New names for four common Marginellidae (Mollusca: Gastropoda) from northern New Zealand

Bruce A. Marshall

Museum of New Zealand Te Papa Tongarewa, PO Box 467, Wellington, New Zealand.
Email: brucem@tepapa.govt.nz

Abstract

The common littoral and shallow sublittoral New Zealand species hitherto identified as Marginella pygmaea Sowerby, 1846 and M. mustelina Angas, 1871, and a Kermadec Islands species similar to M. mustelina, are considered to be specifically distinct from Australian type material of these taxa. Marginella pygmaea is interpreted as a synonym of the Australian species Mesoginella turbinata (Sowerby, 1846) and the New Zealand species is described as new, together with a similar sympatric species. A New Zealand specimen is selected as neotype of Marginella fasciata Sowerby, 1846, which becomes the name for M. mustelina of authors, and the similar Kermadec Islands species is described as new.

Introduction

The primary objective of the present contribution is to address doubts concerning the identity of two of the most common New Zealand littoral species, long known as Marginella mustelina A. Angas, 1871, and M. pygmaea Sowerby, 1846, which, it transpires, are both specifically distinct from their Australian type material. The opportunity is taken to describe a common new species of Mesoginella from the north-eastern North Island and a new species of Serrata from the Kermadec Islands. The only marginelloidean now known to be common to both Australia (New South Wales) and New Zealand (Raoul Island, Kermadec Islands) is the minute cystiscid Pugnus parvus Hedley, 1896 (Brook and Marshall 1998).

Twenty-eight species of Marginellidae are currently recognised in the New Zealand Recent fauna, although rich collections from there at Museum of New Zealand Te Papa Tongarewa contain well over twice this number (Marshall et al. in press).

Marginellids are carnivorous marine gastropods that occur worldwide at littoral to bathyal depths on soft and hard substrata. There are many hundreds of living species, and the family has a rich fossil record. In the latest revision (Coovert and Coovert 1995), the family was divided into two subfamilies, three tribes and 31 genera, and Cystiscidae was separated as a distinct family in Marginelloidea. Generic placements follow this revision, in which several taxa introduced by Laseron (1957) were newly synonymised. However, I favour the more conservative superfamilial classification of Ponder (1998a, 1998b).

Materials and methods

All New Zealand and Australian material at Museum of New Zealand Te Papa Tongarewa, Wellington (NMNZ) (registration numbers prefixed by ‘M.’) was examined, together with relevant type material at Auckland Institute and Museum, Auckland, and The Natural History Museum, London (BMNH). The height of the spire (i.e. the maximum measurable) was measured on the median shell axis from the tip of the protoconch to the suture on the last adult whorl, immediately behind the point at which the mature outer lip begins to thicken and climb adapically (expressed as a percentage of total shell height). Height precedes diameter in all given dimensions, and all measurements and radulae were taken from adult specimens.
Protoconch whorl counting follows van Osselaer (1999; fig. 10). Radulae were cleaned with an aqueous solution of potassium hydroxide, sonicated and manipulated and mounted on double-sided adhesive carbon tabs. Images of shells and radulae (coated with carbon and gold/palladium) were captured by scanning electron microscope (SEM) and digital camera (uncoated shells). Unfortunately, live material was not available for description and illustration of living animals and comments on colour and colour pattern are derived from the literature and/or preserved specimens.

Systematics

Superfamily **MURICOIDEA** Rafinesque, 1815

Family **MARGINELLIDAE** Fleming, 1828

Subfamily **MARGINELLINAE** Fleming, 1828

Tribe **AUSTROGINELLINI** Coovert & Coovert, 1995

Genus **Serrata** Jousseaume, 1875

*Serrata* Jousseaume, 1875: 167. Type species (by tautonymy): *Marginella serrata* Gaskoin, 1849; Recent, Mauritius.

*Haloginella* Laseron, 1957: 284. Type species (by original designation): *Hyalina (Volvarina) mustelina* Angas, 1871; Recent, southern Australia.

*Exiginella* Laseron, 1957: 289. Type species (by original designation): *Marginella winteri* Tate, 1878; Middle Miocene, Victoria.

**Diagnosis**

Shell 3.6–13.0 mm long at maturity, white to brown, often banded, usually cylindrical; spire low to medium; outer lip thickened, finely to coarsely denticulate, rarely smooth; external varix present; no siphonal notch, parietal callus deposits or ridge; columella with four strong plications and with or without incipient adapical fifth plication, combined occupying less than half aperture length. Head simple, diverging cephalic tentacles slender, eyes set in expanded outer bases; siphon moderately long; mantle smooth or pustulose, extending over external shell surface. Radula uniserial, teeth 13–35, short and very broad, each with 22–59 cusps.

