

## Biodiversity Record: Attempted predation of a gudgeon, *Bostrychus scalaris*, by a water snake

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**Subjects:** Ladder gudgeon, *Bostrychus scalaris* (Teleostei: Gobiiformes: Butidae);  
Sunda dog-faced water snake, *Cerberus schneiderii* (Reptilia: Squamata: Homalopsidae).

**Subjects identified by:** Jiayuan Lin (fish) and Daryl Tan (snake).

**Location, date and time:** Singapore Island, Pasir Ris Park mangroves; 3–4 June 2023; around 2310–0130 hrs.

**Habitat:** Estuarine. Small patch of mangrove forest flanked by urban parkland.

**Observer:** Daryl Tan.

**Observation:** A fish of about 18 cm total length was observed being repeatedly bitten by a dog-faced water snake (around 60 cm total length) apparently with the intent of ingesting the fish. The snake was first noted gripping the fish tightly at the water's edge. The fish was struggling, and the snake had hauled it out of the water. Out of the water and presumably affected by the venom that the snake was expected to have injected into it, the fish appeared to have weakened. Having bitten the tail (Fig. 1), the snake did not swallow the prey from the rear end. It worked its jaws towards the head end of the fish from where the prey was probably intended to be swallowed. Each time the snake loosened its grip, the fish would writhe about (Figs. 2 & 3). Eventually the snake's jaws reached the fish's head. However, despite the snake constantly adjusting and readjusting its jaws for the next two hours, it could not grip the fish's head securely in its jaws (Figs. 4–6) as it seemed to be too wide for the snake's jaws to engulf. As it was getting late, the observer left the scene with the snake still struggling to ingest the fish. In Fig. 5 which shows the fish with its mouth wide open, there appears to be a small fish in its buccal cavity. It is possible that the gudgeon had engulfed the small fish in its jaws seconds before it was attacked by the snake.



Fig. 1. The snake biting the tail of the fish, and proceeding to work its jaws towards the head of the fish (Photograph by: Daryl Tan).



Fig. 2. The snake biting the tail of the fish but did not swallow the prey from the rear end. A lateral view of the right side of the gudgeon is presented. Fig. 3. The snake still with its jaws on the tail of the fish, which had writhed around to expose its ventral surface (Photographs by: Daryl Tan).

**Remarks:** Despite being a record of a dog-faced water snake attempting (apparently unsuccessfully) to eat a hitherto unknown prey species, the fish is credited as the main subject for it confirms the occurrence in Singapore, of the very rare and little known ladder gudgeon, *Bostrychus scalaris*.

Described from Peninsular Malaysia at the mangroves of the Sementa River near Klang, Selangor, the purported occurrence of *Bostrychus scalaris* in Singapore was based on a watercolour painting by F. L. de Castelnau in a notebook compiled in Singapore between 1858 and 1862 (Larson, 2008; Larson et al., 2016). This rare species was subsequently recorded from the Mekong delta in Vietnam (Nagao Natural Environmental Foundation, 2021), and more recently from the estuary of the Musi River in southern Sumatra (Hernawati et al., 2023 as *Bostrychus cf. scalaris*). A distinct series of irregular pale bars on its side and dark markings on its pectoral fins distinguish *Bostrychus scalaris* from its congener *Bostrychus sinensis*, as well as morphologically similar members of the genus *Oxyeleotris*, in Southeast Asia.



Figs. 4–6. Dog-faced water snake attempting to fit the head of the gudgeon into its mouth. Fig. 4. Snake with its jaws over the anterior part of the fish's head. Note the dark markings on the fish's pectoral fins. Figs. 4 & 5. Snake biting the fish's nape. Note in Fig. 5, a small fish, apparently a goby, is visible inside the fish's mouth. Fig. 6. The gudgeon with its right side exposed and showing the large black spot on the upper part of the tail base and irregular blackish bands on the caudal fin (Photographs by: Daryl Tan).

**Literature cited:**

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