

# New Species of New Zealand Mollusca from the South Island, Stewart Island, and Chatham Islands.

By A. W. B. POWELL, Acting-Director.

Genus **ZEDILOMA** Finlay, 1926.

Subgenus **FRACTARMILLA** Finlay, 1926.

Type (o.d.): **LABIO CORROSA** A. Adams.

**Zediloma (Fractarmilla) corrosa zebrina** n. subsp. Pl. 11, figs. 4 and 5.

This is a very distinct and constant subspecies characterised by a bold radial zigzag pattern of dull black stripes on a cream ground. The shell is small compared with typical *corrosa*, more regularly conic and has considerably less expansion of the white basal callus-pad. In *corrosa* this pad extends to half the width of the base or even more, but in *zebrina* the spread covers little more than one-third of the diameter of the base. Radial stripes 12-15 on the body-whorl. Spiral sculpture subobsolete, 5 very faintly indicated cords on spire-whorls and 8-10 equally faint linear-spaced cords on the base. Outer lip with a broad yellowish margin heavily blotched with black at the terminal points of the radial stripes. Interior of aperture pale greenish to purplish iridescent.

Height, 12 mm.; diameter, 13.5 mm. (holotype).

Height, 17.4 mm.; diameter, 17.0 mm. (largest paratype).

*Holotype and Paratypes*: Auckland Museum.

*Locality*: Beach Harbour, Breaksea Sound, Western Otago, on rocks scattered on an intertidal mud-flat. (A.W.B.P., Nov., 1934.)

This subspecies is easily distinguished from the Eastern Otago zigzag striped form of *corrosa*, which has a name available in *Chlorostoma undulosum* A. Adams, 1853. However, I do not propose to recognise *undulosum*, even subspecifically, for all non-eroded examples of typical *corrosa* exhibit a zigzag pattern. The typical *corrosa* pattern consists of very numerous closely spaced narrow zigzag radial stripes, 32-33 on the body-whorl. In *zebrina* there is a maximum of 15 stripes, the average being 12. A large series was collected, showing it to be a very constant form.

Hutton's *Diloma plumbea* (1883, Trans. N.Z. Inst. 15, p. 126) is probably worthy of subspecific recognition. It is small, dull purplish to black with a very wide white parietal callus-pad and a simple black margining of the outer lip, without the yellow border. It is common at Sumner (type) and Lyttelton.



Genus **MICRELENCHUS** Finlay, 1926.Type (o.d.): *TROCHUS SANGUINEUS* Gray.**Micrelenchus parcipictus** n. sp. Pl. 11, fig. 1.

Shell turbinate-conic, openly umbilicated, solid; sculptured with distinct flat-topped spiral cords, five on spire-whorls, and thirteen on the body-whorl, including base. Interspaces linear on early whorls, increasing to twice width of cords towards the umbilicus. Spire obtusely conical, same height as aperture; periphery subangled; base convex. Umbilicus deep, open, in a smooth funnel-shaped area. Aperture subquadrate. Peristome discontinuous, columella much thickened, arcuate and partly overhanging the umbilicus; outer lip thin and corrugated by the spiral cords. Interior of aperture strongly lirate. Coloration variable; the holotype has a cream ground on the spire, which is radially banded and diffused with dark brown. Interior of aperture pale greenish iridescent. Some of the paratypes have the radial pattern on the first two post-nuclear whorls only, the rest of the shell being purplish to greenish gray indistinctly clouded with dull red or brown.

Height, 7 mm.; diameter, 7 mm.

*Holotype and paratypes*: Auckland Museum.

*Locality*: Sealer's Beach, between Otago's Retreat and Puysegur Point, South-West Otago, on under sides of stones at low tide. (A.W.B.P., Nov., 1934.)

The species is close to *tenebrosus* A. Adams, but is readily distinguished by the constantly open umbilicus, fewer spiral cords and radial colour pattern. In *tenebrosus* there are six or seven cords on the spire whorls, the umbilicus is callus-filled, except in young examples, and the coloration is uniformly purplish to greenish-grey with the spirals picked out in black; it is never radially colour banded.

