & 4; STINGELIN, op. cit. xx, **n. sp.**
- Pleuroxus hastirostris*, New Zealand, p. 635, figg. 8a-c; SARS, op. cit. xix, **n. sp.**
- Podon leuckarti* attacking post-larval fish, p. 279; SCOTT, Rep. Fish. Board Scotland xxii (3).
- Pseudosida szalay*, p. 335, pl. xi, figg. 1 & 2; STINGELIN, Zool. Jahrb. Syst. xxi.
- Saycia* **n. g.** (*Chydoridae*) p. 4, *orbicularis*, Melbourne, p. 5 & pl.; SARS, Arch. Naturv. Christian. xxvi, No. 8, **n. sp.**
- Simocephalus vetulus* var. *spinosulus* **n. var.** p. 342, *serrulatus* var. *productifrons* **n. var.** p. 343, pl. xi, figg. 12 & 13, pl. xii, fig. 14; STINGELIN, Zool. Jahrb. Syst. xxi.

## 2. COPEPODA.

- [See also BROWNE & VALLENTIN (26), ENTZ (57), GURNEY (78), KANE (100), LINDER (114), SCOTT in LINDSAY (115), LO BIANCO (116), MAR. BIOL. ASS. (125), MEISSNER (131), MONTI (136), NOBRE (145), PAVESI (155), PEARSON (157), RICHARD (171), A. SCOTT (190), SKORIKOW (197), STINGELIN (216), ULMER (224), VIRÉ (228), WESENBERG-LUND (234), WOLF (240), ZACHARIAS (249), ZYKOFF (253 & 254).]
- Achteres sandrae* (on *Lucioperca sandra*), Finland, p. 22, pl. i, figg. 1-14; GADD, Acta Soc. Faun. Fenn. xxvi (8), **n. sp.**
- Ætideus tenuirostris*, N. Atlantic, p. 116; WOLFENDEN, J. Mar. Biol. Ass. vii, **n. sp.**
- Alteutha interrupta*, p. 62, pls. xxxvi & xxxvii, *depressa*, p. 64, pl. xxxviii; SARS, Crust. Norway v.
- Amymone rubra*, p. 5, pl. i, fig. 13; BRADY, Tr. Soc. Northumb. i (1).
- Aspidiscus littoralis*, Norway, p. 79, pls. xlvi & xlvii; SARS, Crust. Norway v, **n. sp.**
- Attheyella grandidieri*, p. 639, figg. 12, *a-l*; SARS, Zool. Jahrb. Syst. xix.
- A. natalis*, Natal, p. 124, pl. vii, figg. 28-33; BRADY, P. Zool. Soc. London 1904, ii: *A. coronata*, Molokai, p. 641, figg. 13, *a-k*; SARS, Zool. Jahrb. Syst. xix: **n. spp.**
- Augaptilus fungiferus* [locality?], p. 597; STEUER, Zool. Anz. xxvii: *A. magnus*, p. 122, *gibbus*, p. 122, N. Atlantic; WOLFENDEN, J. Mar. Biol. Ass. vii: **n. spp.**
- Boeckella propinqua*, p. 636, figg. 10, *a-h*, *dilatata*, p. 638, figg. 11, *a-e*, New Zealand; SARS, Zool. Jahrb. Syst. xix, **n. spp.**
- Brachiella* [see *Thynnica*.]
- Bradya typica*, p. 46, pl. xxv; SARS, Crust. Norway v.
- B. dilatata*, Norway, p. 47, pl. xxvi; SARS, t. c. **n. sp.**
- Caligus lacustris*, p. 15, pl. i, figg. 26-30; GADD, Acta Soc. Faun. Fenn. xxvi (8).
- Candacia rotunda*, N. Atlantic, p. 118, pl. ix, figg. 10 & 11; WOLFENDEN, J. Mar. Biol. Ass. vii, **n. sp.**
- Canthocamptus arcticus*, p. 32, pl. i, fig. 1, *cuspidatus*, p. 33, pl. i, fig. 2, *schmeili* var. *lapponica*, **n. var.**, p. 35, pl. i, figg. 3-15; EKMAN, Zool. Jahrb. Syst. xxi.
- C. subterraneus*, Crimea, p. 323, text-figg. 1-8; CARL, Zool. Anz. xxviii, **n. sp.**

- Centropages arabicus*, p. 371, pl. xvi, figg. 1-9, pl. xvii, fig. 1, *notoceras*, p. 373, pl. xvii, figg. 2-10, pl. xviii, fig. 1, Arabian Sea; CLEVE, *Arkiv Zool.* i, n. spp.
- Chiridius vanhoeffeni*, N. Atlantic, p. 117, pl. ix, fig. 3; WOLFENDEN, *J. Mar. Biol. Ass.* vii, n. sp.
- Chirognatha*, n. sect. of *Harpacticoida*, p. 47; SARS, *Crust. Norway* v.
- Corycaeus erythraeus*, Red Sea, p. 376, pl. xviii, figg. 2-8, pl. xix, figg. 1-3; CLEVE, *Arkiv Zool.* i, n. sp.
- Ctenocalanus vanus*, p. 125, pl. ix, fig. 9; WOLFENDEN, *J. Mar. Biol. Ass.* vii.
- Cyclops salinus*, p. 7, pl. i, figg. 1-3; BRADY, *Tr. Soc. Northumb.* i (1): *C. leuckartii*, Natal, p. 122; BRADY, *P. Zool. Soc. London* 1904, ii: *C. varicans*, p. 642, fig. 14, *fimbriatus* var. *poppei*, fig. 15; SARS, *Zool. Jahrb. Syst.* xix.
- C. pusillus*, p. 122, pl. vi, figg. 11-18, *gibsoni*, p. 123, pl. vi, figg. 1-10, Natal; BRADY, *P. Zool. Soc. London* 1904, ii, n. spp.
- Dactylopoda*, n. subsect. of *Harpacticoida Chirognatha*, p. 48; SARS, *Crust. Norway* v.
- Diaptomus similis*, p. 502, pl. xxviii, figg. 66-71, *lobatus*, p. 504, pl. xxviii, figg. 72-76; DADAY, *Zool. Jahrb. Syst.* xix.
- D. steuerei*, Gardasee, p. 637, 2 figg.; BREHM & ZEDERBAUER, *Verh. Ges. Wien* liv: *D. lehmeri*, Mexico, p. 889, text-figg. 1-4; PEARSE, *Amer. Natural.* xxxviii : n. spp.
- Ectinosoma sarsi*, p. 30, pl. xvi, *propinquum*, p. 32, pl. xvii, fig. 2, *herdmani*, p. 33, pl. xviii, fig. 2, *melaniceps*, p. 34, pl. xix, fig. 1, *normani*, p. 35, pl. xix, fig. 2, *curticorne*, p. 36, pl. xx, fig. 1, *gothiceps*, p. 37, pl. xx, fig. 2, *gracile*, p. 39, pl. xxii, fig. 1; SARS, *Crust. Norway* v.
- E. neglectum*, p. 31, pl. xvii, fig. 1, *elongatum*, p. 32, pl. xviii, fig. 1, *mixtum*, p. 37, pl. xxi, fig. 1, *brevirostre*, p. 38, pl. xxi, fig. 2, Norway; SARS, t. c. n. spp.
- Ectocyclops* n. g. (near *Cyclops*), p. 124, *rubescens*, Natal, p. 124, pl. vi, figg. 19 & 20, pl. vii, figg. 21-27; BRADY, *P. Zool. Soc. London* 1904, ii, n. sp.
- Ergasilus sieboldii*, p. 4, pl. i, figg. 20-25, *biuncinatus*, p. 11, pl. i, figg. 15-19; GADD, *Acta Soc. Faun. Fenn.* xxvi (8).
- Eucalanus atlanticus*, N. Atlantic, p. 113, pl. ix, figg. 3 & 4; WOLFENDEN, *J. Mar. Biol. Ass.* vii, n. sp.
- Eucheta norvegica*, p. 133, text-fig. 1 (3, 4 & 8), *glacialis*, p. 134, text-fig. 1 (1, 2 & 7), *barbata*, p. 135, text-fig. 1 (5, 6 & 9); WOLFENDEN, t. c.
- Euchrella carinata*, p. 115, *curticauda*, var. *atlantica*, p. 116; WOLFENDEN, t. c.
- Eudactylina minuta* (on *Trygon pastinaca*), Dornoch Firth, p. 275, pl. xvii, figg. 1-11; SCOTT, *Rep. Fish. Board Scotland* xxii (3), n. sp.
- Faroella* n. g., *multiserrata*, N. Atlantic, p. 117, pl. ix, figg. 26-28; WOLFENDEN, *J. Mar. Biol. Ass.* vii, n. sp.
- Gaetanus caudani* (?), p. 114, pl. ix, figg. 20-22; WOLFENDEN, t. c.
- G. major*, N. Atlantic, p. 114, pl. ix, figg. 7 & 8; WOLFENDEN, t. c. n. sp.
- Gaidius major*, p. 114, pl. ix, figg. 7 & 8, *pungens*, p. 131, pl. ix, fig. 43; WOLFENDEN, t. c.
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- Harpacticus chelifer*, p. 6, pl. ii, figg. 9-16; BRADY, *Tr. Soc. Northumb.* i (1): *H. chelifer*, p. 49, pls. xxvii & xxviii, *uniremis*, p. 51, pl. xxix, *gracilis*, p. 52, pl. xxx, fig. 1, *flexus*, p. xxx, fig. 2; SARS, *Crust. Norway* v.
- Heteranthesius* n. nom. for *Paranthesius* T. Scott, non Claus, p. 259; SCOTT, *Rep. Fish. Board Scotland* xxii (3).
- Heterorhabdus longicornis*, p. 124, pl. ix, fig. 34; WOLFENDEN, *J. Mar. Biol. Ass.* vii.
- H. grandis*, N. Atlantic, p. 120, pl. ix, fig. 36; WOLFENDEN, t. c. n. sp.



- Idyidae* n. fam. (*Harpacticoida Chirognatha*), p. 78; SARS, Crust. Norway v.
- Jeanella* n. nom. for *Platypsyllus* T. Scott, non Ritsema nec Westwood, p. 259; SCOTT, Rep. Fish. Board Scotland xxii (3).
- Labidocera similis*, off Karachi, p. 378, pl. xix, figg. 4-6; CLEVE, Arkiv Zool. i, n. sp.
- Laophonte mohammed*, identified with *Onychocamptus heteropus*, distribution, p. 246; ZYKOFF, Zool. Anz. xxviii.
- Lernæa lusci*, p. 277, pl. xvii, figg. 12 & 13; SCOTT, Rep. Fish. Board Scotland xxii (3).
- Lernæenicus sardinæ*, on Sardine, Vendée, p. 1000; BAUDOUIN, C.R. Ac. Sci. cxxxix, n. sp. (?)
- Lernæopoda salmonea*, p. 28, pl. ii, figg. 13-22; GADD, Acta Soc. Faun. Fenn. xxvi (8).
- L. extumescens* (on *Coregonus* spp.), Finland, p. 31, pl. ii, figg. 1-12; GADD, t. c. n. sp.
- Limnocalanus grimaldii*, p. 339, text-fig. 1; ZYKOFF, Zool. Anz. xxviii.
- Lophothrix frontalis*, p. 120, pl. ix, figg. 41 & 42; WOLFENDEN, J. Mar. Biol. Ass. vii.
- L. securifrons*, N. Atlantic, p. 120, pl. ix, figg. 12-15; WOLFENDEN, t. c. n. sp.
- Lucicutia grandis* (?), p. 121, pl. ix, figg. 37 & 38, *magna*, p. 121, pl. ix, figg. 35 & 35a; WOLFENDEN, J. Mar. Biol. Ass. vii.
- L. maxima* [locality ?], p. 596, text-fig. 4; STEUER, Zool. Anz. xxvii: *L. atlantica*, N. Atlantic, p. 121; WOLFENDEN, J. Mar. Biol. Ass. vii: n. spp.
- Marenzelleria affinis*, Turkestan, p. 487, pl. xxvii, figg. 6-25; DADAY, Zool. Jahrb. Syst. xix, n. sp.
- Megacalanus* n. g., *princeps*, N. Atlantic, p. 112, pl. ix, figg. 1 & 2; WOLFENDEN, J. Mar. Biol. Ass. vii, n. sp.
- Metridia normani*, p. 125, pl. ix, figg. 39 & 40; WOLFENDEN, t. c.
- Microsetella norvegica*, p. 44, pl. xxiv; SARS, Crust. Norway v.
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- M. dubia*, Forth and Clyde, p. 247, pl. xiii, fig. 14, pl. xiv, figg. 16-18; SCOTT, t. c. n. sp.
- Nitocra paradoxa*, Turkestan, p. 492, figg. on pls. xxvii & xxviii; DADAY, Zool. Jahrb. Syst. xix, n. sp.
- Onychocamptus* [see also *Laophonte*] *heteropus*, p. 497, pl. xxviii, figg. 49-65; DADAY, t. c.
- Paracartia grani*, Norway, p. 4, pls. i-iv; SARS, Bergens Mus. Aarbog 1904, No. 4, n. sp.
- Paranthessius* [see *Heteranthessius*].
- Parategastes* n. g. (*Tegastidae*), p. 72, *sphaericus*, p. 73, pl. xliii; SARS, Crust. Norway v.
- Parangaptus* n. g., *buchani*, N. Atlantic, p. 123, pl. ix, figg. 44 & 45; WOLFENDEN, J. Mar. Biol. Ass. vii, n. sp.
- Peltidiidae*, p. 61; SARS, Crust. Norway v.
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- Phyllopus bidentatus*, p. 124, pl. ix, fig. 16; WOLFENDEN, J. Mar. Biol. Ass. vii.
- Pionodesmotes phormosomæ* (on *Phormosoma uranus*), p. 61, pl. x; BONNIER, Res. Camp. Scient. Monaco xii.
- Platypsyllus* [see *Jeanella*].
- Pontopolites typicus*, p. 6, pl. i, figg. 4-12; BRADY, Tr. Soc. Northumb. i (1).
- Porcellidiidae* n. fam. (*Harpacticoida Chirognatha*), p. 74; SARS, Crust. Norway v.

- Porcellidium fimbriatum*, p. 76, pls. xliv & xlv; Sars, t. c.  
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*Scolecithrix similis*, p. 119, pl. ix, figg. 5 & 6, *atlanticus*, p. 120, N.  
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*Spheronella paradoxa*, p. 251, pl. xv, figg. 17-19, *amphilochi*, p. 253, pl. xv,  
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### 3. BRANCHIURA.

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## 4. OSTRACODA.

[See also CLEVE (43), CUNNINGTON (48), ENTZ (57), †FOX-STRANGWAYS (59), †GRABAU (67), †JUKES-BROWNE (96), †LAMPLUGH (110), LO BIANCO (116), MAR. BIOL. ASS. (125), MONTI (136), †MUNTHE (139 & 140), PAVESI (155), †RANGE (163), RICHARD (171), ULMER (224), ZACHARIAS (249).]

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- †*Aechmina jonesi*, Silurian, Victoria, p. 308, pl. xiv, figg. 11a & b; CHAPMAN, P. Soc. Victoria xvii, **n. sp.**
- †*Aparchites subovatus*, p. 299, pl. xiv, figg. 10a-c; CHAPMAN, t. c.
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- Cythereis sicula*, p. 525, pl. xxx, figg. 123-142; DADAY, Zool. Jahrb. Syst. xix : †*C. cornuta* var. *americana* n. var., p. 122, pl. xxxvii, figg. 29-33; ULRICH & BASSLER, Maryland Geol. Survey, Miocene, 1904.
- †*C. alaris*, Miocene, Maryland, p. 123, pl. xxxviii, figg. 34-36; ULRICH & BASSLER, t. c. n. sp.
- †*Cytheridea longicaudata*, Cretaceous, Pondoland, p. 234, pl. xxix, fig. 21; CHAPMAN, Ann. S. African Mus. iv (5) : †*C. subovata*, p. 124, pl. xxxvii, figg. 1-8, *chesapeakeensis*, p. 125, pl. xxxvii, fig. 9, Miocene, Maryland; ULRICH & BASSLER, Maryland Geol. Survey, Miocene, 1904 : n. spp.
- †*Cytherideis ashermanni*, p. 126, pl. xxxvii, figg. 10-16, *cylindrica*, p. 126, pl. xxxvii, fig. 17, *subæqualis*, p. 127, pl. xxxvii, fig. 28, *semicircularis*, p. xxxvii, figg. 18-20, *longula*, p. 128, pl. xxxvii, figg. 21-27; ULRICH & BASSLER, t. c. n. spp.
- †*Cytheropteron australiense*, Jurassic, W. Australia, p. 203, pl. xxiii, figg. 7a, b; CHAPMAN, P. Soc. Victoria xvi : †*C. elongato-concentricum*, Cretaceous, Pondoland, p. 235, pl. xxix, figg. 23, 23a; CHAPMAN, Ann. S. African Mus. iv (5) : †*C. nodosum*, Miocene, Maryland, p. 129, pl. xxxviii, figg. 37-40; ULRICH & BASSLER, Maryland Geol. Survey, Miocene, 1904 : n. spp.
- Eucandona stummeri*, Turkestan, p. 515, pl. xxix, figg. 98-111; DADAY, Zool. Jahrb. Syst. xix, n. sp.
- †*Isochilina labrosa*, p. 299, pl. xvi, figg. 3a, b; CHAPMAN, P. Soc. Victoria xvii.
- Limnocythere dubiosa*, p. 521, figg. on pls. xxix & xxx, 5 text-figg.; DADAY, Zool. Jahrb. Syst. xix.
- †*Loxococoncha elongata*, p. 200, pl. xxiii, figg. 2a, b, *jurassica*, p. 201, pl. xxiii, figg. 6a, b, Jurassic, W. Australia; CHAPMAN, P. Soc. Victoria xvi, n. spp.
- †*Macrocypris simplex*, p. 233, pl. xxix, figg. 22a, b; CHAPMAN, Ann. S. African Mus. iv (5) : †*M. vinei* (?), p. 310, pl. xiv, figg. 7a-c; CHAPMAN, P. Soc. Victoria xvii.
- †*M. flexuosa*, Silurian, Victoria, p. 309, pl. xiii, fig. 6; CHAPMAN, t. c. n. sp.
- †*Paradoxorhyncha* n. g. (near *Cytheropteron*), p. 202, *foveolata*, Jurassic, W. Australia, p. 202, pl. xxiii, figg. 1a, b; CHAPMAN, op. cit. xvi, n. sp.
- Potamocypris almásiyi*, Turkestan, p. 519, pl. xxix, figg. 89-97; DADAY, Zool. Jahrb. Syst. xix, n. sp.
- †*Primitia trigonatis*, p. 300, pl. xv, figg. 8a-c, *punctata*, p. 301, pl. xiii, figg. 2a-c, *matutina*, p. 302, pl. xiii, figg. 5a-b, *reticristata*, p. 303, pl. xiii, figg. 7a-c, *obsoleta*, p. 303, pl. xiii, figg. 8a-c, *elongata* var. *nuda*, p. 304, pl. xiv, figg. 3a-c, *paucipunctata*, p. 305, pl. xiv, figg.

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- Stenocypris chevreuxii*, Britain, p. 127, pl. viii, figg. 58-62 ; BRADY, P. Zool. Soc. London 1904, ii.
- S. perarmata*, Natal, p. 126, pl. viii, figg. 50-57 ; BRADY, t. c. n. sp.
- †*Xestoleberis wrightii* var. *oblonga* n. var., p. 308, pl. xv, figg. 1a & b ; CHAPMAN, P. Soc. Victoria xvii.
- †X. *holliana*, p. 306, pl. xiii, figg. 3a-c, *lilydalensis*, p. 307, pl. xiv, figg. 1a-c, 5a-c, 8a, b, Silurian, Victoria ; CHAPMAN, t. c. n. spp.

## 5. CIRRIPEDIA.

- [See also †COUFFON (45), †DENNANT & KITSON (52), †FOX-STRANGWAYS (59), GRUVEL (72-75), †HOLMES (90), †JUKES-BROWNE (96), MAR. BIOL. ASS. (125), NOBRE (145), PATIENCE (152), STEAD (205).]
- Revision of Cirripedia with figg. and descr. of all recent spp. ; GRUVEL, Monogr. Cirrhipèdes.
- Theostraca* n. nom. for *Cirripedia* ; GRUVEL, t. c.
- Aerothoracica* n. nom. for *Abdominalia* Darwin ; GRUVEL, t. c.
- Alcippe lampas*, anatomy ; GENTHE, Zool. Jahrb. Syst. xxi, pp. 181-200, pls. xi & xii.
- Balanus* sp., in nearly fresh water, Norfolk, p. 645 ; GURNEY, Tr. Norfolk Soc. vii : †*B. concavus*, Miocene, p. 293, text-figg. 1-3 ; CUSHMAN, Amer. Geol. xxxiv : †*B. concavus*, p. 94, pls. xxxiii & xxxiv ; MARTIN, Maryland Geol. Survey, Miocene, 1904 : †*B. sp.*, Miocene, S. Russia, p. 72, pl. iv, figg. 51-54 ; MIKHAILOVSKY, Trudui geol. Kom. xiii.
- Lepas pectinata*, Cypris stage, p. 42, text-figg. 3-7 ; STEBBING, Tr. Linn. Soc. London (2) Zool. x.
- Pæcilasma aurantium*, anatomy and later larval stages ; HOFFENDAHL, Zool. Jahrb. Anat. xx, pp. 363-398, pls. xxiii-xxvi.
- †*Pollicipes siluricus*, Utica shale, New York, p. 578, pl. ii, figg. 16-24 ; RUEDEMANN, Rep. N. York Mus. liv (3), n. sp.
- Proteolepas hanseni* (descr. from larvæ), Trieste, p. 228 ; STEUER, Zool. Anz. xxviii, n. sp.
- Sacculina carcini*, early stages of development ; ABRIC, C.R. Ac. Sci. cxxxix, pp. 430-432.
- Scalpellum pollicipedoides*, near Jedan Ids., p. 92, figg. 4-6, *aries* (not descr.), p. 92 ; HOEK, P. Ak. Amsterdam vii, n. spp.
- †*Turritelepas* (?) *filosus*, Utica shale, New York, p. 577, pl. ii, figg. 13-15 ; RUEDEMANN, Rep. N. York Mus. liv (3), n. sp.

## GIGANTOSTRACA

(XIPHOSURA, TRILOBITA, EURYPTERIDA).

## I. TITLES.

1. AGNUS, —. *Palæoblattina douvillei*, considéré d'abord comme un Insecte est un point générale de Trilobite. C.R. Ac. Sci. cxxxviii, pp. 398 & 399.
2. BEECHER, CHARLES E. Note on a new Permian Xiphosuran from Kansas. Amer. J. Sci. (4) xviii, pp. 23 & 24, 1 fig. in text.
3. BOLTON, H. The Palæontology of the Lancashire Coal Measures. Tr. Manchester Geol. Soc. xxviii, pp. 378-415 & 578-650.
4. CARLSON, A. J. The nervous origin of the heart-beat in *Limulus*, and the nervous nature of co-ordination or conduction in the heart. Amer. J. Physiol. xii, pp. 67-74, 1 text-fig.
5. CLARKE, JOHN M. Notes on Paleozoic crustaceans. Rep. N. York Mus. liv (1), pp. 83-119, pls. i & iv (1902).
6. DELGADO, J. F. NERY. Faune cambrienne du Haut-Alemtejo (Portugal). Commun. geol. Portugal v, pp. 307-374, pls. i-vi.
7. DESTINEZ, P. Faune et flore des psammites du Condroz (Famennien). Ann. Soc. geol. Belgique xxxi, Mem. pp. 247-257.
8. DREVERMANN, FR. Ueber Untersilur in Venezuela. N. Jahrb. Min. 1904 (1), pp. 91-93, pl. x.
9. ETHERIDGE, R. Trilobite remains collected in the Florentine valley, West Tasmania, by Mr T. Stephens, M.A. Rec. Austral. Mus. v (2), pp. 98 (24)-101 (27), pl. x.
10. FOX, HOWARD. Supplementary notes on the distribution of fossils on the north coast of Cornwall, south of the Camel. Tr. geol. Soc. Cornwall xii, pp. 752-756, 1 text-fig.
11. GRABAU, AMADEUS W. Guide to the geology and paleontology of Niagara Falls and vicinity. Rep. N. York Mus. liv (4), pp. 1-284, 18 pls., 190 text-figg.
12. GRIFFITH, JOHN. Some Rhondda cairns. Tr. Cardiff Soc. xxxvi, pp. 118-125, pls. i-iv. [Telson of Gigantostracan found in burial place of Bronze Age.]
13. HARBORT, E. Ueber mitteldevonische Trilobitenarten im Iberger Kalk bei Grund im Harz. Zeitschr. Deutsch. geol. Ges. lv (4), pp. 475-485, pls. xxiii & xxiv.
14. HAYDEN, H. H. The Geology of Spiti, with parts of Bashahr and Rupshu. Mem. geol. Surv. India xxxvi (1), pp. 129+6, 18 plates.
15. HIND, WHEELTON. On the homotaxial equivalents of the Lower Culm of North Devonshire. Geol. Mag. (5) i, pp. 392-403, 2 text-figg.
16. HOLM, G. Kinnekulles Berggrund, in "Kinnekulle, dess Geologi och den tekniska användningen af dess Bergarter." Sveriges geol. Unders. Afh. Ser. C., No. 172, pp. 1-76, 2 pls. & figg. in text.
17. KITTL, ERNST. Geologie der Umgebung von Sarajevo. Jahrb. geol. Reichsanst. liii, pp. 515-738, 1 map, pls. xxi-xxiii, & 47 figg. in text.

