

ART. VI.—*Catalogue of the Land Shells of Victoria.*

By C. J. GABRIEL.

(With Plates II, III.)

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Students of the Victorian Terrestrial Mollusca owe a great debt to the "Index to the Land Shells of Victoria," compiled by the late Dr. J. C. Cox and the late Mr. Charles Hedley, and published as Memoir No. 4 of the National Museum, Melbourne. Its excellent illustrations enable one to identify the various forms without difficulty. In some instances, however, the writer is a little at variance with their views, and the differences are noted in this communication. Little can be learnt of these forms without exhaustive study of specimens from different localities.

The work has been greatly facilitated by the privilege of examining the National Museum collection dealt with by Cox and Hedley. Much help has also been gained from specimens collected by Mr. F. L. Billinghamurst and the late Mr. T. Worcester, both of whose land shell collections have passed into the hands of the writer. The late Mr. J. H. Young, of Meredith, was an indefatigable collector, and his untimely death removed a keen observer of these forms. Thanks to the zeal and activity of these and other naturalists, the total since Cox and Hedley's Index has been considerably increased, notwithstanding the reputed paucity of our Land Shell fauna.

This catalogue records 45 species and 2 varieties, including 8 new species. The synonymy of each appears, but it has been the aim of the writer to refer to a generic change, or perhaps to a record of some distant locality rather than to supply every available reference. It is probable that a fair number of additions will be made when the whole State is thoroughly explored. In fact, the writer is in possession of several apparently new forms, but with single specimens only it is considered advisable to postpone description until further examples appear. I now take the opportunity of expressing my indebtedness to Mr. J. Clark for the careful execution of the figures. The types of the new species are in the collection of the writer.

Family PUPILLIDAE.

Sub-Family PUPILLINAE.

Genus *Pupilla*, Leach, 1820.

*PUPILLA AUSTRALIS*, Adams and Angas.

1863. *Vertigo australis*, Adams and Angas, P.Z.S. Lond., p. 522.

1864. *Pupa nelsoni*, Cox, Cat. Aust. Land Shells, p. 29.

1867. *Pupa lincolniensis*, Cox, P.Z.S. Lond., p. 39.



1868. *Pupa australis*, Ad. and Ang. Cox, Mon. Aust. Land Shells, p. 79.  
 1868. *Pupa lincolniensis*, Cox, Mon. Aust. Land Shells, p. 80, pl. 14, fig. 16.  
 1868. *Pupa nelsoni*, Cox, Mon. Aust. Land Shells, p. 79, pl. 14, figs. 19, 19a.  
 1878. *Pupa lincolnensis*, Cox. Sowerby, Conch. Icon., xx (Pupa), pl. 11, fig. 104.  
 1883. *Pupa tasmanica*, Johnston, P.R.S. Tas. for 1882, p. 144, pl. 1.  
 1895. *Pupa lincolnensis*, Cox. Smith, P. Mal. Soc. Lond., i, p. 96.  
 1896. *Pupa australis*, Ad. and Ang. Tate, Horn Exped. Zool., p. 205.  
 1909. *Vertigo lincolnensis*, Cox. Petterd and Hedley, Rec. Aust. Mus., vii (4), p. 283.  
 1916. *Vertigo lincolnensis*, Cox. Hedley, J.R.S. W. Aust., i (for 1914-15), p. 68.  
 1921. *Pupilla australis*, Angas. Pilsbry, Man. Conch. [2], xxvi, p. 218, pl. 23, figs. 13-19.  
 1921. *Vertigo lincolnensis*, Cox. May, Check-List Moll. Tas., p. 91, No. 891.  
 1923. *Vertigo lincolnensis*, Cox. May, Ill. Index Tas. Shells, pl. 42, fig. 1.

Size of Type.—Length, 4.23; breadth, 1.58 mm.

Localities.—Irymple (J. H. Young); Natya (C. Oke); Cape Bridgewater (W. H. Dillon); Bannerton (A. C. Nilson); Frankston.

Obs.—A sinistral form, showing much variation. The author remarks: "A cylindrical and, for the genus, a large species, with the aperture furnished with but two plicae." Johnston states: "The name *P. tasmanica*, first given to the shell, has been withdrawn, as on comparison with *P. lincolnensis* Angas, I found that the Tasmanian form was not specifically distinct from it." Dr. Pilsbry (loc. cit.) notes: "Typically rather coarsely striate, but this is individually variable in my specimens, embryonic whorls are irregularly, densely, but shallowly pitted. Aperture shows an angular nodule connected with the termination of the lip (sometimes nearly obsolete)." In regarding these four species as synonymous, the writer concurs in the decision arrived at by Dr. Pilsbry, and, further, it appears to be more happily placed in the genus *Pupilla*. E. A. Smith recorded *P. lincolnensis* from Pigeon Island, near Wallaby Island (Dr. Richardson in Brit. Mus.), and East Wallaby Island, Houtman's Abrolhos (Walker). He remarks: "The specimens collected by Dr. Richardson and Mr. Walker have a second basal tubercle as indicated in Cox's figure, and a third far within upon the columella. It is possible that in the examples examined by Dr. Cox, the denticles were only feebly developed, or they may even have been overlooked, being rather indistinct." This addition to our fauna provides an interesting distribution, being located in New South Wales, Victoria, South Australia, Western Australia and Tasmania.

The type was obtained at Rapid Bay, South Australia, in crevices of rocks.



## Family PUPIDAE.

Genus *Bifidaria*, Sterki, 1889.*BIFIDARIA BANNERTONENSIS*, sp. nov. (Pl. III, Figs. 9, 10).

Shell minute, white, dextral, attenuate, narrowly umbilicate. Apex obtuse. Whorls five, convex, ornamented by numerous oblique growth-striae. Sutures deeply impressed. Aperture roundly oblong, armed with five white teeth; one situated about the centre of parietal wall, comparatively large and unequally bifid; three placed within the basal and outer margin, the centre of which is the most prominent; the fifth on the columella. Peristome expanded, the columellar expansion partly concealing the narrow umbilicus.

Size of Type.—Length, 2.6; breadth, 1.3 mm.

Locality.—Bannerton (A. C. Nilson).

Obs.—Few species have been described from Australia, and the present is the first representation of the genus in Victoria. In general arrangement the dentition is fairly constant, but specimens have been examined showing the teeth a trifle stronger. As regards measurements, the species is subject to variation, the paratype figured being 2.3 x 1 mm. *Pupa larapinta*, Tate, and *P. mooreana*, Smith, from Central Australia, bear some resemblance, but may be distinguished by their broader contour and more convex whorls.

Genus *Pupoides*, Pfeiffer, 1854.*PUPOIDES ADELAIDAE*, Adams and Angas.

1863. *Buliminus* (*Chondrula*) *adelaidae*, Ad. and Ang., P.Z.S. Lond., p. 522.

1864. *Pupa ramsayi*, Cox, Cat. Aust. Land Shells, p. 28.

1868. *Bulimus adelaidae*, Ad. and Ang. Cox, Mon. Aust. Land Shells, p. 69, pl. 13, fig. 5.

1889. *Bulimus* (*Chondrula*) *adelaidae*, Ad. and Ang. Cox, P.L.S. N.S.W. [2], iii (for 1888), p. 1254.

1896. *Buliminus adelaidae*, Ad. and Ang. Mulder, Geelong Nat., v (4), p. 7.

1900. *Pupoides adelaidae*, Ad. and Ang. Pilsbry, Proc. Ac. Nat. Sci. Phil., p. 428.

1921. Id., Pilsbry, Man. Conch. [2], xxvi, p. 140, pl. 15, figs. 1, 2.

Size of Type.—Length, 6.34; breadth, 2.11 mm.

Localities.—Irymple (J. H. Young); Sea Lake, Mallee (J. C. Goudie); Bannerton (A. C. Nilson); Geelong (Mulder).

Obs.—A form readily recognised. E. A. Smith suggests that his species *Pupa contraria*, from East Wallaby Is., W.A., may prove to be a sinistral form of *P. adelaidae*, Ad. and Ang. Tate, in the Zoology of the Horn Expedition, p. 204, disagrees, remarking that it differs conspicuously by its pyramidal outline. With specimens collected under stones by C. W. Musson, it is recorded from Little Mountain, Narrabri, N.S.W., by Dr. Cox (loc. cit.). The present record, with those of the neighbouring States, proves this to be a widely distributed species. The Type was collected in South Australia.



## PUPOIDES ISCHNUS, Tate.

1894. *Pupa ischna*, Tate, T.R.S.S.A., xviii, p. 191.  
 1896. Id., Horn Exped. Zool., p. 204, pl. 19, figs. 16a,b.  
 1900. *Pupoides ischnus*, Tate, Pilsbry, Proc. Ac. Nat. Sci. Phil., p. 428.  
 1921. Id., Pilsbry, Man. Conch. [2], xxvi, p. 146, pl. 15, figs. 3, 4.

Size of Type.—Length, 4.25; breadth, 1.25 mm.

Localities.—Irymple (J. H. Young); Bannerton (A. C. Nilson).

Obs.—A sinistral form, hitherto unrecorded from Victoria, compared with co-types from the late W. T. Bednall's collection. The author's observations are: "A more slender shell and more attenuate apically than *P. contraria*; in its sinistral spire and apertural characters it agrees with *P. myoporinae*, Tate, which is possibly only a sinistral form of *P. pacifica*, from which it differs in its narrow elongate shape and flatter whorls. It may prove on comparison of actual specimens conspecific with *Chondrula lepidula*, Ad. and Ang."

Type from Central Australia.

## Family SUCCINEIDAE.

Genus *Succinea*, Draparnaud, 1801.

