

Biodiversity Record: *Betta imbellis* and other air-breathing fishes at Chencharu woodland

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Subjects: Crescent fighting fish, *Betta imbellis* (Teleostei: Anabantiformes: Osphronemidae); Croaking gourami, *Trichopsis vittata* (Teleostei: Anabantiformes: Osphronemidae); Asian climbing perch, *Anabas testudineus* (Teleostei: Anabantiformes: Anabantidae); Common snakehead, *Channa striata* (Teleostei: Anabantiformes: Channidae).

Subjects identified by: Luqmanul Hakim Bin Othman and Chen Xuanhe.

Location, date and time: Singapore Island, Lower Seletar Area, Chencharu woodland, Sungei Chik Abu (draining to Lower Seletar Reservoir); 4 August 2024; around 0715 hrs.

Habitat: Freshwater swamp in secondary woodland adjacent to an open-country stream (Sungei Chik Abu).

Observers: Luqmanul Hakim bin Othman and Chen Xuanhe.

Observation: A desiccated carcass of a *Betta imbellis*, about 5 cm in standard length (SL, measured from tip of snout to base of caudal fin), was found on the dry bank of the swamp (Fig. 1). Alongside this find were an *Anabas testudineus* of about 8 cm SL (Fig. 2), and a *Trichopsis vittata* of about 3 cm SL (Fig. 3). The latter two were netted alive from the water for ex-situ photography and released thereafter. A *Channa striata* of about 6 cm SL (Fig. 4) was observed on the substrate in shallow water.

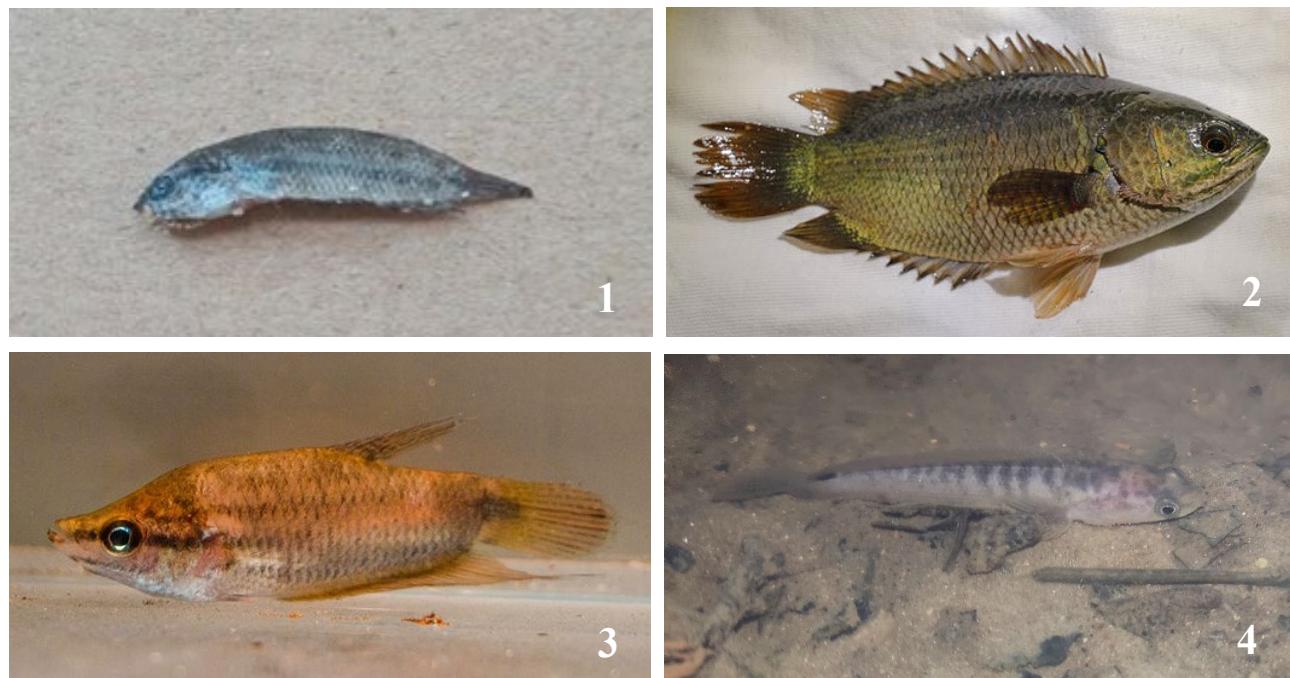


Fig. 1. Lateral view of carcass of *Betta imbellis* (Photograph by: Luqmanul Hakim Bin Othman). Fig. 2. Lateral view of a live *Anabas testudineus* (Photograph by: Chen Xuanhe). Fig. 3. Lateral view of a live *Trichopsis vittata* (Photograph by: Chen Xuanhe). Fig. 4. Dorso-lateral view of a small *Channa striata*, in-situ (Photograph by: Chen Xuanhe).

Remarks: In Singapore, *Betta imbellis* is regarded as an endangered native fish (Low et al., 2024). Although rarely seen, it seems to be relatively widespread locally, both in forest and exposed areas. The species has been recorded at Eng Neo forest (AECOM, 2024), Kranji Marsh (Tan et al., 2016), Sime Road forest (Tan & Ng, 2005), Springleaf forest (Dansk Hydraulisk Institut, 2022), and Lorong Banir (Ng & Lim, 1997). The last two locations share the same drainage basin as the present location. A record from Bukit Batok Hillside Park (EnviroSolutions & Consulting Pte Ltd, 2020) has been re-identified as the non-native Siamese fighting fish, *Betta splendens* (Ramboll, 2025; JY Lin, personal communication).

The fighting fish, climbing perch, croaking gourami and snakehead are air-breathers that are well-adapted to the swamp's periodic fluctuations in water, temperature and oxygen levels. Unlike *Betta imbellis*, the latter three fish are common natives in Singapore freshwaters that are regarded as species of 'least concern' (Low et al., 2024).

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