

CATERPILLARS AND METAMORPHOSIS OF THE COMMON FAUN, FAUNIS CANENS ARCESILAS (STICHEL, 1933) IN SINGAPORE (LEPIDOPTERA: NYMPHALIDAE: MORPHINAE)

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INTRODUCTION

The common faun, *Faunis canens arcesilas* (Stichel, 1933) belongs to the tribe Amathusiini, within the subfamily Morphinae of the family Nymphalidae. The species is found from Myanmar, Indo-China, and throughout Sundaland (Corbet & Pendlebury, 1992; Igarashi & Fukuda, 1997). In Singapore, it is the sole representative of the genus *Faunis* (Hübner, 1819), and is largely confined to the nature reserves, where it prefers the shaded understorey (Khew & Neo, 1997; Khew, 2010). It is often observed resting amongst the leaf litter on the forest floor, or perched on the low leaves of shrubs (Fig. 1). The adults are easily recognised by their broad, rounded wings, edged with black, with a sub-marginal row of small, white dots on the underside. Sexual dimorphism is indistinct in this species (Corbet & Pendlebury, 1992). In this article, the late instar caterpillars are briefly described from local examples after successful rearing to metamorphosis, accompanied by photographic records.



Fig. 1. A common faun, *Faunis canens arcesilas* (body length: 23 mm, forewing: 30 mm) resting on the leaf of a shrub near the forest floor at MacRitchie Reservoir forest (Jul.2011). Note sub-marginal series of white dots on the undersides of both wings.

OBSERVATIONS

On the night of 15 Jan.2009 (2300 hours), a group of early penultimate instar caterpillars were found to be feeding along the transverse margin of a *Curculigo latifolia* (family Hypoxidaceae) leaf at Hindhede Nature Park. They were perched on the underside of the leaf, with their orange heads just peeking out (Fig. 2a). When viewed from below, eight individual caterpillars (body lengths: 22–25 mm) were counted. Their thoracic segments were blackish, while a pair of dark grey and white longitudinal bands adorned their flanks (Fig. 2b). The entire body was covered with long, dense, greyish hairs. From this group, four caterpillars were collected to be reared.

