THE LIFE HISTORY OF *HYPOCHRYSOPS POLYCLETUS ROVENA* DRUCE (LEPIDOPTERA: LYCAENIDAE)

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Abstract

The life history of *Hypochrysops polycletus rovena* Druce in northern Queensland, Australia is recorded and illustrated. The larval food plant is *Rhyssopterys timorensis* (Blume) Juss. (Malpighiaceae).

Introduction

Hypochrysops polycletus rovena Druce is known in Australia from northern Cape York Peninsula to Sarina (Common and Waterhouse 1981; Sands 1986). Elsewhere *H. polycletus* (Linnaeus) occurs from the Moluccas eastwards through mainland Irian Jaya and Papua New Guinea to New Ireland and a record from Torres Strait, Queensland (Sands 1986). Apart from an observation of females ovipositing on *Rhyssopterys timorensis* in Papua New Guinea (Sands 1986), nothing has been known of the life history of the species.

During a search of *R. timorensis* vines on central Cape York Peninsula for the immature stages of *Allora doleschallii* (Felder) (Hesperiidae) in 1990, we found the immature stages of *H. p. rovena* on many of the same plants. Subsequently we have found the immature stages from several locations in northern Queensland.

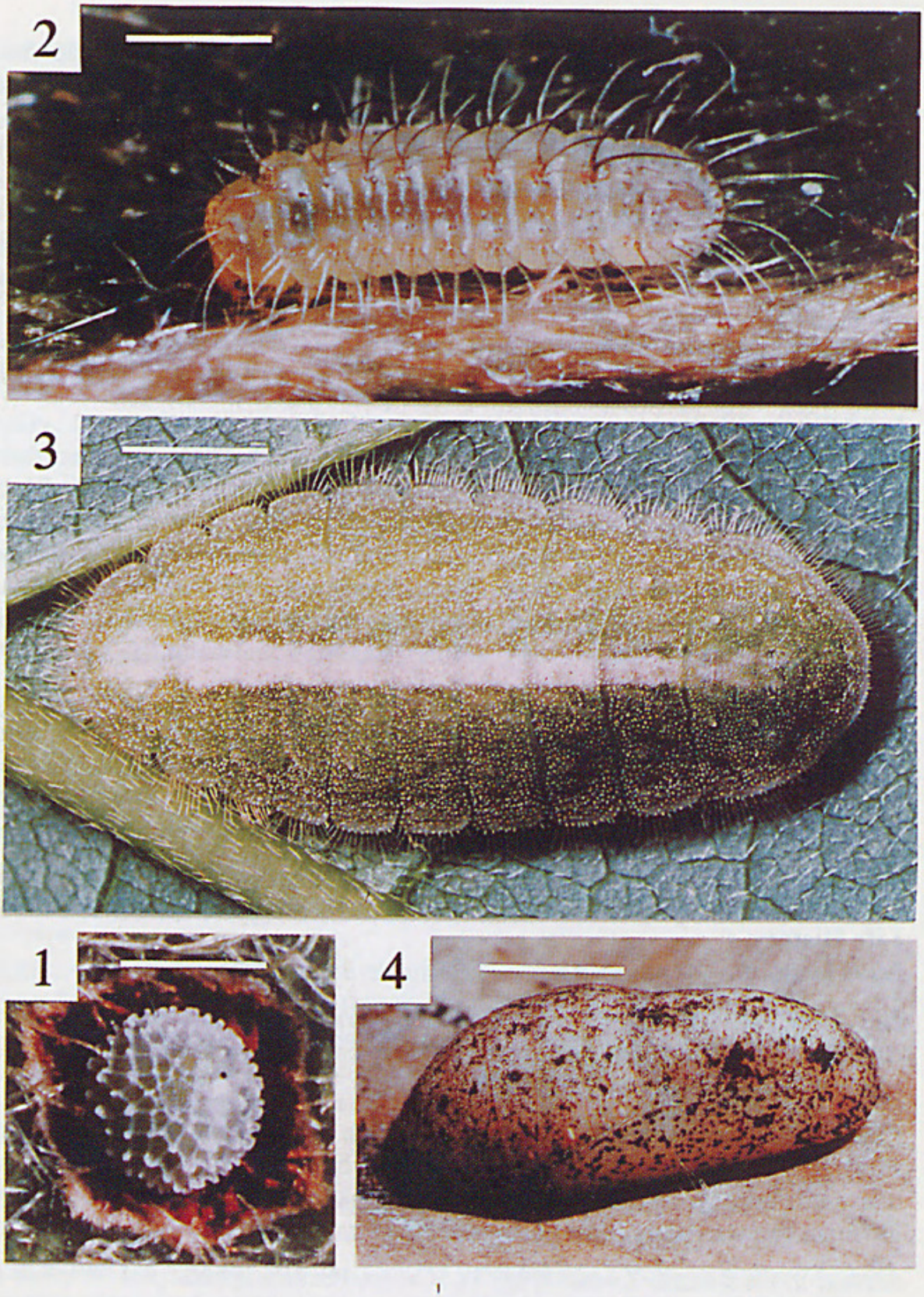
Life History

Food plant. *Rhyssopterys timorensis* (Blume) Juss. (Malpighiaceae).

Egg (Fig. 1). Blue-green; dome-shaped with very fine ridges forming irregular, mostly 4-sided pits, raised at their intersection to knobs with blunt roughened tips; diameter 0.6 mm.

First instar larva (Fig. 2). Pale green, white dorsally; flattened, 1 pair of short pale and 1 pair of long black dorsal hairs on most segments; long marginal hairs, mostly white but some black at posterior end; head pale greenish brown; prothoracic plate pale green; anal plate grey.

Second to final instar larvae (Fig. 3). Green, becoming pale pinkish prior to pupation, white middorsal line and obscure white oblique dorsolateral lines; flattened at sides with white marginal hairs and dense pale and dark secondary setae; head pale brown; prothoracic plate diamond shaped, green with white markings; anal plate green with white markings. Newcomer's and tentacular organs present.



Figs 1-4. *Hypochrysops polycletus rovena*: (1) egg; (2) first instar larva, head at left; (3) final instar larva, head at left; (4) pupa. Scale bars (1, 2) = 0.5 mm, (3, 4) = 3 mm.

