

Biodiversity Record: Sunda pangolin at the Botanic Gardens

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Subject: Sunda pangolin, *Manis javanica* (Mammalia: Pholidota: Manidae).

Subject identified by: Gretchen Christina Coffman, Lewis Kwek Boon Leong and Muhammad Khairul Fikri B. S.

Location, date and time: Singapore Island, Singapore Botanic Gardens, Keppel Discovery Wetlands; 1 January 2022; 0507 hrs.

Habitat: Urban parkland. In an artificially restored forested wetland next to a man-made pond. The site is dominated by the tree species *Alstonia pneumatophora*, *Buchanania arborescens* and *Triadica cochinchinensis*. The trees within the site have a mean diameter breast height of 11.7 cm and a mean tree height of 9.34 m. The site has a mean canopy cover of 57% and a mean herbaceous cover of 30.2%. The average soil moisture where the pangolin was spotted was approximately 57% volumetric water content.

Observer: Image recorded by a Reconyx HyperFire 2 Cellular 6437 trail camera set up by the authors as part of a longitudinal wetland restoration monitoring study program throughout the Keppel Discovery Wetlands and Eco Lake in the Botanic Gardens.

Observation: An adult pangolin was photographed moving along the edge of the pond within the forested wetlands (Fig. 1).



Fig. 1. Camera trap image of the Sunda pangolin at Keppel Discovery Wetlands.

Remarks: The Sunda pangolin is regarded as ‘critically endangered’ globally according to the IUCN. In Singapore, its population is considered to be low, with an estimated 1046 individuals (Nash et. al., 2020). The present observation was unexpected and appears to be the first record in the Singapore Botanic Gardens. The most recent report of a pangolin before this is of a dead example at Sembawang Park in February 2022 (Kamal, 2022).

The Sunda pangolin makes its habitat in a variety of places, including primary and secondary tropical forests (such as dipterocarp), evergreen and hill forests, peat swamp forests, grasslands and monocultures (Chong et. al., 2020). In Singapore’s highly urbanised landscape, the major threat to Sunda pangolins seems to be roadkill incidents. The threat of poaching may be present in Singapore but is probably rare due to the strict regulations enforced since the late 1990s to curb such activities. Instead, conservation efforts have been made to rescue and rehabilitate pangolins found in urban areas where they are more prone to danger.

The Singapore Pangolin Working Group (SPWG), a collaboration of various stakeholders, was established in 2014. In 2018, the SPWG developed the National Conservation Strategy and Action Plan. This plan was jointly written by Mandai Wildlife Group (formerly Wildlife Reserves Singapore) and the National Parks Board, in collaboration with the IUCN Species Survival Commission (IUCN SSC), Asian Species Action Partnership (ASAP) and the IUCN SSC Pangolin Specialist Group (PSG) and Conservation Planning Specialist Groups (CPSG). The aim of this multi-stakeholder collaboration is to pool resources, thereby increasing conservation efforts targeting pangolins in Singapore.

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