NATURE IN SINGAPORE **14**: e2021116
Date of Publication: 30 November 2021
DOI: 10.26107/NIS-2021-0116

Biodiversity Record: A starry pufferfish at Sentosa with notes on its diet and parasites

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Recommended citation. Tan HH (2021) Biodiversity Record: A starry pufferfish at Sentosa with notes on its diet and parasites. Nature in Singapore, 14: e2021116. DOI: 10.26107/NIS-2021-0116

Subject: Starry pufferfish, *Arothron stellatus* (Teleostei: Tetraodontiformes: Tetraodontidae).

Subject identified by: Tan Heok Hui and Kelvin K. P. Lim.

Location, date and time: Singapore Straits at Sentosa, Siloso Beach; 30 July 2021; afternoon.

Habitat: Marine. In artificial lagoon with sandy shore.

Observers: Ahmad Lutfi bin Saimin and Tan Heok Hui.

Observation: A large example of 43 cm standard length (from tip of upper jaw to base of tail fin; Fig. 1) was found freshly dead and washed up on the beach. Moments earlier, it was seen floundering upside down at the water surface. This fish was collected by the shore patrol, frozen, then donated to the Lee Kong Chian Natural History Museum at the National University of Singapore, where it was preserved and catalogued as ZRC 62208.

Fig. 1. Lateral view of *Arohthron stellatus* found dead at Siloso Beach, Sentosa, Singapore. Large whitish patches on the dorsal half of the body were apparently caused by abrasion. (Photograph by: Tan Heok Hui).

While preparing the specimen for preservation, faecal matter was obtained from the pufferfish's hindgut and found to comprise fragments of mollusc shells, broken spines and tests of sea urchin and some unidentified material (Fig. 2). A few isopods with maroon to black material in the gut were observed amongst the debris at the bottom of the container where the frozen specimen was thawed.

Remarks: In Singapore, *Arothron stellatus* is not uncommon, and has been encountered on coral reef (pers. obs.; Fig. 3). This species has a varied diet consisting of sea urchins, sponges, crustaceans, barnacles, coral and algae (Sadovy & Cornish, 2000; Tan, 2016). The fragments of sea urchin (Fig. 2) found in the featured observation are identified as *Prionocidaris bispinosa* (see Lane & Vandenspiegel, 2003). The broken pieces of mollusc shells are not identified. The isopods (Fig. 2), which are unidentified, are assumed to be parasitic on the fish. The maroon to black material in their gut is believed to be the fish's blood. These isopods are likely to have been dislodged from the pufferfish while it was being thawed for preservation. The cause of death of the pufferfish is not known.

Fig. 2. Four isopods apparently filled with blood (top section) and believed to have been dislodged from the pufferfish. Faecal matter (middle section) with sea urchin parts on the left, and mollusc parts on the right. Space between bars = 1 mm (bottom margin). (Photograph by: Tan Heok Hui).

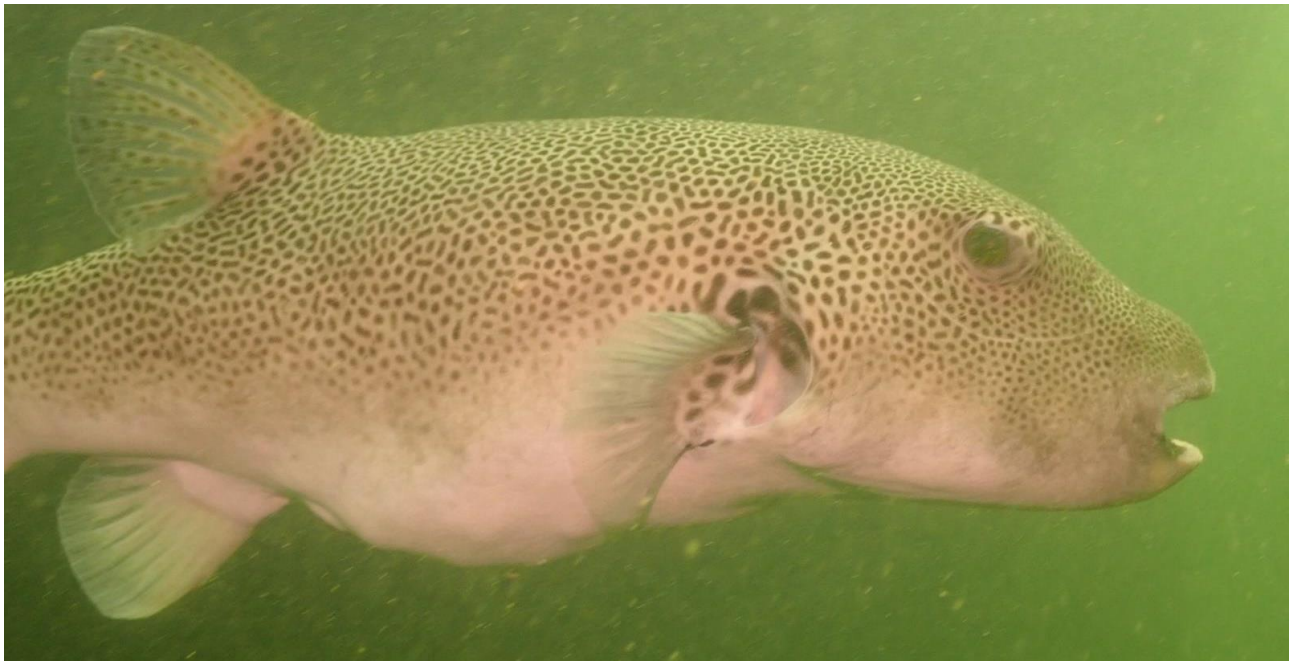

Fig. 3. In situ lateral view of a live adult *Arothron stellatus*, of about 50 cm total length, on a reef at Sisters' Islands Marine Park, Singapore Strait, on 23 August 2019. (Photograph by: Tan Heok Hui).

Literature cited:

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