

Biodiversity Record: New record of the jellyfish, *Pelagia panopyra*, in Singapore

Iffah Iesa

Lee Kong Chian Natural History Museum, National University of Singapore, Singapore 117377; Email: nhmii@nus.edu.sg

Recommended citation. Iesa I (2022) Biodiversity Record: New record of the jellyfish, *Pelagia panopyra*, in Singapore. Nature in Singapore, 15: e2022042. DOI: 10.26107/NIS-2022-0042

Subjects: *Pelagia panopyra* (Cnidaria: Scyphozoa: Semaestomeae: Pelagiidae).

Subjects identified by: Iffah Iesa.

Location, date and time: Sentosa Island, Siloso Beach lagoon, Zone 9; 12 Nov 2019, before 1400 hrs.

Habitat: Marine. Artificial lagoon with sand substrate, in open water.

Observer: Samples collected by Ahmad Lutfi Saimin. Examined ex-situ by Iffah Iesa.

Observation: Two small individuals, both with bell diameters approximately 2.5 cm, were collected beside a floating platform in the lagoon. In life, their exumbrellas were transparent with pale-rose or light purple coloured gonads visible through the bell. Their distended oral arms were transparent, and marginal tentacles were mauve. One individual had lighter colouration in the tentacles than the other (Fig. 2A). The specimens were fixed in 10% formalin (Fig. 1), but no tissue subsampling was conducted. Upon fixation, most colours disappeared, leaving only a slight pink shade on the gonads. The exumbrella and oral arms become opaque or white (see Fig. 1). Oocytes of different sizes were observed (Fig. 2B). Nematocysts, or cnidocysts, were sampled from various parts of the medusae and photographed under light microscope with 1000× magnification. Nematocyst identification follows Östman (2000). Only heteronemes (with prominent rod-like shaft visible in undischarged capsule) were observed. Microbasic heteronemes (discharged as shown in Fig. 2C; undischarged as shown in Fig. 2D) were found in gastric cirri and undischarged euryteles in marginal tentacle (Fig. 2G). The specimens were deposited in the Zoological Reference Collection (ZRC) of the Lee Kong Chian Natural History Museum, at the National University of Singapore, under catalogue number ZRC.CNI.1416.

Remarks: The family Pelagiidae consists of four genera: *Chrysaora*, *Mawia*, *Pelagia* and *Sanderia*. The genus *Pelagia* is characterised by gastric pouches that look alike (compared to *Chrysaora* with different sized pouches), straight radial septa and eight marginal tentacles (Jarms & Morandini, 2019). There are currently five valid species in *Pelagia*, with various degrees of confidence on the taxonomic units (see Jarms & Morandini, 2019). *Pelagia panopyra* Péron & Lesueur (1810) is distributed in the Indo-Pacific (Collins et al., 2022; Jarms & Morandini, 2019). The featured record appears to be the first for this species in Singapore (see Yap & Ong, 2012).

Literature cited:

- Collins AG, Jarms G & Morandini AC (2022) World List of Scyphozoa. *Pelagia* Péron & Lesueur, 1810. Accessed through: World Register of Marine Species at: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=135262> on 2022-03-09. Accessed on 3 March 2022.
- Jarms G & Morandini AC (2019) World Atlas of Jellyfish. Scyphozoa except Stauromedusae. Dölling und Galitz Verlag, Hamburg, 815 pp.
- Östman C (2000) A guideline to nematocyst nomenclature and classification, and some notes on the systematic value of nematocysts. *Scientia Marina*, 64: 31–46.
- Péron F & Lesueur CA (1810) Tableau des caractères génériques et spécifiques de toutes les espèces de méduses connues jusqu'à ce jour. *Annales du Muséum national d'histoire naturelle de Paris*, 14: 325–366.
- 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.

Note: The author would like to thank the staff from Environmental Management Unit and Beach Patrol of Sentosa Development Corporation for bringing the medusozoans to her attention.