**Remarks**

Synonymy follows Coovert and Coovert (1995: 81), as does the diagnosis, which has been emended to include species/specimens (*S. fasciata*) that lack any trace of an adapical fifth columellar plication. Other New Zealand Recent species referrable to *Serrata*, in addition to the two recorded below, are *S. albescens* (Hutton, 1873), *S. maoriana* (Powell, 1932), *S. parvistriata* (Suter, 1908) and *S. plicatula* (Suter, 1910) (Spencer et al. 2002). Several additional (undescribed) species are known from the region (NMNZ).

*Serrata fasciata* (Sowerby, 1846)

(Figs 1A, 2A)

*Marginella fasciata* Sowerby, 1846: 389, pl. 76, fig. 142. – Weinkauff, 1879: 144, pl. 20, fig. 6; Tomlin, 1917: 266.

*Volvarina rubrifasciata* Jousseaume, 1875: 221. Unnecessary replacement name for *Marginella fasciata* Sowerby, 1846, which is not preoccupied by *Persicula fasciata* Martini, 1773 (not binomial) quoted in synonymy by Schumacher (1815: 235).

*Marginella mustelina* Suter, 1913: 460, pl. 20, fig. 13 (in part not Angas, 1871; New Zealand records only).
Four common Marginellidae from NZ

8.2%–15.4% of shell height (mean 11.27; \( n \geq 12 \)). Narrowly ovate, height/width ratio 2.14–2.45 (mean 2.27; \( n \geq 4 \)). Shell 6.10–7.90 mm high and with 3.4–3.6 whorls at maturity, smooth, highly polished.

Description

Shell 6.10–7.90 mm high and with 3.4–3.6 whorls at maturity, smooth, highly polished, narrowly ovate, height/width ratio 2.14–2.45 (mean 2.27; \( n \geq 12 \)). Protoconch colourless, translucent, with 33–37 small, sharp, narrowly conical, subequal cusps (four similar radulae examined by SEM).
Four common Marginellidae from NZ

Distribution

Three Kings Islands, Cape Maria van Diemen to Spirits Bay, and north-eastern North Island as far south as Mahia Peninsula, New Zealand, 0–103 m; taken alive intertidally (under stones) to 22 m (Fig. 2).

Remarks

The original description and illustration of Marginella fasciata (Sowerby 1846: 389, pl. 76, fig. 142) are accordant with both the Australian species S. mustelina (as suggested by Tomlin 1917: 266) and New Zealand specimens long so-identified. Because type material of M. fasciata is evidently no longer extant (not at BMNH: K. M. Way, personal communication, 2003), I select a New Zealand specimen as neotype, thus conserving Sowerby’s taxon and providing a name for the New Zealand specimens, which are specifically distinct from S. mustelina. Weinkauff’s (1879) illustration is presumably a crude copy of Sowerby’s original. Jousseaume (1875) replaced M. fasciata with the name

Fig. 2. Maps of northern New Zealand showing distributions of Serrata and Mesoginella species (200 and 1000 m isobaths indicated). A, Serrata fasciata (Sowerby, 1846). B, Serrata raoulica n. sp. C, Mesoginella koma n. sp. D, Mesoginella pisina n. sp.
Volvarina rubrifasciata, which, however, was unnecessary because Sowerby’s name is not preoccupied (Tomlin 1917: 295).

Compared with syntypes (Fig. 1C) and other Australian specimens of S. mustelina (Ponder 1998, fig. 15.167C, as mustellina (sic)) (NMNZ) with adult facies in the same size range (height 6.5–7.0 mm), New Zealand specimens differ in having a more narrowly conical spire, a more evenly tapered base and in lacking an incipient adapical fifth columellar plait. New Zealand specimens differ further in having a pale yellowish brown instead of a deep reddish brown sutural line on the protoconch, in that the columellar plaits and adjacent base are white instead of reddish brown and in that the broad supramedian band is typically darker. The mantle is reportedly smooth in S. fasciata (Ponder 1970, fig. 1C), but papillate in S. mustelina (Hedley 1917: 709, pl. 50, fig. 3; Laseron 1957: 289, fig. 35).

