

Possible courtship behaviour of the giant mudskipper

Subjects: Giant mudskipper, *Periophthalmodon schlosseri* (Teleostei: Gobiidae).

Subjects identified by: Contributors.

Location, date and time: Singapore Island, Sungei Buloh Wetland Reserve, start of Kranji extension; 12 September 2016; 1000-1100 hrs.

Habitat: Intertidal area in mangrove swamp forest, during incoming tide.

Observer: Tan Heok Hui.

Observation: Two giant mudskippers in close proximity to each other were observed. One had a black-coloured snout and the snout of the other was yellow (Figs. 1-4). The yellow-headed fish was observed raising its first dorsal fin repeatedly and chasing the black-headed fish. Occasionally, the yellow-snout fish was almost atop the black-snout fish. This behaviour was observed to last for a few minutes, after which they continued to stay in close proximity. The black lateral stripe characteristic of the species was not present on both fish.

Remarks: *Periophthalmodon schlosseri* is the largest mudskipper in Singapore, growing up to 30 cm total length, and characterised by a distinctive black stripe on its body (Fig. 5; Larson & Lim, 2005). It is strictly carnivorous, consuming fish, crabs and insects (Su & Lim, 2016); and occurs in Singapore's mangrove habitats.

Intraspecific behavioural displays are most prominent when the tide rises as individuals compete for available space along the water's edge, such as against a prop root, a fallen branch, or even a man-made structure. The giant mudskipper is highly territorial and fin-erecting displays between conspecifics readily escalate to aggressive chases. A conflict typically ends when the loser swims away in search of another perch (personal observations).

In the featured observation, the two *Periophthalmodon schlosseri* swimming together in close proximity seems atypical and could possibly represent courtship behaviour. Another interesting observation is the absence of the black lateral stripe that is diagnostic of the giant mudskipper (Fig. 5). The two fish in the present observation could be displaying courtship colouration or territorial aggression. As this species is not externally sexually dimorphic, it is challenging to identify heterosexual pairs and courtship behaviour in the field.

References:

- Larson, H. K. & K. K. P. Lim, 2005. *A guide to Gobies of Singapore*. Singapore Science Centre. 164 pp.
Su, T. L. & S. S. L. Lim, 2016. Niche partitioning in two syntopic mudskipper species (Teleostei: Gobiidae: Oxudercinae) in a Singapore mangrove. *Raffles Bulletin of Zoology*. 64: 220-228.

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Figs. 1 & 2. Dorsal views of two *Periophthalmodon schlosseri*, one with blackish snout (top) and the other with yellowish snout (below) displaying to each other with their first dorsal fins erect.



Figs. 3 & 4. Dorsal views of two *Periophthalmodon schlosseri*, one with blackish snout (left) and the other with yellowish snout and expanded first dorsal fin (right).



Fig. 5. Solitary *Periophthalmodon schlosseri* of about 25 cm total length showing the black stripe characteristic of the species.

Photographs by Tan Heok Hui