

## New Zealand Recent Thyasiridae (Mollusca)

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[Read before the Wellington Branch, June 10, 1948; received by the Editor, June 28, 1948.]

### INTRODUCTION

IN SUTER'S *Manual of New Zealand Mollusca* (1913), two New Zealand Recent species of *Thyasira* were listed, the "cosmopolitan" *Thyasira flexuosa* Montagu and *T. otagoensis* Suter n.sp. Iredale (1930, pp. 392-394) discussed the Australian shells previously listed as *flexuosa* and separated two genera, *Prothyasira* for the reception of two species from New South Wales and South Australia, and *Parathyasira* for a New South Wales species. Two regional subspecies, *Parathyasira resupina neozelanica* Iredale, and *Prothyasira peroniana peregrina* Iredale, were described from New Zealand. *Thyasira otagoensis* Suter was not discussed by Iredale, but was later listed under *Parathyasira* by Powell (1946). Examination of the available neozelanic Recent material in an endeavour to identify Fiordland and Pliocene shells has led to recognition of two further generic groups in New Zealand. None of the New Zealand forms has previously been figured well enough to allow ready identification. In this paper all Recent forms now known are figured. Types and figured specimens are in the Geological Survey Collection and in the Suter Collection, now at the Geological Survey.

The writer is grateful to Mr. R. K. Dell, Conchologist, Dominion Museum, for the loan of material from the collections under his care.

### THYASIRIDAE

#### Genus *Thyasira* Lamarek, 1818

Type (by monotypy): *Tellina flexuosa* Montagu. (Recent, Europe)

Comparison of Boreal specimens of the genotype with Iredale's figures of the type of *Prothyasira* and with specimens of *Prothyasira peroniana peregrina* Iredale does not show any marked conchological discrepancy, and, although, in this conservative group, anatomical differences may justify separation as observed by Iredale, I follow Cotton and Godfrey (1938, p. 210) in synonymizing *Prothyasira*. It is indeed possible to consider *peroniana* and its races as subspecies of the wide-ranging *flexuosa* Mont.

#### ***Thyasira peroniana peregrina* (Iredale) (Plate 25, figs. 4, 5.)**

Figures are given of topotypes (18 fath., Stewart Island) from the Suter collection. There are others in the Dominion Museum from Port Pegasus (Bollons Collection) and from an unstated locality, and extensive series in the Geological Survey from various depths (2 to 58 fathoms) in the Southland Fiords, collected on the New Golden Hind Expedition of February, 1946. These are consistent within themselves, narrowly trigonal, deeply sulcate, and can be distinguished from the Cook Strait population.

Height: 7.4; length 6.5 mm. (topotype).

Height: 10; length 8.7 mm. (largest Fiordland specimen).

***Thyasira peroniana waikanae* subsp. nov.** (Plate 25, fig. 3).

Distinguished from the preceding race by being relatively longer, less acutely trigonal, postero-dorsal margin less arched and less flanged, posterior sulcus shallower and not so well defined.

Height: 7.8; length 7.5, inflation 2.2 mm. (holotype, left valve).

*Locality*: Waikanae Beach, Wellington (Geological Survey Collection, holotype and 3 paratypes; Suter Collection, 7 paratypes).

I have not seen Recent specimens of *peroniana* from more northerly localities.

Genus *Parathyasira* Iredale, 1930

Type (by original designation) *Parathyasira resupina* Iredale. (Recent, New South Wales)

***Parathyasira resupina neozelanica* Iredale.** (Plate 25, fig. 1)

Two topotype valves are figured to supplement Iredale's description: radial sculpture is largely absent, as he noted, the anterior fold is not always developed, and New Zealand shells are rounder than both the described Australian races.

*Localities*: 110 fathoms off Great Barrier Island (holotype, Australian Museum), and 2 figured topotypes, New Zealand Geological Survey Collection; 75 fathoms off North Cape (2 valves, Dominion Museum).

Genus *Genaxinus* Iredale, 1930

Type (by original designation): *Thyasira albigena* Hedley.  
(Recent, New South Wales)

Hedley's figure of the genotype (*Rec. Aust. Mus.*, vol. 6, pl. 661, figs. 4, 5) shows a shell similar in a general way to *G. cookianus*, described below, but he describes the *anterior* margin as sinuous, although this orientation would indicate that the umbones are opisthogyrous. *Thyasira otagoensis* is similar in essential features to *cookiana* and here considered congeneric, and if, as seems probable, the ligament is posterior, then the beaks are prosogyrous, the anterior end of the shell more produced than the posterior, and (in *cookiana* and *albigena*) the marginal sinuosity is posterior, and not anterior as Hedley described it.

