



Short Communication

NEW RECORDS OF THREE MINUTE GASTROPODS FROM WEST COAST OF INDIA

INTRODUCTION

In this article most of the species are very minute, tiny and difficult to identify but bold with minute sculptures which are collected and dredged from the deep sea shell sand along the coast of Karnataka mainly from West Coast of India.

Attempts have been made here to elucidate some large complicated family of algal feeder or parasitic gastropods bearing elongate and tapering, often minute and usually glossy shells. Some animals, which lack a radula, feed by sucking blood and fluids from the bodies of its invertebrate host with which it is always closely associated when alive. Most of the species are recorded from the west coast of India are known from empty shell, their hosts being unknown, the differences between species are often slight, so their identification is often a matter for the specialists. Morphological characters are here reckoned for confirmation up to species level.

The species which are documented here are all new records from India.

During the identification of unnamed collections of the National Zoological Collections, the authors encountered with these minute shells which are dredged and collected from the coast of Karnataka near Gongoli estuary about 20 km within the sea.

MATERIALS AND METHODS

All the samples were collected by bottom trawlers at an average depth of 100m off the Karnataka coast (13° 37' N and 74° 28' E to 13° 39' N and 74° 28' E), India. Morphometric measurements were recorded to the nearest millimetre using a digital Vernier calliper. All the specimens are deposited in Zoological Survey of India as National Zoological Collection specimens. The materials were identified following the criteria of Bosch (1995).

STUDY AREA:



Family CHILODONTIDAE

Extensive, worldwide family of small deep water species with conical or globose shells having a flat or convex base and an oval aperture. Often brightly coloured and boldly patterned. These shells are predominantly sand dwellers browsing algae. This family previously in the superfamily Neritoidea in the order Neritopsina and the superorder Neritaemorphi. This species also previously under the family-Trochidae (Bosch,1995) but later on it was placed on the above mentioned family by (Bouchet & Rocroi, 2005). This family represented by 18 genera and 21 species worldwide of which *Vaceuchelus angulatus* (Pease) is the new record from Indian waters.

Class GASTROPODA

Subclass VETIGASTROPODA

Superfamily SEQUENZIOIDEA

Family CHILODONTIDAE

Genus *Vaceuchelus* Iredale1. *Vaceuchelus angulatus* (Pease)

1868. *Euchelus angulatus* Pease, *Am. J. Conch.* 3(4): pl. 23.

2006. *Vaceuchelus angulatus*: Poppe, Tagaro and Dekker. *Visaya Supplement*, 2: 47.

2012. *Vaceuchelus angulatus*: Herbert. *African Invertebrates*, 53(2): 381–502.



Fig. 1. & Fig. 2. *Vaceuchelus angulatus* (Pease)

Material Examined: 3 examples; Karnataka: Gangoli Estuary, Station S1: 13° 37' 31.26" N and 74° 28' 58.83" and Station S2: 13° 36' 3.24" N and 74° 29' 1.94" E about 20 km inside the sea; Date Of collection: 25.02.2007; Name of Collector: A.K. Mukhopadhyay and party.

Measurements (in mm):

Length	Width
10.10	4.30
8.55	4.00
8.00	3.85

Distribution: India: Karnataka. *Elsewhere:* North West Gulf, South West Gulf, Gulf of Oman, Mascot, Central and east Indian Ocean, French Polynesia (Tauamotu Archipelago), Philippines, Fiji, New Zealand : Kesmerder Island.

Remarks: 10-8 mm thick, ovate–conical, about 5 whorls, almost circular aperture and no umbilicus. Keeled spiral cords crossed by strong axial ribs produce series of deep, elongate pits; columella smooth. White; aperture white. Habitat: under rocks.

Subclass CAENOGASTROPODA

Order LITTORINIMORPHA

Superfamily RISSOIDEA

Family RISSOINIDAE

Genus *Stosicia* Brusina

Family RISSOINIDAE

Rissoinidae is a large family. Small or tiny gastropods with conical shells, smooth or variously sculptured, having an aperture usually shorter than the spire. The operculum is usually oval, may be thin or thick and may bear a peg on its inner surface. This marine gastropods are very minute sea snails in the clade Littorinimorpha. 20 species has been recorded from the world of which 4 are fossil. The animals feed on algae and diatoms and are common intertida land beached. Indian members of this family have been little studied and identification of this family is very difficult.

2. *Stosicia annulata* (Dunker)

1860. *Rissoina annulata* Dunker, *Neuejapanische Mollusken. Malakozoologische Blätter*, 6: 235.

1995. *Stosicia annulata*: Donald Bosch, Peter Dance, Robert Moolenbeek and Oliver, *Sea shell of Eastern Arabia*: 48, pl. 136.



Fig. 3 & 4. *Stosicia annulata* (Dunker)

Material Examined: 4 examples; Karnataka; Gangoli Estuary, Station S3: 13° 34' 12.90" N and 74° 28' 57.36 E and S4: 13° 39' 41.17 N and 74° 24' 51.22 E about 20km inside the sea, Date Of collection: 25.02.1007; Name of Collector: A.K. Mukhopadhyay and party.

Measurements (in mm):

Length	Width
4.40	1.50
3.85	1.00
2.00	0.50

Distribution: India: Karnataka. *Elsewhere:* Eastern Arabia, North West Gulf, South East Gulf, Gulf of Oman, Mascot, Indo-China, Central and East Indian Ocean, East Africa.

Remarks: 4 to 2 mm thick, semi translucent, elongate-ovate, outer lip thickened behind, flat topped protoconch of about 3 smooth whorls. Bold, sharp spiral keels (6 on the last whorl), white. Habitat: intertidal pools and in shell sand. (Bosch, 1995)

Superfamily EPITONIOIDA

Family EPITONIDAE

Genus *Epitonium* Roeding

Members of this large family of warm water, parasitic species, popularly known as wentle traps, occur on or under sea-anemones and other coelenterates and within the sponges. Males when young but becoming female ultimately, they lay strings of eggs. Some are known to emit a purple dye for defensive purposes. Most of them colourless, translucent shells with round aperture

and high spire, the whorls often buttressed by thin or thick.

3. *Epitonium lyra* (Sowerby, 1844)

1844. *Scalaria lyra* Sowerby, *Thes. Conch.* 4: pl. 33. figs. 38, 39.

1995. *Epitonium lyra*: Donald Bosch, Peter Dance, Robert Moolenbeek and Oliver, *Sea shell of Eastern Arabia*: 48, pl. 136.



Fig. 5 & 6. *Epitonium lyra* (Sowerby)

Material Examined: 3 examples; India: Karnataka: Gangoli Estuary station S3: 13° 34' 12.90" N and 74° 28' 57.36" E about 20km inside the sea. Date Of collection: 25.02.2007; Name of Collector: A.K. Mukhopadhyay and party.

Measurements (in mm):

Length	Width
7.80	3.00
7.00	2.90
6.80	2.50

Distribution: India: Karnataka. *Elsewhere:* Gulf of Oman.

Remarks: 8 to 7mm, high spire, broad based; with deep sutures; Spire whorls bear fragile, often worn Oblique ribs from 25 and above on last whorls, strongly reflected at sutures where they interleave; fine irregular spiral threads between ribs. Reflected inner lip partly obscures deep umbilicus. White with two strong spiral, pale brown bands; ribs and base white. Habitat: offshore within sponges.

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