Specimens from the Three Kings Islands (animal unknown) differ from North Island examples in being more darkly pigmented and in having a single solidly pigmented subsutural spiral band as wide as the two narrower rows of maculations of the mainland shells. Otherwise, they appear indistinguishable. Most specimens have a broad median colour band bounded by darker lines, but some North Island specimens are paler than usual and lack pigmentation between the bounding lines. The latter form is common between Te Kaha and Cape Runaway, especially at Waihau Bay, but rare elsewhere. There is complete gradation between weakly and strongly pigmented shells within populations.

Among other marginellids known from the New Zealand region (rich material NMNZ, including more than 30 undescribed species), S. fasciata is extremely distinctive in the combination of relatively large size (length up to 7.9 mm), brown colour and colour pattern. The north-eastern North Island species S. maoria (Powell, 1932) (several hundred specimens in 22 lots NMNZ), differs in details of colour pattern (Powell 1932), in attaining larger size (height up to 9.0 mm) and in having a toothless outer lip. The only other superficially similar species is described below.

Serrata fasciata has intracapsular, crawl-away development, with a single egg per capsule (Ponder 1970; Coovert 1986). Development of the other species discussed herein is unknown, but is likely to be direct also, because all have a paucispiral protoconch with a broad, bluntly rounded first whorl. It is scarcely surprising, therefore, that none of them is actually common to both Australia and New Zealand, as previous interpretations of S. mustelina and Mesoginella pygmaea suggested.

Serrata raoulica n. sp.

(Figs 1B, 2B)

Marginella mustelina Iredale, 1910: 71; Oliver. – 1915: 537 (not Angas, 1871).
Marginella (Volvarina) cf. mustelina Powell, 1932: 209, fig. 22 (not Angas).

Material examined

Holotype. NMNZ M.272600, Raoul Island, Kermadec Islands, R. S. Bell.
Paratypes. Raoul Island, Kermadec Islands: R. S. Bell (16, NMNZ M.212468); dredged from gravel, 9–37 m (2, M.214612); W side of Meyer Island, 30 m (9, M.153930).
Other material examined. Raoul Island, Kermadec Islands: off W end of Napier Island, 40 m (11, M.153894).

Description

Shell 4.10–5.05 mm high at maturity, with 2.5–3.5 whorls, smooth, highly polished, narrowly ovate, height/width ratio 2.09–2.20 (mean 2.14; n = 6); spire short, conical,
13\%–19\% of shell height (mean 15.5\%; \(n = 6\)). Protoconch translucent white, width of first half whorl 430–470 \(\mu m\). Teleoconch translucent white, with pale orange–brown bands. Immature specimens with four narrow band with broader interspaces, one bordering suture, one above and beside adapical columella plait, others between them; with increasing shell size, bands broaden until considerably broader than interspaces, median two bands coalesce through pigmentation of interspace; adapical columellar plait pale buff, other plaits, area immediately outside them and mature outer lip white. Protoconch tip bluntly rounded, merging insensibly with teleoconch. Spire whors flat; suture defined by fine line, not impressed; last adult whorl broadly and evenly convex, no anterior notch. Outer lip thickened at maturity, smooth, straight for most of its length or with slight, broad median indentation, broadly prosocyrt in profile. Columellar plaits strong, similar, plaited zone occupying approximately 46\% of aperture length. Animal unknown.

**Distribution**
Raoul Island, Kermadec Islands, 30–40 m (shells only; Fig. 2B).

**Remarks**
The shell of *S. raoulica* differs principally from that of *S. fasciata* in attaining smaller size (height 5.05 v. 8.70 mm), in having a smaller protoconch (diameter of first half whorl 430–470 v. 570–630 \(\mu m\)), in having a broader abapical colour band and in that the adapical columellar plait shares the pigmentation of the (abapical) colour band outside it, unlike *S. fasciata*, in which all the plaits are white and the abapical colour band is on the adapical side of the adapical columella plait. It differs further from *S. fasciata*, and *S. mustelina* too, in having a smooth rather than dentate outer lip.

**Etymology**
From Raoul Island.

**Genus Mesoginella** Laseron, 1957
*Mesoginella* Laseron, 1957: 282. Type species (by original designation): Marginella turbinata Sowerby, 1846; Recent, south-eastern Australia.
*Deviginella* Laseron, 1957: 283. Type species (by original designation): Marginella (Glabella) brachia Watson, 1886; Recent, Queensland.
*Hianoginella* Laseron, 1957: 288. Type species (by original designation): Marginella physa Cotton, 1949; Pliocene, South Australia.
*Simoginella* Laseron, 1957: 282. Type species (by original designation): Marginella inconspicua Sowerby, 1846; Recent, New South Wales.
*Spiroginella* Laseron, 1957: 283. Type species (by original designation): Marginella leia Cotton, 1944 = Marginella turbinata Sowerby, 1846; Recent, south-eastern Australia.
*Urniginella* Laseron, 1957: 287. Type species (by original designation): Marginella cassidiformis Tate, 1878; Middle Miocene, Victoria.

