

Biodiversity Record: Gobies in mangrove tide pools at Sungei Buloh Wetland Reserve

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Subjects: Ring-tailed brackish goby, *Eugnathogobius polylepis* (Teleostei: Gobiiformes: Gobiidae);
Dirty-faced brackish goby, *Eugnathogobius illothus* (Teleostei: Gobiiformes: Gobiidae);
Two-spot mangrove goby, *Mugilogobius chulae* (Teleostei: Gobiiformes: Gobiidae);
Banded mullet goby, *Hemigobius hoevenii* (Teleostei: Gobiiformes: Gobiidae);
Yellowspot fat-nosed goby, *Pseudogobius fulvicaudus* (Teleostei: Gobiiformes: Gobiidae);
Grey knight goby, *Stigmatogobius sadanundio* (Teleostei: Gobiiformes: Gobiidae);
Mangrove bumblebee goby, *Brachygobius kabiliensis* (Teleostei: Gobiiformes: Gobiidae);
Yellow-spotted mudskipper, *Periophthalmus walailakae* (Teleostei: Gobiiformes: Gobiidae);
Giant mudskipper, *Periophthalmodon schlosseri* (Teleostei: Gobiiformes: Gobiidae).

Subjects identified by: Jiayuan Lin and Ong JunXiang Lumin.

Location, date and time: Singapore Island, Sungei Buloh Wetland Reserve; 25 February 2024; 1240–1425hrs.

Habitat: Mangrove forest. In tide pools on the mud-sand substrate during receding to low tide. The water level was estimated to be less than 10 cm at 1240 hrs and covered the entire forest floor, before being reduced to isolated pools by 1425 hrs.

Observer: Ong JunXiang Lumin.

Observation: In a stretch of around 20 m of mangrove forest during receding tide, nine species of goby were observed. There were around 4 to 6 individuals each of *Eugnathogobius polylepis* (Figs. 1 & 3), *Mugilogobius chulae* (Fig. 3), *Stigmatogobius sadanundio* (Fig. 6) and *Brachygobius kabiliensis* (Fig. 7), and *Hemigobius hoevenii* (Figs. 3, 4 & 7) with more than 6 individuals observed. Only one individual each of *Eugnathogobius illothus* (Fig. 2) and *Pseudogobius fulvicaudus* (Fig. 5) were seen. Of the several individuals of *Eugnathogobius polylepis* observed, only one male was seen to display breeding colouration (Fig. 1). The smaller gobies were either sifting through the sediment for food or engaging in brief territorial conflicts. One each of the mudskippers *Periophthalmus walailakae* (Fig. 8) and *Periophthalmodon schlosseri* (Fig. 9) were noted in the area. They were resting in shallow water with the top of their heads exposed to the air.

Remarks: This brief observation offers an in-situ glimpse of the diversity of gobies inhabiting mangrove tide pools at the Sungei Buloh Wetland Reserve. Although only a small fraction of the goby species known in the area is featured (see Larson et al., 2016), two species are particularly noteworthy. 1) The ring-tailed brackish goby, *Eugnathogobius polylepis*, known locally from Pasir Ris and Pulau Tekong (see Larson et al., 2016), is herein recorded from Sungei Buloh for the first time. The pictures shown here could also be the first in-situ images of this species published in literature. 2) The yellowspot fat-nosed goby, *Pseudogobius fulvicaudus*, first recorded in Singapore from Sungei Buloh mangroves and Sungei Pandan by Larson & Hammer (2021), was previously confused alongside some members of the genus *Pseudogobius* that were known under the name *Pseudogobius javanicus* (see Larson & Lim, 2005).

References:

- Larson HK & Hammer MP (2021) A revision of the gobiid fish genus *Pseudogobius* (Teleostei, Gobiidae, Tridentigerinae), with description of seven new species from Australia and South-east Asia. Zootaxa, 4961: 1–85.
Larson HK & Lim KKP (2005) A Guide to Gobies of Singapore. Singapore Science Centre, 164 pp.
Larson HK, Jaafar Z & Lim KKP (2016) An updated checklist of the gobioid fishes of Singapore. Raffles Bulletin of Zoology, Supplement No. 34: 744–757.



Fig. 1. Dorso-lateral view of adult male *Eugnathogobius polylepis* of about 3 cm total length displaying breeding colouration. Fig. 2. Dorso-lateral view of an *Eugnathogobius illothus* of about 6 cm total length. Fig. 3. Dorsal view of three species of gobies: *Mugilogobius chulae* (top left), *Eugnathogobius polylepis* of about 3 cm (right) and *Hemigobius hoevenii* (bottom). Fig. 4. Dorso-lateral view of an adult *Hemigobius hoevenii* of about 4 cm total length. Fig. 5. Dorso-lateral view of a *Pseudogobius fulvicaudus* of around 2 cm total length (Photographs by: Ong Jun Xiang Lumin).



Fig. 6. Dorso-lateral view of two *Stigmatogobius sadamundio*., the larger one about 6 cm total length. Fig. 7. Dorsal view of a *Brachygobius kabilensis* (indicated by arrow) with *Hemigobius hoevenii* of about 3 cm total length (bottom left). Fig. 8. Dorso-lateral view of *Periophthalmus walailakae* (about 12 cm) with top part of head exposed. Fig. 9. Dorso-lateral view of *Periophthalmodon schlosseri* (about 20 cm) with eyes and snout exposed (Photographs by: Ong Jun Xiang Lumin).