

Biodiversity Record: New record of the edible jellyfish, *Lobonemoides robustus*, in Singapore

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Subjects: Edible jellyfish, *Lobonemoides robustus* (Cnidaria: Scyphozoa: Rhizostomeae: Lobonemidae).

Subjects identified by: Iffah Iesa.

Locations, dates and times: Four locations.

Johor Strait —

- 1) Raffles Marina in June 2013;
- 2) Changi Beach on 6 December 2021;
- 3) Punggol on 23 October 2021 at 1150 hrs;

Singapore Strait —

- 4) Palawan Beach, Sentosa, on 30 July 2021 at 1508 hrs;

Habitats: Marine (Singapore Strait) and estuarine (Johor Strait). In open coastal waters close to shore, or on sandy beach in cases of stranding.

Observers: Lionel Ng (Raffles Marina), Chan Tak Mun (Palawan Beach), Kong Pei Ling (Punggol), Jonathan Tan (Changi Beach) and Iffah Iesa (Palawan Beach).

Observations: One individual at Punggol (Fig. 1B) and another at Raffles Marina (Fig. 1C) were observed drifting about in open water close to the surface. One example was found stranded at Changi Beach (Fig. 1A). All were large specimens of approximately 20–30 cm bell diameter.

A live but severely damaged individual found at Palawan Beach, Sentosa Island, was collected and examined ex-situ (Fig. 1D–E). Almost all of its gastric cavity, manubrium and oral arms were absent. Tissue subsampled from the marginal lappet was preserved in molecular grade ethanol. The entire specimen was preserved in 10% buffered formalin as reference material and deposited in the Zoological Reference Collection (ZRC) of the Lee Kong Chian Natural History Museum, National University of Singapore, and catalogued as ZRC.CNI.2919.

Remarks: Jellyfishes in the family Lobonemidae are characterised by papillae on the exumbrella, elongated marginal lappets and fine thread-like or spindle structures on oral arms. The family consists of two genera: *Lobonema* and *Lobonemoides*. To distinguish between them, it is necessary to observe the canal network from the subumbrella view by injecting coloured dye (Fig. 2); the intracircular anastomosing canal system of *Lobonemoides* communicates with the rhopalar and ring canals (Kitamura & Omori, 2010). Due to the well-developed subumbrella muscles, the communication of canals can be difficult to observe as noted in Kitamura & Omori (2010). Among the three valid species in genus *Lobonemoides* (Collins et al., 2022), *Lobonemoides robustus* lacks stiff appendages in its oral arms (Fig. 1B) when compared with *Lobonemoides sewelli*, while *Lobonemoides gracilis* is suspected to be the juvenile form of *Lobonemoides robustus* (see Kramp, 1961; Kitamura & Omori, 2010).

This compilation of records represents the first time that *Lobonemoides robustus* Stiasny (1920) is reported from Singapore (see Yap & Ong, 2012). A commercially important species in Southeast Asia, *Lobonemoides robustus* has been reported from the Philippines, Myanmar, Vietnam, Thailand, Peninsular and East Malaysia and Indonesia (see Chuan et al., 2021; Anonymous, 2021; Kitamura & Omori, 2010; Syazwan et al., 2020). The trade name for this edible jellyfish is “white type”, which could also include species of the genus *Lobonema* (Kitamura & Omori, 2010).