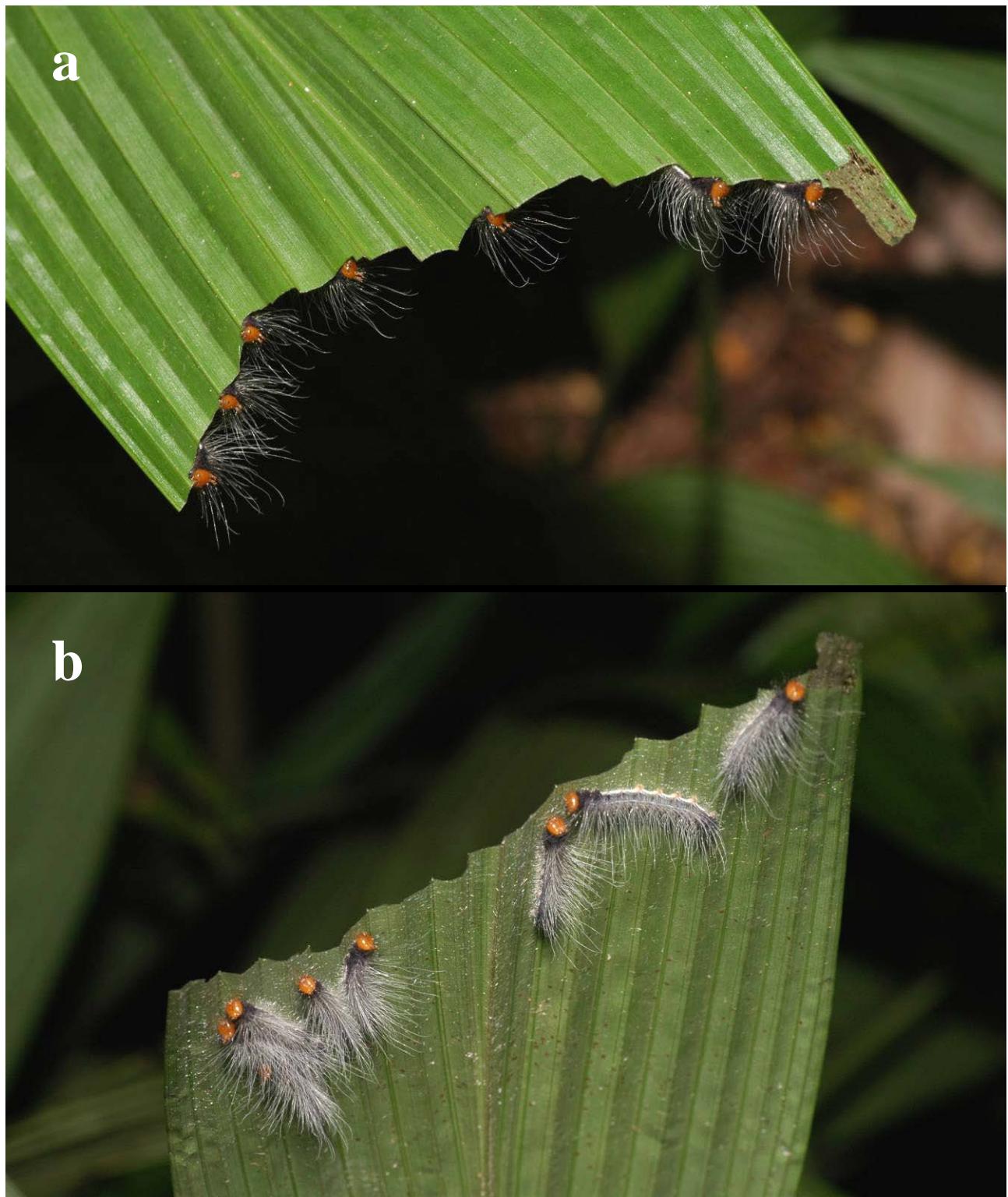


Fig. 2. Views from above (a) and below (b), of a group of early penultimate instar caterpillars (body lengths: 22–25 mm) of *Faunis canens arcesilas* feeding along the transverse margin of a *Curculigo latifolia* (Hypoxidaceae) leaf. Photographed at Hindhede Nature Park on the night of 15 Jan.2009 (2300 hours).



Fig. 3. The final instar caterpillars attained maximum body lengths of 42–43 mm, with a body width of 5 mm. Their bodies were covered with long, blackish and whitish hairs. They were protected by an underlying arrangement of sharp, orange spines, especially dense over the thoracic segments. Their 'faces' were adorned with prominent, symmetrical black patterns.



Fig. 4. Lateral close-up of anterior segments of a final instar caterpillar (as in Fig. 3). At the top of its head is a pair of horns, each crowned with spines, and directed forward. A dense and uniform arrangement of fine, black hairs radiate from its head. Note the compact series of orange spines along its thoracic segments.

On the 26 Jan.2009, the caterpillars displayed symptoms of the pre-moult phase, as they paused feeding and remained quiescent. The first thoracic segments were also showing signs of swelling and turning pinkish. By the following day, all caterpillars had moulted to their final instars and resumed feeding soon after. By the 30 Jan.2009, they had attained their maximum sizes, and were measured to have body lengths of 42–43 mm, with body widths of 5 mm. In the final instars, their bodies are also coated with long hairs (blackish and whitish), and armed with a dense arrangement of orange spines (Fig. 3). These spines are particularly numerous around the thoracic segments and even give rise to a fiery appearance that may already be a visual deterrence to any potential predator. The caterpillar's head is beige, with a striking, symmetrical pattern of bold, black markings that gives the impression that the caterpillar is wearing a mask. Dorsally, its head bears a pair of thick-set horns, directed towards the front and encircled with a ring of sharp spines (Fig. 4). A uniform distribution of fine, black setae radiate from its head. Caution was taken to avoid contact of bare skin with the caterpillars' hairs and spines, but it is unlikely to be urticaceous. However, the stiff spines will most certainly cause localised pain and discomfort.

Between 2–3 Feb.2009, the caterpillars entered their pre-pupal phase and began to weave silken pads on the undersides of the leaves and cling to them with their anal prolegs, in a head-down position. Progressively, their bodies would become arched upwards. Between 5–6 Feb.2009, pupation was complete, and the newly formed pupae were a translucent, jade green and possessed a pair of pointed horns at the cephalic region (Fig. 5a). The pupae measured 30 × 12 mm. They were suspended from their silk pads with their cremasters in a head-down position, with no supporting silk girdles. Between 14–15 Feb.2009, the pupae began to display signs of eminent eclosion, as the cuticle turned translucent grey, allowing the underlying brown wings to be visible (Fig. 5b). On the mornings of 15 and 16 Feb.2009, the butterflies eclosed successfully (Fig. 6). All four butterflies were retained as voucher specimens and deposited at the Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research (RMBR), National University of Singapore. They were measured and catalogued accordingly (ZRC.7.6885–6888, body lengths: 22–23 mm, forewings: 29–32 mm).

