NATURE IN SINGAPORE **17**: e2024089
Date of Publication: 30 September 2024
DOI: 10.26107/NIS-2024-0089

Biodiversity Record: Conspecific aggression between male Sunda pangolins

Leroy Rocky **Alphonso**[*], **Siddik Hasman**[†], **Muhammad Affandi Anuar**[#] & Charlene **Yeong**[%]

Email: leroy_rocky_alphonso@nparks.gov.sg ([*]corresponding author), siddik_hasman@nparks.gov.sg ([†]), muhd_affandi_anuar@nparks.gov.sg ([#]), charlene.yeong@mandai.com ([%])

Recommended citation. Alphonso LR, Siddik Hasman, Muhammad Affandi Anuar & Yeong C (2024) Biodiversity Record: Conspecific aggression between male Sunda pangolins. Nature in Singapore, 17: e2024089. DOI: 10.26107/NIS-2024-0089

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

Subjects identified by: Muhammad Affandi Anuar, Siddik Hasman, Leroy Rocky Alphonso and Charlene Yeong.

Location, date and time: Singapore Island, Central Catchment Nature Reserve, service road of Bukit Kalang Service Reservoir; 17 July 2024; around 1309 hrs.

Habitat: Secondary forest.

Observers: Muhammad Affandi Anuar, Siddik Hasman and Charlene Yeong.

Observations: Two Sunda pangolins were discovered in a deep concrete drain parallel to the service road. The smaller individual (Pangolin A) was in a defensive balled posture, while the larger animal (Pangolin B) had latched onto Pangolin A with its tail and was actively clawing it with both front and rear claws. Pangolin B was seen attempting to reach the face of Pangolin A with its front claws and raking the scales on different occasions.

Due to the dangerous environment they were in, both pangolins were removed. During handling, Pangolin B ceased clawing but remained firmly attached to Pangolin A. When Pangolin B's tail was lifted, it released Pangolin A, allowing Pangolin A to unfurl and swiftly move away. Pangolin B was then placed in an animal carrier, and Pangolin A was located and placed in a separate carrier. Pangolin A had multiple injuries on its snout, face and scales. Both pangolins were transported to Mandai Wildlife Group for assessment and treatment for injuries, before they were returned to the wild.

Fig. 1. The larger pangolin (Pangolin B) with its tail curled around the smaller conspecific (Pangolin A), used its forelimbs to repeatedly scratch and claw the smaller one, especially at the unscaled areas. Despite the attacks, Pangolin A remained tightly curled. Fig. 2. Pangolin B periodically reaching towards the face of the smaller pangolin with its front claws. (Photographs by: Siddik Hasman)

On examination at the Mandai Wildlife Group, both animals were males, weighing 4.6kg and 8.7kg respectively. Extensive excoriations, lacerations and associated inflammation were present around the head, including nares, lips, and eyelids of Pangolin A. Additionally, extensive bruising and abrasions were present on all feet, legs and between the ventrolateral body scales. Pangolin B had only minor wounds on his forefeet,

Fig. 3. The smaller pangolin (Pangolin A) suffered extensive injuries, including excoriations, lacerations, abrasions and bruising around the face, and all legs and feet. The animal was examined while under general anaesthesia. Fig. 4. Ventral view of the lower body of Pangolin A showing the wounds on the hind limbs (Photographs by: Mandai Wildlife Group).

Remarks: The Sunda pangolin, native to Southeast Asia, is critically endangered, primarily due to habitat loss and illegal trafficking for its scales and meat (Pantel & Anak, 2010; Challender et al., 2019). Known for its shy and solitary nature, the Sunda pangolin is nocturnal and relies heavily on its keen sense of smell to locate ants and termites, its primary diet. When threatened, these creatures often roll into a tight ball, utilising their tough, overlapping scales as protection (Shepherd & Shepherd, 2012).

Conspecific aggressive behaviour by Sunda pangolins in the wild has been observed (Lim, 2008), although accounts are rare. In ex-situ populations, conspecific aggression has necessitated housing pangolins individually in most circumstances (Chong et al. 2020; Wicker et al., 2020; personal observations by Charlene Yeong). The cause for the violence in the featured incident is not clear, but it demonstrates that pangolins are capable of inflicting serious injuries on conspecifics.

Literature cited:

Challender D, Willcox DHA, Panjang E, Lim N, Nash H, Heinrich S & Chong J (2019) *Manis javanica*. The IUCN Red List of Threatened Species 2019: e.T12763A123584856. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T12763A123584856.en (Accessed 20 July 2024).

Chong JL, Panjang E, Willcox D, Nash HC, Semiadi G, Sodsai W, Lim NTL, Fletcher L, Kurniawan A & Cheema S (2020) Sunda pangolin (*Manis javanica*). In: Challender DWS, Nash HC & Waterman C (eds.) Pangolins—Science, Society and Conservation. Academic Press, London, pp. 89–108.

Lim TLN (2008). Autecology of the sunda pangolin (*Manis javanica*) in Singapore. Unpublished MSc thesis, Department of Biological Sciences, National University of Singapore, xi + 101 pp.

Pantel S & Anak NA (2010). A Preliminary Assessment of Sunda Pangolin Trade in Sabah. TRAFFIC Southeast Asia, Petaling Jaya, Malaysia, iv + 30 pp.

Shepherd CR & Shepherd LA (2012) A Naturalist's Guide to the Mammals of South-East Asia. John Beaufoy Publishing Limited, United Kingdom, 176 pp.

Wicker LV, Cabana F, Chin JSC, Jimerson J, Lo FHL, Lourens K, Mohapatra RK, Roberts A & Wu S (2020) Captive husbandry of pangolins: lessons and challenges. In: Challender DWS, Nash HC & Waterman C (eds.) Pangolins – Science, Society and Conservation. Academic Press, London, pp. 443–459.