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Occurrence of *Olindias singularis* (Browne, 1905) in the south Konkan, west coast of India

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Short Communication

Abstract

The present study highlights the first occurrence of *Olindias singularis* from the coastal waters of Ratnagiri along the west coast of India. A specimen of *O. singularis* was collected by a standard plankton net (60μ). External characteristics were examined for identification purposes and are illustrated.

Keywords: *Olindias singularis, standard plankton net, Ratnagiri, India*

Introduction

Several hydromedusae species belonging to the genus *Olindias* Müller, 1861 (Hydrozoa: Olindiidae) are distinguished by their conspicuous medusae and unique morphological characteristics, including dome-shaped bells, centripetal canals, and two types of tentacles: primary adhesive and secondary non-adhesive. Although members of this genus are widely distributed across temperate and tropical marine environments, their taxonomy, life history, and ecological roles remain poorly understood. *Olindias singularis* (Browne, 1905) was originally described from Suvadiva Atoll in the Maldives (Browne, 1905) and has since received little scientific attention. Information regarding its morphology and life cycle, no records have previously documented its presence along the west coast of India.

Like other hydromedusae, *O. singularis* likely contributes to marine food webs as both predator and prey, feeding on zooplankton and ichthyoplankton, while providing a food source for larger gelatinous creatures, fishes, and turtles. Through such interactions, hydromedusae regulate the nutrient cycle and energy transfer within pelagic ecosystems. Beyond their trophic role, hydromedusae may serve as an indicator of environmental change, with fluctuations in their geographic distribution and abundance often reflecting variations in ocean temperature, salinity, and productivity. The occurrence of *O. singularis* beyond its previously known range could therefore signal ecological shifts linked to oceanographic or climatic changes. The current study is the first to report the occurrence of *O. singularis* in Ratnagiri coastal waters, along the west coast of India. This finding highlights considerable expansion of its known range and suggests a greater distribution across the Indo-West Pacific area.

Material and methods

Sampling design: Monthly boat sampling was carried out from December 2024 to April 2025 along the Jaigad coastal area at two sampling stations, S_1 and S_2, fixed at 18 metres and 36 metres depth, respectively. Boat sampling was conducted between (17°15'43.71" N 73° 9'42.22" E and 17°18'39.77" N 73° 6'10.51" E). External morphological characteristics were analysed for species identification using the identification key described by Browne (1905).

Results and discussion

Systematics

Class: Hydrozoa
Subclass: Trachylinae
Order: Limnomedusae
Family: Olindiidae
Genus: *Olindias*
Species: *Olindias singularis*

Material examined

02 specimens, Feb 2025, coastal water, Jaigad, Ratnagiri (17°16'30.11" N, 73° 8'51.34" E), coll. By Mayuresh S. Nagawekar, standard plankton net (60 μ).

Description

Olindias singularis has a hemisphere-shaped umbrella with thick walls that are around 1.5 times as wide as high (Fig. 1). The mouth has four lips with a sinuous margin; the stomach is almost half as long as the umbrella's cavity. There are a total of four radial canals, and each quadrant has four to five blind centripetal canals. Each radial canal's outer half has gonads that have split off into distinct papilliform clusters (Fig. 2). There are two types of tentacles: primary tentacles, which extend outward with bases attached to the ex-umbrella margin and may be partially extended or curved outward from the umbrella's edge, and secondary tentacles, which are hollow, hang downward from the umbrella margin, and have swollen tips (Fig. 3). They create roughly three-quarter circular arcs with their many bands of nematocysts and enormous basal bulbs. Each quadrant has around seven to ten major tentacles and four to five secondary tentacles. Each quadrant has around 8–10 globular marginal bulbs that contain nematocysts, and at the base of each major tentacle is a single internal sensory vesicle that contains a single otolith. The key morphological characteristics of *O. singularis* are shown in Table 1.

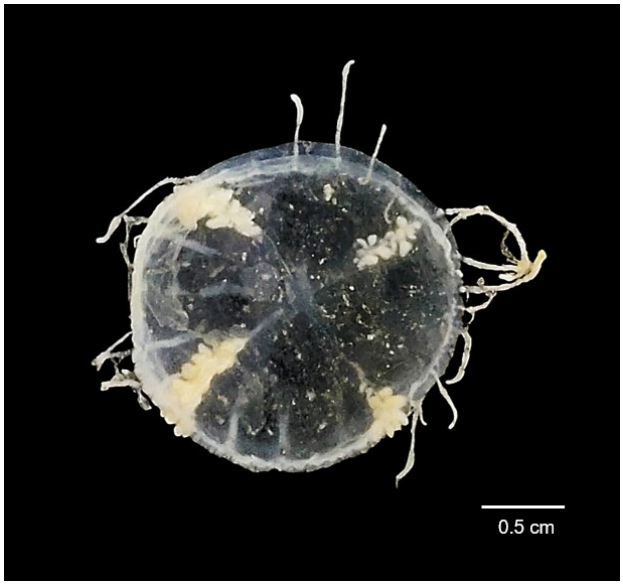

Fig. 1. *Olindias singularis* (Browne, 1905)