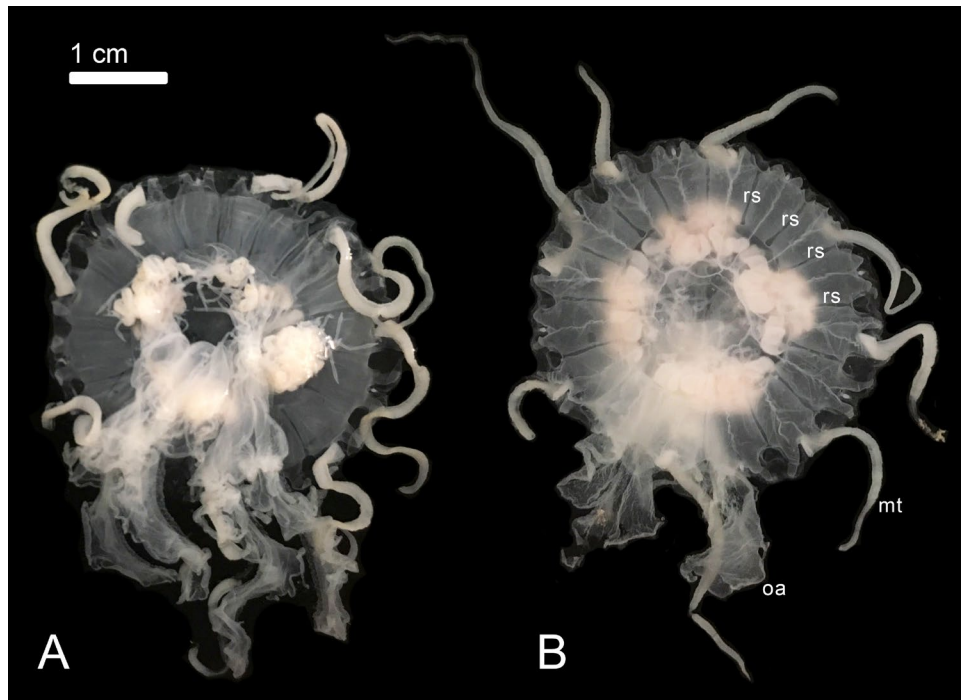


Fig. 1. Whole formalin-preserved *Pelagia panopyra* (ZRC.CNI.1416). A: Subumbrella view. B: Exumbrella view. rs: radial septa; mt: marginal tentacle; oa: oral arm. (Photographs by: Iffah Iesa)

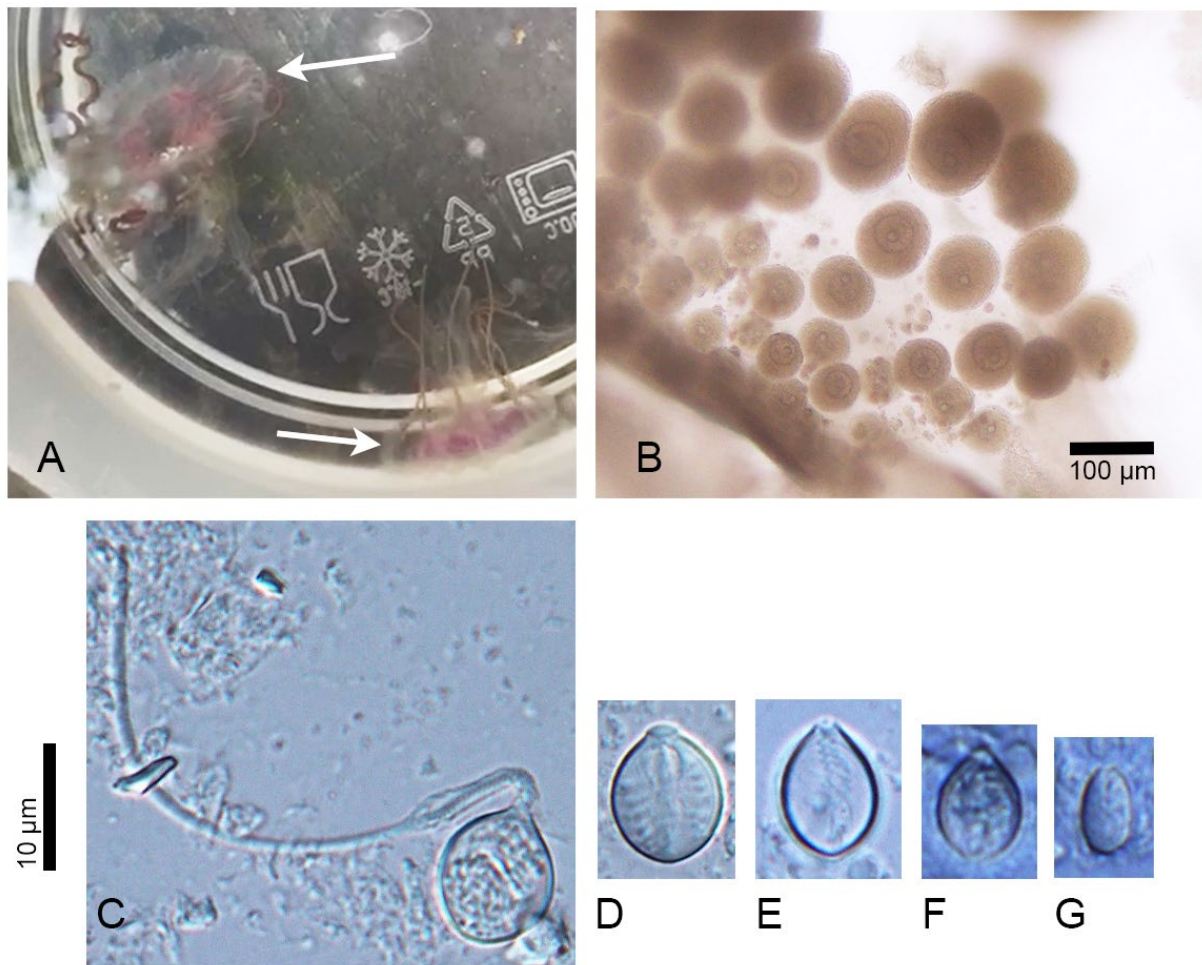


Fig. 2. *Pelagia panopyra* (ZRC.CNI.1416). A: Two live medusae (exumbrellas arrowed). B: Oocytes (female gametes) of different maturity. C: Discharged microbasic heteroneme, from gastric cirri. D: Undischarged microbasic heteroneme, from gastric cirri. E. Undischarged unidentified heteroneme, from oral arm. F: Undischarged unidentified heteroneme, from marginal tentacle. G: Undischarged eurytele from marginal tentacle. (Photographs by: Ahmad Lutfi Saimin [A] and Iffah Iesa [B–G])