18. MAILLEUX, EUGÈNE. Quelques mots sur les Trilobites du Couvinien des environs de Couvin. Bull. Soc. Belge Geol. xvii, Pr.-verb. pp. 579-582, 1 text-fig.
19. MUNTHE, HENR. Stratigrafiska studier öfver Gotlands silurlager. Geol. Foren. Stockholm Forh. xxiv, pp. 221-273, text-figg. (1902). Reprinted as Sveriges geol. Unders. Afh., Ser. C., No. 192.
20. PARKINSON, J. H. The zoning of the Culm in South Germany. Geol. Mag. (5) i, pp. 272-276.
21. REED, F. R. COWPER. The Lower Palæozoic Trilobites of the Girvan district, Ayrshire. Part II. Pp. 49-96, pls. vii-xiii. Pal. Soc. Mon. lviii, 1904.  
Quoted hereafter as Tril. Girvan ii.
22. ——. Sedgwick Museum Notes. New fossils from the Haverfordwest district. Geol. Mag. (5) i, pp. 106-109, pl. v.
23. ——. Sedgwick Museum Notes. New fossils from the Haverfordwest district, ii. T. c. pp. 383-388, pl. xii.
24. SMITH, FREDERIC F. Notes on a bicaudate specimen of *Limulus polyphemus*. Tufts Coll. Stud. No. 8, pp. 379-382, 1 text-fig.
25. SMYČKA, F. Novější nálezy v čelechovském devonu. Vestník Klub. Prostejove vii, pp. 62-72, pl. i.
26. WALCOTT, CH. D. *Asaphus emoryi*. Palæontologia Universalis. Fasc. ii, pl. 28 & text.
27. WALTHER, JOHANNES. Die fauna der Solnhofener Plattenkalke bionomisch betrachtet. Denk. Ges. Jena xi (Festschr. .... Ernst Haeckel), pp. 133-214, pl. viii, 21 text-figg.

## II. SUBJECT-INDEX.

Physiology of heart in *Limulus*; CARLSON (4).  
 Bicaudate abnormality in *Limulus*; SMITH (24).  
 Telson of undetermined Gigantostracan found in burial place of Bronze Age; GRIFFITH (12).  
*Palæoblattina douvillei*, described as an Insect, is part of an Asaphid Trilobite; AGNUS (1).

## III. DISTRIBUTION.

Jurassic, Solnhofen Limestones, *Limulus*; WALTHER (27).  
 Palæozoic, Niagara region, *Trilobita* and *Eurypterida*; GRABAU (11).  
 Permian, Kansas, *Prestwichia*, n. sp.; BEECHER (2).  
 Carboniferous, Lower Culm, Devonshire, *Trilobita*; HIND (15): Culm, Sarajevo, *Trilobita*, n. sp.; KITTL (17): Culm, S. Germany, *Trilobita*; PARKINSON (20): Coal Measures, Lancashire, *Xiphosura*; BOLTON (3).  
 Devonian, Cornwall, *Trilobita*; FOX (10): Couvin, *Trilobita*, n. sp.; MAILLEUX (18): Moravia, *Trilobita*; SMYČKA (25): Upper Devonian, Condroz, *Eurypterida*; DESTINEZ (7): Middle Devonian, "Iberger kalk," *Trilobita*; HARBORT (13).  
 Silurian and Cambrian, Kinnekulle, Sweden, *Trilobita*; HOLM (16).  
 Silurian, *Trilobita*; WALCOTT (26): Haverfordwest, *Trilobita*, n. sp.; REED (22): Haverfordwest, *Trilobita*; REED (23): Silurian, Girvan, Ayrshire, *Trilobita*, n. spp.; REED (21): Gothland, *Trilobita*, *Eurypterida*;

MUNTHE (19): Silurian, Spiti, Himalayas, *Trilobita*; HAYDEN (14): Upper Silurian or Old Red Sandstone, undetermined Gigantostracan; GRIFFITH (12): Lower Silurian, Venezuela, *Trilobita*, n. sp.; DREVERMANN (8): Salina, New York, *Xiphosura*, n. sp.; CLARKE (5).

Cambrian, Portugal, *Trilobita*, n. spp.; DELGADO (6): Spiti, Himalayas, *Trilobita*; HAYDEN (14): Cambrian (?), Tasmania, *Trilobita*, n. sp.; ETHERIDGE (9).

#### IV. SYSTEMATIC.

##### XIPHOSURA.

[See also †BOLTON (3), †WALTHER (27).]

*Limulus*, physiology of heart; CARLSON, Amer. J. Physiol. xii, pp. 67-74, 1 text-fig.: *L. polyphemus*, abnormal specimen; SMITH, Tufts Coll. Stud. No. 8, pp. 379-382, 1 text-fig.

†*Prestwichia signata*, Permian, Kansas, p. 23, fig. 1; BEECHER, Amer. J. Sci. (4) xviii, n. sp.

†*Pseudoniscus roosevelti*, Salina, New York, p. 89, pls. i & ii, figg. 1-3; CLARKE, Rep. N. York Mus. liv (1), n. sp.

##### †TRILOBITA.

[See also AGNUS (1), GRABAU (11), HAYDEN (14), HIND (15), HOLM (16), MUNTHE (19), PARKINSON (20).]

*Acidaspis pigra*, p. 477, pl. xxiii, figg. 1, 1a-c; HARBORT, Zeitschr. Deutsch. geol. Ges. lv (4).

*Arethusina konincki*, p. 83, pl. xi, figg. 14 & 15; REED, Tril. Girvan ii.

*Asaphus* sp., p. 49, pl. vii, fig. 9; REED, t. c.: *A. (Isotelus) emoryi*, type specimen re-figured; WALCOTT, Pal. Univ. Fasc. ii, pl. 28.

*Bohemilla* sp., p. 53, pl. viii, fig. 4; REED, Tril. Girvan ii.

*Bronteopsis scotica*, p. 94, pl. xiii, figg. 5-13; REED, t. c.

*B. ardmillanensis*, Silurian, Ayrshire, p. 92, pl. xiii, figg. 1-4; REED, t. c. n. sp.

*Bronteus granulatus*, p. 483, pl. xxiv, figg. 1-7, *flabellifer*, p. xxiv, fig. 8; HARBORT, Zeitschr. Deutsch. geol. Ges. lv (4): *B. andersoni*, p. 87, pl. xii, figg. 8-11, sp. ind. p. 91, pl. xii, fig. 15, sp. ind. p. 91, pl. xii, fig. 16; REED, Tril. Girvan ii.

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*Cyclopyge armata*, p. 51, pl. vii, figg. 11-14, pl. viii, fig. 1, *rediviva*, p. 52, pl. viii, figg. 2 & 3; REED, Tril. Girvan ii.

*Cyphaspis ceratophthalma*, p. 479, pl. xxiii, figg. 3, 3a, 4, 4a, 5, 5a-c, *convexa*, p. 482, pl. xxiii, figg. 2, 2a-c; HARBORT, Zeitschr. Deutsch. geol. Ges. lv (4): *C. megalops*, p. 82; REED, Tril. Girvan ii.

*Dikelocephalus florentinensis*, Cambrian (?), Tasmania, p. 25, pl. x, fig. 4; ETHERIDGE, Rec. Austral. Mus. v (2), n. sp.

*Encrinurus multisegmentatus*, p. 387, pl. xii, fig. 5; REED, Geol. Mag. (5) i.

*Hicksia* n. g. (near *Liostracus*), p. 327, *elvensis*, p. 333, figg. on pls. i, ii, iv & v, *sphaerica*, p. 335, figg. on pls. i-vi, *transtaganensis*, p. 337, figg. on pls. i, ii, v, vi, *walcotti*, p. 338, figg. on pls. ii-v, *castroi*, p. 340, figg. on pls. i, v, vi, *hughesi*, p. 341, figg. on pls. ii, v, vi, *barroisi*, p. 342, figg. on pl. ii, *devalquei*, p. 343, figg. on pls. i, ii, v, *minuta*, p. 344, figg. on pls. ii & v, Cambrian, Portugal; DELGADO, Commun. geol. Portugal v, n. spp.



- Homalonotus barratti*, p. 753, text-fig.; FOX, Tr. geol. Soc. Cornwall xii.
- Ilænus amulus*, p. 54, pl. viii, fig. 5, var. p. 55, pl. viii, figg. 6-11, *barrattensis*, p. 58, pl. ix, figg. 1 & 2, *bowmani*, p. 59, var. *longicapitatus*, p. 60, *davisi*, p. 60, *latus*, p. 63, pl. ix, figg. 6 & 7, *macallumi*, p. 65, pl. ix, figg. 8 & 9, *murchisoni*, p. 65, pl. ix, figg. 10 & 12, *newilis*, p. 66, pl. ix, fig. 13, *portlocki*, p. 67, pl. ix, figg. 14 & 16, pl. x, figg. 1 & 1a, *thomsoni*, p. 70, pl. x, figg. 6-8, sp., cf. *oculosus*, p. 71, pl. x, figg. 9-11, sp., cf. *perovalis*, p. 72, pl. x, fig. 12, sp. ind. p. 73, pl. x, fig. 13; REED, Tril. Girvan ii.
- I. balclatchiensis*, p. 56, pl. viii, figg. 12-16, *extensus*, p. 61, pl. ix, figg. 3-5, *shallochensis*, p. 68, pl. x, figg. 2-5, Silurian, Ayrshire; REED, t. c. n. spp.
- Lichas (Corydocephalus) anglicus*, p. 95, *geikiei*, p. 96, pl. xiii, figg. 14, 14a, pl. xiv, fig. 1; REED, t. c.
- Menocephalus? (Torngquistia)* sp., cf. *nicholsoni*, p. 86, pl. xii, figg. 3-7; REED, t. c.
- Metadoxides bornemanni*, p. 345, pl. iii, fig. 33, pl. vi, fig. 1; DELGADO, Commun. geol. Portugal v.
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- Niobe* sp., p. 26, pl. x, figg. 1-3; ETHERIDGE, Rec. Austral. Mus. v (2).
- Olenellus* sp., p. 325, pl. iv, fig. 9, pl. v, fig. 9; DELGADO, Commun. geol. Portugal v.
- O. macphersoni*, Cambrian, Portugal, p. 347, figg. on pls. iv-vi; DELGADO, t. c. n. sp.
- Olenopsis* sp., p. 325, pl. i, fig. 8; DELGADO, t. c.
- Paradoxides*, aff. *abenacus*, p. 322, pl. i, fig. 10, pl. v, fig. 35, aff. *spinosus*, p. 323, pl. i, figg. 4 & 12, aff. *tessini*, p. 324, pl. i, figg. 7 & 9, pl. vi, fig. 5; DELGADO, t. c.
- P. hoffati*, p. 319, pl. i, figg. 1-3, 16, pl. v, fig. 3, *costæ*, p. 323, pl. i, figg. 5, 6, 11, Cambrian, Portugal; DELGADO, t. c. n. spp.
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- P. robertsi*, (?) Silurian, Haverfordwest, p. 106, pl. v; REED, t. c. n. sp.
- Phillipsia bittneri*, Culm, Sarajevo, p. 680, pl. xxi, figg. 30-32; KITTL, Jahrb. geol. Reichsanst. liii, n. sp.
- Phillipsinella parabola*, p. 85, pl. xii, figg. 1, 1a, 2; REED, Tril. Girvan ii.
- Proetus girvanensis*, p. 74, pl. xi, figg. 1-3, *latifrons*, p. 76, pl. xi, figg. 4 & 4a, *procerus*, p. 77, pl. xi, figg. 5, 6, 6a, *stokesi*, p. 79, pl. xi, figg. 10 & 11, sp., cf. *obconicus*, p. 81, pl. xi, fig. 12, sp. ind. pl. xi, fig. 13; REED, Tril. Girvan ii: *P. celechovicensis*, p. 63, pl. i, figg. 1-3; SMYČKA, Vestník Klub. Prostejove vii.
- P. barroisi*, Devonian, Couvin, p. 581, text-figg. a-d; MAILLEUX, Bull. Soc. Belge Geol. xvii, Pr.-verb.: *P. pseudolatifrons*, Silurian, Ayrshire, p. 78, pl. xi, figg. 7-9; REED, Tril. Girvan ii: n. spp.
- Stygina latifrons*, p. 50, pl. vii, fig. 10; REED, t. c.

## †EURYPTERIDA.

[See DESTINEZ (7), GRABAU (11), MUNTHE (19).]

## PYCNOGONIDA.

## I. TITLES.

1. CARPENTER, GEO. H. Report on the Pantopoda collected by Professor Herdman at Ceylon in 1902. In "Report to the Government of Ceylon on the Pearl Oyster Fisheries in the Gulf of Manaar," by W. A. Herdman. 4to, Royal Society, London, Part II, Supplementary Report xiii, pp 181-184, 1 pl.  
Quoted hereafter as "Rep. Ceylon Pearl Fisheries ii."
2. COLE, LEON J. Pycnogonida of the West Coast of North America. Harriman Alaska Exped. x, pp. 249-298, pls. xi-xxvi.  
Review by W. H. DALL, *Science* (n. s.) xx, pp. 462-464.  
DALL, W. H. [See COLE (2).]
3. HODGSON, T. V. On a new Pycnogonid from the South Polar Regions. *Ann. Nat. Hist.* (7) xiv, pp. 458-462, pl. xiv, 1 text-fig.
4. LANKESTER, E. RAY. The Structure and Classification of the Arachnida. *Quart. J. Mikr. Sci.* (n. s.) xlviii, pp. 165-269, 78 text-figg.  
Classification by R. I. Pocock.  
Reprint of article "Arachnida," *Encycl. Brit.* xxv (Zool. Rec. 1902, *Pyc.* 3).
5. LOMAN, J. C. C. Beiträge zur Kenntnis der Fauna von Süd-Afrika. Ergebnisse einer Reise von Prof. Max Weber im Jahre 1894. v. Pycnogoniden aus der Capcolonie und Natal. *Zool. Jahrb. Syst.* xx, pp. 375-386, pl. xiv.
6. ——. *Pipetta weberi*, n. g. et n. sp., with notes about the proboscis of the *Pycnogonida*. *Tijdschr. Nederland. Dierk. Ver.* (2) viii, pp. 259-266, 7 text-figg.
7. MARINE BIOLOGICAL ASSOCIATION. Plymouth Marine Invertebrate Fauna. Being Notes of the local distribution of species occurring in the neighbourhood. *J. Mar. Biol. Ass.* vii, pp. 155-298, 1 chart. [*Pycnogonida*, pp. 258 & 259.]
8. MORGAN, T. H. Notes on Regeneration. *Biol. Bull.* vi, pp. 159-172, 4 text-figg. [*Pycnogonida*, pp. 163-167, text-figg. 1-3.]
9. NOBRE, AUGUSTO. Subsídios para o estudo da fauna marinha do norte de Portugal. *Ann. Sci. nat. Porto* viii, pp. 37-94, pl. i.  
POCOCK, R. I. [See LANKESTER (4).]

## II. SUBJECT-INDEX.

Morphology and Classification of Pycnogonida; LANKESTER & POCOCK (4).  
Morphology of proboscis in *Pipetta* and other *Pycnogonida*; LOMAN (6).  
Morphology of *Pentanympyon*; HODGSON (3).  
Regeneration in *Phoxichilidium*; MORGAN (8).

## III. DISTRIBUTION.

- Plymouth, Pycnogonida; MAR. BIOL. ASS. (7).  
 Portugal, Pycnogonida; NOBRE (9).  
 South Africa, Pycnogonida, n. spp.; LOMAN (5).  
 Ceylon, Pycnogonida, n. spp.; CARPENTER (1).  
 Banda Sea, Pycnogonida, n. sp.; LOMAN (6).  
 N. W. America, California to Bering Sea, Pycnogonida, n. spp.;  
 COLE (2).  
 Antarctic, McMurdo Bay, Pycnogonida, n. sp.; HODGSON (3).

## IV. SYSTEMATIC.

- Ammotheca latifrons*, Bering Sea, p. 263, pl. xi, fig. 3, pl. xvi, figg. 1-9, pl. xvii, figg. 1-3, *alaskensis*, Alaska, p. 266, pl. xii, fig. 4, pl. xvii, figg. 4-12, *gracilipes*, California, p. 269, pl. xii, fig. 5, pl. xviii, figg. 1-6, *pribilofensis*, Bering Sea, p. 270, pl. xii, fig. 6, pl. xviii, figg. 7 & 8, pl. xix, figg. 1-8; COLE, Harriman Alaska Exp. x: *A. brevicauda*, Port Elizabeth, p. 376, pl. xiv, figg. 1-4; LOMAN, Zool. Jahrb. Syst. xx : n. spp.
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- Anoplodactylus erectus*, California, p. 289, pl. xiv, fig. 12, pl. xxvi, figg. 1-9; COLE, t. c. n. sp.
- Clotenella occidentalis*, California, p. 281, pl. xiii, fig. 9, pl. xxiii, figg. 4-8; COLE, t. c. n. sp.
- Discoarachne brevipes*, p. 379, pl. xiv, figg. 7-11; LOMAN, Zool. Jahrb. Syst. xx.
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- Hannonia typica*, p. 383, pl. xiv, figg. 12-15; LOMAN, Zool. Jahrb. Syst. xx.
- Lecythorhynchus marginatus*, California, p. 260, pl. xi, figg. 1 & 2, pl. xv, figg. 1-8; COLE, Harriman Alaska Exp. x, n. sp.
- Nymphon longicaudatum*, Ceylon, p. 183, figg. 8-14; CARPENTER, Rep. Ceylon Pearl Fisheries ii, n. sp.
- Pentanymphon* n. g., p. 459, *antarcticum*, McMurdo Bay, 12-125 fath., p. 459, pl. xiv, and text-figg.; HODGSON, Ann. Nat. Hist. (7) xiv, n. sp.
- Phoxichilidium femoratum*, p. 283, pl. xiii, fig. 10, pl. xxiv, figg. 1-5; COLE, Harriman Alaska Exp. x: *P. maxillare*, regeneration, p. 163, 3 text-figg.; MORGAN, Biol. Bull. vi.
- Phoxichilus mollis*, Ceylon, p. 182, figg. 1-7; CARPENTER, Rep. Ceylon Pearl Fisheries ii, n. sp.
- Pipetta* n. g., p. 264, *weberi*, Banda Sea, 2081 metres, p. 264, text-fig. 7; LOMAN, Tijdschr. Nederland. Dierk. Ver. (2) viii, n. sp.
- Pycnogonum stearnsi*, p. 292, pl. xiv, figg. 13-15, pl. xxvi, fig. 10; COLE, Harriman Alaska Exp. x.
- P. microps*, Natal, p. 378, pl. xiv, figg. 5 & 6; LOMAN, Zool. Jahrb. Syst. xx, n. sp.
- Tanystylum intermedium*, California, p. 278, pl. xxi, figg. 7-9, pl. xxii, figg. 1-7, pl. xxiii, figg. 1-3; COLE, Harriman Alaska Exp. x, n. sp.



# XI. ARACHNIDA

(Including TARDIGRADA AND PENTASTOMIDA).

BY

EUGÈNE SIMON.

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## I.—TITLES.\*

1. ACLOQUE, A. L'Agèlène labyrinthe. *La Nature*, Ann. 24, pp. 293 & 294, 1 fig. (1896).
2. ——. *Les Lycoses*. *Cosmos*, Ann. 46, v, 1, pp. 490–493 (1897).
3. ——. L'Halabe (*Nephila madagascariensis*), Araignée fileuse de Madagascar. *Op. cit.* 47, v, 1, pp. 529–534, 3 text-figg. (1898).
4. ——. *La Soie d'Araignée*. *La Nature*, Ann. 26, pp. 248–250 (1898).
5. ——. *Les Tégénaies*. *Cosmos*, Ann. 50, pp. 325–327, text-fig. (1900).
6. AGOSTINO, A. P. D'. *Prima nota dei Ragni dell' Avellinese*. Avellino 1/8, 4 pp.
7. BACHMANN. *Todliche verletzungen durch Sudafrikanische Skorpioner*. *Verh. Ges. deutsch. Naturf.* 73, pt. 2, pp. 584–587 (1902).
8. BALDWIN, W. A carboniferous air-breather from Sparth Bottoms, Rochdale. *Tr. Manchester Geol. Soc.* xxviii, pp. 523–527.
9. — & SUTOLIFFE, W. H. *Euscorpium sparthensis* n. sp. from the Middle Coalmeasures of Lancashire. *Quart. J. Geol. Soc.* lx, No. 240, pp. 394–399, text-fig. (1904).
10. BANKS, NATHAN. *Some spiders and mites from Bermuda Islands*. *Tr. Connect. Ac.* xi, 1903, pp. 267–275.
11. ——. *A treatise on the Acarina or Mites*. *P. U. S. Mus.* xxviii, No. 1382, pp. 1–114, 201 text-figg.
12. ——. *The Arachnida of Florida*. *P. Ac. Philad.* Jan. 1904, pp. 120–147, pls. vii & viii.
13. ——. *Four new species of injurious Mites*. *J. N. York Ent. Soc.* xii, March 1904, pp. 53 & 54, pl 11.
14. ——. *New Genera and Species of Nearctic Spiders*. *Ibid.* June 1904, pp. 109–119, pls. v & vi.
15. ——. *Some Arachnida from California*. *P. Calif. Ac.* iii, No. 13, pp. 331–374, pls. 38–41.
16. ——. *Arachnida (in) Alaska; from the Harriman Alaska Expedition* viii, pp. 37–45, 11 pls. (Reprint of the 1900 paper in *P. Washington Ac.* ii, pp. 477–486.)
17. BARREDA, L. DE LA. *Instrucciones para el cultivo y diseminacion del Acariano (*Acaropediculooides ventricosus*) coruco que devora las larvas des Gorgojo ò Picudo del Algonero*. *Com. Parasit. Agricola Mexico* 1904, pp. 16–31.
18. BERLESE, ANTONIO. *Descrizione e figura della *Trombella otiorum* n. sp.* *Riv. Patol. Veg.* ix, 1900 (1903), p. 126, text-fig.
19. ——. *Acari nuovi, Manipulus i*, pp. 226–252. *Manipulus ii*, pp. 258–280. *Redia i*, fasc. ii, 1903 (1904).
20. ——. *Illustrazione iconografica degli Acari mirmecofili*. *Ibid.* pp. 299–474, 14 pls.
21. ——. *Diagnosi di alcune nuove sp. di Acari italiani mirmecofili e liberi*. *Zool. Anz.* xxvii, 1904, p. 12.

---

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

22. BERTHOUMIEU, L'ABBÉ. Révision de l'entomologie dans l'Antiquité—Arachnides pp. 197–200 (Chelifer, Scorpions, Galeodes, Aranea, Ixodes, Tyroglyphus et Cheyletus). Rev. Sci. Bourbonnais 1904, p. 167.
23. BEUTENMÜLLER, W. The insect-galls of the vicinity of New York City. Amer. Mus. J. iv [*Acarina*], p. 124.
24. BEZZI, M. Ancora le galle dell' Aranio. Marcellia iii, fasc. 1, 1904, pp. 16 & 17.
25. BIRULA [BIRULYA], A. Beiträge zur Kenntnis der Skorpionenfauna Ost-Persiens. Bull. Ac. St. Petersb. xix, No. 2 (Sept. 1903), pp. 67–80.
26. ——. Bemerkungen über einige neue oder wenig bekannte Skorpionenformen Nord-Afrikas. Ibid. No. 3 (Oct. 1903), pp. 105–113.
27. ——. Miscellanea Scorpiologica. v. Ein Beitrag zur Kenntnis der Skorpionenfauna der Insel Kreta. Annuaire Mus. St. Petersb. viii 1903, pp. 295–299.
28. ——. Miscellanea Scorpiologica. vi. Ueber einige *Buthus* Arten Centralasiens nebst ihrer geographischen Verbreitung (pp. 20–28). vii. Synopsis der russischen Skorpione (pp. 29–38). Op. cit. ix. (1904), pp. 20–38.
29. ——. Bemerkungen über die Ordnung der Solifugen. i. Zur Classification der Familie Galeodidæ (p. 391). ii. Diagnosen neuer oder wenig bekannter Galeodes und Paragaleodes Arten (p. 394). iii. Bestimmungstabelle der mir bekannten central und Vorderasiatischen Galeodes Arten (p. 402). iv. Zur Kenntniss der postembryonalen Entwicklung der äusseren Körperform bei *Galeodes araneoides* Pal. (p. 405). v. Diagnosen neuer oder wenig bekannter *Desia*, *Gluviopsis* und *Rhagodes* Arten (p. 406). T. c. pp. 391–416.
30. ——. Sur un nouveau genre et une nouvelle espèce de Scorpion provenant d'Australie. Op. cit. viii (1903), Nouvelles p. xxxiii. (Russian, with Latin diagnose of n. g. and n. sp.)
31. ——. Sur une nouvelle espèce de Scorpion provenant des Iles Aru. T. c. Nouvelles p. xxxiv. (Russian, with Latin diag. of n. sp.)
32. ——. Sur un genre nouveau de Solifugæ provenant de Perse. T. c. Nouvelles p. xxxvi. (Russian, with Latin diag. of n. gen.)
33. BORELLI, ALF. Di alcuni Scorpioni della Colonia Eritrea. Boll. Mus. Torino xix, No. 463, pp. 1–5.
34. ——. Intorno al alcuni Scorpioni di Sarawak (Borneo). T. c. No. 477, pp. 1–4.
35. BÖRNER, C. Beiträge zur Morphologie der Arthropoden. i. Ein Beitrag zur Kenntnis der Pedipalpen. Zoologica, Heft 42<sup>I</sup> and 42<sup>II</sup>. Stuttgart, 1904, pp. 1–174, 7 pls., 114 text-figg.
36. BRENNER, LEO. Meine Erfahrungen mit Skorpionen. Naturw. Wochenschr. xix, 1904, pp. 263–265.
37. CALMAN, W. T. Arachnida in Zool. Rec. xl, 1903.
38. CAMBRIDGE, OCTAVIUS PICKARD. On some new and interesting exotic spiders collected by MM. G. A. K. Marschall and R. Shelford, 1 pl. in Hope Reports iv, 1903 (reprinted from P. Zool. Soc. London, Jan. 25, 1901).
39. CAMBRIDGE, F. O. PICKARD. Arachnida Araneida ii, pp. 465–545, Opiliones p 546, pls. Biol. Centr.-Amer. Arachn.-Aran. ii.