**Diagnosis**
Shell 2.5–11.0 mm long at maturity, glossy, smooth or with weak to distinct axial costae. White to yellowish–white, semi-opaque to translucen, rarely brownish–orange or with yellow bands. Narrowly to broadly obovate, obconic, biconic or broadly cylindrical, weakly to strongly shouldered. Spire of low to medium height with evenly contoured whors; aperture moderately narrow; outer lip smooth to denticate, moderately to strongly thickened, thickest medially; external varix present; weak siphonal notch present in most species; posterior notch weak to absent; ventral callusing usually absent; columella with
four strong plications occupying slightly less to slightly more than half aperture length, adapical plication remote in some species. Head simple, diverging cephalic tentacles slender, eyes set in their expanded outer bases; siphon long; mantle smooth or weakly pustulose, extending over external shell surface, foot narrow to broad. Radula uniserial, teeth 19–75, of moderate width, weakly arched, each with 9–22 strong cusps, central cusp typically strongest.

Remarks

Synonymy follows Coovert and Coovert (1995: 86), as does the diagnosis. Other New Zealand Recent species referable to *Mesoginella*, in addition to the two recorded below, are *M. aupouria* (Powell, 1937), *M. cracens* (Dell, 1956), *M. ergastula* (Dell, 1953), *M. judithae* (Dell, 1956), *M. larochei* (Powell, 1932), *M. manawatawhia* (Powell, 1937), *M. otagoensis* (Dell, 1956), *M. pygmaeciformis* (Powell, 1937), *M. tryphenensis* (Powell, 1932) and *M. vailei* (Powell, 1932) (Spencer et al. 2002). There are, however, several additional species that remain to be described (NMNZ).

*Mesoginella koma* n. sp.

(Figs 1D,E,J, 2C)

*Marginella pygmaea* Suter, 1913: 465, pl. 20, fig. 19 (in part not Sowerby, 1846; New Zealand records only).

*Marginella* (*Glabella*) *pygmaea* Powell, 1932: 205, figs 18,20 (in part not Sowerby; New Zealand records only).

*Volvarina* (*Sinuginella*) *pygmaea* Coan, 1965: fig. 4 (not Sowerby).


*Marginella* (*Sinuginella*) *pygmaea* Powell, 1979: 220, fig. 50/5 (not Sowerby).

Material examined

**Holotype.** NMNZ M.138047, between High Island and shore, Taurikura Bay, Whangarei Harbour, New Zealand, alive, 18 May 1961, W. F. Ponder.

