THE LIFE HISTORY OF *CHAETOCNEME PORPHYROPIS* (MEYRICK AND LOWER) (LEPIDOPTERA: HESPERIIDAE: PYRGINAE)

By G. A. Wood
P.O. Box 122, Atherton, N. Qld 4883

Abstract

The life history of *Chaetocneme porphyropis* is described and larval food plants listed.

Introduction

The purple brown-eye skipper butterfly, *Chaetocneme porphyropis* (Meyrick and Lower), is confined to the rain forests of northern Queensland between Innisfail and Daintree and on the Atherton Tableland. Its life history has been previously unknown. The observations recorded here were made over a number of years, on specimens in the wild and larva raised on potted plants exposed to the elements.

Life history

Egg (3 examined). Translucent whitish, domed, slightly higher than wide, 1 mm at base. Shell with 21 coarse, vertical ribs.

First instar. Head granulated, at first red, later turning brown. Divided by a median, longitudinal, groove and bearing two blunt apical points. Body red and finely haired, prothorax brown or black. Length 4 mm.

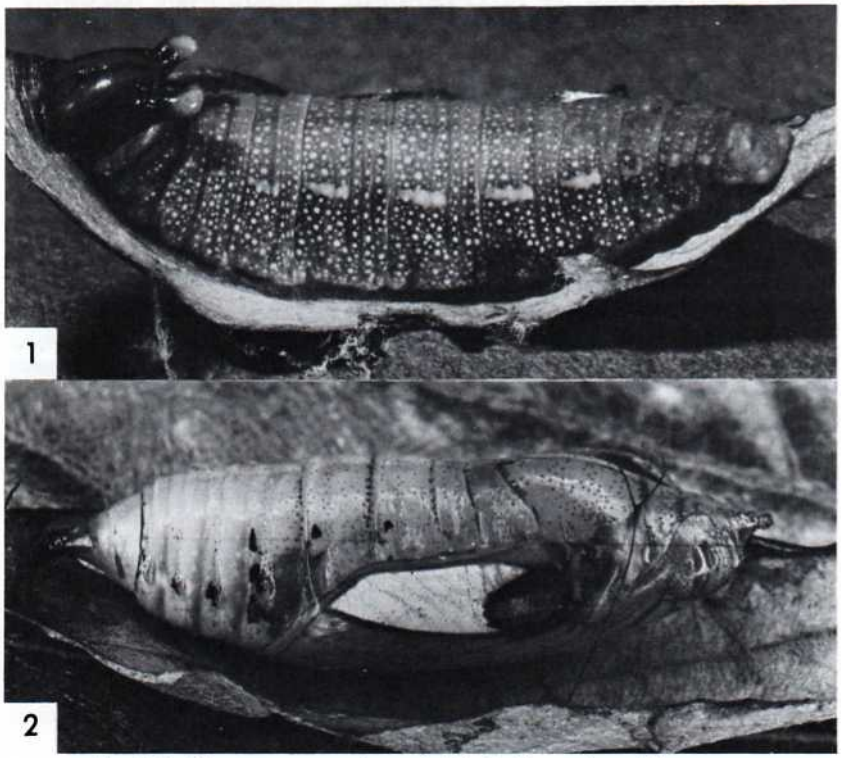
Third instar. Head brown, paler centrally and bearing two swollen horns, orange at their apex. Body uniform orange-brown and covered with small white spots. Each segment bears a subdorsal pair of orange, elongate patches, longitudinal in direction. Prothorax pale brown. Length 14 mm.

Final instar (Fig. 1). Head as in third instar but paler centrally. Body as in third instar but paler and spots and patches less well defined. Length 32 mm.

Pupa (Fig. 2). Smooth, head bears a short projection which is roughly spherical at the tip, pale yellowish with small brown spots. Wing cases bear a patch of white and pale brown, margined with dark brown. The white area is posterior to the smaller brown area and consists of waxy scales. Length 25 mm.

Food plants. The food plant most often selected is *Neolitsea dealbata* (R.Brown) Merr., but *Litsea leefeana* (F.Muell.) Merr. and *Cryptocarya* sp. aff. *C. rigida* are also used. All belong to the family Lauraceae.

Notes. Eggs are laid singly on the upper side of mature leaves. First instar larva construct a shelter by eating out a horse-shoe shaped section of leaf and bending the centre piece backwards. This process 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 degrees. Larva assume a hunched posture beneath the roof of the shelter and feed at night. Immature foliage is not used in shelter construction as it loses its shape upon drying. I have not observed *Chaetocneme porphytopis* to construct the domed, igloo type shelter, sealed along its entire perimeter, apart from a hole eaten in the



Figs 1, 2. *Chaetocneme porphyropis*: (1) final instar larva; (2) pupa.

hinge, that is constructed by *Chaetocneme beata* (Hewitson) and *Netrocoryne repanda expansa* Waterhouse on the same plants. As the *Chaetocneme porphyropis* larva grows, further shelters of the same type are constructed but these differ from the first instar shelter in that the isolated end is anchored by a silken thread. Some larva have been observed to detach and caste away old shleters. Late instar larva construct shelters by cutting out the centre of one leaf and bending it down upon another. The centre piece is anchored at eight or more places and pupation occurs within the final shelter. Pupa are suspended beneath the roof of this shelter by a cremaster and "Y" shaped central girdle, the fork of which supports the pupa. Pupal duration is from two to five weeks.

Adults are on the wing throughout the year, being most numerous in October/November and April/May. There are two generations annually which overlap considerably, life cycles taking from 18 to 35 weeks. Adults fly in the late afternoon and are most often seen along rainforest edges feeding at flowers.

Acknowledgements

Thanks are extended to B. P. M. Hyland and A. K. Irvine, Division of Forest Research, C.S.I.R.O., Atherton, for identifying the food plants.