40. CARPENTER, G. H. Araneida and Phalangida. [in Irish Field Club Union report of the fourth triennial conference and excursion held at Sligo, July 12-18, 1904]. Irish Natural. xiii, Sept. 1903, p. 198 (list of spp.).
41. CAVARA, F. & MOLLICA, M. Intorno alla "Rugina bianca" dei limoni. Atti Ac. Gioen. (4) xvii, Mem. 2, 25 pp., 1 pl. [*Acarina*.]
42. CHAMBERLIN, R. V. Note on generic characters in the *Lycosidae*. Canad. Ent. xxxvi, 1904, No. 5, pp 145-148 & 173.
43. —. Three new *Lycosidae*. Ibid. No. 10, p. 286.
44. CHILTON, C. A species of *Ixodes* parasitic of the Grey Duck (*Anas superciliosa*). Tr. N. Zealand Inst. xxxvi, 1904, pp. 201 & 202 1 pl. (x).
45. CHRISTY, C. "Tick Fever" in Man, with note by R. I. Pocock. Thompson Yates Lab. Rep. v, part 1, pp. 187-189, pl. xv.
46. COLLINGE, W. E. Some recent investigations on the black-currant gall-mite, *Eriophyes ribis* (Nalepa). Reports on Economic Zoology No. 1, 8vo, 1904, 12 pp., 1 pl. [*Acarina*.]
47. COMSTOCK, J. H. A classification of North American Spiders. New York, 1903, pp. 1-56.
48. — & COMSTOCK, ANNA B. A manual for the study of insects. 5 edit. Ithaca, 1904, 1/8, 701 pp. pls. and text-fig. (Arachnida pp. 12-14, 48 text-figg.)
49. CORTI, ALFREDO. Una nuova specie di Acaro parassita. Zool. Anz. xxvii, pp. 427 & 428, 2 figg.
50. COSTANTIN, GÉROME ET LABROY. Sur la désinfection des serres du Muséum par le cyanure de potassium. Bull. Mus. Paris 1903, No. viii, p. 415.
51. COUPIN, HENRI. La chasse chez les animaux. Rev. Scient. Paris, pp. 274-277 (1903). (With ref. to an erroneous observation of the Dr Vinson on *Argiope* Web.)—Translated in Ann. Rep. Smithson. Inst. 1903 (1904), p. 567.
52. —. La destruction des parasites des serres (l'Araignée rouge) par l'acide cyanhydrique. Le Naturaliste, 15 June 1904, pp. 137 & 138.
53. CROSBY, CYRUS R. Notes on some Phalangids collected near Ithaca. J. N. York Ent. Soc. xii, No. 4, Dec. 1904, pp. 253-256, text-fig.
54. CSIKI, E. A szongáriai cselöpök (*Trochosa singoriensis* Laxm.) elterjedése Magyarországon. Allatt. Kozl. Magyar Tars. iii, pp. 290-294 & 303.
55. DAHL, FRIEDR. Ueber das System der Spinnen (Araneæ). SB. Ges. naturf. Berlin 1904, pp. 85-120.
56. DAWYDOFF, C. Les résultats d'un voyage scientifique à Java et les autres îles de l'archipel malais. I. Sur les organes excréteurs et la phagocytose éliminatoire chez le *Thelyphonus* de Java. Bull. Ac. St. Petersb. xviii, pp. 201-206.
57. DESMAISONS, H. Note sur les collections d'Araignées et sur le moyen d'y joindre les toiles. Bull. Soc. Nord France xvii, 1904, No. 360, pp. 107-110, 1 pl.
58. DUGÈS, ALFR. Las Garrapatas (Ixodidae) de Mexico. Mem. Soc. Ant. Alzate xviii, pp. 187-194, 35 figg.



59. DU BUYSSON. Les chasses d'une Araignée. Rev. Sci. Bourbonnais 1904, Nos. 198 & 199, p. 135.
60. ELLINGSEN, EDV. Norske Pseudoscorpioner. II. Forh. Selsk. Christian. 1903, No. 5.
61. ——. On some Pseudoscorpions from Patagonia, collected by Dr F. Silvestri. Boll. Mus. Torino xix, No. 480, pp. 1-7.
62. EMERTON, J. H. Change of marking in the male of a spider (*Pellenes cristatus*). Psyche xi, 1904, p. 32.
63. ENTZ, GÉZA. Die Fauna der kontinentalen Kochsalzwässer. Math. naturw. Ber. Ungarn xix (1901), publ. 1904, pp. 84-115 (p. 114 in list of spp. *Argyroneta aquatica* Cl. and *Lycosa entzei* Kulcz. cited).
64. ERDMANN, E. L. Spinnen-Seide (*Nephila madagascariensis*). Prometheus, Jahrg. x, 1899, pp. 219 & 220 and 233-235, 2 text-figg.
65. ——. Seda de Arañas. Bol. Agric. Min. ind. Mexico, Año 9, No. 8, 1900, pp. 94 & 95 and pp. 120-129, 1 pl.
66. FABRE, J. H. Exode des Araignées. Rev. Quest. Sci. July 1903.
67. ——. La toile des Epeires. Ibid. 1904, pp. 371-393.
68. ——. Souvenirs entomologiques, études sur l'instinct et les mœurs des Insectes (Neuvième Série) 8vo, 375 pp. with illustrations. Paris, n. d. (1904).
69. FRANZ, VIKTOR. Ueber die Struktur des Herzens und die Entstehung von Blutzellen bei Spinnen. Zool. Anz. xxvii, 1904, pp. 192-204, 10 text-figg.
70. FRIES, —. Die Erntemilbe (*Leptus autumnalis*). Munchen. Med. Wochenschr. 41, pp. 363 & 364.
71. FRITSCH, ANTON. Bericht über die mit Unterstützung der Kaiserlichen Akademie unternommene Reise behufs des Studiums fossiler Arachniden. SB. Ak. Wien cxii, Abt. 1, Dec. 1903.
72. \*——. Palaeozoische, Arachniden. Prag, 1904. 1/4.
73. GEORGE, C. F. Lincolnshire Freshwater Mites. Naturalist 1904, pp. 100-102 and pp. 150 & 151, text-fig.
74. GILLOT, X. Emploi industriel des fils d'Araignées. Bull. Soc. Autun 1897, No. 10, pt. 2, pp. 292-294. (Omitt. 1897.)
75. GJORGJEVIC, Z. Prilozi za poznavanje Srpska faune. II. [*Hydrachnidæ*]. Glas Srpska Ak. lxvii, pp. 153-189.
76. GREEN, E. E. & PERKINS, R. C. Symbiosis between Bees and Mites. Spolia Zeylan. i, part iv, p. 117.
77. GRIMSHAW, PERCY H. Chernetidea in Ayrshire. Ann. Scott. Nat. Hist. No. 51, July, p. 195.
78. GROS, H. Sur un Acarien parasite des *Anopheles*. C.R. Soc. Biol. lvi, 1904, p. 56.
79. HALBERT, J. N. Hydrachnidæ. [In Irish Field Club Union report of the fourth triennial conference and excursion held at Sligo, July 12-18, 1904.] Irish Natural. xiii (1903), p. 199. (List of spp. and n. spp. with a plate.)
80. ——. Abstract of a work of J. N. Halbert on Irish Freshwater Mites in Zool. Anz. xxvi, p. 265. Month. J. Gen. Nat. Hist. xiii, 1904, p. 28.

81. HANSEN, H. J. & SORENSEN, W. On two orders of Arachnida, Opiliones, especially the suborder Cyphophthalmi and Ricini, namely the family Cryptostemmatoidæ. (Published by aid of a subsidy from the Royal Society of London.) Cambridge, 1904, pp. 1-167, 9 pls.
82. HARTMANN, C. Variability in the number of teeth on the claws of adult spiders, showing their unreliability for systematic description. Biol. Bull. vi, pp. 191-197, 4 text-figg.
83. HEIM, F. & OUDEMANS, A. Sur deux nouvelles formes larvaires de *Thrombidium* parasites de l'homme. C.R. Ac. Sci. v, 138, 1<sup>o</sup> sem. 1904, pp. 704-706, text-fig.
84. ——. Deux nouvelles espèces de *Thrombidium* de France. Bull. Soc. ent. France 1904, p. 91, text-fig.
85. HERRERA, A. L. Animales recogidos en la Cueva de Cacahuamilpa. Mem. Soc. Ant. Alzate v, 1891, pp. 218-220. (Arachn. p. 219, pl. iii, figg. 1-5, 7.)
86. HEYMONS, RICHARD. Die flügel förmigen Organ (Lateralorgane) der Solifugen und ihre Bedeutung. SB. Ak. Berlin 1904, pp. 282-294, 2 text-figg.
87. HOGG, H. R. On a new genus of spiders from Bounty Island with remarks on a species of N. Zealand. Ann. Nat. Hist. (7) xiii, pp. 65-70, 2 text-figg.
88. HOPKINSON, JOHN. Cheese-mites and some other mites. Tr. Hertfordsh. Soc. xii, pt. 2, p. 69.
89. KEW, H. WALLIS. *Chernes nodosus* at Louth (Linc.). Naturalist 1904, p. 292.
90. KOCH, ROBERT. Vorläufiger Bericht über das Rhodesische Rotwasser oder "Afrikanische Kastenfleber." Arch. Wiss. Prakt. Tierh. xxx, pp. 281-295.
91. ——. The Rhodesian Cattle disease (*Rhipicephalus*). Agric. J. Cape Good Hope xxiii, 1903, pp. 33-39.
92. ——. Rhodesian Redwater or African Coast fever (*Ixodes*). Op. cit. xxiv, 1904, pp. 33-43 and pp. 549-560.
93. KOENIKE, F. Noch ein neuer *Arrenurus* von Seeland. Zool. Anz. xxvii, p. 444.
94. KRAEFELIN, K. Zur Nomenklatur der Skorpione und Pedipalpen. Zool. Anz. xxviii, No. 6, pp. 195-204.
95. KULCZYŃSKI, VLADISLAUS. De Opilionibus observationes nonnullæ. Ann. Mus. Hungar. ii, 1904, pp. 76-84, 1 pl.
96. ——. Fragmenta Arachnologica. I. Bull. Ac. Cracovie, Dec. 1904, pp. 533-668, 1 pl.
97. KÜSTER, E. VON. Zur Morphologie der von *Eriophyes dispar* erzeugten Galle. Marcellia iii, fasc. 3, p. 60 (1904).
98. LABONNEFON, C. *Nephila madagascariensis*. L'intermed. Bombyc. Entom. ii, 1902, pp. 75-75.
99. LAHEE, FR. H. The calls of spiders (*Lycosa*). Psyche 1904, ii, p. 74.
100. LANKESTER, E. RAY. Structure of the Arachnida. Quart. J. Micr. Sci. (n. s.), No. 190. xlvi, part 2, 1904, pp. 165-269, 77 text-figg.

101. [LANKESTER, E. RAY.] The structure and classification of the Arthropoda. Arachnida in subphylum Arthropoda (p. 529), classification of Arachnida (pp. 567 & 574). Op. cit. No. 188, xviii, No. 188, p. 523.
102. LARGAIOLLI, VITTORIO. Idracne del Trentino. Quarto contributo allo studio delle Idracne Italiane. Tridentum, Ann. 6, 1903, pp. 132-136.
103. LATTEr, H. OSWALD. A note on the coloration of Spiders. Nature cxxi, No. 1827, Nov. 1904, p. 6.
104. LAVARRA, LEONARDO. Sopra una nuova specie di *Hæmaphysalis*. Boll. Soc. zool. Ital. xiii, 1904, pp. 255-258.
105. LAVERAN, A. Note sur un Acarien parasite des *Anopheles*. C.R. Soc. Biol. lvi, 1904, p. 57.
106. LÉCAILLON, A. Insectes et autres invertébrés nuisibles aux plantes cultivées et aux animaux domestiques. (Acariens, pp. 123-127.) 1 vol. 8vo, 182 pp., text-fig. Paris (Imp. Nat.).
107. ——. Sur la biologie et la psychologie d'une Araignée (*Chiracanthium carnifex* Fabricius). Année Psychol. x, pp. 63-83, text-fig.
108. ——. Sur les rapports des Theridions avec leurs cocons ovigères. C.R. Soc. Biol. lvii, No. 34, 1904, pp. 510-512.
109. ——. Sur la manière dont se comportent les Theridions avec les cocons ovigères des autres individus de leur espèce, avec ceux d'espèces différentes et avec des cocons artificiels. T. c. No. 35, pp. 543-545.
110. ——. Sur la manière dont les Araignées se comportent vis-à-vis de leurs œufs et de leurs petits. T. c. No. 36, pp. 568-570.
111. LENDL, AD. Die Gewebe der Radspinnen (Orbitalariæ). Math. naturw. Ber. Ungarn xix, 1904, pp. 395 & 396.
112. LESSERT, ROGER DE. Observations sur les Araignées du bassin du Léman et de quelques autres localités suisses. (Thèse présentée à la faculté des Sciences de l'Université de Genève.) Rev. Suisse Zool. pp. 269-450, 2 pls.
113. LINDROTH, J. IVAR. Neue und selten finnische Eriophyiden (nya och Sällsynta finska Eriophyider). Acta Soc. Faun. Fenn. xxvi, 1904, pp. 1-18.
114. LOUNSBURY, C. P. Report of the Government Entomologist for the year 1903 (ticks and fevers). Rep. Dep. Agric. Cape Good Hope 1903, pp. 7, pls.
115. ——. Bryobia Mite Remedies for the "Red Spider pest." Agric. J. Cape Good Hope xxiii, 1903, pp. 179-184, 1 fig.
116. ——. Transmission of African Coast Fever (*Rhipicephalus appendiculatus*). T. c. xxiv, pp. 428-432, 3 pls.
117. ——. The Fowl tick: studies on its live cycle and habits (*Argas persicus*). T. c. xxiv, pp. 261-273, 3 pls.
118. ——. Distribution of Coast Fever Ticks. T. c. xxv, 1904, pp. 268-270.
119. —— & ROBERTSON, W. Persian Sheep and Heartwater (*Amblyomma*). T. c. xxv, 1904, pp. 175-186, 3 text-figg.
120. McCLENDON, J. F. On the anatomy and embryology of the nervous system of the Scorpion. Biol. Bull. viii, pp. 38-55, 13 figg.

121. MALLY, C. W. Notes on the so-called paralysis tick (*Ixodes pilosus*). Agric. J. Cape Good Hope xxv, 1904, pp. 291-296.
122. MARIANI, MARIO. Di una nuova specie di Acaro dell' ordine dei Metastigmata, gen. *Argas*. Zool. Anz. xxvii, pp. 704-706.
123. MÉGNIN, PIERRE. Sur la Biologie des Tiques ou *Ixodes*. J. Anat. Physiol. xl, pp. 569-589, 4 text-figg.
124. MELVILLE, THURSTON COOK. Galls and insects producing them. (Arachnida, p. 129, pls. i & v, figg. 8, 9, 10, 11, 43, 44, 45). Ohio Natural. v, No. 6, 1904, p. 125.
125. MINCHIN, E. A. Exhibition of a specimen of the Spider, *Heteropoda regia*, captured at University College, London. P. Zool. Soc. London l, ii, 1904.
126. MINGAUD, GALIEN. Le prétendu suicide du Scorpion. Bull. Soc. Nimes, t. 27, xxxvii & xxxviii, 1900. (Omitted 1900.)
127. MONTGOMERY, THOMAS H. Supplementary notes on Spiders of the genera *Lycosa*, *Pardosa*, *Pirata* and *Dolomedes* from the North-eastern United States. P. Ac. Philad., Oct. 1903, pp. 645-655, 1 pl.
128. —. Descriptions of North American Araneæ of the families *Lycosidae* and *Pisauridae*. T. c. March 1904, pp. 261-323, 3 pls.  
MOLLICA, M. [See CAVARA, F.]
129. MONTI, RINA. Di un' altra nuova specie di *Lebertia* e di alcuna Idracne nuove per la fauna italiana. Rend. Ist. Lombardo 1904, ser. ii, xxxvii, pp. 240-251, 1 pl.
130. —. Limnologische Untersuchungen über einige italienische alpensee (Arachnida, p. 274). Forschber. Plon xi, 1904, p. 252.
131. NALEPA, A. Neue Gallmilben. 25 Fortsetzung. Anz. Ak. Wiss. 1904, No. 23, p. 335.
132. NERESHEIMER, E. Ueber *Lohmanella catenata*. Zeitschr. wiss. Zool. lxxvi, pp. 137-166, 2 pls., 6 figg.
133. NEUMANN, L. G. Note sur les Ixodidés. Arch. parasit. 1904, pp. 444-464, text-fig.
134. NOEL, P. L'Acarus telarius (*Tetranychus*). Le Naturaliste, June 1904, p. 131.
135. NOGUÉ, —. La soie d'Araignée. Bull. Econ. Madag. iv, pp. 279-287. Includes communications by J. MAROIS & J. TESTENOIRE.
136. NORDENSKIÖLD, ERIK. Hydrachniden aus Süd Amerika. Arkiv Zool. i, 1904, No. 3, pp. 395-397, 3 text-figg.
137. NOSEK, ANT. Tabellæ analyticæ Araneorum Europæ centralis. Vestnik. Klub. Prostějove 1903, p. 3, pls. i & ii.
138. —. O snovací činnosti Pavouků (les constructions d'Araignées). Otisk. z výroční cis. Král státního gymnasia v Čáslavi, pp. 47.
139. —. *Arachnoidea montenegrina*. Pavoukoviti členovci Černé Hory. SB. Bohmisch. Ges. 1903, No. 46, 4 pp.
140. NOWLIN, NADINE. The vitelline body in Spider eggs. Kansas Univ. Sci. Bull. ii, No. 10, 1904, pp. 281-302, 4 pls.
141. OUDEMANS, A. C. Notes on Acari, xiii<sup>o</sup> Ser. Tijdschr. Ent. 1904 pp. 114-134, pls. 6-9.

142. [OUDEMANS, A. C.] Symbiose van Koptorthosoma en Greenia eene prioriteits. Kwestie. Ent. Ber. Nederland. No. 14, pp. 98 & 99.
143. —. Acarologische Aanteekeningen No. vii. T. c. No. 13, pp. 91 & 92.
144. —. Acarologische Aanteekeningen No. viii. T. c. No. 14, pp. 100–103.
145. —. Acarologische Aanteekeningen No. ix. T. c. No. 15, p. 119.
146. —. Acarologische Aanteekeningen No. 10. T. c. No. 16, p. 140.
147. —. Ibid. No. 11. T. c. No. 17, pp. 153 & 154.
148. —. Ibid. No. 12. T. c. No. 18, pp. 160–163.
149. —. Note on a new genus and species of parasitic Acari. Note VIII. Notes Leyden Mus. xxiv, 1902 (July, 1904), p. 216, text-fig.
150. —. *Lalaps versteegii*, a new species of parasitic mite. Note IX. T. c. pp. 223–231, text-figg.
- [See F. HEIM & OUDEMANS (83).]
- [See VOIGTS & OUDEMANS (223).]
151. PAVESI, P. Esquisse d'une faune Valdotaïne (Arachnida, pp. 62–68 [250–256]). Atti Mus. Milano xliii, 1904.
- PEARCE, N. D. F. [See WARBURTON & PEARCE (228).]
152. PEREZ, CH. Sur les larves d'Hydrachnes. C.R. Soc. Biol. lvi, 1904, pp. 263 & 264.
- PERKINS, R. C. [See E. E. GREEN & R. C. PERKINS (76).]
153. PIERSIG, RICHARD. Neues Verzeichnis der bisher im Sächsischen Erzgebirge aufgefundenen Hydrachnidenformen. II. Ber. Annaberg Ver. 1903, pp. 34–46, 2 pls.
154. —. Ueber eine neue Hydrachnide aus dem Böhmen Walde. Zool. Anz. xxvii, pp. 453 & 454, 1 fig.
155. —. Eine neue *Aturus* Art aus dem Böhmisches. bayerischen Walde. T. c. pp. 471 & 472.
156. —. Verzeichnis der bisher von der biologischen Wolga-Station zu Saratow gesammelten Hydrachniden. Annuaire Mus. St. Petersb. ix, 1904, pp. 45–56, text-figg.
157. POCKOCK, R. I. On a new stridulating organ in Scorpions, discovered by W. J. Burchell in Brazil in 1828. Ann. Nat. Hist., Ser. 7, xiii, 1904, pp. 56–62, 1 pl.
158. —. Note on *Ixodes*. [See CHRISTY, C. (45).]
159. POLJANSKY, J. Zur Embryologie des *Scorpio indicus*, pp. 42–55 [in Russian], pp. 83–90 [in German]. Trudui St. Peterb. Obsch. xxxiii.
160. PRITCHETT, ANNIE H. Observations on Hearing and Smell in Spiders. Amer. Natural. xxxviii, pp. 859–867.
161. PURCELL, W. F. Descriptions of new genera and species of South African spiders. Tr. S. African Soc. xv, pt. iii, pp. 115–173, pls. x & xi.
162. —. On the species of *Opisthophthalmus* in the collection of the South African Museum, with descriptions of some new forms. Ann. S. African Mus. iv, pt. ii, pp. 133–180.

163. RAINBOW, W. J. Notes on the architecture, nesting habits and life histories of Australian Araneidæ, based on specimens in the Australian Museum. *Rec. Austral. Mus.* v, pt. 5, 1904, pp. 317-325.
164. ———. Studies in Australian Araneidæ, No. 2. *T. c.* v, pt. 2, 1904, pp. 102-106, text-figg. *Id.* pt. 3, pp. 327-336, text-figg. and 2 pls.
165. RANKIN, J. *Glyciphagus spinipes* Koch. *Tr. Glasgow Nat. Hist. Soc.* vi, pp. 380 & 381.
166. REUTER, ENZIO. Hexenbesen und Eriophyiden. *Medd. Soc. Faun. Fenn.* (7) xi, pp. 34-47, figg.
167. ———. Die Hypopiale Nymphe von *Falculifer rostratus* (Buchh.) als Endoparasit der Taube. *T. c.* pp. 91-96.
168. RIBAYA, COSTANTINO. Gamasidi planticoli. *Riv. Patol. Veg.* x, 1901-1902 (1904), pp. 175-178.
169. RICHTERS, F. Nordische Tardigraden. *Zool. Anz.* xxvii, p. 168 (list of sp. and n. spp.).
170. ———. Beitrag zur Verbreitung der Tardigraden in Südl. Skandinavien u. an der Mecklenburg Küste. *T. c.* pp. 373-377.
171. ———. Die Eier der Tardigraden. *Ber. Senckenberg. Ges.* 1904, pp. 59-72, 3 pls.
172. ———. *Echiniscus conifer* n. sp. *T. c.* pp. 73 & 74, pl. v, fig. 8.
173. ———. Arktische Tardigraden. *Fauna Arctica* iii, Lief. 3, pp. 493-508, pls. xv & xvi.
174. ROBERTSON, T. Brailsford on the Sham-death reflex in Spiders. *J. Physiol.* xxxi, pp. 410-417, text-figg.
175. ROBERTSON, W. African Coast Fever (*Rhipicephalus appendiculatus*). *Agric. J. Cape Good Hope* xxv, pp. 262-268, 1 pl., 25 text-figg.  
———. [See C. P. LOUNSBURY & W. ROBERTSON (119).]
176. ROSSUM, A. J. VAN. Note on *Latrodectus hasselti*. *Ent. Ber. Nederland.* 1904, p. 166.
177. ROUSSEAU, E. Hydracnides de la Belgique. *Ann. Soc. ent. Belgique* xlvi, p. 321 and p. 305.
178. SANTINI DE RIOLS, E. N. Animaux mythologiques, légendaires, historiques etc.: l'Araignée. *Naturaliste* 1904, pp. 36-39 and pp. 45-48.
179. SCHEFFER, T. W. Four new spiders from Kansas. *Ent. News Philad.* xv, Oct. 1904, pp. 257-260, pl. xvii.
180. ———. The Egg Cocoon of Triangle Spider (*Hyptiotes cavatus*). *T. c.* p. 278, text-fig.
181. ———. The Cocoon of the Ray Spiders (*Theridiosoma gemmosum*). *Canad. Ent.* xxxvi, No. 6, p. 163, text-fig.
182. ———. A new genus of Spiders. *T. c.* No. 10, p. 305, text-fig.
183. SCHIMKEWITSCH, W. Zur Embryologie der *Thelyphonida*. *Trudui St. Peterb. Obshch.* xxxiii, pp. 56-77 [in Russian] and pp. 93-110 [in German].
184. SIMON, E. Arachnides recueillis par M. A. Pavie en Indo-Chine. *Mission Pavie en Indo-Chine 1879-1895. III. Recherches sur l'Histoire Naturelle de l'Indo-Chine orientale.* *Arachn.* pp. 270-295, pl. xvi.

185. [SIMON, E.] Liste des Scorpions trouvés au Tucuman par M. G. A. Baer. Bull. Soc. ent. France 1904, No. 6, p. 120.
186. —. Étude sur les Arachnides recueillis au cours de la Mission du Bourg-de-Bozas en Afrique. Bull. Mus. Paris vii, 1904, pp. 442-448.
187. —. Descriptions de quelques Arachnides nouveaux. Rev. Suisse Zool. xii, fasc. 1, pp. 65-70.
188. —. Étude sur les Arachnides du Chili recueillis en 1900, 1901 et 1902 par M.M. C. Porter, Dr Delfin, Barcey Wilson et Edwards. Ann. Soc. ent. Belgique xlvi, 1904, pp. 83-114, text-figg.
189. —. Arachnida (Supp.) in Fauna Hawaïensis ii, pp. 329-344, text-figg.
190. SMITH, FRANK PERCY. The Spiders of Epping Forest, part iii. Essex Natural. xiii, pp. 209-218, pls. ix & x.
191. —. The Spiders of the *Erigone* Group. J. Quekett Club, ser. 2, ix, p. 9, pl. i, and pp. 109-116.
192. SOAR, C. R. Two new British Water-Mites. J. Quekett Club, ser. 2, ix, pp. 105-108, text-fig.
- SORENSEN, W. [See HANSEN, H. J. & SORENSEN, W. (81).]
193. —. Danmarks Færoernes og Islands Edderkopper med Undtagelse af Theridierne (Aranæe danicæ faroicæ et islandicæ, Theridioidis exceptis). Ent. Meddel. (2) heft. 1, pp. 240-246.
194. STAHL, ERNST. Die Schtzmittel der Flechten gegen Tierfrass (citation of Acari not determined p. 360). Denk. Ges. Jena 1904, p. 357.
195. STAMM, R. H. Om Musklernes Befæstelse til det ydre Skelet hos Leddyrene. Arachnider, p. 148. Danske Selsk. Skr. (Mém. Acad. roy. des sciences et lettres de Danemark), 7<sup>e</sup> ser. sect. sc., 1, No. 2, p. 148.
196. STEGAGNO. Locatari dei Cecidozoi sin qui noti in Italia. Marcellia 1904, fasc. 1, p. 18, fasc. 11, p. 25.
197. STRAND, EMBR. *Theridiidæ*, *Argiopidæ* und *Mimetidæ* aus der Collett'schen Spinnensammlung. Norske Selsk. Skr. 1903, No. 7 (1904), pp. 1-9.
198. —. Die Dictyniden, Dysderiden, Drassiden, Clubioniden und Ageleniden der Collett'schen Spinnensammlung. Forh. Selsk. Christian. 1904, No. 5, pp. 1-16.
199. —. *Theridium bösenbergi* Strand, n. nom. Ent. Zeitschr. xviii, No. 23.
- SUTCLIFFE, W. H. [See BALDWIN, W. & SUTCLIFFE, W. H. (9).]
200. THEILER, A. Rhodesian Tick fever. Rep. S. Afric. Ass. ii, 1904, pp. 201-220.
201. THEVENIN, A. Sur une Araignée du terrain houillier de Valenciennes (Nord). Bull. Soc. Autun 1902, Pr.-verb. sc. pp. 195-203, text-figg.
202. THOMSON, A. E. Spiders. Tr. Manchester Micr. Soc. 1903, pp. 54-70. [Introductory sketch.]
203. THON, K. Ueber die in Montenegro von Dr Mrázek gesammelten Hydrachniden. SB. Böhmisch. Ges. 1903, No. 19, 7 pp., 1 pl.

