



## Short Communication

### Range extension of *Filifusus manuelae* (Bozzetti, 2008) (Neogastropoda: Fascioliariidae) to Indian waters

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The present paper documented the first report of *Filifusus manuelae* (Bozzetti, 2008) from the Indian waters. Also, this is the second report from the Indian Ocean apart from its type locality, Madagascar. Two empty shells were collected from the Mandapam group of Islands, Gulf of Mannar.

**[Keywords:** Fascioliariidae, *Filifusus manuelae*, Gulf of Mannar, Indian Ocean, New record]

## Introduction

The fascioliariid gastropods are small to very large in size, carnivores, feeding on the worms and clams; mostly occurring in the deep waters<sup>1</sup>. The family Fascioliariidae is divided into three subfamilies<sup>2</sup>, viz. subfamily Fascioliariinae, Fusiniinae and Periterniinae. The subfamily Fascioliariinae consists of fourteen genera, including fossil species<sup>3</sup>. The *Filifusus* Snyder, Vermeij & Lyons, 2012 is one of the recently described genera of this subfamily<sup>3</sup>. This genus is characterized by moderate sized, slender fusiform shell, numerous and sharp spiral cords, prominent entrance fold, with very innumerable lirae on the inner side of the outer lip (up to 50 in *F. filamentosus*), lacking abapical fold along the inner side of the siphonal canal, and the sharp keel like entrance fold to the siphonal canal<sup>3</sup>. There are five valid species in the genus *Filifusus*<sup>3</sup>, and these are *Filifusus altimasta* (Iredale, 1930); *F. filamentosus* (Röding, 1798); *F. glabra* (Dunker, 1882); *F. inermis* (Jonas, 1846) and *F. manuelae* (Bozzetti, 2008). From the Indian region, only one species, *F. filamentosus* (Röding, 1798) is reported so far from the Andaman

and Nicobar Islands, Lakshadweep Islands, and Tamil Nadu coast<sup>1,4-10</sup>.

## Material and Methods

One empty shell (MARC/ZSI M6788), collected on 05.09.2019, from Mandapam beach (09°16.505' N; 79°08.636' E), and another empty shell (MARC/ZSI M6789), collected on 06.09.2019, from Palk Bay (09°17.094' N; 79°07.813' E), Gulf of Mannar. The shells are dry preserved in a sample container and are deposited at the National Zoological Collections (NZC) of Marine Aquarium and Regional Centre (MARC), Zoological Survey of India (ZSI), Digha, West Bengal. The photographs were taken with Sony Digital camera (DSC Hx400v with GPS), and the measurements (in millimeter) were taken with Vernier caliper (Mitutoyo, Japan). The plate (Fig. 1) was prepared in Adobe Photoshop using lasso tool for removing the background. The description and classification follow Bozzetti<sup>11</sup> and Bouchet *et al.*<sup>2</sup> respectively.

## Results

The collected specimens were thoroughly examined and identified as *Filifusus manuelae* (Bozzetti, 2008); its distinct morphometric characters and detailed classifications are discussed hereafter.

## Systematics

Order: Neogastropoda Wenz, 1938  
Superfamily: Buccinoidea Rafinesque, 1815  
Family: Fascioliariidae Gray, 1853  
Subfamily: Fascioliariinae Gray, 1853  
Genus: *Filifusus* Snyder, Vermeij & Lyons, 2012  
*Filifusus manuelae* (Bozzetti, 2008) (Fig. 1)  
Holotype locality- Southern Madagascar

## Synonyms

*Pleuroploca manuelae* Bozzetti, *Malacologia Mostra Mondiale* 58 (2008), p. 8, Fig. 1.

## Description

Shell medium sized with respect to genus, height 100 – 102 mm, maximum width 36 – 35 mm, and percentage of height with respect to width is 34 – 37, fusiform broad and massive. Protoconch had broken in present specimens, teleoconch of 8 convex whorls,

evident after the 3rd whorl, a straight or slightly concave subsutural ramp. Axial sculpture consisting of 10 rounded ribs per whorl, covering the total coil height on the first 4 whorls, vanishing or becoming shorter, sub angulate and confined to the shoulder; very feeble and fit incremental striae, irregularly spaced, between the axial ribs. Spiral sculpture of 10 rounded cords on the subsutural ramp made wavy by the axials, the adapical one marginating the suture. About 20 spiral cords, adapical one larger, on the basal area and siphonal canal; suture incised, irregularly undulated, aperture elliptical, axially elongate, gently joining the siphonal canal, with a moderately deep “V” shaped anal sinus, separated from the labium by a rounded spiral denticle followed

