

THREE NEW EPITONIIDS (GASTROPODA: EPITONIIDS) FROM NE TAIWAN

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ABSTRACT—Three epitoniids were the trawled from the northeastern waters of Taiwan. They differ from all other species of the subgenera *Scalina*, *Variciscala* and *Parviscala*. They are herein reported as new species, *Amaea (Scalina) flammea*, *Amaea (Variciscala) rubigosola* and *Epitonium (Parviscala) duocamurum*.

KEY WORDS: Gastropoda, Epitoniidae, new species, Taiwan

INTRODUCTION

From late 1995 to early 1996, more than 60 wentletrap species were taken by shrimp trawlers off northeastern Taiwan. Two new species were reported in 1998 (Lee & Wu, 1998). Some unidentified species in that catch were not in good condition. However, in late 1998, a few good specimens were dredged from the same area, and their taxonomy described in this paper. After studying some species in subgenera *Scalina*, *Variciscala* and *Parviscala*, I identified three new species, *Amaea (Scalina) flammea*, *Amaea (Variciscala) rubigosola* and *Epitonium (Parviscala) duocamurum*.

MATERIALS AND METHODS

Dozens of *A. flammea* and *E. duocamurum* were dredged by shrimp trawlers from the seabed at about 250-300m depth off Kueishan Island area near Ilan, northeastern Taiwan. Two specimens of *A. rubigosola* were

collected from the crop of a shrimp drying factory. This crop was trawled from the seabed around Kueishan Island at a depth of about 50-100m. The other two specimens of *A. rubigosola* were provided by Mr. Ming-Hui Lin. They were compared with allied species of the same genus.

TAXONOMY

Family Epitoniidae Berry, 1810
Genus *Amaea* H. & A. Adams, 1853
Subgenus *Scalina* Conrad, 1865

Amaea (Scalina) flammea n. sp.
(Fig. 1A-1C)

Shell: medium sized when compared with other members of this genus, elongated. Surface reticulated with axial laminate costae and 4-5 major spiral cords. There are 56-61 laminate costae, which broaden under the suture and recurved edge in the penultimate whorl, with 4-9 secondary axial costae, which

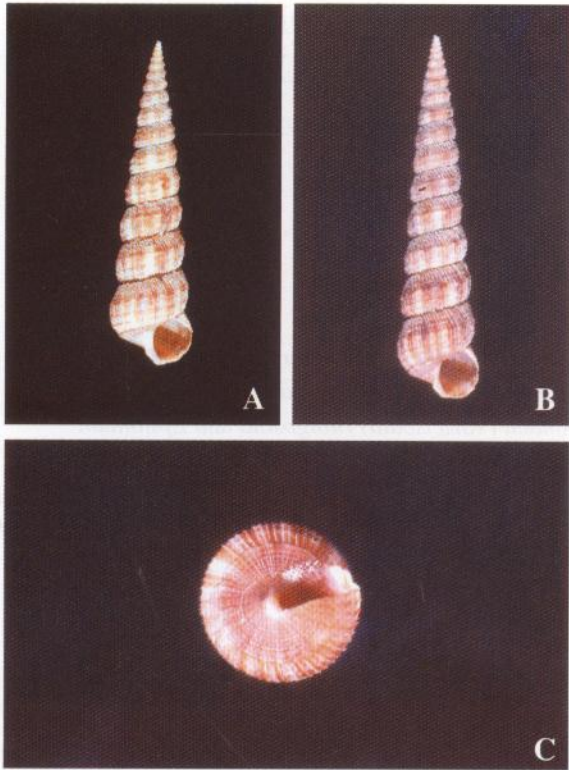


Fig. 1A-C: *Amaea (Scalina) flammea* n. sp. —A, Ventral view of holotype (SL: 28.2mm, SW: 7.4mm). —B, Ventral view of paratype 1 (SL: 31.3mm, SW: 7mm). —C, Basal view of paratype

cross over the major spiral cords. There are also several secondary and tertiary spiral cords between the major cords. The brown basal disk is prominent, sometimes with white blotches along the edge. Teleoconch with 15-18 whorls in type specimens, protoconch missing. Color tan, interlard with irregular red brown stripes. Aperture oval, columellar tan.

Type locality: Off Kueishan Island, 250-300m deep, NE Taiwan, dredged by shrimp trawlers.

Measurement: holotype- SL: 28.2mm, SW: 7.4mm; paratype1- SL: 31.3mm, SW: 7mm; paratype2- 29.55mm, SW: 7.25mm.

Inventory: holotype- NMNS 3515001, National Museum of Natural Science, Taichung, Taiwan; paratype1- G981027-3, in

author's collection; paratype2- NMNS 3515002, National Museum of Natural Science, Taichung, Taiwan.

Etymology: The species is named for the flamelike pattern on the whorls.