204. THOR, SIG. Norwegische *Bdellidæ* 1, nebst Notizen über die Synonymie. Zool. Anz. xxviii, pp. 68-79.
205. —. Bemerkungen zur neueren Hydrachniden Nomenclatur. Nyt. Mag. Naturv. xli, 1903, pp. 65-68.
206. —. Eine Acarinologische Reise nach Schwarzbach bei Zweibrücken. T. c. xli, 1903, pp. 69-72.
207. —. Zwei neue Formen aus der alten Neuman'schen Typensammlung. T. c. xli, 1903, pp. 73-75, text-figg.
208. TIRABOSCHI, G. Gli animali propagatori della peste bubbonica. Acari, p. 96. Boll. Soc. zool. Ital. xiii, pp. 88-97.
209. —. Les rats, les souris et leurs parasites cutanés. v. Les Acariens, p. 319. Arch. parasit. 1904, pp. 311-349, text-figg.
210. TRÄGARDH, IVAR. Ueber die Identifizierung von *Raphignathus ruber* C. L. Koch und *Acarus denticulatus*. Zool. Anz. xxvii, pp. 565-568, 4 text-figg.
211. —. Die neue Acariden aus Kamerun. Ent. Tidskr. xxv, pp. 151-160, 1 pl.
212. TROTTER, A. Osserv. sugli Acarodomazii. Bull. Soc. Bot. Ital., Firenze 1904, pp. 82-86.
213. TROUËSSART, E. *Leiognathus blanchardi* n. sp., Acarien parasite de de la Marmotte des Alpes. Arch. parasit. 1904, p. 558, text-figg.
214. —. Sur la coexistence de deux formes d'hypopes dans une même espèce, chez les Acariens du genre *Trichotarsus*. C.R. Soc. Biol. lvi (Feb. 1904), pp. 234 & 235, text-figg.
215. —. Deuxième note sur les hypopes du genre *Trichotarsus*. T. c. (Feb. 1904), pp. 365 & 366.
216. —. Sur le mode de fécondation des Sarcoptides et des Tyroglyphides. Ibid. (Feb. 1904), p. 367.
217. TULLGREN, ALB. Om det vanliga Spinnkvalstret *Tetranychus telarius*. Ent. Tidskr. 1903, pp. 246-249.
218. ULMER. Hamburg, Eppendorfer Moor, *Hydrachnidæ* (list of spp.). Verh. Ver. Hamburg. naturw. xi, p. 20.
219. VIRÉ, AR. La faune souterraine du puits de Padirac, Arachnida, p. 827. C.R. Ac. Sci. t. 138, 1904, pp. 826-828.
220. VOIGTS, VAN HANS & OUDEMANS, A. C. Neue Milben aus der Umgegend von Bremen. Zool. Anz. 1904, pp. 651-656.
221. VOLK, W. H. Sulphur sprays for red spider. Bull. Agric. exp. Stat. California, No. 154, pp. 1-11, 3 figg.
222. WALLACE, LOUISE B. The function of the accessory Chromosome in the Spider. Amer. Natural. xxxviii, 1904, p. 506, text-fig.
223. WARBURTON, C. The Arachnida. [in] Handbook of the Natural History of Cambridgeshire, edit. by J. E. MARR and A. E. SHIPLEY (list of Chernetidæ, Phalangidea, Araneidea and Acari).
224. —. Mites. Popular Knowledge i, p. 104 and p. 134. (Article.)
225. — & PEARCE, N. D. F. Exhibition of Oribatid Mites taken in the neighbourhood of Cambridge. P. Cambridge Soc. xii, 1904, pp. 427-429.



226. WERJBITZKY, E. De Araneis regionis caucasiæ. Mem. Soc. Kiev xvii, 1902, pp. 461-503, 1 pl. (2 n. spp. *Xysticus* and *Theridion*). [Omitted in Zool. Rec. 1902.]
227. WESTBERG, P. Der Steg und die Begattung der Kreuzspinnen (*Epeira*). KB. Ver. Riga, No. 4 (1901), p. 42. [Omitted in Zool. Rec. 1901.]
228. WILDEMAN (M. DE). Sur les Acarophytes. C.R. Ac. Sci. 6 Juin, 1904, pp. 1437-40.
229. —. Sur l'Acarophytisme chez les Monocotylédons. Ibid. 3 Oct. 1904, pp. 551-553.
230. WILSON, W. H. On the poison of spiders, with special reference to that of *Chatopelma olivaceum*. Rec. Egypt. School Med. No. 1, 1901, pp. 141-150.
231. —. On the blood of *Chatopelma olivaceum* with special reference to the presence of Hæmocyanin. T. c. No. 1, 1901, pp. 151-155.
232. —. The physiological action of scorpion venom. J. Physiol. xxxi, pp. xlvi & xlvii.
233. —. The immunity of certain desert mammals to scorpion venom. T. c. xxxi, pp. l-liv.
234. —. On the venom of scorpions. Rec. Egypt. School Med. ii, pp. 7-41, pls. i-iii.
235. WITT, OTTO N. Die Spinnenseide von Madagascar. Prometheus Jahrg. 12, 1901, pp. 673-676, 3 figg. [Omitted 1901.]
236. WOLCOTT, ROBERT H. The North American species of *Limnesia*. Tr. Amer. Micr. Soc. xxiv, pp. 139-160, pls. xii & xiii.

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 Symbiosis between Bees and Mites; GREEN & PERKINS (76).  
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Cephalonia. *Scorpions* and *Araneæ*, brief list; SANGIORGI, Atti Soc. Modena xxxvi, p. 71.

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### IV. SYSTEMATIC INDEX †.

General Classification of *Arachnida* (inclus. *Trilobites*, *Limulus* et *Pantopoda*):

Grade A. *Anomomeristica*.

Subclass. *Trilobitæ*.

Grade B. *Nomomeristica*.

Subclass i. *Pantopoda*.

Subclass ii. *Enarachnida*.

Grade (a) *Delobbranchia* n. nom. (*Hydropneusta* Pocock).

Ordo i. *Xiphosura*.

Ordo ii. *Gigantostroma*.

Grade (b). *Eulobobbranchia* n. nom. (*Æropneusta* Pocock).

Sectio (a) *Pectinifera*.

Ordo i. *Scorpionidea*.

Subordo. *Apoxyopoda*.

Subordo. *Dionychopoda*.

Ordo ii. *Pedipalpi*.

Subordo. *Uropygi*.

Trib. i. *Urotricha*.

Trib. ii. *Tartaridæ*.

† This sign when prefixed to a quotation indicates a fossil form or forms. Where the character of a reference is not indicated the words "description" or "descriptive notes" are to be understood.

- Ordo iii. *Aranææ.*
  - Subordo. *Mesothelæ.*
  - Subordo. *Opisthothelæ.*
- Ordo iv. *Palpigradi.*
- Ordo v. *Solifugæ.*
- Ordo vi. *Pseudoscorpiones.*
  - Subordo. *Panctenodactyli.*
  - Subordo. *Hemictenodactyli.*
- Ordo vii. *Podogona n. nom.* (= *Meridogastra*).
- Ordo viii. *Opiliones.*
  - Subordo. *Cyphophthalmi.*
  - Subordo. *Mecostethi.*
  - Subordo. *Plagiostethi.*
- Ordo ix. *Rhynchosstomi (Acarî).*
  - Subordo. *Notostigmata.*
  - Subordo. *Cryptostigmata.*
  - Subordo. *Metastigmata.*
  - Subordo. *Prostigmata.*
  - Subordo. *Vermiformia.*
  - Subordo. *Tetrapoda;*

E. RAY LANKESTER, Quart. J. Micr. Sci. (n. s.) No. 190, xlviii, pt. 2, pp. 165-269, 77 text-figg.

General Classification of Arachnida :

Subclass i. *Ctenophora* Pocock.

Ordo. *Scorpiones.*

Subclass ii. *Lipoctena* Pocock.

1. Sect. *Patellata n. nom.*

1. Subsect. *Megoperculata* Börner.

Ordo. *Pedipalpi.*

Ordo. *Aranææ.*

2. Subsect. *Cryptoperculata* Börner.

Ordo. *Meridogastra* Thorell.

Ordo. *Anthracomarti* Karsch (fossil).

Ordo. *Opiliones* Sund.

Ordo. *Acarina* Nitzsch.

2. Sect. *Haplocnemata n. nom.*

Ordo. *Chelonethi* Thorell.

Ordo. *Solifugæ* Sund. ;

C. BÖRNER, Zoologia, Stuttgart, 1904.

General classification of the Arachnida Micrura, key to the orders (*Palpigradi*, *Pedipalpi*, *Aranææ*), p. 143; H. J. HANSEN & W. SORENSSEN, on two orders of Arachnida etc.

Brief account on classification of Arachnida; key to orders p. 14, key to spiders' families p. 26; J. H. COMSTOCK & ANNA B. COMSTOCK, a manual for the study of insects (Arachnida, pp. 12-14, 48 text-figg.).

### I. SCORPIONES.

Close affinity of *Limulus* and Scorpion; LANKESTER, p. 205, Quart. J. Micr. Sci. (n. s.) No. 190, xlviii, No. 2.

*Archisometrus shelfordi*, Sarawak, p. 1; BORELLI, Boll. Mus. Torino xix, No 477, n. sp.

*Butheolus melanurus* Kessler and *B. melanurus persa* Birula, note on, pp. 74 & 75; BIRULA, Bull. Ac. St. Petersb. xix, No. 2 (1903).

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- B. doriae* Thorell, *B. eupeus thersites* C. Koch, *B. eupeus afghanus* Pocock, *B. eupeus kirmanensis* Birula, *B. caucasicus intermedius* Birula, *B. zarudnyi* Birula, note on, pp. 68-70, *B. zarudnyi sarghadensis*, Beluchistan, p. 70, **n. subsp.**, *B. palpator*, prov. Ssarghad, p. 72, **n. sp.**; BIRULA, t. c. No. 2 (1903), **n. sp. & n. subsp.**
- B. eupeus thersites* C. Koch, note on, p. 1, *B. eupeus barszezevskii*, Buchara, p. 2, **n. subsp.**, *B. kaznakovi*, prov. Schugnan, p. 2, **n. sp.**, *B. caucasicus intermedius* Birula, note on, p. 3, *B. caucasicus fuscus* Birula, note on, p. 4, *B. caucasicus przewalskii* Birula, note on, p. 5, *B. martensi* Karsch, note on, p. 6; BIRULA, Annuaire Mus. St. Petersb. ix (1904), **n. sp. & n. subsp.**
- B. gibbosus* Brullé, note on, p. 295; BIRULA, t. c. (1903).
- B. hottentota minax* L. Koch, from Abyssinia (riv. Niama) p. 443; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Centrurus hentzi*, Florida (Runnymede and Fort Reed), p. 142; BANKS, P. Ac. Philad. Jan. 1904, **n. sp.**
- †*Eoscorpium sparthensis*, Carboniferous of Rochdale, BALDWIN, p. 525, Tr. Manchester Geol. Soc. xxviii, **n. sp.**
- Euscorpium candiota*, Crete Isl. p. 295; BIRULA, Annuaire Mus. St. Petersb. viii, 1903, **n. sp.**
- Hemibuthus zarudnyi*, Makran, pr. Ge. p. 75; BIRULA, Bull. Ac. St. Petersb. xix, No. 2 (1903), **n. sp.**
- Hemihoplopus n. g.* (near *Urodacus*) *yaschenkoi*, South Australia; BIRULA, Annuaire Mus. St. Petersb. viii, No. 12, Nouvelles, **n. sp.**
- Hemiscorpion persicum*, Beluchistan (prov. Ssarbas), p. 77; BIRULA, Bull. Ac. St. Petersb. xix, No. 2, 1903, **n. sp.**
- Hemiscorpion tellini*, Halibaret (Col. Erythrea), p. 3; BORELLI, Boll. Mus. Torino xix, No. 463, **n. sp.**
- Jurus dufoureyus* Brullé, note on, p. 298; BIRULA, Annuaire Mus. St. Petersb. viii (1903).
- Opisthacanthus davydovi*, Aroe Island; BIRULA, t. c. No. 12, Nouvelles, **n. sp.**
- O. africanus* E. Sim., from Ababona forest, p. 444; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Opisthophthalmus wahlbergi* Thorell, p. 139, *O. carinatus* Peters (= *O. anderssoni* and *histrion* Thorell + *Petroicus furcatus* Sim.) p. 141, *O. schlechteri* Purc. p. 142, *O. granifrons* Pocock, p. 144, *O. leipoldti* Purc. p. 146, *O. capensis* Herbst (variations and synonym.), p. 147, *O. pallidipes* C. Koch, p. 151, *O. peringueyi* Purc. p. 153, *O. karrooensis* Purc. p. 153, *O. gigas* Purc. p. 154, *O. austerus* Karsch. p. 155, *O. chaperi* E. Sim. p. 156, *O. fossor* Purc. p. 157, *O. macer* Th. (= *O. fallax* Th. ♀), p. 158, *O. latimanus* C. K. (= *O. calvus* L. K.), p. 159, *O. pugnax* Thorell (= *O. curtus* Th. ♀), p. 161, *O. glabrifrons* Peters (= *O. leviceps* and *prado* Thorell), p. 161, *O. crassimanus*, Namaqualand, **n. sp.**, p. 164, *O. longicauda*, Great Bushmanland, **n. sp.**, p. 168, *O. pattisoni*, Sneeuwkop Mountain, **n. sp.**, p. 171, synopsis of the species of *Opisthophthalmus*, p. 175; W. F. PURCELL, Ann. S. African Mus. iv, pt. ii, **n. spp.**
- Parabuthus liosoma* Hempr. and Ehr., note on, p. 112, *P. liosoma dmitrievi*, Abyssinia (Kachenuha), p. 113; BIRULA, Bull. Ac. St. Petersb. xix, No. 3 (1903), **n. subsp.**
- P. villosus* Peters, *granimanus* Pocock, *heterurus* Pocock, from Centr. Abyssinia, p. 444; E. SIMON, Bull. Mus. Paris No. 7, 1904.
- Prionurus*, *Buthus*, *Archisometrus*, *Zabius*, *Tityus*, *Centrurus*, *Rhopalurus*,

- Scorpio*, *Heterometrus*, *Palamnaeus*, *Hemiscorpion*, *Opisthacanthus*, *Ischnurus*, *Bothriurus*, nomenclature notes, pp. 195-201; H. KRAEPELIN, Zool. Anz. xxviii, No. 6.
- Prionurus crassicauda orientalis* Birula, note on, p. 67, *P. mauritanicus* Pocock, note on, p. 105; BIRULA, Bull. Ac. St. Petersb. xix, Nos. 2 & 3 (1903).
- Rhopalurus borelli* Pocock, pl. iv, figg. 1-3, *R. junceus* Herbst, pl. iv, fig. 4, figured; R. I. POCK, Ann. Nat. Hist. Ser. 7, xiii.
- Scorpio smithi* Pocock, from Somaliland, p. 444; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- S. indicus*, embryology; POLJANSKY, Trudui St. Petersb. Obshch. xxxiii, pp. 42. etc.
- Tityus floridanus*, Florida (Key West), p. 142; BANKS, P. Ac. Philad. Jan. 1904, n. sp.
- Uroplectes occidentalis* E. Sim. & *U. fischeri* Karsch, from Centr. Abyssinia, p. 444; E. SIMON, Bull. Mus. Paris 1904, No. 7.

## II. PEDIPALPI.

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Systematic arrangement of Pedipalpi, p. 148 :

- I. Subordo *Palpigradi* Thorell (fam. *Kaenenidae* Grassi).
  - II. Subordo *Uropygi* Thorell.
    - I. Tribu *Schizopeltidia* n. nov. (fam. *Schizonotidae*).
    - II. Tribu *Holopeltidia* C. Br. (fam. *Thelyphonidae* Lucas).
  - III. Subordo *Amblypygi* Thorell (fam. *Tarantulidae*);
    - C. BÖRNER, Zoologica 1904, pp. 1-174, pls. and text-figg.
- Damon medius* Herbst, from Abyssinia (Anton Riv.) p. 443, E. SIMON, Bull. Mus. 1904, No. 7.
- Thelyphonus caudatus*, embryology, SCHIMKEWITSCH, pp. 56-77 and 93-110, Trudui St. Peterb. Obshch. xxxiii.
- Trithyreus*, *Phrynichus*, *Tarentula* and *Admetus*, nomenclature notes, pp. 201-204, K. KRAEPELIN, Zool. Anz. xxviii, No. 6.

## III. PALPIGRADI.

*Palpigradi*, rapp. as suborder to *Pedipalpi*, external and internal morphology of *Kaenia mirabilis* Grassi; C. BÖRNER, Zoologica 1904, pp. 1-174, pls. & text-figg.

## IV. ARANEÆ.

Classification of spiders, historical and systematical, new arrangement of suborders and families, key to suborders, p. 83.

1. Verticulatae (Liphistiidae).
2. Tetrapneumones (Aviculariidae, Atypidae, Hypochilidae).
3. Oligotrichiæ (Uloboridae, Dictynidae (pars), Œcobiidae, Eresidae, Filistatidae, Sicariidae, Leptonetidae, Oonopidae, Dysderidae, Palpimanidae, Uroctidae, Pholcidae, Theridiidae, Argiopidae, Mimetidae).
4. Chalinuræ (Hersiliidae).
5. Polytrichiæ (Psecridae, Zoropsidae, Dictynidae (pars), Drassidae, Zodariidae (pars), Clubionidae, Agelenidae (pars), Pisauridae, Lycosidae, Oxyopidae, Senoculidae).



6. Stichotrichiæ (Dictynidæ (pars), Zodariidæ (pars)).
7. Saltigradæ (Salticidæ).
8. Laterigradæ (Thomisidæ).
9. Apneumonones (Caponiidæ);

DAHL, F., SB. Ges. naturf. Berlin, pp. 85-120.

General synopsis of spiders' families of Central American fauna; FR. CAMBRIDGE, Arachn.-Aran. ii, Biol. Centr.-Amer., p. 541.

Variability in the number of teeth on the claws of adult spiders, showing their unreliability for systematic description; C. HARTMANN, Biol. Bull. vi, pp. 191-197, 4 text-figg.

Structure and classification of spiders, introductory sketch; A. E. THOMSON, Tr. Manchester Micr. Soc. 1903, pp. 54-70.

### Aviculariidæ.

- *Ancylotrypa cornuta*, Cape Colony (Dumbrody), p. 119; PURCELL, Tr. S. African Soc. xv, p. 111, n. sp.
- *Bemmeris pardalina* E. Sim. = *Harmachastes collinus* Pocock (Juv.), p. 121; PURCELL, t. c. (foot note).
- *Brachionopus pretoriae*, Pretoria, p. 126; PURCELL, t. c. n. sp.
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- *Chilobrachys paviei* E. Sim., p. 271, *C. dyscolus* E. Sim., p. 273, new description; E. SIMON, Mission Pavie iii.
- *Clitotrema* n. g. p. 444, *zeltneri*, Abyssinia (Mt. Fické), p. 444; E. SIMON, Bull. Mus. Paris, No. 7, 1904, n. sp.
- *Ctenolophus* n. g. (type *Acanthodon kolbei* Purcell), p. 117, key to species, p. 118; PURCELL, Tr. S. African Soc. xv, p. 111.
- *Ctenonemus pectiniger* E. Simon = *Harmachastes* Juv., p. 121; PURCELL, t. c. (foot note).
- *Harpactirella schwarzi*, Cape Colony (Willomore div.), p. 126; PURCELL, t. c. n. sp.
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- *Melopeus albostratus* E. Sim., new description and fig., p. 270, pl. xvi, fig. 1; E. SIMON, Mission Pavie iii.
- *Migas paradoxus* L. Koch, from Wanganui, New Zealand, note and text-fig., p. 68; H. R. HOGG, Ann. Nat. Hist. (7) xiii.
- *Moggridgea nigra*, Cape Colony, p. 115; PURCELL, Tr. S. African Mus. xv, p. 111, n. sp.
- *Pelmatorycter pallidipes*, Cape Colony (Matjesfontein), p. 120; PURCELL, t. c. n. sp.
- *Pisenor bicalcaratus*, Centr. Abyss., p. 444; E. SIMON, Bull. Mus. Paris, No. 7, n. sp.
- *Pterinochilus junodi*, Zoutpansberg, p. 66; E. SIMON, Rev. Suisse Zool. xiii, n. sp.
- *Spiroctenus pallidipes*, Cape Colony (Worcester div.), p. 121, *S. latus*, Cape Colony (Wellington), p. 125; PURCELL, Tr. S. African Soc. xv, p. 111, n. spp.

### Hypochilidæ.

*Ectatosticta australis* E. Sim. 1902 = *Theridion troglodytes* Higgins and Petterd, p. 327; W. J. RAINBOW, Rec. Austral. Mus. v, pt. 5.

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- Avellopsis* n. g. p. 128, *capensis*, Cape Colony, p. 128; PURCELL, Tr. S. African Soc. xv, p. 111, n. sp.  
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*Miagrammopes constrictus*, Natal, p. 130; PURCELL, t. c. n. sp.  
*M. rimosus* E. SIMON, new description, p. 273; E. SIMON, Mission Pavie iii.  
*Uloborus californicus*, California (St Helena), p. 351, pl. 39, fig. 35; N. BANKS, P. Calif. Ac. iii, No. 13, n. sp.  
*U. geniculatus* Oliv., from Bermuda Island, p. 273; N. BANKS, Tr. Connect. Ac. xi.

*Dictynidae.*

- Auximus schreineri*, Cape Colony (Hanover), p. 131, pl. x, fig. 1, *A. silvaticus*, Cape Colony, forest at the Knysna, p. 132, pl. x, fig. 2, *A. longipes*, Cape peninsula, p. 132, pl. x, fig. 3; PURCELL, Tr. S. African Soc. xv, p. 111, n. spp.  
*Dictyna calcarata*, California (San Pedro), p. 342, pl. 40, fig. 42; BANKS, P. Calif. Ac. iii, No. 13, n. sp.  
*D. floridana*, Florida (Lake Worth), p. 125; BANKS, P. Ac. Philad., Jan. 1904, n. sp.  
*D. fuegiana* E. Sim., supp. descrip., p. 84, *D. togata* Allen Gardiner, p. 85; E. SIMON, Ann. Soc. ent. Belgique xlviii, n. sp.  
*Dictynina* n. gen. p. 342, *pallida*, California (Mt. Shasta), p. 342; BANKS, P. Calif. Ac. iii, No. 13, n. sp.  
*Dictyolathys californica*, California (Palo Alto), p. 343, pl. 38, fig. 7, pl. 40, figg. 40 & 46; BANKS, t. c. n. sp.  
*Göldia obscura* Keyserl.=(probably) *Titanoeca patellaris* E. S., p. 86; E. SIMON, Ann. Soc. ent. Belgique xlviii.  
*Heterodictyna* nov. nom. for *Dictyna* pars, p. 118; F. DAHL, SB. Ges. naturf. Berlin 1904.  
*Macrobunus spinifer* Tullgren = *Myropsis backhauseni* E. S., p. 86; E. SIMON, Ann. Soc. ent. Belgique xlvii.  
*Pseudauximus pallidus*, Cape Colony (Hanover), p. 133, pl. x, fig. 4; PURCELL, Tr. S. African Soc. xv, p. 111, n. sp.  
*Thallumetus acanthochirus*, Punta Arenas, p. 85, *T. celatus*, La Herradura, prov. Coquimbo, p. 85; E. SIMON, Ann. Soc. ent. Belgique xlviii, n. spp.

*Eresidae.*

- Adonea variegata*, Cape Colony, p. 137, pl. x, fig. 7; PURCELL, Tr. S. African Soc. xv, p. 111, n. sp.  
*Dresserus angusticeps*, Cape Colony, p. 139, pl. x, fig. 9, *D. laticeps*, Cape Colony, Namaqualand div., p. 140, pl. x, fig. 10; PURCELL, t. c. n. spp.  
*Seothyra fasciata*, Cape Colony, S. W. Kalahari, p. 138, pl. x, fig. 8; PURCELL, t. c. n. sp.  
*Stegodyphus canus*, Cape Colony, Namaqualand div., p. 134, pl. x, fig. 5, *S. teutoriicola*, Cape Colony (Hanover and Eierfontein), p. 135, pl. x, fig. 6; PURCELL, t. c. n. spp.

*Filistatidae.*

- Filistata hibernalis* Hentz, from Bermuda Island, p. 268; N. BANKS, Tr. Connect. Ac. xi.

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- Leptoneta californica*, California (Mt. Diablo, Contra-Costa County), p. 333, pl. 38, fig. 11; BANKS, P. Calif. Ac. iii, No. 13, n. sp.  
*Physoglenes* n. g. p. 87, *P. vivesi*, Chili, Los Perales, p. 88, text-fig.; E. SIMON, Ann. Soc. ent. Belgique xlviii, n. sp.

*Oonopidae.*

- Oonops bermudensis*, Bermuda Islands, p. 269; N. BANKS, Tr. Connect. Ac. xi, text-fig. n. sp.

