NATURE IN SINGAPORE **16**: e2023122
Date of Publication: 27 December 2023
DOI: 10.26107/NIS-2023-0122

Biodiversity Record: Co-occurrence of two endemic crabs in a concretised drain

Choo Ruirong* & **Ong** Junxiang Lumin

Email: ruirong2k@gmail.com (*corresponding author), luminongjx@gmail.com

Recommended citation. Choo R & Ong JL (2023) Biodiversity Record: Co-occurrence of two endemic crabs in a concretised drain. Nature in Singapore, 16: e2023122. DOI: 10.26107/NIS-2023-0122

Subjects: Johnson's freshwater crab, *Irmengardia johnsoni* (Crustacea: Decapoda: Brachyura: Gecarcinucidae);
Reticulated swamp crab, *Parathelphusa reticulata* (Crustacea: Decapoda: Brachyura: Gecarcinucidae).

Subjects identified by: Choo Ruirong and Ong Junxiang Lumin.

Location, date and time: Singapore Island, Upper Seletar; 5 September 2023; around 2130 hrs.

Habitat: Freshwater. Concretised drain in parkland connecting to streams at the edge of secondary forest.

Observers: Choo Ruirong and Ong Junxiang Lumin.

Observation: One adult Johnson's freshwater crab (carapace width about 2 cm) was seen approximately 10 cm away from a slightly larger reticulated swamp crab (carapace width about 2.5 mm). Both were fully submerged in shallow water crawling about on a substrate of mud and leaf litter (Fig. 1). No interaction between the two crabs was observed.

Fig. 1. Dorsal view of two endemic crabs in shallow water within a concretised drain. The reticulated swamp crab is at the right edge of the picture, while the Johnson's freshwater crab is at the left side (Photograph by: Ong Junxiang Lumin).

Remarks: Three species of freshwater crabs are known to occur together in the Nee Soon swamp-forest. Both *Irmengardia johnsoni* and *Parathelphusa reticulata* are endemic to Singapore and apparently found nowhere else in the world. Within Singapore, both species are regarded as 'endangered'. The international threat status of *Irmengardia johnsoni* is 'vulnerable', while that of *Parathelphusa reticulata* is 'critically endangered' (Ho et al., 2016).

Parathelphusa reticulata has already been reported from the peripheral areas of the Nee Soon swamp-forest. It has been found in a stream in the Springleaf watershed (Tan & Low, 2017), as well as from a drain at Upper Seletar (Yau et al., 2020), which could be the same location as the present observation.

The present sighting is noteworthy for both species were observed together outside their swamp forest habitat in a concretised channel. And it shows the two species sharing the same general space, although no interaction between the two individuals were observed. Their tolerance of this artificial habitat is possible as the drain, linked to streams flowing out of the adjacent Nee Soon swamp forest, had clean water, and mud and leaf litter were present on the substrate.

Literature cited:

Ho JKI, Ramchunder SJ, Memory A, Theng M, Li T, Clews E, Cai Y, Tan HH & Yeo DCJ (2016) A Guide to the Freshwater Fauna of Nee Soon Swamp Forest. Tropical Marine Science Institute & Lee Kong Chian Natural History Museum, National University of Singapore, vi + 139 pp.

Tan HH & Low BW (2017) Reticulated swamp crab, *Parathelphusa reticulata*, in Springleaf watershed. Singapore Biodiversity Records, 2017: 51.

Yau SJM, Lee J, Chakraborty D, Yoshino M & Low SH (2020) Reticulated swamp crabs at Upper Seletar. Singapore Biodiversity Records, 2020: 140–141.