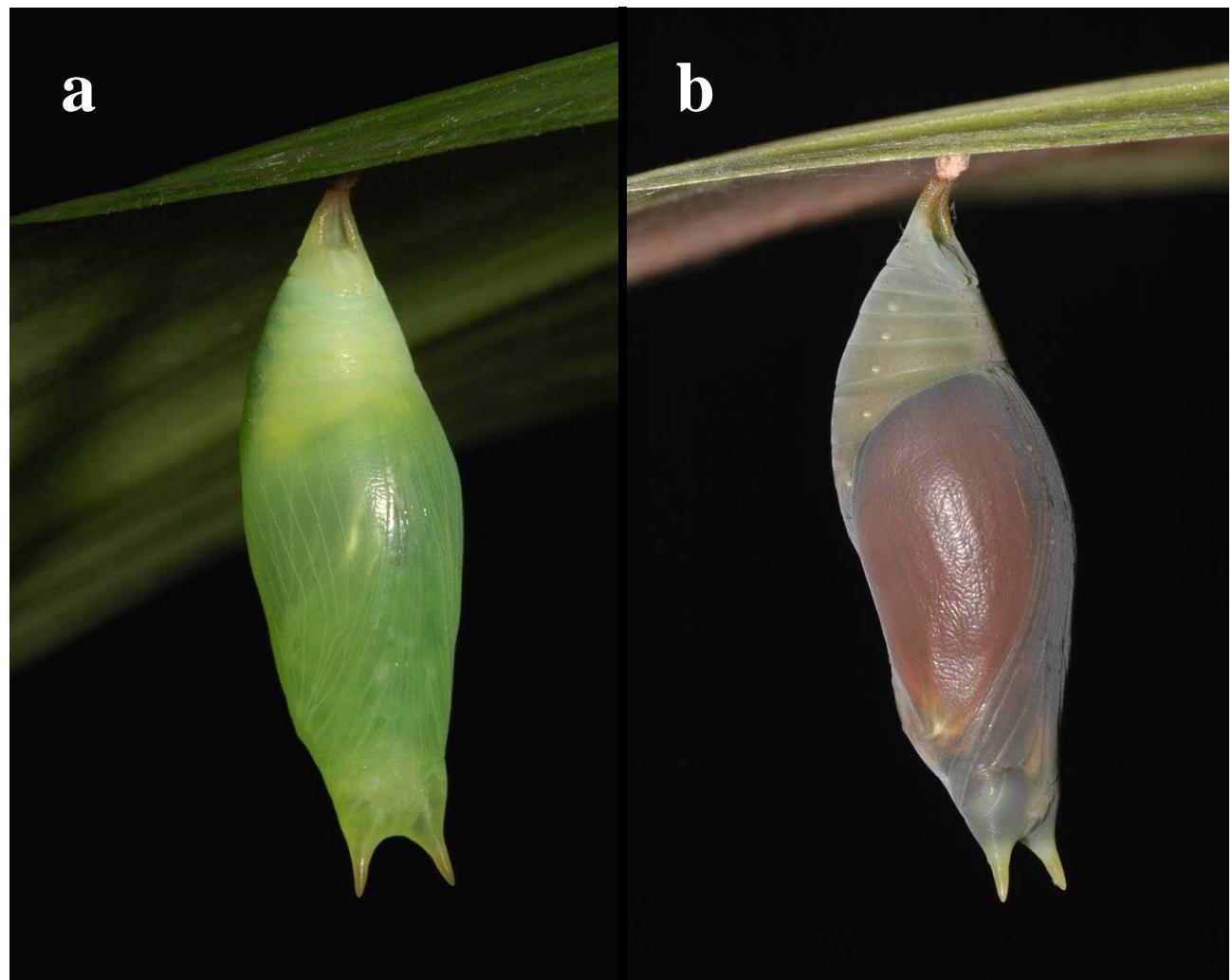


Fig. 5. The earliest caterpillar completed its pupation on the morning of 5 Feb.2009 (0930 hours), when its pupa (30 × 12 mm) was initially translucent green (a). By the pre-dawn hours of 15 Feb.2009 (0330 hours), the pupal cuticle had acquired a pale grey sheen, and its underlying brown wings became noticeable (b).



Fig. 6. On the morning of 15 Feb.2009 (0930 hours), the butterfly had successfully emerged from its pupal case and allowed its wings to expand (ZRC.7.6885, body length: 23 mm, forewing: 29 mm).

Other than *Curculigo latifolia*, caterpillars of the common faun have also been found to feed on the fish-tail palm, *Caryota mitis* (family Arecaeae) in the nature reserves (Fig. 7). Elsewhere in Southeast Asia, other larval hostplants include: *Cyrtostachys lakka* (Arecaeae), *Licuala grandis* (Arecaeae), *Livistona kingiana* (Arecaeae), and *Musa* species (Musaceae) (Robinson et al., 2011).



Fig. 7. Advanced penultimate instar caterpillars in pre-moult phase (body lengths: 32–35 mm), resting under the leaf of a fish tail palm, *Caryota mitis* (Arecaeae) at Bukit Timah Nature Reserve on the night of 16 Dec. 2009 (2320 hours).

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