I have records of *tenebrosus* from Stewart Island, Solander Island, Foveaux Strait, Dunedin Harbour, and Pukearuhe, North Taranaki. The latter is the furthest north locality I have been able to verify. The related *huttoni* is the common North Island species, which also occurs abundantly throughout the South Island, Stewart Island and the Chatham Islands.

**Micrelenchus oliveri** (Iredale, 1915) Pl. 11, fig. 8.

- 1884 *Cantharidus pupillus*: Hutton, P. Linn. Soc. N.S.W. 9, p. 362 (not a new name, but ascribed to Gould's *Trochus pupillus* from N.W. America).  
 1897 *Cantharidus pupillus*: Suter, Proc. Malac. Soc. Lond. 2, p. 270.  
 1913 *Cantharidus pupillus*: Suter, Man. N.Z. Mollusca, Govt. Printer, Wellington, p. 126. Atlas 1915, Pl. 33, f. 7.  
 1915 *Cantharidus oliveri* Iredale, Trans. N.Z. Inst. 47, p. 438, nom. nov. for "the species described by Suter under the name *Cantharidus pupillus* Hutton, 1884."  
 1937 *Micrelenchus oliveri*: Powell, The Shellfish of New Zealand, Unity Press, Auckland, Pl. 8, f. 6 (Mount Maunganui, Bay of Plenty).

Iredale renamed the species long accepted as *Cantharidus pupillus*, but unfortunately he did not nominate a type, nor did he cite a type locality. Hutton first used this combination, but did not describe *pupillus* as a new species. He merely borrowed Gould's name, *Trochus pupillus*, founded on a North West American shell, which is quite dissimilar, and is now known as *Pupillaria pupilla* (Gould, 1849). Suter



(1913, p. 126) cited localities as "Banks Peninsula to Dunedin (Captain Hutton); Hauraki Gulf; Manukau Heads; East Cape; Lyall Bay; Lyttelton and Akaroa Harbours; Bay of Islands," and stated "Type in the Canterbury Museum." Since Iredale's name is definitely based on Suter's 1913 interpretation, and Suter's figure is probably a North Island example, I now select as neotype a specimen in the Auckland Museum from Takapuna Reef, Hauraki Gulf. The Canterbury Museum specimen, even if labelled type of Hutton's *pupillus*, has no validity, as Hutton never formally proposed the name. Suter's figured example would make the best basis for the type of Iredale's species except for the fact that Suter did not indicate in his collection any of the examples figured in his atlas, nor did he indicate the localities of the specimens selected for illustration.

The necessity for fixing a type and type locality for *oliveri* is occasioned by the discovery of a distinct subspecies which shelters under the discs of the giant kelp *D'Urvillea*, and is distributed along the east coast of the South Island.

***Microelenchus oliveri cryptus* n. subsp. Pl. 11, fig. 7.**

Distinguished from the typical species by its turbate shape, having a dome-shaped spire instead of a sharply conical one with straight outlines. The spiral cords are broader and less numerous, the peripheral angulation is almost obsolete, the coloration is much paler, the pattern less definite, and the whole shell is much stronger, the peristome being particularly massive. Typical *oliveri* has 6 to 7 flat-topped spirals with linear interstices on the spire-whorls and 8 on the base. The subspecies *cryptus* has 3 to 5 much broader flat-topped spirals on the spire-whorls but still with linear interstices, while on the base there are 5-6 broad, flattened spirals with interstices up to half the width of the spirals. Frequently the two uppermost spirals of the spire-whorls are fused into one broad bulge which renders the whorls distinctly shouldered. Coloration of holotype pale purplish-grey, with the early whorls regularly tessellated with rose. Peristome dull creamy-white, interior of aperture pale greenish iridescent. All other examples are similarly coloured except that the rose markings sometimes appear as broad radiate flames on the early whorls and in others the tessellate pattern persists over the whole shell.

