

## Life history notes on the Scarlet Jezebel, *Delias argenthona* (Fabricius, 1793) Lepidoptera: Pieridae – Wesley Jenkinson



This beautifully coloured, well-known butterfly is currently recognised from two subspecies within the Australian mainland. *Delias argenthona argenthona* occurs in Queensland and New South Wales, with records also known from the Australian Capital Territory and northern central Victoria. Adults occur along the eastern coastal and subcoastal areas, the Great Dividing Range and penetrate well inland into the drier regions.

A second subspecies, *Delias a. fragalactea* (Butler, 1869) occurs in the northern areas of the Northern Territory and Western Australia. This subspecies was included in the earlier publications of Common and Waterhouse although not supported in Braby 2000 or 2004, due to the adult wing pattern falling within the known seasonal form pattern variation of the nominate subspecies. However, it is currently included in Braby 2016 who revised its status in 2010. Further discussion on these subspecies will be covered in Peter Hendry's series on *Delias*, beginning in this issue.

The mapped range in Braby 2000 has been increased in Braby 2016 for adjacent areas towards western Queensland and western New South Wales. This is probably a result of more recent reporting of observations, rather than the butterfly expanding its range.

The adults occur in a wide variety of habitats where their mistletoe host plants are established. They occasionally occur in tropical, subtropical and temperate rainforest, as well as dry vine scrub and paperbark (or melaleuca) forest; although they are more frequently found in eucalypt open forest and woodland. They can also be seen commonly in suburban parks and gardens if the host plants are established nearby and suitable nectar is available.

Adults fly high above the ground around tree tops where the host parasitic mistletoes grow but fly much lower when in search of nectar. Males often visit hilltops from late morning into the late afternoon. Hilltopping behaviour and flight is not as strong in comparison with the Spotted Jezebel (*D. aganippe*) which can occur on the same hilltops. Adults settle on the tops of larger leaves when resting and feed on a range of native and exotic flowers, being particularly partial to Callistemon,



Melaleuca, Grevillea and Lantana. Whilst feeding the wings generally remain closed. Flight can occur in various weather conditions including full sun, cloud and occasionally light drizzle during warm weather. I have also observed an adult flying in a rather cold, sunny temperature of 14 degrees Celsius at 8.00 am in June at Beaudesert in south-east Queensland.



*D. aganippe* Male underside      *D. mysis* Male underside

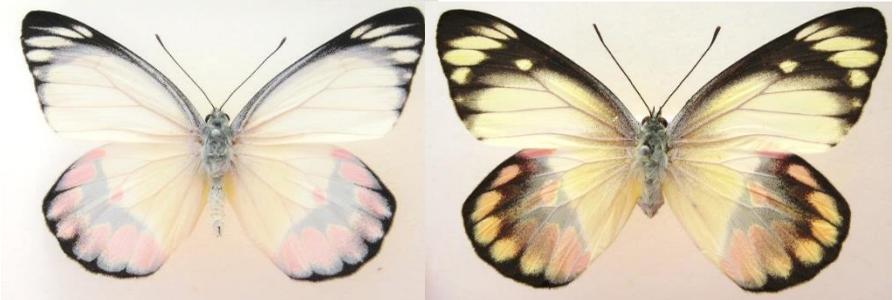
Adults in flight could be confused with similar sized pierids, including the Spotted Jezebel *D. aganippe* and the Red-banded Jezebel *D. mysis* in areas north of Rockhampton. Careful observation should place this species.

Individual specimens show variation in size and colour pattern, having two seasonal forms: one being a ‘pale form’ which is the summer (or wet) season form and the second

being a ‘dark form’ which is the winter (or dry) season form. Intermediate forms also occur. As pictured, the adults of the winter form have broader black margins on the upperside and the underside of the wings and the yellow coloration on the underside is generally darker with additional suffused black scaling present. Overall average size between the two forms is similar.

The sexes as pictured below show males and females being rather similar in appearance. However, the female has a more rounded forewing and the black costal, apical and terminal markings are broader.

Wingspans for the typical summer form adults pictured are males 60mm and females 65mm respectively. Wingspans for the typical winter form adults pictured are males 56mm and females 63mm respectively.