*Sicariidae.*

- Drymusa silvicola*, forest at Knysna, p. 152, pl. xi, figg. 24 & 25, *D. producta*, forest on the mountain side at Swellendam, p. 153, pl. xi, fig. 26, key of the species, p. 154; PURCELL, Tr. S. African Soc. xv, pt. iii, n. spp.  
*Loxosceles spinulosa*, Cape Colony (Swellendam div.), p. 140; PURCELL, t. c. n. sp.  
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*Scytodes longipes* Lucas and *S. fusca* Walck., from Bermuda Island, pp. 268 & 269; N. BANKS, Tr. Connect. Ac. xi.

*Dysderidae.*

- Ariadna dentigera*, Cape Town, p. 154, *A. lightfooti*, Caledon div., p. 155, *A. jubata*, Namaqualand div. (Tsabis), p. 156, *A. kolbei*, Kentani dist. (Transkei), p. 157, *A. bilineata*, Cape Colony, p. 158, *A. karrooica*, Cape Colony, p. 159, *A. capensis*, Cape Pen. (Wynberg Hill), p. 160, *A. segestrioides*, Dumbrody, p. 161, *A. umtalica*, Mashonaland and Bechuanaland, p. 162, *A. scabripes*, Hanover, p. 162, synopsis of the South African species, p. 164; PURCELL, Tr. S. African Soc. xv, pt. iii, n. spp.  
*Dysdera crocata* C. Koch, from Bermuda Island, p. 269; N. BANKS, Tr. Connect. Ac. xi.  
*Harpactes drassoides* E. Simon, new descript. and fig., p. 280, pl. v, figg. 1 & 2; R. DE LESSERT, Observ. Ar. du bassin du Léman.  
*Segestriella* n. gen. p. 164, *S. gryllotalpa*, Cape Colony, St Helena Bay, p. 105; PURCELL, Tr. S. African Soc. xv, pt. iii, n. sp.  
*Stalita mrázeki*, Montenegro (Lipska pecina cave), p. 2; NOSEK, Arachn. Montenegrina, SB. Bohmisch. Ges. 1903, No. 46, n. sp.

*Caponiidae.*

- Caponia spiralifera*, Cape Colony (Hanover), p. 166, pl. xi, fig. 28, *C. karrooica*, Matjesfontein, p. 166, pl. xi, fig. 30, *C. forficifera*, Worcester

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*Diploglena* n. g. p. 169, *D. capensis*, Cape Colony, p. 170, pl. xi, fig. 36; PURCELL, t. c. n. sp.

### *Prodidomidae.*

- Prodidomus capensis*, Cape Town, Dumbrody, p. 170, pl. xi, fig. 39, *P. purpurascens*, Cape Penins., p. 171, pl. xi, fig. 40, *P. scaber*, Cape Colony (Prince Albert), p. 172, pl. xi, fig. 42; PURCELL, Tr. S. African Soc. xv, pt. iii, n. spp.

### *Drassidae.*

- Note on genera *Laronia*, *Callilepis* and *Pterotricha*; KULCZYŃSKI, Fragmenta i, p. 548.  
 Key to Chilian *Drassidae*; E. SIMON, Ann. Soc. ent. Belgique xlvi, 1904, p. 88.  
*Drassinella* n. g. p. 335, *D. modesta*, California (Santa Catalina Island), p. 335, pl. 39, fig. 33; BANKS, P. Calif. Ac. iii, No. 13, n. sp.  
*Drassodes californica* (sic.), California (Downieville), p. 338, pl. 38, fig. 8, pl. 39, fig. 28; BANKS, t. c. n. sp.  
*D. heeri* Pavesi, note and synonymy., p. 283, pl. v, fig. 5; R. DE LESSERT, Observ. Ar. du bassin du Léman.  
*Gnaphosa californica*, California (Claremont), p. 335, pl. 38, fig. 10; BANKS, P. Calif. Ac. iii, No. 13, n. sp.  
*G. islandica* W. Sor., new descript. and observ.; W. SÖRENSEN, Ent. Meddel. 1904 (2), 1 heft.  
*G. pseudotaponica*, Norway, p. 6; E. STRAND, Forh. Selsk. Christian. 1904, No. 5, n. sp.  
*G. utahana*, Utah, p. 110; BANKS, J. N. York Ent. Soc., June 1904, n. sp.  
*Herpyllus angustus*, California (San Pedro), p. 337, pl. 40, fig. 43; BANKS, P. Calif. Ac. iii, No. 13, n. sp.  
*H. californicus*, California (Lakeside), p. 110; BANKS, J. N. York Ent. Soc., June 1904, n. sp.  
*Megamyrmeleon gayi*, Chili (Penafior), p. 89; E. SIMON, Ann. Soc. ent. Belgique xlvi, n. sp.  
*Melanophora porteri*, Chili (Los Perales), p. 89; E. SIMON, t. c. n. sp.  
*Prothesima præfica* L. Koch, note and syn., p. 289, *P. fortuita* E. Sim., p. 290, pl. v, fig. 4, *P. exigua* Müller, pl. v, fig. 3; R. DE LESSERT, Observ. Ar. du bassin du Léman.  
*P. tenera*, Denmark, p. 280; W. SÖRENSEN, Ent. Meddel. 1904 (2) 1 heft. n. sp.  
*Sergiolus cyaneiventris* E. Simon, note on, p. 122; BANKS, P. Ac. Philad., Jan. 1904.  
*Zelotes aprilinus*, Maryland, p. 110; BANKS, J. N. York Ent. Soc., June 1904, n. sp.  
*Z. femoralis*, California, p. 336, pl. 38, fig. 1, *Z. maculata*, California (Claremont), p. 336, pl. 40, fig. 38, *Z. pacifica*, California (Santa Rosa Island), p. 336, pl. 39, fig. 15; BANKS, P. Calif. Ac. iii, No. 13, n. spp.

*Zodariidæ.*

- Capheris decorata*, Zoutpansberg, p. 66; E. SIMON, Rev. Suisse Zool. xii, 1904, n. sp.  
*Diores simoni*, Cape Penins., p. 147, pl. 9, fig. 5, *D. cognata*, Cape Penins., p. 149, pl. 9, fig. 6; O. P. CAMBRIDGE, Ann. S. African Mus. iii, pt. 5, n. spp.

*Hersiliidæ.*

- Hersilia siamensis* E. Sim., new descript., p. 274; E. SIMON, in Mission Pavie iii.

*Pholcidæ.*

- Pholcus tipuloides* L. Koch, from Bermuda Island, p. 271; N. BANKS, Tr. Connect. Ac. xi.

*Theridiidæ.*

- Stridulating organs in several genera of Theridiidæ (*Rhomphæa*, *Argyrodes*, *Theridion*), p. 559, pl. 14, figg. 24-29; KULCZYŃSKI, Fragmenta i.
- Ariamnes corniger* E. Sim., descript. of male, p. 339, text-fig.; E. SIMON, Fauna Hawaiiensis iii.
- Coleosoma floridana* (sic) **nov. nom.** for *Coleosoma blandum* Keyserling nec Cambridge; BANKS, P. Ac. Philad., Jan. 1904, p. 128.
- Coscinida triangulifera*, Java, p. 68; E. SIMON, Rev. Suisse Zool. 1904, n. sp.
- Dipoena erythropus* E. Simon, supp. descript. p. 306; R. DE LESSERT, Observ. Ar. du bassin du Léman.
- D. pictipes*, California (Claremont), p. 345; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- Enoplognatha maritima* E. Simon, supp. descript., p. 39, pl. v, fig. 7; R. DE LESSERT, Observ. Ar. du bassin du Léman.
- E. molesta*, Cape Colony, p. 149, pl. x, fig. 1, *E. inornata*, Cape Col. (Clanwillian), p. 151, pl. x, fig. 11; O. P. CAMBRIDGE, Ann. S. African Mus. iii, p. 5, n. spp.
- Episinus truncatus* Latr. and *lugubris* E. Sim., note on, p. 549; KULCZYŃSKI, Fragmenta i.
- Euryopsis californica*, California (los Angeles), p. 345, pl. 39, fig. 23 & 26; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- Latrodectus concinnus*, Cape Penins., p. 151, pl. 10, figg. 3 & 4, *L. indistinctus*, Cape Penins., p. 154, pl. 11, fig. 1; O. P. CAMBRIDGE, Ann. S. African Mus. iii, pt. 5, n. spp.
- L. tredecim-guttatus* Rossi, from Mt. Fické Abyss.; E. SIMON, Bull. Mus. Paris, No. 7, p. 442.
- L. geometricus* C. Koch, from Bermuda Island, p. 272; N. BANKS, Tr. Connect. Ac. xi.
- Mero* n. g. p. 156, *M. quadrimaculata*, Cape Town, p. 157, pl. 11, fig. 4; O. P. CAMBRIDGE, Ann. S. African Mus. iii, pt. 5, n. sp. (incompletely Recorded 1903, No. 24)\*.
- Rhomphæa longa*, Herzogowina, p. 533, pl. 14, fig. 1 & 2, KULCZYŃSKI, Fragmenta i, n. sp.
- Sphyrrotinus delphini*, Punta Arenas, p. 92; E. SIMON, Ann. Soc. ent. Belgique xlvi, n. sp.

\* *Mero quadrimaculata* Cambr. is certainly synonymous with *Cyatholipus quadrimaculatus* E. Simon, Hist. Nat. Ar. t. 1, p. 713.—(Note of Recorder.)

- Teutana lepida*, Cape Penins., p. 154, pl. 11, fig. 2, *T. connexa*, Cape Penins., p. 156, pl. 11, fig. 3; O. P. CAMBRIDGE, Ann. S. African Mus. iii, pt. 5, n. spp.
- Theridion auberti*, Zoutpansberg, p. 67; E. SIMON, Rev. Suisse Zool. 1904, n. sp.
- T. bertkawi* Bösenberg, def. and fig., p. 303, pl. v, fig. 11, 12, 13 & 16; R. DE LESSERT, Observ. Ar. du bassin du Léman.
- T. bösenbergi* n. nom. for *T. bertkawi* Bösenberg præocc.; E. STRAND, Ent. Zeit. xviii, No. 3.
- T. delicatum*, Cape Penins., p. 157, pl. 11, fig. 5, *T. dedux*, Durban, p. 158, pl. 12, fig. 1, *T. purcelli*, Cape Town, p. 159, pl. 12, fig. 2; O. P. CAMBRIDGE, Ann. S. African Mus. iii, pt. 5, n. spp.
- T. floridensis* (sic) n. nom. for *Th. lyra*, Keyserling non Hentz; BANKS, P. Ac. Philad., Jan. 1904, p. 125.
- T. californicum*, California (Mill Valley), p. 344, pl. 39, fig. 34; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- T. fuegianum* Allen Gardiner, p. 90, n. sp., *T. attritum* and *spinipes* Nicolet, observ. and descript., pp. 91 & 92; E. SIMON, Ann. Soc. ent. Belgique xlviii, 1904.
- T. tepidariorum* C. K., *studiosum* Hentz and *rufipes* Lucas, from Bermuda Island, p. 272; N. BANKS, Tr. Connect. Ac. xi.
- Tricantha tricornis* E. Sim., new descript., p. 150; FR. CAMBRIDGE, Biol. Centr.-Amer. Arachn.-Aran. ii.

### *Argiopidae.*

- Acacesia*, new defin., p. 502, *A. foliata*, p. 502, pl. 48, figg. 1 & 2; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.
- Aerosoma calcaratum* O. P. Cambr. = *Keyserlingia cornigera* O. P. Cambr., p. 532; FR. CAMBRIDGE, t. c.
- Amavra* O. P. Cambr. = *Vivia*, p. 485, *A. nigromaculata* O. P. Cambr. = *Epeira clavispina* O. P. Cambr., p. 509; FR. CAMBRIDGE, t. c.
- Araneus* (*Epeira*) *ulrichi* Hahn, p. 363, pl. v, fig. 25, *A. (Singa) pygmaeus* Sund., p. 370, suppl. descript.; R. DE LESSERT, Observ. Ar. du bassin du Léman.
- Aranea nephiloides*, p. 511, pl. 48, fig. 22, *A. smithi*, p. 511, pl. 49, fig. 1, *A. sargi*, p. 511, pl. 49, fig. 2, *A. gravabilis*, p. 511, pl. 49, fig. 4, *A. aculifera*, p. 512, pl. 49, fig. 5, *A. incerta*, p. 512, pl. 49, figg. 7 & 8, *A. dilatata*, p. 513, pl. 49, fig. 9, *A. helveola*, p. 513, pl. 49, fig. 10, *A. pallidula*, p. 514, pl. 49, fig. 13, *A. septemammata*, p. 514, pl. 49, fig. 15, *A. spinigera*, p. 515, pl. 49, fig. 16, *A. rufipes*, p. 515, pl. 49, fig. 17, *A. detrimentosa*, p. 515, pl. 49, fig. 18, *A. cylindrica*, p. 515, pl. 49, figg. 19 & 20, *A. laticeps*, p. 516, pl. 49, fig. 21, *A. nigropustulata*, p. 516, pl. 49, fig. 22, *A. veniliae*, p. 516, pl. 49, figg. 23 & 24, *A. championi*, p. 517, pl. 50, figg. 1 & 2, *A. mormon*, p. 517, pl. 51, fig. 1, *A. graeca*, p. 518, pl. 51, fig. 2, *A. flava*, p. 518, pl. 51, fig. 3, *A. fasciolata*, p. 519, pl. 51, fig. 5, new descript. and fig., *A. sinistra*, Mexico, p. 510, pl. 48, fig. 21, *A. concolorata*, Panama, p. 511, pl. 49, fig. 3, *A. glabrata*, Panama, p. 512, pl. 49, fig. 6, *A. dilatata*, Guatemala, p. 513, pl. 49, fig. 9, *A. nigrocincta*, Panama, p. 513, pl. 49, figg. 11 & 12, *A. anguinifera*, Mexico, p. 514, pl. 49, fig. 14, *A. cyrtophoroides*, Mexico, p. 518, pl. 51, fig. 4; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii, n. spp.
- Araneus rufipalpis* Lucas, *theisi* Walck., *cereolus* and *strupifer* E. Simon, from Centr. Abyssinia; E. SIMON, Bull. Mus. Paris 1904, No. 7, p. 443.
- A. exsertus*, Gulf of Carpentaria (Mornington Island), p. 102, figg. 26 & 27; RAINBOW, Rec. Austral. Mus. v, pt. 2, n. sp.

- A. singæformis*, Kansas, p. 259, pl. 17, figg. 4, 5, & 6; T. H. SCHEFFER, Ent. News Philad. xv, n. sp.
- Argiope lordi* Cambr., from Harrar, *A. flavipalpis* Lucas, from Belg. Congo; E. SIMON, Bull. Mus. Paris 1904, No. 7, p. 442.
- Argyropeira hortorum* Hentz, from Bermuda Island, p. 273; N. BANKS, Tr. Connect. Ac. xi.
- Bathypantes pallidula* (sic), California (Claremont), p. 346, pl. 40, fig. 45; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- Carepalxis*, note on, p. 520; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.
- Centromerus balteatus* E. Simon, suppl. descrip., p. 335, pl. v, fig. 21; R. DE LESSERT, Observ. Ar. du bassin du Léman.
- Cnephalocotes subæqualis* Westring = *Walckenaera fortuita* O. P. Cambr., *Lophomma laudatum* Kulczynski et *Cnephalocotes fuscus* O. P. Cambridge, p. 315; R. DE LESSERT, t. c.
- Cornicularia cuspidata* Bl., p. 9, pl. i, fig. 3; F. P. SMITH, J. Quekett Club 1904, ser. 2, t. ix.
- Coryphæus glabriceps* Fr. Cambridge = *Gongylidium distinctum* E. Simon; F. P. SMITH, p. 111, J. Quekett Club, ser. 2, t. ix.
- Cyclosa*, def. and key of the Centr.-Amer. spp. p. 491, *C. conica*, p. 493, pl. 46, figg. 19 & 20, *C. tuberculifera*, p. 493, pl. 47, fig. 1, *C. culta*, p. 493, pl. 47, fig. 2, *C. lacerta*, p. 494, pl. 47, fig. 3, *C. caroli*, p. 494, pl. 47, fig. 4, *C. furcata*, p. 494, pl. 47, fig. 6, *C. trifida*, p. 495, pl. 47, fig. 7, *C. bifurca*, p. 495, pl. 47, fig. 8, *C. walckenaeri*, p. 495, pl. 47, fig. 9, *C. diversa*, p. 496, pl. 47, fig. 12, *C. clara*, p. 497, pl. 47, fig. 13, *C. fusiformis*, p. 497, new notes and figg., *C. conigera*, Mexico, p. 494, pl. 47, fig. 5, n. sp.; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.
- C. fissicauda* O. P. Cambr. = *Cyclosa bifurca* McCook, p. 495; FR. CAMBRIDGE, t. c.
- C. cervicula* McCook = *Cyclosa walckenaeri* O. P. Cambr., p. 496; FR. CAMBRIDGE, t. c.
- C. caudata* Hentz, from Bermuda isl., p. 273; N. BANKS, Tr. Connect. Ac. xi.
- Cyrtarachne mexicana* and *C. dugesi* O. P. Cambridge = *Marxia stellata*, p. 481; FR. CAMBRIDGE, t. c.
- C. walleri* Blackw., from Tourkouana, p. 442; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- C. decentuberculata* O. P. Cambr., referred to the gen. *Glyptogona*; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii, p. 523.
- Cyrtophora citricola* Forsk., from river Dongou, p. 442; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Diplocephalus fuscipes* Blackw., figured, p. 9, pl. i, fig. 4; F. P. SMITH, J. Quekett Club 1904, ix.
- Dicyphus cornutus* Blackw., figured, p. 9, pl. i, fig. 2; F. P. SMITH, t. c.
- Edricus*, def. p. 499, *E. spinigerus*, p. 500, pl. 49, fig. 25, *E. productus*, p. 500, pl. 49, fig. 26, *E. crassicauda*, p. 500, pl. 47, fig. 21; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.
- Enidia* n. nom. for *Dicyphus* Menge præocc. p. 115; F. P. SMITH, J. Quekett Club, Ser. 2, ix.
- Entelecara acuminata* Wid., figured, p. 9, pl. i, fig. 1; F. P. SMITH, t. c.
- Epeira bifurcata* Keyserl. = *Cyclosa walckenaeri* O. P. Cambr., p. 496, *E. cambridgei* Keyserl. = *E. illicita* O. P. Cambr., p. 506, *E. nava* O. P. Cambr. = *E. scutigera* O. P. Cambr., p. 508, *E. fecunda* O. P. Cambr. = *E. incerta* O. P. Cambr., 512, *E. nigrohumeralis* O. P. Cambr. = *E. detrimentosa* O. P. Cambr., p. 515, *E. dstricta* O. P. Cambr. = *E. conseqna* O. P. Cambr., p. 518; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.
- E. floridensis*, Florida (Miami), p. 129; BANKS, P. Ac. Philad. Jan. 1904, n. sp.

- E. emertoni*, North America, p. 111; BANKS, J. N. York Ent. Soc. June, 1904, n. sp.
- E. excelsa* Banks = *Ep. pacifica* McCook, p. 348; BANKS, P. Calif. Ac. iii, No. 13.
- E. mitifica* E. Simon, new description, p. 280; E. SIMON, in Mission Pavie iii.
- Erigoneae*, spiders of the Erigone Group, list of British spp., p. 109; F. P. SMITH, J. Quekett Club, Ser. 2, vol. ix.
- Erigone aries* Kulcz. = *Scotinotylus antennatus* (Cambr.), var., p. 552; KULCZYNSKI, Fragmenta ii.
- E. californica*, California, p. 347, pl. 38, fig. 3; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- Erigonidium* n. gen., type *Erigone graminicola* Sund., p. 112; F. P. SMITH, J. Quekett Club, Ser. 2, vol. ix.
- Falconeria* n. gen., type *Neriene cornuta* Blackw., p. 115; F. P. SMITH, t. c.
- Eustala*, def. and key of the Centr.-Amer. spp., pp. 503 & 504, *E. fuscovittata*, p. 505, pl. 48, figg. 3 & 4, *E. illicita*, p. 506, pl. 48, figg. 5 & 6, *E. anastera*, p. 506, pl. 48, figg. 7 & 8, *E. scutigera*, p. 508, pl. 48, figg. 11 & 12, *E. latebricola*, p. 508, pl. 48, fig. 15, *E. vegeta*, p. 509, pl. 48, figg. 16 & 17, *E. fragilis*, p. 509, pl. 48, fig. 18, *E. clavispinna*, p. 509, pl. 48, fig. 19, *E. semifoliata*, p. 510, pl. 48, fig. 20; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.
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- Gasteracantha*, def. and key of the Cent.-Amer. spp., p. 524, *G. cancriformis*, p. 525, pl. 51, fig. 14, *G. kochi*, p. 525, pl. 51, fig. 15; FR. CAMBRIDGE, t. c.
- G. scapha* Gerst., from Choa and Tourkouana, *G. hildebrandti* Karsch, from Madi and Niam-Niams reg.; E. SIMON, Bull. Mus. Paris 1904, No. 7, p. 442.
- G. arcuata* Fabr., pl. 16, fig. 4, *G. propinqua* Cambr., pl. 16, fig. 5, *G. leucomelas* Dol., pl. 16, fig. 3, figured; E. SIMON, in Mission Pavie iii.
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- Hentzia*, new defin. p. 523, *H. trivittata*, p. 523, pl. 51, figg. 12 & 13; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.
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- Landana*, note on the genus, p. 95, *L. edwardsi*, Chili (los Perales), p. 94; E. SIMON, Ann. Soc. ent. Belgique xlvi, n. sp.
- Larinia chloreis* Aud., from Herrer valley, p. 443; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Lephtyphantes zebrinus* Menge and *L. zimmermanni* Bertk., note on, p. 553, pl. 14, figg. 19 & 20, *L. frigidus* E. Simon, pl. 14, figg. 5, 13, 14, *L. annulatus* Kulcz. pl. 14, fig. 4, *L. kotulai* Tirol, p. 536, pl. 14, figg. 9 & 10, *L. (?) armatus* Tirol, p. 540, pl. 14, figg. 7, 8, 11; W. KULCZYNSKI, Fragmenta i, n. spp.
- L. nodifer* E. Sim., p. 343, pl. 5, figg. 22 & 23, *L. notabilis* Kulcz., p. 345, pl. 5, figg. 26 & 27, supp. descript.; R. DE LESSERT, Observ. Ar. du bassin du Léman.
- Leucauge ungulata* Karsch, from Belg. Congo, p. 442; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Linyphia interpolis*, Cape Colony (Clanwilliam), p. 161, pl. 12, fig. 3; O. P. CAMBRIDGE, Ann. S. African Mus. iii, p. 5, n. sp.



- L. limatula*, Chili (La Herradura), p. 93; E. SIMON, Ann. Soc. ent. Belgique xlviii, n. sp.
- Lophocarenum frontalis*, North Amer., p. 111; BANKS, J. N. York Ent. Soc. June 1904, n. sp.
- L. fasciatum*, California (Claremont), p. 347, pl. 39, figg. 20, 21, 24; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- Lucrinus* n. g., p. 162, *L. putus*, Cape Colony (Clauwilliam), p. 162, pl. 12, fig. 4; O. P. CAMBRIDGE, Ann. S. African Mus. iii, pt. 5, n. sp.
- Mahadiva reticulata* O. P. Cambr. = *Verrucosa arenata*, p. 482; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.
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- Nephila femoralis* Lucas, *senegalensis* Walck., *pilipes* Lucas, *cruentata* Fabr. from Abyssinia and Congo, p. 442; E. SIMON, Bull. Mus. Paris 1904, pp. 442.
- N. clavipes* Fabr., from Bermuda isl., p. 273; N. BANKS, Tr. Connect. Ac. xi.

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- Singa lutea* O. P. Cambr. = *S. flava* O. P. Cambr., p. 518; FR. CAMBRIDGE, t. c.
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- W. inflexa* Westr. (*W. westringi* Strand), note and new descript.; E. STRAND, Norske Selskr. Sk. 1903 (1904), No. 7.
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- Ero tuberculata* de Geer and *aphana* Walck., note on, p. 556, pl. 14, fig. 23, *E. ligurica*, Liguria (San Remo), p. 543, pl. 14, fig. 3; KULCZYNSKI, Fragmenta i, n. sp.

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- Micrommata vittigerum* E. Simon, from Abyssinia (Gofa), p. 443 ; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Oedignatha sima* E. Sim., new descript., p. 286 ; E. SIMON, Mission Pavie iii.
- Olbophthalmus* n. nom. for *Olbus* E. Simon (Hist. Nat. Ar., nec *Olbus* E. Simon 1880), p. 98 ; E. SIMON, Ann. Soc. ent. Belgique xlvi, 1904.
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- Polybetes delfini*, Punta Arenas, p. 99 ; E. SIMON, Ann. Soc. ent. Belgique xlvi, 1904, n. sp.
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- Terupis* n. gen., p. 103, *T. bicolor*, Chili, la Herradura prov. Coquimbo, p. 103 ; E. SIMON, Ann. Soc. ent. Belgique xlvi, 1904, n. sp.
- Thargalia floridana* Banks, suppl. descript., p. 124 ; BANKS, P. Ac. Philad., Jan. 1904.
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- Trachelas californica*, California (Mill Valley, Palo Alto), p. 339, pl. 40, fig. 47 ; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
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- Pisauridae*, key to North Amer. genera, p. 313; MONTGOMERY, P. Ac. Philad. March 1904.
- Dolomedes sexpunctatus* Hentz, suppl. descript., p. 654, pl. 29, fig. 5; MONTGOMERY, t. c. Oct. 1903.
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- Euprosthonops bayoanianus* Br. Cap., from Belg. Congo, p. 443; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Pisaurina mira* Walckenaer, suppl. descript. and synon., p. 320, MONTGOMERY, P. Ac. Philad. March 1904.