The coloration of typical *oliveri* is dull green, regularly tessellated with red, interior of aperture brilliant greenish iridescent. This pattern is very constant in examples from Takapuna, where the species is common in seaweeds at low tide, together with *M. dilatatus*. At Mount Maunganui and many other northern localities of the open coast examples with broad scarlet flames on a pink ground are common.

Height, 9 mm.; diameter, 9 mm. (Holotype of *o. cryptus*)

Height, 8 mm.; diameter, 6.75 mm. (Neotype of *oliveri*)

*Holotype and Paratypes*: Auckland Museum.

*Localities*: Kakanui and Kartigi, North Otago; 4 miles south of Clarence River, Marlborough (type), Goose Bay, Kaikoura (A.W.B.P., Jan., 1928). Good series were taken, all from beneath the holdfasts of the giant kelp *D'Urvillea*.



The locality range of typical *oliveri* is at least Cape Maria van Diemen to Lyttelton. Since Lyttelton examples are quite typical, *cryptus* cannot be considered a regional subspecies, but is a constant subspecific form restricted in station to the kelp holdfasts. Other shellfish which are restricted to kelp holdfasts are *Margarella decepta* Iredale and *Frembleya egregia* H. Adams.

### Genus **MAUREA** Oliver, 1926

Type (o.d.): *TROCHUS TIGRIS* Martyn.

#### **Maurea pellucida morioria** n. subsp. Pl. 11, fig. 3.

Chatham Islands examples of *pellucida* differ constantly from the mainland typical species in being more broadly conic, with almost straight spire outlines. The spire-whorls are almost flat, not indented at the sutures; the periphery is broadly rounded and the base strongly convex. The spire angle for *morioria* is 82 degrees, but only 74 degrees for the typical species. The sculpture and the colour pattern are identical in both species and subspecies.

Height, 39 mm.;	diameter, 41 mm.	(holotype of <i>morioria</i> )
" 34 "	" 36 "	(paratype " " )
" 28 "	" 32 "	( " " " )
" 35 "	" 35 "	( <i>pellucida</i> )
" 30 "	" 30 "	( " )
" 28 "	" 26 "	( " )

*Locality*: Owenga Beach, Chatham Islands (24 examples).

*Holotype and Paratypes*: Auckland Museum (collected, A.W.B.P., 1937).

### Genus **LISSOTESTA** Iredale, 1915.

Type (o.d.): *CYCLOSTREMA MICRA* Ten. Woods.

The shells at present grouped under *Lissotesta* are not all congeneric. I have used the genus as a convenient location for small Trochoids of uncertain affinity, but I now propose to remove three of the species to a new genus:—

#### **LISSOTESTELLA** n. gen.

Type: *LISSOTESTA TENUILIRATA* Powell.

This new genus resembles *Lissotesta* in shape, but it is of more solid texture. The surface, instead of being polished, is dull and regularly spirally lirate. In *Lissotesta* the peristome is thin and not continuous. That of the new genus is continued across the parietal wall, and is strengthened on the outside by a broad low varix. Inside the aperture there is a slight rim or ledge which suggests the presence of a stout operculum—possibly a calcareous one, and, if this should prove to be the case, removal of the genus to the vicinity of *Argolista* may be necessary. The protoconch is of one whorl and is larger and more globose than in *Lissotesta*.

In addition to the genotype, *L. rissoaformis* and *L. tryphenensis*, both of Powell, 1931, are congeneric.



