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**Piyush Vadher**  
Senior Research Fellow,  
Fisheries Research Station  
Junagadh Agricultural  
University, Sikka, Jamnagar,  
Gujarat, India

**Hitesh Kardani**  
Assistant Professor, Fisheries  
Research Station, Junagadh  
Agricultural University, Sikka,  
Jamnagar, Gujarat, India

**Imtiyaz Belem**  
Fisheries Officer, Office of the  
Assistant Director of Fisheries  
Matsya Villa, Jamnagar,  
Gujarat, India

**Correspondence**  
**Hitesh Kardani**  
Assistant Professor, Fisheries  
Research Station, Junagadh  
Agricultural University, Sikka,  
Jamnagar, Gujarat, India

## First record of rare marine gastropod *Margovula tinctilis* (C. N. Cate, 1973) (Gastropoda: Ovulidae) from West coast of India

**Piyush Vadher, Hitesh Kardani and Imtiyaz Belem**

### Abstract

Present paper report a species of false or allied cowrie *Margovula tinctilis* (C. N. Cate, 1973) for the first time from west coast of India. This species sparsely distributed in premises of coral reef zone at lower intertidal zone of Sikka, Gujarat. Formerly, *M. tinctilis* has so far been reported only from Andaman and Nicobar Islands. Morphological shell characters such as shell description, habitat, geographical distribution, illustrations and affinities with similar species is discussed here.

**Keywords:** *Margovula tinctilis*, first record, gulf of kachchh, west coast

### Introduction

Ovulidae (J. Fleming, 1822) is also known as an allied cowrie or false cowrie due to weaker or completely lacking of columella and outer lip dentition in comparison to cypraeidae family<sup>[1, 2]</sup>. Ovulidae are common associate of coelenterates, hard corals, soft coral, gorgonians, hydrozoans and alcyonarians in tropical and sub-tropical waters of the world<sup>[2, 3]</sup>. Presently a total of 278 species belonging to 45 genera from 06 subfamilies of false cowries are known throughout world<sup>[4]</sup>. Whereas only 17 species belonging to 12 genera from 02 subfamilies are known from India<sup>[3, 5-18]</sup>. A single species of Ovulidae was recorded and listed as *Phenacovolva rosea* (A. Adams, 1855) from Gujarat coast<sup>[7, 12-13]</sup>. Hence the genus of *Margovula* C. N. Cate, 1973 reported for the first time from West coast of India. The genus *Margovula* consists of those Ovulids whose shell is pyriform in shape, margined narrowing toward the front and broader to the rear<sup>[19]</sup>. Only 09 species are known under the genus *Margovula* in the world<sup>[20]</sup>. The species *Margovula tinctilis* (C. N. Cate, 1973) was described by Cate in 1973 from the Kaohsiung, Taiwan<sup>[19]</sup>. In India, only two species were formerly reported in the form of checklist e.g., *Margovula bimaculata* (A. Adams, 1855) and *Margovula tinctilis* (C. N. Cate, 1973) from Andaman and Nicobar Islands<sup>[7]</sup>. *Margovula tinctilis* inhabits in water depth of 80ft in association with coral reefs<sup>[7, 19]</sup>. In this paper, we describe shell characteristics of this species for the first time from West coast of India with its present distribution status.

### Materials and Methods

The present study was carried out at Sikka reef (22°26'38.8"N 69°47'50.6"E) in Gulf of Kachchh, Gujarat. Intertidal zone of Sikka reef is rocky, sandy and muddy. The exposure of intertidal zone of Sikka is about 3-4 kilometres during ebb tide. The coast is bestowed with coral reef zone and mangroves ecosystem with their important associates such as ascidians, sponges, crabs, molluscs and seaweeds. Sikka reef is under great anthropogenic pressure. There are several coastal instalments of various industries such as Reliance Jetty, Gujarat State Fertilizer Corporation Jetty, Thermal Power Station silt settlement ponds and Shree Digvijay Cement Company Jetty, etc as well as offshore terminals.

In the present study, only two dead specimens were found on coral reef zone in lower intertidal zone of Sikka coast (22°27'38.4"N 69°48'11.8"E) (Figure 1). Specimens were collected from 0.5-meter depth of water and carried out to laboratory further taxonomical identification. Samples were labelled and deposited in the museum of Fisheries Research Station, Junagadh Agricultural University, Sikka. Specimens were identified using the standard literature and identification keys of Cate (1973)<sup>[19]</sup>, Abbott (2000)<sup>[21]</sup>, Apte (2014)<sup>[7]</sup> and through gastropod expert communication. Dead specimens were observed and measured with the help of standard

Vernier callipers. Size of the specimen indicated by total length (tl) which is measured from anterior extremity to posterior extremity and total width (tw) which measured centrally from both the side.

