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First report of cepheid scyphozoan jellyfish *Marivagia stellata* Galil & Gershwin, 2010 from Palk Bay, southeast coast of India

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Short communication

Abstract

During a regular survey along the Palk Bay on 25th July 2018, 16 specimens of *Marivagia stellata* were collected from shore-seine operations at Dhargavalasai in Ramanathapuram District of Tamil Nadu, southeast coast of India. The presence of *M. stellata* has been reported along the west coast earlier, however, this is the first time the occurrence of this species is reported along the Palk Bay coast of India. *M. stellata* is relatively a smaller jellyfish species and has been described only in 2010 from the Mediterranean coast of Israel. This species' sting is not harmful to human.

Keywords: *Marivagia stellata*, jellyfish, Palk Bay, Cepheidae

described in 2010 (Galil *et al.*, 2010) when this species was collected from the Mediterranean coast of Israel. Indo-Pacific is considered as the hot-spot of Cepheid jellyfish (Galil *et al.*, 2010). *Marivagia* differs from other Cepheid genera such as *Cephea* and *Netrostoma* by the absence of warts or knobs centrally on the exumbrella and filaments on oral disk and between mouths. Further, this species differ from *Cotylorhiza* as it lacks stalked suckers and filaments on the oral arms. This species was reported from Kerala coast only in 2013, though it is of Indian Ocean origin (Galil and Goren, 2013a; Galil *et al.*, 2013).

Material and methods

During a regular survey along the Palk Bay on 25th July 2018, 16 specimens of *Marivagia stellata* were collected from shore-seine operations at Dhargavalasai (Lat 9.326781° , Lon 79.023664°) (Fig. 1), Ramanathapuram district, Tamil Nadu. The species was identified following Galil *et al.* (2010) (Fig. 2 & 3). The sub umbrella canal structure was studied by injecting Alizarin red (Alexander, 1979). This is the first report of its occurrence along the east coast of India especially in Palk Bay. The specimens were in the bell diameter range of 5.16 ± 0.38 cm and the weight range was observed to be 15.4 ± 2.74 g respectively.

Introduction

The family Cepheidae consists of four genera and eight species. The Cepheid jellyfish *Marivagia stellata* has been first

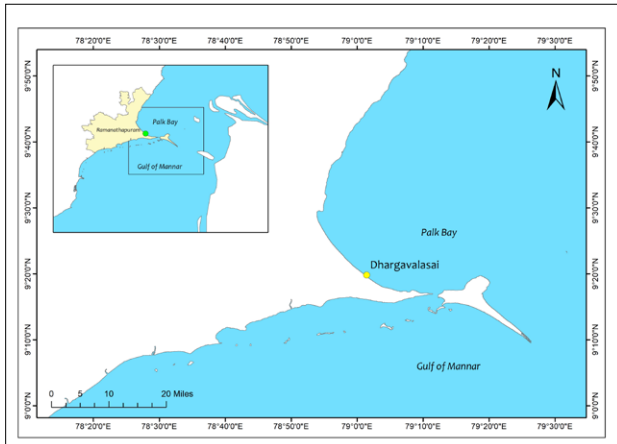


Fig. 1. Location of Collection of *M. stellata* in Palk Bay

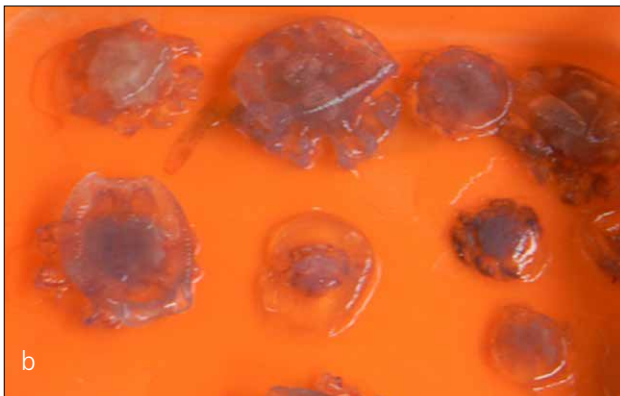


Fig. 2. (a & b). Collection of *M. stellata*

Results and discussion

Systematics

Class : SCYPHOZOA Goette, 1887
 Subclass : DISCOMEDUSAE Haeckel, 1880
 Order : RHIZOSTOMEAE Cuvier, 1800
 Family : CEPHEIDAE Agassiz, 1862
 Genus : *Marivagia* Galil & Gershwin, 2010

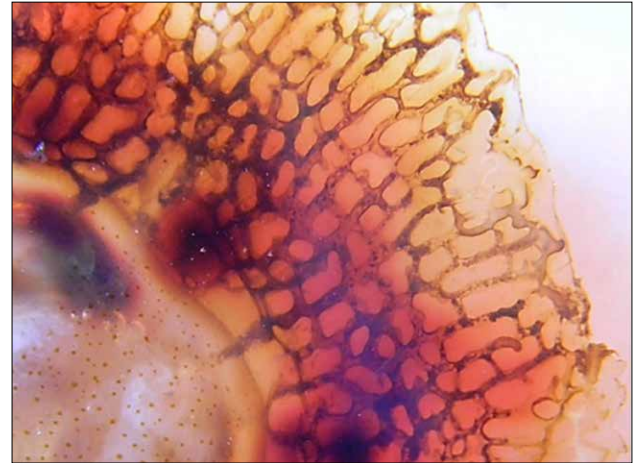


Fig. 3. Sub umbrella canal structure of *M. stellata*

Marivagia stellata Galil & Gershwin, 2010

Members of the genera *Cephea*, *Marivagia* and *Netrostoma* have been reported from coastal waters of the west coast of India. However, the swarm of the Cepheid family is less noticeable along the east coast of India. The collection of 16 specimen of *Marivagia stellata* from Palk Bay coast of Dhargavalasai is the first report of its occurrence along the east coast of India. *Marivagia stellata* is considered to be an invasive species other than in its native range of the Indo-Pacific. *Marivagia stellata* is a translucent bluish-white jellyfish without a central dome, warts or knobs on the exumbrella surface but with a conspicuous pattern of reddish stars, dots and streaks clustered on the centre of the exumbrella. Sub-umbrella lacks filaments on oral disk and between mouths. The appearance of *M. stellata* in the Palk Bay coast indicate the presence of cryptic sessile, asexually reproducing polypoid stage, which can produce ephyra which grows into free swimming medusae.

In the Mediterranean Sea, *M. stellata* was recorded first from the Israel coast and it is the only species of the genus *Marivagia* (Galil *et al.*, 2010). Gul *et al.* (2014) reported the occurrence of *M. stellata* along the Pakistan coast in the northern Arabian Sea. Recently, it has been reported along the Syrian coasts (Mamish *et al.*, 2016) and in Lebanese waters (Bitar and Badreddine, 2019).

Conclusion

The Indo-Pacific species of Jellyfish *M. stellata* has been spotted for the first time along the Palk Bay coast during 2018. This indicates the presence of its polyps in the waters of Palk Bay. Monitoring of its bloom and its dispersal would help in understanding their swarming dynamics in these waters.

Acknowledgements

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