

Biodiversity Record: Attempted predation on a mangrove stonefish by a grey heron

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Subjects: Mangrove stonefish, *Leptosynanceia asteroblepa* (Teleostei: Perciformes: Synanceiidae); Grey heron, *Ardea cinerea* (Aves: Pelecaniformes: Ardeidae).

Subjects identified by: Jiayuan Lin, Ong JunXiang Lumin and Tay Jing Xuan.

Location, date and time: Singapore Island, Sungei Buloh Wetland Reserve, Sungei Buloh Besar; 20 March 2024; around 1610 hrs.

Habitat: Mangrove estuary, along muddy bank of creek at low tide.

Observers: Ong JunXiang Lumin and Tay Jing Xuan.

Observation: A grey heron was photographed picking up a mangrove stonefish of about 15 cm total length before setting it back down on the mud next to it (Fig. 1). Upon closer observation of recorded images, it became apparent that the heron had impaled the fish with its lower mandible and a layer of the fish's skin was peeled off around the site of impalement (Fig. 2). Upon being set down, the stonefish laid stationary and half-submerged on the shore (Fig. 3). The grey heron walked away to feed on other fish along the shore. Over the next hour of observation, the stonefish was motionless and did not attempt to swim away, suggesting that it was dead.

Remarks: This may be the first record of a grey heron attempting to eat a mangrove stonefish, which it appeared to have captured by impaling with its lower beak. That it did not proceed to ingest the fish, but instead abandoning it, suggests that the bird may have found the fish too heavy to manipulate and too broad to swallow. Herons are capable of swallowing fish with spiny fins (see Leong, 2012), but the behaviour observed also seems to suggest that the bird could recognise a stonefish, and was aware that the fish is armed with venomous spines.

It was noted that on the day of the observation, various species of fishes were seen dead or struggling on or near the bank of the Sungei Buloh. This implies that there could be a drastic decline of dissolved oxygen in the water, thus suffocating the fish. The mangrove stonefish, usually well-camouflaged in the substrate, could have been forced to the surface for this reason, allowing it to be caught by the heron. Its death could also be caused by the stab wound inflicted by the heron. In Singapore, the mangrove stonefish is a rarely seen and highly elusive species that inhabits muddy estuaries. Specimens have been collected from Sungei Buloh, Lim Chu Kang and Pasir Ris (Kwik & Lim, 2020).

Literature cited:

Kwik JTB & Lim KKP (2020) Scorpionfishes (Teleostei: Scorpaenoidei) of Singapore. Nature in Singapore, 13: 11–26.
Leong TM (2012) Observations of piscivorous avifauna along Siglap canal, Singapore. Nature in Singapore, 5: 291–307.

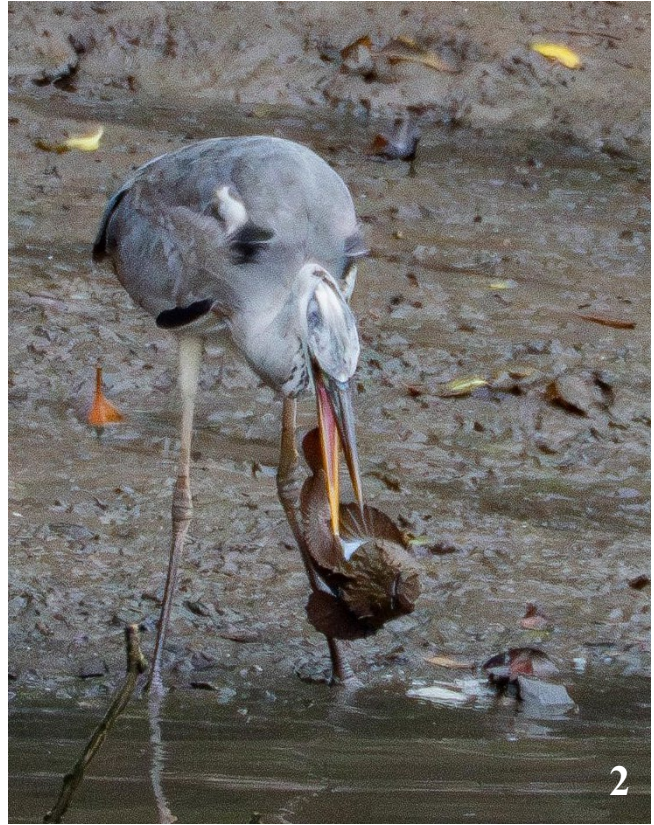


Fig. 1. Grey heron lifting the mangrove stonefish from the mud. Fig. 2 Heron releasing the mangrove stonefish, showing the peeled skin on the left side of the fish caused by impalement of the bird's lower beak (Photographs by: Tay Jing Xuan).



Fig. 3 Lateral view of the dead mangrove stonefish partially submerged by the river bank (Photograph by: Ong JunXiang Lumin).