

Biodiversity Record: A reticulate whipray, *Himantura uarnak*, at Chek Jawa

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Subject: Reticulate whip-ray, *Himantura uarnak* (Chondrichthyes: Myliobatiformes: Dasyatidae).

Subject identified by: Kelvin K. P. Lim.

Location, date and time: Johor Strait, Pulau Ubin, Chek Jawa, 1°24'33.6"N 103°59'28.4"E; 15 July 2025; around 0645–0815 hrs.

Habitat: Estuarine shore. Intertidal zone with soft sand and mud.

Observers: Clarence Wei Hung Sim, Prasha Maithani, and Isabella Tiaras.

Observation: A dead individual of about 80 cm disc width and 210 cm total length, apparently an adult female, was found stranded out of water along the shore at 0.2 m low tide (Fig. 1). The tail was very long, more than two times the length of the disc. The whipray was directly below the boardwalk adjacent to the coastal forest. At around 0815 hrs, it was in the same spot and flies started to infest it. The cause of the subject's demise could not be determined. There was no apparent injury on its dorsal surface, and no other dead fish were seen in the vicinity.



Fig. 1. Dorsal view of the subject, in-situ. (Photograph by: Clarence Wei Hung Sim)

Remarks: This is one of two whiprays in the genus *Himantura* known to occur in Singapore waters, the other being *Himantura undulata* (honeycomb whipray). Both species are regarded as ‘critically endangered’ at the national level (Jaafar et al., 2024). A third species, *Himantura leoparda* (leopard whipray) is expected as Singapore lies in the middle of its known distribution (Last et al., 2016), but it has yet to be recorded. This is not the first time *Himantura uarnak* was reported at Chek Jawa. A juvenile of about 30 cm disc width, with small brown spots on its dorsum, was observed there in December 2010 (Yeo, 2013).

The dorsal surface of the adult *Himantura uarnak* is densely marked with broad dark brown reticulations and/or short narrow irregular bars in adults and close-set small dark spots in juveniles (see Yeo, 2013). In comparison, the dorsal surface of *Himantura leoparda* is covered with thick dark-brown irregular rings with a yellow centre in adults, and large dark polygonal spots in juveniles. In contrast, *Himantura undulata* has a bold pattern of large and thick brown rings and reticulations on the dorsum (Last et al., 2016; Manjaji-Matsumoto et al., 2022). The markings on the dorsum

of the featured ray is very similar to that of the holotype of *Himantura tutul* (Borsa et al., 2013: fig. 5), which is presently regarded as a synonym of *Himantura uarnak* (see Last et al., 2016).

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Literature cited:

- Borsa P, Durand J-D, Shen K-N, Arlyza IS, Solihin DD & Berrebi P (2013) *Himantura tutul* sp. nov. (Myliobatoidei: Dasyatidae), a new ocellated whipray from the tropical Indo-West Pacific, described from its cytochrome-oxidase I gene sequence, *Comptes Rendus Biologies*, 336: 82–92.
- Jaafar Z, Low JKY & Lim KKP (2024) Checklist of marine fish species with their category of threat status for Singapore. In: Davison GWH, Gan JWM, Huang D, Huang WS, Lum SKY & Yeo DCJ (eds.) *The Singapore Red Data Book. Red Lists of Singapore Biodiversity. Third edition.* National Parks Board, Singapore, pp. 649–670.
- Last PR, White WT, de Carvalho MR, Séret B, Stehmann MFW & Naylor GJP (eds.) (2016) *Rays of the World.* CSIRO Publishing, Australia, vii + 790 pp.
- Manjaji-Matsumoto BM, de Carvalho MR, Santos HRS, Gomes UL & Last PR (2022) Family Dasyatidae. Stingrays. In: Heemstra PC, Heemstra E, Ebert DA, Holleman W & Randall JE (eds.) *Coastal Fishes of the Western Indian Ocean. Vol. I.* South African Institute for Aquatic Biodiversity, Makhanda, pp. 598–616, pls. 69–75.
- Yeo RKH (2013) Reticulate whipray at Chek Jawa. *Singapore Biodiversity Records*, 2013: 32.

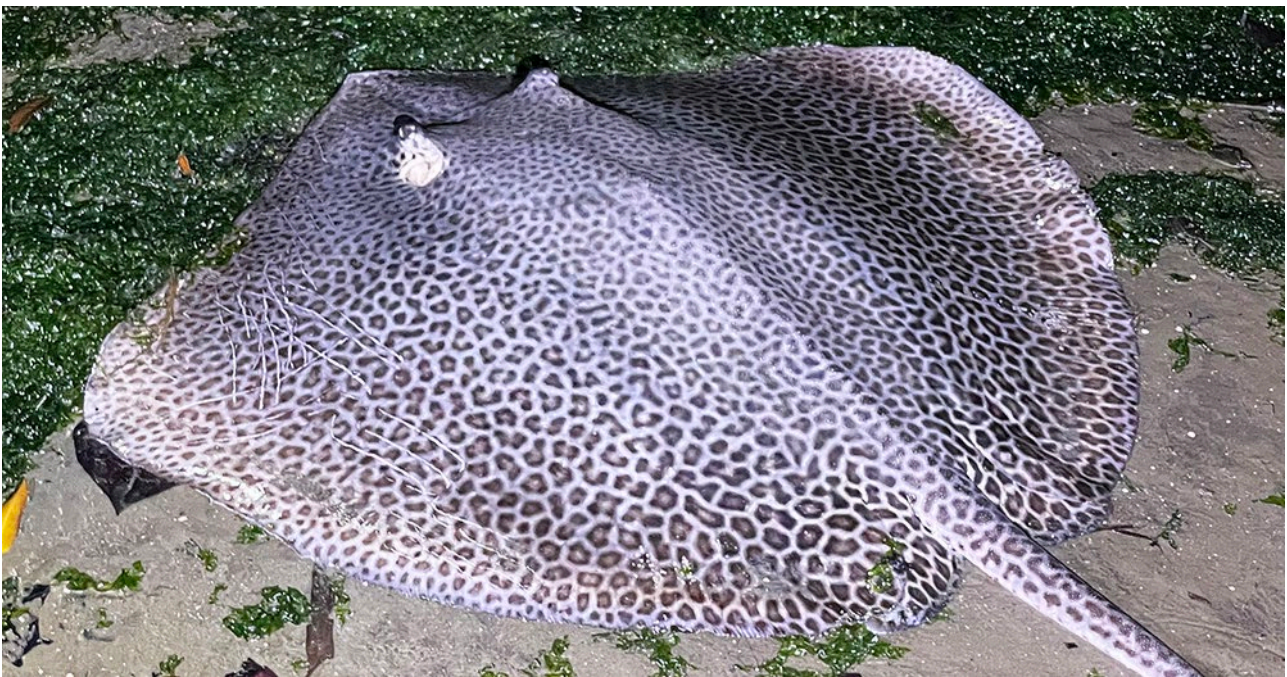


Fig. 2. Rear dorsal view of the disc of the subject, in-situ. Note dense pattern of broad dark brown reticulations and short narrow irregular bars (Photograph by: Isabella Tiaras).