The typical members of *Lissotesta* are *errata* Finlay, 1926; *granum* (Murdoch and Suter, 1906); *benthicola* Powell, 1927, and *decipiens* Powell, 1940. The remainder are separable into five groups, but I do not propose to name them until more species of each group are located and better diagnostic characters are apparent. The groups are (1) *caelata* Powell, 1937, and *consobrina* Powell, 1940, strongly spirally keeled forms; (2) *conoidea* Powell, 1937, elevated and narrowly conical; (3) *oblata* Powell, 1940, globose but with flattened spire; (4) *aupouria* Powell, 1937, globose, widely umbilicated, with a free D-shaped aperture; (5) *bicarinata* Powell, 1940, trochiform with keeled body-whorl and a subsidiary crenulated keel on the base.

### Genus **BADENIA** Finlay, 1930.

(nom. nov. for *Powellia* Finlay, 1926, non. Maskell, 1879)

Type (o.d.): *POWELLIA LACTEA* Finlay.

In describing *Haurakia duplicata* and *H. duplicata exuta*, both from 260 metres off the Three Kings Islands (Powell, 1937, Discovery Reports, Vol. 15, p. 191) I failed to realise their close affinity with *Powellia paupereques* Finlay, 1926, from the Poor Knights Islands in 60 fathoms (Finlay, 1926, Trans. N.Z. Inst. Vol. 57, p. 404). Finlay's *Powellia paupereques* is very close to my *Haurakia duplicata exuta* but is specifically distinct, for it has a much weaker peripheral thread and numerous subobsolete axials. In *exuta* there are no axials, but typical *duplicata* has strong distant axials. Both have a more dilated aperture than *paupereques*.

The family location of *Badenia* is still in doubt, since neither the animal nor the operculum is known, but it may continue to rest in the *Rissoidae* where it was placed originally by Finlay. The vitreous appearance of these shells suggests the *Eulimidae*, and Finlay (1930, Trans. N.Z. Inst. 61, p. 41) has already advocated the removal of his genus to this family. Still another possibility is in the *Rissoinidae* near *Zebina*.

### Genus **COMINELLA** H. and A. Adams, 1853.

#### Subgenus **EUCOMINIA** Finlay, 1926.

Type (o.d.): *BUCCINUM NASSOIDES* Reeve.

Finlay (1928, Trans. N.Z. Inst. Vol. 59, pp. 255-256) has already noted the occurrence of well-defined races of *nassoides*. He described one of them, *iredalei*, the broad, squat species from Chatham Islands, advocated the use of *nodicincta* v. Martens for one Subantarctic Islands form and stated the probability of a further Subantarctic member in Filhol's *Buccinum veneris* (= *filholi* Finlay, 1930) from Campbell Island. Finlay also mentioned the occurrence of two benthic species from eastern Otago, one from 20-60 fath. off Otago Heads and the other from 50 fathoms off Oamaru.

Stewart Island shallow water examples are the true *nassoides*. They have a long narrow aperture and on the spire-whorls three strong spiral ribs in addition to the sutural fold, all nodulose where they cross



the axials. Deeper water examples from Stewart Island and Foveaux Strait in 15 fathoms have a shorter aperture, are much smaller, the spiral cords weaker, and the axials resolve into 3 to 2 rows of rounded nodules. These are *nassoides foveauxana* n. subsp.

I now propose to name the benthic Otago Heads species *otakaica* n. sp. These have a proportionately smaller, more rounded aperture and five spiral cords on the spire-whorls. The benthic Oamaru shells are similar in their early stages but the axials become obsolescent over the last two whorls. More material is required to determine the status of this form, which is known to me by only three examples.

Finlay's Chalky Inlet specimens classified by him as *nassoides* are very distinct and are here named *haroldi* n. sp. They have three rows of nodules but no spiral cords on the spire whorls and a dense minutely striated surface.

Still another new species, *marlboroughensis*, from 70 fathoms off Cape Campbell, is very close to the Upper Pliocene (Castlecliffian), *elegantula verrucosa* Finlay, 1926, and it makes a considerable northern extension to the known range of the genus (see note under this species. It may not be of recent occurrence).