***Genaxinus cookianus* n.sp.** (Plate 25, figs. 6, 8)

Shell minute opaque, white, equivalve, inequilateral, obliquely oval, produced and rounded anteriorly; beaks low, rounded; dorsal margin gently arched, anterior and ventral margins rounded, posterior margin short and sinuous, reflecting shallow posterior sulcus; hinge plate thin, flexed and thickened in front of beaks, rapidly narrowing behind and passing beneath posterior dorsal margin; muscle scars indistinct; pallial line continuous. Sculpture, weak incrementals and stronger growth folds; interior shining, with faint radials showing in the shell structure.

Height 1.08; length 1.03; inflation 0.3 (holotype, right valve).

*Locality*: 27 fathoms off Cape Farewell Lighthouse, in micaceous muddy silt (collected by N.Z. Govt. Steamer "Matai"), holotype and 5 paratype valves; 1½ miles east of Castlepoint Lighthouse, in 28

fathoms (" Matai "); specimens in the Geological Survey Collection.

*Fossil occurrence*: G.S. 4102, Castlecliff, Tainui Shell-bed (CU3).

***Genaxinus otagoensis*** (Suter). (Plate 25, fig. 7)

1913. *Thyasina otagoensis* Suter. *Man. N.Z. Moll.*, p. 919.

The posterior fold and sulcus in this species are so weak that they scarcely affect the marginal outline. Otherwise, in its produced anterior end and in hinge characters, this species agrees with *Genaxinus* and can be located here until specimens of the genotype are compared. Suter's holotype is a closed individual, so, as no figure of the interior has yet been published, one of his paratype valves is here figured.

*Localities*: Off Otago Heads (dredged) type; 50 fathoms off Oamaru; several Fiordland localities (15 to 58 fathoms).

Genus *Maorithyas* nov.

Shell of moderate size, thin, globose, endentulous, sulcate posteriorly, beaks prosogyrous, ligament opisthodontic, chiefly internal, but visible from without, bounded by a narrow escutcheon. Hinge plate thin, shallowly excavate behind, to accommodate the ligament. Lunules well-defined. Fine radial threads on interior of shell, exterior with concentric sculpture.

Type: *M. marama*, n.sp.

Because of its sulcation, thin shell, and resemblance in hinge characters to *Genaxinus*, *Maorithyas* is here located in the *Thyasiridae*. There are a number of similarities with *Cavatidens* Iredale, described as an endentulous Lucinid for the shells recorded as "*Thyasira*" *globosa* Forskal," but *Cavatidens* has a straighter dorsal margin, more distinct muscle impressions, is only faintly sulcate, and furthermore is described by Cotton and Godfrey, 1938, p. 199, as opisthogyrate and with a wholly anterior ligament. Why Cotton and Godfrey (1938) and Iredale (1930) orient *Thyasirids* so as to make the sulci and ligament anterior and the beaks opisthogyrous is not clear. I have followed Dall, Suter and others in orienting these shells.

***Maorithyas marama*** n.sp. (Plate 25, fig. 2)

1913. *Thyasina flexuosa* Mont. Suter, *Man. N.Z. Moll.*, p. 919 (in part);  
Atlas, pl 63, fig. 11 (not of Montagu, 1803).

Shell white, chalky without, shining within, sub-spherical, globosely-inflated, with low beaks directed forwards. A shallow but well-defined sulcus runs from beak to posterior margin and an obsolete fold and sulcus anteriorly. Dorsal margin arched, descending in front and behind, posterior margin indented at sulcus, ventral and anterior margin broadly rounded. Sculpture of irregular growth folds, locally anastomosing. Hinge plate thin and delicate, anterior part tapering backwards to behind beak, where it is overlapped by the posterior part, which widens backwards and is excavated to form a ligamental groove tapering forwards beneath the beak, bounded by a ridge-like nymph below; a crescentic narrow escutcheon on both valves extends from below the beak to the posterodorsal angle. Lunule broad, semi-circular, defined by a low fold over which growth folds

are flexed. Interior shining, with well-marked, fine, irregular radial striae, which do not crenulate the margin. Muscle scars indistinct; anterior somewhat rounded, with a small pedal scar above it, posterior rounded trigonal.

Length 18; height 17; inflation (both valves) 13.5 mm. (holotype).

Length 13.5; height 14.2; inflation (1 valve) 50 mm. (valve figured by Suter).

*Localities:* Fiordland; several localities, type from Suter collection, and many paratypes. The type is from 12 fathoms, Wet Jacket Arm, and valves are not uncommon in New Golden Hind dredgings from 2 to 58 fathoms. Anchorage, off mouth of Crooked Reach, Port Pegasus, in 5 fathoms. "Alert" expedition, November 23rd, 1947 (Dominion Museum and Geological Survey Collections). Also at Waikanae Beach, Wellington, North Island; several specimens, accompanying *T. peroviana waikanae*, n. subsp., in the Dominion Museum.

Suter had this species labelled "*Thyasira flexuosa* Mont.," and the actual valve used to illustrate *flexuosa* (Atlas, pl. 63, fig. 11) has been identified in the series from 12 fathoms, Wet Jacket Arm. There is a related form in dredgings made by the writer at the head of Deep Inlet, Auckland Islands, which will be dealt with by Mr. A. W. B. Powell in a report on subantarctic mollusca now being prepared. Small specimens of *Maorithyas* are with difficulty separated from *Genarinus olagoensis* (Suter) and the affinity of *olagoensis* with *Maorithyas* may be closer than the generic separation here adopted suggests.

