

A BASIC LIST OF THE LAND MOLLUSCA OF AUSTRALIA.

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An illustrated account of the Land Mollusca has been long a desideratum, but the determination of scores of novelties delays the work so much that it is felt the publication of a list of the already described species will assist in inviting co-operation. No list is in existence, as Cox's Monograph was published in 1868, when only a fraction of the fauna was known. It is extraordinary that no lists of Queensland or New South Wales forms have been prepared, the reason being the aforementioned glut of new species to be dealt with. I am at present preparing accounts of South Australian and West Australian faunulae, and may later follow with those of Queensland and New South Wales.

The difficulties attending the collation of such lists lie in the varied nature of the faunulae, and here at once the distinction between natural faunulae and State boundaries impresses the worker. As one consequence geographical knowledge becomes the main factor in the elucidation of the puzzling creatures, and much local study is necessary before any useful basis can be provided. Hence this is termed a Basic List, as it is very incomplete owing to the lack of accurate data, but every care has been taken in checking all the references, literature and specimens, but in the last-mentioned there is no certainty. The older workers ignored accuracy and much of the material is incorrectly labelled and not adequately identified, the authors sending out material often at variance with their own descriptions and figures.

It is therefore very desirable that future workers should carefully record the localities, and study their material in view of the known natural faunal boundaries. From a study of the birds of Australia I suggested a nomination of the faunulae and areas in agreement with that of the marine littoral regions recognised by Hedley. The present investigation of the land mollusca has confirmed the results of my avifaunal studies with, as would be anticipated, emendations in accord with the greater knowledge of this restricted land faunula.

Thus the nomination introduced was:—

- The Papuan or Torresian Faunula inhabiting the Solanderian Area (including the Dampierian Sub-Area).
- The Euronotian or Bassian Faunula inhabiting the Peronian Area (including the Maugean Sub-Area).
- The Eremian or Eyrean Faunula inhabiting the Centralian Area.
- The Autochthonian Faunula inhabiting the Leeuwinian Area.

The Land Mollusca emphasise the distinction of the Leeuwinian Area, but also indicating a very marked *Caurine* Faunula living in the Dampierian Sub-Area, while a northern *Oxleyan* Sub-Area may be separated in the north of the Peronian Area.

If this is set out with the characteristic molluscan forms it may become better understood, and this is very necessary in order to appreciate the varied faunulae. The Solanderian Area covers the coastal Queensland belt from Torres Straits to about Port Curtis, and the Papuan or Torresian Faunula found herein is very unlike any of the other Australian series. Many large Helicoid species are found, formerly referred to as *Hadra* or

Thersites; associated are "*Papuina*" and "*Chloritis*", and a series of Pupinid molluscs with a few Cyclophorids. The smaller forms are not yet well known, but comparatively, Endodontids, are not common. Altogether it is a very fine fauna, but very unlike, in facies, to that of the North West, the area otherwise attached to the Solanderian.

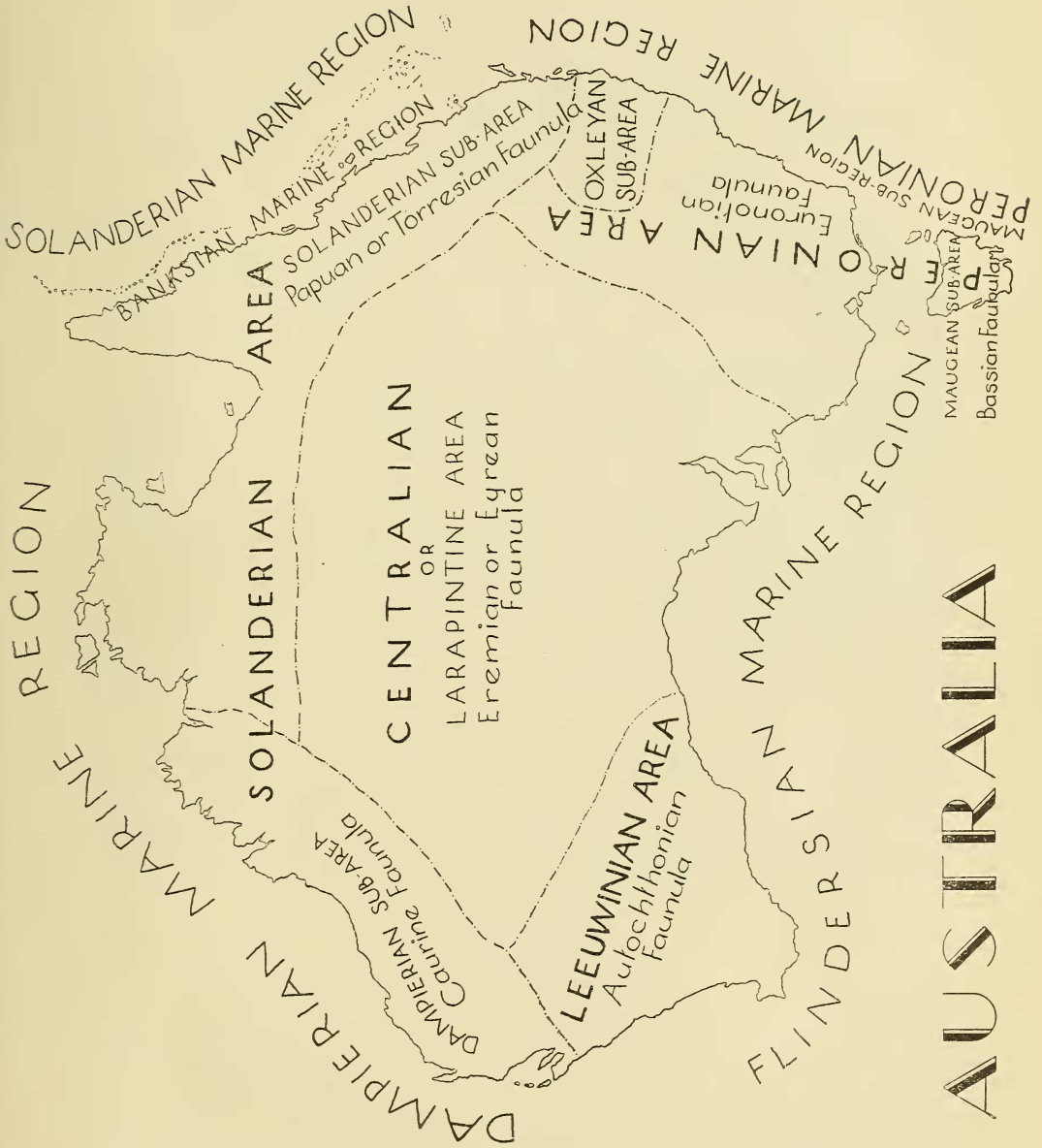
West of Torres Straits the marine fauna differs a little from that of the Queensland coast, and Hedley separated the Dampierian Region. Later workers found less distinction, and the two regions were merged, the latter being regarded as a subregion only. However, North West Australia has a land molluscan fauna so unlike the Papuan that it is here distinguished as the Caurine Fauna. There are no Helicoid *Thersites* or *Hadra*, no "*Papuina*", a single "*Chloritis*" or so, and so on. Instead there is a very interesting series of "*Rhagada*", a group not occurring in Eastern Australia, and whose affinities are with Timor species. This fauna is as distinct in appearance as the Papuan series, the dissimilarity being very pronounced.

South West Australia, which I have called the Leeuwinian Area, inhabited by the Autochthonian Fauna, provides even a greater surprise as therein occurs a varied series of Bulimoid molluscs, *Bothriembryon*, without relations in any adjacent territory outside Australia. A member penetrates into Centralia, and a couple occur along the southern coast in South Australia, but the Tasmanian representative may not be closely allied. A few Endodontids occur, but the only Helicoids appear to be intruders from the Centralian or Larapintine Area.

The whole interior of Central Australia, known as the Centralian or Larapintine Area, is represented by the Eremian or Eyrean Fauna, which is distinctive in its shells of desert appearance and varied form. These have been called *Xanthomelon*, *Chloritis*, *Thersites*, whichever shell form they recalled. The molluscs do appear to be degenerates of those groups, but among them are many others whose appearance is less noticeable, and it would be very unwise to attach any of these to coastal groups. One name, *Glyptorhagada*, suggests contrast with the Caurine Rhagadas, but this is not necessary.

This leaves us the Peronian Area to consider and here appear three rather distinct series, which are regarded as distinctive of three sub-areas, the Maugean, the Peronian proper and the Oxleyan. The Maugean is the richest fauna in small molluscs, probably a hundred or so of the so-called Endodontids living therein, and this Bassian Fauna crosses Bass Straits and occupies South Victoria. The bizarre *Anoglypta* and the no less strange *Caryodes* are two remarkable constituents of this fauna, a third perplexing factor being the Paryphantid forms. The number of small Endodontids is only paralleled in New Zealand, and the relationship of the Bassian fauna appears to be with that Dominion.

The Peronian fauna is not very strong, the genus *Meridolum*, a Helicoid of "*Thersites*" facies, but perhaps not allied, being notable, Endodonts in fair number differing a little from those of the Bassian fauna and a few stragglers from the Solanderian Area. The great peculiarity of the Region is the massing in the Oxleyan Sub-Area of the largest Australian Helicoids of unexpected form. These are *Hedleyella* (the better known *Panda* of the earlier writers), the flattened *Pedinogyra* and the sharply trochoid *Annakelea*. It has been shown that Bassian forms such as *Cystopelta*, a shell-less slug derived from *Helicarion*, occur on mountain tops throughout the Peronian Region, while the apparently Peronian true



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Rex Iredale, del.

slug, *Triboniophorus*, is somewhat of an enigma as it recurs in North Queensland and may be related to a New Hebrides group.

At the end of this List, the species listed will be grouped, both according to faunulae and State boundaries, so that any worker can appreciate the distinctions and similarities. It may be pointed out here that States such as Victoria and South Australia show a mixture of regional faunulae, while West Australia covers two very different faunulae. The Euronotian faunula enters into South Queensland, while the remainder of Queensland shows a fairly pure Papuan or Torresian faunula.

While this essay deals only with the Land Mollusca it may be recorded that study of freshwater molluscs, not yet completed, confirms in every manner the conclusions here proffered. The Freshwater Mussels have been listed already, and the main items in this connection are the lack of species in the south of the Maugean Sub-Area, the very curious *Cucumerunio* in the Oxleyan Sub-Area and the peculiar *Lortiella* in the Dampierian Sub-Area. The numerous "Bullinid" molluscs also show similar differentiation, the Larapintine *Isidorella* being quite characteristic, while the flat-topped *Amerianna* seem to be northern Larapintine forms. A notable Maugean representative is the Neozelanic *Potamopyrgus*, while even the Viviparine molluscs feature determinate forms, such as *Centrapala*, a remarkable Larapintine group, and *Larina*, just as peculiar a Solanderian evolution, while the series appears to be absent from the Leeuwinian Area and the Maugean Sub-Area. Even the Ancylicids provide an abnormal development in *Legrandia* (= *Tasmancylus*) peculiar to the Maugean Sub-Area, while our so-called *Gundlachia* appear to be southern aberrations of an Ancylicid series, quite different from the northern true *Gundlachia* with which they were at first sight confused.

As to the higher groupings of the Land Mollusca, there is no good scheme available and will not be until a lot more knowledge has been assembled. There can be no doubt that the operculate Pulmonates have had entirely different origin from the Helicoid forms. Thiele forms the latter into a Sub Class, Pulmonata, and this is here used with reservation. The former he places in the subclass Prosobranchia and, as this is a well known name, it is here used. Thiele's Orders, Archaeogastropoda for the Hydrocenidae and Helicinidae, and Mesogastropoda for the Cyclophorids, Pupinids and Diplommatinids are not however introduced into Australian literature in this place, the older Pectinibranchia being preserved.

Phylum MOLLUSCA.
Class GASTROPODA.
Subclass PROSOBRANCHIA.
Order PECTINIBRANCHIA.
Family HYDROCENIDAE.

This family is used for some small Australian shells which have been rarely found as yet, but which may be widely spread, judging from their occurrences.

Genus OMPHALORISSA Iredale, 1933.

1933. *Omphalorissa* Iredale, Rec. Austr. Mus., Vol. xix., p. 57, August 2. Orthotype, *Georissa multilirata* Brazier.

OMPHALORISSA MULTILIRATA Brazier, 1875.

1875. *Georissa multilirata* Brazier, Proc. Zool. Soc. (Lond.), 1874, p. 670, pl. 83, figs. 8-10, April 1, 1875. Fitzroy Island, North Queensland (Brazier).

1889. *Georissa multilineata* Hedley, Proc. Roy. Soc. Queensland, Vol. vi., p. 101, June. Error only.
North Queensland (Fitzroy Island).

OMPHALORISSA MINUTA Odhner, 1917.

1917. *Omphalotropis minuta* Odhner, Kungl. Svensk. Vetenskap., Handl., Bd. 52, No. 16, p. 99, pl. 3, figs. 113-114, September 19. Chillagoe Caves, North Queensland (subfossil ?).
North Queensland (Chillagoe Caves district, living).

OMPHALORISSA POSTULATA *sp. nov.*

Differs from *O. multilirata* in the suppression of spiral lirae, and the dominance of growth thread lines; from *O. minuta* in its smaller size and lack of strong spiral lirae. Olsen's Caves, near Rockhampton, Queensland.
South Queensland (near Rockhampton).

OMPHALORISSA LASERONI *sp. nov.*

Differs from *O. postulata* in being more obese, and having regular fine spiral lirae, the lirae being however much weaker than those in *O. multilirata* and *O. minuta*. Sherwood, Macleay River, Northern New South Wales (C. Laseron).

Northern New South Wales (Macleay River district).

[Pfeiffer described *Hydrocena malleata* (Proc. Zool. Soc. (Lond.), 1854, p. 308, May 8, 1855) from Australia, and the type, from a painting by Angas, was figured by Cox (Mon. Austr. Land Shells, p. 104, pl. xix, fig. 15, May, 1868). It appears to be referable to *Omphalotropis* (s.l.), a group not Australian. In this Museum there are some shells collected at Bundaberg, Queensland, bearing a MS. name given by Pilsbry as *Omphalotropis*, but these are not referable to *Omphalotropis* auct., and will be dealt with later.]

Family HELICINIDAE.

The members of this family are of similar form and of great difficulty in determination. Wagner, thirty years ago, monographed the family, and altered his conclusions two or three times in a couple of years. As many species were overlooked by him (Fulton, Proc. Mal. Soc. (Lond.), Vol. xi., pp. 237-241, March 29, 1915), and there are more to be described from Australia, the present nomination must be regarded as tentative.

Genus PLEUROPOMA Möllendorff, 1893.

1893. *Pleuropoma* Möllendorff, Ber. Senckenb. Nat. Ges. Frankfurt, 1893, p. 140, "July". Orthotype, *Helicina dichroa* Möllendorff.
1905. *Aphanoconia* Wagner, Denksch. K. Akad. Wissen. Wien., Math. nat. Class, Vol. lxxvii., p. 388. Logotype, here designated, *Helicina verecunda* Gould.
1905. *Reticulata* id. ib., p. 389 (sectional name). Tautotype, *Helicina reticulata* Pfeiffer.
1905. *Sculpta* id. ib., p. 398 (sectional name). Tautotype, *Helicina sculpta*.
1905. *Dichroa* id. ib., p. 403 (sectional name). Tautotype, *Helicina dichroa* Möllendorff. Not *Dichroa* Illiger, Mag. f. Insekt., Vol. v., p. 49, 1806.
1909. *Albocincta* Wagner, Syst. Conch. Cab. (Mart. & Chemn.) cont., ed. Kuster, Bd. I., Abth. 18, (heft, ccxxv., lief, 535), p. 169. Tautotype, *Helicina albocincta* Hombron & Jacquinot.

1909. *Sphaeroconia* Wagner, Syst. Conch. Cab. (Mart. & Chemn.), cont., ed. Kuster, Bd. I., Abth. 18, (heft ccxxviii., lief 538), p. 189. Logotype, here selected, *Helicina sphaeroconus* Möllendorff.

(Note.—The sectional names were proposed for "Formenkreise", and I would have ignored them, but I find that they are recorded as valid sectional names in the Zoological Record for 1905, and are therefore apparently citable as above.)

PLEUROPOMA GOULDIANA Forbes, 1851.

1851. *Helicina gouldiana* Forbes, Narr. Voy. Rattlesnake (Macgillivray), Vol. ii., p. 382, pl. iii., fig. 3, "1852" = mid-December, 1851. Two Isles, off North Queensland coast (Macgillivray).
1863. *Helicina reticulata* Pfeiffer, Proc. Zool. Soc. (Lond.), 1862, p. 277, April 10, 1863. Cape Flattery, North East Australia. Figd. Sowerby, Thes. Conch., Vol. iii., p. 287, pl. 272 (Helic., pl. vii.), figs. 231-232, 1866.
1866. *Helicina fumigata* Sowerby, Thes. Conch., Vol. iii., p. 290, pl. 275 (Helic., pl. x.), fig. 345, new name for *H. gouldiana* Forbes. Cape Flattery, Queensland.
1868. *Helicina lizardensis* Cox, Mon. Austr. Land Shells, p. 107, pl. xvii., fig. 12, May. Lizard Is., North Queensland (Macgillivray). North Queensland.

PLEUROPOMA EXTINGTA Odhner, 1917.

1917. *Aphanoconia extincta* Odhner, Kungl. Svensk. Vetensk. Handl., Bd. 52, No. 16, p. 98, pl. 3, figs. 110-112, September 19. Chillagoe Caves, North Queensland (subfossil).
- 4 North Queensland (Chillagoe Caves district, living).

PLEUROPOMA YORKENSIS Pfeiffer, 1863.