by 2 or 3 minor ones. Inside of aperture densely lirate on the outer lip side, lirae not reaching the labrum and impeaching to the interior, secondary lyrations odd present starting more inside; a fine micro-lyration in the interspaces of primary and secondary ones. Columella is uniformly concave, smooth except for three oblique plicae at the base, the lower one is stronger and prosecuted as an elongated pad to the left edge of the siphonal canal. Columellar and parietal calluses moderately developed and adherent. Siphonal canal open, moderately long, straight, slightly oblique to the left, barely notched at the base, operculum not examined. First 2 teleoconch whorls whitish, rest of teleoconch uniformly brown stained, interspaces between spiral cords covered by darker brown spiral lines. Inside of the mouth and siphonal canal, columellar and parietal calluses beige, the internal edge of outer lip shows a similar colour and pattern of the external surface, while the primary and secondary lyrations are orange-brown coloured; the base of the siphonal canal interiorly dark brown. Periostracum brown or dark brown.

#### Distribution

This species is only known from Southern Madagascar (holotype locality)<sup>3,11</sup>. The present report is from the Gulf of Mannar, India.

#### Discussion

This document is the first ever report of *Filifusus manuelae* from the Indian waters (Gulf of Mannar). This report is also, the second report in the Indian Ocean region as it is previously reported only from Madagascar by Bozzetti<sup>11</sup>. Compared to the height, the second specimen (Fig. 1e – h) reported is wider than the first specimen (Fig. 1a – d). So, the second specimen may be a female as it bears a wider body whorl. Detailed measurements are provided in Appendix 1. Present species is compared with the closely related and previously reported species, *F. filamentosus* from this locality. It is very clear that *F. filamentosus* have more prominent tubercles at the shoulder, stronger spiral sculpture occupying the whole surface, a more developed siphonal canal and bigger size than the present species. Present species is more similar with congener Japanese species *F. glabra*, but differs in having subangulate shoulder, more inflated teleoconch whorl, more developed axial sculpture, and smaller average size<sup>11</sup>.

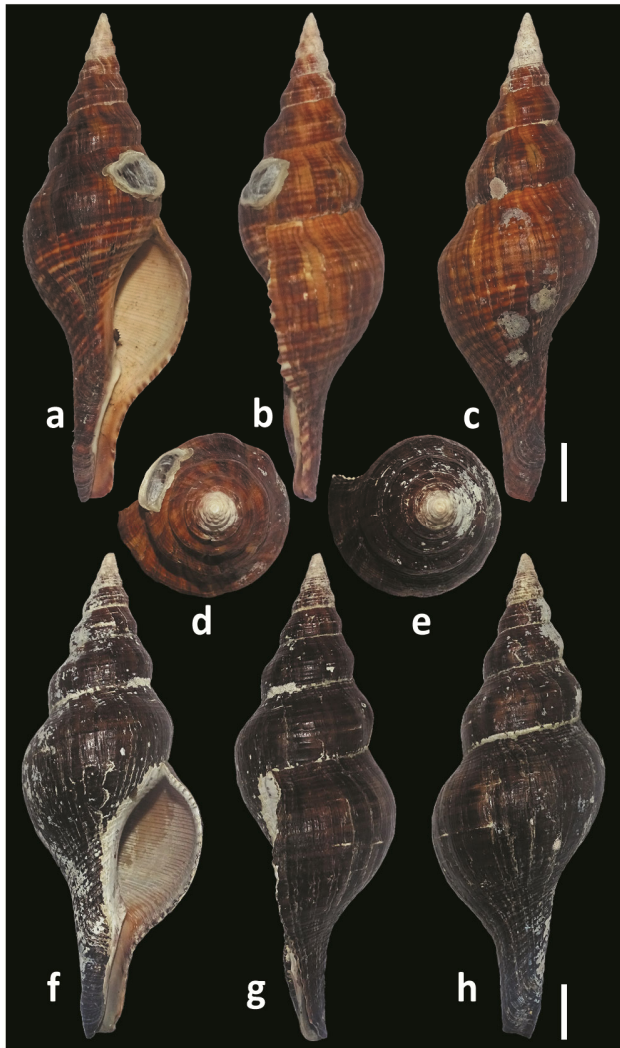


Fig. 1 — *Filifusus manuelae* (Bozzetti, 2008): a – d) collection of Mandapam beach (scale = 13 mm), and e – h) collection of Palk Bay (scale = 12 mm)

Appendix 1 — Details measurements of *Filifusus manuelae*

Specimen	Height	Width	w/h	% of w/h
1	102 mm	35 mm	0.34	34
2	100 mm	36.7mm	0.37	37

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### Conflict of Interest

Authors declare that they have no conflict of interest.

### Authors Contributions

PCT: examined the specimen, identified the species and drafted the original manuscript, JSYK: conducted survey, collected the specimens, and edited the manuscript, CV: designed the study and edited the manuscript. All authors have revised the draft and approved the final version of the manuscript.

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