*Delias argenthona argenthona* (Scarlet Jezebel – Typical ‘Summer’ Form)

Images left to right: male upperside, female upperside





*Delias argenthona argenthona* (Scarlet Jezebel – Typical ‘Summer’ Form)  
 Images left to right: male underside, female underside



*Delias argenthona argenthona* (Scarlet Jezebel – Typical ‘Winter’ Form)  
 Images top left to right: male upperside, female upperside  
 Images lower left to right: male underside, female underside



This butterfly utilises a number of host plants in the Loranthaceae (mistletoe) family and one in the Santalaceae (root parasite) family. In recent years, new mistletoes have been added as host plants. References to various species are given in Braby 2000 (10 species) & 2016 (16 species), Moss and Kendall 2016 (13 species) and Moss 2019 (13 species).

The life history is rather well known and has been documented by various authors in Common & Waterhouse (1972 & 1981), Braby (2000) etc. Images of the life history are also shown in Moss and Kendall 2016.

Although I haven't witnessed ovipositing taking place, the eggs are laid in tight clusters of varying numbers averaging 35 (Braby 2000). The eggs are laid on either leaves or stems of the host plant. As described in Braby 2000, "when all of the eggs of a given cluster have hatched, the newly emerged larvae proceed to devour the eggshells"



The eggs are pale yellow (or orange-yellow), being approximately 1.2mm high x 0.7mm wide, bottle shaped with approximately 25 fine longitudinal ribs (Braby 2000).

Larvae are gregarious (Braby 2000) and feed openly on the mistletoe during daylight. They rest on the leaves or smaller stems of the host plant on a spun silk web. While feeding they chew pieces from the outside edge of the host leaf. Although I haven't studied this species thoroughly, raised larvae were thought to complete 5 instars as pictured with a final instar reaching 42mm in length.



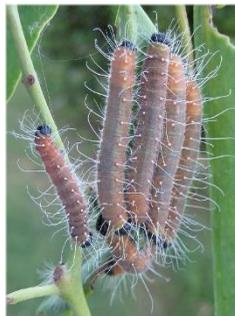
1<sup>st</sup> instar larvae



2<sup>nd</sup> instar larvae



3<sup>rd</sup> instar larvae ↑  
4<sup>th</sup> instar larvae →



5<sup>th</sup> instar larva





Pupae measuring between 24-26mm were attached by a silk central girdle and the cremaster to a silken pad on host leaves. When disturbed the pupae wriggled their abdomens vigorously, laterally from side to side. Pupae may occasionally be found several metres away from the host plant on vegetation near the base of the tree hosting the mistletoe. Pupal duration during March 2008 at Beaudesert was 10 days.

The lifecycle from Mitchell in Queensland during May (E.O. Edwards 1948) was; egg duration 6 days, larvae pupated in August with

adults emerging in September (in Braby 2000).

Within the new boundary of the Scenic Rim Regional Shire south of Brisbane, I have adult records for all months of the year. In this location the adults are most numerous during the autumn months and still may be common in other months in certain years. It is possible there may be three or four generations per year in this region. The adults can persist during rather dry periods as long as the host mistletoes and nectar are available.

I would like to thank John Moss for additional suggestions to the manuscript.

#### References:

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- Moss, J.T and Kendall, R, 2016. *The Mistletoes of Subtropical Queensland, New South Wales and Victoria*. Butterfly & Other Invertebrates Club Inc.
- Moss, J.T., 2019. *Butterfly Host Plants of South-east Queensland and northern New South Wales*. 4<sup>th</sup> (rev) ed. Butterfly & Other Invertebrates Club.

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### **Dr Geoff Monteith Listed in the Top Ten Scientist List – Congratulations –**

*Lenora Dawn Franzmann*

Charles Darwin visited our shores in March 1836 in “The Beagle” and in 1960 Geoff Monteith commenced his studies at the University of Queensland. Geoff realised a couple of years into his science course, Entomology was to be his speciality.

Geoff Monteith has been listed at Number 10 on the list of the scientists who have had insects and other animals and plants named after them. Charles Darwin is Number 1. Geoff has had 235 species and 16 genera named after him and has collected over 200,000 insects. The list was compiled by Stephen Heard, a biologist at

