

Biodiversity Record: Golden and silver royal butterflies at Telok Blangah Hill Park

Eunice Kong^{1*} & Nicholas Lim²

¹Toa Payoh Lorong 4, Singapore 310060; Email: eunicekong@hotmail.sg (*corresponding author)

²Clementi West Street 1, Singapore 120613; Email: nicholaslws93@gmail.com

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Subjects: Golden royal, *Pseudotajuria donatana donatana* (Insecta: Lepidoptera: Lycaenidae: Theclinae);
Silver royal, *Ancema blanka blanka* (Insecta: Lepidoptera: Lycaenidae: Theclinae);
Common ivy palm, *Arthrophyllum diversifolium* (Magnoliophyta: Araliaceae).

Subjects identified by: Eunice Kong.

Location, date and time: Singapore Island, Telok Blangah Hill Park, Forest Walk (1.278594, 103.809390); 11 December 2021; 1134–1330 hrs.

Habitat: Secondary forest.

Observers: Eunice Kong, Esther Kong, Patrick Kong and Nicholas Lim

Observation: At 1134 hrs, one female and two male silver royals were sighted feeding on the inflorescence of a common ivy palm (Fig. 1). A golden royal appeared at 1152 hrs to feed on the inflorescence. After feeding for approximately 5 minutes, the golden royal flew off while a male silver royal (the authors were unable to determine if it was the same individual seen earlier) continued to feed on the inflorescence. A golden royal appeared at 1221 hrs, followed gradually by more individuals of the same species which appeared to feed on the inflorescence. The butterflies interspersed their feeding with occasional rests (Fig. 2). A total of five golden royals and three silver royals were observed concurrently feeding or resting at the ivy palm (Figs. 3, 4). Most individuals were in relatively pristine condition with intact wings and bright wing colours. The butterflies were still feeding at the inflorescence when the observers left at 1330 hrs. It rained heavily shortly after (at around 1350 hrs), and it is plausible that the butterflies flew away due to the downpour.

Remarks: Sightings of multiple silver royal and golden royal butterflies feeding concurrently on the ivy palm continued for the next few days at the same tree and/or in the vicinity of the tree they were first spotted at. The butterflies were also observed feeding on the inflorescence of another tree (possibly another common ivy palm) adjacent to the tree where the butterflies were first spotted on 11 December 2021 (Eunicekong95, 2022a) (Fig. 5). The latest sighting consisted of two golden royals in pristine condition feeding on the inflorescence of the adjacent tree on 12 February 2022 (Eunicekong95, 2022b). As for the silver royals, the latest known sighting of multiple individuals (one male and two females) was on 11 January 2022 (Tong, 2022a, b, c, d).

The silver royal (*Ancema blanka blanka*) and golden royal (*Pseudotajuria donatana donatana*) appear to be very rare butterflies. Due to their possible preference for dwelling and foraging at the canopy level, both species have only been sighted a few times (Khew, 2019). Their host plant species is currently unknown, though it has been suspected to be a parasitic plant. According to Corbet & Pendlebury (2020), the larval stage of the south Indian subspecies of *Ancema blanka* has been recorded feeding on Loranthaceae. Both species are listed as Critically Endangered in the Singapore Red Data Book (Davison et al., 2008).

In Singapore, the two species were rediscovered in 2005. The silver royal was found at an urban hill park along the Southern Ridges, while the golden royal was encountered in a reservoir park (Khew, 2015, 2019). Since then, sightings of silver royals have been recorded on iNaturalist at Rifle Range Road in July 2015 (Flyingswallow123, 2020); Mount Faber Park and Telok Blangah Hill Park along the Southern Ridges in May 2017, September 2021 and October 2021 (Neo, 2017; Eunicekong95, 2021; Tan, 2021); and at the Bukit Timah Nature Reserve in December 2020 and April 2021 (Richthebirder, 2020; Kenny_well, 2021). The September 2021 sighting at Telok Blangah Hill Park has the same location as the present record, and also involved the sighting of one female feeding on possibly the inflorescence of the common ivy palm, though it is uncertain if it was the same tree as in the current record (pers. obs.). The October 2021 record was from farther down the Forest Walk, where at least one male and one female were observed feeding on the