**Cominella (Eucominia) nassoides foveauxana** n. subsp. Pl. 12, figs. 3 and 4.

This deep water form of *nassoides* is little more than half the size of the typical shore species. It has a relatively wider aperture, shorter body-whorl and weak to subobsolete spiral cords. On the spire-whorls the axials rapidly resolve into three spiral rows of bluntly rounded nodules, one subsutural, another peripheral, and the third below. There are 15 to 17 nodules in a spiral series per whorl. On the body-whorl only the subsutural and peripheral nodules persist. Inside of outer lip without lirations.

Height, 36.75 mm.	Diameter, 18.0 mm.	(holotype of <i>foveauxana</i> )
" 31. 0 mm.	" 16.0 mm.	( <i>foveauxana</i> )
" 49. 0 mm.	" 23.5 mm.	( <i>nassoides</i> , Stewart Island)
" 46. 5 mm.	" 22.5 mm.	( " " " )

*Holotype*: Charles Cooper collection, Auckland Museum.

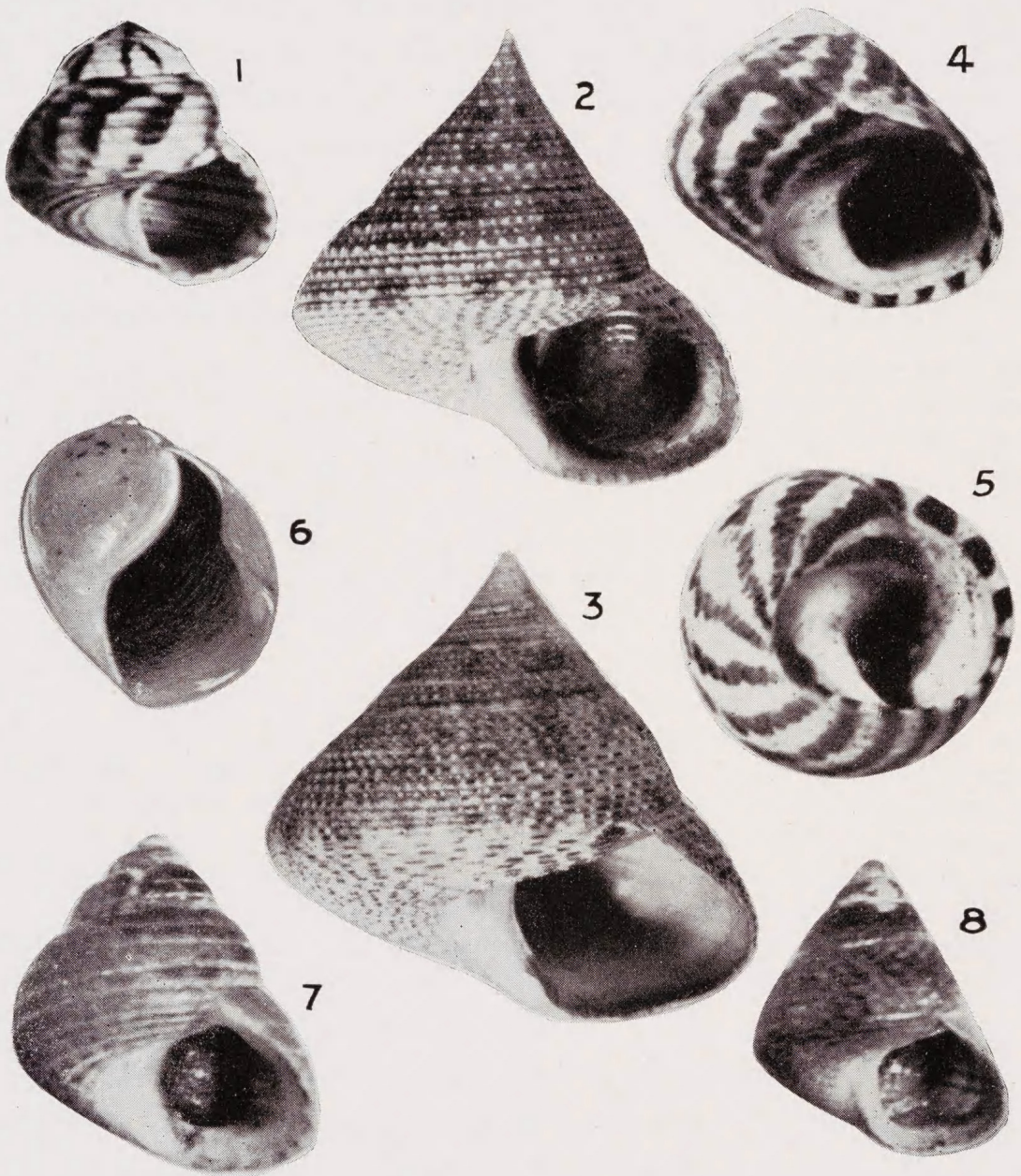
*Localities*: Foveaux Strait (type); Foveaux Strait, 15 fathoms (Finlay collection, Auckland Museum); Foveaux Strait, from oyster dredgings (A. C. O'Connor).

