

- Dunn, K.L. 2013a. Field Notes: Major extensions to the known distribution of the Bright Purple Azure, *Ogyris barnardi* (Miskin 1890) in Queensland (Lepidoptera: Lycaenidae). *Metamorphosis Australia, Magazine of the Butterfly & Other Invertebrates Club* 68: 26-32.
- Dunn, K.L. 2013b. Field Notes: Gulf Country extensions to the known distribution of the Long-tailed Pea-blue, *Lampides boeticus* (Linnaeus 1767) in Queensland (Lepidoptera: Lycaenidae). *Metamorphosis Australia, Magazine of the Butterfly & Other Invertebrates Club* 69: 17-23.
- Dunn, K.L. 2013c. Overview of the butterfly database: Part 7 – Descriptions of provenance and promotion of new trends. *Victorian Entomologist* 43(1): 13-22.
- Edwards, E.O. 1948. Notes on butterflies of western Queensland. *Australian Zoologist* 11(3): 225-232.
- Johnston, L.M. 1984. Butterflies of the Burdekin 27 June – 12 July, 1981. *Queensland Naturalist* 24(5-6): 111-112.
- King, D. 2012. Note to Kelvyn L. Dunn’s “New and interesting spatial and temporal butterfly records from eastern Australia” *Victorian Entomologist* 42(4): 75.
- Valentine, P.S. & Johnson, S.J. 2000. Butterflies of southwestern Queensland with life history notes. *Victorian Entomologist* 30(5): 59-62.
- Photos Kelvyn Dunn

The genus *Acraea* (Lepidoptera : Nymphalidae) - Peter Hendry

With the recent migration to Australia of the Tawny Coster (*Acraea terpsicore* (Linnaeus, 1758)), (see Creature Feature this issue), I thought it might be timely to take a look at the genus worldwide. It must be noted that due to a misidentification *A. terpsicore* had long been known as *A. violae* and many references in the literature and on the web refer to it as *A. violae*. As with much of the Lepidoptera the genus is in a state of flux, and has long been split into the subgenera *Acraea* (*Acraea*) and *Acraea* (*Actinote*). The genus is placed in the tribe Acraeini and until Harvey (1991) placed it in the subfamily Heliconiinae it was listed in the subfamily Acraeinae. Recent molecular work has made changes and a current listing of the tribe Acraeini, by Niklas Wahlberg, is available at <http://www.nymphalidae.net/Classification/Acraeini.htm>. It shows members of the old subgenus *Acraea* (*Actinote*) being placed in the genus *Actinote*, and the old subgenus *Acraea* (*Acraea*) becoming the genus *Acraea* with a subgenus *Acraea* (*Bematistes*). It also lists several *Acraea* as unplaced. This may further change as some believe the subgenus *Acraea* (*Bematistes*) will move to the genus *Bematistes*.

The genus is primarily Afrotropical with only four species occurring outside this region, these being, *Acraea andromacha* (Fig. 1) *A. meyeri* (Fig. 10) *A. moluccana* and *A. terpsicore*. A fifth species the Yellow Coster *Acraea* (*Actinote*) *issorica* is now referred to the genus *Actinote*. Like many of the Nymphalidae the larvae feed on plants which contain cyanogens making the larvae and adults poisonous to predators. This has led to them often being mimicked by more palatable species. During mating the males secrete a mating plug known as a sphragis which blocks the entrance to the



females mating tube, preventing successful matings by subsequent males. The sphragis is used by two other unrelated Australian species; the Clearwing Swallowtail (*Cressida cressida* : Papilionidae) and the Shouldered Brown (*Heteronympha penelope* : Nymphalidae). The mating habits of the *Acraea* have been described as "rough", with males being observed knocking the female out of the sky and using an opposite dorso-ventral orientation (facing opposite directions). This male dominant copulation behavior without any pre-copulatory ritual, followed by use of a sphragis and the harassment of mated females, led some to believe it led to genetic factors causing female dominant populations in some *Acraea* species (Sourakov and Emmel, 1997). However female dominant populations eventually were found to be caused by male killing bacteria (Jiggins, Hurst & Majerus, 1997).