## SUCCINEA AUSTRALIS, Ferussac.

1821. *Succinea australis*, Fer., Tabl. Syst., ii, p. 27.  
 1825. Id., Gray, Ann. Phil., p. 415, pl. 9.  
 —. Id., Fer. and Desh., Hist. Nat. Moll. Terr. et Fluv., ii (2), p. 137, pl. 11, fig. 11.  
 1832. Id., Quoy and Gaimard, Voy. Astrolabe, Zool., Moll., ii, p. 150, pl. 13, figs. 19-23.  
 1868. Id., Cox, Mon. Aust. Land Shells, p. 88, pl. 15, figs. 7, 7a.  
 1871. *Succinea legrandi*, Cox, in Legrand Coll. Mon., sp. 2.  
 1873. *Succinea australis*, Fer. Reeve, Conch. Icon., pl. 9, fig. 59.  
 1882. *Succinea australis*, Fer. Tate, T.R.S.S.A., iv, p. 75.  
 1893. Id., Billingham, Vic. Nat., x, p. 62.  
 1909. Id., Petterd and Hedley, Rec. Aust. Mus., vii, p. 283.  
 1912. Id., Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 6.  
 1921. Id., May, Check-List Moll. Tas., p. 91, No. 892.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 42, fig. 2.

Size of Average Specimen.—Length, 12; breadth, 7 mm.

Localities.—Western Port (Astrolabe); Melbourne (Petterd); Castlemaine and Harcourt (Billingham); Timboon (H. W. Davey); Frankston and Wimmera District (Kershaw); You Yangs (C. L. Barrett); Yarraby; Cape Nelson; Tarraville; Mornington (Rev. G. Cox); Dartmoor.

Obs.—Petterd and Hedley (loc. cit.) remark: "We consider this to be the shell usually called *Succinea strigata*, Pfr., originally described from Port Clarence, Behring Strait. The localities for the types of *S. australis* are Kangaroo Island and the Isles of St. Peter and St. Francis, in South Australia." This is one of the commonest of our Land Shells. They are not confined to



the ground, being frequently located beneath the bark of tree-trunks. The species is widely distributed throughout Victoria and Tasmania.

*Succinea australis*, Fer., var. *queenboroughensis*, Petterd.

1879. *Succinea australis*, Fer., var. *queenboroughensis*, Petterd, Mon. Tas. Land Shells, p. 49.

Size of Type.—Length, 11·5; breadth, 8 mm.

Locality.—Frankston (T. Worcester).

Obs.—Compared with Tasmanian specimens in the Hobart Museum, from Brown's River road.

### Family ACAVIDAE.

Genus *Hedleyella*, Iredale, 1914.

*HEDLEYELLA ATOMATA*, Gray, var. *KERSHAWI*, Brazier. (Pl. III, Figs. 1-8).

1871. *Bulimus* (*Liparus*) *kershawi*, Brazier, P.Z.S. Lond., p. 641.

1882. Id., Tate, T.R.S.S.A., iv, p. 75.

1892. *Panda atomata*, var. *kershawi*, Braz., Hedley, Rec. Aust. Mus., ii, p. 31, pl. 5, fig. 9.

1912. Id., Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 6.

1892. Id., Pilsbry, Man. Conch., viii, p. 293.

1894. Id., Pils., Man. Conch., ix, p. 164.

1900. Id., Pils., Man. Conch., xiii, p. 122, pl. 5, fig. 84.

Size of Type.—Length, 50·79; breadth, 28·56; alt., 25·39. Aperture: Length, 31·73; breadth, 15·86 mm.

Localities.—Snowy River, Gippsland (W. Kershaw); Nowa Nowa (self).

Obs.—Iredale, when proposing *Hedleyella*, states that *Panda*, Albers, is invalid through preoccupation. Four species constitute the genus in Australia, and, as the author remarks, it comprises the most interesting and magnificent land shells of our country. This, the largest of the Victorian land forms, apparently is confined to the eastern portion, and as noted by Hedley, "No habitat has been recorded for this form between the valleys of the Hunter and of the Snowy River. Yet, despite their geographical isolation, southern specimens can be precisely matched, as Dr. Cox has kindly demonstrated to me, by northern shells." The writer's observations agree entirely with Pilsbry, Cox and Hedley's treatment in regarding *kershawi* as a variety only. Many specimens in Victorian collections have been examined, and, as evidenced in the figures of Plate III, show extreme variation in contour. The coloration, likewise, is very variable. Brazier, in his description of *kershawi*, remarks that "it approaches in appearance to *B. larreyi*, Braz., and *B. atomatus*, Gray. It differs from those species in not having the dark spots and zig-zag lines that are so characteristic in them." Mr. Hedley has separated three forms of *atomata* as varieties—*azonata*, *tigris*, *elongata*.



## Family HELICIDAE.

Genus *Chloritis*, Beck, 1837.*CHLORITIS VICTORIAE*, Cox.

1868. *Helix victoriae*, Cox, Mon. Aust. Land Shells, p. 37, pl. 12, fig. 5.  
 1882. Id., Tate, T.R.S.S.A., iv, p. 75.  
 1888. *Helix brunonia*, Johnston, P.R.S. Tas., for 1887, p. 75.  
 1890. *Helix victoriae*, Cox, Tryon, Man. Conch., vi, p. 149.  
 1909. *Chloritis brunonia*, Johnston, Petterd and Hedley, Rec. Aust. Mus., vii (4), p. 285, pl. 82, figs. 2-4.  
 1912. *Chloritis victoriae*, Cox, Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 6, pl. 1, figs. 1, 2.  
 1921. Id., May, Check-List Moll. Tas., p. 91, No. 896.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 42, fig. 6.

Size of Type.—Maj. diam., 15·99; min., 12·69; alt., 11·42 mm.

Localities.—Western Port (type locality, Masters and Petterd); Jan Juc (Kershaw); Forrest (Steel); Cape Otway (Petterd); Torquay (Miss E. Gatliff); Millgrove (C. L. Barrett); Lorne, Grampians, Whitfield (self); Wartook; Dartmoor; Frankston.

Obs.—This is a very common and widely distributed species throughout Victoria. Beyond the State it is recorded from King Island and Mt. Kosciusko. Normally the shell is of a uniform brown colour, but a specimen before me, collected at Millgrove by Mr. Barrett, is almost colourless, although in perfect condition. A favourite haunt of this species is under charred timber and tree-fern trunks. When deprived of its characteristic bristly epidermis, it alters in general appearance, and is suggestive of another species.

*CHLORITIS BREVIPILA*, Pfeiffer.

1850. *Helix brevipila*, Pfeiffer, P.Z.S. Lond., for 1849, p. 130.  
 1854. Id., Reeve, Conch. Icon., vii, pl. 128, fig. 777.  
 1864. Id., Cox, Cat. Aust. Land Shells, p. 6.  
 1868. Id., Cox, Mon. Aust. Land Shells, p. 47, pl. 5, figs. 2*a*, *b*.  
 1888. Id., Hedley, P.R.S. Qld., v (2), p. 54.  
 1890. *Helix (Chloritis) brevipila*, Pfr. Pilsbry, Man. Conch., vi, p. 265, pl. 58, figs. 28-30.  
 1896. *Chloritis brevipila*, Pfr. Hedley, Rec. Aust. Mus., ii, p. 105.  
 1906. Id., Gude, P. Mal. Soc. Lond., vii, pp. 48, 114, pl. 4, fig. 9.

Size of Type.—Maj. diam., 12; min., 10; alt., 6·5 mm.

Locality.—Victoria (Kershaw, Gude).

Obs.—Recalling the preceding species, but with sparser bristles. Gude (loc. cit.) discusses the genus *Chloritis*, describing among other forms two from New South Wales, *C. novacambrica* and *C. disjuncta*. The former is "similar in shape to *C. brevipila*, but twice the size, and with the hairs much more crowded," while the latter is "smaller, the spire more elevated, the umbilicus slightly narrower, and not excavated or angulated, and the hair-scars more crowded." Outside of Victoria it is recorded by Gude from S. Australia, N.S. Wales, Queensland, and islands in Torres Straits.



Genus **Thersites**, Pfeiffer, 1855.**Thersites jervisensis**, Quoy and Gaimard.

1832. *Helix jervisensis*, Quoy and Gaimard, Voy. Astrolabe, Zool., Moll., ii, p. 126, pl. 10, figs. 18-21.  
 1847. Id., Pfeiffer, Mon. Helix, i, p. 79.  
 1854. Id., Reeve, Conch. Icon., pl. 126, fig. 758.  
 1868. Id., Cox, Mon. Aust. Land Shells, p. 30, pl. 1, figs. 2, 2a.  
 1890. Id., Pilsbry, Man. Conch., vi, p. 141, pl. 40, figs. 90, 91.  
 1892. Id., Pils., Man. Conch., viii, p. 281.  
 1894. *Thersites jervisensis*, Q. and G. Pilsbry, Man. Conch., ix, p. 131.  
 1925. Id., Gabriel, Vict. Nat., xlii (8), p. 207.

Size of Type.—Diam., 19.04; alt., 12.69 mm.

Locality.—On a hill-slope near Stony Creek (tributary of Genoa River) (C. L. Barrett).

Obs.—On a single specimen this was added to our fauna by the writer in 1925. With such well-executed figures by the authors one may readily identify the species. A useful recognition mark is the carination on the body-whorl. Pilsbry (loc. cit., page 281), states: "The synonymy of the *grayi* type of shells is believed by my friend, Dr. Cox, to be as follows: *H. jervisensis*, Q. and G. 1832; *H. gilberti*, Pfr., 1845; *H. grayi*, Pfr., 1848; *H. exocarpi*, Cox, 1868; *H. bednalli*, Braz., 1871. I am in full agreement with this synonymy. Dr. Cox also suggests that the lighter, thinner forms, *corneovirens*, Pfr., 1851, and *mulgoae*, Cox, 1868, may prove to fall into this species." The question is further discussed by Cockerell in the British Journal of Conchology, xviii, p. 321.

**Thersites fodinalis**, Tate.

1892. *Helix* (*Hadra*) *fodinalis*, Tate, T.R.S.S.A., xvi, p. 63, pl. 1, figs. 1a-1c.  
 1892. *Hadra fodinalis*, Tate, Pilsbry, Man. Conch., viii, p. 277, pl. 58, figs. 2, 3, 4.  
 1894. *Thersites fodinalis*, Tate, Pils., Man. Conch, ix, p. 131.  
 1896. *Thersites* (*Badistes*) *fodinalis*, Tate, Horn Exped. Zool., p. 199.  
 1896. *Xanthomelon fodinalis*, Tate Hedley, Horn Exped. Zool. (Appendix), p. 223, figs. in text, G, H, I (anatomy).