**Paratypes.** Between High Island and shore, Taurikura Bay, Whangarei Harbour, alive (29, M.23242).

**Other material examined.** Off Three Kings Islands: 34°09.1′S, 172°08.4′E, North West Bay, Great Island, alive, 23 m (2, M.134675); 34°10′S, 172°08′E, 33 m (1, M.137972); off West Island, Eltingamite wreck, 34°11′S, 172°03′E, 37 m (3, M.137964); South East Bay, Great Island, 15 m (3, M.117189). Cape Maria van Diemen, beach (3, M.138006). Pananche Island, Spirits Bay: beach (9, M.5344; 4, M.8513; many, M.59395; 18, M.17881). Tom Bowling Bay (1, M.90546). Paremata Harbour: off Akatarere Point, 4 m (11, M.137967); Te Hapua, alive in intertidal pools in compacted mudstone platform beside wharf (11, M.49518); Te Hapua, alive, intertidal (22, M.42338). Reef Point, Ahipara (10, M.90564). Off Rangaunu Bay, 34°49.6′S, 173°15.0′E, 23 m (10, M.137957). Doubtless Bay: Cable Bay, beach (19, M.90569); Coopers Beach (1, M.138008); R.K. Dell (30, M.4232). Hihi Beach, Mangonui Harbour (1, M.21668). Bay in Stephensons Island, opposite Whangaroa Heads: 34°58′S, 173°47′E, 22–24 m (1, M.41338); 34°58′S, 173°47′E, 17–9 m (5, M.41539); beach (16, M.6051). Whangaroa: harbour entrance, main channel, 35°02′S, 173°45′E, 20 m (4, M.41098); centre of Kaouou Bay, 35°02′S, 173°45′E, 13 m (25, M.41805); Tauranga Bay (5, M.90572). Cavalli Islands, beach (5, M.6415). Bay of Islands: Deepwater Cove entrance, 35°12′S, 174°18′E, 33–46 m (1, M.138028); Deepwater Cove, 35°11′S, 174°18′E, 23–32 m (2, M.137963); 35°12.0′S, 174°16.3′E, 49 m (4, M.95747); Deepwater Cove (5, M.90551); Waewaetorea Passage, 35°12.4′S, 174°13.3′E, alive, 4 m (8, M.49334); Russell, beach (2, M.90558; 7, 112070); off Russell, 15 m (12, M.6050); 35°13.2′S, 174°17.4′E, 11–16 m (9, M.137966); Urupukapuka Bay, 35°13.2′S, 174°14.3′E, 2–4 m (4, M.36088; 2, M.44344), 2 m (6, M.39734), 4 m (23, M.41244); Oke Bay, 35°13.4′S, 174°16.1′E, 3–5 m (4, M.96038); Bamboo Bay, Moturua Island, 35°13.9′S, 174°11.3′E, 4–6 m (13, M.44029); Orakawa Bay, 35°15.4′S, 174°12.2′E, 4–6 m (4, M.35617); near Knob Point, 35°15.4′S, 174°11.5′E, 4 m (7, M.44659); Manawara Bay, 35°15.7′S, 174°12.1′E, 2–6 m (1, M.40954); Paroa Bay Point, 35°15.8′S, 174°10.4′E, 7 m (1, M.49415). S of Matapouri Bay, 35°34.8′S, 174°32.0′E, alive, 11–13 m (4, M.134398). Tutukaka, beach (17, M.90566). Whangarei Heads: beach (2, M.2974; 24,
M.90547); Taurikura Bay, alive, 2 m (4, M.138002; 13, M.42534); off Hat Island, 3 m (2, M.138009). Off NW tip of Little Barrier Island, alive, 11–15 m (4, M.108928). Leigh: beach (many, M.90576; 2, M.15606; 42, M.8822; 12, M.11116); off Panetiki Island, alive, 25 m (5, M.138022). Auckland: Cheltenham Beach (3, M.90549); Takapuna Reef (20, M.5083); Takapuna (many, M.90561); Campbell’s Bay, beach (6, M.90574). Mercury Bay, Whitianga: (24, M.20584); alive (13, M.20583). Paparoa, Coromandel, alive (4, M.90567). Off E side of Ruamahua-nui Island, Aldermen Islands, 36°57.2′S, 176°05.8′E, 38 m (1, M.137965). Mount Maunganui, beach (2, M.90548). Off Boulder Bay, Motuhora Island, alive, 11–13 m (8, M.44519); 18 m (1, M.44526). Off White Island, 37°30.6′S, 177°09.7′E, 64–69 m (10, M.137971). Motunui Rock, Omaio Bay, beach (50, M.33334). Otamaroa, Cape Runaway, beach (2, M.113575). Cemetery Point, Waihau Bay, beach (many, M.153706). Matakaoa Point, Hicks Bay, 37°34′S, 178°19′E (5, M.44623). Ranfurly Bank, East Cape: 37°35.0′S, 178°51.6′E, 39–50 m (1, M.137962); 37°38.4′S, 178°51.7′E, 79–83 m (1, M.137969).

Description

Shell 4.80–6.05 mm high at maturity, with 4.00–4.20 whorls, stout, smooth apart from minutely granulate parietal glaze, suture rather indistinct and defined by fine line, height/width ratio 1.60–1.82 (mean 1.68; n = 12), spire height 18.8%–23.7% of shell height (mean 21.8; n = 12). Protoconch translucent white, merging insensibly into teleoconch, width of first half whorl 470–450 µm. Teleoconch either translucent white, yellowish white, pale yellow or pale orange, some specimens with darker subsutural band. Spire conical, shoulder broadly rounded, spire whorls more or less flat. Outer lip strongly thickened at maturity, smooth. Anterior siphonal notch very shallowly indented. Columella plaits four, strong, zone occupied about half aperture length. Radular teeth (Fig. 1 J) broad, broadly V-shaped, cusps narrowly conical, central cusp very long, flanked on each side by six or seven smaller, more or less subequal cusps (four similar radulae examined by SEM).

Distribution

Three Kings Islands, Cape Maria van Diemen eastwards, and north-eastern North Island as far south as East Cape, New Zealand, 0–83 m; taken alive intertidally to 25 m (Fig. 2 C).