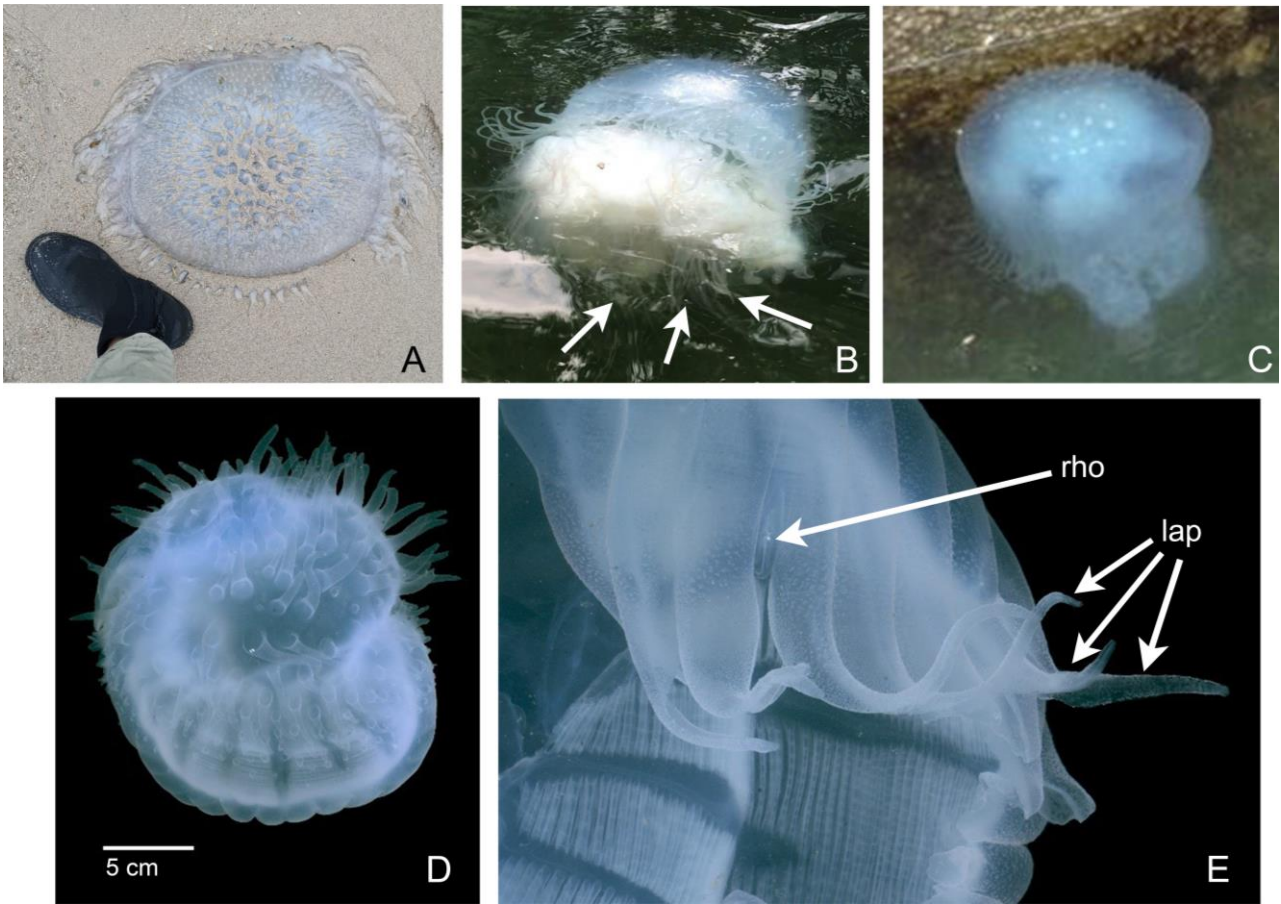


Fig. 1. *Lobonemoides robustus* from Singapore. A: Exumbrella view of a beached medusa at Changi Beach on 6 December 2021. (Photograph by: Jonathan Tan) B: Spindles on oral arms (arrowed) of live individual in-situ at Punggol on 23 October 2021. (Photograph by: Kong Pei Ling) C: Live medusa in-situ at Raffles Marina in June 2013. (Photograph by: Lionel Ng) D: Exumbrella of individual (ZRC.CNI.2919) from Palawan Beach, Sentosa Island, on 30 July 2021. (Photograph: by: Iffah Iesa) E: Close-up of elongated tapered marginal velar lappets (lap) and a rhopalium (rho) on ZRC.CNI.2919 from Palawan Beach. (Photograph by: Iffah Iesa)