1863. *Helicina yorkensis* Pfeiffer, Proc. Zool. Soc. (Lond.), 1862, p. 277, April 10, 1863. Cape York, Queensland. Figd. Sowerby, Thes. Conch., Vol. iii., p. 290, pl. 275 (Helic., pl. x.), figs. 342-343, 1866. North Queensland (Cape York district).

PLEUROPOMA WALKERI Smith, 1894.

1894. *Helicina walkeri* Smith, Proc. Mal. Soc. (Lond.), Vol. i., p. 99, pl. vii., fig. 26, June. Queen's, Baudin and Parry Is., North West Australia.
1909. *Aphanoconia* (*Sphaeroconia*) *baudinensis* Wagner, Syst. Conch. Cab. (Mart. & Chemn.), cont., ed. Kuster, Bd. I., Abth. 18, p. 217, pl. 43, figs. 11-13, as of Smith, errore, new name for *walkeri* Smith. Baudin Island. North West Australia (Islands off coast).

Genus CERATOPOMA Möllendorff, 1893.

1893. *Ceratopoma* Möllendorff, Ber. Senckenb. Nat. Ges. Frankfurt, 1893, p. 139, "July". Orthotype, *Helicina caroli* Kobelt.
1905. *Diversicolor* Wagner, Denksch. k. Akad. Wissen. Wien., Math-nat. Class, Vol. lxxvii., p. 431 (as Formenkreis of *Orobophana* loc. cit. p. Tautotype, *Helicina diversicolor* Cox.
1905. *Palaeohelicina* Wagner, id. ib., p. 435. Logotype, here selected, *Helicina fischeriana* Montrouzier.

Wagner introduced *Orobophana*, and as a "Formenkreis" separated the Australian forms about *diversicolor* under that name. A few pages later he separated *Palaeohelicina*, but the next year he transferred the *diversicolor* series to *Palaeohelicina*, but gave as a synonym the earlier *Ceratopoma* of Möllendorff. Bourne commented that he found difficulty in distinguishing these groups, so that the earlier name is here used correctly for the combined series, while it is possible that the Australian series may constitute a recognisable unit of sub-ordinate value.

CERATOPOMA DRAYTONENSIS Pfeiffer, 1857.

1857. *Helicina draytonensis* Pfeiffer, Proc. Zool. Soc. (Lond.), 1856, p. 392, May 8, 1857. Drayton Range, North Australia (Stutchbury). Figd. Sowerby, Thes. Conch., Vol. iii., p. 286, pl. 271 (*Helic.*, pl. vi.), figs. 199-200, 1866.
1866. *Helicina diversicolor* Cox, Proc. Zool. Soc. (Lond.), 1866, p. 375, September 5. Pine Mt., Ipswich, Queensland (Masters). Figd. Cox, Mon. Austr. Land Shells, p. 105, pl. xvii., fig. 9, May, 1868. South Queensland.

CERATOPOMA GLADSTONENSIS COX, 1864.

1864. *Helicina gladstonensis* Cox, Cat. Austr. Land Shells, p. 34, Gladstone, Port Curtis, Queensland (Blomfield). Figd. Cox, Mon. Austr. Land Shells, p. 107, pl. xvii., fig. 11, May, 1868. South Queensland (Port Curtis district).

CERATOPOMA JANA COX, 1872.

1872. *Helicina jana* Cox, Proc. Zool. Soc. (Lond.), 1871, p. 645, pl. lii., fig. 3, May 2, 1872. Port Macquarie, New South Wales. Northern New South Wales.

CERATOPOMA MACLEAYI Brazier, 1876

1876. *Helicina macleayi* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 112, July. Barnard Island No. 3, North East Australia. North Queensland.

- [1855. *Helicina turbinella* Pfeiffer, Proc. Zool. Soc. (Lond.), 1855, p. 103, July 23. Sidney.

No Helicinid shell lives at Sydney, and this has been rejected as exotic; if it be from New South Wales it might be *jana* Cox, but this identity has never been claimed.]

- [1868. *Helicina fulgurata* Cox, Mon. Austr. Land Shells, p. 107, pl. xvii., figs. 10, a, b, May. "Rocky Isle, near Cape Flattery, Queensland". Locality wrong, the species being *fulgora* Gould, from the Fiji Islands.]

- [1874. *Helicina suprafasciata* Sowerby, Conch. Icon. (Reeve), Vol. xix., pl. xxxiii., sp. 300, February. Australia (Brenchley). Not Australian, probably New Hebrides.]

- [1899. *Helicina crassidens* Tate, Trans. Roy. Soc. South Austr., Vol. xxiii., p. 247, pl. vi., fig. 6, December. "Balaklava River, Wakefield, South Australia". Locality erroneous, is an American species.]

Family CYCLOPHORIDAE.

Only three species, one of them belonging to a widely spread form, penetrate into Northern Queensland.

Genus LEPTOPOMA Pfeiffer, 1847.

1847. *Leptopoma* Pfeiffer, Zeitsch. für Malak., 1847, p. 47, March. Logotype, Kobelt, Illustr. Conchylienbuch, p. 194, 1878, *Leptopoma vitreum* Lesson s. *nitidum* Sowerby.
1855. *Dermatocera* H. and A. Adams, Gen. Rec. Moll., Vol. ii., p. 282, Nov. Logotype, *Leptopoma vitreum* Lesson.

LEPTOPOMA NITIDUM Sowerby, 1843.

- [1843. *Cyclostoma nitidum* Sowerby, Thes. Conch., Vol. i., p. 133, pl. xxix., figs. 225-227, ante June 23. Is. of Guimaras and Zebu, Philippine Islands.]

LEPTOPOMA NITIDUM ULTRA *subsp. nov.*

Smaller and comparatively taller than the typical form.
North Queensland.

The well known *vitreum* is invalid, Lesson's *Cyclostoma vitrea* (Voy. Coquille, Zool., Vol. ii., pt. i., p. 346, 1830) being anticipated by Draparnaud (Tabl. Moll. France, 1801, p. 41 (Sherborn)).

Genus DITROPISENA Iredale, 1933.

1933. *Ditropisena* Iredale, Rec. Austr. Mus., Vol. xix., p. 57, August 2. Orthotype, *Cyclophorus macleayi* Brazier.

DITROPISENA MACLEAYI Brazier, 1877.

1877. *Cyclophorus (Ditropis) macleayi* Brazier, Proc. Linn. Soc. N.S.W., Vol. ii., p. 122, July. New name for
1876. *Cyclophorus (Ditropis) beddomei* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 113, July. Cape York, North East Australia. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvi., p. 706, pl. xxxiv., figs. 15-17, 1902. North Queensland (Cape York district).

DITROPISENA WHITEI Brazier, 1875.

1875. *Cyclophorus (Ditropis) whitei* Brazier, Proc. Zool. Soc. (Lond.), 1874, p. 669, pl. 83, figs. 5-7, April 1, 1875. Fitzroy Island, North East Australia.
North Queensland (Fitzroy Island).

[Two species were described nearly one hundred years ago from West Australia, but no members of this family have since been found there and the locality appears to be erroneous; may be Indian as Dr. Bacon collected there.

CYCLOPHORUS LIRICINCTUS Benson, 1853.

1853. *Cyclostoma liricinctum* Benson, Ann. Mag. Nat. Hist., Ser. ii., Vol. xi., p. 106, February. West Australia (Bacon). Figd. Reeve, Conch. Icon., Vol. xiii., Cyclophorus, Vol. xx., sp. 100, August, 1861 (type figured).
? West Australia.

CYCLOPHORUS ORBICULATUS Benson, 1853.

1853. *Cyclostoma orbiculatum* Benson, Ann. Mag. Nat. Hist., Ser. ii., Vol. xi., p. 106, February. West Australia (Bacon). Figd. Reeve, Conch. Icon., Vol. xiii., Cyclophorus, Vol. xx., sp. 101, August, 1861 (type figured).
? West Australia.]

Family PUPINIDAE.

The members of this family need careful revision and the following data merely represent obvious facts and do not take into account much novel material. Kobelt's Monograph in *Das Tierreich* is very unsatisfactory, the association of species being unnatural. *Pupina* was introduced by Vignard (*Ann. Sci. Nat. Paris*, Vol. xviii., p. 439, pl. 11, c, December, 1829) for a New Guinea shell, which he named *P. keradrini* (*keraudrenii* correctly on plate). It was a small glassy shell with a circular mouth showing two canals, pupoid in shape, glossy and imperforate.

Genus SIGNEPUPINA *nov.*

Type, *Pupinella macgillivrayi* Cox.

Medium Pupinid shells, glossy, imperforate, the anterior canal narrow, short, lateral joined by strong callus across body whorl to narrow posterior canal, which vertically ascends the body whorl, the edges not flanged.

SIGNEPUPINA MACGILLIVRAYI COX, 1864.

1864. *Pupinella macgillivrayi* Cox, *Cat. Austr. Land Shells*, p. 32. Port Denison, Queensland (Wall). *Figd. Cox, Mon. Austr. Land Shells*, p. 100, pl. xvi., fig. 7, May, 1868.
1906. *Pupina clara* Fulton, *Ann. Mag. Nat. Hist., Ser. vii., Vol. xvii.*, p. 244, pl. ix., fig. 2, February 1. Port Denison, Queensland. Mid-Queensland (Port Denison district).

SIGNEPUPINA MERIDIONALIS Pfeiffer, 1864.

1864. *Pupina meridionalis* Pfeiffer, *Proc. Zool. Soc. (Lond.)*, 1863, p. 526, April 20, 1864. North Australia. North Queensland.

SIGNEPUPINA BILINGUIS Pfeiffer, 1851.

1851. *Pupina bilinguis* Pfeiffer, *Proc. Zool. Soc. (Lond.)*, 1850, p. 97, February 24, 1851. East Australia = North Queensland, Cape York. *Figd. Cox, Mon. Austr. Land Shells*, p. 100, pl. xvi., figs. 6, a, b, May, 1868.
1876. *Pupina nitida* Brazier, *Proc. Linn. Soc. N.S.W., Vol. i.*, p. 136, July Barrow Is., North Queensland. *Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii.*, p. 20, pl. iii., fig. 37, 1902. North Queensland (Cape York district).

SIGNEPUPINA ROBUSTA Cox, 1868.

1868. *Pupina robusta* Cox, *Mon. Austr. Land Shells*, p. 101, pl. xvi., figs. 13, a, b, May. Warro, Port Curtis, Queensland (Blackman). South Queensland (Port Curtis district).

SIGNEPUPINA VENTROSA Dohrn, 1862.

1862. *Pupina ventrosa* Dohrn, *Proc. Zool. Soc. (Lond.)*, 1862, p. 183, September 15. Cape York, Australia (Macgillivray), in error = Endeavour River, Queensland. *Figd. Cox, Mon. Austr. Land Shells*, p. 102, pl. xvi., fig. 14, May, 1868. North Queensland (Cooktown district).

SIGNEPUPINA SUBPOLITA Fulton, 1906.

1906. *Pupina subpolita* Fulton, *Ann. Mag. Nat. Hist., Ser. vii., Vol. xvii.*, p. 245, pl. ix., fig. 4, February 1. Richmond River, New South Wales (S.W. Jackson). Northern New South Wales.

SIGNEPUPINA PINETICOLA COX, 1866.

1866. *Pupina pineticola* Cox, Proc. Zool. Soc. (Lond.), 1866, p. 375, September 5. Pine Mt., Lismore, New South Wales (Macgillivray). Figd. Cox, Mon. Austr. Land Shells, p. 102, pl. xvi., fig. 8, May, 1868. Northern New South Wales.

SIGNEPUPINA PFEIFFERI Dohrn, 1862.

1862. *Pupina pfeifferi* Dohrn, Proc. Zool. Soc. (Lond.), 1862, p. 183, September 15. Cape Flattery, N. Queensland (Macgillivray). Figd. Cox, Mon. Austr. Land Shells, p. 103, pl. xvi., fig. 9, May, 1868.
1864. *Pupina carlottae* Cox, Cat. Austr. Land Shells, p. 31, ex Macgillivray MS., nom. nud. Cape Direction, N. Queensland. North Queensland.

SIGNEPUPINA STRANGEI Pfeiffer, 1854.

1854. *Pupina strangei* Pfeiffer, Malak. Blatter, Bd. 1, p. 90, dated April. Moreton Bay, Australia (Strange). Figd. Cox, Mon. Austr. Land Shells, p. 103, pl. xx., fig. 16, May, 1868, from painting of type by Angas. Refgd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxxvii., p. 268, pl. x., fig. 61, 1912. South Queensland (Moreton Bay district).

SIGNEPUPINA TENUIS Hedley, 1912.

1912. *Pupina tenuis* Hedley, Proc. Linn. Soc. N.S.W., Vol. xxxvii., p. 268, pl. x., fig. 62, December 13. West of Gladstone, Port Curtis, Queensland (S.W. Jackson). South Queensland (Port Curtis district).

SIGNEPUPINA MODESTA Fulton, 1906.

1906. *Pupina pineticola* var. *modesta* Fulton, Ann. Mag. Nat. Hist., Ser. vii., Vol. xvii., p. 244, pl. ix., fig. 1, February 1. Queensland = Port Curtis. South Queensland (Port Curtis district).

Subgenus DOLOPUPINA nov.

Type, *Pupina wilcoxi* Cox.

Small glossy imperforate Pupinid shells with anterior and posterior canals narrow and not connected by a callus across the body whorl.

SIGNEPUPINA (DOLOPUPINA) WILCOXI COX, 1864.

1864. *Pupina wilcoxi* Cox, Cat. Austr. Land Shells, p. 32. Clarence River, New South Wales (Wilcox). Figd. Cox, Mon. Austr. Land Shells, p. 101, pl. xvi., fig. 15, May, 1868. Northern New South Wales.

Subgenus PARPUPINA nov.

Type, *Pupina crossei* Brazier.

Small glossy imperforate Pupinid shells, without body callus connecting canals, but with edges of canals crassate, especially those of the posterior one, the upper edge developing into a vertical flange.

SIGNEPUPINA (PARPUPINA) CROSSEI Brazier, 1876.

1876. *Pupina crossei* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 111, July. Palm Is., North Queensland. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii., p. 20, pl. iii., fig. 38, 1912. Mid-Queensland (Palm Is.).

Genus LOPUPINA nov.

Type, *Pupina bidentata* Beddome.

Glossy imperforate Pupinid shells with heavy body callus connecting canals, the anterior one situated lower down than usual with edges developed into flanges which run as strong ridges up the back of the body whorl; the posterior canal edges also run vertically up the front of the body whorl, the lower edge of the mouth thickened and somewhat sinuate, thereby cramping the aperture.

LOPUPINA BIDENTATA Beddome, 1897.

1897. *Pupina bidentata* Beddome, Proc. Linn. Soc. N.S.W., Vol. xxi., p. 814, figs. 1-4 in text, May 31. Near Cairns, Queensland.
North Queensland (Cairns district).

LOPUPINA THOMSONI Forbes, 1851.

1851. *Pupina thomsoni* Forbes, Narr. Voy. Rattlesnake (Macgillivray), Vol. ii., p. 381, pl. iii., figs. 2, a, b, "1852" = mid-December, 1851. Fitzroy Is., N. Queensland.
North Queensland (Fitzroy Is.).

This island form is quite distinct from the preceding, being smaller with the body canals less pronounced, and the mouth less cramped. A similar shell has been seen from Dunk Island, and may occur on other islands.

Genus DIPLOPUPINA nov.

Type, *Pupina coxeni* Brazier.

Glossy imperforate Pupinid shells, with strong body callus, the posterior canal horizontal and short in front view, but canal elongate and ascending body whorl from side view; anterior canal horizontal, median, and then ascending to join body whorl, the outer lip duplicate.

DIPLOPUPINA COXENI Brazier, 1875.

1875. *Pupina coxeni* Brazier, Proc. Zool. Soc. (Lond.), 1875, p. 34, pl. iv., fig. 9, June 1. Mt. Dryander, Port Denison, Queensland.
Mid-Queensland (Port Denison district).

Genus ESTOPUPINA nov.

Type, *Pupina costata* Hedley & Musson.

Elongate striate non-glossy umbilicate Pupinellid shells with no posterior canal and only very narrow anterior canal which is horizontal, the mouth almost circular and free. Differs from all other Australian Pupinid shells in having only one canal, but it seems that *Pupinella* also lacks the posterior canal, although that generic name has been commonly used for bicanaliculate species.

ESTOPUPINA COSTATA Hedley & Musson, 1892.

1892. *Pupina costata* Hedley & Musson, Proc. Linn. Soc. N.S.W., Ser. ii., Vol. vi., p. 559, fig. in text, May 23. Near Gympie, Queensland.
South Queensland (Gympie district).

Genus NECOPUPINA nov.

Type, *Pupinella densecostata* Fulton.

Elongate, striate, non-glossy, rimate Pupinid shells with two canals, both short and narrow, horizontal, and neither attingent to body whorl.

These have been regarded as *Pupinella*, which differs in many ways, but especially in lacking a posterior canal. Kobelt classed these with some glossy non-umbilicate species, very unlike, under the typical subgenus *Pupinella*, a very erroneous location.

NECOPUPINA DENSECOSTATA Fulton, 1906.

1906. *Pupinella densecostata* Fulton, Ann. Mag. Nat. Hist., Ser. vii., Vol. xvii., p. 245, pl. ix., fig. 7, February 1. Port Curtis, Queensland. South Queensland (Port Curtis district).

NECOPUPINA SIMPLEX Fulton, 1906.

1906. *Pupinella simplex* Fulton, Ann. Mag. Nat. Hist., Ser. vii., Vol. xvii., p. 245, pl. ix., fig. 3, February 1. Port Curtis, Queensland. South Queensland (Port Curtis district).

NECOPUPINA PLANILABRIS Pfeiffer, 1864.