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- Lycosidae*, key to North American genera, p. 264; MONTGOMERY, P. Ac. Philad. March, 1904.
- Allocosa* n. g. (type *Lycosa funerea* Hentz), p. 113; BANKS, J. N. York Ent. Soc. xii, June, 1904.
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- L. perkinsi*, Sandwich islds., p. 343; E. SIMON, Fauna Hawaiiensis iii, n. sp.
- L. sepulchralis* Montg., p. 645, pl. 19, fig. 1, *charonoides* Montg., p. 646, pl. 19, fig. 7, *nidicola* Emert., p. 647, *avara* Keyserl., p. 650, pl. 19, fig. 2, *pratensis* Emert., p. 651, pl. 19, fig. 8, suppl. descript. and fig., *L. contestata*, Woods Hole, p. 649, pl. 19, fig. 4; MONTGOMERY, P. Ac. Philad. Oct. 1903, n. spp.
- Lycosa*, key to North Amer. spp., p. 277, *L. nigra* Stone, p. 285, *charonoides* Montg., p. 286, *lepida* Keyserl. (= *L. communis* Emert.), p. 287, *punctulata* Hentz, p. 288, *ocreata* Hentz (= *L. stonei* Montg. nec *L. rufa* Keyserl.), p. 288, *scutulata* Hentz, p. 289, *bilineata* Emerton (= *L. ocreata pulchra* Montg.), p. 290, *L. inhonesta* Keyserl. (= *L. nidicola* Emert. and *L. tigrina* McCook), p. 290, *L. relucens* Montg. (= *L. verisimilis* Montg.), p. 292, suppl. descript. and synonyms, *L. enepigynata*, Texas, p. 279, pl. 18, figg. 1 & 2, *insopita*, Texas, p. 280, pl. 18, figg. 3 & 4, *antelucana*, Texas, p. 282, pl. 18, figg. 5 & 6, *McCooki*, Texas, p. 283, pl. 18, fig. 11; MONTGOMERY, P. Ac. Philad. March, 1904, n. spp.
- L. wacondana*, Kansas, p. 260, pl. 17, fig. 7; T. H. SCHEFFER, Ent. News Philad. xv, n. sp.

- L. nidicola* = *L. helluo* Walck., *L. kochi* Emert. and Banks (non Keyserling) = *L. pulchra* Keyserl., *L. purcelli* Montgomery = *L. kochi* Keyserl., synonyms, *L. permunda*, Kansas, p. 286; R. V. CHAMBERLIN, *Canad. Ent.* 36, n. sp.
- L. angusta* Tullgren = *L. lenta* Hentz, *L. albopuncta* Tullgren = *L. riparia* Hentz, *L. (Pirata) loennbergi* Tullgren = *Sosippus floridanus* E. Simon, p. 121; BANKS, P. Ac. Philad. Jan. 1904.
- L. scutata* Hentz = *L. rabida* Walckenaer, *L. babingtoni* Blackwall = *L. helluo* Walckenaer, synonyms, p. 134, *L. posticata*, Florida, p. 134, *L. hentzi*, Florida, p. 135; BANKS, t. c. Jan. 1904, n. spp.
- L. baltimoriana* Keyserl. and *L. lenta* Hentz, note on, p. 114, *L. apicata*, Arizona and Texas, p. 114; N. BANKS, J. N. York Ent. Soc. xii, June 1904, n. sp.
- L. pacifica*, California, p. 354, pl. 38, fig. 6; N. BANKS, P. Calif. Ac. 3, No. 13, 1904, n. sp.
- L. atlantica* Marx, from Bermuda Isl., p. 274; N. BANKS, Tr. Connect. Ac. xi.
- L. porteri*, Chili (Los Perales), p. 112, *L. delfini*, Chili (Los Perales), p. 113; E. SIMON, Ann. Soc. ent. Belgique xlvi, 1904, n. spp.
- Ocyale atalanta* Aud., from Abyssinia (Mt. Fické), p. 443; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Pardosa (Lycosa) danica*, Denmark, p. 321; W. SORENSSEN, Ent. Meddel. 1904 (2), heft 1, n. sp.
- P. pedestris* E. Simon, supp. descript., p. 427, pl. 6, fig. 34, *P. schenkeli*, Valais (Arolla), p. 429, pl. 6, figg. 42-44; R. DE LESSERT, Observ. Ar. du bassin du Léman, n. sp.
- P. irretita* E. Simon, new descript., p. 288; E. SIMON, in Mission Pavie iii.
- P. lapidicina* Emerton, p. 262, pl. 19, fig. 6, and *P. pallida* Emerton, p. 653, pl. 19, fig. 3, supp. descript.; MONTGOMERY, P. Ac. Philad., Oct. 1903.
- Pardosa*, key to N. Amer. spp., p. 267, *P. pallida* Emert. p. 271, *lapidicina* Emert. p. 272, *scita* Montg. p. 272, *minima* Keyserl. p. 273, *glacialis* Thorell, p. 274, *groenlandica* Thorell, p. 274, *tachypoda* Thorell, p. 275, *nigripalpis* Emert., p. 275, supp. descript., *P. pauxilla*, Texas, p. 268, pl. 19, figg. 21-23, *P. mercurialis*, Texas, p. 270, pl. 19, figg. 20 & 21; MONTGOMERY, P. Ac. Philad. March, 1904.
- P. bilobata* Tullgren = (probably) *Pirata insularis* Emert. p. 148, *P. emertoni* n. nom. for *P. pallida* Emert., præocc., p. 175, *P. banksi* n. nom. for *P. littoralis* Banks, præocc., p. 175; R. V. CHAMBERLIN, *Canad. Ent.* xxxix.
- P. bilobata* Tullgren = *Lycosa milvina* Hentz, p. 121, *P. floridana*, Florida (Entreprise), p. 136; BANKS, P. Ac. Philad. Jan. 1904, n. sp.
- P. parvula*, Florida, p. 114, *texana*, Texas, p. 115; BANKS, J. N. York Ent. Soc. xii, June 1904, n. spp.
- P. atromedia*, California, p. 355, pl. 39, fig. 32; BANKS, P. Calif. Ac. 3, No. 13, 1904, n. sp.
- Pirata liber* Montg., supp. descript., p. 654; MONTGOMERY, P. Ac. Philad. Oct. 1903.
- Pirata*, key to N. Amer. spp., p. 309, *P. marxi* Stone (= *P. piraticus* Emerton nec Clerck), p. 309, *elegans* Stone, *nigromaculatus* Montg., p. 310, *liber* Montg., p. 311, supp. descript. and syn., *P. sedentarius*, Texas, p. 312, pl. 19, figg. 28 & 29; MONTGOMERY, P. Ac. Philad. March, 1904, n. sp.
- P. vacourana* Scheffer = *P. agilis*, p. 148; R. V. CHAMBERLIN, *Canad. Ent.* xxxvi.
- P. aspirans*, Virginia and N. Carolina, p. 286; R. V. CHAMBERLIN, t. c. n. sp.

- P. californica*, California (Coulterville), p. 356, pl. 39, fig. 13; BANKS, P. Calif. Ac. 3, No. 13, n. sp.
- Scaptocosa* n. gen. type *Lycosa arenicola* Scudder, p. 113; BANKS, J. N. York Ent. Soc. xii, June, 1904.
- Schizocosa* n. gen. type *Lycosa ocreata* Hentz, p. 177, incl. also *L. venustata* Hentz (= *Pardosa bilineata* Emert. and *Lycosa ocreata pulchra* Montg.), and *L. humuli* Banks; R. V. CHAMBERLIN, Canad. Ent. 36 (p. 148).
- Trochosa singoriensis*, distribution in Hungary; CSIKI, pp. 290-294 & 303, Allatt. Kozl. Magyar Tars. iii.
- Trochosa*, key to N. Amer. spp., p. 301, *T. pratensis* Emert., p. 303, *contestata* Montg., p. 303, *avara* Keyserl., p. 304, *purcelli* Montg. (= *Lycosa kochi* Emert. nec Keyserling + *L. nigraurata* Montg.), *cinerea* Fabr., p. 305, *frondicola* Emert., p. 306, *sepulchralis* Montg., p. 307, *rubicundula* Keyserl. (= *polita* Emert.), p. 307, *subtata* Montg., p. 308, supp. descript. and synonyms, *T. noctambula*, Texas, p. 301, pl. 38, figg. 9 & 10; MONTGOMERY, P. Ac. Philad. March, 1904, n. sp.
- Trabeca aurantiaca* Emert., supp. descript., p. 266, pl. 20, figg. 31 & 32, MONTGOMERY, t. c.

### Oxyopidæ.

- Peucetia arabica* E. Sim., from Abyssinia (Dagota) and *P. casseli* E. Sim., from Congo (Iribou), p. 443; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Oxyopeda rufocaligatum* E. Sim., from Ogaden, p. 443; E. SIMON, t. c.
- Oxyopes dubourgi*, Madi-Bari and Niam-Niams reg., p. 446; E. SIMON, t. c. n. sp.
- O. laminatus* Tullgren = *O. scalaris* Hentz, p. 121; BANKS, P. Ac. Philad. Jan. 1904.
- O. salticus* Hentz, from Bermuda Isl., p. 274; N. BANKS, Tr. Connect. Ac. xi.

### Salticidæ.

- Anoka (Wata) vernalis* Peckh., from Bermuda Isl. p. 274; N. BANKS, Tr. Connect. Ac. xi.
- Attulus histrio* E. Simon, supp. descript. and fig., p. 437, pl. 6, figg. 47 & 48; R. DE LESSERT, Observ. Ar. du bassin du Léman.
- Dendryphantès gallicus* n. nom. for *D. medius* C. Koch and *D. rudis* E. Simon; W. SORENSEN, Ent. Meddel. 1904 (2), heft. 1.
- D. floridanus*, Florida (Altoona), p. 138; BANKS, P. Ac. Philad. Jan. 1904. n. sp.
- D. guttatus*, California (Santa Rosa Isl.), p. 358, pl. 41, fig. 51; BANKS, P. Calif. Ac. 3, No. 13, 1904, n. sp.
- Epiblemum palpalis* (sic), California (Palo Alto), p. 360, pl. 39, fig. 31; BANKS, t. c. n. sp.
- Eremattus* n. gen. type *Marpissa albopilosa* Banks, p. 117; BANKS, J. N. York Ent. Soc. June 1904.
- Evophrys latata*, Chili (Los Perales) p. 114; E. SIMON, Ann. Soc. ent. Belgique xlviii, 1904, n. sp.
- Heliophanus dubourgi*, Dougon Valley, p. 446, figg. 1 & 2 (p. 445), *H. didieri*, Madi-Bari and Niam-Niams reg., p. 447, figg. 3 & 4 (p. 446); E. SIMON, Bull. Mus. Paris 1904, No. 7, n. spp.
- Icius floridanus* Banks = *Icius wickhami* Peckham, p. 138; BANKS, P. Ac. Philad. Jan. 1904.
- I. texanus*, Texas, p. 116; BANKS, J. N. York Ent. Soc. xiii, June 1904, n. sp.

- Menemerus (Tapinattus) melanognathus* Lucas, from Bermuda Isl., p. 275; N. BANKS, Tr. Connect. Ac. xi.
- Metacynrba similis*, California (Los Angeles), p. 360, pl. 38, fig. 9; BANKS, P. Calif. Ac. 3, No. 13, 1904, n. sp.
- Myrmarachne manducator* Westw., pl. xvi, fig. 8, *M. paviei* E. Sim., new descript. p. 290; E. SIMON, Mission Pavie iii.
- Partona africana*, Centr. Abyss., p. 447; E. SIMON, Bull. Mus. Paris 1904, N. 7, n. sp.
- Pellenes pacifica*, California (S. Francisco), p. 359, pl. 39, fig. 37, *P. speciosa*, California (Claremont), p. 359, pl. 40, fig. 39; BANKS, P. Calif. Ac. 3, No. 13, 1904, n. spp.
- P. calcaratus*, N. America, p. 117, *P. californicum* (sic), California (San Diego), p. 117, *P. arizonensis*, Arizona, p. 118, *P. tarsalis*, California (San Pedro), p. 118; BANKS, J. N. York Ent. Soc. xii, June, 1904, n. spp.
- P. cristatus*, change of marking in the male, p. 32; EMERTON, Psyche xi, 1904.
- Phidippus ferrugineus*, Kansas, p. 258, pl. 17, figg. 2 & 3; T. H. SCHEFFER, Ent. News Philad. 15, n. sp.
- Ph. clarconensis* Tullgren = *insolens* Hentz, p. 121, *P. oaklandensis* Tullgren = *cardinalis* Hentz, p. 121; BANKS, P. Ac. Philad. Jan. 1904.
- P. basalis*, Arizona, p. 115; BANKS, J. N. York Ent. Soc. xii, June 1904, n. sp.
- Plexippus paykulli* Aud. from Bermuda Island, p. 275; BANKS Tr. Connect. Ac. xi.
- Saitis barbipes* E. Simon, p. 545, p. 14, figg. 15 & 16, new descript. and fig., *S. greca*, Græcia (Patras and Corfu), p. 545, pl. 14, fig. 17, *S. taurica*, S. Russia, p. 546, pl. 14, fig. 18; W. KULCZYNSKI, Fragmenta i, n. spp.
- Sidusa arizonensis*, Arizona, p. 116, *S. borealis*, New York, p. 116; BANKS, J. N. York Ent. Soc. xii, June 1904, n. spp.
- Thyene squamata* E. Sim. and *T. bucculenta* Gerst. from Centr. Abyss., p. 443; E. SIMON, Bull. Mus. Paris 1904, No. 7.
- Viciria scoparia* E. Sim., new descript., p. 291; E. SIMON, Mission Pavie iii.

## V. SOLIFUGÆ.

- Daesia*, key to Asiat. spp., p. 410, *D. rossica*, transcasp. Reg., p. 406, *D. zarudnyi*, S. Persia, p. 408, *D. persica*, S. Persia, p. 409, *D. dmitrievi*, Abyssinia, p. 410, *D. magnifrons*, N. E. Africa, p. 411; A. BIRULA, Annuaire Mus. St. Petersb. ix, 1904, n. spp.
- Galeodidae*, classif. of family, p. 391, key to genera, p. 393; BIRULA, t. c.
- Galeodes*, key to Centr.-Asia spp., p. 402, *G. bacillifer* Pocock, n. descript. p. 395, *G. schach*, Teheran, p. 394, *G. caspius przewalskii*, Chinese Turkest., p. 396, *G. bacillatus*, W. Persia, p. 397, *G. setipes*, Centr. As. (Margellhan), p. 398, *G. auronitens*, W. Persia, p. 399, *G. levipalpis*, Ferghanathal, p. 400; BIRULA, t. c. n. spp. and n. subsp.
- Galeodopsis* n. gen. (near *Paragaleodes*), typ. *Galeodes cyrus* Pocock, p. viii; BIRULA, t. c. Nouv. No. 12.
- Gluviopsis rufescens persica*, S.W. Persia, p. 412, *nigrocineta*, W. Persia, p. 413; BIRULA, t. c. n. subsp. and n. sp.
- Paragaleodes fulvipes*, S. Persia, p. 400, *P. melanopygus*, N. Persia, p. 401; BIRULA, t. c. n. spp.
- Rhagodes aureus* Pocock, new descript. p. 414, *R. aureus setipes*, W. Persia, p. 415, *R. leucopygus*, W. Persia, p. 415; BIRULA, t. c. n. subsp. and n. sp.

## VI. CHERNETES (Pseudoscorpiones).

- Atemnus floridanus* Tullgren = *A. elongatus* Banks, p. 141; BANKS, P. Ac. Philad. Jan. 1904.



- Chelifer cimicoides* Fabr., p. 6, *C. cyrneus* L. Koch, p. 8, *C. cancroides* L., p. 11, synon. and descript.; ELLINGSEN, Norske Pseudosc. ii, 1903.  
*C. cancroides* L. from Abyssinia, p. 444; E. SIMON, Bull. Mus. Paris 1904, No. 7.  
*C. michaelsoni* E. Simon, note on p. 4, *C. echinatus*, S. Patag. p. 2; ELLINGSEN, Boll. Mus. Torino xix, No. 480, n. sp.  
*Chernes nodosus*, note on, p. 292; KEW WALLIS, Naturalist 1904.  
*Garypinus patagonicus*, Patag. (Rio Sta Cruz), p. 5; ELLINGSEN, Boll. Mus. Torino xix, No. 480, n. sp.  
*Ideobisium*, list and observ., p. 4, *I. strandi* Ell., supp. descript., p. 12; ELLINGSEN, Norske Pseudosc. ii, 1903.  
*Obisium muscorum* Leach, note on, p. 13, *O. brevifemoratum*, Norway, p. 13; ELLINGSEN, t. c. n. sp.

## VII. OPILIONES.

The Order *Opiliones* particularly the suborder *Cyphophthalmi*; general structure of Opiliones with special regard to *Cyphophthalmi* pp. 4-67. Systematic part pp. 75-110; H. J. HANSEN and W. SORENSSEN, On two orders of Arachnida.

*Opiliones*, synopsis of order, groups and families of Central American fauna; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii, p. 548.

*Op. cyphophthalmi.*

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*Op. mecostethi.*

*Cosmetidæ* (fam.), divided into two subfamilies: *Discosominæ* nov. et *Cosmetinæ* nov., p. 549; FR. CAMBRIDGE, Biol. Centr.-Amer. Arach.-Aran. ii.

*Cosmetinæ* subfam., key to genera of Centr.-Amer. fauna; id. t. c. p. 550.

*Cynorta*, def. and key to Centr.-Am. spp., pp. 554 & 555, *C. albipunctata*, Costa Rica, p. 556, pl. 52, fig. 9, *C. bipunctata*, Costa Rica, p. 556, pl. 52, fig. 10, *C. biguttata*, Costa Rica, p. 557, pl. 52, fig. 11, *C. bituberculata*, Guatemala, p. 557, pl. 52, fig. 12, *C. longipes*, Costa Rica, p. 557, pl. 52, fig. 13, *C. longispina*, Costa Rica, p. 558, pl. 52, fig. 14, *C. dentipes*, Guatem., Costa Rica, p. 558, pl. 52, fig. 15, *C. annulipes*, Guatemala, p. 558, pl. 52, fig. 16, *C. conigera*, Costa Rica, p. 559, pl. 52, fig. 17; FR. CAMBRIDGE, t. c. n. spp.

- Erginoides* n. g. (*Cosmetidae*) p. 553, *E. tarsalis*, Costa Rica, p. 554, pl. 52, fig. 7; FR. CAMBRIDGE, t. c. n. sp.
- Erginus* E. Sim., def. and key to Centr.-Amer. spp., p. 559; FR. CAMBRIDGE, t. c.
- Metacymorta* n. g. (*Cosmetidae*) p. 554, *M. gracilipes*, Guatemala, p. 554, pl. 52, fig. 8; FR. CAMBRIDGE, t. c. n. sp.
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- Paravonones* n. g. (*Cosmetidae*), *P. biserratus*, Mexico, p. 551, pl. 52, fig. 1, *P. quadratus*, Mexico, p. 551, pl. 52, fig. 2, *P. claviger*, Mexico, p. 552, pl. 52, fig. 3, *P. compressus*, Guatem., Costa Rica, p. 552, pl. 52, fig. 4, *P. incrassatus*, Mexico, p. 553, pl. 52, fig. 5; FR. CAMBRIDGE, t. c. n. spp.
- Sitalces californica* (sic) Banks, pl. 38, fig. 18; BANKS, P. Calif. Ac. iii, No. 13, 1904.
- Systemocentrus quinquedentatus* E. Simon, new descript., p. 295; E. SIMON, Mission Pavie iii.

### *Op. plagiostethi.*

- Acantholophus horridus* Panz. = *A. hispidus* Herbst juv., p. 80, *A. annulipes* L. Koch = *A. dentiger* C. Koch juv., p. 80, *A. kochi* n. nom. for *A. hispidus* E. Simon (non *Phal. hispidum* Herbst), p. 80 (foot-note); W. KULCZYNSKI, Ann. Mus. Hungar. ii, 1904.
- Amopaum* Sor. = *Dicranolasma* juv., p. 77; W. KULCZYNSKI, t. c. 1904.
- Astrobonus argentatus* L. Koch = *A. helleri* Auss. juv., p. 79; KULCZYNSKI, t. c. 1904.
- Caddo glaucopis*, N. York, p. 254, fig. 4, *C. boopis*, N. York, p. 255; C. R. CROSBY, J. N. York Ent. Soc. xii, No. 4, n. spp.
- Dendrolasma mirabilis* Banks, pl. 38, fig. 17; BANKS, P. Calif. Ac. iii, No. 13, 1904.
- Dicranolasma scabrum* Herbst, age characters, p. 77, pl. 9, figg. 1 & 2; W. KULCZYNSKI, Ann. Mus. Hungar. ii, 1904.
- Egenus ictericus* C. Koch = *E. tibialis* C. Koch juv., p. 80, *E. clairi* E. Sim. = *E. sinister* E. Sim. juv., p. 80; KULCZYNSKI, t. c.
- Gagrella*, sexual and age characters, p. 82, pl. 9, figg. 9, 10 & 11; KULCZYNSKI, t. c.
- Ischyropsalis manicata* L. K., age characters, p. 78, pl. 9, figg. 5 & 6; KULCZYNSKI, t. c.
- Liobunum agile* Canestr = *L. dorice* Can. juv., p. 79; KULCZYNSKI, t. c.
- L. calcar* Wood, note on, p. 256; C. R. CROSBY, J. N. York Ent. Soc. xii, No. 4.
- Metopoctea* E. Sim. = *Trogulus* juv.; KULCZYNSKI, Ann. Mus. Hungar. ii, 1904, p. 77.
- Nemastoma bicuspidatum* C. Koch, age characters, p. 78, pl. 9, figg. 7 & 8; KULCZYNSKI, t. c.
- N. gigas* Sür. var. *montenegrina*, p. 4; A. NOSEK, Arachn. Montenegrina, n. var.
- Oligolophus cinerascens* C. Koch and *O. rhododendri* L. Koch = *O. alpinus* Herbst juv., p. 80; KULCZYNSKI, Ann. Mus. Hungar. ii, 1904.
- Ortholasma rugosa* (sic) Banks, pl. 38, fig. 16; BANKS, P. Calif. Ac. iii, No. 13, 1904.
- Phalangium brevicorne* C. K. = *P. opilio* L. juv., p. 79, *P. werneri* n. nom. for *Platybunus strigosus* Kulczynski (Ar. in As. Min. etc. nec *P. strigosus* L. Koch), p. 82 (foot-note), pl. 9, fig. 14; W. KULCZYNSKI, Ann. Mus. Hungar. ii, 1904.
- Platybunus triangularis* Herbst = *P. corniger* Herm. juv., p. 80, *P. bucephalus* C. Koch, age characters, p. 84, pl. 9, figg. 3 & 4; KULCZYNSKI, t. c.

- Protolophus tuberculatus* Banks, pl. 38, fig. 19 ; BANKS, P. Calif. Ac. iii, No. 13, 1904.  
*Sclerosoma romanum* L. Koch = *S. quadridentatum* Cuv. juv., p. 73 ; W. KULCZYNSKI, Ann. Mus. Hungar. ii, 1904.

## VIII. RICINULI.

*Ricinuli* (family *Cryptostemmatidae*), general structure of this order, pp. 115-134, systematic position, pp. 136-143, characterization of order and family, p. 144, key to genera, p. 145, gen. *Cryptostemma* Guérin, def. and key to spp., p. 146, *C. crassipalpe* n. sp., Centr. Afr., p. 147, pl. 7, fig. 1, *C. plebejum* n. sp., Centr. Afr., p. 148, pl. 7, fig. 2, *C. westermanni* Guérin, p. 149, pl. 7, fig. 3, pl. 8, fig. 1, *C. afzeli* Thorell, p. 150, pl. 8, fig. 2, *C. sjöstedti* n. sp., Centr. Afr., p. 151, pl. 8, fig. 3, *C. karschi* n. sp., Centr. Afr., p. 153, pl. 8, fig. 4, pl. 9, fig. 1, gen. *Cryptocellus* Westw., p. 154, *C. fædus* Westw., p. 155, pl. 9, fig. 2. *C. simoni* n. sp., Brazil, p. 156, pl. 9, fig. 3 ; H. J. HANSEN & W. SÖRENSEN, On two orders of Arachnida etc., Cambridge, 1904.

## IX. ACARI.

- Morphology and classification of *Acari* ; BANKS, A treatise of the Acarina or mites, P. U. S. Mus. xxvii, pp. 1-114.  
*Acaropediculoides ventricosus*, note on, p. 16 ; L. DE LA BARREDA, Com. parasit. Agr. Mexico 1904.  
*Acaropsis*, Moquin-Tandon (typus *Tyroglyphus laboulbeni*), note on, p. 154 ; OUDEMANS, Ent. Ber. Nederland. No. 17.  
*A. eruditus* Oudm., note on, p. 163 ; OUDEMANS, t. c. No. 18.  
*Acarus denticulatus* L., synonymy. note, p. 505 ; TRÄGARDH, Zool. Anz. xxvii.  
*A. serotinae*, New York, p. 124 ; BEUTENMULLER, Amer. Mus. J. iv, (?) n. sp.  
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*A. discrepans* Oudem., p. 132, pl. 9, figg. 61-64, *A. sumatrensis* Oudem., p. 134, pl. 9, figg. 65 & 66, n. descript. and fig. ; OUDEMANS, Tijdschr. Ent. 1904.  
*Antennophoridae*, key to genera, p. 387, *Antennophorus*, charact. and key to spp., pp. 387-390, text-figg., *A. uhlmanni*, p. 391, *A. grandis*, Russia, p. 392, pl. 12, fig. 95, pl. 13, fig. 95, pl. 14, fig. 99 and text-figg. (n. sp.), *A. pubescens*, p. 393, pl. 13, fig. 98, pl. 14, figg. 101 & 102 and text-fig., *A. foreli*, p. 395, pl. 13, figg. 96 & 97 ; A. BERLESE, Redia i, fasc. ii, n. sp.

