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Biodiversity Record: Some observations on the larvae of the moth, *Cyclosia macularia*

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Subjects: Day-flying moth, *Cyclosia macularia* (Insecta: Lepidoptera: Zygaenidae: Chalcosiinae).

Subjects identified by: Jerome Lee and Darren Loo.

Location, date and time: Singapore Island, Singapore Botanic Gardens; 5 May 2022; around 1800 hrs.

Habitat: Urban parkland.

Observers: Jerome Lee and Darren Loo.

Observation: Up to ten *Cyclosia macularia* larvae of varying instars (ranging from around 3 to 5 cm) were seen feeding on the leaves of a Kayu Karing shrub, *Neoscortechinia philippinensis* (Malphigales: Euphorbiaceae) (Fig. 1). Another five or so larvae of various sizes were found on a neighbouring *Baccaurea scortechinii* tree (Malphigales: Phyllanthaceae).

The caterpillars are bluish grey with yellow tubercles on each body segment (Figs. 2–4). The dorsum of segments A1, A2 and A3 bear a pair of red tubercles. Every tubercule has a black ring around its base. The head is black and concealed by the fleshy first segment, and could be retracted (Fig. 4). There are two small black tentacles beside the head. The body is covered with fine hairs.

A plantain squirrel, *Callosciurus notatus* (Mammalia: Rodentia: Sciuridae) was observed grabbing a *Cyclosia macularia* larva off the bush and proceeded to chew on it apparently without ill effects. It is not known if the squirrel had fully consumed the caterpillar for it promptly ran away before it could be photographed. When the observers disturbed the larvae, they did not appear to produce droplets of unpalatable cyanide compounds typical of the larvae of other zygaenid moths.

Remarks: The larvae of *Cyclosia macularia* has been documented to feed on the leaves of Rambai (*Baccaurea motleyana*) and Menteng (*Baccaurea racemosa*) by Leong (2012) and Peng et al. (2015). The host plants in the featured observation may be new records for this species. The strikingly coloured larvae and adults of zygaenid moths are known for harbouring cyanide compounds that are supposed to render them unpalatable. Despite being armed with such a chemical defence, some animals are known to eat them. For instance, the western hoolock gibbon, *Hoolock hoolock* (Mammalia: Primates: Hylobatidae) has been documented by Borah et al. (2014) to feed on the congener *Cyclosia papilionaris*. As for the featured squirrel eating a larva of *Cyclosia macularia*, it is possible that the larva it had selected had not built up chemical defences that were strong enough for the squirrel to find it unpalatable.

Literature cited:

Borah M, Devi A & Kumar A (2014) Feeding on non-plant food items by western hoolock gibbon (*Hoolock hoolock*). Current Science, 107: 1657–1660.

Leong TM (2012) Final instar caterpillars and metamorphosis of *Cyclosia sordidus* (Walker) in Singapore (Lepidoptera: Zygaenidae: Chalcosiinae). Nature in Singapore, 5: 151–158.

Peng TL, Sajap AS & Samsuddin AS (2015) Eggs, final-instar caterpillars and metamorphosis of *Cyclosia macularia* Guérin Méneville (Lepidoptera: Zygaenidae) from its larval host plant *Baccaurea motleyana*. Journal of Natural History, 49: 2589–2596.

Fig. 1. *Neoscortechinia philippensis* shrub infested with larvae.

Fig. 2. *Cyclosia macularia* larva of about 5 cm feeding.

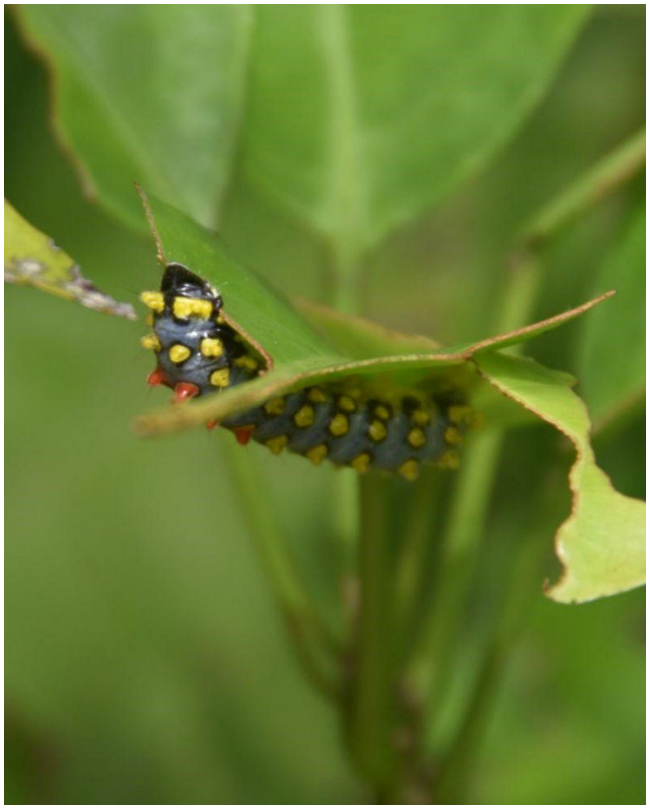

Fig. 3. Larva feeding with head everted.

Fig. 4. Disturbed larva with head retracted.

(Photographs by: Jerome Lee)