Size of Type.—Maj. diam., 18; min., 15; alt., 14.25 mm.

Locality.—Yarrara, N.W. Victoria (Nat. Mus. Melb.), collected by Mrs. L. J. Collard.

Obs.—A moderately umbilicated species, with its surface coarsely and closely wrinkled, transversely. Hitherto unrecorded for Victoria. It appears to be common in S. Australia, the author remarking: "This is by far the most widely-spread and abundant snail over the region explored by the Horn Expedition."



## Family RHYTIDIDAE.

Genus *Rhytida*, Albers, 1860.*RHYTIDA LAMPRA*, Reeve.

1854. *Helix lampra*, Reeve, *Conch. Icon.*, vii, pl. 186, fig. 1295.  
 1855. Id., Pfeiffer, *P.Z.S. Lond.*, for 1854, p. 53.  
 1868. Id., Cox, *Mon. Aust. Land Shells*, p. 28, pl. 10, fig. 9.  
 1873. *Rhytida lampra*, Pfr. Crosse and Fischer, *J. de Conch.*, p. 19.  
 1885. Id., Tryon, *Man. Conch.*, i, p. 125, pl. 23, fig. 29.  
 1892. Id., Hedley, *P.L.S. N.S.W.* [2], vi, p. 23, pl. 2, figs. 8, 9, pl. 3, fig. 3.  
 1905. *Rhytida* (*Eurhytida*) *lampra*, Pfr. Moellendorff and Kobelt, *Conch. Cab. (Agnatha)*, p. 28, pl. 5, figs. 4-7.  
 1909. *Rhytida lampra*, Reeve. Petterd and Hedley, *Rec. Aust. Mus.*, vii, p. 286.  
 1921. Id., May, *Check-List Moll. Tas.*, p. 92, No. 898.  
 1923. Id., May, *Ill. Index Tas. Shells*, pl. 42, fig. 8.

Size of average specimen.—Maj. diam., 17; min., 14; alt., 9 mm.

Localities.—Gippsland (J. A. Kershaw); Lakes Entrance (T. Worcester).

Obs.—A glossy species, hitherto unrecorded for Victoria. It approaches *Rhytida ruga*, Cox, but may be distinguished by its fewer and stronger ribs. The smooth character beneath is evident in both species. Comparison with specimens from near Launceston, Tasmania, the type locality, reveals an absolute identity.

*RHYTIDA RUGA*, Cox.

1871. *Helix ruga*, Cox, in Legrand Coll. *Mon. Tas. Land Shells*, sp. 24, pl. i, fig. 5.  
 1879. Id., Petterd, *Mon. Tas. Land Shells*, p. 7.  
 1882. *Helix exoptata*, Tate, *T.R.S.S.A.*, iv., p. 75.  
 1887. *Helix* (*Videna*) *ruga*, Cox. Tryon, *Man. Conch.*, iii, p. 264, pl. 37, figs. 93-95.  
 1905. *Rhytida* (*Eurhytida*) *ruga*, Cox. Moellendorff and Kobelt, *Conch. Cab. (Agnatha)*, p. 29, pl. 5, figs. 10-12.  
 1909. *Rhytida ruga*, Cox. Petterd and Hedley, *Rec. Aust. Mus.*, vii, p. 286.  
 1912. Id., Cox and Hedley, *Mem. Nat. Mus., Melb.*, No. 4, p. 7.  
 1921. Id., May, *Check-List Moll., Tas.*, p. 92, No. 900.  
 1923. Id., May, *Ill. Index Tas. Shells*, pl. 42, fig. 10.  
 1929. Id., Gabriel, *Vic., Nat.*, xlvii (6), p. 131.

Size of Type.—Maj. diam., 9; min., 8; alt., 3 mm.

Localities.—Dandenong Ranges (Petterd and self); Rubicon and Daylesford (F. L. Billingham); Mallacoota (C. L. Barrett); Ararat and Timboon (H. W. Davey); Cann River (J. Clark); Lorne (self).

Obs.—One of our commoner forms, being generally distributed throughout the State. Comparison may be made with *Rhytida lampra*, Reeve, and *R. lamproides*, Cox. From the former, it is immediately separable by its finer sculpture, and from the latter by the absence of a bluntly angular periphery, which is so characteristic of that species. Consistency of contour is not apparent,



as the Cann River examples are a trifle higher in the spire. Professor Tate regarded the Victorian shells obtained at Dandenong, Sale, Cape Otway and Fernshaw as specifically distinct, and provided the name *Helix exoptata* without stating the points of difference. The species varies somewhat, but specimens may easily be matched with the island form, and the writer agrees with Cox and Hedley in placing the name into synonymy. The same authors remark: "The size principally distinguished *R. ruga* from its northern relations, and it may prove a dwarf of a widespread species which, in different parts of Australia, has received different names."

Usually found under stones and fallen timber.

#### RHYTIDA LAMPROIDES, Cox.

- 1867. *Helix lamproides*, Cox, P.Z.S., Lond., p. 722.
- 1868. Id., Mon. Aust. Land Shells, p. 28, pl. 10, fig. 13.
- 1871. Id., (Patula), Cox, in Legrand Coll. Mon., sp. 7.
- 1879. Id., Petterd, Mon. Tas. Land Shells, p. 3.
- 1885. *Rhytida lamproides*, Cox. Tryon, Man. Conch., i, p. 124, pl. 23, fig. 51.
- 1905. *Rhytida* (*Eurhytida*) *lamproides*, Cox. Moellendorff and Kobelt, Conch. Cab. (Agnatha), p. 29, pl. 5, figs. 8, 9.
- 1909. *Rhytida lamproides*, Cox, Petterd and Hedley, Rec. Aust. Mus., vii, p. 286.
- 1921. Id., May, Check-List Moll. Tas., p. 92, No. 899.
- 1923. Id., May, Ill. Index Tas. Shells, pl. 42, fig. 9.

Size of Type.—Maj. diam., 14.47; min., 12.69; alt., 5.58 mm.

Locality.—Lillypilly Gully, National Park, Wilson's Promontory (Nat. Mus., collected by J. A. Kershaw; and E. S. Hanks).

Obs.—A species with a bluntly angular periphery, a feature which immediately contrasts it with the other Victorian members of the genus. The specimens were obtained under logs, and provide an additional entry for our fauna.

#### RHYTIDA GAWLERI, Brazier.

- 1873. *Helix* (*Zonites*) *gawleri*, Brazier, P.Z.S. Lond., p. 618.
- 1881. *Patula* (*Charopa*) *gawleri*, Braz. Pfr., Nomencl., p. 97.
- 1886. *Helix* (*Charopa*) *gawleri*, Braz. Tryon, Man. Conch., ii, p. 210.
- 1905. *Rhytida* (*Eurhytida*) *gawleri*, Braz. Moellendorff and Kobelt, Conch. Cab. (Agnatha), p. 37, pl. 7, figs. 12-14.

Size of Type.—Maj. diam., 16.92; min., 12.69; alt., 8.46 mm.

Localities.—Portland (W. H. Dillon); Dartmoor (C. L. Barrett); near mouth of Glenelg River (E. Ashby).

Obs.—A form coarsely wrinkled with oblique striae, which immediately separates it from its Victorian congeners. The author remarks: "This species appears to be quite common in a subfossil state in and around Adelaide."

Found nestling in the Bidgee-Widgee plant, *Acaena sanguisorba*, Vahl., by my late friend and keen naturalist, Mr. W. H. Dillon. Not previously recorded for Victoria.



Genus *Paryphanta*, Albers, 1850.*PARYPHANTA ATRAMENTARIA*, Shuttleworth.

1852. *Nanina atramentaria*, Shuttl., Mittheil. Naturf. Gesell. Bern., p. 194.  
 1877. Id., Fischer, Notitiae Malacol., ii, p. 5, pl. i, fig. 2.  
 1868. *Helix atramentaria*, Shuttl., Cox, Mon. Aust. Land Shells, p. 5, pl. 3, figs. 2*a*, 2*b*.  
 1879. *Helicarion atramentaria*, Shuttl. T. Wds., P.L.S., N.S.W., iii, p. 124, pl. 12, figs. 2, 2*a*.  
 1882. Id., Tate, T.R.S.S.A., iv, p. 75.  
 1885. *Paryphanta atramentaria*, Shuttl. Tryon, Man. Conch., i, p. 127, pl. 26, figs. 5, 6.  
 1912. Id., Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 8.  
 1913. Id., Davies, P.R.S. Vic. (N.S.), xxv, p. 221, pl. 15, figs. 2, 5, pl. 17, fig. 9*b* (anatomy).

Size of Average Specimen.—Maj. diam., 31; min., 26; alt., 18 mm.

Localities.—Port Phillip (Shuttleworth); Mount Arnold and Bendigo (Cox); Fernshaw (Tate); Black Watch Range, Croajingolong (J. Searle); S. Gippsland (Rev. G. Cox); Olinda (self).

Obs.—The largest of the genus in Victoria, familiarly known as the "Black Snail." The anatomy of this species and *P. compacta*, Cox and Hedley, has been ably dealt with by O. B. Davies (loc. cit.). When contrasting the two species, the author stated: "The animal is much larger than *P. compacta*. The shell is flatter and of about the same colour, or, perhaps, a little lighter. The animal itself is the same dark grey colour, except at the edge of the mantle and the foot, where it is coloured a brilliant orange-red."

*PARYPHANTA COMPACTA*, Cox and Hedley.

1912. *Paryphanta compacta*, Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 8, pl. i, figs. 3, 4, 5.  
 1913. Id., Davies, P.R.S. Vic. (N.S.), xxv, p. 221, pl. 15, figs. 1, 3, 4, pl. 16, fig. 6, pl. 17, figs. 7, 8, 9*a*, 10 (anatomy).

Size of Type.—Maj. diam., 24; min., 19; alt. 17 mm.

Localities.—Smithers Creek, Otway Ranges (A. D. Hardy) Type; Forrest (H. W. Davey); Mount Sabine; Erskine Falls (Kershaw); Splitters' Falls, Lorne (self).

Obs.—A handsome species readily distinguished from *P. atramentaria*, Shuttleworth, by its more globose form and more polished surface. It is apparently confined to the southern portion of the State, and no record is known to the writer east of the Otway Ranges.