Remarks

Mesoginella koma is introduced for New Zealand Marginella pygmaea of authors not Sowerby, 1846.

Marginella pygmaea was based on a specimen without locality data, for which Powell (1932) ‘provisionally’ nominated New Zealand as type locality. However, comparison with the holotype (Fig. 1 G) reveals that New Zealand specimens differ in attaining considerably smaller size (height of largest specimen examined 7.50 v. 8.50 mm). The holotype of M. pygmaea differs further from New Zealand specimens in having a low but distinct fasciole outside the adapical columella plait and in having five low, rounded axial costae on the shoulder of the last whorl: Coovert’s (1999) contention that it is a New Zealand specimen is incorrect. The holotype of M. pygmaea is indistinguishable from weakly costate New South Wales forms of the common southern Australian species Mesoginella turbinata (Sowerby, 1846) (see Coovert 1988: 15), of which M. pygmaea is here considered to be a junior synonym (action here of the first reviser for taxa published simultaneously). The southern Australian species previously identified as M. pygmaea (May 1921, 1923) was renamed M. pygmaeoideis by Singleton (1937) on the basis of differences between Tasmanian and New Zealand specimens reported by Powell (1932).

According to Tomlin (1917), the ‘type’ of Marginella pygmaea was one of two specimens originally gummed to a tablet and was the ‘larger of the two’. Sowerby (1846), however, stated that ‘The specimen is in the collection of Mr Bell’, so the second specimen must have
been added subsequently. Accordingly, it is concluded that the type specimen (BMNH 1880.9.18.7) is the holotype rather than a syntype as stated by Kaicher (1992: 6194).

This species was recorded (as *pygmaea*) from Foveaux Strait and the Chatham Islands by Suter (1913) and Powell (1932) on the basis of specimens from A. Hamilton's collection, dating from around the early 1900s. The provenance of much of Hamilton's material is extremely dubious, most notably that described by Murdoch (1905), reputedly from 'Whangaroa', which undoubtedly originated from Stewart Island or Foveaux Strait (Powell 1942: 125; Powell 1955: 62; Marshall 1978: 80). Because *M. koma* has not been obtained subsequently south of East Cape despite extensive shore collecting and dredging (NMNZ), there can be little doubt that Hamilton's material was mislocalised, a contention supported by the fact that the species was not recorded from the Chatham Islands by Finlay (1928), Dell (1960) or Marston (1996), and is not represented in extensive collections from Foveaux Strait (or Stewart Island) formed over several decades by E. C. Smith (NMNZ).

*Mesoginella koma* is the most common marginellid off mainland north-eastern North Island, both as beached shells and living intertidally to 25 m, where it is distinctive in the combination of smooth, white or yellowish shell, 5.00–7.50 mm high (adult facies), with a moderately elevated, conical spire. For the list of material examined, I have attempted to be conservative when interpretation of the limits of variation of this species, because it seems likely that some forms in the lower part of the bathymetric range may represent one or more additional distinct, although similar, species.

**Etymology**

Pallid (Maori).

*Mesoginella pisinna* n. sp. (Figs 1F,H,K, 2D)


**Material examined**

_Holotype._ NMNZ M.138251, coast 1.6 km S of Matapouri Bay, Northland, New Zealand, 35°34.8'S, 174°32.0'E, alive, 11–13 m, 9 Feb. 1997, K. W. Burch, airlifted from steep rock face covered with red algae.

_Paratypes._ Coast 1.6 km S of Matapouri Bay, 35°34.8'S, 174°32.0'E, alive, 11–13 m (22, M.134399).

