

Biodiversity Record: New record of the butterfly, *Freyeria putli*, in Singapore

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Recommended citation. Li FY (2023) Biodiversity Record: New record of the butterfly, *Freyeria putli*, in Singapore. Nature in Singapore, 16: e2023102. DOI: 10.26107/NIS-2023-0102

Subject: Jeweled grass-blue, *Freyeria putli* (Insecta: Lepidoptera: Lycaenidae: Polyommatainae).

Subject identified by: Aaron Soh and Low Jian Kai.

Location, date and time: Singapore Island, off Ulu Pandan Park Connector; 3 September 2023 at 2219 hrs and 4–8 September 2023 at various times in the day.

Habitat: Grassy open space next to shrubby secondary vegetation.

Observer: Fiora Y. Li.

Observations: On 3 September 2023 at 2219 hrs, a butterfly with a wingspan of about 10–15 mm was observed roosting on shrubby vegetation fringing an open space (Fig. 1). It remained still, allowing for a few photographs to be taken before flying off.

Subsequent visits to the site were made over the next five days, during which a small population of the species was discovered. In the day, the butterflies were found at the adjacent grass patch. They were observed flying within 15 cm from the ground, actively seeking out flowers to feed on. On 7 September 2023 at 1221 hrs, a female was observed laying an egg among the flower buds of *Indigofera spicata* (Figs. 2, 3). At night, the butterflies were seen resting at the vegetation beside the open space, similar to the first sighting on 3 September 2023.

On 8 September 2023 at 1159 hrs, an individual was spotted at a separate clearing about 200 m away from the site where the species was first found. It was also observed ovipositing on the flower buds of *Indigofera spicata* (Fig. 4).



Fig. 1. *Freyeria putli* roosting on an unidentified plant on 3 September 2023. Fig. 2. *Freyeria putli* in the midst of oviposition on *Indigofera spicata* (Photographs by: Fiora Y. Li).



Fig. 3. Freshly laid egg of *Freyeria putli* (indicated by arrow) among the flower buds. Fig. 4. *Freyeria putli* found at a separate site about 200 m away from the first sighting (Photographs by: Fiora Y. Li).

Remarks: With no known documentation of the species in Singapore (Jain et al., 2018; Khew, 2023), the observation on 3 September 2023 appears to be the first record of *Freyeria putli* in the country. *Indigofera spicata*, on which the butterflies were observed laying their eggs, belongs to a genus of legumes known to be host plants of the species (Jackes & Robertson, 2023; Kawthankar et al., 2023). The sighting of the individual at a separate site on 8 September 2023 suggests that the species might be found in similar habitats elsewhere in Singapore.

Freyeria putli can be easily distinguished by a prominent row of black spots along the underside hindwing margin. In the field, however, it is noted that the species may be overlooked due to its tiny size. The species is also similar in size and appearance to that of the pygmy grass blue, *Zizula hylax pygmaea*, and lesser grass blue, *Zizina otis lampa*, especially when not viewed up-close or when in flight, and may be misidentified as either species. Both the pygmy grass blue and lesser grass blue are common in Singapore (Khew, 2015) and were found at the sites where the *Freyeria putli* were spotted. This further adds to the likelihood of *Freyeria putli* being dismissed as one of the other two species.

Beyond Singapore, *Freyeria putli* occurs in Sri Lanka, Pakistan, Nepal, India, Myanmar, Thailand, Laos, Cambodia, Vietnam, Yunnan in China, Langkawi in Malaysia, and Australia (Inayoshi, 2023). It is unclear how and when the species reached Singapore.

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