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- Argas andresi*, Italy, p. 704 ; MARIANI MARIO, Zool. Anz. xxvii, n. sp.
- A. mombata*, characters, synonymy &c. ; CHRISTY & POCKOCK, Thompson Yates Lab. Rep. v, pp. 187-189, pl. xv.
- Arrhenurus longiusculus*, England, p. 150 ; C. F. GEORGE, Naturalist 1904, n. sp.
- A. anodosus*, Seeland, p. 444 ; KOENIKE, Zool. Anz. xxvii, n. sp.
- A. moebeli* Piersig, note on, p. 201, pl. 10, fig. 3 ; J. H. HALBERT, Irish Natural. xiii.
- A. neumani* Piersig, note on, p. 245 ; R. MONTI, Rend. Ist. Lombardo, Ser. ii, xxxvii.
- Atractides octoporus*, Bohème, p. 453 ; R. PIERSIG, Zool. Anz. xxvii, n. sp.
- Aturus spatulifer*, Bohème, p. 471 ; R. PIERSIG, t. c. n. sp.
- Bdellidae*, key to genera, p. 16 ; BANKS, A treatise on the Acarina.
- B.*, synonym. notes, pp. 69-79 ; THOR, SIG., Zool. Anz. xxviii.
- Bdella californica*, California (Claremont), p. 366, pl. 41, fig. 60 ; BANKS, P. Calif. Ac. iii, No. 13.
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- Cyrtolaelaps nemorensis* K., synonym. note, p. 276, *C. herculeanus*, p. 240, *C. aurantiacus*, p. 241, *C.* (vel *Gamasellus*) *iphidiformis*, p. 261, *C. punctum*, Italy, p. 262; A. BERLESE, Redia i, fasc. ii, n. spp.
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- Eremeus confervæ* Schrank, note on, p. 102; OUDEMANS, Ent. Ber. Nederland. No. 14, id. p. 125, pl. 7, figg. 46 & 47, id. Tijdschr. Ent. 1904.
- E. floridanus*, Florida, p. 145; BANKS, P. Ac. Philad. Jan. 1904, n. sp.
- E. varius* n. nom., p. 656; VOIGTS & OUDEMANS, Zool. Anz. 1904.
- Eriophyidae*, key to genera, p. 104; BANKS, a treatise on the Acarina.
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- Eulaelaps* n. subgen. of *Laelaps* (type *Laelaps stabularis* Can.), p. 13; A. BERLESE, Zool. Anz. 1904.
- Eulais* (*Eylais*) gener. characters, p. 101 and text-fig.; C. F. GEORGE, Naturalist 1904, p. 101.
- E. mrázeki*, Montenegro; THON, SB. Bohmisch. Ges. 1903, No. 19, n. sp.

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- Eupodidae*, key to genera, p. 13; BANKS, a treatise on the Acarina.
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- Falculifer rostratus* Buchh., hypopial Nymphe, p. 91; E. REUTER, *Medd. Soc. Faun. Fenn.* 7, xi, 1903 (1904).
- Feltria minuta* Koenike, note on, p. 347; R. MONTI, *Rec. ist. Lombardo*, ser. ii, t. xxxvii.
- Gamasidae*, key to genera, p. 56; BANKS, A treatise on Acarina.
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- Glycyphagus spinipes* and *ansor* infesting furniture; RANKIN, pp. 380 & 381, *Tr. Glasgow Soc.* vi.
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- Halacaridae*, key to genera, p. 41; BANKS, A treatise on Acarina.
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- Hydrachnidæ*, key to genera, p. 37 ; BANKS, A treatise on the Acarina.
- Hydrachnidæ*, nomencl. rem. ; THOR, Nyt Mag. Naturv. xli.
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- H. pavidus* (Koch) Oudem. and *H. cossi* (Dugès) Oudem., synonymy. note, p. 276 ; A. BERLESE, Redia i, fasc. ii.
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- Laelaps elegantulus*, Italy, p. 241 (in nidis *Tapinomadis erratici*); A. BERLESE, Redia i, fasc. ii, n. sp.
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- Laelaptidae*, key to genera, p. 401, *Laelaps*, charact. and key to subgen., pp. 402-404, text-fig., subgen. *Hypoasis*, key to spp. p. 405, *L. laevis*, p. 406, pls. 15, fig. 116, 16, figg. 126 & 127, 20, fig. 116, *L. myrmecophilus*, p. 409, pls. 16, figg. 128 & 129, 20, fig. 128, *L. myrmophilus*, p. 410, pls. 15, figg. 117-119, 20, fig. 117, *L. canestrinii*, p. 412, pl. 15, figg. 120-122, *L. acutus*, p. 413, pls. 14, fig. 111, 15, figg. 112 & 113, *L. elegantulus*, p. 414, pl. 16, figg. 130-132, subg. *Cosmolaelaps*, key to spp. p. 416, *L. cuneifer*, p. 416, pls. 15, figg. 123 & 124, 16, fig. 125, var. *americana*, Connecticut, p. 418 (n. var.), *L. vacuus*, p. 419, pls. 14, fig. 107, 15, fig. 114, var. *ensigera*, p. 420, pl. 14, fig. 108, var. *scalpiger*, p. 421, pl. 14, fig. 110, Italy (n. var.), *L. ornatus*, p. 421, pls. 18, fig. 164, 19, figg. 164 & 165, subgen. *Laelaspis*, key to spp. p. 422, var. *equitans*, p. 423, pl. 17, figg. 137-139, var. *longitarsa*, Italy, p. 424 (n. var.), *L. humeratus*, Russia, p. 425, pl. 18, figg. 151-153 (n. sp.), *L. finitimus*, p. 426, pl. 17, figg. 143 & 144, *L. ovisugus*, p. 427, pl. 17, figg. 145-147, subgen. *Oolaelaps*, key to spp. p. 428, *L. oophilus*, p. 428, pl. 17, figg. 140-142, *L. montanus*, Italy, p. 430, pls. 17, fig. 148, 18, fig. 149 (n. sp.), *L. parvulus*, Russia, p. 431, pls. 16, fig. 135, 18, fig. 150 (n. sp.), subgen. *Androlaelaps*, p. 432, *L. karawaiewi*, Russia, p. 432, pl. 16, figg. 133 & 134; A. BERLESE, t. c. n. spp. and var.
- Laelaps versteegi*, Surinam, parasitic on *Mus*, p. 160; OUDEMANS, Ent. Ber. Nederland. No. 18, n. sp.
- L. versteegi*, Surinam, p. 223, text-fig.; OUDEMANS, Notes Leyden Mus. xxiv, n. sp. (?).
- L. pilosula*, California (Sta Rosa Isl.), p. 368, pl. 41, fig. 49; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- L. stabularis* Koch, *L. echidninus* Berl. p. 342, *L. agilis* Koch. p. 344, parasitic on rats; G. TIRABOSCHI, Arch. parasit. 1904.
- L. stabularis* K., on *Mus decumanus*, *L. echidninus* Berl., on *Mus rattus* and *decumanus*, pp. 88-97; G. TIRABOSCHI, Boll. Soc. zool. Ital. xiii.
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- Lebertia pavesii* R. Monti, new descript., p. 240, *L. papillosa* Piersig, observ., p. 245, *L. longipes*, from Lago Devero (Italy) p. 242, pl.; R. MONTI, Rend. Ist. Lombardo, ser. 2, t. xxxvii.
- Leiognathus blanchardi*, Europa, on *Arctomys marmotta*, p. 558; TROUËSSART, Arch. parasit. viii, No. 4, n. sp.
- Leptus autumnalis*, note on, p. 363; FRIES, Munchen Med. Wochenschr. 51.
- Liacarus alatus*, Italy, p. 273; A. BERLESE, Redia i, fasc. ii, n. sp.
- L. modestus*, California (Los Angeles), p. 365, pl. 41, figg. 53 & 59; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- Limnesia cornuta*, p. 143, *paucispina*, p. 152, N. America; WOLCOTT, Tr. Amer. micr. Soc. xxiv, n. spp.
- Listrophorus leukarti* Pagenst., p. 327, parasitic on rats; G. TIRABOSCHI, Arch. parasit. 1904.
- Lohmanella paradoxa* n. nom. for *Lohmannia* Neresheimer (nec Michael), p. 137, *L. catenata*, p. 137; NERESHEIMER, Zeitschr. wiss. Zool. t. 76.



- Macrocheles tridentinus* Can. and *vagabundus* Oudem. synonymy. note, p. 277; A. BERLESE, Redia i, fasc. ii.
- Megalolalaps hirtus*, Brazil on *Neleus interruptus*, p. 261; A. BERLESE, t. c. n. sp.
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- Melichares* Hering, note on, p. 140, *M. agilis* Hering, note on, p. 140; OUDEMANS, Ent. Ber. Nederland. No. 16.
- Metaparasitus suboles* Bremen, p. 655; VOIGTS & OUDEMANS, Zool. Anz. 1904, n. sp.
- Mideopsis crassipes*, England, p. 107; C. D. SOAR, J. Quekett Club, Nov. 1904.
- M. spinipes*, Rep. Argent. (prov. Jujuy), p. 296, fig. 3; E. NORDENSKIÖLD, Arkiv Zool. i, n. sp.
- Myobia musculi* Schrank, p. 332, *affinis, ensifera* Popp. *lemnisca* C. Koch, p. 332; G. TIRABOSCHI, Arch. parasit. 1904.
- Myocoptes musculinus* Clap., p. 327, *M. tenax* Meg. p. 328, parasitic on rats; G. TIRABOSCHI, t. c.
- Myonyssus* n. gen., p. 337, *M. decumani*, p. 337; G. TIRABOSCHI, t. c. n. sp.
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- Myrmeoleichus* n. gen., p. 244, for *M. coronatus*, Italy (in nidis formicarum), p. 244; A. BERLESE, t. c. n. sp.
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- Myrmonyssus*, charact. and key to spp., pp. 436 & 437, *M. diplogenus*, p. 438, pl. 18, figg. 162 & 163, *M. antennophoroides*, p. 439, pls. 17, fig. 158, 18, fig. 158, 19, fig. 161, *M. flexuosus*, p. 440, 16, fig. 136, *M. brachiatus*, p. 441, 18, figg. 156 & 157, 19, fig. 156, *M. acuminatus*, p. 441, pls. 17, fig. 166, 19, figg. 166-168; A. BERLESE, t. c.
- M. antennophoroides*, Italy, on *Comptonotus aethiops*, p. 244; A. BERLESE, t. c. n. sp.
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- Neoberlesia*, p. 442, *N. equitans*, p. 443, pls. 19, fig. 182, 20, figg. 182-184; A. BERLESE, t. c.
- Neopodocinum vosi* Oud., p. 117, pl. 6, figg. 5-10, *N. nederveeni* Oud., p. 118, pl. 6, figg. 11-17, *N. (Lalaps) jaspersi* Oud., p. 119, pl. 6, figg. 18-20; OUDEMANS, Tijdschr. Ent. 1904.
- Neopocinum* Oud., note on, p. 100, *N. vosi* on *Catharsius molossus* from Sumatra, p. 100; OUDEMANS, Ent. Ber. Nederland. No. 14, n. sp.
- Neoseius* n. gen. (type *Uroseius novus* Oud.); OUDEMANS, t. c. No. 14.
- Nephrophages sanguinari* Miyake et Scriba, note on, p. 153; OUDEMANS, t. c. No. 17.
- Notaspis voigtsi* Oud., p. 126, pl. 8, figg. 48-50; OUDEMANS, Tijdschr. Ent. 1904.
- Notoedres alepis* Railliet, p. 325, parasit. on rats; G. TIRABOSCHI, Arch. parasit. 1904.
- Ololalaps* n. gen. (type *Lalaps venetus* Berl.), p. 260, *O. confinis*, Norvegia, p. 261; A. BERLESE, Redia i, fasc. ii, n. sp.
- Oribatida*, key to genera, p. 71; BANKS, A treatise on the Acarina.
- Oribata californica*, California (Mt. Shasta), p. 367, pl. 41, fig. 52; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- Oribatula connexa*, Italy, p. 273; A. BERLESE, Redia i, fasc. ii, n. sp.
- Oribates myrmobates*, Italy, p. 25; A. BERLESE, Zool. Anz. 1904, n. sp.

- Pachylalaps*, charact. and key to subgen. with text-figg. 450 & 451, *Onchodellus* (n. subgen.), *reticulatus*, Italy, p. 452, pls. 19, figg. 173-175, 20, fig. 179; A. BERLESE, Redia i, fasc. ii, n. sp.
- P. angulatipes*, Corfu, p. 245; A. BERLESE, t. c. n. sp.
- Parasitus*, note on several species recently described by Dr Oudemans, pp. 279 & 280; A. BERLESE, t. c.
- P. poppei* Oud., note on, p. 114, pl. 4, figg. 1 & 2; OUDEMANS, Tijdschr. Ent. 1904.
- P. minor* Berl., note on, p. 100, *P. primitivus*, p. 140, *P. delta*, *P. iota*, *P. cappa*, p. 153; OUDEMANS, Ent. Ber. Nederland. Nos. 14-17, n. spp.
- P. brementis*, p. 651, *consanguineus*, p. 651, *eta*, p. 652, *congener*, p. 652, *beta*, p. 652, *alpha*, p. 653, *theta*, p. 653, *zeta*, p. 653, *setosus*, p. 653, *consors*, p. 654, Germany (Bremen); VOIGTS & OUDEMANS, Zool. Anz. 1904, n. spp.
- Pergamasus gamma*, Bremen, p. 654; VOIGTS & OUDEMANS, t. c. n. sp.
- Pediculoides histricinus*, Italy, p. 24, *P. modestus*, Italy, p. 24; A. BERLESE, Zool. Anz. 1904, n. spp.
- Phaulocylliba* n. gen., p. 270, *P. ventricosa*, Norvegia, p. 270; A. BERLESE, Redia i, fasc. ii, n. sp.
- Phaulodinychus* n. gen. (type *P. repletus* Berl.), p. 269, *P. repletus*, Norvegia, p. 269, *P. simplex*, Italy, p. 269; A. BERLESE, t. c. n. spp.
- Phthiracarus cryptopus*, California (Claremont), p. 367, pl. 41, fig. 50; BANKS, P. Calif. Ac. iii; No. 13, n. sp.
- Phyllocoptes azaleæ*, Holland, on *Azalea indica*; NALEPA, Anz. Ak. Wiss. 1904, p. 335, n. sp.
- Phytoptus*, galls of phyt. with pl.; MELVILLE THURSTON COOK, Ohio Natural. v, No. 6.
- Physalozercos* n. gen. for *Antennophorus raffrayi* Wasmann; A. BERLESE, Redia i, fasc. ii, p. 246.
- Physalozercos*, charact. text-fig., p. 399, *P. raffrayi*, p. 400, pls. 13, fig. 105, 14, fig. 105; A. BERLESE, t. c.
- Phytoseius* n. gen. (type *Seius plumifer* Can. et Fanz.), p. 177, *P. horridus*, Italy, p. 178, *P. finitimus*, Italy, p. 178; RIBAYA C., Riv. Patol. Veg. x, n. spp.
- Pionia carnea* C. Koch, note on, p. 245; RINA MONTI, Rend. Ist. Lombardo, Ser. ii, t. xxxvii.
- Pæcilochirus* Canestrini 1882 = *Iphidiosoma* Berl. 1892 (type *Holoaspis fimetarius* Muller), p. 140, *Pæcilochirus* Berlese (type *Acarus fucorum* de Geer.), p. 140; OUDEMANS, Ent. Ber. Nederland. No. 16.
- Polyaspis patavinus repandus*, Italy, p. 273; A. BERLESE, Redia i, fasc. ii, n. var.
- Pseudofeltaria* n. gen., p. 105, *P. scourfieldi*, England, p. 105, text-fig. 1; C. D. SOAR, J. Quekett Club, Nov. 1904, n. sp.
- Psorergates simplex* Tyrrel, p. 330, parasit. on rats; G. TIRABOSCHI, Arch. parasit. 1904.
- Rhaphignathus ruber* C. L. Koch = *Acarus denticulatus* L., p. 565; TRÄGARDE, Zool. Anz. xxvii.
- Rhipicephalus appendiculatus* and other species, conveying cattle fever in Africa; THEILER, Rep. S. Afric. Ass. ii, pp. 201-220.
- R. hæmatophysaloides* Supino, p. 454, *R. perpulcher* Gerst. p. 455, note on, *R. nitens*, Cape Colony, p. 462, *P. ziemani*, Cameroon, p. 464; L. NEUMANN, Arch. parasit. 1904, n. spp.
- Rhyncholophus gracilipes*, California (Santa Rosa Island), p. 265, pl. 41, fig. 56; BANKS, P. Calif. Ac. iii, No. 13, n. sp.
- R. punctatus*, Florida, p. 143; BANKS, P. Ac. Philad. Jan. 1904, n. sp.
- Sarcoborus* n. nom. for *Sarcopterus* Giebel (1871), p. 154; OUDEMANS, Ent. Ber. Nederland., No. 17.
- Sarcoptidae*, key to genera, p. 97; BANKS, A treatise on the Acarina.

- Sarcoptidæ*, on the fecondation of, p. 367; TROUESSART, C.R. Soc. Biol. Feb. 1904.
- Scutovertex schneideri*, Borkum Island, p. 92; OUDEMANS, Ent. Ber. Nederland. No. 13, n. sp.
- Sebaia* n. gen. (near *Pachygnathus*), p. 101, *S. rosacea*, Holl., p. 102; OUDEMANS, t. c. No. 14, n. sp.
- S. rosacea* Oud., note on, p. 122, pl. 7, figg. 28-37; OUDEMANS, Tijdschr. Ent. 1904.
- Seiulus levis*, Bremen, p. 654; VOIGTS & OUDEMANS, Zool. Anz. xii, 1904, n. sp.
- S. plumosus* Oudem., synonymy. note, p. 276; A. BERLESE, Redia i, fasc. ii.
- S. curtipilus*, Italy, p. 175, *S. soleiger*, Italy, p. 176; RIBAYA C., Riv. Patol. Veg. x, n. spp.
- Serrarius longicornis*, Italy, p. 252, *S. major*, Corfu, p. 252; A. BERLESE, Redia i, fasc. ii, p. 252, n. spp.
- Sperchon glandulosus* Koenike, note on, p. 246; RINA MONTI, Rend. Ist. Lombardo, Ser. ii, p. xxxvii.
- Sphærolaelaps* n. gen. (*Laelaptidæ*) type *Laelaps holotyroides*, p. 243; A. BERLESE, Redia i, fasc. ii.
- Sphærolaelaps*, p. 447, *S. holotyroides*, p. 448, pl. 20, figg. 180 & 181, *S. calcariger*, p. 449, pl. 19, fig. 176, pl. 20, figg. 177 & 178; A. BERLESE, t. c.
- Sphæroseius* n. gen., type *S. ecitonis*, p. 433, *S. ecitonis*, p. 433, pl. 18, figg. 159 & 160; A. BERLESE, t. c.
- Tarsonemidæ*, key to subf., p. 75; BANKS, A treatise on the Acarina.
- Tarsonemus latus*, California, p. 55, pl. 2, fig. 3; BANKS, J. N. York Ent. Soc. xii, n. s.
- Tectocephus minor*, Italy, p. 252; A. BERLESE, Redia i, fasc. ii, n. sp.
- Tenuipalpus californicus*, California, p. 55, pl. 2, fig. 2; BANKS, J. N. York Ent. Soc. xii, n. sp.
- T. cuneatus*, injuries to lemons in Sicily; CAVARA & MOLLIKA, Atti Acc. Gioen. (4) xvii, Mem. 2, 25 pp., 1 pl.
- Tetranychidæ*, key to genera, p. 23; BANKS, A treatise on the Acarina.
- Tetranychoides* n. g., p. 54, *T. californica*, California, p. 54, pl. 2, fig. 1; BANKS, J. N. York Ent. Soc. xii, n. sp.
- Tetranychus telarius*, note on, p. 246; A. TULLGREN, Ent. Tidskr. 1903.
- Thrombidium striaticeps*, French, pp. 704 & 705, figg. 1-4, *T. poriceps*, French, p. 704, figg. 5-9; F. HEIM & O. OUDEMANS, C.R. Ac. Sci. t. 138, 1904, n. spp.
- T. striaticeps*, p. 91, *T. poriceps*, p. 93; HEIM & OUDEMANS, Bull. Soc. ent. France 1904, n. spp.
- T. holosericeum* L., *poriceps* Oudm., *tectovertex* Oudm. and *striaticeps* Oudm., larva, p. 119; OUDEMANS, Ent. Ber. Nederland. No. 15.
- Thrombus* n. gen., p. 91, *T. gymnus*, Borkum Isl., p. 91; OUDEMANS, t. c. No. 13, n. sp.
- Trachytes lamda*, Italy, p. 272; A. BERLESE, Redia i, fasc. ii, n. sp.
- Trachyropoda*, note on, p. 248, *T. wasmanniana*, Luxemburg in nidis *Lasii mixti*; A. BERLESE, t. c. n. sp.
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- Trichæcius brevipes* Canestr., p. 328, parasit. on rats; G. TIRABOSCHI, Arch. parasit. 1904.
- Trichotarsus*, note on, p. 234, pp. 265 & 266, text-fig., *T. ludwigi*, and *T. osmie*, figured, p. 235; TROUËSSART, C.R. Soc. Biol. lvi.
- T. simplex*, Kameroun, p. 156, pl. 2, figg. 17 & 18; TRÄGARDH, Ent. Tidskr. xxv, **n. sp.**
- Trombella otiorum*, Italy, p. 126, text-fig.; A. BERLESE, Riv. Patol. Veg. ix, **n. sp.**
- Trombidium*, *Celæno* and *Cheyletus*, synonymy and orthographical note; A. BERLESE, Redia i, fasc. ii, p. 277.
- Trombidion bipectinatum*, Kameroun, p. 158, pl. 2, fig. 16; TRÄGARDH, Ent. Tidskr. xxv, **n. sp.**
- T. vagubundum*, Italy, p. 28; A. BERLESE, Zool. Anz. 1904, **n. sp.**
- Trouessartia rosteri* Berlese, note on, p. 163, *T. trouessarti* (loc. ?), p. 163; OUDEMANS, Ent. Ber. Nederland. No. 18, **n. sp.**
- Tyroglyphidae*, key to genera, p. 81; BANKS, A treatise on the Acarina.
- Tyroglyphides*, on the fecundation in, p. 367; TROUËSSART, C.R. Soc. Biol. Feb. 1904.
- Urodinychus n. gen.* (type *Uropoda carinata* Berl.), p. 270, *U. karawaiewi*, in nidis formicæ *Myrmica scabrinodis*, p. 270, **n. sp.**, *U. ovalis* Kram. thozianus, Norway, p. 271, **n. var.**; A. BERLESE, Redia i, fasc. ii, **n. sp.**, and **n. var.**
- U.*, character and key to spp., pp. 372-375, *U. carinatus*, p. 376, pls. 12, figg. 79 & 80, pl. 13, figg. 87-89, *U. janeti* French, p. 378, pls. 12, figg. 81-84, 13, fig. 90, *U. karawaiewi*, p. 380, pl. 12, figg. 85 & 86; A. BERLESE, t. c. **n. sp.**
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- Uroiphis n. gen.*, p. 245, *U. striatus*, p. 245, *U. scabratus*, p. 245, Italy; A. BERLESE, t. c. **n. spp.**
- Uropoda leonardiana*, Italy, p. 20, *distinguenda*, Italy, p. 21; A. BERLESE, Zool. Anz. 1904, **n. spp.**
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- U. alfkeni*, on *Prosopis brevicornis*, in Bremen, p. 101; OUDEMANS, Ent. Ber. Nederland. No. 14.
- U. alfkeni* Oud., p. 120, pl. 7, figg. 21-27; OUDEMANS, Tijdschr. Ent. 1904.
- U. (Urosternella) foraminifera*, Italy, p. 251; A. BERLESE, Redia i, fasc. ii, **n. sp.**
- U. brasiliensis*, Brasilia, p. 271, *U. alpina*, p. 272, *pilosella*, p. 272, Italy; A. BERLESE, t. c. **n. spp.**
- U. levisetosa*, Breinen, p. 655; VOIGTS & OUDEMANS, Zool. Anz. 1904, **n. sp.**
- Uropodidae*, key to genera, p. 63; BANKS, A treatise on the Acarina.
- U.*, structure and key to genera, pp. 325-328, text-fig.; A. BERLESE, Redia i, fasc. ii.
- Urobovella n. gen.* (type *Uropoda obovata* C. et B), p. 249, *U. notabilis*, in nidis formicæ *Lasius niger*; A. BERLESE, t. c. **n. sp.**
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- U. minutissima villosella*, Russia on *Lasius flavus*, p. 272; A. BERLESE, t. c. n. var.
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- Varroa* n. gen. (*Laelaptinae*), p. 160, *V. jacobsoni*, on *Apis indica* in Java, p. 160; OUDEMANS, Ent. Ber. Nederland. No. 18, n. sp.
- V.*, n. gen. (?), p. 216, *V. jacobsoni*, Java, p. 217, text-fig.; OUDEMANS, Notes Leyden Mus. xxiv, n. sp. (?).
- Zercon trigonus*, p. 268, *Z. ornatus*, p. 269, Italy, *Z. triangularis perforatus*, p. 269, Italy; A. BERLESE, Redia i, fasc. ii, n. spp. and n. var.

## X. TARDIGRADA.

Eggs of Tardigrada; RICHTERS, Ber. Senckenberg Ges. 1904.

- Diaphascon spitzbergense*, Spitzberg, p. 172; RICHTERS, Zool. Anz. xxvii, n. sp.
- Echiniscus conifer*, Lugano, p. 73, pl. 5, fig. 8; RICHTERS, Ber. Senckenberg. Ges. 1904, n. sp.
- E. blumi*, Spitzberg, p. 172, *E. wendti*, Spitzberg, p. 172, *E. oihonnæ*, Spitzberg, p. 172; RICHTERS, Zool. Anz. xxvii, n. spp.
- Macrobotus coronifer*, Tromsø, p. 171, *M. coronifer*, p. 171, and *M. echinogenitus*, p. 169, Spitzberg; RICHTERS, t. c. n. spp.

## XI. PENTASTOMIDA.

[Vacant.]



## XII. MYRIOPODA AND PROTO- TRACHEATA.

BY

F. SILVESTRI.

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### INTRODUCTION.

THE Record of Myriopoda for 1904 is in number of papers a little less than that for 1903 and contains also less interesting contributions to the knowledge of the group.

Amongst the papers on morphology, that of VERHOEFF (60 & 62) on the legs, and that of BÖRNER (5) on the same subject, are the most important. In anatomy and histology we mention the work of HENNINGS (28) on the Tömösvary-organe, and the research of LEGER & DUBOSCQ (38) on the structure of the intestine of *Julus* and *Polyxenus*. BOULIN (7) continues in 1904 the researches on the germinal cells of Chilopoda; BRÖLEMANN (14) writes on the copulatory appendages of some *Anocheta*.

The physiology of the ventral-nervous system of the Myriopoda has received an interesting contribution in the experiments of CARLSON (16); and HENNINGS (29) contributes also to the knowledge of the hearing-organ in Myriopoda.

