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Blennies in mangrove tree stumps exposed at low tide

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Subjects: Whitebar oyster-blenny, Omobranchus ferox (Teleostei: Blennidae);

Zebra oyster-blenny, Omobranchus zebra (Teleostei: Blennidae).

Subjects identified by: Kelvin K. P. Lim.

Location, date and time: Johor Strait, Pulau Ubin, Chek Jawa; 16 November 2017; around 1600 hrs.

Habitat: Estuarine. Mangrove shore.

Observers: Iffah Iesa, Tan Siong Kiat, Simon Cragg & Helen Wong.

Observation: Three examples of the whitebar oyster-blenny (largest example 47.5 mm in standard length, Fig. 1) and one zebra oyster-blenny (42.6 mm standard length, Fig. 2) were found hidden in the parts of dead and rotting mangrove tree stumps exposed to air in the muddy intertidal region during low tide. The stumps were submerged during high tide. The fish were collected for identification and registered as voucher specimens in the Zoological Reference Collection (ZRC) of the Lee Kong Chian Natural History Museum, at the National University of Singapore.



Fig. 1. Lateral view of *Omobranchus ferox* of 47.5 mm standard length (ZRC 56646).



Fig. 2. Lateral view of Omobranchus zebra of 42.6 mm standard length (ZRC 56647).

Photographs by Kelvin K. P. Lim

Remarks: Apart from the two species featured here, a third species of fish, the crescent oyster blenny (*Omobranchus smithi*) has also been found locally in timber in the mangrove (Lim, 2017). While the whitebar oyster blenny (*Omobranchus ferox*) is known to be common in the mangroves of Singapore (Lim & Low, 2002: 132), the crescent and zebra oyster blennies appear to be rare.

Omobranchus zebra was described from Singapore in 1868 (Bleeker, 1868: 279 as Petroskirtes zebra). One recent record in the country (Toh et al., 2016: 92) is based on two specimens of 36.4 and 25.5 mm standard length (ZRC 47516) obtained from among fouling organisms under floating pontoons at the Raffles Marina, at Tuas, in 2000. The dark vertical bands on its head readily distinguish Omobranchus zebra from its two congeners in Singapore mangroves. Omobranchus ferox has a distinct narrow white bar behind its eye, and Omobranchus smithi has a black crescent-shaped mark dorsally at the rear edge of its eye (Springer & Gomon, 1975 - Omobranchus smithi as Omobranchus meniscus).

Oyster blennies of the genus *Omobranchus* are not the only fish known to hide in timber crevices. At the mangroves of the Tukang Besi Archipelago in Sulawesi, Indonesia, the dartfish, *Parioglossus interruptus*, was discovered taking refuge in dead wood riddled with tunnels made by shipworms (a type of boring mollusc of the family Teredinidae) exposed during low tide and at night, apparently to evade predators (Hendy et al. 2013). It is believed that protection from the heat and the retention of sufficient water in the wood help the fish survive in the wood during low tide.

References:

- Bleeker, P., 1868. Description de deux espèces nouvelles de blennioïdes de l'inde archipélagique. *Verslagen en Mededeelingen der Koninklijke Akademie van Wetenschappen*. (2) 2: 278-280.
- Lim, K. K. P., 2017. Singapore records of the crescent oyster blenny, *Omobranchus smithi. Singapore Biodiversity Records*. 2017: 145.
- Lim, K. K. P. & J. K. Y. Low, 2002. A Guide to Common Marine Fishes of Singapore. Revised edition. Singapore Science Centre. 163 pp.
- Hendy, I. W., J. Eme, T. F. Dabruzzi, R. V. Nembhard, S. M. Cragg & W. A. Bennett, 2013. Dartfish use teredinid tunnels in fallen mangrove wood as a low-tide refuge. *Marine Ecology Progress Series*. 486: 237-245.
- Springer, V. G. & M. F. Gomon, 1975. Revision of the blenniid fish genus *Omobranchus* with descriptions of three new species and notes on other species of the tribe Omobranchini. *Smithsonian Contributions to Zoology*. 177: 1-135.
- Toh K. B., C. S. L. Ng, W.-K. G. Leong, Z. Jaafar & L. M. Chou, 2016. Assemblages and diversity of fishes in Singapore's marinas. *The Raffles Bulletin of Zoology*. Supplement No. 32: 85-94.

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