Type in the Australian Museum, Sydney.

*PARYPHANTA DYERI*, Petterd.

1879. *Helix dyeri*, Pett., Mon. Tas., Land Shells, p. 40.  
 1879. Id., Journ. Conch., ii, p. 210.



1909. *Paryphanta dyeri*, Pett. Petterd and Hedley, Rec. Aust. Mus., vii (4), p. 287, pl. 86, figs. 38-40.  
 1921. Id., May, Check-List Moll. Tas., p. 92, No. 902.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 42, fig. 12.

Size of Type.—Maj. diam., 3.5; min., 2.5; alt., 1.5 mm.

Localities.—Tarraville, S. Gippsland (T. Worcester); Belgrave, Fern Tree Gully, Hall's Gap, Grampians (C. Oke); Olinda Falls, Splitters' Falls, Lorne (self); Warburton (F. E. Wilson).

Obs.—The smallest representative of the genus in Victoria. The author remarks: "Under the lens a very pretty, glossy species. Its nearest ally is *Helix nelsonensis*, Braz., from which it differs in being imperforate, and is more often rayed with chestnut markings. Like the great majority of land shells, it is a moist-loving species." This is an interesting addition to our fauna, having been detected in several localities throughout the State. Found nestling in moss (*Rhizogonium novaehollandiae*, Brid.), and the Hepatic (*Blyttia spinosa*, Gotch).

Type from banks of Distillery Creek, near Launceston.

#### Family ENDODONTIDAE.

#### Genus *Charopa*, Albers, 1860.

#### *CHAROPA TAMARENSIS*, Petterd.

1879. *Helix tamarensis*, Petterd, Mon. Tas. Land Shells (April), p. 30.  
 1879. *Helix rosacea*, Pett., Journ. of Conch., ii (July), p. 213 (*non Helix rosacea*, Muller, 1774).  
 1882. Id., Tate, T.R.S.S.A., iv, p. 75.  
 1893. *Charopa tamarensis*, Petterd. Billingham, Vic., Nat., x, p. 62.  
 1894. *Endodonta tamarensis*, Pett. Pilsbry, Man. Conch., ix, p. 35.  
 1894. *Flammulina tamarensis*, Pett. Pils. Man. Conch., ix, p. 338.  
 1896. *Endodonta tamarensis*, Pett. Hedley, Rec. Aust. Mus., ii, p. 104.  
 1903. Id., Hedley, P.L.S., N.S.W., xxvii, p. 605, pl. 31, figs. 18-20.  
 1909. Id., Pett. and Hed., Rec. Aust. Mus., vii, p. 291.  
 1912. Id., Cox and Hed., Mem. Nat. Mus. Melb., No. 4, p. 10.  
 1921. Id., May, Check-List Tas. Moll., p. 94, No. 917.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 42, fig. 17.  
 1929. *Charopa tamarensis*, Pett. Gabriel, Vic. Nat., xlvii (6), p. 132.

Size of Type.—Maj. diam., 6; min., 5; alt., 2 mm.

Localities.—Burrumbett (Tate); Mount Franklin (Billingham); Meredith (J. H. Young); Fern Tree Gully (C. Oke); Geelong (H. W. Davey); Cann River (J. Clark); Longford; Mt. Martha; Croydon.

Obs.—A characteristic little species, readily recognised by its wide umbilicus and rays of rusty-brown colour. The type locality is rifle butts, near Launceston, Tasmania. In Victoria, it is widely distributed, and Hedley records a northern extension to Mt. Kosciusko, having been located at Wilson's Valley, at an altitude of 4500 feet. Found generally under stones and in moss.



## CHAROPA ALBANENSIS, COX.

1867. *Helix albanensis*, Cox, P.Z.S. Lond., p. 723.  
 1868. Id., Mon. Aust. Land Shells, p. 15, pl. 4, fig. 2.  
 1871. *Helix macdonaldi*, Cox, in Legrand Coll. Mon., sp. 32, pl. I, fig. 14.  
 1871. *Helix kingstonensis*, Cox, loc. cit., sp. 40, pl. 2, fig. 5.  
 1871. *Helix officieri* Cox, loc. cit., sp. 57.  
 1879. *Helix stanleyensis*, Petterd, Mon. Tas., Land Shells, p. 32.  
 1879. *Helix petterdiana*, Taylor, Journ. Conch., p. 287, pl. 1, fig. 3.  
 1882. *Helix stanleyensis*, Pett. Tate, T.R.S.S.A., iv, p. 75.  
 1886. *Charopa albanensis*, Cox, Tryon, Man. Conch., ii, p. 209, pl. 62, figs. 25, 26.  
 1892. Id., Hedley, P.L.S. N.S.W. [2], vii, p. 163, pl. 2, figs. 5-8.  
 1894. *Endodonta albanensis*, Cox. Pilsbry, Man. Conch., ix, p. 34.  
 1895. Id., Hed., P. Mal. Soc. Lond., i, p. 260.  
 1896. Id., Hed., Rec. Aust. Mus., ii, p. 104.  
 1909. Id., Hed. and Pett., Rec. Aust. Mus., vii, p. 288.  
 1912. Id., Cox and Hed., Mem. Nat. Mus. Melb., No. 4, p. 9.  
 1921. Id., May, Check-List Tas. Moll., p. 93, No. 905.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 42, fig. 16.

Size of Type.—Maj. diam., 5.07; min., 4.57; alt., 2.53 mm.

Localities.—Fernshaw (Petterd); Wimmera (Aust. Mus.); Gippsland and Wilson's Prom. (Kershaw); Belgrave (C. Oke); Tarraville (T. Worcester); Warburton (F. E. Wilson); Lorne (self).

Obs.—An umbilicated species with radiating reddish-brown bands. The Victorian and Tasmanian representatives show a slight difference, the ribs being a little more numerous. This feature, however, is not constant, as intermediate specimens occasionally appear.

Type from King George's Sound.

## CHAROPA FUNEREA, COX.

1868. *Helix funerea*, Cox, Mon. Aust. Land Shells, p. 16, pl. 3, fig. 1.  
 1886. *Charopa funerea*, Cox. Tryon, Man. Conch., ii, p. 209, pl. 62, figs. 23, 24.  
 1894. *Endodonta funerea*, Cox. Pilsbry, Man. Conch., ix, p. 34.  
 1896. Id., Hedley, Rec. Aust. Mus., ii, p. 104.  
 1912. Id., Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 9.  
 1912. *Endodonta murrayana*, Pfr. var. *submurrayana*, Cox and Hedley, loc. cit., p. 10, pl. 1, figs. 6-8.

Size of Type.—Maj. diam., 6.34; min., 5.33; alt., 2.53 mm.

Localities.—Frankston (Aust. Mus.); Jan Juc, Mulgrave, Black's Spur (Nat. Mus. Melb.); Burrumbeet (Tate); Bairnsdale (Kershaw); Mount Shadwell (Whan); Meredith (J. H. Young); Mt. Franklin (Billingshurst); Nowa Nowa, Whitfield, Hamilton (self).

Obs.—A brown, closely-ribbed species, widely distributed throughout the State. The type locality is Mudjee, N.S.W., and Hedley (loc. cit.) records it from S. Queensland. The author remarks: "Apparently little subject to variation in colour, very beautifully representing *H. inusta*, but more coarsely sculptured,



and having a large umbilicus." Petterd and Hedley regard *E. ricei*, Braz., from Tasmania, as being similar, but "a narrower umbilicus, greater height in proportion to diameter and finer sculpture," separate it. Having examined the types of *E. funerea*, Cox, and *E. murrayana*, Pfr., var. *submurrayana*, Cox and Hedley, the writer is convinced that one form only is represented, and the latter must sink as a synonym. *E. murrayana*, Pfr., is quite a distinct species, being flatter, with wider umbilicus, and more distant radial lamellae. Found under stones and decayed timber.

#### CHAROPA RETIPORA, COX.

- 1867. *Helix retipora*, Cox, P.Z.S. Lond., p. 39.
- 1868. *Helix retipora*, Cox, Mon. Aust. Land Shells, p. 21, pl. 7, figs. 8, 8a.
- 1887. *Helix retipora*, Cox. Tryon, Man. Conch., iii, p. 34, pl. 7, figs. 95, 96.
- 1894. *Endodonta retipora*, Cox, Pilsbry, Man. Conch., ix., p. 34.

Size of Type.—Maj. diam., 5.33; min., 4.31; alt., 2.79 mm.

Locality.—Expedition Pass, Chewton (F. L. Billinghamurst).

Obs.—A dull, reddish-brown, perforated shell, with some of the ribs at somewhat regular intervals much more projecting than others, the interstices crossed by minute and close-raised lines.

#### CHAROPA RETIPORA, COX, var. MELBOURNENSIS, COX.

- 1868. *Helix melbournensis*, Cox, Mon. Aust. Land Shells, p. 22, pl. 12, fig. 10.
- 1882. Id., Tate, T.R.S.S.A., iv, p. 75.
- 1887. Id., Tryon, Man. Conch., iii, p. 35, pl. 7, figs. 97-99.
- 1893. *Helix retipora*, Cox. Billinghamurst, Vic. Nat., x, p. 62.
- 1894. *Endodonta melbournensis*, Cox, Pilsbry, Man. Conch., ix, p. 34.
- 1903. Id., Hedley, P.L.S. N.S.W., xxvii (1902), p. 604, pl. 31, figs. 16, 17.
- 1912. *Endodonta retipora*, Cox, var. *melbournensis*, Cox. Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 10.

Size of Type.—Maj. diam., 5.07; min., 4.31; alt., 3.55 mm.

Localities.—Melbourne (Masters); Fernshaw (Petterd); Castlemaine and Harcourt (Billinghamurst); Gippsland and Wimmera (Aust. Mus.); Mount Macedon; Dandenong Range, Western Port (Kershaw); Meredith (J. H. Young); Anakie Ranges (C. Oke); Whitfield (self); You Yangs (C. L. Barrett); Berwick and Jan Juc (Nat. Mus. Melb.).

Obs.—The author describes the shell as being finely and regularly striated, but, as Cox and Hedley (loc. cit.) remark, the difference is not constant enough for specific distinction. Pilsbry (loc. cit.) regards this form as a synonym of *E. sericatula*, Pfr., a decision which is not generally accepted. Frequently located under stones.