non-native and highly invasive *Persicaria perfoliata* (mile-a-minute weed) throughout a two-week period (15 to 29 October 2021) (iNaturalist, 2022; pers. obs.). Past sightings of the golden royal were rarer, with two records at Bukit Brown Cemetery in October 2012 (Jain, 2021) and July 2021 (Doreen, 2021); one record at Yarwood Avenue in July 2013 (Big-simonchan, 2017); and multiple records of one individual at Telok Blangah Hill Park in October 2021 (Mithilesh_mishra, 2021). Most past sightings of both species of butterflies in Singapore, especially for the golden royal, involve observations of a single individual. The current record presents a unique and interesting observation of multiple individuals of golden and silver royals feeding concurrently across several weeks.

Repeated sightings of silver and golden royal butterflies at Telok Blangah Hill Park suggest the presence there of self-sustaining populations of these rare butterfly species, and emphasise the importance of the Southern Ridges as a habitat for threatened species. Given the species' possible preference for treetops, the elevated Forest Walk at Telok Blangah Hill Park provides valuable opportunities for further studies to be carried out on the biology, behaviour and life history of these highly elusive butterflies, as well as those of other treetop-dwelling species.

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Fig. 1. Two male (A) and one female (B) silver royals feeding on the inflorescence of the ivy palm. (Photographs by: Eunice Kong).

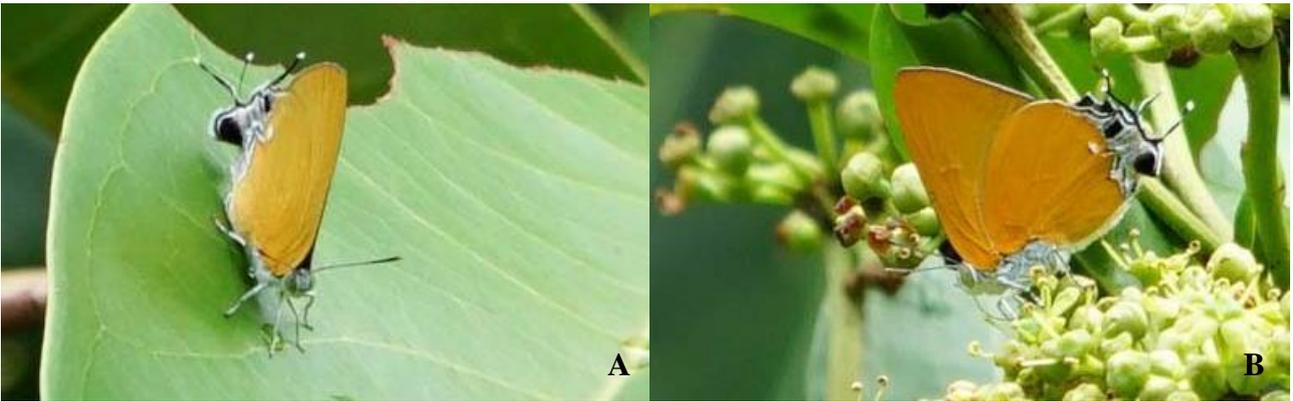


Fig. 2. One golden royal resting (A) and another feeding (B) on the inflorescence of the ivy palm. (Photographs by: Eunice Kong).



Fig. 3. A golden royal (lower left) and a silver royal (upper right) feeding or resting concurrently at or in the vicinity of the ivy palm's inflorescence. (Photograph by: Eunice Kong).



Fig. 4. Two golden royals feeding on the inflorescence of the ivy palm. (Photograph by: Nicholas Lim).



Fig. 5. Inflorescence of the common ivy palm at Telok Blangah Hill Park, on which the golden and silver royal butterflies were observed feeding. A, the butterflies were first found feeding on 11 December 2021 on the inflorescence in the white box; an individual golden royal sighted on 8 January 2022 and two golden royal butterflies sighted on 12 February 2022 were on the inflorescence in the yellow box (Eunicekong95, 2022a, b). B, close-up of inflorescence in sighting on 11 December 2021; C, close-up of inflorescence in sighting on 8 January 2022. (Photographs by: Eunice Kong).