

Biodiversity Record: New Singapore record of the dragonfly, *Gynacantha limbalis*

En Ping Tan[‡], Zick Soh[¶] & Robin W. J. Ngiam^{*}

Email: tanenping123@gmail.com ([‡]), ss82zick@gmail.com ([¶]), yanrobin@hotmail.com (^{*}corresponding author)

Recommended citation. Tan EP, Soh Z & Ngiam RWJ (2025) Biodiversity Record: New Singapore record of the dragonfly, *Gynacantha limbalis*. Nature in Singapore, 18: e2025059. DOI: 10.26107/NIS-2025-0059

Subject: Margin-wing duskhawker, *Gynacantha limbalis* (Insecta: Odonata: Anisoptera: Aeshnidae).

Subject identified by: Robin W. J. Ngiam and Rory A. Dow.

Location, date and time: Singapore Island, Jurong West Street 64, Block 661C; 31 March 2025; 1802 hrs.

Habitat: Urban residential area of high-rise concrete buildings. At the void deck of an apartment block.

Observer: En Ping Tan.

Observation: An example with hindwing length of approximately 6 cm was observed perched on a railing of a staircase. It is worth noting that the corridor lighting at the void deck had not been turned on at that point in time. The insect had disappeared when the observer returned at 2030 hrs to locate it again with the illumination provided by the corridor lighting that had been turned on by then. Given the high human traffic at the site, the dragonfly might have been startled and flown away.

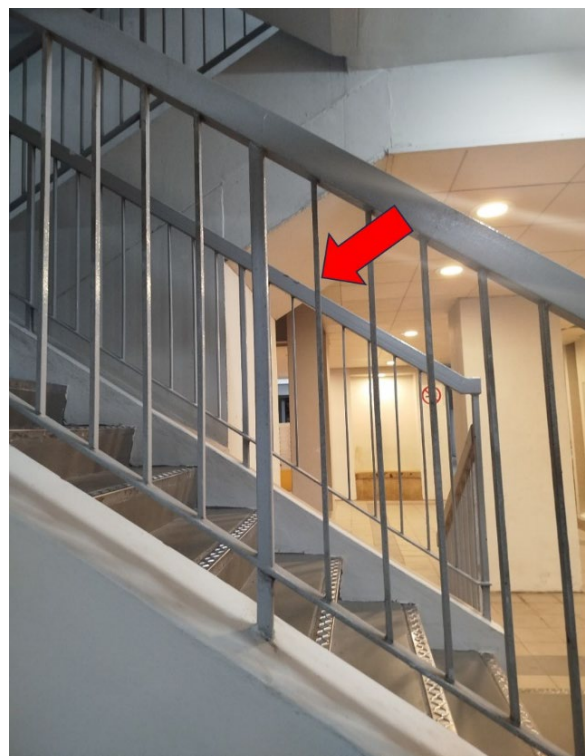


Fig. 1. Male *Gynacantha limbalis* in-situ on the metal railing. Fig. 2. Void deck of the housing block where *Gynacantha limbalis* was discovered. Red arrow indicates where it was perched (Photographs by: En Ping Tan).

The dragonfly was identified from Fig. 1. Terminology based on Theischinger & Endersby (2009). Male (Fig. 1) – Eyes and frons black-olive. Synthorax overall light-brown except the mesanepisternum which is black-olive. Small blue markings are visible on scutum of the synthorax at base of fore and hind wings. Presence of brown streaks along the

entire leading margin of all wings is diagnostic (Orr, 2005). Base of abdomen very swollen, auricles brown. Third abdominal segment (S3) very constricted, the rest of abdomen long and straight. Superior appendages long and narrow with pointed apex.

Remarks: *Gynacantha limbalis* represents a new record for Singapore and increases the national odonate list to 139, since the recent discovery of *Tetrathemis hyalina* by Ngiam et al. (2024). This species has an extensive distribution from Java and Sumatra to Peninsular Malaysia and Borneo (Dow et al., 2024). It was also newly recorded from southern Thailand in 2019 (Pierce & Makbun, 2020). Although widely distributed, the known locations are scattered suggesting that the overall population may be fragmented. Moreover, compared to other more commonly encountered congeners like *Gynacantha subinterrupta* which has the same elusive and crepuscular habits, *Gynacantha limbalis* appears to be uncommon, if not scarce. These considerations coupled with the ongoing loss of forest in our region means the species was assessed to be globally Near Threatened (Dow, 2020).

Gynacantha limbalis is found in forested habitats (Dow, 2020; Pierce & Makbun, 2020). In this instance, its discovery in an urban housing estate can be attributed to attraction towards nearby artificial lights which may be turned on at that time. This is a typical occurrence for crepuscular odonates. The environment where it naturally occurs could be the small forested areas within Jurong Lake Gardens or more likely the extensive forests in the Western Catchment further afield. The presence of what looks like spider webs on its wings is evidence that the dragonfly had survived an encounter with a would-be predator.

Given that this is the only known record and locality in Singapore, we assign it a national conservation status of Critically Endangered, Restricted and Very Rare. The vernacular name ‘margin-winged duskhawker’ has been proposed for Malaysia (MyBIS, 2025) and it is an appropriate name to adopt for Singapore as well.

Acknowledgement: Thanks to Rory Dow for corroborating the species identity.

Literature cited:

- Dow RA (2020) *Gynacantha limbalis*. The IUCN Red List of Threatened Species 2020: e.T139064639A139118162. <https://dx.doi.org/10.2305/IUCN.UK.2020-1.RLTS.T139064639A139118162.en> (Accessed 8 April 2025)
- Dow RA, Choong CY, Grinang J, Lupiyaningdyah P, Ngiam RWJ & Kalkman VJ (2024) Checklist of the Odonata (Insecta) of Sundaland and Wallacea (Malaysia, Singapore, Brunei, Indonesia and Timor Leste). *Zootaxa*, 5460: 1–122.
- MyBIS (2025) Malaysia Biodiversity Information System. Ministry of Natural Resources and Environmental Sustainability, Malaysia Biodiversity Centre & Forest Research Institute Malaysia. <https://www.mybis.gov.my/sp/59168> (Accessed 8 April 2025)
- Ngiam RWJ, Dow RA, Thio HB & Chan WT (2024) Biodiversity Record: New Singapore record of the dragonfly, *Tetrathemis flavescens*, with a note on *Tetrathemis hyalina* in Singapore. *Nature in Singapore*, 17: e2024082. DOI: 10.26107/NIS-2024-0082
- Ngiam RWJ & Ng MFC (2022) A Photographic Field Guide to the Dragonflies & Damselflies of Singapore. John Beaufoy Publishing, Oxford, 340 pp.
- Orr AG (2005) Dragonflies of Peninsular Malaysia and Singapore. Natural History Publications, Kota Kinabalu, Malaysia. 127pp.
- Pierce A & Makbun Noppadon (2020) First record of *Gynacantha limbalis* Karsch, 1892 from Thailand (Odonata: Anisoptera: Aeshnidae). *Songklanakarin Journal of Science and Technology*, 42: 965–966.
- Theischinger G & Hawking J (2006) The Complete Field Guide to Dragonflies of Australia. CSIRO Publishing, Melbourne, 376 pp.