1864. *Pupina planilabris* Pfeiffer, Proc. Zool. Soc. (Lond.), 1863, p. 526, April 20, 1864. North Australia = Port Curtis.
 1864. *Pupina coxi* Morelet, Journ. de Conch., Vol. xii., p. 289, July 1. Port Curtis, Queensland.
 1864. *Pupinella whartoni* Cox, Cat. Austr. Land Shells, p. 32. Port Denison, Queensland. Figd. Cox, Mon. Austr. Land Shells, p. 99, pl. xvi., figs. 11, a, b, May, 1868. South and mid-Queensland (Port Curtis to Port Denison).

Genus AMBIPUPINA nov.

Type, *Pupina pettardi* Crosse.

Elongate striate non-glossy narrowly rimate Pupinid shells, the canals longer than in *Necopupina*, and expanded, the posterior developing with flange-like processes; the anterior canal similarly flanged and with a median internal ridge dividing the aperture into two, the outer lip also duplicate.

AMBIPUPINA PETTARDI CROSSE, 1874.

1874. *Pupina pettardi* Crosse, Journ. de Conch., Vol. xxii., p. 370, October 1. Cooktown, Endeavour River, Queensland (W. F. Pettard, i.e., Petterd). Figd. Crosse, Journ. de Conch., Vol. xxiii., p. 141, pl. vi., figs. 5, 5a, April, 1875.
 1875. *Pupina macleayi* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 5, April 27. Endeavour River, Queensland. North Queensland (Cooktown district).

Genus HEDLEYA Cox, 1892.

1892. *Hedleya* Cox, Proc. Linn. Soc. N.S.W., Ser. ii., Vol. vi., p. 568, May 23. Orthotype, *Hedleya macleayi* Cox.

HEDLEYA MACLEAYI COX, 1892.

1892. *Hedleya macleayi* Cox, Proc. Linn. Soc. N.S.W., Ser. ii., Vol. vi., p. 568, pl. xxi., figs. 2, 5, 8, 10, May 23. Cairns, North Queensland (W. W. Froggatt). North Queensland (Cairns district).

HEDLEYA UMBILICATA Odhner, 1917.

1917. *Hedleya umbilicata* Odhner, Kungl. Svensk. Vetensk. Handl., Bd. 52, No. 16, p. 75, pl. 3, fig. 77, September 19. Evelyne, North Queensland. North Queensland (Atherton Tableland).

Genus SUAVOCALLIA Iredale, 1933.

1933. *Suavocallia* Iredale, Rec. Austr. Mus., Vol. xix., p. 57, August 2. Orthotype, *Callia splendens* Dohrn.

SUAVOCALLIA SPLENDENS Dohrn, 1862.

1862. *Callia splendens* Dohrn, Proc. Zool. Soc. (Lond.), 1862, p. 183, September. Lizard Is., Queensland (Macgillivray). Figd. Cox, Mon. Austr. Land Shells, p. 104, pl. xvii., fig. 8, May, 1868. North Queensland.

Subclass PULMONATA.

Thiele continues the division into Orders Basommatophora and Stylommatophora, and all our land molluscs fall into the latter division. This was subdivided into fourteen "Stirps" and these groups into families. The association of our families into "Stirps", as given by Thiele, appears very unnatural, so it is not here followed. The following sequence of families is after Thiele, as he has not altered the earlier arrangements to any great degree, but there still seems room for improvement. Such amendments cannot be made until the forms are systematically grouped in species, genera and families, and the numerous novelties described. How little we really know about the Australian land mollusca can be seen from this list, which probably does not represent one half of the existing forms. When we ascend to the subtleties of differentiation of European and American authorities the number may be easily multiplied tenfold, as none of our forms appears to have an extended range without differentiation.

Order STYLOMMATOPHORA.

Family ELASMATINIDAE.

This family has long been known as the Tornatellinidae, but recent investigation of the type species of *Tornatellina*, from the Island of Juan Fernandez, has indicated that the animal characters differ from those of the commonly accepted species, and hence the name must be restricted to the Juan Fernandez type. At present there appears to be doubt as to the logical successor, as there seems to be several claimants. Some have preferred Pacificellidae, others have advocated Auriculellidae, while still others have retained Tornatellinidae, although this course was obviously incorrect if the anatomical data be accepted.

Apparently the earliest name that is included in the presently constituted family is *Elasmatina*, which dates from 1843. On this basis the family name would be Elasmatinidae, the name here used. As these molluscs have been comparatively recently monographed by Pilsbry, the few Australian species are arranged in accordance with his conclusions. There are, however, more species to be named and more study is necessary to understand the local species.

Genus ELASMIAS Pilsbry, 1910.

1910. *Elasmias* Pilsbry, Nautilus, Vol. xxiii., p. 122, March. Orthotype, *Tornatellina aperta* Pease.

ELASMIAS EUCHARIS Brazier, 1876.

1876. *Tornatellina eucharis* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 110, July. Barnard Is., No. 3, North Queensland. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvi., p. 705, pl. 34, fig. 12, 1912. North Queensland.

ELASMIAS WAKEFIELDIAE COX, 1868.

1868. *Achatinella wakefieldiae* Cox, Mon. Austr. Land Shells, p. 78, May. Grafton, Clarence River, New South Wales (Wakefield). Figd. Hedley, Rec. Austr. Mus., Vol. iii., p. 153, pl. xxviii., fig. 14, December 11, 1899.
New South Wales.

Genus TORNATELLINOPS Pilsbry, 1915.

1915. *Tornatellinops* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiii. (pt. 91), p. 169, December 1. Orthotype, *Tornatellina novoseelandica* Pfeiffer.

TORNATELLINOPS MASTERSI Brazier, 1876.

1876. *Tornatellina mastersi* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 108, July. Darnley Is., Torres Straits.
1876. *Tornatellina petterdi* id., ib., p. 109, ibid.
1876. *Tornatellina grevillei* id., ib., p. 109, Home. Is. off Cape Grenville, North Queensland. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvi., p. 705, pl. xxxiv., figs. 13-14, 1902.
North Queensland (from Cape Grenville to Torres Straits).

TORNATELLINOPS JACKSONENSIS COX, 1864.

1864. *Bulimus jacksonensis* Cox, Cat. Austr. Land Shells, p. 25. Darling Point, Sydney, N.S.W. Figd. Cox, Mon. Austr. Land Shells, p. 77, pl. xii., fig. 15, May, 1868.
New South Wales.

Family DIPLOMMATINIDAE.

Very few species have yet been found, but it is probable that more will turn up as they are inconspicuous. Here again existing Monographs prove very inadequate, and are of little use in valuing affinities.

Genus ECLOGARINIA Iredale, 1933.

1933. *Eclogarinia* Iredale, Rec. Austr. Mus., Vol. xix., p. 56, August 2. Orthotype, *Diplommatina gowllandi* Brazier.

ECLOGARINIA GOWLLANDI Brazier, 1875.

1875. *Diplommatina gowllandi* Brazier, Proc. Zool. Soc. (Lond.), 1874, p. 670, pl. 83, figs. 19-21, April 1, 1875. Fitzroy Is., North Queensland. North Queensland (Fitzroy Is.).

Genus VELEPALAINA nov.

Type, *Diplommatina oreadis* Hedley.

Differs from *Cylindropalaina* (type, *Palaina chrysalis* Möllendorff), in being shorter and stouter, the body whorl more swollen and the mouth larger, more expanded than in *Macropalaina* (type, *P. pomatiaeformis* Möllendorff) and with less conical spire.

VELEPALAINA BEDDOMEI Möllendorff, 1897.

1897. *Palaina (Cylindropalaina) beddomei* Möllendorff, Nachr. deutsch. Malak. gesell., 29th Year, p. 43, May 7, ex Brazier MS. Queensland.
1900. *Diplommatina oreadis* Hedley, Proc. Linn. Soc. N.S.W., p. 512, pl. xxv., fig. 22, November 22. 20 miles from Cardwell, North Queensland (C. E. Beddome).
North Queensland (Cardwell district).

VELEPALAINA STRANGEI Benson, 1853.

1853. *Pupa* (or *Diplommatina*) *strangei* Benson, Ann. Mag. Nat. Hist., Ser. ii., Vol. xi., p. 286, April, ex Pfeiffer MS. East Australia (Strange).
1854. *Diplommatina bensoni* A. Adams, Proc. Zool. Soc. (Lond.), 1852, p. 94, May 23, 1854. Moreton Bay, Queensland (Strange). Figd. Cox, Mon. Austr. Land Shells, p. 96, pl. xvi., fig. 1, May, 1868.
1855. *Diplommatina australiae* Benson, Ann. Mag. Nat. Hist., Ser. ii., Vol. xv., p. 331, May 1. Mount Warren, Point Danger, New South Wales (Strange). Figd. Cox, Mon. Austr. Land Shells, p. 96, pl. xvii., fig. 7, May, 1868.
Northern New South Wales and South Queensland.

Family VERTIGINIDAE.

Pilsbry has monographed the small species of "Pupoid" shells from all over the world, and has found great difficulty in separating groups. The species are hereafter arranged according to Pilsbry's results, but the Australian species must be intensively collected, and studied from an ecological viewpoint. Consequently names based on Australian material are here preferentially used.

Genus AUSTRALBINULA Pilsbry, 1916.

1916. *Australbinula* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiv. (pt. 93), p. 11, December 18. Orthotype, *G (astrocopta) rossiteri*.
1917. *Australbinula* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiv. (pt. 94), pp. 155-166, July 18. Orthotype, *Gastrocopta hedleyi* Pilsbry = *rossiteri* supra.

AUSTRALBINULA HEDLEYI Pilsbry, 1917.

1917. *Gastrocopta hedleyi* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiv., p. 166, pl. 27, figs. 1-4, July 18. Narrabri, New South Wales.
New South Wales.

AUSTRALBINULA STRANGEANA *nom. nov.*

1854. *Pupa strangei* Pfeiffer, Proc. Zool. Soc. (Lond.), 1852, p. 69, May 23, 1854. Gordon (i.e., Garden) Is., Port Jackson, New South Wales (Strange). Not *Pupa strangei* Benson, 1853, *ante*. Figd. Cox, Mon. Austr. Land Shells, p. 80, pl. xiv., figs. 15, 15a, May, 1868.
New South Wales.

AUSTRALBINULA MORETONENSIS COX, 1868.

1868. *Pupa moretonensis* Cox, Mon. Austr. Land Shells, p. 81, pl. xiv., figs. 21, 21a, May. Moreton Bay, Queensland (Masters).
South Queensland (Moreton Bay district).

AUSTRALBINULA QUEENSLANDICA Pilsbry, 1917.

1917. *Gastrocopta pediculus queenslandica* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiv. (pt. 94), p. 159, pl. 26, fig. 2, July 18. Calliungal, South Queensland.
South Queensland.

AUSTRALBINULA MUSSONI Pilsbry, 1917.

1917. *Gastrocopta mussoni* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiv. (pt. 94), p. 167, pl. 27, figs. 5-6, July 18. Calliungal, Queensland.
South Queensland.

AUSTRALBINULA MACDONNELLI Brazier, 1875.

1875. *Pupa (Vertigo) macdonnelli* Brazier, Proc. Zool. Soc. (Lond.), 1874, p. 669, pl. 83, figs. 22-23, April 1, 1875. Fitzroy Is., North Queensland. North Queensland (Fitzroy Is.).

AUSTRALBINULA MACLEAYI Brazier, 1876.

1876. *Pupa (Vertigo) macleayi* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 110, July. Bet and Sue Islands, Torres Straits. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii., p. 19, pl. iii., fig. 39, 1902. North Queensland (Torres Straits Islands).

AUSTRALBINULA WALLABYENSIS Smith, 1894.

1894. *Pupa wallabyensis* Smith, Proc. Mal. Soc. (Lond.), Vol. i., p. 97, June. East Wallaby Is., Houtman's Abrolhos. West Australia (Houtman's Abrolhos).

AUSTRALBINULA MOOREANA Smith, 1894.

1894. *Pupa mooreana* Smith, Proc. Mal. Soc. (Lond.), Vol. i., p. 97, Vol. vii., fig. 25, June. Roebuck Bay, North West Australia. Figd. Pilsbry, Man. Conch., Vol. xxvi., p. 230, pl. 24, figs. 6-7, November, 1921. North West Australia.

AUSTRALBINULA LARAPINTA Tate, 1896.

1896. *Pupa larapinta* Tate, Rep. Horn. Sci. Exped. Centr. Austr., pt. ii., Zool., p. 205, pl. xix., fig. 19, February. Central Australia.
1917. *Gastropoda larapinta deserti* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiv. (pt. 94), p. 170, pl. 30, figs. 1-3, July 18. Central Australia (Tempe Downs, etc.). Central Australia.

AUSTRALBINULA TATEI Pilsbry, 1917.

1917. *Gastropoda tatei* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiv. (pt. 94), p. 165, pl. 26, figs. 9-10; pl. 30, fig. 12, July 18. Central Australia. Central Australia.

AUSTRALBINULA MARGARETAE COX, 1868.

1868. *Pupa margaretae* Cox, Mon. Austr. Land Shells, p. 80, pl. xiv., fig. 20a, May. Wallaroo, South Australia (Masters). South Australia.

AUSTRALBINULA BANNERTONENSIS Gabriel, 1930.

1930. *Bifidaria bannertonensis* Gabriel, Proc. Roy. Soc. Vict., Vol. xliii. (n.s.), pt. i., p. 64, pl. iii., figs. 9-10, September 11. Bannerton, Victoria. Victoria.

AUSTRALBINULA ROSSITERI Brazier, 1875.

1875. *Pupa (Vertigo) rossiteri* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 18, April 27. Picton, New South Wales. New South Wales.

Genus CYLINDROVERTILLA Boettger, 1880.

1880. *Cylindrovertilla* Boettger, Conch. Mitth. (Martens), Bd. 1, heft 4, pp. 61-62, July. Logotype, Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxvi., p. 43, December 23, 1920, *Pupa fabreana* Crosse.

CYLINDROVERTILLA FABREANA CROSSE, 1872.

- [1872. *Pupa fabreana* Crosse, Journ. de Conch., Vol. xx., p. 359, October; Vol. xxii., p. 392, pl. 12, fig. 6, October, 1874. Noumea, New Caledonia.]

CYLINDROVERTILLA FABREANA BOYNENSIS *subsp. nov.*

1920. *Cylindrovertilla fabreana* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxvi., p. 48, pl. 5, figs. 12, 13, December 23. Boyne Is., Port Curtis, Queensland (C. T. Musson).

Differs from the typical form in being more striated, the angular lamellae smaller and more sinuous, etc., etc.

CYLINDROVERTILLA HEDLEYI Pilsbry, 1920.

1920. *Cylindrovertilla hedleyi* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxvi., p. 46, pl. 5, figs. 4-10, December 23. Calliungal, Queensland. South Queensland.

Subgenus WALLIVERTILLA *nov.*

Type, *Pupa kingi* Cox.

While the typical *Cylindrovertilla* has only one palatal fold, the present subgenus has two palatal folds, the upper fold, however, being the stronger.

CYLINDROVERTILLA (WALLIVERTILLA) KINGI COX, 1864.

1864. *Pupa kingi* Cox, Cat. Austr. Land Shells, p. 28, Parramatta, New South Wales (R. L. King). Figd. Cox, Mon. Austr. Land Shells, p. 79, pl. xiv., figs. 17, 17c, May, 1868.
1864. *Pupa mastersi* Cox, Cat. Austr. Land Shells, p. 29. Wollongong, New South Wales (W. (= G.) Masters). New South Wales.

Genus THEMAPUPA Iredale, 1930.

1930. *Themapupa* Iredale, Vict. Naturalist, Vol. 47, p. 120, November. Haplotype, *Pupa beltiana* Tate.

THEMAPUPA BELTIANA Tate, 1894.

1894. *Pupa beltiana* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 191, November. Central Australia. Figd. Tate, Rep. Horn. Sci. Exped. Centr. Austr., pt. ii., Zool., p. 204, pl. xviii., fig. 15, February, 1896, as dextral *contraria* Smith. Central Australia.

THEMAPUPA EREMICOLA Tate, 1894.

1894. *Pupa eremicola* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 191, November. Central Australia. Figd. Tate, Rep. Horn. Sci. Exped. Centr. Austr., pt. ii., Zool., p. 204, pl. xix., fig. 17, February, 1896, as sinistral *contraria* Smith. Central Australia.

THEMAPUPA CONTRARIA Smith, 1894.

1894. *Pupa contraria* Smith, Proc. Mal. Soc. (Lond.), Vol. i., p. 96, June. East Wallaby Is., Houtman's Abrolhos, West Australia. Western Australia.

THEMAPUPA LEPIDULA A. Adams & Angas, 1864.

1864. *Buliminus (Chondrula) lepidula* A. Adams & Angas, Proc. Zool. Soc. (Lond.), 1864, p. 38, June 24. Shark's Bay, West Australia. Figd.

Cox, Mon. Austr. Land Shells, p. 69, pl. xix., fig. 14, May, 1868, from a painting by Angas of the type.
Western Australia.

THEMAPUPA ISCHNA Tate, 1894.

1894. *Pupa ischna* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 191, November. Central Australia. Figd. Tate, Rep. Horn. Sci. Exped. Centr. Austr., pt. ii., Zool., p. 204, pl. xix., fig. 16, February, 1896. Alice Springs and Palm Creek. Central Australia.

THEMAPUPA MYOPORINAE Tate, 1880.

1880. *Bulimus myoporinae* Tate, Trans. Proc. Roy. Soc. South Austr., Vol. iii., p. 104, new name for
1879. *Bulimus sinistrorsus* Tate, Trans. Roy. Soc. Adelaide, South Austr., p. 134, pl. v., fig. 4. Peelunibie, Head of the Bight, South Australia. Not *Bulimus sinistrorsus* Serres, Ann. Soc. Ag. Lyon, iii., 1841, 484. South Australia.

THEMAPUPA ADELAIDAE Angas, 1864.