_Other material examined._ Off Three Kings Islands: Middlesex Bank, 33°57.0'S, 171°45.4'E, 98–103 m (35, M.137977); King Bank, 33°57.0'S, 172°19.0'E, 128 m (2, M.137993); King Bank, 33°57.0'S, 172°19.4'E, 128–123 m (15, M.137986); Middlesex Bank, 33°59.9'S, 171°45.3'E, 186–196 m (1, M.137983); Middlesex Bank, 34°01.2'S, 171°44.4'E, 206–211 m (4, M.137978); Middlesex Bank, 34°02.0'S, 171°44.0'E, 246–291 m (2, M.138046); Middlesex Bank, 34°02.1'S, 171°45.8'E, 221–206 m (1, M.137973); 22 km ENE of Great Island, 34°05.0'S, 172°24.6'E, 200 m (2, M.137976); off North East Island, Great Island, 34°08.5'S, 172°11.1'E, 102 m (16, M.34513); off Prince's Rocks, 34°10.0'S, 172°08.0'E, 14 m (1, M.49804); North West Bay, Great Island, 34°09.1'S, 172°08.4'E, alive, 23 m (many, M.134674); South East Bay, Great Island, 34°09.5'S, 172°08.8'E, alive, 13–15 m (6, M.134897); South East Bay, 34°09.5'S, 172°08.8'E, alive, 20–22 m (42, M.134684); inner South East Bay, 34°10.0'S, 172°08.2'E, 27 m (1, M.137991); off N face of Hinemoa Island, 34°10.8'S, 172°02.6'E, 23 m (2, M.137982); S of Great Island, 34°14.1'S, 172°09.0'E, 192–202 m (2, M.137974); 28 km S of Great Island, 34°24.0'S, 172°16.8'E, 120 m (3, M.138033). Spirits Bay: beach (19, M.137995); W side of Pananehe Island, beach (16, M.137999). Off Akatarere Point, Parengarenga Harbour, 34°22.2'S, 173°03.0'E, 4 m (3, M.41305). Cable Bay, Doubtless Bay (6, M.137988). Matai Bay reef, Karikari Peninsula, 34°50.0'E, 173°25.5'E, 42 m (1, M.138021). Bay in Stephensons Island, opposite Whangaroa Heads: 34°58.5'S, 173°47.2'E, 22–24 m (7, M.41337); 34°58.5'S, 173°47.2'E, 17–9 m (2, M.41540). Immediately outside Whangaroa Harbour entrance, 35°00.35'S, 173°45.7'E, 25 m (3, M.137992). Bay of Islands: Deepwater Cove, 35°11.6'S, 174°18.1'E, 23–32 m (3, M.137989); near Knob Point, 35°15.4'S, 174°11.5'E, 4 m (1, M.44663); 35°10.5'S, 174°19.3'E, 36–53 m
Four common Marginellidae from NZ  Molluscan Research  17

(1, M.95681); between and N of Black Island and Moturoa, 35°12′S, 174°06′E, 31 m (3, M.41631); Oke Bay, 35°13′S, 174°16′1″E, 3–5 m (1, M.137987); Rawhiti Channel, 35°13′9″S, 174°15′5″E, alive, 3–5 m (9, M.95803); off Porororo Island, 35°13′9″S, 174°13′1″E, alive, 6–7 m (1, M.43989). Poor Knights Islands: Northern Arch, Te Araara Point, 35°27′S, 174°44′E, 50 m (1, M.138015); Middle Arch, Tawhiti Rahi, 35°28′S, 174°44′E, 30 m (5, M.119466); South Harbour, Aorangi Island, 35°29′S, 174°44′5″E, alive, 25 m (3, M.138020); off The Pinnacles, 46 m (1, M.44718). Whangarei Heads: between High Island and shore, Taurikura Bay, alive (12, M.138023); Taurikura Bay, alive, 2 m (15, M.138003). Little Barrier Island: Waimaomao Bay, 36°10′5″S, 175°06′0″E, 10 m (1, M.138012); off Sugar Loaf, 36°10′7″S, 175°07′0″E, 24 m (2, M.138011). Leigh: North Reef, off NW tip of Goat Island, 18 m (2, M.49572); beach: (many, M.137960; 4, M.138044; 7, M.138040; 6, M.138039). Off Cape Rodney, 36°17′0″S, 174°49′5″E, alive, 20 m (5, M.138013). Off E side of Ruamahua-nui Island, Aldermen Islands: 36°57′2″S, 176°05′8″E, 38 m (3, M.112742); 36°57′3″S, 176°06′0″E, alive, 33 m (3, M.138010). Off White Island: 37°30′5″S, 177°09′7″E, 64–69 m (many, M.137994); 37°30′6″S, 177°09′7″E, 73–59 m (many, M.137990); 37°30′6″S, 177°09′7″E, 64–69 m (7, M.137996). Motunui Rock, Omaio Bay, beach (7, M.138043). Otamaroa, Cape Runaway, beach (15, M.138042). Cemetery Point, Waihau Bay, beach (many, M.137958). Matakoia Point, Hicks Bay (4, M.138041). Ranfurly Bank, East Cape: 36°32′8″S, 178°48′7″E, 94 m (5, M.60756); 36°33′1″S, 178°49′5″E, 94–89 m (5, M.74685); 37°33′2″S, 178°50′3″E, alive, 76–71 m (many, M.72662); 37°35′0″S, 178°51′6″E, alive, 39–50 m (21, M.60882); 37°35′8″S, 178°52′7″E, 49 m (6, M.65459); 37°36′3″S, 178°53′1″E, 74 m (1, M.60923); 37°37′8″S, 178°52′4″E, 50–72 m (many, M.137997); 37°38′4″S, 178°51′7″E, 79–83 m (many, M.137998). Cemetery Point, Mahia Peninsula (2, M.138075).

