

ART. XVIII.—*An Enumeration of the Janellidæ.*

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Communicated by Professor F. W. Hutton.

[Read before the Philosophical Institute of Canterbury, 2nd June, 1892.]

OF the components of the land molluscan fauna of New Zealand none are more striking on first appearance and more interesting upon subsequent investigation than the bitentaculate slugs. They belong to an order whose extent, distribution, and classification appear to be but little known. Thus, a writer in the *Ann. Mag. Nat. Hist.*, February, 1874, p. 90, states that this family "is found only in Australia and New Zealand," and naturally draws the erroneous deduction of a former direct land-communication between the two countries. Mr. T. D. A. Cockerell offers (*Proc. Z. S.*, 1891, p. 215) a summary of this family, remarking that he is "able to classify the generic groups more clearly than has been done before." His satisfaction is scarcely shared by his fellow-students of the Mollusca, and some of the more flagrant errors in this mischievous essay have been exposed already (*Ann. Mag. Nat. Hist.* (6), ix., pp. 169–171). For want of works of reference, the writer failed to include in a notice of this family several of its members (*Proc. Roy. Soc. Queensland*, vol. v., pp. 162–173). It has therefore occurred to him that an enumeration and some discussion of the known forms might be of interest to New Zealand naturalists.

In the ensuing list only the valid species are numbered.

## Family JANELLIDÆ, Gray, 1853.

SYNONYMS.—*Anciteadæ*, Gray, 1860; *Athoracophoridaæ*, Fischer, 1883; *Janellinæ*, Cockerell, 1891; *Hyalimacinaæ*, Godwin-Austen, 1882; *Succineidæ* (in part), auctorum.

DESCRIPTIONS.—*Ann. Mag. Nat. Hist.* (2), xii., p. 415; *op. cit.* (3), vi., p. 195; *Manual N.Z. Mollusca*, p. 26; *Land and Freshwater Mollusca of India*, p. 59; *Manuel de Conchyliologie*, p. 492; *Genera of Recent Mollusca*, ii., p. 229; *Proc. Roy. Soc. Queensland*, v., p. 167; *Proc. Zool. Soc.*, 1891, p. 215; *Zeitschrift für Zool.*, xv., p. 83; &c.

OBS.—The minuteness of the rachidian mentioned by Fischer is not a family but a specific character. The contractile property of the tentacles may prove a family character.

Classification based upon a single feature has never proved to be natural—that is to say, has never arranged its subjects

in the order of their blood-relationship. A classification, to be natural, should be founded upon the aggregate characters, and the arrangement of the pulmonate Gasteropoda by their jaws must be discarded, to share the fate of every such system since the days of Linné. No more unnatural juxtaposition was effected in classification by the jaw than that which subordinated the *Janellidæ* to the *Succineidæ*. The only argument that justified this arrangement would logically include the Cephalopoda, since they similarly possess an elasmognathous jaw. That certainly is the only resemblance between *Succinea* and *Sepia*, but it is also the only resemblance between *Succinea* and *Ancitea*. Indeed, the gap between *Succinea* and *Ancitea* appears to the writer to be wider far than that between the former and either *Helix* or *Zonites*. It has besides been pointed out by Semper (Reis. im Philip., vol. iii., p. 106) that the difference between an elasmognathous and an hognathous jaw is more apparent than real, since an equivalent to the quadrate plate, though not sufficiently solid to resist the action of caustic potash, exists in all *Helicidæ*.

JANELLA, Gray, 1850.

SYNONYMS.—*Athoracophus*, Gould, 1852; *Konophera*, Hutton, 1878; non *Janella*, Grateloup, 1838; *Pseudancitea*, Cockerell, 1891.

DESCRIPTIONS.—Mrs. Gray's Figures of the Mollusca, vol. iv., p. 112; United States Exploring Expedition, xii., p. 1; Trans. N.Z. Inst., xiv., p. 158; Zeits. für Zool., xv., p. 84, &c., &c.

OBS.—Fischer, whose lead in this matter has been generally followed, substitutes (Journ. de Conch., vol. xvi., p. 228) *Athoracophorus*, Gould, 1852, for *Janella*, Gray, 1850, on the plea that—(1) *Janella* was insufficiently characterized, (2) published without a Latin diagnosis, and (3) that it was preoccupied in 1838 by Grateloup. The first objection may fairly be met by considering that the figures published by Quoy and Gaimard, to which Gray referred, would have been a sufficient foundation for the genus without further explanation. The second obstacle to the recognition of *Janella* has no weight with naturalists of the present generation. The third difficulty is overcome by Fischer himself, who relegates *Janella*, Grateloup (Conchyl. foss. du Bassin de l'Adour, 4<sup>e</sup> memoire, p. 12) to the synonymy of *Niso*, Risso.\* To such cases apply Rule X. of the Rules for Zoological Nomenclature, adopted by the British Association, sometimes called the Stricklandian Code, which runs as follows: "A name should be changed

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\* See also E. von Martens, Critical List of the Mollusca of New Zealand, 1873, p. 14.

which has before been proposed for some other genus in zoology or botany, or for some other species in the same genus, when still retained for such genus or species." The intricacies of this biological law have recently been discussed by several naturalists in the seventh and eighth volumes of the sixth series of the "Annals and Magazine of Natural History."