1864. *Buliminus (Chondrula) adelaidae* Angas, Proc. Zool. Soc. (Lond.), 1863, p. 522, April 20, 1864, ex A. Adams & Angas MS. South Australia. Figd. Cox, Mon. Austr. Land Shells, p. 69, pl. xiii., fig. 5, May, 1868.
1864. *Pupa ramsayi* Cox, Cat. Austr. Land Shells, p. 28. Point Lowly, South Australia.

THEMAPUPA PACIFICA Pfeiffer, 1846.

1846. *Pupa pacifica* Pfeiffer, Proc. Zool. Soc. (Lond.), 1846, p. 31, May. Sir Charles Hardy's Is., Pacific Ocean (= Queensland) (B. W. Tucker). North Queensland.

Genus GLYPTOPUPOIDES Pilsbry, 1926.

1926. *Glyptopupoides* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxvii., p. 252, March. Orthotype, *Pupoides hedleyi* Pilsbry.

GLYPTOPUPOIDES HEDLEYI Pilsbry, 1926.

1926. *Pupoides hedleyi* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxvii., p. 252, pl. 31, fig. 15, March. Bundaberg, Queensland. South Queensland.

Genus OMEGAPILLA nov.

Type, *Pupa nelsoni* Cox.

Referred by Pilsbry to *Primipupilla*, an Asiatic group, from which it differs in being larger, sinistral, the lamellae differing in form and position.

OMEGAPILLA NELSONI COX, 1864.

1864. *Pupa nelsoni* Cox, Cat. Austr. Land Shells, p. 29. Nelson's Bay, Sydney, N.S.W. (Rev. R. L. King). Figd. Cox, Mon. Austr. Land Shells, p. 79, pl. xiv., figs. 19, 19a, May, 1868. New South Wales.

OMEGAPILLA FICULNEA Tate, 1894.

1894. *Pupa ficulnea* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 191, November. Central Australia. Figd. Tate, Rep. Horn. Sci. Exped.

Centr. Austr., Vol. ii., Zool., p. 205, pl. 19, figs. 18, a, b., February, 1896.
Palm Creek.
Central Australia.

OMEGAPILLA AUSTRALIS Angas, 1864.

1864. *Vertigo australis* Angas, Proc. Zool. Soc. (Lond.), 1863, p. 522, April 20, 1864, ex A. Adams & Angas MS. Rapid Bay, South Australia. Fig. Cox, Mon. Austr. Land Shells, p. 79, pl. xx., fig. 15, May, 1868, from a painting of the type by Angas.
1867. *Pupa lincolnensis* Cox, Proc. Zool. Soc. (Lond.), 1867, p. 39, May, 25. Port Lincoln, South Australia (Masters). Figd. Cox, Mon. Austr. Land Shells, p. 80, pl. xiv., fig. 16, May, 1868. South Australia.

OMEGAPILLA TASMANICA Johnston, 1883.

1883. *Pupa tasmanica* Johnston, Papers Proc. Roy. Soc. Tasm., 1882, p. 144, pl., as synonym of *lincolnensis* Angas, but Tasmanian specimens figured and described. Tasmania.
Tasmania.

Genus SOMNIOPUPA nov.

Type, *Pupa scotti* Brazier.

A dextral form of small size with peculiar armature of the mouth as described by Pilsbry at the citation below.

SOMNIOPUPA SCOTTI Brazier, 1875.

1875. *Pupa (Vertigo) scotti* Brazier, Proc. Zool. Soc. (Lond.), 1874, p. 669, pl. 83, figs. 24-26, April 1, 1875. Fitzroy Is., North Queensland. Re-figd. Hedley, in Man. Conch. (Tryon), Ser. ii., Vol. xxvi., p. 222, pl. 23, fig. 22, November, 1921, from unique specimen. North Queensland (Fitzroy Is.).

Genus GYLIOTRACHELA Tomlin, 1930.

1930. *Gyliotrachela* Tomlin, Proc. Mal. Soc. (Lond.), Vol. xix., p. 24, March 13, new name for
1917. *Gyلياuchen* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xxiv. (pt. 94), pp. 173-174, July 18. Logotype, Pilsbry, loc. cit., p. 210. *Hypselostoma hungerfordiana* Möllendorff. Not *Gyلياuchen* Nicoll, Parasitology, Vol. viii., p. 37, 1915.

GYLIOTRACHELA AUSTRALIS Odhner, 1917.

1917. *Hypselostoma australis* Odhner, Kungl. Svensk. Vetensk. Handl., Bd. 52, No. 16, p. 98, pl. 3, figs. 107-109, September 19. Chillagoe Caves, North Queensland (subfossil).
North Queensland (Chillagoe Caves district, *living*).

Genus IMPUTEGLA nov.

Type, *Pupisoma circumlitum* Hedley.

Differs in form and lack of apertural teeth from the type of *Pupisoma (lignicola)*, and resembling *Ptychopatula* (type *caeca*) from Trinidad.

IMPUTEGLA CIRCUMLITA Hedley, 1897.

1897. *Pupisoma circumlitum* Hedley, Rec. Austr. Mus., Vol. iii., p. 44, pl. xi., figs. 1, 2, 3, August 5. Bundaberg, Queensland.
South Queensland. New South Wales.

IMPUTEGLA PORTI Brazier, 1876.

1876. *Helix* (*Conulus* ?) *porti* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 104, July. Albany Is., North Queensland.
North Queensland (Cape York district).

[Note.—*Pupa anodonta* Hedley & Musson (Proc. Linn. Soc. N.S.W., Ser. ii., Vol. vi., p. 588, fig. in text, May 23, 1892), described from the North Pine River, Queensland, has been determined as a fresh water shell previously described as *Hydrobia petterdi* Smith (Journ. Linn. Soc. (Lond.), Zool., Vol. xvi., p. 270, pl. vii., fig. 23, July, 1881), and *Bithynia richmondiana* Petterd (Journ. Conch. (Leeds), Vol. iv., p. 159, January, 1884, fig. by Hedley, Proc. Linn. Soc. N.S.W., 1904, pl. viii., fig. 7), from the Richmond River, New South Wales. It is unlike any Australian fresh water group, and Hedley has referred it to the New Caledonian genus, *Heterocyclus*, but it seems to be nearer the other New Caledonian genus, *Hemistomia*. It does not agree with the former in form, being narrow and elongate, *Heterocyclus* being short and broad. It is more like *Hemistomia* in form, but differs in the rounder whorls and free mouth. It is apparently an endemic group which may be called *Fluvidona*.]

Family SUBULINIDAE.

An alien member, *Subulina octona* Bruguière, is common along the coast, but there are endemic members of this family living in Australia, but the occurrence in Central Australia contributes a puzzling factor to add to the number of *Larapintine* mollusca, suggesting in this case northern origin.

Genus EREMOPEAS Pilsbry, 1906.

1906. *Eremopeas* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xviii., (pt. 70), p. 115, April 10. Orthotype, *Stenogyra interioris* Tate.

EREMOPEAS INTERIORIS Tate, 1894.

1894. *Stenogyra interioris* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 191, November. Central Australia. Figd. Tate, Rep. Horn Sci. Exped. Centr. Austr., pt. ii., Zool., p. 203, pl. xviii., fig. 14, February, 1896.
Central Australia.

EREMOPEAS TUCKERI Pfeiffer, 1846.

1846. *Bulimus tuckeri* Pfeiffer, Proc. Zool. Soc. (Lond.), 1846, p. 30, May. Sir Charles Hardy's Islands, Pacific Ocean = North Queensland.
1864. *Bulimus walli* Cox, Cat. Austr. Land Shells, p. 24. Kalka, Rockhampton, Queensland (W. S. Wall, jr.). Figd. Cox, Mon. Austr. Land Shells, p. 69, pl. xiii., fig. 9, May, 1868.
Queensland.

Family COELOCIONTIDAE.

This family seems necessary for this quaint form only known from mid-Queensland, and referred by Pilsbry to the family Megaspiridae of Brazil!!

Genus COELOCION Pilsbry, 1904.

1904. *Coelocion* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xvi., p. 190, January 8. Haplotype, *Balea australis* Forbes.

COELOCION AUSTRALIS Forbes, 1851.

1851. *Balea australis* Forbes, Narr. Voy. Rattlesnake (Macgillivray), Vol. ii.,

p. 380, pl. ii., figs. 9 a-b, "1852" = mid-December, 1851. Port Molle, Queensland.

1868. *Coeliaxis exigua* H. Adams & Angas, Proc. Zool. Soc. (Lond.), 1867, p. 907, pl. xliii., figs. 16-17, April 3, 1868. "Solomon Archipelago", error = Port Molle, Queensland. Mid-Queensland.

Family SUCCINEIDAE.

The species of this family are conchologically so alike that it is difficult to determine them. Yet anatomically they apparently show valid differences, so that Quick (Proc. Mal. Soc. (Lond.), Vol. xx., pp. 295-318, November 15, 1933) has separated the few British species.

The Australian specimens dissected by him proved unlike the typical *Succinea*, but nearer a form which is conchologically dissimilar. There may be three or four different groups represented in the Australian fauna, so that it will be necessary to examine them anatomically before they can be correctly arranged.

Genus AUSTROSUCCINEA nov.

Type, *Succinea australis* Ferussac.

According to Quick, Victorian specimens resemble *arenaria* in jaw, radula and genitalia, and of *arenaria* he wrote "differs so widely from the other British species that it will not fit into either of their sections, and from its jaw it cannot be placed in *Oxyloma*, so another sectional name is required for this type". The Australian type differs entirely conchologically from *arenaria*, being more like *elegans*, as figured by Quick.

AUSTROSUCCINEA AUSTRALIS Ferussac, 1821.

1821. *Helix austalis* (sic) Ferussac, Tabl. Syst. Limaçons, pt. ii., p. 31, January; 2nd print, p. 27, "June" = May 12; pl. xi., fig. 11, published in 1819, probably with name. Kangaroo Island and Isles St. Pierre and St. François.
1855. *Succinea strigata* Pfeiffer, Proc. Zool. Soc. (Lond.), 1854, p. 297, May 8, 1855. "Port Clarence, Behring's Straits", error = "general in South Australia", Cf. Proc. Zool. Soc. (Lond.), 1863, p. 522, 1864. Figd. Cox, Mon. Austr. Land Shells, p. 88, pl. xv., fig. 1, May, 1868.
1864. *Succinea rhodostoma* Cox, Cat. Austr. Land Shells, p. 27. Point Lowly, South Australia. Victoria.

AUSTROSUCCINEA LEGRANDI Legrand, 1871.

1871. *Succinea legrandi* Legrand, Coll. Mon. Tasm. Shells, 2nd ed., *Succinea*, sp. 2, ex Cox MS., dated August, 1871, September. Kangaroo Point, Tasmania (Masters, Petterd, W. L.).
1879. *Succinea australis* var. *queenboroughensis* Petterd, Mon. Land Shells Tasm., p. 49, April. Queenborough, Tasmania (C. E. Beddome). Tasmania.

AUSTROSUCCINEA SCALARINA Pfeiffer, 1861.

1861. *Succinea scalarina* Pfeiffer, Proc. Zool. Soc. (Lond.), 1861, p. 28, May 1. King George's Sound, South West Australia. Figd. Cox, Mon. Austr. Land Shells, p. 89, pl. xx., fig. 19, May, 1868, from painting of type of Angas. Refigd. Smith, Proc. Mal. Soc. (Lond.), Vol. i., p. 97, pl. vii., fig. 24, June. South West Australia.

AUSTROSUCCINEA MENKEANA Pfeiffer, 1850.

1850. *Succinea menkeana* Pfeiffer, Zeitsch. für Malak., 6th Year, 1849, No. 7, p. 110, January, 1850 (Sherborn). New Holland (L. Preiss) = Hay district, South West Australia. Figd. Pfeiffer, Syst. Conch. Cab. (Mart. & Chemn.), Bd. 1, Abth xi., p. 45, pl. 4, figs. 36, 37, 38, 1854. South West Australia.

AUSTROSUCCINEA STRIGILLATA A. Adams & Angas, 1864.

1864. *Succinea strigillata* A. Adams & Angas, Proc. Zool. Soc. (Lond.), p. 38, June 24. Shark's Bay, West Australia. Figd. Cox, Mon. Austr. Land Shells, p. 89, pl. xv., fig. 5, May, 1868. Mid-West Australia.

AUSTROSUCCINEA TAMARENSIS Petterd, 1879.

1879. *Succinea australis* var. *tamarensis* Petterd, Mon. Land Shells Tasm., p. 49, April. Tamar River, Launceston, North Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 284, pl. lxxxii., fig. 1, 1909. North Tasmania.

AUSTROSUCCINEA COXI Finlay, 1927.

1927. *Succinea coxi* Finlay, Trans. New Zeal. Inst., Vol. 57, p. 521, January 19. New name for
1868. *Succinea aperta* Cox, Mon. Austr. Land Shells, p. 90, pl. xvii., fig. 6, May. King George's Sound, West Australia (Masters). Not *S. aperta* Lea, Trans. Amer. Phil. Soc., n.s., Vol. vi., p. 101, 1838. South West Australia.

AUSTROSUCCINEA INTERIORIS Tate, 1894.

1894. *Succinea interioris* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 191, November. Central Australia. Figd. Tate, Rep. Horn Sci. Exped. Centr. Austr., pt. ii., Zool., p. 207, pl. xix., fig. 21, February, 1896. Palm Creek, Central Australia. Central Australia.

AUSTROSUCCINEA NORTONI Cox, 1864.

1864. *Succinea nortoni* Cox, Cat. Austr. Land Shells, p. 27. Norton's Basin, Nepean River, New South Wales. Figd. Cox, Mon. Austr. Land Shells, p. 90, pl. xv., fig. 4, May, 1868. New South Wales.

AUSTROSUCCINEA MACGILLIVRAYI Cox, 1864.

1864. *Succinea macgillivrayi* Cox, Cat. Austr. Land Shells, p. 27. Mount Henry, Mulgoa, New South Wales. Figd. Cox, Mon. Austr. Land Shells, p. 90, pl. xv., fig. 6, May, 1868. New South Wales.

Genus ARBORCINEA nov.

Type, *Succinea eucalypti* Cox.

This curious little group deserves distinction as the shells are small, with spire short, body whorl swollen, and have a strange habit of clustering under bark with their shells sealed by an epiphragm. They appear to be strictly arboreal, while the *Austrosuccinea* group is terrestrial, another factor of importance, which should be accompanied by anatomical differentiation.

ARBORCINEA EUCALYPTI COX, 1864.

1864. *Succinea eucalypti* Cox, Cat. Austr. Land Shells, pp. 38-27. County of Cumberland, New South Wales. Figd. Cox, Mon. Austr. Land Shells p. 90, pl. xv., figs. 3 a-b, May, 1868. New South Wales. South Queensland.

ARBORCINEA ARBOREA Angas, 1864.

1864. *Succinea arborea* Angas, Proc. Zool. Soc. (Lond.), 1863, p. 523, April 20, 1864, ex A. Adams & Angas MS. Burnside Hills, near Adelaide, South Australia. Figd. Cox, Mon. Austr. Land Shells, p. 89, pl. xx., fig. 20, May, 1868, from a painting of the type by Angas. South Australia.

ARBORCINEA BREVISSIMA Thiele, 1930.

1930. *Succinea brevissima* Thiele, Die Fauna Südwest Australiens, Bd. 5, lief. 8, p. 587, pl. iv., fig. 66. Collie, South West Australia. South West Australia.

Family BOTHRIEMBRYONTIDAE.

This family is one of the most extraordinary features of the otherwise very peculiar Australian Land Molluscan fauna as practically restricted to the south-west corner of the Continent a great variety of forms has developed. These will be fully dealt with in another place, so that the recorded knowledge only is here proffered. It must be emphasised, as this association may be revised, as extralimital workers, such as Pilsbry and Kobelt gave names to material with imperfect data, and it has not been easy to correct the mistakes. Thus Pilsbry's material from Cox was labelled King George's Sound because Cox had determined the shells as a species known from that locality, and not because the shells had been collected at that locality. Kobelt simply recorded Australia or New Holland, and such a locality is valueless and the names might rightly be discarded. Still more recently Thiele has recorded Central Australian species from Perth, an absurd association.

Genus BOTHRIEMBRYON Pilsbry, 1894.

1894. *Bothriembryon* Pilsbry, Nautilus, Vol. viii., p. 36, July (new name for West Australian *Liparus*). Orthotype, *Bulimus melo* Quoy & Gaimard.
 1861. *Liparus* Martens, Die Heliceen (Albers), 2nd ed., p. 229. Orthotype, *Bulimus inflatus* Lamarck. Not *Liparus* Albers, Die Heliceen, 1st ed., p. 172, 1850.
 1933. *Hartogembryon* Iredale, Rec. Austr. Mus., Vol. xix., p. 41, August 2. Orthotype, *Bulimus onslowi* Cox.
 1933. *Larapintembryon* Iredale, Rec. Austr. Mus., Vol. xix., p. 41, August 2. Orthotype, *Liparus spenceri* Tate.
 1933. *Satagembryon* Iredale, Rec. Austr. Mus., Vol. xix., p. 41, August 2. Orthotype, *Buliminus gratwicki* Cox.

BOTHRIEMBRYON MELO Quoy & Gaimard, 1832.

1832. *Helix melo* Quoy & Gaimard, Voy. Astrol., Zool., Vol. ii., p. 109, pl. 9, figs. 4-7. Bald Head, King George's Sound, West Australia.
 1832. *Helix melones* id., ib., in synonymy, ex Ferussac, Tabl. Syst. Limaçons, Prodr., p. 58, January; p. 54, June, 1821 (*Helix (Cochlogena) melones*, nom. nud.).
 1838. *Bulimus ovum* Deshayes, Regne Animal (Cuvier), Disciples ed., pl. 23, fig. 1, ex Quoy MS. Alternative name for *melo* Quoy & Gaimard.