Until the arrival of *Acraea terpsicore*, the only member of the genus *Acraea* to occur in Australia was the Glasswing (*A. andromacha* (Fabricius, 1775)) (Fig. 1). Eltringham, 1912, believed *andromacha* to be an incorrect spelling of *andromache*. The Glasswing with its almost transparent wings has a wingspan of 53-56 mm (Braby, 2000). The larvae (Fig. 2) feed on plants in the Passifloraceae and Violaceae families. It is a common visitor to my own backyard where it feeds on the introduced *Passiflora caerulea*.



Fig. 1



Fig. 2



Fig. 3

A. andromacha is also often seen on my bush block west of Bundaberg where it is hosted by the native *P. aurantia*. The pupa (Fig. 3) with its white background and black markings with yellow gold circles, is rather stunning and on more than one occasion I have found them on the eaves of the house, some distance from the nearest host plant.

Unlike *A. andromacha* (Fig.1) many species of *Acraea* are coloured in reddish browns and orange and are quite stunning in their colouration. None more so than the Fiery *Acraea* (*Acraea acrita*, Hewitson, 1865) (Fig. 4).



Fig. 4





Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9



Fig. 10

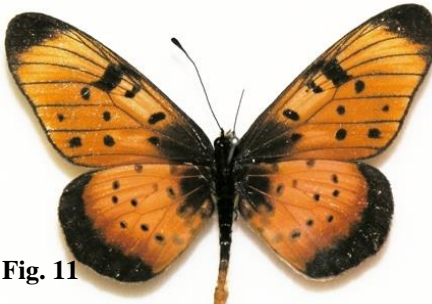


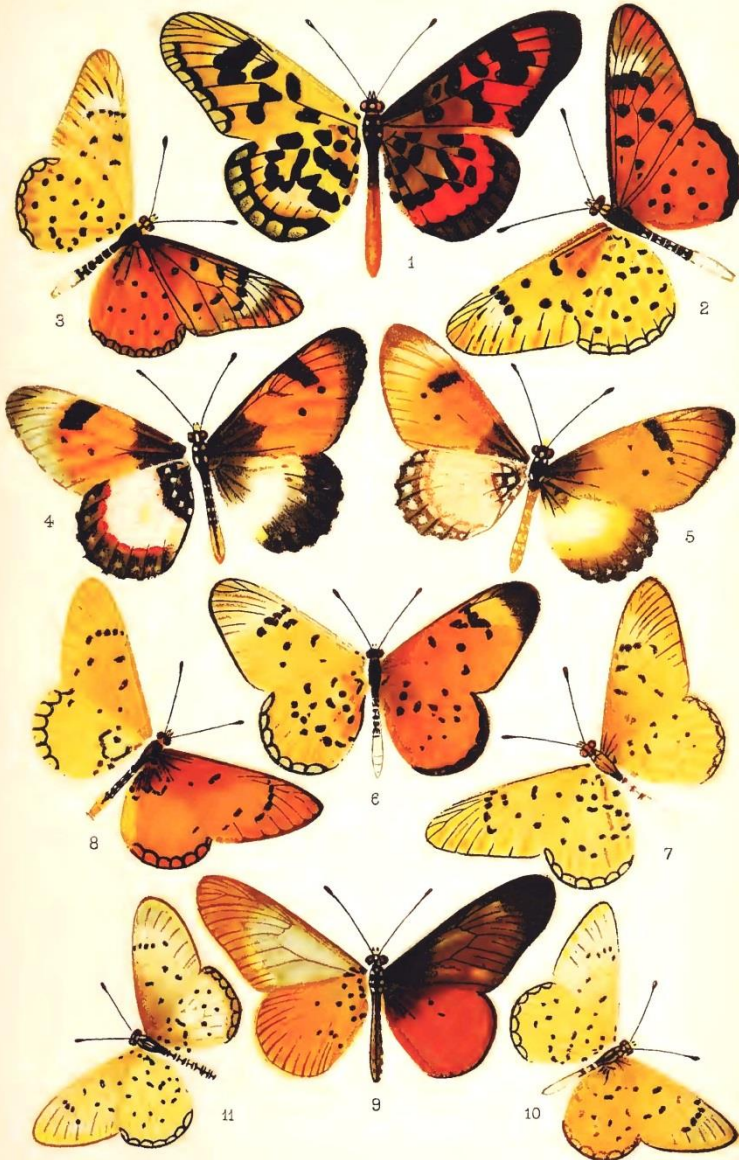
Fig. 11



Fig. 12

Fig. 5 *Acraea buettneri* Fig. 6 *Acraea caecilia* Fig. 7 *Acraea cepheus*
Fig. 8 *Acraea egina* Fig. 9 *Graphium ridleyanus* Fig. 10 *Acraea meyeri*
Fig. 11 *Acraea natalica* Fig. 12 *Acraea rogersi*





H. Eltringham del.

West, Newman chr.

NEW AND LITTLE KNOWN FORMS OF ACRAEA.



A. acrita occurs in South Africa, Angola, Zimbabwe, Mozambique, Malawi, Zambia, Tanzania and Zaire. Like the Tawny Coster, the Fiery Acraea may be undergoing a mini migration of its own. Migdoll, 1994, notes that for many years only one specimen had been recorded in South Africa, at Komatipoort. Since then it has been recorded many times. It is possible it is expanding its range further southwards and westwards. He also notes that the summer form is more fiery red than the winter form and gives its wingspan as 45-52 mm. The larvae feed on plants in the Passifloraceae family.