The bionomic observations are almost restricted to a publication of HENNINGS (29) on the Glomerids. There are brief notes on the venom of Myriopoda, BRIOT (18), COUPIN (20); on the luminosity, DUBOIS (21).

The systematic index is scanty. The most important increase is in the *Scutigera*dæ, VERHOEFF (64); in the *Cambalidæ* there are descriptions of various species of Hawaiian *Dimerogonus* by SILVESTRI (49). ATTEMS (3 & 4), BRÖLEMANN (10-13), COOK (19), LIGNAU (39), SILVESTRI (52) have described various species and genera of Myriopoda, and SILVESTRI (50) has added also a new family (*Doderiudæ*) to the Oniscomorpha with the Italian genus *Doderia*.

In the Prototracheata, BOUVIER (1) has published a very important work on the structure of the eggs.

## MYRIOPODA.

### I. TITLES.

1. ABSOLON, K. Descriptio systematica faunæ subterraneæ moravicæ adhuc cognitæ. Vestnik. Klub. Prostejove ii (1900), Myriopoda p. 63. [In Moravian.]
2. ATTEMS, C. Myriopoden (in) F. Römer & F. Schaudinn. Fauna Arctica iii, Lief. i, G. Fischer in Jena 1903, pp. 35-54.
3. —. Neue paläarktische Myriopoden, nebst Beiträgen zur kenntniß einiger alten Arten. Arch. Naturg. lxx, 1904, pp. 179-196, pls. ix & x.
4. —. Central- und Hochasiatische Myriopoden, gesammelt im Jahre 1900 von v. Almassy und v. Stummer. Zool. Jahrb. Syst. xx, pp. 113-130, pls. viii & ix.  
Abstract, Zool. Zentrbl. xii, p. 165.
5. BÜRNER, C. Ueber die Beingliederung der Arthropoden. III. Die Cheliceraten, Pantopoden und Crustaceen. SB. Ges. naturf. Berlin 1903, pp. 292-341, 6 pls.  
Abstract, Zool. Zentrbl. xii, pp. 371-386.
6. —. Zur Klärung der Beingliederung der Ateloceraten. Zool. Anz. Bd. xxvii, pp. 226-243, 5 text-figg.  
Abstract, Zool. Zentrbl. xii, pp. 371-386.
7. BOVIN, P. Recherches sur la figure achromatique de la cytodièrese et sur le centrosome. Arch. zool. exp. Notes (4), ii, pp. lxxiii-lxxxviii, 6 text-figg.  
Abstract: Zool. Jahresber. 1904, Arthropoda, p. 50.
8. BRIOT, A. Sur le venin de Scolopendres. C.R. Soc. Biol. lvii, pp. 476 & 477.
9. BROCKHAUSEN, H. Über leuchtende Skolopender. Jahresber. Westfal. Ver. xxxi, pp. 163 & 164.
10. BRÖLEMANN, H. W. Myriopodes recueillis par M. A. Pavie en Indo-Chine, pp. 1-13, pls. xiii-xv. Mission Pavie Indo-Chine 1879-1895, Etudes diverses. III. Recherches sur l'histoire naturelle de l'Indo-Chine orientale (Paris, Ernest Levour, editeur 1904).



11. [BRÖLEMANN, H. W.] Chilopodes Monégasques. I. Liste des Chilopodes du territoire de la principauté ou dans ses environs immédiats. II. Description de Geophilides nouveaux. III. Un nouvel *Hemantarium* monstrueux. Bull. Mus. Monaco 1904, pp. 1-15, 9 figg.
12. ——. Materiali per lo studio della fauna eritrea raccolti nel 1901-1903 dal Dr Andreini, tenente medico. I. Myriapodes. Bull. Soc. ent. Ital. xxxv, pp. 96-153, 2 pls.
13. ——. Myriapodes de Guatemala recueillis par Don Juan J. Rodriguez. Bull. Soc. zool. France xxix, pp. 188-191.
14. ——. Le genre *Acanthiulus*. Ann. Soc. ent. France lxxii, pp. 469-477, 1 pl.
15. CARL, J. Sur une ligne faunistique dans les Alpes suisses. Arch. Sci. Nat. (4) xvi, 1903, pp. 604-608.
16. CARLSON, A. J. Contributions to the Physiology of the Ventral Nerve-cord of Myriopoda (Centipedes and Millipedes). J. exp. Zool. i, pp. 269-287, 6 figg.
17. CHAMBERLIN, R. V. New Chilopods. P. Ac. Philad. lvi, pp. 651-657.
18. CHOBAUT, A. Exploration zoologique de la grotte de Tharoux (Gard). Bull. Soc. Nimes xxxi, pp. 84-90.
19. COOK, O. F. Myriopoda of North-western North America. Harriman Alaska Exp. viii, pp. 47-82, 3 pls.
20. COUPIN, HENRY. Les poisons des Millepattes. La Nature xxxi, ser. 2<sup>e</sup>, pp. 51 & 52, 1903.
21. DONISTHORPE, H. ST. J. K. Further experiments with Myrmecophilous Coleoptera. Ent. Rec. xv, 1903, pp. 11 & 12.  
Abstract; Zeitschr. wiss. Ins.-Biol. i, p. 45.
22. DUBOIS, R. Lumière animale et lumière minérale. C.R. Soc. Biol. lvi, pp. 442-444.
23. ELLINGSEN, E. Mere om norske Myriopoder. Forh. Selsk. Christian. 1903, vi, pp. 1-11.
24. FAES, H. Nos Myriapodes. Chronique agric. Vaud. xiii, pp. 34-38, 1900.
25. FLORENTIN, R. La faune des grottes de Sainte-Reine. Feuille Natural. (4) xxxiv, pp. 176-179 (Diplopodes, p. 177).  
Abstract, Zool. Zentrbl. xi, pp. 708 & 709.
26. GIESBRECHT, W. & MAYER, P. Arthropoda. Zool. Jahresber. 1904, 78 pp. [Myriopoda, pp. 49 & 50.]
27. HALLER, B. Ueber den allgemeinen Bauplan des Tracheatensyncerebrums. Arch. mikr. Anat. lxxv, pp. 181-229, 6 pls. & 18 figg.  
Abstract: Zool. Jahresber. 1904, Arthropoda, p. 21.
28. HENNINGS, C. Das Tömösvarische Organ der Myriopoden. Zeitschr. wiss. Zool. lxxvi, pp. 26-52, 1 pl. & 1 text-fig.  
Abstract, Zeitschr. wiss. Mikr. xx, pp. 449 & 450, J. R. Micr. Soc. 1904, p. 411, Zool. Jahresber. 1904, Arthropoda, p. 49.
29. ——. Zur Biologie der Myriopoden. II. (a) Bemerkungen über *Glomeris marginata* Villers. (b) Geruch und Geruchsorgane der Myriopoden. Biol. Centrbl. xxiv, pp. 251-256, 274-283.  
Abstract: Zool. Jahresber. 1904, Arthropoda, p. 50.
30. HUTTON, F. W. Index faunæ Novæ Zealandiæ. pp. viii + 372, London, Dulau & Co., 1904 (Myr. pp. 234-236).

31. KINGAID, T. A new species of *Polyxenus*. Ent. News Philad. iv (1898), pp. 192 & 193.
32. KRAEPELIN, KARL. Catalogue des Scolopendrides des collections du Museum d'histoire naturelle de Paris (Collect. du Mus. déterminée par M. le Prof. K. Kraepelin, et coll. H. W. Brölemann) I. Bull. Mus. Paris 1904, pp. 243-253, 316-324.
33. LALOY, L. Insectes Arachnides et Myriapodes marins. La Nature xxxii, sem. i, pp. 154 & 155, 4 figg.
34. LAMPA, SVEN. Berättelse till kongl. Landtbruksstyrelsen angående verksamheten vid Statens Entomologiska, Anstalt under år 1902. Ent. Tidskr. xxiv, pp. 1-60, 1 fig.
35. LANKESTER, E. RAY. The structure and classification of the Arthropoda. Quart. J. Micr. Sci. (n. s.) xlvii, pp. 523-576. (Reprinted from Encyclopaedia Britannica xxv.)  
Appendix. On the Movements of the Parapodia of *Peripatus*, Millipedes and Centipedes, pp. 577-582, 1 pl.
36. LAUTERBORN, R. Tracheenkiemen an den Beinen einer Perliden-Larve (*Tæniopteryx nebulosa* L.). Zool. Anz. xxvi, 1903, pp. 637-642, Abb. I.  
Abstract: Zool. Zentrbl. xi, p. 291.
37. LEGER, L. & DUBOSCQ, O. La reproduction sexuée chez *Pterocephalus*. Arch. Zool. exp. Notes (4) i, ix, pp. 141-150, 11 figg. in text.  
Abstract, Zool. Zentrbl. xi, pp. 190 & 191.
38. ——. Nouvelles recherches sur les Grégarines et l'épithélium intestinal des Tracheates. Arch. Protistenk. iv, 1904, pl. 2, 11 figg. in text.
39. LIGNAU, N. Die Myriopoden der Pontus-Kusten von Kaucasus. Zapiski Novoross. Obsch. xxv, pp. 82-148, 3 pls. Russian, German resumé, pp. 126-142.  
Abstract: Zool. Zentrbl. xi, pp. 284 & 285.
40. LÜHE, M. Bau und Entwicklung der Gregarinen, I Teil. Die Sporozoiten, die Wachstumsperiode und die ausgebildeten Gregarinen. Arch. Protistenk. iv, pp. 88-198, 2 Taf. 1 fig.
41. MOLISCH, H. Leuchtende Pflanzen. Eine physiologische Studie. Jena (G. Fischer) 1904, ix and 169 pp., 14 figg. in text and 2 pls. (Myr. pp. 47, 118 & 119.)  
Abstract: Zool. Zentrbl. xi, pp. 420-422.
42. MORSE, M. The breeding habits of the Myriopod, *Fontaria indianæ*. Ohio Natural. iv, pp. 161-163.
43. ORTONEDA, VICENTE. Breve noticia acerca de los Miriápodos de la República del Ecuador conocidos hasta el día. Naranjito, 1901, 4 pp.
44. PAVESI, P. Esquisse d'une faune valdôtaine. Atti Soc. Ital. xliii, pp. 191-260 (Myr. pp. 249 & 250).  
Abstract: Zool. Zentrbl. xi, p. 783.
45. PRENANT, A., BOUIN, P. & MAILLARD, L. Traité d'Histologie. I. Cytologie général et special, 977 pp., 791 figg., Paris 1904.
46. RIBAUT, H. Description de quatre nouvelles espèces françaises du genre *Julus*. Bull. Soc. hist. nat. Toulouse xxxvii, pp. 15-27, 11 figg. in text, 1904.
47. ROSSI, G. L. Ancora le critiche del Dr Silvestri (a proposito dei Diplopodi) pp. 1-11, 3 figg. in text. Napoli 1904.

48. SCHNEE, PAUL. Die Landfauna der Marschall-Inseln nebst einigen Bemerkungen zur fauna der Insel Naura. Zool. Jahrb. Syst. xx, 1904, pp. 387-412. Myr. p. 406.  
Abstract: Zool. Zentrbl. xi, pp. 652 & 653.
49. SILVESTRI, F. Myriopoda. Fauna Hawaiiensis iii, pp. 323-338, 2 pls.
50. —. Intorno ad una nuova famiglia di Diplopidi Glomeroidea trovata in Liguria. Ann. Mus. Genova (3) i, pp. 60-64, 1904.
51. —. Critiche di lavori sull'anatomia dei Miriapodi ovvero intorno ad una certa risposta del Dr. Giov. L. Rosssi. Redia i, pp. 281-293, 1904.
52. —. Contribuzione alla conoscenza dei Chilopodi. I. Nuovi generi di *Scutigera*. II. Nuove specie di *Paralamyctes*. T. c. pp. 253-258.  
Abstract: J. R. Micr. Soc. 1944, p. 412.
53. —. Intorno ad una nuova risposta del Dr. G. L. Rossi. Portici 1904, 4 pp.
54. SINCLAIR, F. G. The Myriopoda of Cambridgeshire. Marr and Shipley Nat. Hist. Cambridgeshire, pp. 184-192.
55. STAMM, R. H. Om Musklermes befaestelse til der ydre Skelek hos Leddyrene. Danske Selsk. Skr. (7) ii, Myriapoder p. 148.
56. THEOBALD, FRED. First Report on Economic Zoology. London 1903. [Myr. pp. 15-86 & 105.]
57. —. Second Report on Economic Zoology, London 1904. [Myr. pp. 154-156.]
58. THOMAS, F. Altes und Neues über *Blaniulus guttulatus* Gerv. als Schädiger des Pflanzenbaues. Naturw. Zeitschr. Land. Forst. ii, pp. 287-292, 1 text fig.
59. VERHOEFF, CARL W. Gliederfüssler; Arthropoda. Bronn's Klassen und Ordnungen des Tier-Reichs. v, 2 Abth. Lief. 69-71, pp. 44-76, pls. vii-ix. Chilopoda.
60. —. Mitteilungen über die Gliedmassen der Gattung *Scutigera* (Chilopoda). SB. Ges. naturf. Berlin 1904, pp. 198-236.
61. —. Zur vergleichenden Morphologie und systematik der Japygiden, zugleich 2. Aufsatz über den Thorax der Insekten. Arch. Naturg. lxx, pp. 63-114, 3 pls.  
Abstract: Zool. Zentrbl. xi, pp. 832-834, Zeitschr. wiss. Ins.-Biol. i, p. 140.
62. —. Über Tracheaten-Beine. VI. Aufsatz. Hüften und Mundbeine der Chilopoden. T. c. pp. 123-156, 2 pls.  
Abstract: Zool. Zentrbl. xi, pp. 832-834, Zool. Jahresber. 1904, Arthropoda, p. 49.
63. —. Ueber die Genitalzon der Anamorphen und Scutigeriden, nach Bau und Entwicklung. SB. Ges. naturf. Berlin 1904, pp. 239-242.
64. —. Ueber Gattungen der Spinnenasseln (*Scutigeriden*). T. c. pp. 245-285.  
— [See also WOLTERSTORFF, WILLY (68).]
65. —. Ueber vergleichende Morphologie des Kopfes niederer Insekten mit besonderer Berücksichtigung der Dermapteren und Thysanuren, nebst biologisch-physiologischen Beiträgen. Acta Ac. German. lxxxiv, pp. 1-126, 8 pls.  
Abstract: Zeitschr. wiss. Ins.-Biol. i, pp. 130 & 131.

66. VIRÉ, ARM. La faune souterraine du Puits de Padirac (Lot.). C.R. Ac. Sci. 1904 (1) pp. 826-828.
67. WILLIAMS, STEPHEN R. A restricted habitat of *Scutigerebella immaculata* (Newport) together with some remarks on the animal and its habits. Science xix, p. 210.
68. WOLTERSTORFF, WILLY. Beiträge zur Fauna der Tucheler Heide. Bericht über eine zoologische Bereitung der Kreise Tuchel und Schwetz im Jahre 1900. Schr. Ges. Danzig, Bd. 11, No. 1 & 2, pp. 140-234, 1 Taf., 5 figg.

## II. BIOLOGY, SUBJECT-INDEX.

### 1. *Morphology and Classification.*

- Morphology and relationship of the Diplopoda and Chilopoda, LANKESTER (35).
- Morphology of the copulatory appendages in *Odontopyge*, BRÖLEMANN (12); in *Acanthiulus*, *Spirobolus*, *Rhinocricus*, *Trigoniulus*, *Spirobolellus*, BRÖLEMANN (14).
- Morphology of the Tömösvary-organ of the *Glomeridæ*, HENNINGS (28).
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Lancashire Coal measures, 3 spp. mentioned, BOLTON, Tr. Manchester Geol. Soc. xxviii, p. 648. .

## IV. SYSTEMATIC INDEX †.

[See also ATTEMS (2), CARL (15), ELLINGSEN (23), FLORENTIN (25), HUTTON (30), KRAEPELIN (32), LAMPA (34), ORTONEDA (43), SINCLAIR (54).

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*B. gracilipes*, N. Guinea (German), p. 261; VERHOEFF, t. c.

*Ballonemini* n. trib. (*Scutigera*), p. 257; VERHOEFF, t. c.

*Parascutigera* n. gen. (*Scutigera*), p. 257; VERHOEFF, t. c.

*P. dahl*, Bismark Arch. p. 263; VERHOEFF, t. c. n. sp.

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*Pselliophorinae* n. subfam. (*Scutigera*), p. 257; VERHOEFF, t. c.

*Scutigera* defin., p. 258; VERHOEFF, t. c.

*S.*; limbs and their armature, details of their structure and variation in various species; VERHOEFF, t. c. pp. 198-236.

*S. aethiopica*, Erythrea, p. 109, pl. i, fig. 1; BRÖLEMANN, Bull. Soc. ent. Ital. xxxv.

*S. lincei*, Guatemala, p. 189; BRÖLEMANN, Bull. Soc. zool. France xxix.

*Scutigera*, characters of systematic value, n. subfam. tribes, gen. and spp.; VERHOEFF, SB. Ges. naturf. Berlin 1904, pp. 245-285.

*Scutigera* n. gen. (*Scutigera*); SILVESTRI, Redia 1, p. 253.

† Where the character of a reference is not indicated the words "description" or "descriptive notes" are to be understood.

- S. transvalicus*, Transvaal, p. 253; SILVESTRI, t. c. n. sp.  
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*S. weberi*, Cape Colony, p. 254; SILVESTRI, t. c. n. sp.  
*Scutigeringe* n. subfam. (*Scutigeridae*), p. 256; VERHOEFF, SB. Ges. naturf. Berlin 1904.  
*Scutigeringi* n. trib. (*Scutigeridae*), p. 258; VERHOEFF, t. c.  
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*T. amokiana*, Eastjava, p. 272; VERHOEFF, t. c. n. sp.  
*Thereuopoda* n. subgen. of *Thereuonema* for *rubrolineata*, *longicornis*, *clunifera*, *amokiana* n. sp., p. 275; VERHOEFF, t. c.

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*L. heterotarsus*, Hawaii, p. 325, pl. xi, figg. 3 & 4; SILVESTRI, t. c. n. sp.  
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*L. erythrocephalus*, Monaco, p. 11, *nodulipes nicoensis*, n. var. Monaco, p. 12; BRÖLEMANN, Bull. Mus. Monaco No. 15.  
*L. forficatus*, morphology of the brain, HALLER, Arch. mikr. Anat. lxx.  
*L. hawaiiensis*, Kauai, p. 324; SILVESTRI, Fauna Hawaiiensis iii.  
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*L. magnus*, p. 118, *magnus* var. *pleodonta* n. var. Przewalsk, p. 118; ATTEMS, Zool. Jahrb. Syst. xx.  
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*L. pusillus*, Erythrea, p. 111; BRÖLEMANN, Bull. Soc. ent. Ital. xxxv.  
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*L. vehemens*, pp. 88 & 128, pl. i, figg. 5-7, *liber*, pp. 88 & 129, Caucasus; LIGNAU, Zapiski Novoross. Obshch. xxv, n. spp.  
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*Geophilidae*, analytical key to the West American genera; COOK, Harriman Alaska Exp. viii, p. 74.  
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*G. linearis*, constitution of the centrosome and of the achromatic figure of the cytodiaeresis in male germinal cells, pp. lxxiii-lxxxviii, figg. 1-6; BOUIN, Arch. Zool. exp. (4) ii.  
*G. mediterraneus*, Monaco, p. 9; BRÖLEMANN, Bull. Mus. Monaco No. 15.  
*G. regnans*, S. California, p. 654, *cayugæ*, Ithaca, p. 655; CHAMBERLIN, P. Ac. Philad. lvi.  
*G. richardi*, Monaco, p. 9; BRÖLEMANN, Bull. Mus. Monaco No. 15, n. sp.  
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- M. punctifrons*, Erythrea, p. 118; BRÖLEMANN, Bull. Soc. ent. Ital. xxxv.
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- S. montana monoeci* n. var., Monaco, p. 7; BRÖLEMANN, Bull. Mus. Monaco No. 15.
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- Schendylidæ*, analytical key to the North American genera; COOK, Harriman Alaska Exp. viii, p. 76.
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- Stigmatogaster arcis-herculis*, Monaco, p. 3; BRÖLEMANN, Bull. Mus. Monaco No. 15, n. sp.
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- Scutigerebella immaculata*, habitat; WILLIAMS, Science xix, p. 210.

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- Polyzoniidæ*, analytical key to the genera of *Polyzoniidæ*; COOK, Harriman Alaska Exp. viii, p. 62.
- Hypozoneium* n. gen. (*Polyzoniidæ*), p. 62; COOK, t. c.
- H. anurum*, Washington, p. 63, pl. v, figg. 1a-1d; COOK, t. c. n. sp.

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- J. terrestris*, ovocyte, p. 851; PRENANT, BOUIN, etc., Traité d'histologie: morphology of brain, HALLER, Arch. mikr. Anat. lxxv.
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- J. (Femoriferus) fimbriatus*, Dalmatia, p. 189, pl. x, figg. 43-46; ATTEMS, Arch. Naturg. lxx, n. sp.
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- Parajulidae* def.; Cook, Harriman Alaska Exp. viii, p. 70.
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- P. fureifer*, Oregon, p. 70, pl. v, figg. 5a-5e; COOK, t. c.
- Schizophyltum* n. var.; VERHOEFF in Wolterstorff.

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- Cambalidæ*; SILVESTRI, Fauna Hawaiensis ii.
- Dimerogonus aveburyi*, Maui, Haleakala, p. 330, pl. xi, figg. 19-21, *sharpi*, Maui, Haleakala, p. 330, pl. xi, figg. 22-27, *sharpi* var. p. 331,

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- Archispirostreptus pyrocephalus*, pl. xlii, figg. 1 & 2; LANKESTER, Quart. J. Micr. Sci. xvii.  
*Lophostreptus*, key of the species, p. 145; BRÖLEMANN, Bull. Soc. ent. Ital. xxxv.  
*L. andreini*, Erythrea, p. 147, pl. ii, figg. 24-26; BRÖLEMANN, t. c. n. sp.  
*Odontopyge*, copulatory appendages, pp. 128-132; BRÖLEMANN, t. c.; characters of the African species described by Silvestri, Brölemann etc., Tableau compar. d. descr. d'Odontopyge publ. p. le Dr Silvestri.  
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### Ordo ANOCHETA (SPIROBOLOIDEA).

- Anocheta*, def.; COOK, Harriman Alaska Exp. viii, p. 63.  
*Acanthiulus*, def.; BRÖLEMANN, Ann. Soc. ent. France lxxii, pp. 469-476, pl. viii, figg. 5 & 6.  
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*R. hazuliei*, copulatory append.; BRÖLEMANN, Ann. Soc. ent. France lxxii, pl. viii, fig. 3.  
*R. pugio*, copulatory append.; BRÖLEMANN, t. c. pl. viii, fig. 4.  
*Spirobolida*, analytical key to the North American genera; COOK, Harriman Alaska Exp. viii, p. 64.  
*Spirobolellus cruentatus*, copulatory append.; BRÖLEMANN, Ann. Soc. ent. France lxxii, pp. 471 & 474, pl. viii, figg. 9 & 10.  
*S.*, def.; BRÖLEMANN, t. c.  
*Spirobolus*, def.; BRÖLEMANN, t. c. figg. 1 & 2.  
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*Trigoniulus*, def.; BRÖLEMANN, t. c. figg. 7 & 8.  
*T. allaudi*, copulatory append.; BRÖLEMANN, t. c. fig. 7.  
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*T. hebes*, California, p. 66, *uncigerus*, p. 67; COOK, t. c.

PROTOTRACHEATA. (ONYCHOPHORA.)

I. TITLES.

1. BOUVIER, E. L. Les œufs des Onychophores. Arch. Mus. Paris 1904, pp. 1-50, 9 figg. in text.
2. ——. Sur les Péripates des Guyanes. Bull. Mus. Paris 1904, pp. 52-55.
3. ——. *Peripatus belli* (espèce nouvelle de l'Equateur). T. c. pp. 56 & 57.
4. ——. Sur les organes génitaux mâles du *Peripatus tholloni* Bouv. Bull. Soc. ent. France 1904, pp. 192 & 193.
5. COLLINGE, W. E. Non-operculate Pulmonata. Fasciculi Malayenses Zool. i, pp. 201 & 202, 3 pls.  
Abstract, Zool. Zentrbl. xi, pp. 738-764 (Peripatidæ, p. 759).
6. GIESBRECHT, W. & MAYER, P. Arthropoda. Zool. Jahresber. 1904, 78 pp. [Prototracheata, p. 41.]
7. LANKESTER, E. RAY. The Structure and classification of the Arthropoda. Quart. J. Micr. Sci. (n. s.) xlvii, pp. 523-576. (Reprinted from Encyclopædia Britannica xxv.)  
Appendix. On the Movements of the Parapodia of *Peripatus*, Millipedes and Centipedes, pp. 577-582, 1 pl.

II. BIOLOGY.

Structure of the eggs of Peripatidæ : general characters of the development and variations, origin of the yolk, phylogenetic evolution of eggs ; BOUVIER (1).

Morphology of the male genital organs of *Peripatus tholloni* ; BOUVIER, (4).

Morphology and relationship of the *Onychophora* ; LANKESTER (7).

On the movements of the Parapodia of *Peripatus* ; LANKESTER (7) ; COLLINGE (5).

Review of literature for 1904 ; GIESBRECHT & MAYER (6).

III. DISTRIBUTION.

Ecuador, *Peripatus belli* ; BOUVIER (3).

Guyana, *Peripatus* ; BOUVIER (2).

IV. SYSTEMATIC INDEX.

*Protarthropoda*, grade proposed for *Onychophora* ; LANKESTER (7).

*Peripatidæ*, structure of the eggs in various genera and species ; BOUVIER, Arch. Mus. Paris 1904, pp. 1-50.

*Peripatus belli*, Ecuador, p. 56 ; BOUVIER, Bull. Mus. Paris 1904, n. sp.

*Peripatus capensis*, movements of the Parapodia ; LANKESTER, Quart. J. Micr. Sci. (n. s.), xlvii, pp. 577, pl. xlii, figg. 4-9.

*Peripatus tholloni*, male genital organ, p. 192 ; BOUVIER, Bull. Soc. ent. France 1904.





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