Pupa (Fig. 4). Pale brown speckled with dark brown, a median dark brown patch at front of head, dark brown patches laterally and dorsolaterally on thorax and abdomen; attached by anal hooks and central girdle. Length 11-13 mm.

Discussion

Eggs, which are unusually small for the size of the adult, are laid singly beneath leaves, often in scar tissue or on stems or flower buds. Early instar larvae shelter beneath juvenile leaves and eat small patches from the epidermis. Larger larvae often shelter on stems or leaf petioles and commonly feed on growing tips, stems of fresh shoots and on petioles of leaves, which causes younger leaves to wilt and die. Smaller vines are often denuded of fresh foliage by larger larvae and remaining small larvae are often unable to achieve full size and emerge as small adults. A larva which had access to only mature leaves in captivity appeared to imbibe fluid from the leaf nectaries. Pupation occurs in curled dead leaves caught within the vine stems or at the base of the plant. In summer, the life cycle may be completed in 5-6 weeks.

We found immature stages in most months of the year on plants that continued to produce new growth. In vine thicket areas where *R. timorensis* is a common element of the flora, most vines are deciduous during the dry season and unable to support larvae of *H. polycletus*, but occasional larger vines produce fresh foliage throughout the year and maintain a reduced population of *H. polycletus*. During the wet season the vines produce copious foliage and the population of *H. polycletus* expands to exploit the available food resource. From April to June adults may be locally common in vine thicket areas in central Cape York Peninsula.

In most areas the larvae are not attended by ants but at McCleod Creek, north of Cooktown, larvae are attended by *Camponotus* sp. and on Cape York Peninsula larvae are occasionally attended by small unidentified black ants. Ant attendance appears to be facultative and restricted to the same few vines in each area. We have not found the immature stages of *H. polycletus* on plants infested with green tree ants *Oecophylla smaragdina* (Formicidae).

References

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