## CHAROPA SERICATULA, Pfeiffer.

1850. *Helix sericatula*, Pfeiffer, P.Z.S. Lond. for 1849, p. 127.  
 1852. Id., Reeve, Conch., Icon., vii, pl. 132, fig. 812.  
 1868. Id., Cox, Mon. Aust. Land Shells, p. 12, pl. 12, figs. 6, 6a.  
 1871. *Helix* (*Charopa*) *limula*, Cox, in Legrand Coll. Mon., sp. 72.  
 1886. *Charopa sericatula*, Pfr. Tryon, Man. Conch., ii, p. 208, pl. 62, figs. 17, 18.  
 1894. *Endodonta sericatula*, Pfr. Pilsbry, Man. Conch., ix., p. 34.  
 1909. Id., Petterd and Hedley, Rec. Aust. Mus., vii, p. 291.  
 1921. Id., May, Check-List Moll. Tas., p. 94, No. 915.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 43, fig. 2.

Size of Type.—Maj. diam., 4.5; min., 4; alt., 2.3 mm.

Locality.—East Gippsland (Nat. Mus. Melb.), collected by W. Kershaw.

Obs.—“A shell easily recognised, although it varies much in markings, and is sometimes without any, and entirely of a light brown. Usually the ribs are black at intervals, or wholly, giving the shell a streaked appearance” (Dr. Cox). Pilsbry (loc. cit.) regards *E. melbournensis* as a synonym, a decision with which the writer cannot agree. This is an addition to our fauna. The type locality is Port Jackson, and it appears in Tasmania.

## CHAROPA ELENESCENS, Cox and Hedley.

1912. *Flammulina elenescens*, Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 12, pl. 3, figs. 16-18.

Size of Type.—Maj. diam., 6.7; min., 5.4; alt., 2.9 mm.

Localities.—Merri Creek (Tenison Woods); Preston (C. L. Barrett); Geelong (H. W. Davey); Sunshine (J. E. Dixon); Broadmeadows.

Obs.—A rather flat species with a broad umbilicus. The authors remark: “In general appearance like *F. diemenensis* and *F. marchianae*, between which it is intermediate in size. The break in sculpture of *F. elenescens* readily distinguishes it.” Though not typical, this species appears to be more happily placed in *Charopa*.

Type in the Australian Museum, Sydney.

## CHAROPA DIEMENENSIS, Cox.

1868. *Helix diemenensis*, Cox, P.Z.S. Lond. for 1867, p. 723.  
 1868. *Helix wellingtonensis*, Cox, P.Z.S. Lond. for 1867, p. 723.  
 1868. *Helix diemenensis*, Cox, Mon. Aust. Land Shells, p. 20, pl. 7, figs. 6, 6a.  
 1868. *Helix wellingtonensis*, Cox, Mon. Aust. Land Shells, p. 29, pl. 7, figs. 5, 5a.  
 1871. *Helix daveyensis*, Cox, Cox, in Legrand Coll. Mon., sp. 35, pl. 2, fig. 4.  
 1871. *Helix atkinsoni*, Cox, loc. cit., sp. 62, pl. 2, fig. 12.  
 1871. *Helix thompsoni*, Cox, loc. cit., sp. 73.  
 1871. *Helix camillae*, Cox, loc. cit., sp. 74.  
 1874. *Helix midsoni*, Brazier. Braz., in Legrand Coll. Mon. Addenda.  
 1880. *Helix diemenensis*, Cox, Johnston, P.R.S. Tas. for 1879, p. 49.  
 1887. Id., Tryon, Man. Conch., iii, p. 24, pl. 3, figs. 16-18.



1887. *Helix daveyensis*, Cox. Tryon, Man. Conch, iii, p. 265, pl. 37, figs. 87, 88.  
 1887. *Helix atkinsoni*, Cox. Tryon, Man. Conch., iii, p. 266, pl. 37, figs. 89, 90.  
 1894. *Endodonta diemenensis*, Cox. Pilsbry, Man. Conch., ix, p. 34.  
 1894. *Flammulina diemenensis*, Cox. Suter, Ann. Mag. Nat. Hist. [6], xiii, p. 64.  
 1909. Id., Petterd and Hedley, Rec. Aust. Mus., vii, No. 4, p. 299.  
 1921. Id., May, Check-List Moll. Tas., p. 96, No. 935.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 43, fig. 18.

Size of Type.—Maj. diam., 9.39; min., 8.37; alt., 3.55 mm.

Locality.—Mount William (Nat. Mus. Melb.), collected by J. Clark.

Obs.—A shell with numerous riblets, and many radiate pale-red bands. It is common in Tasmania, and on the islands in Bass Straits. This addition to our fauna is based on a specimen obtained by Mr. Clark.

Found under decayed timber.

*CHAROPA ERSKINENSIS*, sp. nov. (Pl. II, Figs. 1, 2).

Shell small, cream-colour, glossy, discoidal, distinctly umbilicated, the umbilicus being deep and about one-fourth of the shell's diameter in breadth, exposing all preceding whorls. Whorls, including protoconch, about four and one half, well rounded, parted by deeply impressed sutures, the last slightly descending. Sculpture: the whorls are crossed by fine, regularly-spaced radial riblets to the number of about 154 on the ultimate. Further ornamentation may be seen in the interstices, which are cancellated by microscopic radials and spiral hair-lines. Aperture lunate, lip simple, callus on the previous whorl distinct, concealing several of the riblets.

Size of Type.—Maj. diam., 2.5; min., 2; alt., 1.0 mm.

Localities.—Near "Sanctuary," Erskine River, Lorne (Type, self); Splitter's Falls, Lorne (self). Found under charred logs.

Obs.—A delicate little species, quite distinct from any Victorian form. Its nearest ally is perhaps the Tasmanian *F. roblini*, Pett. On comparative examination with authentic specimens in the Hobart Museum, distinctive characters were readily discernible. The novelty is flatter, the umbilicus a trifle larger, and the absence of a spirally-striate apex immediately separates it.

*CHAROPA GATLIFFI*, sp. nov. (Pl. II, Figs. 3, 4).

Shell small, thin, shining, subdiscoidal, finely ribbed, broadly umbilicated, light-brown colour with irregular darker-brown zig-zag bands crossing the whorls, the bands being plainly visible in the umbilicus, which is wide and almost one-third of the shell's diameter. The umbilicus is deep, exposing all the volutions. Whorls about four and one-half, regularly increasing, well rounded, and parted by deeply impressed sutures. The whorls are



ornamented by delicate, closely-set, evenly-spaced radial riblets, traceable to the extreme apex, and which penetrate the umbilicus, numbering about 210 on the ultimate whorl. Between the riblets the surface is microscopically reticulated by fine growth and spiral striae, the latter being slightly stronger in the umbilicus. Aperture rotundly-lunate, lip thin, callus on the preceding whorl resolving itself into a thin, whitish, polished layer, which covers several of the riblets.

Size of Type.—Maj. diam., 3.3; min., 2.8; alt., 1.7 mm.

Localities.—Type near Splitters' Falls, Lorne (self); also at most of the Falls in this district (self). Found under stones.

Obs.—Though small, a well-marked, elegant form, with very little affinity to any Victorian species. The characteristic zig-zag banding will serve as a useful recognition mark. *E. tamarensis*, Pett., which has a faint resemblance, is, however, flatter, possesses a coarser sculpture and a wider umbilicus. I have much pleasure in associating this ornate little species with the name of my friend and collaborator, Mr. J. H. Gatliff.

*CHAROPA TARRAVILLENSIS*, sp. nov. (Pl. II, Figs. 5, 6).

Shell small, fragile, light-brown, shining, umbilicated, subdiscoid, apex fairly conspicuous, finely ribbed. Whorls about four and one-half, including protoconch, well-rounded, the ultimate gradually descending to about one quarter the depth of the previous whorl. Sutures deeply impressed. Sculpture: protoconch finely, radially striate, the succeeding whorls ornamented with closely-set sub-equidistant radial ribs which are clearly visible in the umbilicus, and number about 84 on the last whorl. Interstitial surface with fine riblets, decussate by microscopic spiral striae. Umbilicus wide and deep, about one quarter of the shell's diameter in width, exposing all previous volutions. Aperture roundly lunate. Peristome acute, regularly curved. Several ribs in front of aperture covered by a shining whitish callus glaze.

Size of Type.—Maj. diam., 2.6; min., 2.3; alt., 1.2 mm.

Locality.—Tarraville (T. Worcester).

Obs.—The Tasmanian *H. legrandi*, Cox, somewhat resembles this species, but on comparison with authentic specimens in the Hobart Museum, distinctive features are at once discernible, the novelty not being so flat and possessing a narrower umbilicus.

*CHAROPA SCINDOCATARACTA*, sp. nov. (Pl. II, Figs. 9, 10).

Shell, minute, planorbiform, spire slightly sunken, shining, cream-colour, with narrow splashes and streaks of lighter coloration crossing the whorls at irregular intervals, discoidal, unusually thin and fragile, umbilicated, whole surface finely, radiately ribbed. Including protoconch whorls about four and one-half, gradually increasing in width, rounded, and parted by well-impressed sutures, last whorl not descending. Sculpture consisting of numerous, equidistant, microscopic radial riblets, about 205



on the body-whorl, visible to the extreme apex, and which may be traced into the well-defined umbilicus. The whorls are further ornamented by extremely fine, concentric striae. Aperture lunate. Peristome simple, thin, sharp, regularly rounded. Glazed callosity on the preceding whorl well-marked, covering many of the riblets. Umbilicus wide, about one-fifth of the shell's diameter, exposing all previous whorls.

Size of Type.—Maj. diam., 1.5; min., 1.3; alt., 0.7 mm.

Localities.—Type near Splitters' Falls, Lorne (self); also at most of the Falls in this district (self). Found under stones.

Obs.—Though minute, the species may be easily recognised by its discoidal shape and light splashes of colour, which are constant features, and separate it from any Victorian form. Its nearest ally is, perhaps, the Tasmanian *E. antialba*, Bedd., from which it may be distinguished by its smaller umbilicus, less sunken spire, and lighter coloration.

