

Occurrences of immortal jellyfish *Turritopsis cf. dohrnii* from the Mandapam coastal waters of the Gulf of Mannar

During the routine jelly plankton survey along the Mandapam coastal waters, a swarm of hydrozoans was collected in February 2022. These were identified as the immortal jellyfish *Turritopsis cf. dohrnii*. The hydrozoan jellyfish swarm is the medusa stage of the organism, whereas the larval phase is sedentary and attached to some hard substratum at the bottom. Once a larva metamorphoses into a polyp, it buds off as a jellyfish, causing a bloom.

The term "aging" refers to a persistent decline in the age-specific fitness components of an organism due to internal physiological deterioration, and *T. dohrnii* is successful in reversing that process. When *T. dohrnii* is physically damaged or weak, it shrinks its body and settles into a dormant cyst like cluster that further develops into a new polyp, which asexually propagates during favourable conditions. This life cycle reversal can be repeated

many times and is a classic example of reversing the ageing process. Also called transdifferentiation, it is a very rare occurrence in animals.

The immortal jellyfish originally reported from the Caribbean and Mediterranean region but has now spread all over the world, possibly through ship ballast water discharge. The *Turritopsis* jellyfish is considered invasive outside of its native range. In jellyfish, the sexes are separate and free-swimming larva settles at the bottom on a suitable substratum. The newly released medusae have 8–12 tentacles which increase in number with age. Adult medusa can reach up to 2.7 mm in height and 3.2 mm diameter, with 14 and 32 tentacles. The *T. dohrnii* collected in the present study were in the size range of 2-3 mm.

Seven species are found such as *T. dohrnii*, *T. lata*, *T. minor*, *T. nutricula*,



T. pacifica, *T. polycirra* and *T. rubra*. In India, *T. nutricula* has been reported from the Vasista Godavary estuary. Morphological identification with molecular barcoding and a phylogenetic approach is crucial in the identification of various *Turritopsis* species.

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