The type locality for typical *nassoides* is here designated as Ringaringa, Stewart Island.

**Cominella (Eucominia) haroldi** n. sp. Pl. 12, figs. 8 and 9.

This species is related to *nassoides* but is a squat form nearer in proportions to the Chatham Island *iredalei*. It has broadly rounded axials, sixteen on penultimate whorl, extending over most of the base, and these are rendered strongly nodulous both on the subsutural fold and at the shoulder. A very weak third row of nodules emerges at the suture on the body-whorl. The whole surface is crowded with delicate





1. *Micrelenchus parcipictus* n. sp. 7 x 7 mm. Holotype. 2. *Maurea pellucida* Valenciennes. 37.5 x 37 mm. North Head, Auckland. 3. *Maurea pellucida morioria* n. subsp. 39 x 41 mm. Holotype. 4. & 5. *Zediloma (Fractarmilla) corrosa zebrina* n. subsp. 12 x 13.5 mm. Holotype (Fig. 5) and Paratype. 6. *Mysticoncha harrisonae* n. sp. 21.5 x 18.5 mm. Holotype. 7. *Micrelenchus oliveri cryptus* n. subsp. 9 x 9 mm. Holotype. 8. *M. oliveri* (Iredale, 1915) 8 x 6.75 mm. Neotype. Takapuna Reef, Auckland.



wavy spiral striations, about ten per millimeter. Subobsolete, distant, low spiral cords appear over the lower half of the base only. Spire about three-fourths height of aperture. Colour creamy-white, with a faint pattern of pale rusty brown streaks between the axials and five very obscure spiral bands on the body-whorl. The uppermost band is in the interstices of the subsutural nodules.

Height, 33 mm.; diameter, 18 mm.; spire, 15 mm.

*Locality*: Chalky Inlet, South-West Otago.

*Holotype*: Collection of Dr. Harold J. Finlay, Auckland Museum.

The species is easily distinguished by the uniform dense spiral striations and absence of spiral cords on the spire-whorls.

### **Cominella (Eucominia) otakaica** n. sp. Pl. 12, figs. 5-7.

This and the following species differ from *nassoides* in having a proportionately smaller and more rounded aperture. In *nassoides* the aperture is always narrowly ovate—height 25 mm.; breadth 15 mm. (edge of outer lip to outer expansion of parietal callus). Similar measurements of *otakaica* are height 20 mm.; breadth 14 mm. Another differentiating feature is in the primary spiral cords of the spire-whorls—*nassoides* has three strong cords, but there are five in *otakaica*.

Shell large, with same proportion of diameter to height as in *nassoides*, but the spire is relatively much taller, being 1.3 times height of aperture. In *nassoides* the spire is less than the height of the aperture. The primary spirals, that is, in addition to the nodular sutural folds, commence at four and increase to five at the end of the penultimate. The secondary spiral sculpture consists of 10-12 lirations from the suture to the shoulder angle, a single lirae between each pair of primary spirals on the spire but increasing to five on the base. Axials thirteen per whorl, persistent over body-whorl. The inside of the outer lip is never lirate, but in typical shallow-water *nassoides* lirations are invariably present. Colour buff diffused with rusty-brown.