1. *J. bitentaculata*, Quoy and Gaimard, 1832.

SYNONYM.—*antipodarum*, Gray, 1853.

ILLUSTRATIONS.—Voyage de "l'Astrolabe," Moll., pl. xiii., figs. 1, 2 (from which are copied: Genera Recent Moll., pl. lxxx., fig. 5; Struct. and Syst. Conch., pl. ci., fig. 51; Figures Molluscos Animals, iv., pl. clxxx., fig. 15; Chenu's Man. Conch., f. 3498); Trans. Linn. Soc., xxii., pl. 66, figs. 1-3; and U.S. Expl. Exped., xii., pl. i., figs. 6, *a*, *b*, *c*.

DESCRIPTIONS.—Voy. "Astrolabe," vol. ii., p. 149; Ann. Mag. Nat. Hist. (2), xii., p. 414; Proc. Z. S., 1853, p. 112; United States Exploring Expedition, vol. xii., p. 2; Zeitschrift für Zoologie, xv., p. 84; New Zealand Mollusca, p. 27; Trans. N.Z. Inst., xvi., p. 206, &c.

ANATOMY.—Trans. Linn. Soc., xxii., pl. 66, figs. 4-11; Trans. N.Z. Inst., xiv., pl. v., figs. 12-16; Reise im Archd. Phil., iii., pl. xv., figs. 16, 17.

HABITAT.—Tasman Bay, Wellington, Dunedin, Christchurch, and Greymouth, New Zealand.

Var. *papillata*, Hutton, 1879.

DESCRIPTIONS.—Trans. N.Z. Inst., xi., p. 332; *op. cit.*, vol. xiv., p. 159; *op. cit.*, xvi., p. 206; Manual N.Z. Mollusca, p. 27.

ANATOMY.—Trans. N.Z. Inst., xiv., pl. v., figs. 10, 11.

HABITAT.—Wellington and Dunedin, New Zealand.

*J. verrucosa*, Von Martens, 1889.

ILLUSTRATION.—Nova Acta der Ksl. Leop.-Carol. Deutschen Ak. der Naturforscher, Band liv., pl. iv., fig. 11.

DESCRIPTION.—*Op. cit.*, p. 77.

ANATOMY.—*Op. cit.*, pl. iv., figs. 12-14.

HABITAT.—New Zealand.

Var. *nigricans*, Von Martens, 1889. *Op. cit.*, p. 77.

Var. *fasciata*, Von Martens, 1889.\* *Op. cit.*, p. 79.

OBS.—Probably this species is identical with *J. bitentaculata*, var. *papillata*.

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\* The name of this variety in "Nov. Acta" is *fuscata*, but Professor E. von Martens, in a letter dated the 5th April, 1892, writes to me that *fuscata* is a writing—or printer's—error, and that he called the variety *fasciata*, because it is (in spirits) pale yellowish-white, with several interrupted longitudinal lines of black.—H. SUTER.

2. *J. marmorea*, Hutton, 1879.

ILLUSTRATION.—Trans. N.Z. Inst., xiv., pl. v., f. 1.

DESCRIPTIONS.—Trans. N.Z. Inst., xi., p. 332; *op. cit.*, xiv., p. 158; *op. cit.*, xvi., p. 206; Manual N.Z. Mollusca, p. 27.

ANATOMY.—Trans. N.Z. Inst., xiv., pl. v., figs. 2-9.

HABITAT.—Dunedin and Greymouth, New Zealand.

*J. marmorata*, Von Martens, 1889.

ILLUSTRATION.—Nova Acta der Ksl. Leop.-Carol. Deutschen Ak. der Naturforscher, Band liv., pl. iv., f. 3.

DESCRIPTION.—*Op. cit.*, p. 71.

ANATOMY.—*Op. cit.*, pl. iv., figs. 4-10.

HABITAT.—New Zealand.\*

OBS.—Perhaps synonymous with *J. marmorea*.

*Neojanella dubia*, Cockerell, 1891.

DESCRIPTION.—Proc. Zool. Soc., 1891, p. 217.

OBS.—A questionable species and a still more questionable genus, founded upon a single shrunken and mutilated specimen, unaccompanied by figures or anatomical details. It probably belongs to the preceding species. One of the greatest defects in the prosecution of biological research is that any one whose presumption exceeds his ignorance should be enabled to thrust such stumbling-blocks as *Neojanella dubia* in the path of the honest investigator.