*CHAROPA BAIRNSDALENSIS*, sp. nov. (Pl. II, Figs. 11, 12).

Shell minute, fragile, light horn-colour, broadly umbilicated, sub-discoidal, distinctly ribbed. Apex fairly prominent. Whorls about four and one half, including protoconch, rather convex, parted by well impressed sutures, the last slightly descending. Sculpture consisting of rather sharp, radial ribs, traceable almost to apex, fairly regularly spaced, which may be seen entering the umbilicus; the ribs being disposed to the number of 28 on the ultimate whorl. The whorls are further ornamented by fine intermediate riblets. Under high power faint traces of spiral scratches are discernible. Umbilicus in width about five-twelfths of the shell's diameter, very open, exposing all previous whorls. Aperture rotundly lunar, in front of which two or three ribs are concealed in callus (outer lip fractured).

Size of Type.—Maj. diam., 2.0; min., 1.8; alt., 0.9 mm.

Locality.—Bairnsdale (T. Worcester).

Obs.—A species with few ribs. Its nearest ally is, perhaps, *H. cochlidium*, Cox. Compared with authentic specimens in the Aust. Mus. from the type locality, Clarence River, N.S.W., the novelty is flatter, and possesses a larger umbilicus.

Family LAOMIDAE.

Genus *Laoma*, Gray, 1849.

*LAOMA MORTI*, Cox.

- 1864. *Helix morti*, Cox. Ann. Mag. Nat. Hist. [3], xiv, p. 182.
- 1864. *Helix paradoxa*, Cox, Cat. Aust. Land Shells, p. 21.
- 1864. *Helix morti*, Cox, Cat. Aust. Land Shells, p. 22.
- 1868. Id., Mon. Aust. Land Shells, p. 21, pl. 11, fig. 13.
- 1868. *Helix hobarti*, Cox, Mon. Aust. Land Shells, p. 22 (not pl. 12, fig. 11, as quoted).
- 1868. *Helix similis*, Cox, Mon. Aust. Land Shells, p. 23, pl. 12, fig. 12 (*non H. similis*, C. B. Adams).



1870. *Helix stellata*, Brazier, P.Z.S. Lond., p. 662.  
 1871. *Helix derelicta*, Cox, in Legrand Coll. Mon., sp. 11.  
 1878. *Helix arenicola*, Tate, P.L.S. N.S.W., ii, p. 291.  
 1882. *Helix morti*, Cox. Tate, T.R.S.S.A., iv, p. 75.  
 1882. *Helix hobarti*, Cox. Tate, T.R.S.S.A., iv, p. 75.  
 1887. *Helix morti*, Cox. Tryon, Man. Conch., iii, p. 34, pl. 7, figs. 87, 88.  
 1894. *Charopa retinodes*, Tate. T.R.S.S.A., xviii, p. 192.  
 1894. *Endodonta paradoxa*, Cox. Pilsbry, Man. Conch., ix, p. 34.  
 1894. *Laoma hobarti*, Cox. Pils. Man. Conch., ix, p. 338.  
 1895. *Patula morti*, Cox. Smith, P. Mal. Soc. Lond., i, p. 87 (read 1894).  
 1896. *Flammulina retinodes*, Tate, Horn, Exp. Zool., ii, p. 187, pl. 17, figs. 4a, b, c.  
 1902. *Helix discors*, Petterd, P.R.S. Tas. for 1900, p. 2.  
 1909. *Laoma morti*, Cox. Petterd and Hedley, Rec. Aust. Mus., vii, No. 4, p. 294.  
 1912. Id., Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 11.  
 1921. *Laoma morti*, Cox. May, Check-List Moll. Tas., p. 95, No. 926.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 43, fig. 12.

Size of Type.—Maj. diam., 2.03; min., 1.77; alt., 1.01 mm.

Localities.—Mount Eliza (Pritchard and self); Jan Juc (Kershaw); Sea Lake (J. C. Goudie); Castlemaine (F. L. Billingham); Mornington (Rev. G. Cox); Bannerton (A. C. Nilson); Belgrave (C. Oke); University Grounds (Nat. Mus.); Wangaratta and Edi (self).

Obs.—A small species, presenting features which are subject to considerable variation, hence the heavy synonymy. It is widely distributed, being recorded from New South Wales, Victoria, South Australia, Western Australia and Tasmania.

Found under stones, dry timber, and fallen leaves.

#### LAOMA MUCOIDES, Tenison Woods.

1879. *Helix mucoides*, Tenison Woods, P.L.S. N.S.W., iii, p. 125, pl. 12, figs. 5, 5a.  
 1882. Id., Tate, T.R.S.S.A., iv, p. 75.  
 1887. *Helix mucoides*, Stephens (in error for Ten. Wds.). Tryon, Man. Conch, iii, p. 44, pl. 5, figs. 75, 76.  
 1894. *Endodonta mucoides*, T. Wds. Pilsbry, Man. Conch., ix, p. 34.  
 1912. *Laoma mucoides*, T. Wds. Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 11, pl. 2, figs. 9-12.

Size of Type.—Maj. diam., 3; min., 2.5; alt., 1.5 mm.

Localities.—Melbourne (Type); Meredith (J. H. Young); Gong Gong Reservoir (C. Oke); Trentham Falls (J. K. Gabriel); Splitters' Falls, Lorne (self).

Obs.—In form and sculpture a close ally of *L. morti*, Cox. Both species possess radial lamellae, which are better developed in *L. mucoides*. The last whorl is obtusely carinated, a feature absent in *L. morti*.

Type in Australian Museum, Sydney.



## LAOMA PENOLENSIS, Cox.

- 1867. *Helix penolensis*, Cox, P.Z.S. Lond., p. 724.
- 1868. Id., Mon., Aust. Land Shells, p. 8, pl. 11, fig. 12.
- 1878. *Helix pictilis*, Tate, P.L.S. N.S.W., ii, p. 290.
- 1886. *Helix penolensis*, Cox. Tryon, Man. Conch., ii, p. 179, pl. 54, figs. 93, 94.
- 1894. *Laoma pictilis*, Tate. Pilsbry, Man. Conch., ix, p. 10.
- 1894. Id., Suter, Ann. Mag. Nat. Hist. [6], xiii, p. 64.
- 1909. Id., Petterd and Hedley, Rec. Aust. Mus., vii (4), p. 294, pl. 86, figs. 35-37.
- 1912. *Laoma penolensis*, Cox. Cox and Hedley. Mem. Nat. Mus. Melb., No. 4, p. 11.
- 1921. Id., May, Check-List Moll. Tas., p. 95, No. 927.
- 1923. Id., May, Ill. Index Tas. Shells, pl. 43, fig. 5.

Size of Type.—Maj. diam., 3·8; min., 3·3; alt., 2·03 mm.

Localities.—Port Fairy (Rev. W. T. Whan); near Melbourne and Oberon Bay (J. A. Kershaw); Lorne (Dr. G. B. Pritchard); Frankston and Grampians (C. Oke); Portland; Meredith; San Remo; Bairnsdale; Tarraville.

Obs.—A rather dull, horny, broadly semi-conical species, widely distributed throughout the State. Tate distinguished *H. pictilis* from *H. penolensis* by its "coarser ribbing, its coloration, and the presence of transverse striae." As Cox and Hedley (loc. cit.) remark, the first and second characters are variable, and examination of the type of *H. penolensis* in the Cox collection reveals the presence of microscopic spiral striae. The same authors note that Cape Northumberland, the type locality of *H. pictilis*, is but a short distance from Penola, where the type of *H. penolensis* was found. That one species only is represented it is obvious, and *H. pictilis* must sink as a synonym.

## LAOMA MINIMA, Cox.

- 1868. *Helix minima*, Cox, Mon. Aust. Land Shells, p. 10, pl. 12, fig. 8.
- 1877. *Helix collisi*, Brazier, P.R.S., Tas. for 1876, p. 168.
- 1879. *Helix henryana*, Petterd, Mon. Tas. Land Shells, p. 21.
- 1879. *Helix furneauxensis*, Petterd, Mon. Tas., Land Shells, p. 21.
- 1879. Id., Petterd, Journ. Conch., ii, p. 215.
- 1894. *Laoma henryana*, Petterd, Suter, Ann. Mag. Nat. Hist. [6], xiii, p. 64.
- 1894. *Endodonta furneauxensis*, Petterd. Pilsbry, Man. Conch., ix, p. 34.
- 1894. *Laoma furneauxensis*, Pett. Pils. Man. Conch., ix, p. 338.
- 1894. Id., Suter, Ann. Mag. Nat. Hist. [6], xiii, p. 64.
- 1909. *Laoma minima*, Cox, Petterd and Hedley, Rec. Aust. Mus., vii, No. 4, p. 295.
- 1921. Id., May, Check-List Moll. Tas., p. 94, No. 925.
- 1923. Id., May, Ill. Index Tas. Shells, pl. 43, fig. 10.

Size of Type.—Maj. diam., 1·77; min., 1·52; alt., 0·76 mm.

Localities.—Bairnsdale and Tarraville (T. Worcester); Car-rum (C. Oke).



Obs.—A small, shining, broadly umbilicated species, with nothing approaching it in Victoria. This is an addition to our fauna. Found under stones and fallen leaves. Type in Australian Museum, Sydney.

LAOMA HALLI, COX.

- 1871. *Helix halli*, Cox, in Legrand Coll. Mon., sp. 34, pl. 2, fig. 9.
- 1879. Id., Petterd, Mon. Tas. Land Shells, p. 22.
- 1887. *Helix* (*Rhyssota*) *halli*, Cox. Tryon, Man. Conch., iii, p. 264, pl. 37, figs. 54, 55.
- 1894. *Laoma halli*, Cox. Suter, Ann. Mag. Nat. Hist. [6], xiii, p. 64.
- 1894. *Endodonta halli*, Cox. Pilsbry, Man. Conch., ix, p. 34.
- 1894. *Laoma halli*, Cox. Pils., Man. Conch., ix, p. 338.
- 1909. Id., Petterd and Hedley, Rec. Aust. Mus., vii, p. 295.
- 1921. Id., May, Check-List Moll. Tas., p. 94, No. 922.
- 1923. Id., May, Ill. Index Tas. Shells, pl. 43, fig. 11.