Subgenus *Variciscala* de Boury, 1909

Amaea (Variciscala) rubigosola n. sp. (Fig. 2A-C)

Shell: small to medium size, acuminate, fragile, tan color, purplish brown at base and just above suture. Three-whorl protoconchs are smooth and conical in shape, teleoconch with about 9 whorls, convex. Axial costae 19-22 in number, dull white and rounded, variable in strength, interval of 14-16 spiral cords. Aperture oval, columella white, without basal ridge or umbilicus.

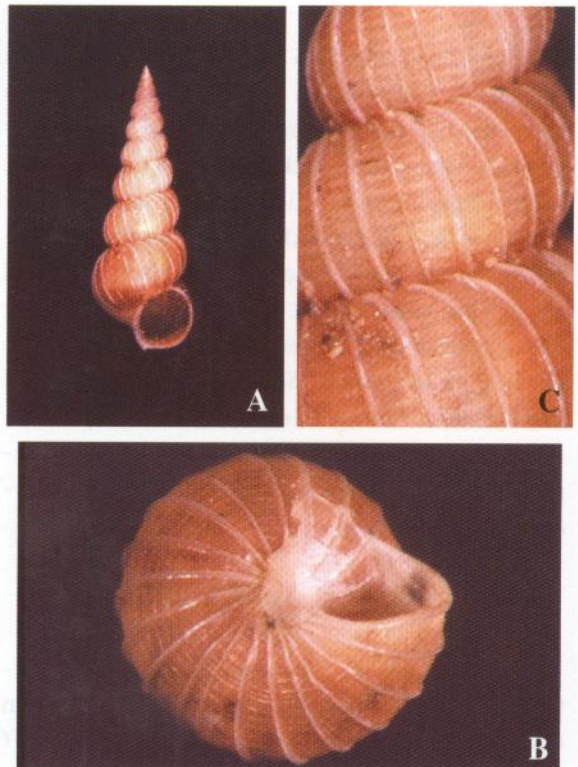


Fig. 2A-C: Paratype 1 of *Amaea (Variciscala) rubigosola* n. sp. —A, Ventral view (SL: 15mm, SW: 5.25mm). —B, Basal view. —C, enlargement of surface sculpture.

Type locality: Off Kueishan Island area, at 50-100m deep, dredged by shrimp trawlers.

Measurement: holotype- SL: 12.75mm, SW: 5mm; paratype1- SL: 15mm, SW: 5.25mm; paratype2- SL: 14.0mm, SW: 5.4mm; paratype3- SL: 12.2mm, SW: 3.8mm with a hole.

Inventory: holotype- NMNS 3516001, National Museum of Natural Science, Taichung, Taiwan; paratype1- G980912-19, in author's collection; paratype2- Mr. Lin, Ming-Hui's collection; paratype3- Mr. Lin, Ming-Hui's collection.

Etymology: The species is named rust (rubigo) and base (solum), due to its purplish brown carina.

Genus *Epitonium* Roeding, 1798

Subgenus *Parviscala* de Boury, 1887

Epitonium (Parviscala) duocamurum n. sp. (Fig. 3A-3C)

Shell: Elongated, white and fragile, with 38-43 erect costae, which peaked near the suture and recurved edge, at both ends of costae, with about 22 visible spiral cords diminishing toward the suture. Spiral cords crossing over costae make them slightly serrated, microscopic spiral cords at base. Body whorl, with reflexed costae at base, forming a ridge around base. Apex missing, teleoconchs 12-13 whorls in type specimens. Aperture oval, without an umbilicus.

Type locality: Off Kueishan Island area, 250-300m deep, NE Taiwan, dredged by shrimp trawlers.

Measurement: holotype SL: 31.3mm, SW: 9.35mm; paratype1- SL: 31.45mm, SW: 9.6mm; paratype2- 21.55mm+, SW: 9.4mm (spire broken).

Inventory: holotype- NMNS 3517001, National Museum of Natural Science, Taichung, Taiwan; paratype1- G981027-2, in

author's collection; paratype2- NMNS 3517002, National Museum of Natural Science, Taichung, Taiwan.

Etymology: The species is named two (duo) and turned inward (camur) for the shepe of costae.

