

Biodiversity Record: Bowmouth guitarfish at Bedok Jetty

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Subject: Bowmouth guitarfish, *Rhina ancylostomus* (Elasmobranchii: Rhinopristiformes: Rhinidae).

Subject identified by: Jiayuan Lin and Zeehan Jaafar.

Location and date: Singapore Strait at Bedok Jetty; 29 October 2022; around 1411 hrs.

Habitat: Marine. Shallow coastal sea with interspersed seagrass meadows over sandy-silt substrate.

Observers: Lisa Oshiafi and several anglers.

Observations: A solitary individual, estimated to be between 1.5 and 2.0 m in total length, was observed cruising about at the water surface (Figs. 1–4) for 3 to 5 minutes before swimming away.



Fig. 1 & 2. In-situ dorsal views of the bowmouth guitarfish showing its rounded, helmet-shaped head with characteristic antero-posterior rows of thorny ridges. Fig. 3 & 4. The spotted dorsal fins and the upper lobe of the caudal fin exposed as the fish cruised about at the surface of the sea. (Photographs by Lisa Oshiafi).

Remarks: The bowmouth guitarfish, also known as ‘shark ray’, is the only extant species in the genus *Rhina*. It is easily recognized by its large, rounded, helmet-like head with several thorny ridges in the antero-posterior orientation, a greyish dorsal surface largely mottled with spots, and a tri-lobed mouth. The species is widely distributed in the Indo-west Pacific, from South Africa eastwards to New Caledonia (see Last et al., 2016, as *Rhina ancylostoma*).

Rhina ancylostomus was first recorded in Singapore by Tweedie (1936, as *Rhina ancylostoma*) based on a specimen at the Raffles Museum. This specimen was no longer extant when the zoological collections were moved to their present home in the Lee Kong Chian Natural History Museum at the National University of Singapore (Kelvin K. P. Lim, pers. comm.). There were no records from Singapore until three were reported as ‘diamond sharks’ in local Chinese newspapers —

- 1) In August 1993, an example of over 1.5 m was caught by fishermen off Changi (Shin Min Daily News, 20 February 1994).
- 2) On 19 February 1994, a male of about 1.5 m and 50 kg was caught by fishermen off Changi (Shin Min Daily News, 20 February 1994; see Ng et al., 2015, as *Rhina ancylostoma*).
- 3) On 16 July 1995, one individual of 1.83 m and about 40 kg was caught in a shrimp net in the sea off Marine Parade (Lianhe Wanbao, 17 July 1995).

The species is assessed to be Critically Endangered in Singapore (Jaafar et al., 2024, as *Rhina ancylostoma*) and in the world (Kyne et al., 2019). The featured sighting seems to be the only published record of the species in Singapore after 30 years.

Rhina ancylostomus was thought to be a demersal species that inhabits shallow coastal waters (Last et al., 2016, as *Rhina ancylostoma*; Kyne et al., 2019). Recent studies, however, document this species in the open ocean, suggesting a more pelagic to epipelagic behaviour than previously understood (Forget & Muir, 2021, as *Rhina ancylostoma*; Salgado et al., 2025, as *Rhina ancylostoma*). Genetic studies undertaken by Kipperman et al. (2025) reveal that the species is not genetically homogenous across its range, underpinning the importance of preventing habitat fragmentation in conservation strategies. Little else is known about the life history and population ecology of this charismatic species (see Kyne et al., 2019).

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