## Results

### Systematics:

**Phylum:** Mollusca Linnaeus, 1758

**Class:** Gastropoda Cuvier, 1795

**Sub class:** Caenogastropoda Cox, 1960

**Order:** Littorinimorpha Golikov & Starobogatov, 1975

**Family:** Ovulidae J. Fleming, 1822

**Genus:** *Margovula* C. N. Cate, 1973

### *Margovula tinctilis* (C. N. Cate, 1973) (Figure 2 a-b)

**Material examined:** 02 dead specimens (1) tl: 18.50 mm, tw: 11.50 mm; (2) tl: 18 mm, tw: 11 mm, lower intertidal zone of coral reef area, coll. by Piyush Vadher, 22 April 2019.

### Shell description

Shell pale yellowish with light brown transverse bands, shell smooth and sub-glossy; Shell pyriform in shape; narrower anteriorly, base ovate, convexly swollen which become ovate in shape, entire dorsal surface with weak striations. Outer lip

concave and thickened, inner side with more than 15-20 sharp teeth along the entire length. aperture evenly curving in back; terminal ridge straight and short, terminal ridge short, almost straight. Inner lip of aperture smooth.

**Habitat:** Dead specimens were found on coral reef zone, Sikka, Gulf of Kachchh, Gujarat, India.

**Distribution:** Taiwan<sup>[19]</sup>, East Asia<sup>[21]</sup> and Philippine<sup>[22]</sup>.

**India:** Andaman and Nicobar Islands<sup>[7]</sup>. Presently, this species is reported from Gulf of Kachchh, Gujarat, India.

### Discussion

This species is identical morphologically to *Margovula pyriformis* (G. B. Sowerby I, 1828) but immediately distinguished by having light weight, pale brown colour, translucent and more rounded and inflated in shape than *M. pyriformis*. *Margovula tinctilis* is also differentiated by having more sharply curving adapical aperture (Cate, 1973)<sup>[19]</sup> but Rosenberg (2010)<sup>[1]</sup> studied both the species and concluded the possibilities that *Margovula tinctilis* will prove to be conspecific with *M. pyriformis*.

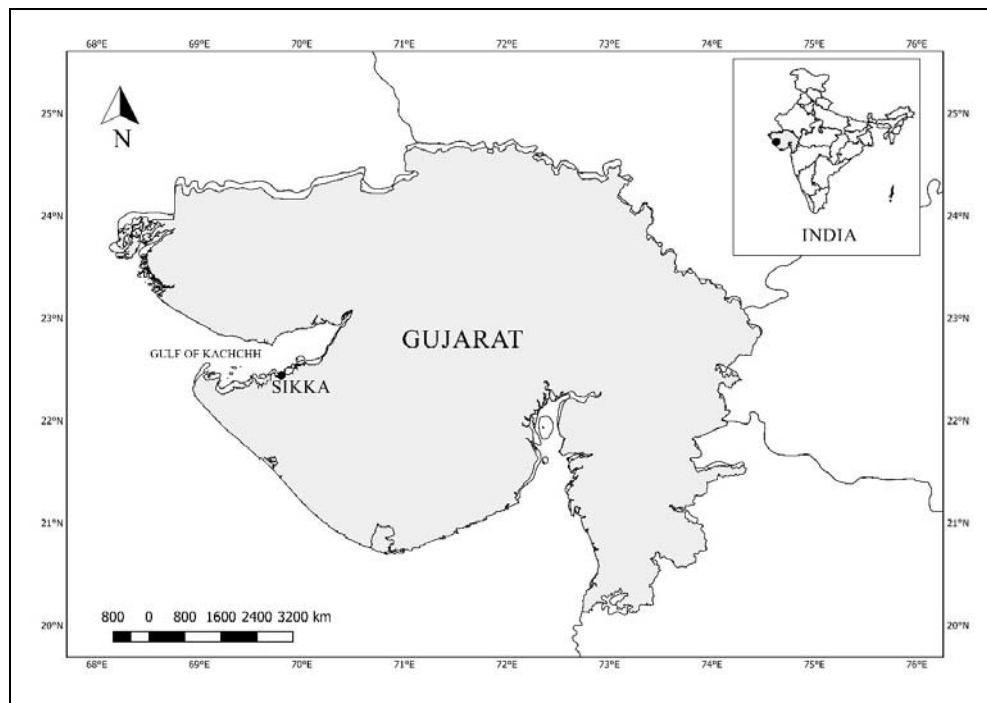


Fig 1: Map of the study area

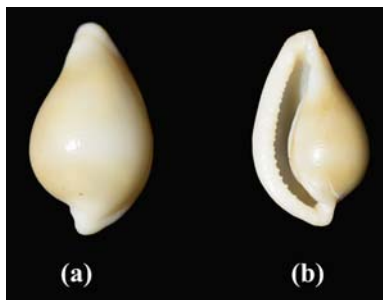


Fig 2(a): Dorsal view of *Margovula tinctilis* (b) Dorsal view of *Margovula tinctilis*

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