THE LIFE HISTORY OF *DELIAS ARUNA INFERNA* BUTLER (LEPIDOPTERA: PIERIDAE: PIERINAE)

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Abstract

The life history of *Delias aruna inferna* is described and a larval food plant is listed.

Introduction

The orange jezebel, *Delias aruna inferna*, is found on Banks Island, Torres Strait (McCubbin,1971), Moa Island, Torres Strait, and from Cape York to McIlwraith Range and Silver Plains, Cape York Peninsula (Common and Waterhouse, 1981).

This is one of Australia's most spectacular butterflies. It is one of the first butterflies to be active in the rainforest of Iron Range in the early morning. The sight of orange jezebels, flying lazily in and out of mist filled shafts of light, flashing alternately black and bright orange as they do, leaves a vivid memory.

An incomplete description of its life stages and comments on its food plant and other aspects of its biology are recorded in Common and Waterhouse, (1981). Ova were found, left *in situ* and larvae were raised in a sleeve enclosing the food plant.

Life History

Food plant. *Dendrophthoe glabrescens* (Blakely) Barlow. This mistletoe is a common parasite of *Acacia* (Mimosaceae), *Eucalyptus* (Myrtaceae), *Alphitonia* (Rhamnaceae), *Commersonia bartramia* (L.) Merr. (Sterculiaceae) and other tree species.

Egg. Approximately 1.5mm high, spindle shaped. White, turning orange prior to the emergence of the larva.

First instar. Length 2mm. Head round, black, shiny, smooth. Body pale yellow; prothorax with pale black transverse mark; anal plate black; segments with long white hairs.

Second instar. Length 4mm. Head round, black, shiny, smooth. Body greenish orange, smooth, shiny; prothorax with black transverse band; anal plate black. Segments with long white hairs, those on first segment longest and directed

forward.

Third instar. Length 10mm. Description as in second instar but body brown.

Fourth instar. Length 15mm. Head round, black, smooth, matt, bearing white hairs (3.0mm). Body dark brown, smooth, shiny; prothorax and anal plate black; hairs white and uniform length (4.0mm).

Fifth instar (Fig 1). Length 23mm. Head round, black, smooth, matt, hairs white. Body dark brown, smooth, shiny; prothorax, anal plate and spiracles black; hairs white (longest 6.0mm)

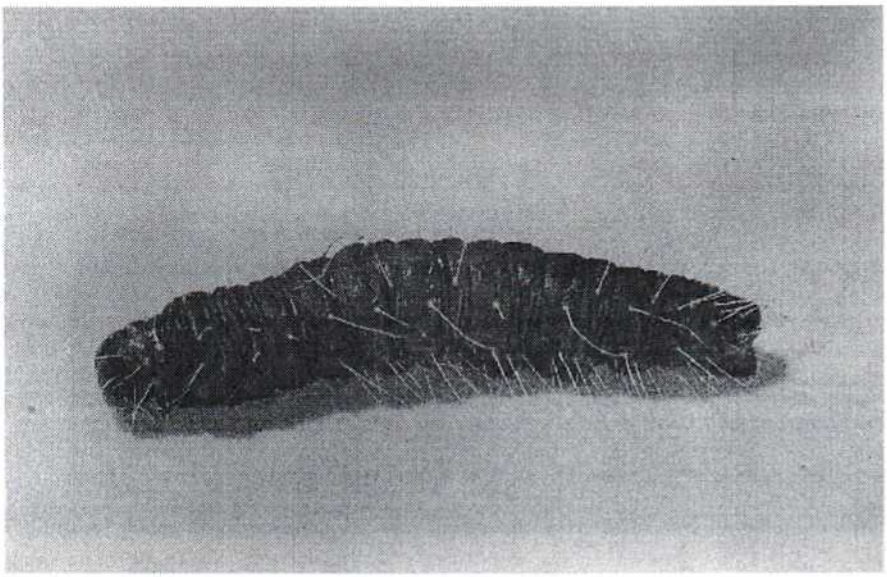

Fig. 1 Fifth instar of *Delias aruna inferna*

Pupa (Fig. 2). Length 25mm to 28mm, with short bifurcate anterior projection, prominent dorsal thoracic ridge; abdomen with four pairs of short blunt dorsolateral projections, one on segment 1, one on 2, and two on 3 and a series of six pointed dorsal spines on segments 2 to 7, orange with a few blackish markings on head, thorax and wings, spines and projections black, cremaster beneath and at the tip black. With the exception of the bifurcate nature of the anterior projection, the above description is recorded in Common and Waterhouse (1981).

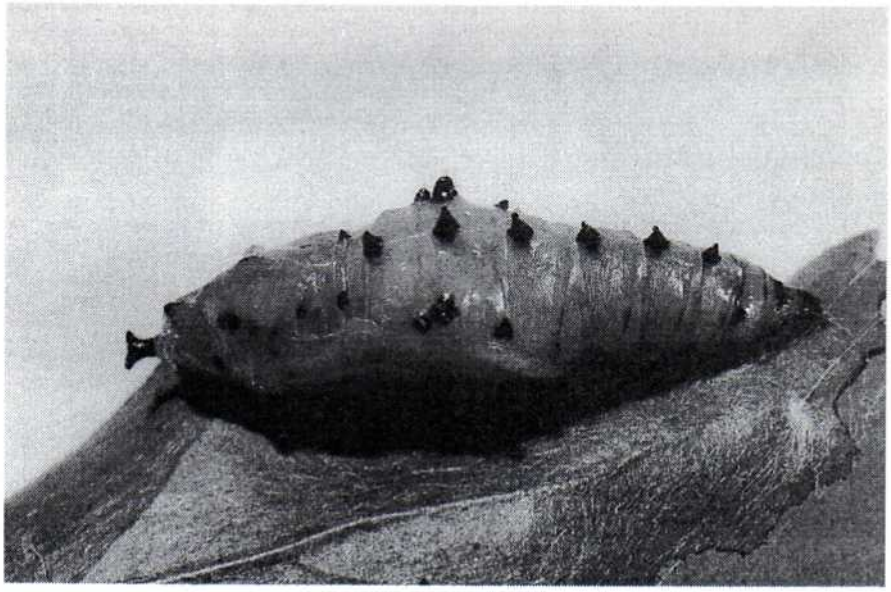

Fig. 2 Pupa of *Delias aruna inferna*

Discussion

Eggs are laid in batches of twenty, to more than three hundred, on leaves of the food plant (Common and Waterhouse,1981). A large, fresh, female that was dissected contained 260 eggs. Larvae are gregarious and lie side by side in masses of up to twenty. If disturbed they will descend rapidly on strands of silk, many remaining suspended in mid air. If the mistletoe food plant is exhausted before larvae are ready to pupate, they will search for a new mistletoe, walking away from the host tree if necessary.

I have not observed larvae to pupate on the mistletoe. They usually walk down the trunk of the mistletoe host tree and ascend another plant to pupate. Both the leaving and pupation is done *en masse* and I have observed one group of over 120 larvae travel 25 metres in this manner.

The orange jezebel is principally a rainforest butterfly but it does venture into open forest. It tends to be most active during the morning and afternoon, resting in thickets of foliage in sheltered situations, such as along watercourses, during the heat of the day. It flies throughout the year but is most common during the cooler months, a habit shared with the other jezebels found on Cape York Peninsula.

A life cycle commencing late August took forty-one days. Ova duration was seven days, larval period twenty-two days, pupal duration twelve days.

Acknowledgment

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References

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McCUBBIN, C. (1971). *Australian Butterflies*. Thomas Nelson (Australia) Limited, Melbourne.