ANEITELLA, Cockerell, 1891.

DESCRIPTION.—Proc. Zool. Soc., 1891, p. 215.

OBS.—Possibly a distinct genus, but as yet insufficiently characterized.

3. *A. virgata*, E. A. Smith, 1884.

ILLUSTRATION.—Proc. Zool. Soc., 1884, pl. xxii., figs. 1, 1a.

DESCRIPTION.—*Op. cit.*, p. 262.

HABITAT.—Wild Island, Admiralty Archipelago.

ANEITEA, Gray, 1860.

SYNONYM.—*Triboniophorus*, Humbert, 1863.

DESCRIPTION.—Ann. Mag. Nat. Hist. (3), vi., p. 195; Mem. Soc. Phys. Hist. Nat. Genève, xvii., p. 119; Zeits. für Zool., xv., p. 84; Proc. Roy. Soc. Queensland, v., p. 168; Jahrbuch Deut. Malak. Gesell., i., p. 195, &c.

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\* Professor E. von Martens also mentions in his letter that *Janella verrucosa* and *J. marmorata*, named by him and described by Dr. Simroth, were collected and brought to Germany from the Auckland Islands by Hermann Krone. In Trans. N.Z. Inst., vol. xvi., p. 206, the Auckland Islands (coll., H. Krone) are given as habitat of *J. bitentaculata* and *J. papillata*.—H. SUTER.

OBS.—An examination of spirit specimens misled Humbert into distinguishing *Triboniophorus* from *Aneitea* by the lack of a dorsal groove, obliterated in his examples.

4. *A. macdonaldi*, Gray, 1860.

ILLUSTRATION.—Ann. Mag. Nat. Hist. (2), xviii., pl. iii., figs. 1 and 2.

DESCRIPTION.—*Op. cit.*, p. 38–41, and (3), vi., p. 196.

ANATOMY.—*Op. cit.*, pl. iii., figs. 3–6, from which are copied Zeit. f. Zool., xv., pl. vi., figs. 12, 13.

HABITAT.—Aneiteum, New Hebrides.

OBS.—The teeth and jaw are, as Fischer observes, not well shown in Dr. Macdonald's figures. The former were probably studied with too low a power, and the latter appears to have shrivelled before being sketched.

Mr. Cockerell has proposed (Proc. Z. S., 1891, p. 215, and Ann. Mag. Nat. Hist. (6), ix., p. 371) to disturb our nomenclature by transferring the name "*macdonaldi*" to a New Caledonian species, presumably *hirudo* or *modesta*, on the plea that Gray's types were New Caledonian specimens. Since Gray distinctly states that he applied the name "in recollection of the island where it was first discovered, and also of its first discoverer," I consider that he only incidentally alluded to the New Caledonian specimens, *which were not described*, and that he bestowed the name on the specimens figured and described by Dr. Macdonald. We may thus rigidly follow the path of justice and yet escape from the confusion in which Mr. Cockerell would involve us.

5. *A. graeffei*, Humbert, 1863.

SYNONYMS.—*kreffti*, Keferstein, 1865, and *schutei*, Keferstein, 1865.

ILLUSTRATIONS.—Mem. Soc. Phys. Hist. Nat. Genève, xvii., pl. xi., fig. 2 (3 figures); Zeits. für Zoologie, xv., pl. vi., figs. 1–3; Verhandl. der k.-k. Zool. Bot. Ges., xx., pl. xi., fig. 1; Proc. Roy. Soc. Queensland, v., pl. vii. (2 figures).

DESCRIPTIONS.—Mem. Soc. Phys. Hist. Nat. Gen., xvii., p. 120; Zeitschrift für Zool., xv., pp. 84, 85; Verhandl. der k.-k. Zool. Bot. Ges., xx., p. 844; Journ. d. Mus. Godeffroy, lxxii., p. 159; Trans. Roy. Soc. S. Australia, v., p. 49; P.L.S. N.S.W. (2), vi., p. 559; Proc. Roy. Soc. Queensland, v., p. 168, &c.

ANATOMY.—Zeit. f. Zool., xv., pl. vi., figs. 4–11; *op. cit.*, pl. xxxiv., fig. 6; Verhandl. der k.-k. Zool. Bot. Ges., xx., pls. xi., xii., xiii.; Proc. Roy. Soc. Queensland, v., pls. vi. and vii.; Nova Acta der Ksl. Leop.-Carol. Deutschen Akademie der Naturforscher, liv., pl. iv., figs. 15–18.

HABITAT.—New South Wales, Queensland, and Northern Territory.

I take this opportunity of describing the following splendid-colour variety.

Var. *rosea*, var. *nov.*

Entire animal coloured bright melon-pink. Summit of Mount Bellenden-Ker., N.Q. (K. Broadbent), and Proserpine River, N.Q. (C. W. de Bergh Birch).