Size of Type.—Maj. diam., 1.52; min., 1.26; alt., 1.01 mm.

Localities.—Castlemaine (F. L. Billingham); Frankston and Tarraville (T. Worcester); Fern Tree Gully, Mt. Donna Buang (C. Oke); Trentham Falls (J. K. Gabriel); Grampians, Lorne (self).

Obs.—A minute form, found under decaying wood, and in moss. Narrowly umbilicated and finely striated. It is rather remarkable the species has escaped notice for so long, as it appears to be widely distributed. Consistency in shape is not apparent, as considerable variation is seen, more particularly in regard to height.

LAOMA TURBINULOIDEA, sp. nov. (Pl. II, Fig. 7).

Shell small, umbilicated, shining, chocolate-brown colour, thin, turbinately globose; spire obtusely conical; apex well rounded. Whorls, including protoconch, about four and one half, regularly increasing, and conspicuously convex. Sutures deeply impressed. In the earlier stages, the whorls are ornamented by close, even, thread-like radials, which, as growth continues, are rounder, wider apart and irregularly spaced. This sculpture is visible within the umbilicus. Aperture, slightly oblique, lunate; peristome thin, regular, columellar margin partially concealing the umbilicus. The umbilicus is about one-fourth of the shell's diameter.

Size of Type.—Maj. diam., 2.2; min., 2.2; alt., 2.0 mm.

Locality.—Bairnsdale (T. Worcester).

Obs.—From its Victorian congeners it is immediately distinguished by the well-rounded whorls and characteristic chocolate-brown colour. A suggestion has been made that this species represents a new genus, but it is preferred to allow its inclusion here until more is known of these puzzling forms.

LAOMA SINISTRA, sp. nov. (Pl. II, Fig. 8).

Shell small, fragile, horn-colour, semi-transparent, sinistral, narrowly umbilicated; spire obtusely-conical; apex fairly prom-



inent and finely spirally lirata. Whorls, including protoconch, about six and one-half, convex. Sutures well impressed. Sculpture of post-nuclear whorls consisting of somewhat inequidistant, microscopic radial riblets which vary in strength, are obliquely situated, and may be seen entering the umbilicus. Interstices with fairly numerous growth-striae and microscopic spiral lines. Aperture rotundly lunate. Peristome simple, sharp and thin.

Size of Type.—Maj. diam., 1.0; min., 1.0; alt., 1.2 mm.

Localities.—Tarraville (Type, T. Worcester); Fern Tree Gully (C. Oke).

Obs.—This novelty provides an interesting addition to the infrequent sinistral forms. It approaches the Tasmanian *H. weldii*, T. Wds. An authentic specimen of this species from the type locality, Circular Head, received from the late Mr. W. L. May, is of much broader proportions. The specimens collected at Fern Tree Gully were found nestling in moss.

#### Genus *Allodiscus*, Pilsbry, 1892.

##### *ALLODISCUS OTWAYENSIS*, Petterd.

- 1879. *Helix otwayensis*, Petterd, Mon. Tas. Land Shells (April), p. 39.
- 1879. Id., Journ. of Conch., ii (December), p. 356.
- 1880. Id., Johnston, P.R.S., Tas. for 1879, p. 24.
- 1882. Id., Tate, T.R.S.S.A., iv, p. 75.
- 1886. *Charopa otwayensis*, Petterd. Tryon, Man. Conch., ii, p. 210.
- 1894. *Endodonta otwayensis*, Pett. Pilsbry, Man. Conch., ix, p. 34.
- 1903. Id., Hedley, P.L.S. N.S.W., xxvii, p. 605, pl. 29, figs. 10-12.
- 1909. *Flammulina otwayensis*, Pett. Pett. and Hedley, Rec. Aust. Mus., vii (4), p. 300, pl. 85, figs. 23-25.
- 1912. Id., Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 13.
- 1921. Id., May, Check-List Moll. Tas., p. 96, No. 941.
- 1923. Id., May, Ill. Index Tas. Shells, pl. 43, fig. 21.

Size of Type.—Maj. diam., 2; min., 1.5; alt., 1 mm.

Localities.—Cape Otway (Petterd); Fernshaw (Kershaw); Fern Tree Gully and Gong Gong Reservoir, Ballarat (C. Oke); Taggerty (Nat. Mus. Melb.); Mt. Dandenong (self), Tarraville (T. Worcester).

Obs.—An ornate little species, imperforate and with the interstices minutely decussate. The type locality is Cape Otway scrubs. Cox and Hedley record it from Tasmania. The dimensions of the type are exceeded in a specimen from Fern Tree Gully, which measures 3 mm.

##### *ALLODISCUS SUBDEPRESSUS*, Brazier.

- 1871. *Helix subdepressa*. Brazier, P.Z.S. Lond., p. 641.
- 1879. *Helix dandenongensis*, Petterd, Journ. of Conch., ii, p. 355.
- 1882. Id., Tate, T.R.S.S.A., iv, p. 75.
- 1894. *Endodonta subdepressa*, Braz. Pilsbry, Man. Conch., ix, p. 34.
- 1903. Id., Hedley, P.L.S. N.S.W., xxvii, p. 605, pl. 31, figs. 13-15.
- 1912. *Flammulina subdepressa*, Braz. Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 13.



Size of Type.—Maj. diam., 3.17; min., 2.11; alt., 1.05; diameter of umbilicus, 1.58 mm.

Localities.—Snowy River and Fernshaw (Kershaw); Dandenong Range (Petterd and self); Oakleigh (French); Gembrook (Coghill); Emerald District (Jarvis); Yarragon (Nat. Mus. Melb.); S. Gippsland (Rev. G. Cox); Korumburra (F. L. Billinghamurst); Lorne (self).

Obs.—A white shell, with an umbilicus equalling more than half the diameter. It is of gregarious habit, being commonly located in large numbers under decayed timber and among moss.

#### ALLODISCUS MERACUS, Cox and Hedley.

1912. *Flammulina meraca*, Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 13, pl. 3, figs. 19-21.

Size of Type.—Maj. diam., 4; min., 3; alt., 2 mm.

Localities.—Dandenong Ranges (Kershaw); Fernshaw (Petterd); Olinda and Lorne (self); Belgrave, Evelyn.

Obs.—A pure white species, found mostly under fallen logs and frequently associating with *H. subdepressa*, Braz. The animal is of a very dark colour, rendering it more difficult to detect than the species named. The authors remark: 'It is nearest related to *F. nivea*, Hedley, from Kosciusko, which differs in the microscopic details of the sculpture, is more closely coiled, and has a sunken instead of an elevated spire.' Two specimens collected by the writer at Paradise Falls, near Whitfield, show a slight increase in the size of the umbilicus, but are otherwise identical. The Type is in the National Museum, Melbourne.

#### ALLODISCUS CANNFLUVIATILUS, Gabriel.

1929. *Allodiscus cannfluviatilus*, Gabriel, Vic. Nat., xlv (6), p. 133, figs. 1, 2, and text fig.

Size of Type.—Maj. diam., 2.8; min., 2.4; alt., 1.7 mm.

Locality.—Cann River (Nat. Mus. Melb.), collected by J. Clark.

Obs.—A distinctive little form. The spiral lirae bordering the umbilicus provide a helpful and striking diagnostic character. The species somewhat resembles *H. otwayensis*, Petterd, from which it may be distinguished by its fewer ribs and the presence of an umbilicus.

#### Genus *Thalassohelix*, Pilsbry, 1892.

##### THALASSOHELIX FORDEI, Brazier, var. *m'coyi*, Petterd.

1879. *Helix fordei*, var. *m'coyi*, Petterd, Mon. Tas. Land Shells, p. 14.

1879. *Helix fernshawensis*, Petterd, Journ. of Conch., ii, p. 355.

1879. Id., Mon. Tas. Land Shells, p. 15.

1882. *Helix m'coyi*, Pett. Tate, T.R.S.S.A., iv, p. 75.

1882. *Helix fernshawensis*, Pett. Tate, T.R.S.S.A., iv, p. 75.



1886. *Nanina fernshawensis*, Pett. Tryon, Man. Conch., ii, p. 124.  
 1887. *Helix fernshawensis*, Pett. Tryon, Man. Conch. iii, p. 36.  
 1912. *Flammulina fordei*, Braz., var. *m'coyi*, Pett. Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 12, pl. 2, figs. 13-15.

Size of Type.—Maj. diam., 7.61; min., 5.58; alt., 4.06 mm.

Localities.—Dandenong Range (Petterd); Fernshaw (Tate); Don River (Nat. Mus. Melb.); Upper Yarra (Kershaw); Hoddle Range (J. Searle); Healesville (Brown); Belgrave (C. Oke); Olinda (self).

Obs.—This form is slightly taller, more tightly wound, and finer in sculpture than typical *fordei*, but nevertheless the writer is inclined to follow previous authors in regarding it as a variety only. Throughout the Dandenongs it is frequently seen, being generally located under stones. Cox and Hedley (loc. cit.) state that the type, which has been presented by the author to the Australian Museum, measures maj. diam., 7.5; min., 6; alt., 5.5 mm. This shows a slight discrepancy with the dimensions in the original description.

#### Family FLAMMULINIDAE.

Genus *Flammulina*, von Martens, 1873.

#### FLAMMULINA EXCELSIOR, Hedley.

1896. *Flammulina excelsior*, Hedley, Rec. Aust. Mus., ii, p. 103, pl. 23, figs. 2-4.  
 1912. Id., Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, p. 11.  
 1929. Id., Gabriel, Vic. Nat., xlv (6), p. 132.

Size of Type.—Maj. diam., 9; min., 8; alt., 6 mm.

Localities.—Victoria (Sir W. B. Spencer); Cann River (Nat. Mus., Melb.), collected by J. Clark.

Obs.—The author remarks: "This very fragile shell of a group hitherto unrecorded from Australia seems in shape to be nearest allied to *F. cornea*, Hutton, from Auckland, New Zealand, from which its size, colour and perforation distinguish it. In a bottle with *Cystopelta*, but without locality more precise than "Victoria," Prof. W. Baldwin Spencer has sent me examples of this species in spirits."