1843. *Bulimus physodes* Menke, Moll. Nov. Holl. Spec., p. 7, April. Hay, West Australia.
1901. *Bothriembryon physalis* Kobelt, Syst. Conch. Cab. (Mart. & Chemn.), ed. Kuster, Bd. 1, Abth. 13 (2), p. 778 (dated July 28), error pro *physodes* Menke.
South West Australia (King George's Sound).

BOTHRIEMBRYON RHODOSTOMUS Gray, 1834.

1834. *Bulimus rhodostomus* Gray, Proc. Zool. Soc. (Lond.), 1834, p. 67, November 25. New Holland.
1900. *Bothriembryon inflatus* var. *castaneus* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xiii., p. 5, pl. i., figs. 11, 18, April 23, ex Desnayes MS.; does not occur, Lamarck, Vol. vii., p. 245. King George Sound, West Australia.
1900. *Bothriembryon inflatus* var. *maculiferus* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xiii., p. 5, pl. i., figs. 12-14, April 23. King George's Sound, West Australia.
1901. *Bothriembryon martensi* Kobelt, Syst. Conch. Cab. (Mart. & Chemn.), ed. Kuster, Bd. 1, Abth. 13 (2), p. 764, pl. 112, figs. 3-4 (dated June 19). New Holland.
South West Australia (Islands of Recherche Archipelago).

BOTHRIEMBRYON BULLA Menke, 1843.

1843. *Bulimus bulla* Menke, Moll. Nov. Holl. Spec., p. 7, April. Darling Range, West Australia.
1854. *Bulimus baconi* Benson, Ann. Mag. Nat. Hist., Ser. ii., Vol. xiii., p. 99, February 1. Darling Range, West Australia. Figd. Cox, Mon. Austr. Land Shells, p. 73, pl. xix., fig. 13, May, 1868, from a painting of the type by Angas. Refigd. Smith, Proc. Mal. Soc. (Lond.), Vol. i., p. 95, pl. vii., fig. 32, 1894 (type).
1900. *Bothriembryon inflatus* var. *conspira* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xiii., p. 5, pl. i., figs. 15-17, April 23. "King George's Sound, W.A.," error = Perth.
1902. *Bothriembryon durus* Kobelt, Syst. Conch. Cab. (Mart. & Chemn.), ed. Kuster, Bd. 1, Abth. 13 (2), p. 930, pl. 131, figs. 1-2 (dated April 8). Australia.
Western Australia (Perth district).

BOTHRIEMBRYON INDUTUS Menke, 1843.

1843. *Bulimus indutus* Menke, Moll. Nov. Holl. Spec., p. 6, April. Darling Ranges, West Australia.
1877. *Bulimus ponsonbii* Angas, Proc. Zool. Soc. (Lond.), 1877, p. 170, pl. xxvi., fig. 1, August 1. Western Australia (J. Gould).
Western Australia (Darling Ranges).

BOTHRIEMBRYON COSTULATUS Lamarck, 1822.

1822. *Helix costulata* Lamarck, Hist. Anim. s. Vert., Vol. vi., pt. ii., p. 122, April, as synonym, ex "Daudeb., No. 405" (*Helix (Cochlogena) costulata* Ferussac, Tabl. Syst., Limaçons, pt. ii., p. 58, January; p. 54, June, 1821, *nom. nud.* Shark's Bay (West Austr.).
1822. *Bulimus inflatus* Lamarck, Hist. Anim. s. Vert., Vol. vii., pt. ii., p. 122, April. Nouvelle Hollande = Shark's Bay, Mid-West Australia. Figd. Recueil Coq. Lamarck, pl. 28, fig. 1, 1841. Not *Bulimus inflatus* Olivier, Voy. Othoman., Vol. ii., p. 356, 1801.

1864. *Bulimus onslowi* Cox, Cat. Austr. Land Shells, p. 24. Dirk Hartog Is., West Australia (Onslow). Figd. Cox, Mon. Austr. Land Shells, p. 74, pl. xiii., fig. 13, May, 1868.
Mid-West Australia (Shark's Bay).

BOTHRIEMBRYON MINOR Pilsbry, 1900.

1900. *Bothriembryon onslowi* var. *minor* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xiii., p. 12, pl. iii., figs. 45, 46, 47, April 23, for
1894. *Bulimus (Liparus) onslowi* Smith, Proc. Mal. Soc. (Lond.), Vol. i., p. 95, pl. vii., fig. 29, June. Dirk Hartog Is. (J. J. Walker).
1901. *Bothriembryon melo* var. *hartogensis* Kobelt, Syst. Conch. Cab. (Mart. & Chemn.), ed. Kuster, Bd. 1, Abth. 13, p. 770, pl. 112, fig. 15 (dated June 19). Dirk Hartog's Is., West Australia.
Mid-West Australia (Dirk Hartog's Island).

BOTHRIEMBRYON DUX Pfeiffer, 1861.

1861. *Bulimus dux* Pfeiffer, Proc. Zool. Soc. (Lond.), 1861, p. 24, May 1. King George's Sound, South West Australia. Figd. Cox, Mon. Austr. Land Shells, p. 71, pl. xiii., fig. 4, pl. xviii., fig. 16, May, 1868.
South West Australia.

BOTHRIEMBRYON BARRETTI Iredale, 1930.

1930. *Bothriembryon barretti* Iredale, Vict. Naturalist, Vol. xlvii., pp. 119-120, fig. in text, November. Nullarbor Plain, South Australia (C. Barrett).
1879. *Bulimus indutus* var. *pallidus* Tate, Trans. Proc. Roy. Soc. Adelaide, South Austr., 1878-79, p. 134. Bunda Plateau, Nullarbor Plain, South Australia. Not *Bulimus pallidus* C. B. Adams, Proc. Bost. Soc. N.H., Vol. ii., p. 12, 1845.
South and West Australia (Nullarbor Plain).

BOTHRIEMBRYON FUSCUS Thiele, 1930.

1930. *Bothriembryon fuscus* Thiele, Die Fauna Südwest Australiens, Bd. v., lief. 8, p. 588, pl. iv., fig. 68. Torbay, South West Australia.
South West Australia (Torbay district).

BOTHRIEMBRYON KINGII Gray, 1825.

1825. *Bulimus kingii* Gray, Annals Philos. (Thomson), Vol. xxv. (Ser ii., Vol. ix.), p. 414, June. New Holland (Capt. King) = Bald Head, King George's Sound.
1826. *Helix bulimus* King, Narr. Survey Coast Australia, Vol. i., p. 12, "1827" = April 15, 1826. Near Bald Head, King George's Sound, South West Australia.
1828. *Helix kingii* Wood, Suppl. Index Test., p. 22, pl. vii., *Helix*, fig. 27. New Holland. Brit. Mus., type figured.
1832. *Helix trilineata* Quoy & Gaimard, Voy. Astrol. Zool., Vol. ii., p. 107, pl. ix., figs. 1-3. Bald Head, King George's Sound, South West Australia.
1848. *Bulimus trilineatus* Reeve, Conch. Icon., Vol. v., pl. xlvi., sp. & fig. 310, November, as of Q. & G. New Holland.
1849. *Bulimus trilineatus* Reeve, Conch. Icon., Vol. v., pl. lix., sp. & fig. 397, January, as of Q. & G. Port George, New Holland.

1864. (*Bulinus*) *quoyi* Cox, Cat. Austr. Land Shells, p. 23, new name for Reeve's fig. 397, not Reeve's fig. 310.
1900. *Bothriembryon physoides* var. *humilis* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xiii., p. 10, pl. ii., figs. 33-34, April 23. King George's Sound, West Australia.
South West Australia (King George's Sound).

BOTHRIEMBRYON SAYI Pfeiffer, 1847.

1847. *Bulinus sayi* Pfeiffer, Proc. Zool. Soc. (Lond.), 1846, p. 114, January 26, 1847. Locality unknown = Cape Freycinet, West Australia. Figd. Reeve, Conch. Icon., Vol. v., pl. lxx., sp. 458, May, 1849.
1900. *Bothriembryon kingii* var. *solidus* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xiii., p. 9, pl. ii., fig. 28, April 23. West Australia = Margaret River.
Western Australia (Cape Freycinet district).

BOTHRIEMBRYON NATURALISTARUM Kobelt, 1901.

1901. *Bothriembryon kingii* var. *naturalistarum* Kobelt, Syst. Conch. Cab. (Mart. & Chemn.), ed. Kuster, Bd. i., Abth. 13, p. 781, pl. 113, figs. 22-23 (dated July 28). Cape Naturaliste, West Australia.
Western Australia (Cape Naturaliste district).

BOTHRIEMBRYON LEEUWINENSIS Smith, 1894.

1894. *Bulinus* (*Liparus*) *leeuwinensis* Smith, Proc. Mal. Soc. (Lond.), Vol. i., p. 94, pl. vii., fig. 27, June. Cape Leeuwin, South West Australia.
Western Australia (Cape Leeuwin district).

BOTHRIEMBRYON MAXWELLI Kobelt, 1901.

1901. *Bothriembryon maxwelli* Kobelt, Syst. Conch. Cab. (Mart. & Chemn.), ed. Kuster, Bd. i., Abth. 13, p. 781, pl. 112, fig. 17 (dated June 19), ex Brazier MS. West Australia.
South West Australia.

BOTHRIEMBRYON BRAZIERI Angas, 1871.

1871. *Bulinus* (*Liparus*) *brazieri* Angas, Proc. Zool. Soc. (Lond.), 1871, p. 19, pl. i., fig. 28, June 12. Sinclair's (error for Stirling), Range, King George's Sound, W.A.
Western Australia (Stirling Ranges).

BOTHRIEMBRYON GRATWICKI Cox, 1899.

1899. *Buliminus gratwicki* Cox, Proc. Linn. Soc. N.S.W., Vol. xxiv., p. 435, fig. in text, December 9. East of Israelite Bay, South West Australia.
South West Australia (Israelite Bay district).

BOTHRIEMBRYON SPENCERI Tate, 1894.

1894. *Liparus spenceri* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 192, November. Central Australia. Figd. Tate, Rep. Horn. Sci. Exped. Centr. Aust., pt. ii., Zool., p. 202, pl. xviii., fig. 13, February, 1896. Palm Creek.
Central Australia.

BOTHRIEMBRYON ANGASIANUS Pfeiffer, 1864.

1864. *Bulinus angasianus* Pfeiffer, Proc. Zool. Soc. (Lond.), 1863, p. 528, April 20, 1864, ex Angas loc. cit., at p. 522, n.n. Port Lincoln, South

Australia. Figd. Cox, Mon. Austr. Land Shells, p. 70, pl. xiii., fig. 2, May, 1868.

South Australia (Eyre Peninsula).

BOTHRIEMBRYON MASTERSI COX, 1867.

1867. *Bulimus mastersi* Cox, Proc. Zool. Soc. (Lond.), 1867, p. 39., May 25. Port Lincoln, South Australia (Masters). Figd. Cox, Mon. Austr. Land Shells, p. 77, pl. xiii., fig. 14, May, 1868.
South Australia (Eyre Peninsula).

Genus TASMANEMBRYON Iredale, 1933.

1933. *Tasmanembryon* Iredale, Rec. Austr. Mus., Vol. xix., p. 41, August 2. Orthotype, *Bulimus tasmanicus* Pfeiffer.

TASMANEMBRYON TASMANICUS Pfeiffer, 1853.

1853. *Bulimus tasmanicus* Pfeiffer, Proc. Zool. Soc. (Lond.), 1851, p. 260, December 7, 1853. Van Diemen's Land.
1900. *Bothriembryon gunni* var. *brachysoma* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. xiii., p. 18, pl. iii., fig. 53, April 23. Tasmania.
Tasmania.

Note.—*Bulinus gunnii* Sowerby (Phys. Descr. New South Wales (Strzelecki), p. 298, pl. xix., fig. 5 (6), 1845) was given to a fossil from Tasmania, based on a cast only from the yellow limestone of Hobart Town and is of uncertain status.

Family LAOMIDAE.

Thiele has allowed a "Stirps Zonitacea", and in it a Family, Endodontidae, with eight subfamilies, Laominae, Rotadiscinae, Helicodiscinae, Stenopylinae, Endodontinae, Amphidoxinae, Megomphicinae and Discinae. As usual the taxonomy is at fault, as both *Discus* and *Laoma* are earlier in date than *Endodonta*. The family Discidae will not enter into this discussion, being restricted to the Northern Hemisphere, while the Laomidae is apparently a very distinct group entitled to separate rank. None of our shells are at all like the typical *Endodonta*, and the family name Charopidae is here preferred for the Australian forms, the type of *Charopa* being a conchologically similar Neozelanic shell. *Amphidoxa* is a South American form, and it has been conclusively shown that our species are anatomically dissimilar from similar South American shells. Consequently the family Flammulinidae is here utilised, the type of *Flammulina* again being a Neozelanic land shell. The groupings here given are provisional, as these small shells need very intensive study before any stable classification can be prepared.

Genus PARALAOMA Iredale, 1913.

1913. *Paralaoma* Iredale, Proc. Mal. Soc. (Lond.), Vol. x., p. 380, September. Haplotype, *Paralaoma raoulensis* Iredale.

PARALAOMA MORTI COX, 1864.

1864. *Helix morti* Cox, Cat. Austr. Land Shells, p. 22. Darling Point, Sydney, New South Wales. Figd. Cox, Mon. Austr. Land Shells, p. 21, pl. xi., fig. 13, May, 1868.
1864. *Helix paradoxa* Cox, Cat. Austr. Land Shells, p. 21. Stroud Road,

Campbelltown, N.S.W. (King). Not *Helix paradoxa* Pfeiffer, Abbild. Conch., i, p. 153, 1844.
Mid New South Wales. Victoria.

PARALAOMA HOBARTI COX, 1868.

1868. *Helix hobarti* Cox, Mon. Austr. Land Shells, p. 22 (not pl. xii., fig. 11), May. Hobart Town, Tasmania (Masters).
1868. *Helix similis* Cox, Mon. Austr. Land Shells, p. 23, pl. xii., fig. 12, May. Mount Wellington, Tasmania. Not *H. similis* Thomae, Jahrb. Var. Nat. Nassau, Vol. ii., p. 143, 1845.
1871. *Helix (Patula) stellata* Brazier, Proc. Zool. Soc. (Lond.), 1870, p. 662, April, 1871.
1871. *Helix (Discus) derelicta* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 11, ex Cox MS., June. Both new names for *similis* Cox. South Tasmania.

PARALAOMA HALLI Legrand, 1871.

1871. *Helix (Rhyssota) halli* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 34, p. 7, pl. ii., fig. 9, June, ex Cox MS. Brown's River, Tasmania. South Tasmania. Victoria.

PARALAOMA MUCOIDES Tenison-Woods, 1878.

1878. *Helix mucoides* Tenison-Woods, Proc. Linn. Soc. N.S.W., Vol. ii., p. 125, pl. xii., figs. 5-5a, December. Victoria. Victoria.

PARALAOMA ARENICOLA Tate, 1878.

1878. *Helix arenicola* Tate, Proc. Linn. Soc. N.S.W., Vol. ii., p. 291, June. Holdfast Bay, Yorke's Peninsula, South Australia. South Australia.

PARALAOMA RETINODES Tate, 1894.

1894. *Charopa retinodes* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 192, November. Central Australia. Figd. Tate, Rep. Hořn. Sci. Exped. Cent. Austr., pt. ii., Zool., p. 187, pl. xvii., fig. 2, February, 1896. Reedy Creek, George Gill's Ridge. Central Australia.

PARALAOMA SITIENS Legrand, 1871.

1871. *Helix (Discus) sitiens* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 60, June, ex Cox MS., new name for *H. hobarti* Cox, Mon. Austr. Land Shells, pl. xii., fig. 11, May, 1868. Hobart, Tasmania. South Tasmania.

PARALAOMA TASMANIAE COX, 1868.

1868. *Helix tasmaniae* Cox, Mon. Austr. Land Shells, p. 22, pl. xii., fig. 4, May. Mount Wellington, Tasmania (Masters). South Tasmania.

PARALAOMA MURPHYI COX, 1864.

1864. *Helix murphyi* Cox, Cat. Austr. Land Shells, p. 37. Wollongong, New South Wales (Masters). South New South Wales.

PARALAOMA DISCORS Petterd, 1902.

1902. *Helix discors* Petterd, Proc. Roy. Soc. Tasm., 1900-01, p. 2, June, 1902. Maria Is., South Tasmania.
South Tasmania (Maria Is.).

Genus EXCELLAOMA nov.

Type, *Helix retipora* Cox.

Large Paralaomid shells with very narrow umbilicus, almost imperforate, columella reflected, protoconch obsoletely spirally striate, adult regularly striate.

EXCELLAOMA RETIPORA COX, 1867.

1867. *Helix retipora* Cox, Proc. Zool. Soc. (Lond.), 1867, p. 39, May 25. Flinder's Range, South Australia (Masters). Figd. Cox, Mon. Austr. Land Shells, p. 21, pl. vii., figs. 8-8a, May, 1868. South Australia.

EXCELLAOMA MELBOURNENSIS COX, 1868.

1868. *Helix melbournensis* Cox, Mon. Austr. Land Shells, p. 22, pl. xii., fig. 10, May. Melbourne, Victoria (Masters).
Victoria.

EXCELLAOMA PULLEINEI Tate, 1899.

1899. *Flammulina pulleinei* Tate, Trans. Roy. Soc. South Austr., Vol. xxiii., p. 247, pl. vi., figs. 1a-c. Carrieton, South Australia (R. H. Pulleine). South Australia.

Genus LAOMAVIX Iredale, 1933.

1933. *Laomavix* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix minima* Cox.

LAOMAVIX COLLISI Brazier, 1877.

1877. *Helix (Pitys) collisi* Brazier, Papers Proc. Roy. Soc. Tasm., 1876, p. 168, February 27, new name for
1868. *Helix minima* Cox, Mon. Austr. Land Shells, p. 10, pl. xii., fig. 8, May. Mount Wellington, Tasmania (Masters in A.M.). Not *Helix minima* Schlotheim, Min. Tasch., p. 340, 1818.
1879. *Helix henryana* Petterd, Mon. Land Shells Tasm., p. 21, April. Domain, Hobart Town, Tasmania.
South Tasmania.