Height, 45 mm.; diameter, 21 mm.

*Localities*: Off Otago Heads; 20 fath. and 40-60 fath. (type from 60 fath.).

*Holotype*: Finlay collection, Auckland Museum.

Three examples from 18 miles E.S.E. of Oamaru in 50 fathoms have the axials obsolete on the body-whorl. Further material may reveal this as another regional species.

### **Cominella (Eucominia) marlboroughensis** n. sp. Pl. 12, fig. 10.

This is a much smaller and thinner shell than *nassoides*, being very similar to the Upper Pliocene (Castlecliffian) *elegantula verrucosa* Finlay, 1926. It differs from the Castlecliffian species in having a proportionately taller spire and more slender axials. Spire 1.3 times height of aperture. The spire is equal to the height of the aperture in *verrucosa*. Axials slender, fourteen per whorl, subobsolete on the deeply concave shoulder, but strongly nodulous on the subsutural bulge. Spiral



sculpture of weak cords, 8 on spire-whorls and a few distantly spaced on the lower half of the body-whorl; the whole shell is covered with dense fine lirations. Aperture ovate, not lirate within.

Height, 29.25 mm.; diameter, 13.4 mm.

*Locality*: Thirty miles south of Wellington and 25 miles east of Cape Campbell, 70 fathoms.

*Holotype*: Powell collection, Auckland Museum.

The only example is dull white and leached, in common with all other shells from this dredging which may be a wash from some submerged Pliocene bed.

### Genus **MYSTICONCHA** Allan, 1936.

Type (o d.): *LAMELLARIA WILSONI* Smith.

#### ***Mysticoncha harrisonae* n. sp. Pl. 11, fig. 6.**

Shell moderately large, globose-ovate with a large aperture and few whorls; very thin, semi-transparent, white. Whorls  $3\frac{1}{2}$  including the protoconch of one whorl, which is slightly convex and eroded in the only known specimen. The protoconch and the following whorl form a dome-shaped protuberance from the ovate outline of the rest of the shell. Suture deeply impressed. Outer lip very thin, membranous at the extreme edge, and produced forward above the middle in a broad curve. Basal part of lip broadly concave. Columella slightly thickened, concave and flexuous. Parietal wall without callus. Sculpture of closely spaced fine axial growth lines which show the successive stages of the basal-lip concavity in a spiral contour running parallel to the columella and entering the aperture on the lower curve of the parietal area.

