



OCCURRENCE OF TWO TURRITELLID SHELLS (MOLLUSCA: GASTROPODA) ALONG THE KERALA COAST, INDIA

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Abstract: Two species of turritellid gastropods (Mollusca: Gastropoda: Turritellidae), namely *Turritella fastigiata* and *Turritella maculata* were collected for the first time from the Kerala coast.

Keywords: Screw shells, *Turritella*, Trawl by-catch

INTRODUCTION

Turret shells or screw shells are the caenogastropod molluscs belonging to the family Turritellidae. Shell is slender, elongate, multiwhorled with spiral ridges, outer lip thin and umbilicus absent; operculum is thin, chitinous and multispiral (Poutiers, 1998; Tripathy *et al.*, 2013). They are herbivores inhabiting sandy or muddy bottom with global distribution (Tripathy *et al.*, 2013). The family Turritellidae is composed of five subfamilies comprising of 18 genera and an estimated 150 species (Tripathy *et al.*, 2013). Two genera under the family Turritellidae are found in India viz. *Haustator* and *Turritella* (Rao, 2003; Tripathy *et al.*, 2013). A total of eleven turritellids were reported from the Indian coast by several authors (Satyamurti, 1952; Rajagopal and Mookherjee, 1982; Tikader *et al.*, 1986; Apte, 1998, 2012, 2014; Rao and Dey, 2000; Hylleberg and Kilburn, 2002; Venkataraman *et al.*, 2002, 2004; Rao, 2003; Rao *et al.*, 2004; Rao and Sastri, 2005; Daniels, 2007; Ramakrishna *et al.*, 2007; Pati and Sharma, 2012; Rao *et al.*, 2013; Tripathy *et al.*, 2013). A total of four species were reported from the Kerala coast (Philip and Appukuttan, 1995; Appukuttan and Ramadoss, 2000; Deepthi, 2008; Kumar, 2012; Franklin and Laladhas, 2014; Venkatesan *et al.*, 2015; Preetha, 2016). The present study reports two turritelline gastropods for the first time from the Kerala coast, India.

MATERIALS AND METHODS

The turritellids caught trawl by-catch samples from the Neendakara fishing harbour (8°35'2 N; 75°38'2 E), south west coast of India. Morphometric measurements were taken by using Aerospace digital caliper, USA soon after collection. The specimens were identified following taxonomic descriptions, Rao and Dey (2000) and Tripathy *et al.* (2013). The specimens were deposited in the Museum collections of Dept. of Aquatic Biology and Fisheries, University of Kerala, Karyavattom, Trivandrum, Kerala, India.

RESULTS

Systematics

Superfamily : Cerithioidea J.Fleming, 1822
 Family : Turritellidae Lovén, 1847
 Subfamily : Turritellinae Lovén, 1847
 Genus : *Turritella* Lamarck, 1799

***Turritella fastigiata* Adams & Reeve in Reeve, 1849**
 (Fig. 1 A-B)

Materials Examined: Two specimens (shell length 41.11-48.62 mm; shell width 10.14-10.66 mm); DABFUK/MOL/GAS/1424; Locality: Neendakara fishing harbour, Kerala, India; Date of collection: 08.04.2014; Morphometric measurements: shell length 48.62 mm, shell width 10.66 mm.

Remarks: The species *Turritella fastigiata* was previously reported from Andaman and Nicobar Islands (Tikkader *et al.*, 1986; Rao and Dey, 2000)



Fig. 1 A-B. *Turritella fastigiata* (DABFUK/MOL/GAS/1424), Neendakara, Kerala, India (A- dorsal view; B- ventral view; 48.62 mm length and 10.66 mm width; C-D. *Turritella maculata* (DABFUK/MOL/GAS/1425), Neendakara, Kerala, India (C- dorsal view; D- ventral view; 36.79 mm length and 12.25 mm width)

and Bay of Bengal (Venkataraman *et al.*, 2004; Rao *et al.*, 2013; Tripathy *et al.*, 2013). Based on these reports, this is the first record of the species from the west coast of India.

***Turritella maculata* Reeve, 1849** (Fig. 1 C-D)

Material examined: One specimen. Specimen Accession Number: DABFUK/MOL/GAS/1425; Locality: Neendakara fishing harbour, Kerala, India; Date of collection: 13.05.2013; Morphometric measurements: shell length 36.79 mm; shell width 12.25 mm.

Remarks: *Turritella maculata* was previously reported from Gujarat (Rao *et al.*, 2004), Gulf of Kutch (Rao and Sastri, 2005) and Karnataka (Tripathy *et al.*, 2013). Based on these distributional reports this is the first report of the species from Kerala coast.

DISCUSSION

The previously recorded species of turritelline gastropods, from Kerala coast are *Turritella attenuata*, *T. columnaris*, *T. terebra* and *T. acutangula* (Philip and Appukuttan, 1995; Appukuttan and Ramadoss, 2000; Deepthi, 2008; Kumar, 2012;

Franklin and Laladhas, 2014; Venkatesan *et al.*, 2015 and Preetha, 2016). Turritellids landed as a part of shrimp by-catch and commonly collected for ornamental purposes by the shell craft industries. Further efforts are required to document the taxonomy as well as diversity of this significant group from Kerala coast.

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