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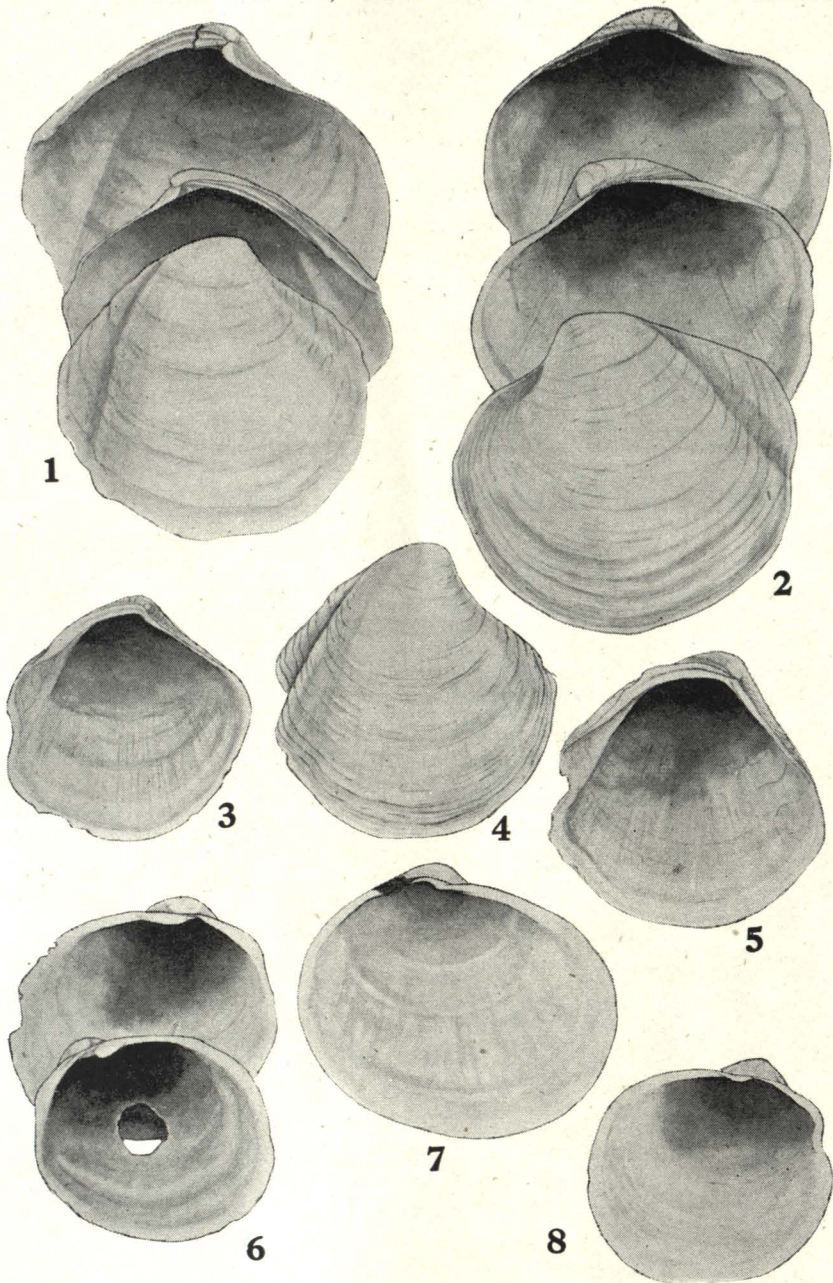


FIG. 1—*Parathyasira resupina neozelanica* Iredale. Topotypes (110 fathoms off Great Barrier Island).  $\times 5$ .  
 FIG. 2—*Maorithyas marama* n.gen. et sp. Holotype. 12 fath. Wet Jacket Arm.  $\times 2\frac{1}{2}$ .  
 FIG. 3—*Thyasira peroniana waikanae* n.subsp. Holotype. Waikanae Beach.  $\times 4\frac{1}{2}$ .  
 FIGS. 4, 5—*Thyasira peroniana peregrina* (Iredale). Topotypes. Port Pegasus, Stewart Island, in 18 fathoms.  $\times 5\frac{1}{2}$ .  
 FIG. 6—*Genaxinus cookianus* n.sp. Paratypes. G.S. Loc. 4102. Castlecliff (Upper Pliocene).  $\times 27$ .  
 FIG. 7—*Genaxinus otagoensis* (Suter). Paratype. Off Otago Heads.  $\times 17$ .  
 FIG. 8—*Genaxinus cookianus* n.sp. Holotype. Off Cape Farewell, in 27 fathoms.  $\times 30$ .  
 Magnifications approximate.