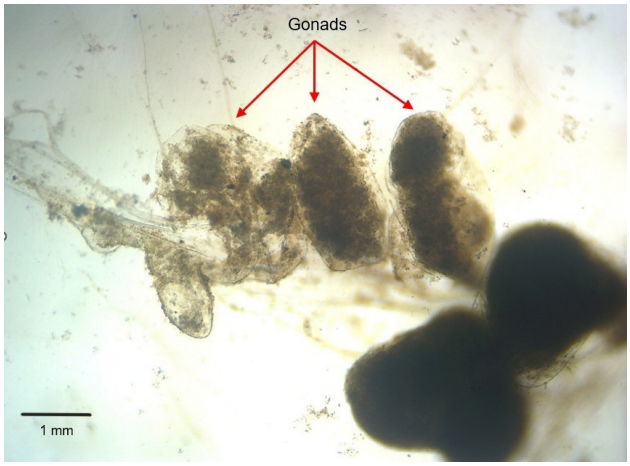

Fig. 2. Arrow indicating gonads of *Olindias singularis*

Records of *O. singularis* were first reported from the Mediterranean by Boero and Bouillon (1993; Kramp, 1961), and Zenetos *et al. (*2010); Europe (Katsanevakis *et al.,* 2012); Japan (Toshino *et al.,* 2019); Western Pacific (Maran *et al.,* 2021); and the Indian Ocean, Maldive and Laccadive Archipelagos

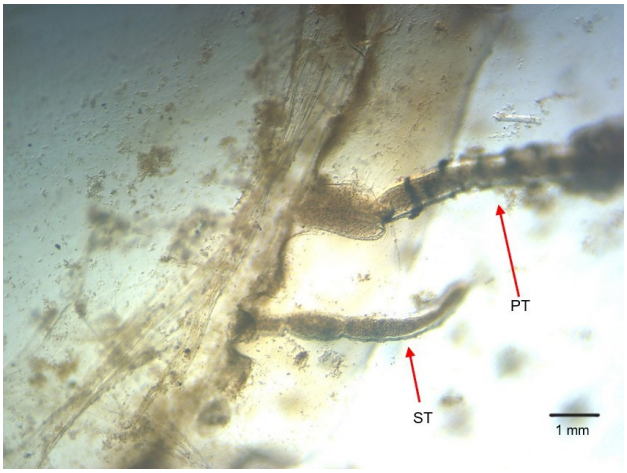

Fig. 3. Arrow indicating the tentacle of *Olindias singularis.* (PT: Primary Tentacle; ST: Secondary Tentacle)

Table 1. Key morphological characteristics of *O. singularis* (Browne, 1905)

Feature	Description / Measurement
Umbrella	Hemispherical, thick-walled, 13 mm wide × 8 mm high
Radial Canals	Four
Centripetal Canals	4–5 per quadrant
Gonads	On outer half of radial canals; papilliform clusters
Primary Tentacles	7–10 per quadrant; outward; claw-shaped tips
Secondary Tentacles	4–5 per quadrant; hanging; hollow bulbs
Marginal Bulbs	8–10 per quadrant; globular, with nematocysts
Sensory Organs	One vesicle with single otolith per primary tentacle
Distinctive Feature	Single sense organ (vs. paired in related species)

(Gardiner, 1905). The *O. singularis* from the genus Olindias is reported for the first time from South Konkan coastal waters, along the west coast of India. This report provides important documentation of *O. singularis* from the west coast of India based on the morphological characteristics, showing its extended distribution along the Indian coasts. Molecular analyses, though beyond this study's scope, could validate species identity and offer deeper insights into genetic diversity, distribution, and evolutionary relationships.

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Author contributions

Conceptualisation: P.A.; Investigation: P.A., A.A.; Methodology: P.A., A.A.; Formal Analysis: P.A.; Data Collection: P.A., M.N.; Data Curation: P.A., M.N.; Writing: Original Draft: P.A., P.N.; Writing: Review and Editing: P.A., A.A., P.N.; Supervision: A.A.; Validation: A.A.

Conflict of interest

The authors declare that they have no conflict of financial or non-financial interests that could have influenced the outcome or interpretation of the results.

Ethical statement

No ethical approval is required as the study does not include activities that require ethical approval or involve protected organisms/human subjects/ collection of samples/ protected environments.

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Publisher's note

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