

THE LIFE HISTORY OF *CHAETOCNEME CRITOMEDIA*  
*SPHINTERIFERA* (FRUHSTORFER) (LEPIDOPTERA:  
HESPERIIDAE: PYRGINAE)

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**Abstract**

The life history of the banded red-eye, *Chaetocneme critomedia sphinterifera*, is described, the larval food plants are listed and comment is made on the number of larval instars of other Pyrginae.

**Introduction**

*Chaetocneme critomedia sphinterifera* (Fruhstorfer) is distributed from Cape York to the Claudie River; specimens have been taken from January to April and in July and November (Common and Waterhouse, 1981).

Working upon the assumption that *C. c. sphinterifera* would feed upon lauraceous plants as do other members of the genus, an examination of these was made in the Iron Range area. Larvae of *C. c. sphinterifera* were found feeding upon eight species of Lauraceae and were reared within netting sleeves enclosing the food plants.

**Life history**

*Egg*. Translucent whitish; domed, slightly higher than wide, 1 mm at base; with 21 coarse, vertical, ribs.

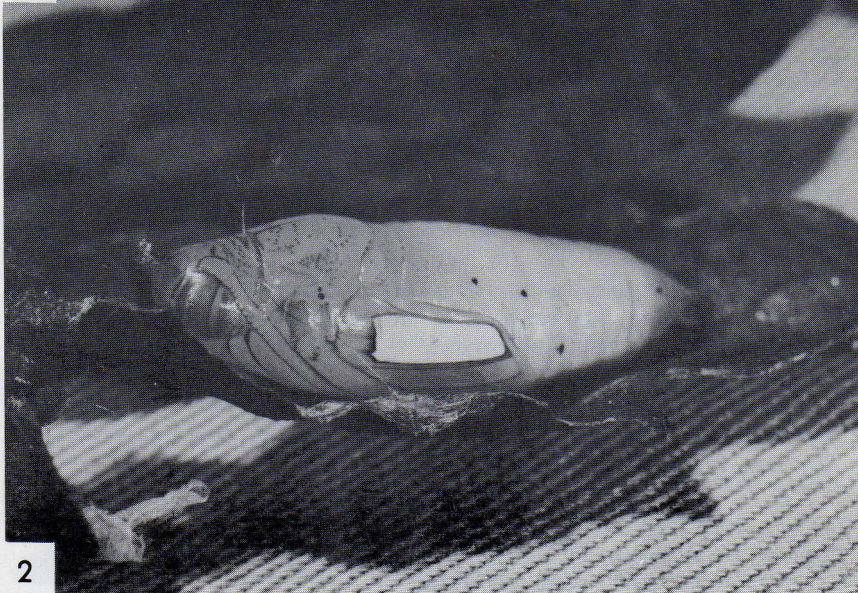
*First instar*. Length 4 mm. Head rounded, granulated; at first red, later turning brown; divided by a shallow median longitudinal groove. Body red and covered with fine setae; prothorax brown or black.

*Third instar*. Length 12 mm. Head less rounded than first instar; granulated; black, divided by median longitudinal groove. Body green with red suffusion and minute white spots; prothorax dark red.

*Fifth instar*. Length 25 mm. Head elongated; granulated; divided by a deep median, longitudinal groove; longitudinal groove marked by a sharply-defined, black area; surrounding this a narrow, cream-coloured band; remainder of head brown. Body green but usually with red suffusion, covered with elongated white spots.

*Sixth instar*. (Fig. 1). Length 34 mm. Head as in fifth instar but colours less well defined. Body green but usually with red suffusion, elongated white spots dominant.

*Pupa* (Fig. 2). Length 25 mm. Smooth, pale yellow with small brown spots; abdominal spiracles brown. Head with a short projection, viewed anteriorly this approximates a stylized heart in shape but with an extra indent at its base. Wing bases with a prominent patch of white waxy scales, this edged dark brown.



Figs 1, 2. *Chaetocneme critomdeia spinterifera* (Fruhstorfer): (1) sixth instar larva; (2) pupa.

*Food plants.* The food plant most often selected is *Cryptocarya triplinervis* R. Br., but the following are also used: *Cryptocarya hypospodia* F. Muell., *Endiandra glauca* R. Br., *Cinnamomum oliveri* F. M. Bail., *Litsea glutinosa* (Lour.) C. B. Rob., *Litsea leefeana* (F. Muell.), *Neolitsea dealbata* (R. Br.), *Neolitsea australiensis* Kosterm. (all Lauraceae).

*Notes.* Eggs are laid singly on the upperside of mature leaves of the food plant.

First instar larvae construct a shelter by eating out a horseshoe-shaped section of leaf and bending the centre piece backwards. This is accomplished by constructing a silken hinge at the attached end of the isolated section, which gradually raises the piece until it has travelled through 180°. Larvae assume a hunched posture beneath the roof of the shelter and feed at night. As larvae grow they construct further shelters but these differ from the first in that the isolated end is anchored by a silken thread. Some larvae detach and cast away old shelters. Late instar larvae construct shelters by cutting out the centre of one leaf and bending it down upon another. This is achieved with tensioned silken threads which anchor the centre piece at six or more places.

Pupation occurs within the final shelter. Pupae are suspended beneath the roof of this shelter by a cremaster and a Y-shaped central girdle, the fork of which supports the pupa. Pupal duration is from two to three weeks. Adults emerge at dusk and it is late at night before they are ready to fly.

First instar larvae collected in July produced adults in September and October. As this is a period of only four months and contains the coolest and driest period of the year when development is slowest, it appears that there may be three generations annually.

In rearing *Chaetocneme critomedia sphinterifera* I was particularly interested in the number of instars involved, as I had found *Chaetocneme beata* (Hewitson) and *Chaetocneme porphyropis* (Meyrick and Lower) to have six. Other Pyrginae studied are *Netrocoryne repanda expansa* Waterhouse which I found also has six instars and *Tagiades japetus janetta* Butler which has only five. To my knowledge these are the first reports of any Australian butterfly with more than five instars.

#### Acknowledgement

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#### Reference

Common, I. F. B. and Waterhouse, D. F., 1981. *Butterflies of Australia*. Second edition. Angus and Robertson, Sydney. 682 pp.