6. *A. hirudo*, Fischer, 1868.

ILLUSTRATIONS.—Journ. de Conch., xvi., pl. xi., fig. 1; Faune Conch. Nouv. Caled., pt. ii., pl. i., fig. 2.

DESCRIPTIONS.—Journ. de Conch., xvi., p. 146; Faune Conch. Nouv. Caled., pt. ii., p. 12.

ANATOMY.—Journ. de Conch., xvi., pl. xi.; Manuel de Conch., fig. 262.

HABITAT.—Île Art and Noumea, New Caledonia.

7. *A. modesta*, Crosse and Fischer, 1870.

ILLUSTRATION.—Faune Conch. Nouv. Caledonie, pt. ii., pl. ii., fig. 1.

DESCRIPTIONS.—*Op. cit.*, pt. ii., p. 13; Journ. de Conch., xviii., p. 238.

HABITAT.—New Caledonia.

HYALIMAX, H. and A. Adams, 1855.

DESCRIPTIONS.—Genera of Recent Mollusca, ii., p. 219; Journ. de Conch., xv., p. 18; Land and F.-W. Mollusca of India, p. 55; Manuel de Conchyliologie, p. 491, &c.

8. *H. perlucidus*, Quoy and Gaimard, 1832.

ILLUSTRATION.—Voy. "Astrolabe," Moll., pl. xiii., figs. 10-12, from which are copied: Chenu, Manuel, figs. 3475; 3476; Struct. and Syst. Conch., pl. ci., fig. 49.

DESCRIPTION.—Voy. "Astrolabe," Zool., vol. ii., p. 146.

HABITAT.—Pouce Mountain, Mauritius.

9. *H. mauritianus*, Rang., 1827.

ILLUSTRATION.—Manuel de l'Histoire des Mollusques, pl. xiv., figs. 5-7.

DESCRIPTIONS.—Bulletin des Sciences Nat., x., p. 300; Melanges Conchyliologiques, p. 55; Journ. de Conch., xx., p. 203.

ANATOMY.—Journ. de Conch., xx., pp. 204, 205.

HABITAT.—Mauritius.

10. *H. maillardi*, Fischer, 1867.

ILLUSTRATION.—Journ. de Conch., xv., pl. x., fig. 5.

DESCRIPTION.—*Op. cit.*, p. 218.

ANATOMY.—*Op. cit.*, pl. x., figs. 6-9.

HABITAT.—Mauritius.

11. *H. reinhardi*, Morch., 1872.

DESCRIPTIONS.—Journ. de Conch., xx., p. 314; Vid. Medd., 1872, p. 21; Land and F.-W. Mollusca of India, p. 59.

HABITAT.—Pulo Panjang and Sambelong, Nicobar Islands.

12. *H. viridis*, Theobald, 1864.

DESCRIPTIONS.—Journ. Asiat. Soc. Bengal, 1864, p. 244; Land and F.-W. Moll. of India, p. 60.

HABITAT.—Arracan.

13. *H. andamanicus*, Godwin-Austen, 1882.

ILLUSTRATION.—Land and F.-W. Moll. of India, pl. xi., figs. 1-3.

DESCRIPTION.—*Op. cit.*, p. 57.

ANATOMY.—*Op. cit.*, p. xi., figs. 4-9.

HABITAT.—Port Blair, Andaman Islands.

Var. *punctulatus*, Cockerell, 1890.

DESCRIPTION.—Ann. Mag. Nat. Hist. (6), vol. vi., p. 389.

HABITAT.—Andamans.

OBS.—These latter three species constitute the sub-genus *Jarava*, Godwin-Austen, 1882.

14. [*Parmarion*] *kersteni*, Von Martens, 1869.

DESCRIPTION.—Reisen Ost-Africa (Van der Decken), vol. iii., p. 160.

ANATOMY.—Jahrbucher der Deutschen Malakozologischen Gesellschaft, 1877, vol. iv., pp. 325-329, cuts 1, 2, and 3.

HABITAT.—(Mount Kilimanjaro?) East Africa.

OBS.—As stated in the Zoological Record, Pfeiffer's account of the anatomy necessitates the removal of *kersteni* from *Parmarion* and its insertion in the *Janellidæ*.

ART. XIX.—*Synonymical Notes on New Zealand Cicadidæ*.

By G. V. HUDSON, F.E.S.

[Read before the Wellington Philosophical Society, 7th December, 1892.]

THE publication of my paper on the New Zealand *Cicadidæ*, read before this Society on the 23rd July, 1890, appears to have aroused Mr. W. L. Distant, who has, after having been furnished with another series of specimens, made the following corrections in the naming and classification of these insects. Had the first two or three consignments received attention, my paper would never have appeared in its present shape, and