LAOMAVIX FURNEAUXENSIS Petterd, 1879.

1879. *Helix furneauxensis* Petterd, Mon. Land Shells Tasm., p. 21, April. Furneaux Group, Bass Straits.
Bass Straits (Furneaux Group). Victoria.

Genus MISELAOMA Iredale, 1933.

1933. *Miselaoma* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix weldii* Tenison-Woods.

MISELAOMA WELDII Tenison-Woods, 1877.

1877. *Helix weldii* Tenison-Woods, Papers Proc. Roy. Soc. Tasm., 1876, p. 33, February 27. Stanley, Circular Head, Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 293, pl. 83, figs. 8-10, 1909. Tasmania.

MISELAOMA SINISTRA Gabriel, 1930.

1930. *Laoma sinistra* Gabriel, Proc. Roy. Soc. Victoria, Vol. xliii. (n.s.), pt. i., p. 81, pl. ii., fig. 8, September 11. Tarraville, Victoria. Victoria.

Genus PASMADITTA Iredale, 1933.

1933. *Pasmaditta* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix jungermanniae* Petterd.

PASMADITTA JUNGERMANNIAE Petterd, 1879.

1879. *Helix jungermanniae* Petterd, Mon. Land Shells Tasm., p. 17, April. Cataract, near Launceston, Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 296, pl. lxxxv., figs. 26-28, 1909. North Tasmania.

Genus PLANILAOMA nov.

Type, *Helix luckmanii* Brazier.

Flattened Laomid shells, broader than high, umbilicus deep and narrow, mouth wide for this series, protoconch smooth, sculpture of adult whorls fine striation.

PLANILAOMA LUCKMANII Brazier, 1877.

1877. *Helix (Pitys) luckmanii* Brazier, Papers Proc. Roy. Soc. Tasm., 1876, p. 168, February 27, 1877, new name for
 1871. *Helix (Charopa) neglecta* Brazier, Proc. Zool. Soc. (Lond.), 1870, p. 660, April 1, 1871. Hobart Town, Tasmania. Not *H. neglecta* Draparnaud, H. N. Moll. France, p. 108, 1805. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. viii., p. 296, pl. 82, figs. 5-7, 1909. South Tasmania.

Genus TROCHOLAOMA nov.

Type, *Helix spiceri* Petterd.

Conical many whorled Laomid shells, periphery rounded, sculpture very fine striation, mouth small, umbilicus deep and narrow.

TROCHOLAOMA SPICERI Petterd, 1879.

1879. *Helix spiceri* Petterd, Mon. Land Shells Tasm., p. 23, April. New Norfolk, Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 295, p. 87, figs. 47-50, 1909. Tasmania.

TROCHOLAOMA TRUCANINI Petterd, 1879.

1879. *Helix truncanini* Petterd, Mon. Land Shells Tasm., p. 19, April. Launceston, Tasmania.
 1894. (*Laoma*) *pipaensis* Suter, Ann. Mag. Nat. Hist., Ser. vi., Vol. xiii., p. 64, January, *nom. nud.*
 1909. *Laoma pipaensis* Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 295, as synonym of *truncanini*. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 295, pl. 87, figs. 44-46, August 30, 1909. North Tasmania.

TROCHOLAOMA PARVISSIMA Legrand, 1871.

1871. *Helix (Conulus) parvissima* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 39, p. 6, pl. ii., fig. 1, June, ex Cox MS. Brown's River, Tasmania. Tasmania. Victoria.

TROCHOLAOMA NINGUICOLA *sp. nov.*

Recalling the preceding but larger and comparatively less elevated, the umbilicus, however, narrower, and the sculpture more pronounced; recorded under the preceding name but easily differentiated. Kosciusko, New South Wales.

Southern New South Wales.

Genus MAGILAOMA *nov.*

Type, *M. parpictilis sp. nov.*

MAGILAOMA PARPICTILIS *sp. nov.*

Similar to *Helix penolensis* Cox, from South Australia, but with coarser sculpture, the fine sculpture being subordinate and the base coarsely sculptured, the keel stronger, the umbilicus narrower, the shell altogether larger and comparatively broader. Circular Head, North West Tasmania. Figd. as *Laoma pictilis* by Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 294, pl. 86, figs. 35-37, August 30, 1909, and as *L. penolensis* by May, Illustr. Index Tasm. Shells, pl. xliii., fig. 5, 1923.

North West Tasmania.

MAGILAOMA PENOLENSIS COX, 1868.

1868. *Helix penolensis* Cox, Proc. Zool. Soc. (Lond.), 1867, p. 724, April 3, 1868. Penola, South Australia (Woods). Figd. Cox, Mon. Austr. Land Shells, p. 8, pl. xi., fig. 12, May, 1868.
1878. *Helix pictilis* Tate, Proc. Linn. Soc. N.S.W., Vol. ii., p. 290, June. Cape Northumberland Cliffs, South Australia. South Australia. Victoria.

Genus TURBOLAOMA *nov.*

Type, *Laoma turbinuloidea* Gabriel.

This species differs in its few very rounded whorls with deep sutures, very fine sculpture, thin shell, rather rounded mouth, deep narrow umbilicus, columella reflected, and may not even be related to the Laomid shells proper.

TURBOLAOMA TURBINULOIDEA Gabriel, 1930.

1930. *Laoma turbinuloidea* Gabriel, Proc. Roy. Soc. Vict., Vol. xliii. (n.s.), p. 81, pl. ii., fig. 7, September 11. Bairnsdale, Victoria (T. Worcester). Victoria.

Genus PEDICAMISTA Iredale, 1933.

1933. *Pedicamista* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix coesus* Cox.

PEDICAMISTA COESA Legrand, 1871.

1871. *Helix (Charopa) coesus* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 21, p. 3, pl. i., fig. 4, June, ex Cox MS. Recherche Bay, Tasmania.
1871. *Helix (Discus) occultus* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 23, p. 4, pl. i., fig. 6, June, ex Cox MS. Near Southport, Tasmania. South Tasmania.

Family FLAMMULINIDAE.

This Neozelanic group is well represented in Tasmania and rarely in Eastern Australia. The exact limits of variation are at present unknown in the genera, while the specific differentiation is a matter for further

study. The earlier Tasmanian conchologists separated many species generally from field knowledge, and many of these have been since lumped, probably incorrectly. Here, a middle course has been adopted, a few geographical species being allowed, but probably later many of the rejected forms will be reinstated. In Tasmania there are four districts which apparently show valid differences in these molluscs. The Southern, whence most of the species have been described; the Northern, where a number of local species are easily recognisable from their very different form, but here some are restricted to the North East, others to the North West; the Western, where again the mid-west appears to show somewhat different forms from the south-west; and the Central with its high altitudes which is the least known.

Genus OREOKERA Iredale, 1933.

1933. *Oreokera* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2. Orthotype, *Flammulina cumulus* Odhner.

OREOKERA CUMULUS Odhner, 1917.

1917. *Flammulina cumulus* Odhner, Kungl. Svenska. Vetensk. Handl., Bd. 52, No. 16, p. 84, pl. iii., figs. 89-91, September 19. Bellenden Ker Mt. (4,000 ft.), North Queensland.
North Queensland.

OREOKERA CORTICICOLA COX, 1866.

1866. *Helix corticicola* Cox, Proc. Zool. Soc. (Lond.), 1866, p. 374, September 5. Lismore, New South Wales (Macgillivray). Figd. Cox, Mon. Austr. Land Shells, p. 19, pl. vii., figs. 7-7a, May, 1868. Refigd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxxvii., p. 264, pl. viii., figs. 46-48, 1912.
Northern New South Wales. South Queensland.

Genus THRYASONA Iredale, 1933.

1933. *Thryasona* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2. Orthotype, *Helix diemenensis* Cox.

THRYASONA DIEMENENSIS COX, 1868.

1868. *Helix diemenensis* Cox, Proc. Zool. Soc. (Lond.), 1867, p. 723, April 3, 1868. Tasmania (Legrande) = Mt. Wellington. Figd. Cox, Mon. Austr. Land Shells, p. 20, pl. vii., figs. 6-6a, May, 1868.
1868. *Helix wellingtonensis* Cox, Proc. Zool. Soc. (Lond.), 1867, p. 723, April 3, 1868. Mt. Wellington, Tasmania. Figd. Cox, Mon. Austr. Land Shells, p. 29, pl. vii., figs. 5-5a, May, 1868.
1871. *Helix (Discus) atkinsoni* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 62, pl. ii., fig. 12, June. Brown's River, Tasmania (Hall).
1874. *Helix (Charopa) midsoni* Legrand, Coll. Mon. Tasm. Land Shells, slip in 2nd ed., dated December, 1874; new name for preceding, not *H. atkinsoni* Theobald, Journ. As. Soc. Bengal, 1859.
South Tasmania.

THRYASONA DAVEYENSIS Legrand, 1871.

1871. *Helix (Discus) daveyensis* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 35, p. 8, pl. ii., fig. 4, June, ex Cox MS. Port Davey, Tasmania (W.L.).
South West Australia.

THRYASONA THOMPSONI Legrand, 1871.

1871. *Helix (Charopa) thompsoni* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 73, September. Cape Barren Is., Bass's Straits (C. Gould).
 1871. *Helix (Charopa) camillae* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 74, September. Islands in Bass's Straits (C. Gould). Tasmania (Islands in Bass's Straits). Victoria.

THRYASONA ELENESCENS Cox & Hedley, 1912.

1912. *Flammulina elenescens* Cox & Hedley, Mem. Nat. Mus. Melb., No. 4, p. 12, pl. iii., figs. 16-18, February. Merri Creek, Victoria (Tenison-Woods). Victoria.

THRYASONA MARCHIANAE Legrand, 1871.

1871. *Helix (Discus) marchianae* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 25, p. 5, pl. i., fig. 7, June, ex Cox MS. Recherche Bay, Tasmania (W.L.).
 1871. *Helix (Discus) fuscocoriata* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 61, pl. ii., fig. 2, June, ex Cox MS. Brown's River, Tasmania (Hall). South Tasmania.

Genus FLAMMULOPS *nov.*

Type, *Flammulina excelsior* Hedley.

A flammulate shell approaching the typical Neozelanic *Flammulina*, subvitriniform, very thin, protoconch of half a whorl, obsoletely spirally lirate, succeeding sculpture, fine radials, mouth very open, imperforate.

FLAMMULOPS EXCELSIOR Hedley, 1896.

1896. *Flammulina excelsior* Hedley, Rec. Austr. Mus., Vol. ii., p. 103, pl. xxiii., figs. 2, 3, 4, January. Mt. Kosciusko, New South Wales, 5,700 feet. Southern New South Wales. Victoria.

Genus MULATHENA Iredale, 1933.

1933. *Mulathena* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix fordei* Brazier.

MULATHENA FORDEI Brazier, 1871.

1871. *Helix (Hemiplecta) fordei* Brazier, Proc. Zool. Soc. (Lond.), 1870, p. 662, April, 1871. Mt. Wellington, Tasmania.
 1871. *Helix (Planispira) allporti* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 18, p. 1, pl. i., fig. 2, June. Recherche Bay, Tasmania.
 1871. *Helix petterdi* Legrand, id., ib., ex Cox MS. as synonym.
 1871. *Helix (Camaena) medianus* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 19, p. 1, pl. i., fig. 1, June, ex Cox MS. Recherche Bay, Tasmania.
 1871. *Helix (Planispira) austrinus* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 22, p. 4, pl. i., fig. 3, June, ex Cox MS. South Cape, Tasmania.
 1871. *Helix (Charopa) helice* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 20, p. 9, June, ex Cox MS. Southport, Tasmania.
 1871. *Helix (Paryphanta) tabescens* Legrand, Coll. Mon. Tasm. Land Shells,

2nd ed., sp. 77, September, ex Cox MS. Mount Wellington, Tasmania (Petterd).
South Tasmania.

MULATHENA TRANQUILLA Legrand, 1871.

1871. *Helix (Microcystis) tranquilla* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 37, p. 6, pl. ii., fig. 3, June, ex Cox MS. Port Davey, Tasmania.
1871. *Helix (Rhysota) mixta* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 38, p. 7, pl. ii., fig. 11, June, ex Cox MS. Port Davey, Tasmania.
1871. *Helix (Rhysota) trajectura* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 36, p. 8, pl. ii., fig. 6, June, ex Cox MS. Port Davey, Tasmania.
South West Tasmania.

MULATHENA MCOYI Petterd, 1879.

1879. *H. (= Helix fordei var.) mcoyi* Petterd, Mon. Land Shells Tasm., p. 14, April. Dandenong Range, Victoria. Figd. Cox & Hedley, Mem. Nat. Mus. Melb., No. 4, p. 8, pl. ii., figs. 13-18, February, 1912 (type).
1879. *Helix fernshawensis* Petterd, Journ. Conch. (Leeds), Vol. ii., p. 355, December. Fernshaw, Victoria.
Victoria.

Genus STENACAPHA Iredale, 1933.

1933. *Stenacapha* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix savesi* Petterd.

STENACAPHA SAVESI Petterd, 1879.

1879. *Helix savesi* Petterd, Mon. Land Shells Tasm., p. 12, April. Table Cape, Tasmania.
North Tasmania (Table Cape district).

STENACAPHA KINGI Brazier, 1871.

1871. *Helix (Aerope) kingi* Brazier, Proc. Zool. Soc. (Lond.), 1870, p. 662, April 1, 1871. Ringarooma, North Tasmania.
1871. *Helix (Videna) ducani* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 56, June, ex Cox MS. Leven, North West Tasmania (C. Gould).
1871. *Helix (Charopa) spoliata* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 75, September, ex Cox MS. North Coast Tasmania (Petterd).
North Tasmania.

STENACAPHA HAMILTONI COX, 1868.

1868. *Helix hamiltoni* Cox, Proc. Zool. Soc. (Lond.), 1867, p. 722, April 3, 1868. Mt. Wellington, Tasmania. Figd. Cox, Mon. Austr. Land Shells, p. 32, pl. vii., fig. 2, May, 1868.
1871. *Helix (Patula) stephensi* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., p. 4, pl. ii., fig. 8, June, ex Cox MS. Mt. Wellington, Tasmania.
1871. *Helix (Discus) coepta* Legrand, ib., 1st ed., sp. 4, p. 9, pl. ii., fig. 13, June, ex Cox MS. Brown's River, Tasmania (Hall).
1871. *Helix (Planispira) plexus* Legrand, ib., 1st ed., sp. 28, p. 9, pl. i., fig. 10, June, ex Cox MS. Tasmania.
1871. *Helix (Videna) pascoei* Legrand, ib., 2nd ed., sp. 65, September, ex Brazier MS. Mt. Wellington, Tasmania.

1871. *Helix (Videna) milligani* Legrand, ib., 2nd ed., sp. 69, September, ex Brazier MS. Mt. Wellington, Tasmania.
 1871. *Helix (Videna) floodi* Legrand, ib., 2nd ed., sp. 70, September, ex Brazier MS. Mt. Wellington, Tasmania.
 1871. *Helix (Charopa) irvinae* Legrand, ib., 2nd ed., sp. 71, September, ex Cox MS. Piper's River, Tasmania (Mr. Ogilvie).
 1871. *Helix (Charopa) scrupulus* Legrand, ib., 2nd ed., sp. 76, September, ex Cox MS. Mt. Wellington, Tasmania.
 South Tasmania.

STENACAPHA LANGLEYANA Brazier, 1875.

1875. *Helix (Rhytida) langleyana* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 18, April 27. Macquarie Harbour, West Tasmania.
 West Tasmania.

STENACAPHA WYNYARDENSIS Petterd, 1879.

1879. *Helix wynyardensis* Petterd, Mon. Land Shells Tasm., p. 8, April. Table Cape, Tasmania.
 North Tasmania.

Genus HEDLEYOCONCHA Pilsbry, 1893.

1893. *Hedleyoconcha* Pilsbry, Man. Conch. (Tryon), Ser. ii., Vol. ix., p. 18, November 16. Orthotype, *Helix delta* Pfeiffer.

HEDLEYOCONCHA DELTA Pfeiffer, 1857.

1857. *Helix delta* Pfeiffer, Proc. Zool. Soc. (Lond.), 1856, p. 386, May 8. Drayton Range, North Australia (Stutchbury).
 Mid Queensland.

HEDLEYOCONCHA SCANDENS COX, 1872.

1872. *Helix scandens* Cox, Proc. Zool. Soc. (Lond.), 1871, p. 645, pl. 52, fig. 5, May 2, 1872. Port Macquarie, New South Wales.
 1864. *Helix conoidea* Cox, Cat. Austr. Land Shells, p. 21. Cabbage Tree Is., Port Stephens, N.S.W. (R. L. King). Fig. Cox, Mon. Austr. Land Shells, p. 63, pl. iv., fig. 13, May, 1868. Not *Helix conoidea* Draparnaud, Tab. Moll. France, p. 69, 1801.
 1866. *Helix fenestrata* Cox, Proc. Zool. Soc. (Lond.), 1866, p. 374, September 5. Pine Mt., Lismore, New South Wales (Macgillivray). Not *Helix fenestrata* Sowerby, Proc. Zool. Soc. (Lond.), 1841, p. 137.
 New South Wales.

Genus DELINITESTA Iredale, 1933.

1933. *Delinitesta* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2. Orthotype, *Helix gayndahensis* Brazier.

DELINITESTA GAYNDAHENSIS Brazier, 1875.

1875. *Helix (Thalassia) gayndahensis* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 2, April 27. Gayndah, Queensland. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxv., p. 16, pl. ii., figs. 17-19, 1901.
 South Queensland.

