

Biodiversity Record: Glossiphonid leech on lowland freshwater crab

Amanda Yap*, Colin Lee, Matthew Seah & Daniel Ng

Email: amandayap11@gmail.com (*corresponding author)

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Subjects: Freshwater jawless leech, unidentified genus and species (Annelida: Clitellata: Hirudinea: Glossiphonidae); Lowland freshwater crab, *Parathelphusa maculata* (Crustacea: Decapoda: Gecarcinucidae).

Subjects identified by: Daniel Ng.

Location, date and time: Singapore Island, Bukit Batok; 12 June 2023; around 1956 hrs.

Habitat: Freshwater stream with concretized banks and leaf litter.

Observers: Colin Lee, Amanda Yap, Matthew Seah and Daniel Ng.

Observation: An adult female lowland freshwater crab of carapace width around 4 cm was observed out of water on the stream bank. Upon closer inspection, a leech was found attached to the left side of the crab (Fig. 1). The leech had its anterior sucker attached to the branchiostegite, and its posterior sucker attached to the carapace of the crab. Throughout the duration of the observation which lasted for approximately two minutes, the leech made no attempt to detach from the crab and did not shift from its initial position. Eventually, the crab retreated into a crevice in the stream with the leech still attached to it.



Fig. 1. Dorsal view of the crab with a leech (indicated with arrow) attached. (Photograph: Colin Lee).



Fig. 2. Frontal view of crab with leech (indicated with arrow) attached to its left side. (Photograph: Colin Lee).

Remarks: While freshwater leeches are widely known to parasitize vertebrates, some species are also known to seek out invertebrates (Govedich et al., 2005). In Singapore, the endemic freshwater crab, *Johora singaporensis*, has been reported previously with an unidentified freshwater leech attached on their branchiostegite (Ng, 1988). The current observation is noteworthy because the host in question is a different species. This seems to be the first record of a leech parasitizing the lowland freshwater crab, *Parathelphusa maculata*. We are unable to tell if the leeches that parasitize *Johora singaporensis* and *Parathelphusa maculata* are conspecific although they appear similar. Judging from the bloated appearance of the leech in the present observation, it can be assumed to have fed on a significant amount of the crab's haemolymph.

We are unable to identify the leech in this observation beyond family level. It bears some resemblance to 'Glossiphonidae sp. 3' found on a *Johora singaporensis* in The Biodiversity of Singapore website (<https://singapore.biodiversity.online/species/A-Anne-Clit-Hirudinea-000003> [accessed 19 July 2023]).

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Literature cited:

- Govedich FR, Bain BA & Davis RW (2005) Hirudinea (leeches). In: Rohde K (ed.) Marine Parasitology. CSIRO Publishing, Australia, pp. 196–202.
Ng PKL (1988) The Freshwater Crabs of Peninsular Malaysia and Singapore. Shing Lee Press, Singapore, 156 pp.