Again, in 1912, in collaboration with the late Dr. J. C. Cox, Mr. Hedley remarks: "It is likely that the unlocalized Victorian specimen obtained by Professor Spencer, and referred to in the original description, came from some neighbouring alpine district." A characteristic feature is the angular brown flames of irregular pattern. Type in Australian Museum, Sydney, from Mt. Kosciusko.



## Family ZONITIDAE.

Genus **Helicarion**, Ferussac (em.), 1821.**HELICARION CUVIERI**, Ferussac.

1821. *Helicarion cuvieri*, Ferussac, Tabl. Syst., p. 20.  
 1832. *Vitrina nigra*. Quoy and Gaimard, Voy. Astrolabe, Zool., Moll. ii, p. 135, pl. 11, figs. 8, 9.  
 1850. *Vitrina verreauxi*, Pfeiffer, P.Z.S. for 1849, p. 132.  
 1862. Id., Reeve, Conch. Icon., xiii, pl. 4, fig. 21.  
 1868. Id., Cox, Mon., Aust. Land Shells, p. 83, pl. 14, figs. 14, 14a.  
 1870. *Helicarion cuvieri*, Semper, Reis in Philipp., iii, p. 31, pl. 3, figs. 7a,b; pl. 6, fig. 11.  
 1882. *Vitrina nigra*, Q. and G. Tate, T.R.S.S.A., iv, p. 75.  
 1891. *Helicarion verreauxi*, Pfr. Hedley, P.L.S. N.S.W. [2], vi, p. 24, pl. 2, figs. 10-12; pl. 3, fig. 4.  
 1909. *Helicarion cuvieri*, Ferussac. Petterd and Hedley (loc. cit.), vii, p. 301.  
 1921. Id., May, Check-List Moll. Tas., p. 97, No. 945.  
 1923. Id., May, Ill. Index Tas. Shells, pl. 43, fig. 26.

Size of Average Specimen.—Diam., 11; alt., 6.5 mm.

Localities.—W. Port (Astrolabe); Fernshaw, Sale and Cape Otway (Petterd); Jumbunna (Kitson); Mallacoota (C. L. Barrett); Mornington (Rev. G. Cox); Bairnsdale (Nat. Mus.); Lorne (self); Lillypilly Gully, Wilson's Promontory (E. S. Hanks).

Obs.—Reeve says: "Distinguished chiefly by its narrowly produced transverse form." It is a frequent species, which appears to prefer damp conditions under decayed timber. Examples from the last-named locality are much darker than typical specimens, approaching chocolate brown. It extends to Tasmania, the largest coming from the extreme south.

**HELICARION VIRENS**, Pfeiffer.

1849. *Vitrina virens*, Pfeiffer, P.Z.S. Lond., p. 108.  
 1862. Id., Reeve Conch. Icon., xiii, pl. 3, fig. 14.  
 1868. Id., Cox, Mon. Aust. Land Shells, p. 85, pl. 14, figs. 5, 5a.  
 1885. *Helicarion virens*, Pfr. Tryon, Man. Conch., i, p. 172, pl. 39, figs. 69-71.  
 1888. Id., Hedley, P.R.S. Qld., v. (2), p. 49.

Size of Type.—Diam., 16; alt., 8 mm.

Locality.—Lakes Entrance (T. Worcester).

Obs.—A rather dull, greenish-olive shell, with little indication of striae. It is recorded from Clarence River, N.S. Wales (Dr. Cox), and Moreton Bay, Queensland (Hedley).

Genus **Microcystis**, Beck, 1837.**MICROCYSTIS CIRCUMCINCTA**, Cox.

1864. *Helix marmorata*, Cox, Ann. Mag. Nat. Hist. [3], xiv, p. 182 (*non* Ferussac).  
 1864. Id., Cat. Aust. Land Shells, p. 20.



1868. *Helix circumcincta*, Cox, Mon. Aust. Land Shells, p. 3, pl. 5, figs. 6a, b.  
 1886. *Nanina marmorata*, Cox. Tryon, Man. Conch., ii. p. 105, pl. 35, figs. 39, 40.  
 1888. Id., Hedley, P.R.S. Qld., v (2), p. 50.  
 1903. *Rhytida (Macrocycloides) circumcincta*, Cox. Moellendorff and Kobelt, Conch. Cab. (Agnatha), p. 56, pl. 10, figs. 9-11.  
 1912. *Microcystis marmorata*, Cox. Hedley, P.L.S. N.S.W., xxxvii, p. 262.  
 1917. Id., Odhner, K. Sv. Vet. Ak. Handl., lii (16), p. 78, figs 30a, 31 (in text).

Size of Type.—Major diam., 10·15; min., 8·6; alt., 5·57 mm.

Locality.—Lakes Entrance (T. Worcester).

Obs.—A minutely perforated species bearing a general resemblance to *Nanina jacksoniensis*, Gray, which, however, is said to be imperforate. This is not an uncommon species in New South Wales, extending as far north as the Hunter River. Hitherto unrecorded for Victoria.

#### Genus **Cystopelta**, Tate, 1881.

##### CYSTOPELTA PETTERDI, Tate.

1881. *Cystopelta petterdi*, Tate, P.R.S. Tas., 1880, p. 17.  
 1890. Id., Hedley, P.L.S. N.S.W. [2], v, p. 44, pl. i.  
 1891. Id., Hed., loc. cit. vii, p. 24, pl. 3, fig. 5.  
 1896. Id., Hed., Rec. Aust. Mus., ii. p. 102.  
 1909. Id., Hedley and Petterd, Rec. Aust. Mus., vii, p. 292.  
 1912. Id., Cox and Hed., Mem. Nat. Mus. Melb., No. 4, p. 10.

Localities.—Ballarat (Musson); Loch (Frost); Baw Baws (J. Searle).

Obs.—A genus without a shell. This was once placed in the Limacidae. Later, Tryon chose Tebennophoridae, while Hedley's classification is Fam. Zonitidae; Sub-fam. Helicarionae; gen. *Cystopelta*.

##### CYSTOPELTA PETTERDI, Tate, var. PURPUREA, Davies.

1912. *Cystopelta petterdi*, Tate, var. *purpurea*, Davies, P.R.S. Vic. (n.s.), xxiv (2), p. 331, pls. 64-69.

Localities.—Beech Forest; Fernshaw; Narbethong.

#### Naturalized Land Mollusca found in Victoria.

References.—Musson, P.L.S. N.S.W. [2], v, 1890, pp. 883-896; Woodward, Journ. Conch., x, 1903, pp. 352-367; Cox and Hedley, Mem. Nat. Mus. Melb., No. 4, 1912, p. 14; Gabriel, Vict. Nat., xlv (6), 1929, p. 133.

##### LIMAX MAXIMUS, Linné.

"A large slug, colour varying from ash to yellowish-grey, or sometimes black; often streaked or spotted with white or black; much wrinkled. Size: 4 to 6 inches long."



## LIMAX FLAVUS, Linné.

"A yellowish slug; tessellated with white, and black, or dark brown, coarsely tuberculated, very variable, as are all these creatures; keeled towards the tail, which is pointed. Size:  $2\frac{1}{2}$  to 4 inches long."

## AGRIOLIMAX AGRESTIS, Linné.

"A common slug; usually ash-grey, rufous, yellowish, cream colour, or whitish, often mottled; with a short keel at the tail; shell internal, consisting of a calcareous plate, such as all the Limaces have. Size:  $1\frac{1}{2}$  to 2 inches long."

## MILAX GAGATES, Draparnaud.

"A very variable slug; black, slate colour, dark-red, brown or yellowish, with dusky markings, pale underneath, acutely keeled from mantle to tail, shell internal. A small calcareous plate. Size:  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches long."

## VITREA CELLARIA, Muller.

A flat, pale yellowish shell, very shining, nearly smooth; umbilicated. Widespread and frequently found in glass houses. Size: diam., 8 mm.

## ZONITOIDES NITIDUS, Muller.

A small, flattish, horny shell. Size: diam., 5 mm.

## HELICELLA CAPERATA, Montagu.

A brownish shell, banded, with regular close-set raised wrinkles; body whorl slightly angulated at the periphery; very abundant at many parts of our coast-line. Size: diam., 9 mm.

## HELICELLA (COCHLICELLA) BARBARA, Linné.

= *Cochlicella acuta*, Muller.

A turreted-conical shell, white, with brown bands, encircling the whorls. Extremely common in flower gardens. Size:  $\frac{1}{2}$  inch long.

## HELIX PISANA, Muller.

A whitish shell, with numerous more or less interrupted linear coloured bands on the larger whorls; mouth moderately large, usually pink edged. Size: diam.,  $\frac{3}{4}$  inch.

## HELIX ASPERSA, Muller.

A fawn coloured shell, with brown bands. The common "garden snail." Size: diam., 1 to  $1\frac{1}{2}$  inch.

## HYALINA (EUCONULUS) FULVA, Muller.

A minute shell, yellowish horn-colour, smooth, shining, spire elevated, almost imperforate. Only recorded from the Cann River district. Size: maj. diam., 2.8; alt., 2.2 mm.



## Explanation of Plates.

## PLATE II.

- Figs. 1, 2.—*Charopa erskinensis*, sp. nov.  $\times 13$ .  
 „ 3, 4.—*Charopa gatliffi*, sp. nov.  $\times 9$ .  
 „ 5, 6.—*Charopa tarravillensis*, sp. nov.  $\times 9$ .  
 Fig. 7.—*Laoma turbinuloidea*, sp. nov.  $\times 10$ .  
 „ 8.—*Laoma sinistra*, sp. nov.  $\times 20$ .  
 Figs. 9, 10.—*Charopa scindocataracta*, sp. nov.  $\times 17$ .  
 „ 11, 12.—*Charopa bairnsdalensis*, sp. nov.  $\times 12$ .

## PLATE III.

- Figs. 1-8.—*Hedleyella atomata*, Gray, var. *kershawii*, Brazier.  
 $\times \frac{1}{2}$ .  
 Fig. 9.—*Bifidaria bannertonensis*, sp. nov.  $\times 30$ .  
 „ 10.—*Bifidaria bannertonensis*, sp. nov. Paratype,  $\times 30$ .





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*Proceedings of the Royal Society of Victoria. New series* 43(1), 62–88.

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