

## Estuarine dart-goby, *Parioglossus palustris*, in wood out of water

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**Subjects:** Estuarine dart-goby, *Parioglossus palustris* (Teleostei: Ptereleotridae);

**Subjects identified by:** Kelvin K. P. Lim.

**Location, date and time:** Singapore Island, Berlayer Creek mangrove; 14 December 2017; around 1420 hrs.

**Habitat:** Estuarine. Mangrove creek surrounded by urban parkland (Fig. 1 left).

**Observers:** Iffah Iesa, Tan Siong Kiat, Simon Cragg & Lee Khek Yan.



Fig. 1. Left - View of the mangrove creek during low tide with accumulations of dead tree branches in the creek and on the mud banks. Right - Lateral section of the branch that had been split open. The fish were revealed when the split layer was pried open. Photographs by Iffah Iesa

**Observation:** At least seven examples of the estuarine dart-goby were found hidden inside a cracked section of a dead tree branch exposed to air in the muddy intertidal region during low tide. The section of the branch was submerged during high tide. The fish were uncovered when the outer layer of the wood was pried open (Fig. 1 right). They leapt out onto the mud and some disappeared among the debris. There were no signs of shipworm boring in the wood.

Four of the fish, ranging from 12.6 to 21.0 mm standard length (from tip of snout to base of tail fin), 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. The largest example is shown in Fig. 2.

**Remarks:** In Singapore, three species of blennies of the genus *Omobranchus* are known to seek refuge in dead wood that become exposed to the air during low tide (Lim et al., 2017: 158). This seems to be the first instance where a ptereleotrid dart-goby is found in a similar situation there.

At the mangroves of the Tukang Besi Archipelago in Sulawesi, Indonesia, the congener *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 crevices enable the fish survive in the wood during low tide.



Fig.2. Lateral view of *Parioglossus palustris* of 21.0 mm standard length (ZRC 56711).  
Photograph by Tan Heok Hui

H. H. Tan (personal observation) has collected *Parioglossus palustris* in the mangrove creek at Loyang at the north-eastern edge of Singapore Island. Specimens were obtained in nets swept through mid-water, indicating they were swimming gregariously in the open. One of the examples from Loyang is illustrated in Larson & Lim (2005: 156). Indeed, *Parioglossus palustris* is known to form aggregations near the surface of marine lakes, tidal streams and mangroves (Allen & Erdmann, 2012: 997). This may be the first time that the species *Parioglossus palustris* is reported concealed within pieces of wood exposed to the air.

#### References:

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- 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.

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