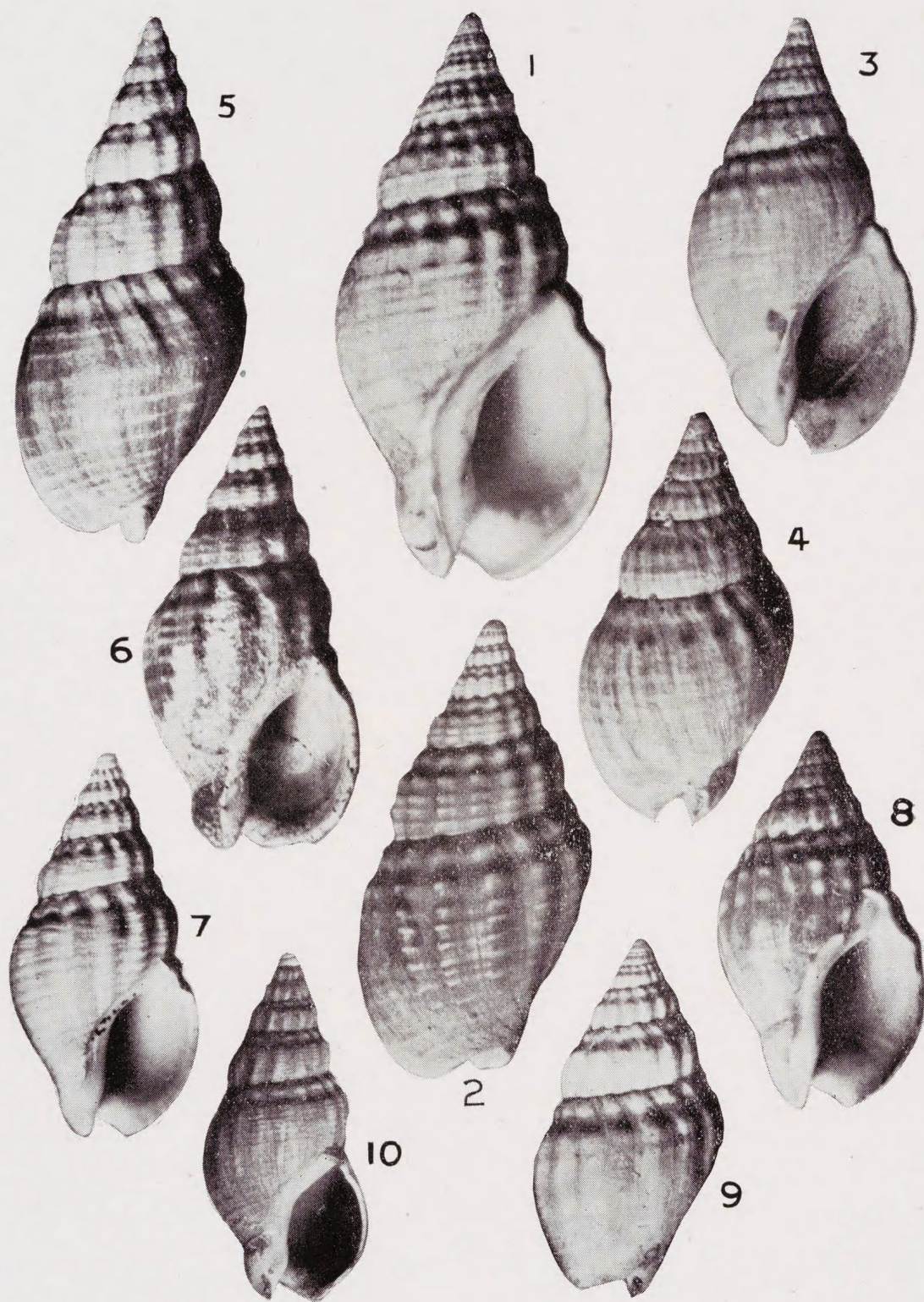
Height, 21.5 mm.; diameter, 18.5 mm.

*Locality*: Lowrie's Beach, The Neck, Stewart Island (collected, Mrs. R. H. Harrison).

*Holotype*: (unique), an empty shell, Powell collection, Auckland Museum.

This makes an interesting new generic record for New Zealand. Previously *Mysticoncha* was known only from Victoria and South Australia. Living examples of the Australian genotype show the shell to be completely internal in an oval animal conspicuously marked with a geometric pattern of six-sided figures in dark brown.





1. & 2. *Cominella (Eucominia) nassoides* (Reeve, 1846) 46.5 x 22.5 mm. Ringaringa, Stewart Island. 3. & 4. *C. (E.) nassoides foveauxana* n. subsp. 36.75 x 18 mm. Holotype (Fig. 3). 5. & 6. *C. (E.) otakaui* n. sp. 45 x 21 mm. Holotype (Fig. 5). 7. *C. (E.) otakaui* n. sp. 40-50 fath. Otago Heads. 8. & 9. *C. (E.) haroldi* n. sp. 33 x 18 mm. Holotype (Fig. 8). 10. *C. (E.) marlboroughensis* n. sp. 29.25 x 13.4 mm.





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