Note.—The relationships of this extraordinary species are not clear, and the suggestion that it be placed alongside the Flammulinid species is accepted with doubt.

Genus *QUERIDOMUS* nov.Type, *Helix grenvillei* Brazier.

Imperforate, thin, subglobose, decorated with spiral rows of bristly hairs, problematically related to this family.

QUERIDOMUS GRENVILLEI Brazier, 1876.

1876. *Helix* (*Conulus* ?) *grenvillei* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 104, July. Home Is., off Cape Grenville, N.E. Australia. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii., p. 21, pl. iii., fig. 46, 1902. North Australia (Home Islands).

Family CHAROPIDAE.

Hedley separated some Charopid-looking species as referable to *Flammulina* on account of the fact that the protoconch was spirally lirate, but this feature is not here regarded as of family value. The form, texture and sculpture appear to be the features that easily distinguish the groups, the distinction being confirmed by anatomical characters. Charopids are generally recognisable by their tight coiling in practically the same plane, though some are a little elevated, the mouth is semicircular, narrow, the height more than the breadth, sometimes the aperture bears internal lamellae. No *Flammulinid* yet known shows any tothing and these have the mouth more open, broader than high, always descending from a few whorled shell. The texture and sculpture are different, the shell being thin and more or less glassy, the sculpture weak, not regular and strong as in the Charopids.

Genus *GYROCOCHLEA* Hedley, 1924.

1924. *Gyrocochlea* Hedley, Austr. Zool., Vol. iii., p. 215, May 9. Orthotype, *Helix vinitincta* Cox.

GYROCOCHLEA VINITINCTA COX, 1868.

1868. *Helix vinitincta* Cox, Mon. Austr. Land Shells, p. 18, pl. i., figs. 6-6a, May. Upper Richmond River, New South Wales (Macgillivray). Northern New South Wales.

GYROCOCHLEA CONCINNA Hedley, 1924.

1924. *Gyrocochlea concinna* Hedley, Austr. Zool., Vol. iii., p. 215, pl. xxix., figs. 1-3, May 9. Cardwell scrubs, North Queensland. North Queensland.

GYROCOCHLEA CONFERTA Hedley, 1924.

1924. *Gyrocochlea conferta* Hedley, Austr. Zool., Vol. iii., p. 215, pl. xxix., figs. 4-6, May 9. Port Stephens, New South Wales (Rev. R. L. King). New South Wales.

GYROCOCHLEA CONVOLUTA Hedley, 1924.

1924. *Gyrocochlea convoluta* Hedley, Austr. Zool., Vol. iii., p. 216, pl. xxix., figs. 7-9, May 9. Beaudesert, Queensland (Dr. R. L. Pulleine). South Queensland.

GYROCOCHLEA EURYTHMA Hedley, 1924.

1924. *Gyrocochlea eurythma* Hedley, Austr. Zool., Vol. iii., p. 216, pl. xxix., figs. 10-12, May 9. Northern Rivers, New South Wales (Petterd). Northern New South Wales.

GYROCOCHLEA IMPRESSA Hedley, 1924.

1924. *Gyrocochlea impressa* Hedley, Austr. Zool., Vol. iii., p. 216, pl. xxx., figs. 13-15, May 9. Kurrajong, New South Wales (C. T. Musson). New South Wales.

GYROCOCHLEA PLANORBIS Hedley, 1924.

1924. *Gyrocochlea planorbis* Hedley, Austr. Zool., Vol. iii., p. 217, pl. xxx., figs. 19-21, May 9. Port Stephens, New South Wales (Rev. R. L. King). New South Wales.

GYROCOCHLEA OMICRON Pfeiffer, 1851.

1851. *Helix omicron* Pfeiffer, Zeitschr. für Malak., 1851, No. 8, p. 128 (after September). Australia = Northern New South Wales (Cox).
 1854. *Helix ammonitooides* Reeve, Conch. Icon., Vol. vii., *Helix*, pl. 181, sp. 1246, June, new name for above. Northern New South Wales.

GYROCOCHLEA PRAVA Hedley, 1924.

1924. *Gyrocochlea prava* Hedley, Austr. Zool., Vol. iii., p. 217, pl. xxx., figs. 22-24, May 9. Upper Tweed River, New South Wales (Petterd). Northern New South Wales.

GYROCOCHLEA RECAVA Hedley, 1924.

1912. *Endodonta recava* Hedley, Proc. Linn. Soc. N.S.W., Vol. xxxvii., p. 267, pl. x., figs. 58-60, December 13. Finch Hatton, 50 miles W. of Mackay, Queensland (S. W. Jackson). Mid Queensland.

GYROCOCHLEA AUSTERA Hedley, 1912.

1912. *Endodonta austera* Hedley, Proc. Linn. Soc. N.S.W., Vol. xxxvii., p. 266, pl. ix., figs. 52-54, December 13. Logan Village, Queensland. South Queensland.

GYROCOCHLEA CINNAMEA Hedley, 1912.

1912. *Endodonta cinnamea* Hedley, Proc. Linn. Soc. N.S.W., Vol. xxxvii., p. 267, pl. ix., figs. 55-56; pl. x., fig. 57, December 13. Coolabunia, near Kingaroy, Queensland. South Queensland.

GYROCOCHLEA IULOIDEA Forbes, 1851.

1851. *Helix iuloidea* Forbes, Narr. Voy. Rattlesnake (Macgillivray), Vol. ii., p. 379, pl. ii., fig. 4, "1852" = mid December, 1851. Port Mollie, Queensland. Mid Queensland.

GYROCOCHLEA CURTISIANA Hedley, 1912.

1912. *Endodonta iuloidea* var. *curtisiana* Hedley, Proc. Linn. Soc. N.S.W., Vol. xxxvii., p. 264, pl. ix., figs. 49-51, December 13. Port Curtis, Queensland. South Queensland.

GYROCOCHLEA STROUDENSIS COX, 1864.

1864. *Helix stroudensis* Cox, Cat. Austr. Land Shells, p. 20. Stroud, Port Stephens, New South Wales (Rev. R. L. King). Figd. Cox, Mon.

Austr. Land Shells, p. 20, pl. xi., fig. 1, May, 1868. Refigd. Hedley, Austr. Zool., Vol. iii., p. 217, pl. xxxi., figs. 25-27, May 9, 1924. Mid New South Wales.

Note.—All these small "Endodontids" must be examined under a compound microscope, and the protoconch varies, so that in the present series some appear to be smooth, but with a high power the protoconch can be observed to be finely spirally lirate but crossed by fine radials, thus making it microscopically reticulate. In others there will be seen to be a fine spiral striation only, not lirate as in some groups.

Genus *ELSOTHERA* Iredale, 1933.

1933. *Elsothera* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix sericatula* Pfeiffer.

ELSOTHERA SERICATULA Pfeiffer, 1850.

1850. *Helix sericatula* Pfeiffer, Proc. Zool. Soc. (Lond.), 1849, p. 127, between January and June, 1850. Port Jackson, New South Wales (Strange). Figd. Reeve, Conch. Icon., Vol. vii., pl. 132, sp. 812, October, 1852. Cox, Mon. Austr. Land Shells, p. 12, pl. xii., fig. 6, May, 1868. New South Wales. Victoria.

ELSOTHERA LIMULA Legrand, 1871.

1871. *Helix* (*Charopa*) *limula* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 72, September, ex Cox MS. Piper's River, Tasmania. Tasmania.

ELSOTHERA FUNEREA Cox, 1868.

1868. *Helix funerea* Cox, Mon. Austr. Land Shells, p. 16, pl. iii., fig. 1, May. Mudgee, New South Wales. New South Wales. South Queensland.

ELSOTHERA INUSTA Cox, 1868.

1868. *Helix inusta* Cox, Mon. Austr. Land Shells, p. 13, pl. x., fig. 3, May, new name for
1866. *Helix nautilodea* Cox, Journ. de Conch., Vol. xiv., p. 47, January 1. Proc. Zool. Soc. (Lond.), 1865, p. 696, April 24, 1866 (*nautilodes*). Clarence River, New South Wales (Macgillivray). Not *Helix nautilodes* Ferussac, Hist. Nat. Moll., Vol. i., p. 191, 1850. Northern New South Wales.

ELSOTHERA MURRAYANA Pfeiffer, 1864.

1864. *Helix murrayana* Pfeiffer, Proc. Zool. Soc. (Lond.), 1863, p. 527 (ex Angas, *loc. cit.*, p. 521, *nom. nud.*), April 20, 1864. Murray Cliffs, South Australia (Angas). Figd. Cox, Mon. Austr. Land Shells, p. 14, pl. xix., fig. 10, May, 1868, from a painting of the type by Angas. South Australia.

ELSOTHERA SUBMURRAYANA Cox & Hedley, 1912.

1912. *Endodonta murrayana* var. *submurrayana* Cox & Hedley, Mem. Nat. Mus. Melb., No. 4, p. 9, pl. i., figs. 6-8, February, ex Tate MS. Geelong, Victoria (T. S. Hall). Victoria.

ELSOTHERA RICEI Brazier, 1871.

1871. *Helix* (*Charopa*) *ricei* Brazier, Proc. Zool. Soc. (Lond.), 1870, p. 660, April 1, 1871. Mt. Wellington, Tasmania.

1871. *Helix (Charopa) rotella* id., ib. Mt. Wellington, Tasmania.
 1871. *Helix (Charopa) onslowi*, id. ib. Mt. Wellington, Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 291, pl. 83, figs. 11-13, 1909 (Maria Island, specimen in Tas. Mus.). Tasmania.

ELSOTHERA BIRETRACTA Mousson, 1869.

1869. *Patula biretracta* Mousson, Journ. de Conch., Vol. xvii., p. 57, pl. iv., fig. 1, January 1. Wollongong, New South Wales (Graeffe, Rietman). New South Wales.

ELSOTHERA RETEPOROIDES Tate, 1887.

1887. *Helix reteporoides* Tate, Trans. Roy. Soc. South Austr., Vol. ix., 1886, p. 62, pl. v., figs. 14a-c, March, 1887 (separates distributed December 29, 1886). Black Hill, near Adelaide, S.A. South Australia.

Genus DISCOCHAROPA Iredale, 1913.

1913. *Discocharopa* Iredale, Proc. Mal. Soc. (Lond.), Vol. x., p. 379, September. Orthotype, *Charopa exquisita* Iredale.

DISCOCHAROPA CONCINNA Hedley, 1901.

1901. *Endodonta concinna* Hedley, Proc. Linn. Soc. N.S.W., Vol. xxv., p. 729, pl. xlviii., figs. 1-3, May 20. Bundaberg, Queensland. South Queensland.

DISCOCHAROPA PLANORBULINA Tate, 1896.

1896. *Endodonta (Charopa) planorbulina* Tate, Rep. Horn. Sci. Exped. Centr. Austr., pt. ii., Zool., p. 187, pl. xvii., fig. 3, February. Palm Creek, Krichauff Range, Central Australia. Central Australia.

DISCOCHAROPA VIGENS Legrand, 1871.

1871. *Helix (Discus) vigens* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 30, p. 2, pl. i., fig. 12, June, ex Cox MS. Mount Wellington, Tasmania. Tasmania.

DISCOCHAROPA BASSI Legrand, 1871.

1871. *Helix (Charopa) bassi* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 50, September, 1871, ex Brazier MS., new name for

1871. *Helix (Charopa) ammonitoides* Brazier, Proc. Zool. Soc. (Lond.), 1870, p. 661, April 1, 1871. Mount Nelson, Tasmania. Not *Helix ammonitoides* Reeve, 1854, ante, cf. *omicron*. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 289, fig. 16, 1909. Tasmania.

DISCOCHAROPA LOTTAH Petterd, 1879.

1879. *Helix lottah* Petterd, Mon. Land Shells Tasm., p. 37, April. Cataract Hill, near Launceston, Tasmania. North Tasmania.

DISCOCHAROPA MIMOSA Petterd, 1879.

1879. *Helix mimosa* Petterd, Mon. Land Shells Tasm., p. 33, April. Launceston, Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 291, pl. 86, figs. 32-34, 1909. North Tasmania.

Genus ALLOCHAROPA *nov.*Type, *Helix brazieri* Cox.

Simple Charopid shells with flattened upper surface and wide umbilicus, regularly striate, not so flat as *Discocharopa*, with protoconch radially ribbed as remainder of shell.

ALLOCHAROPA BRAZIERI Cox, 1868.

1868. *Helix brazieri* Cox, Mon. Austr. Land Shells, p. 14, pl. xi., fig. 18, May. Cooks' River, Sydney, New South Wales. Mid New South Wales.

ALLOCHAROPA LEGRANDI Cox, 1868.

1868. *Helix legrandi* Cox, Mon. Austr. Land Shells, p. 23, pl. xii., fig. 7, May. Mt. Wellington, Tasmania (Masters). South Tasmania.

ALLOCHAROPA KERSHAWI Petterd, 1879.

1879. *Helix kershawi* Petterd, Mon. Land Shells Tasm., p. 28, April. Launceston, Tasmania. North Tasmania.

ALLOCHAROPA TARRAVILLENSIS Gabriel, 1930.

1930. *Charopa tarravillensis* Gabriel, Proc. Roy. Soc. Vict., Vol. xlii., pt. i. (n.s.), p. 77, pl. ii., figs. 5-6, September 11. Tarraville, Victoria. Victoria.

ALLOCHAROPA ERSKINENSIS Gabriel, 1930.

1930. *Charopa erskinensis* Gabriel, Proc. Roy. Soc. Vict., Vol. xliii., pt. i., p. 76, pl. ii., figs. 1-2, September 11. Erskine River, Lorne, Victoria. Victoria.

ALLOCHAROPA BELLI Cox, 1864.

1864. *Helix belli* Cox, Cat. Austr. Land Shells, p. 22, Darling Point, Sydney, New South Wales (Bell). Figd. Cox, Mon. Austr. Land Shells, p. 17, pl. vi., fig. 3, May, 1868. Mid New South Wales.

Genus PERNAGERA Iredale, 1933.

1933. *Pernagera* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix albanensis* Cox.

PERNAGERA ALBANENSIS Cox, 1868.

1868. *Helix albanensis* Cox, Proc. Zool. Soc. (Lond.), 1867, p. 723, April 3, 1868. King George's Sound, West Australia (Masters). Figd. Cox, Mon. Austr. Land Shells, p. 15, pl. iv., fig. 2, May, 1868. South West Australia.

PERNAGERA STANLEYENSIS Petterd, 1879.

1879. *Helix stanleyensis* Petterd, Mon. Land Shells Tasm., p. 32, April. Circular Head, Tasmania.
 1879. *Helix petterdiana* Taylor, Journ. Conch. (Leeds), Vol. ii., p. 287, September. Circular Head, Tasmania.
 1879. *Helix petterdiana* var. *albida*, id., ib., colour only. North West Tasmania. Victoria.

PERNAGERA EASTBOURNENSIS Hedley, 1892.

1892. *Charopa eastbournensis* Hedley, Proc. Linn. Soc. N.S.W., Ser. 2, Vol. vii., p. 163, pl. ii., figs. 5-6, 7-8, September 1, ex Beddome & Petterd MS. Eastbourne, Tasmania.
North East Tasmania.

PERNAGERA OFFICERI Legrand, 1871.

1871. *Helix (Discus) officeri* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 57, June, ex Cox MS. North West Bay, North East Coast (Midson).
North East Tasmania.

PERNAGERA KINGSTONENSIS Legrand, 1871.

1871. *Helix (Discus) kingstonensis* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 40, p. 3, pl. ii., fig. 5, June, ex Cox MS. Brown's River, Tasmania.
1871. *Helix gouldiana* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 32, June, *nom. nud.* River Snug (Sproule).
1871. *Helix (Discus) juliformis* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 32, p. 3, pl. i., fig. 14, June, for *gouldii* preoccupied. Not *Helix juliformis* Lowe, Ann. Mag. Nat. Hist., Ser. ii., Vol. ix., p. 118, February, 1852.
1871. *Helix (Discus) macdonaldi* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 32, pl. i., fig. 14, September, new name for *Helix juliformis*. River Snug, S.E. Tasmania.
1871. *Helix gouldi* Legrand, *id.*, *ib.*, in synonymy of *macdonaldi*. Not *Helix gouldi* Pfeiffer, Proc. Zool. Soc. (Lond.), 1845, 124, February, 1846.
South East Tasmania.

PERNAGERA ARCHITECTONICA Legrand, 1871.

1871. *Helix (Pitys) architectonica* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 64, September, ex Brazier MS. Hobart Town, Tasmania.
1871. *Helix (Discus) spectra* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 55, June, ex Cox MS. Brown's River, Tasmania. Not *Helix spectrum* Reeve, Conch. Icon., Vol. vii., pl. 202, sp. 1424, 1854.
1871. *Helix (Pitys) assimilis* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 66, September, ex Brazier MS. Hobart, Tasmania. Not *Nanina assimilis* H. Adams, Proc. Zool. Soc. (Lond.), 1866, p. 316.
1877. *Helix (Pitys) gunnii* Brazier, Papers Proc. Roy. Soc. Tasm., 1876, p. 168, February 27, 1877, new name for preceding. Not *Helix gunnii* Gray, Zeitschr. für Malak., 1850, 86. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 289, pl. 85, figs. 29-31, 1909.
South East Tasmania.

PERNAGERA TAMARENSIS Petterd, 1879.

1879. *Helix tamarensis* Petterd, Mon. Land Shells Tasm., p. 30, April. Launceston, Tasmania.
1879. *Helix rosaceae*, *id.*, *ib.*, as synonym.
1879. *Helix rosacea* Petterd, Journ. Conch. (Leeds), Vol. iii., p. 213, July; same descr. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii., p. 605, pl. 31, figs. 18-20, 1903. North East Tasmania.
Victoria. South New South Wales. North East Tasmania.

PERNAGERA GATLIFFI Gabriel, 1930.

