

Biodiversity Record: *Ophiocordyceps humbertii* fungus parasitising *Ropalidia sumatrae* wasp

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Subjects: Parasitic fungus, *Ophiocordyceps humbertii* (Ascomycota: Sordariomycetes: Hypocreales: Ophiocordycipitaceae); Sumatran paper wasp, *Ropalidia sumatrae* (Insecta: Hymenoptera: Vespidae).

Subjects identified by: Drew Palmer and William C. Beckerson (for fungus), and Ivan Neo (for wasp).

Location, date and time: Singapore Island, Mandai Track 15, 30 Jun 2022; 1927 hrs

Habitat: Secondary forest, adjacent to freshwater swamp forest.

Observers: Ivan Neo, Ting Wai Kit, Kong Man Jing and Raye Ng.

Observation: A parasitic fungus was observed producing fruiting bodies from a dead Sumatran paper wasp of about 15 mm. The infected wasp was found with its mandibles clamped onto the blade of grass it was on.



Fig. 1. Lateral view of *Ophiocordyceps humbertii* fruiting from a dead *Ropalidia sumatrae* on a blade of grass. Fig. 2. Frontal view of the head of *Ropalidia sumatrae* biting the grass blade with its mandibles (Photographs by: Ivan Neo).

Remarks: This observation, reported earlier on iNaturalist (<https://www.inaturalist.org/observations/198382381> and <https://www.inaturalist.org/observations/198474947>), may be the first documentation of the entomopathogenic fungus *Ophiocordyceps humbertii* in Singapore. *Ophiocordyceps humbertii* infects social wasps and induces them to bite leaves (Araújo & Hughes, 2019).

Entomopathogenic fungi appear to be poorly known in Singapore, where *Ophiocordyceps sphecocephala* is listed as a vulnerable species (Lee & Choong, 2024). Three unidentified entomopathogenic fungus photographed in Singapore's forest are illustrated in Wang et al. (2012: 194).

Literature cited:

- Araújo JPM & Hughes DP (2019) Zombie-ant fungi emerged from non-manipulating, beetle-infecting ancestors. *Current Biology*, 29: 3735–3738.
- Lee SML & Choong AMF (2024) Checklist of fungi species with their category of threat status for Singapore. In: Davison GWH, Gan JWM, Huang D, Hwang WS, Lum SKY & Yeo DCJ (eds.) *The Singapore Red Data Book. Red Lists of Singapore Biodiversity*. Third edition. National Parks Board, Singapore, 688 pp.
- Wang LK, Yeo DCJ, Lim KKP & Lum SKY [eds] (2012) *Private Lives. An Exposé of Singapore's Rainforests*. The Raffles Museum of Biodiversity Research, National University of Singapore, 298 pp.