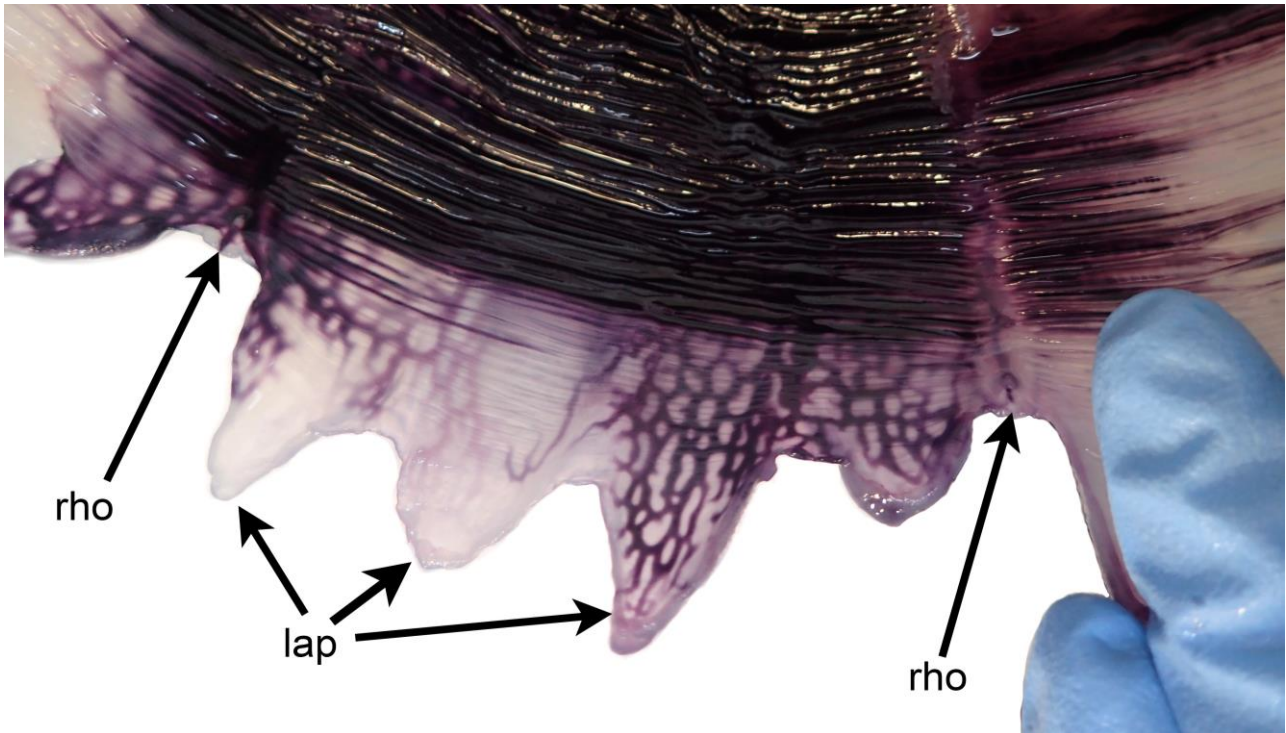


Fig. 2. Stained canals of preserved *Lobonemoides robustus* (ZRC.CNI.2919) using food dye. Anastomosing network visualised in the triangular marginal velar lappets (lap) between rhopalia (rho). (Photograph by: Iffah Iesa)

Literature cited:

- Anonymous (2021) Field Guide to the Jellyfish of Western Pacific. Centre for Marine and Coastal Studies, Universiti Sains Malaysia, Penang, Malaysia, 145 pp.
- Chuan CH, Venmathi Maran BA, Yap TK, Cheong KC, Syed Hussein MA & Saleh E (2021) New Records of Cubozoan and Scyphozoan Jellyfish from Sabah Waters, Malaysia. *Diversity*, 13: 420.
- Collins AG, Jarms G & Morandini AC (2022) World List of Scyphozoa. *Lobonemoides* Light, 1914. World Register of Marine Species at: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=267564> (Accessed on 5 March 2022)
- Kitamura M & Omori M (2010) Synopsis of edible jellyfishes collected from Southeast Asia, with notes on jellyfish fisheries. *Plankton Benthos Research*, 5 (3), 106–118.
- Kramp PL (1961) Synopsis of the medusae of the world. *Journal of the Marine Biological Association of the United Kingdom*, 40: 1–469.
- Stiasny G (1920) Die Scyphomedusen-Sammlung des Naturhistorischen Reichsmuseums in Leiden. III. Rhizostomeae. *Zoologische Mededeelingen*, 5: 213-230.
- Syazwan WM, Rizman-Idid M, Low LB, Then AY & Chong VC (2020) Assessment of scyphozoan diversity, distribution and blooms: implications of jellyfish outbreaks to the environment and human welfare in Malaysia. *Regional Studies in Marine Science*, 39: 101444.
- Yap WLN & Ong JY (2012) A survey of jellyfish (Cnidaria) around St John's Island in the Singapore Straits. *Contributions to Marine Science*, 2012: 57–74.