1930. *Charopa gatliffi* Gabriel, Proc. Roy. Soc. Vict., Vol. xliii., (n.s.), p. 76, pl. ii., figs. 3-4, September 11. Splitters' Falls, Lorne, Victoria, Victoria.

Genus KANNAROPA *nov.*

Type, *Helix subrugosa* Legrand.

Resembling *Dentherona* but lacking the apertural tooth, and showing a depression near the aperture on the last whorl, the sculpture being bold.

KANNAROPA SUBRUGOSA Legrand, 1871.

1871. *Helix (Pitys) subrugosa* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 68, September, ex Brazier MS. Hobart Town, Tasmania.
 1879. *Helix kannariae* Petterd, Mon. Land Shells Tasm., p. 35, April, ex Beddome MS., as synonym of *H. subrugosa*. Blue Tier, Tasmania. South Tasmania.

Genus EGILOMEN *nov.*

Type, *Helix cochlidium* Cox.

Small flat Charopid shells with very wide umbilicus, protoconch smooth, mouth small, unarmed, lip thin, sculpture of fine and coarse ribs.

EGILOMEN COCHLIDIUM Cox, 1868.

1868. *Helix cochlidium* Cox, Mon. Austr. Land Shells, p. 13, pl. viii., fig. 1, May. Clarence River, New South Wales (Macgillivray). Northern New South Wales.

EGILOMEN LIRATUM Cox, 1864.

1864. *Helix lirata* Cox, Cat. Austr. Land Shells, p. 38. Rushcutter's Bay, Sydney, New South Wales (Macgillivray). Figd. Cox, Mon. Austr. Land Shells, p. 15, pl. xi., fig. 3, May, 1868. Mid New South Wales.

EGILOMEN BARRENENSE Petterd, 1879.

1879. *Helix barrenensis* Petterd, Mon. Land Shells Tasm., p. 38, April. Fur-neaux Group, Bass Straits. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 287, pl. 87, figs. 41-43, 1909. Tasmania (Islands of Bass Straits).

EGILOMEN PEXUM Cox, 1868.

1868. *Helix pexa* Cox, Mon. Austr. Land Shells, p. 13, pl. viii., fig. 2, May. Near Parramatta, New South Wales. Mid New South Wales.

EGILOMEN SATURNI Cox, 1864.

1864. *Helix saturni* Cox, Cat. Austr. Land Shells, p. 35. Darling Point, Sydney, New South Wales. New name for
 1864. *Helix costulata* Cox, Ann. Mag. Nat. Hist., Ser. iii., Vol. xiv., p. 184, September, ex Cat. Austr. Land Shells, p. 5, 1864, *nom. nud.* Darling Point, Sydney, New South Wales. Not *Helix costulata* "Ferussac" Lamarck, 1822, *ante*. Mid New South Wales.

Genus EGILODONTA *nov.*

Type, *Charopa bairnsdalensis* Gabriel.

Topotypical specimens, kindly sent me by Mr. Gabriel, are similarly sculptured to the preceding, but the mouth shows a long entering palatal

lamella and another shorter basal one, a feature not noticed in the original description.

EGILODONTA BAIRNSDALENSIS Gabriel, 1930.

1930. *Charopa bairnsdalensis* Gabriel, Proc. Roy. Soc. Vict., Vol. xliii. (n.s.), p. 78, pl. ii., figs. 11-12, September 11. Bairnsdale, Victoria (Worcester).
Victoria.

Genus DENTHERONA Iredale, 1933.

1933. *Dentherona* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix dispar* Brazier.

DENTHERONA DISPAR Brazier, 1871.

1871. *Helix* (? *Charopa*) *dispar* Brazier, Proc. Zool. Soc. (Lond.), 1870, p. 661, April 1, 1871. Mt. Wellington, Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 290, pl. 84, figs. 17-19, 1909. Tasmania.

Genus RHOPHODON Hedley, 1924.

1924. *Rhophodon* Hedley, Austr. Zool., Vol. iii., p. 219, May 9. Orthotype, *R. peregrinus* Hedley.

RHOPHODON PEREGRINUS Hedley, 1924.

1924. *Rhophodon peregrinus* Hedley, Austr. Zool., Vol. iii., p. 220, pl. xxxii., figs. 38-40, May 9. Tweed River, New South Wales (Petterd). Northern New South Wales.

RHOPHODON CONSOBRINUS Hedley, 1924.

1924. *Rhophodon consobrinus* Hedley, Austr. Zool., Vol. iii., p. 220, pl. xxxi., figs. 32-34, May 9. Richmond River, New South Wales (W. T. Petterd). Northern New South Wales.

RHOPHODON CONTORTUS Hedley, 1924.

1924. *Rhophodon contortus* Hedley, Austr. Zool., Vol. iii., p. 220, pl. xxxii., figs. 35-37, May 9. Sherwood, Macleay River, New South Wales (C. Laseron). New South Wales.

Genus SETOMEDEA Iredale, 1933.

1933. *Setomedea* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Suteria seticostata* Hedley.

SETOMEDEA SETICOSTATA Hedley, 1924.

1924. *Suteria seticostata* Hedley, Austr. Zool., Vol. iii., p. 221, pl. xxxii., figs. 41-44, May 9. Dorriggo, New South Wales (S. W. Jackson). Northern New South Wales.

SETOMEDEA ACULEATA Hedley, 1899.

1899. *Endodonta aculeata* Hedley, Rec. Austr. Mus., Vol. iii., p. 151, pl. xxviii., figs. 1-3, December 11. Wollongong, New South Wales. Mid New South Wales.

Genus GEMINOROPA Iredale, 1933.

1933. *Geminoropa* Iredale, Rec. Austr. Mus., Vol. xix., p. 53, August 2. Orthotype, *Helix antialba* Beddome.

GEMINOROPA ANTIALBA Petterd, 1879.

1879. *Helix antialba* Petterd, Mon. Land Shells Tasm., p. 41, April, ex Beddome MS. Gad's Hill and Mt. Bischoff, Tasmania. Figd. Hedley, Proc. Linn. Soc. N.S.W., Ser. 2, Vol. vii., p. 166; pl. i., figs. 5-8, 1892.
1892. *Charopa antialba* var. *alba* Hedley, Proc. Linn. Soc. N.S.W., Ser. 2, Vol. vii., p. 167. Same locality. Tasmania.

GEMINOROPA HOOKERIANA Petterd, 1879.

1879. *Helix hookeriana* Petterd, Mon. Land Shells, Tasm., p. 38, April, ex Johnston MS. Surrey Hills, North West Tasmania. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxviii., p. 182, pl. viii., figs. 1-3, 1904. North West Tasmania.

Genus OREOMAVA Iredale, 1933.

1933. *Oreomava* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2. Orthotype, *Helix otwayensis* Petterd.

OREOMAVA OTWAYENSIS Petterd, 1879.

1879. *Helix otwayensis* Petterd, Mon. Land Shells Tasm., p. 39, April. Cape Otway scrubs, Victoria. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii., p. 605, pl. xxix., figs. 10-12, 1903. Victoria.

OREOMAVA JOHNSTONI Iredale, 1933.

1933. *Oreomava johnstoni* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2, new name for
1879. *Helix otwayensis* var. *alpina* Petterd, Mon. Land Shells Tasm., p. 39, April, ex R. M. Johnston MS. Surrey Hills, North West Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 300, pl. 85, figs. 23-25, 1909. Tasmania.

OREOMAVA CANNFLUVIATILUS Gabriel, 1929.

1929. *Allodiscus cannfluviatilus* Gabriel, Vict. Naturalist, Vol. xlvi., p. 133, figs. 1, 2, 3, text, October 10. Cann River, Victoria. Victoria (Gippsland).

Genus PILLOMENA Iredale, 1933.

1933. *Pillomena* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2. Orthotype, *Flammulina meraca* Cox & Hedley.

PILLOMENA MERACA COX & Hedley, 1912.

1912. *Flammulina meraca* Cox & Hedley, Mem. Nat. Mus. Melb., No. 4, p. 13, pl. iii., figs. 19-21. Dandenong Range, Victoria (Kershaw).
1884. *Helix garthii* Tate, Trans. Roy. Soc. South Austr., Vol. iv., p. 75, ex Petterd MS., *nom. nud.* Fernshaw, Victoria. Victoria.

PILLOMENA DANDENONGENSIS Petterd, 1879.

1879. *Helix dandenongensis* Petterd, Journ. Conch. (Leeds), Vol. ii., p. 355, December. Dandenong Ranges, Victoria.
1872. *Helix (Charopa) subdepressa* Brazler, Proc. Zool. Soc. (Lond.), 1871, p. 641, May 2, 1872. Snowy River, Gippsland, Victoria. Not *Helix subdepressa* Orbigny, Prod. Palaeont., Vol. iii., p. 1, 1852. Figd.

Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii., p. 605, pl. 31, figs. 13-15, 1903.
Victoria.

PILLOMENA NIVEA Hedley, 1896.

1896. *Endodonta nivea* Hedley, Rec. Austr. Mus., Vol. ii., p. 102, pl. xxiii., figs. 5-7, January. Mt. Kosciusko, New South Wales, 4,500 ft. Southern New South Wales.

PILLOMENA AEMULA Tate, 1894.

1894. *Charopa aemula* Tate, Trans. Roy. Soc. South Austr., Vol. xviii., p. 192, November. Central Australia. Figd. Tate, Rep. Horn. Sci. Exped. Centr. Austr., pt. ii., Zool., p. 186, pl. xvii., fig. 2, February, 1896. Penny Springs, George Gill's Range. Central Australia.

PILLOMENA SCINDOCATARACTA Gabriel, 1930.

1930. *Charopa scindocataracta* Gabriel, Proc. Roy. Soc. Vict., Vol. xliii. (n.s.), p. 77, pl. ii., figs. 9-10, September 11. Splitters' Falls, Lorne, Victoria.
Victoria.

Genus LUINODISCUS nov.

Type, *Helix cuprea* Cox.

Small flattened Charopid shells, spire not sunken, umbilicus wide, mouth small, thin, sculpture of regular fine radials, protoconch spirally liriate.

LUINODISCUS CUPREUS Cox, 1868.

1868. *Helix cuprea* Cox, Mon. Austr. Land Shells, p. 22, pl. xii., fig. 9, May. King George's Sound, West Australia (Masters).
1875. *Helix (Charopa) nupera* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 18, April 27. King George's Sound, West Australia. South West Australia.

LUINODISCUS HEDLEYI Thiele, 1930.

1930. *Charopa hedleyi* Thiele, Die Fauna Sudwest Australiens, Bd. 5, lief. 8, p. 587, pl. iv., fig. 6. Brunswick, S.W.A. South West Australia.

LUINODISCUS TUMIDUS Odhner, 1917.

1917. *Endodonta (Charopa) tumida* Odhner, Kungl. Svensk. Vetensk. Handl., Bd. 52, No. 16, p. 72, pl. 3, figs. 72-74, September 19. Noonkanbah, Fitzroy River, North West Australia. North West Australia.

LUINODISCUS ? CYGNEUS Benson, 1853.

1853. *Helix cygnea* Benson, Ann. Mag. Nat. Hist., Ser. ii., Vol. vi., p. 30, January 1. Perth, West Australia (Dr. J. F. Bacon). Figd. Reeve, Conch. Icon., Vol. vii., *Helix*, pl. 174, sp. 1182, October 1853. Copied Cox, Mon. Austr. Land Shells, p. 16, pl. xii., fig. 3, May, 1868. West Australia.

LUINODISCUS ? SUBLESTUS Benson, 1853.

1853. *Helix sublesta* Benson, Ann. Mag. Nat. Hist., Ser. ii., Vol. vi., p. 30, January 1. Freemantle, West Australia (Dr. J. F. Bacon). Figd. Reeve, Conch. Icon., Vol. iii., *Helix*, pl. 174, sp. 1177, October, 1853.

Copied Cox, Mon. Austr. Land Shells, p. 16, pl. xi., fig. 10, May, 1868. West Australia.

Genus DUPUCHAROPA *nov.*

Type, *Helix millestriata* Smith.

Medium size Charopid shells with depressed spire, narrow deep umbilicus, and sculpture of fine radials with fine spiral striation throughout.

DUPUCHAROPA MILLESTRIATA Smith, 1874.

1874. *Helix millestriata* Smith, Zool. Voy. Erebus & Terror, Moll., p. 2, pl. 4, fig. 5. Dupuch's Is., West Australia.
Mid West Australia.

Genus BISCHOFFENA *nov.*

Type, *Helix bischoffensis* Petterd.

Small subglobose Charopid shells, practically imperforate, protoconch spirally lirated, succeeding sculpture almost reticulate, very fine radials crossed by microscopic spirals. Topotypes show two internal lamellae on outer lip.

BISCHOFFENA BISCHOFFENSIS Petterd, 1879.

1879. *Helix bischoffensis* Petterd, Mon. Land Shells Tasm., p. 39, April, ex Beddome MS. Mt. Bischoff, N.W. Tasmania.
1880. *Helix bischoffensis* Beddome, Papers Proc. Roy. Soc. Tasm., 1879, p. 23, July 21, 1880. Same specimens. Figd. Hedley, Proc. Linn. Soc. N.S.W., Ser. ii., Vol. vii., p. 167, pl. i., figs. 1-4, 1892.
North West Tasmania.

Genus ROBLINELLA *nov.*

Type, *Helix roblini* Petterd.

A series of Charopid shells was placed in the subgenus *Allodiscus* of the genus *Flammulina* on account of their spirally striated nuclear whorls, but in every other respect they are of general Charopid facies. These are flattened species with wide umbilicus, radial sculpture and the protoconch spirally striate or lirated, sometimes of large size as in the type species.

ROBLINELLA ROBLINI Petterd, 1879.

1879. *Helix roblini* Petterd, Mon. Land Shells Tasm., p. 38, April. Near Launceston, Tasmania. Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 300, pl. 84, figs. 20-22, 1909.
North East Tasmania.

ROBLINELLA GADENSIS Petterd, 1879.

1879. *Helix gadensis* Petterd, Mon. Land Shells Tasm., p. 29, April, ex Beddome MS. Gad's Hill, N.W. Tasmania.
1880. *Helix gadensis* Beddome, Papers Proc. Roy. Soc. Tasm., 1879, p. 23, July 21, 1880. Same specimens. Figd. Hedley, Proc. Linn. Soc. N.S.W., Ser. ii., Vol. vii., p. 168, pl. ii., figs. 1-4, 1892.
North West Tasmania.

ROBLINELLA CURACOEAE Brazier, 1871.

1871. *Helix (Charopa) curacoeae* Brazier, Proc. Zool. Soc. (Lond.), 1870, p. 659, April, 1871. Mt. Wellington, Tasmania.
1871. *Helix (Discus) ramsgatensis* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 33, p. 2, pl. i., fig. 13, September, ex Cox MS. Recherche Bay, Tasmania (Legrand). Figd. Petterd & Hedley, Rec. Austr. Mus., Vol. vii., p. 300, pl. 83, figs. 14-16, 1909.
Tasmania.

ROBLINELLA MATHINNAE Petterd, 1879.

1879. *Helix mathinnae* Petterd, Mon. Land Shells Tasm., p. 26, April. Launceston, Tasmania. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxviii., p. 182, pl. viii., figs. 4-6, 1904. North Tasmania.

ROBLINELLA AGNEWI Legrand, 1871.

1871. *Helix (Discus) agnewi* Legrand, Coll. Mon. Tasm. Land Shells, 1st ed., sp. 27, p. 5, pl. i., fig. 8, June, ex Cox MS. Mt. Wellington, Tasmania (Petterd).
 1871. *Helix (Pityis) petterdi* Legrand, Coll. Mon. Tasm. Land Shells, 2nd ed., sp. 67, September, ex Brazier MS. Huon Road, Hobart, Tasmania.
 1871. *Helix (Pityis) peroni*, id., ib., white var. only. South Tasmania.

ROBLINELLA INTERMEDIA Odhner, 1917.

1917. *Endodonta (Charopa) intermedia* Odhner, Kungl. Svensk. Vetensk. Handl., Bd. 52, No. 16, p. 85, pl. 3, figs. 92-93, September 19. Cedar Creek, Queensland. North Queensland.

Genus TORRESIROPA Iredale, 1933.

1933. *Torresiropa* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2. Orthotype, *Helix spaldingi* Brazier.

TORRESIROPA SPALDINGI Brazier, 1876.

1876. *Helix (Patula) spaldingi* Brazier, Proc. Linn. Soc. N.S.W., Vol. i., p. 103, July. Cape York, Albany, I. etc., Torres Strait. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii., p. 705, pl. 34, figs. 9-11, 1902 (Bet. Is.). North Queensland.

TORRESIROPA MELLA Iredale, 1933.

1933. *Torresiropa mella* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2, new name for
 1880. *Helix (Patula) spaldingi* var. *carinata* Brazier, Proc. Linn. Soc. N.S.W., Vol. iv., p. 393, May. Thursday Is., Torres Strait. Figd. Hedley, Proc. Linn. Soc. N.S.W., Vol. xxvii., p. 705, pl. 34, fig. 8, 1902 North Queensland (Islands of Torres Strait).

Genus THESKELOMENSOR Iredale, 1933.

1933. *Theskelomensor* Iredale, Rec. Austr. Mus., Vol. xix., p. 54, August 2. Orthotype, *Helix lizardensis* Pfeiffer.

THESKELOMENSOR LIZARDENSIS Pfeiffer, 1863.

1863. *Helix lizardensis* Pfeiffer, Proc. Zool. Soc. (Lond.), 1862, p. 269, April 10, 1863. Lizard Is., Queensland (Macgillivray). Figd. Cox, Mon. Austr. Land Shells, p. 33, pl. iv., fig. 1, May, 1868. North Queensland (Lizard Island).

Note—As pointed out when I introduced this genus the shell is quite unlike that of any "Endodontid" in Australia, but recalls rather the Trochomorphas of the Pacific Islands.

(To be continued.)