Description
Shell 3.60–5.50 mm high at maturity, with 3.25–4.50 whorls, stout, broadly ovate, smooth apart from minutely granulate parietal glaze, suture rather indistinct and defined by fine line, height/width ratio 1.47–1.62 (mean 1.52; n = 14), spire height 14%–21% of shell height (mean 18.2; n = 14). Protoconch transluscent white. Teleoconch uniform translucent white; or suture bounded by narrow white (adapical) and orange bands, base outside abapical three columella plicae and apertural rim opaque white, elsewhere pale translucent orange or buff, paler at periphery, or white. Protoconch bluntly rounded, merging insensibly into teleoconch. Spire broadly conical, shoulder broadly rounded, spire whors more or less flat. Outer lip strongly thickened at maturity, smooth. Anterior siphonal notch very shallowly or not indented. Columella plaits four, strong, zone occupied about half aperture length. Radular teeth (Fig. 1K) broadly V-shaped, cusps sharp and narrowly conical, central cusp large, five or six smaller, subequal cusps on each side (five similar radulae examined by SEM).

Distribution
Three Kings Islands, Spirits Bay, and north-eastern North Island as far south as Mahia Peninsula, New Zealand, 0–291 m; taken alive at 2–76 m from rocky substrata with Bryozoa and shell (Fig. 2D).

Remarks
Compared with Mesoginella koma, M. pisinna differs in attaining smaller size (height of largest specimen seen 5.50 v. 7.50 mm) and in being smaller relative to the total number of whors (shells with four whors adult and approximately four mm high v. subadult and approximately five mm high). From examination of contracted, preserved, recently collected specimens taken together at the type locality of M. pisinna, M. pisinna differs further from M. koma by having darker, much more numerous pigmentation spots. In comparing living specimens taken together at Whangarei Heads, Ponder (1970) observed that living specimens of M. pisinna (as M. tryphebrensis Powell) differed from M. koma (as M. pygmaea) by having more dark pigmentation and the yellow pustules on the mantle more
distinctly raised. *Mesoginella koma* occurs throughout most of the geographic range of *M. pisinna* and is uncommon deeper than 20 m, whereas *M. pisinna* ranges deeper and is common from approximately 2–80 m on appropriate substrata. As with *M. koma*, for the list of material examined, interpretation of the limits of variation of this species is conservative, because it seems likely that some forms in the lower part of the bathymetric range represent several additional distinct, but similar, species.

Compared with *M. aupouria* (Powell, 1937), adults of which may be of equivalent size, although usually larger, *M. pisinna* differs by having a higher, more narrowly conical spire and a considerably thinner outer lip at maturity. *Mesoginella aupouria* is known only from off the Three Kings Islands at 100–805 m (11 lots NMNZ; holotype BMNH 19621061). The sympatric (but asyntopic) species *M. tryphenensis* (Powell, 1932) is more superficially similar, being narrower, consistently white, with a shorter spire, a smaller protoconch and a weak but distinct fasciole outside the adapical second columellar plect (Fig. 1G).

During the present study, specimens of *M. pisinna* and *M. koma* were found mixed together in many samples identified as *M. pygmaea*, and the two species have been taken living together at several localities at 2–13 m depth.

**Etymology**

Small (Latin).

**Discussion**

The recognition of different species on opposite sides of the Tasman Sea is not surprising given that endemism among New Zealand molluscs is extremely high, more than 86% of recorded marine species being endemics (Spencer et al. in press). This is particularly likely in taxa having direct development. *Serrata fasciata* has intracapsular, crawl-away development, with a single egg per capsule (Ponder 1970; Coovert 1986). Although development of the other species discussed here is unknown, it seems likely to be direct also, because all have a paucispiral protoconch with a broad, bluntly rounded first whorl. It is scarcely surprising, therefore, that none of them is actually common to both Australia and New Zealand, as previous interpretations of *S. mustelina* and *Mesoginella pygmaea* suggested. The only marginelloidean now known to occur on both sides of the Tasman Sea is the minute cystiscid *Pugnus parvus* Hedley, 1896 (New South Wales and Kermadec Islands; Brook and Marshall 1998).

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**References**