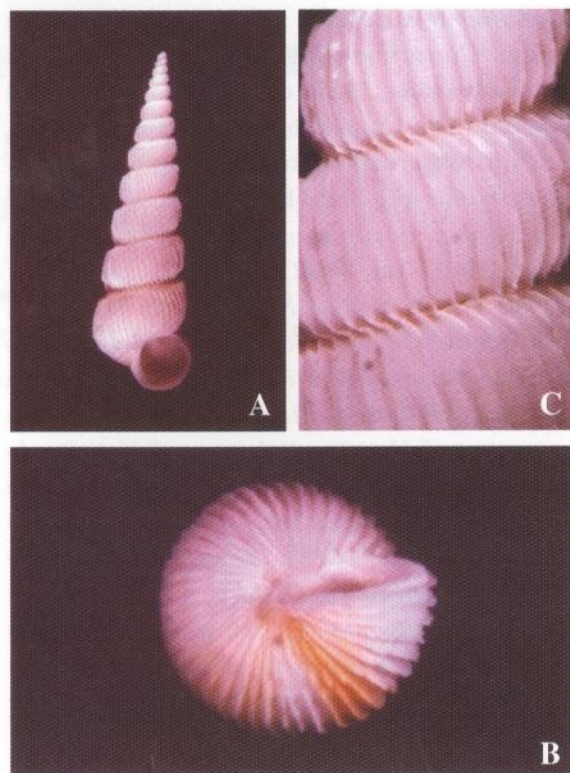


Fig. 3A-C: Paratype 1 of *Epitonium (Parviscala) duocamurum* n. sp. — A, Ventral view (SL: 31.45mm, SW: 9.6mm). — B, Basal view. — C, enlargement of surface sculpture.

DISCUSSION

The new species *A. flammea* is very similar to *Amaea splendida* (de Boury, 1913) (Fig. 4A-4B), except that its shell is much darker with sharper color pattern, it has fewer major spiral cords and its axial costae have a thicker laminate.

Kilburn (1985) described *Amaea (Filiscalca) youngi*, and treated *Filiscalca* as a subgenus of *Amaea*. He proposed that the type

species of *Filiscala* has similar varices to that of *Amaea*. Weil et al. (1999) also considered *Filiscala* a subgenus of *Amaea*, and *Variciscala* a valid genus in his Wentletrap book. However, occasional varices also occur in either *Variciscala raricosta* (the type species of the genus *Variciscala*) and *Cirsotrema varicosum* (the type species of the genus *Cirsotrema*). The occasional varices probably occur due to cessation in growth and increase shell mass in the bed environment, such as observations of the aperture track of *Littoraria scabra* (Linnaeus, 1758) and *Cerithidea rhizophorarum* A. Adams, 1854 (Yeh, 1991; Tai, 1992). I believe the lack of basal cords makes *Filiscala* much more similar to *Variciscala*, but the similarities among *Filiscala*, *Variciscala* and *Amaea* can not be overlooked. *Filiscala* is regarded as a synonym of *Variciscala* here, and *Variciscala* as a subgenus of *Amaea*. The members of the subgenus *Variciscala* are *Amaea (Variciscala) martini* (Wood, 1828), *Amaea (Variciscala) grossicingulata* (de Boury, 1913), *Amaea (Variciscala) youngi* (Kilburn, 1985), *Amaea (Variciscala) ferrugineus* n. sp. and probably *Epitonium (Sodaliscala) inexpertum* (de Boury in Brown et Weil, 1999).

A. martini (Wood, 1828), *A. grossicingulata* (de Boury, 1913) and *A. youngi* (Kilburn, 1985) are similar to *A. rubigosola* n. sp., but with a narrow umbilicus and are all white. *Epitonium (Sodaliscala) inexpertum* (de Boury in Brown et Weil, 1999) is another ally, but has 25 axial costae versus 19-20 costae for this species (Weil, A., et al. 1999). In addition, there are a few more spiral cords in the present species than in *E. inexpertum*.

Epitonium (Parviscala) duocamurum is assigned to the subgenus *Parviscala* by its hooked costae and visible cords between the costae. But it is too big to place in the subgenus. This species is very similar to *Epitonium (Parviscala) subtile* (Sowerby, 1844), but the present species is larger in size

with fewer axial costae, and without spiral cords at the base.

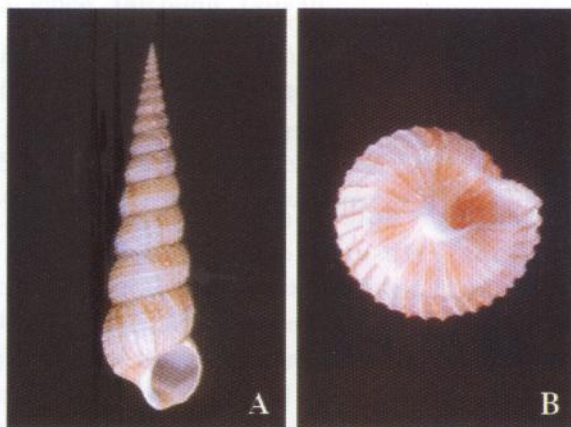


Fig4A-B: *Amaea splendida* (de Boury, 1913). —A, Ventral view. —B, Basal view.

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台灣東北角海域產三種新種海蝸螺

李彥鈺

摘要

捕撈於台灣東北角龜山島附近海域的三種海蝸螺科貝類，分別屬於 *Scalina*、*Variscala* 及 *Parviscala* 亞屬，經比對其他同亞屬相似的貝類之後，發現有別於其他同亞屬的海蝸螺，定名為新種分別為 *Amaea (Scalina) flammea*、*Amaea (Variscala) rubigosola* 與 *Epitonium (Parviscala) duocamurum*。

關鍵字：腹足綱、海蝸螺科、新種、台灣。