Acraea buettneri Rogenhofer, 1890, (Fig. 5) is found in forest margins and clearings, degraded forest and moist woodland in much of Zaire, Angola, Namibia and Zambia (Ackery, Smith & Vane-Wright, 1995). Nothing is published of its early stages or host plants.

Acraea caecilia (Fabricius, 1781) (Fig. 6) is found across central Africa from Senegal to Kenya and Tanzania (Ackery, Smith & Vane-Wright, 1995). It is a species without any orange colouration and more reminiscent of the Glasswing (*A. andromacha*). The larvae feed on plants in the families Turneraceae and Passifloraceae.

Acraea cepheus (Linnaeus, 1758) (Fig. 7) is found from Zaire, Nigeria, southwards to Angola and eastwards to Uganda, southern Sudan and Zambia (Ackery *et al.*, 1995). *A. cepheus* has a wingspan between 48-50 mm and the larvae feed on plants in the family Achariaceae (Flacourtiaceae).

Acraea egina (Cramer, 1775) (Fig. 8) is found in forests, up to 1600m, across central Africa from Sierra Leone to Ethiopia, Kenya, Tanzania and southward to South Africa (Ackery, Smith & Vane-Wright, 1995). Known as the Elegant Acraea, it has a wingspan between 62-96 mm and is thought to be the model for the mimic *Pseudacraea boisduvalii* (Doubleday, 1845) (Watson & Whalley, 1983). Along with the Papilionidae species *Graphium ridleyanus* (Fig. 9), the three form a mimicry complex. The larvae feed on plants in the families Achariaceae (Flacourtiaceae) and Passifloraceae.

Acraea meyeri (Fig. 10) : Named as *Acraea meyeri* by T. H. Kirsch in 1877, it was regarded as a subspecies of *A. moluccana* by Eltringham, 1912 and for a long time was treated as *Miyana meyeri*. *Miyana* was erected by Fruhstorfer in Seitz's Macrolepidoptera of the World Vol. 9 (1912-1915). *Miyana* was used by authors such as Barrett and Burns (1951) and D'Abrera (1971), however Parsons (1991), (1999) and Gotts and Pangemanan (2001) place it back in *Acraea* and it appears as such in Niklas Wahlberg's Acraeini list. *A. meyeri* has a distribution which covers mainland New Guinea and the islands Goodenough and Yule (Parsons, 1999). The food plants are listed by Gotts and Pangemanan (2001) as *Passiflora* species. Parsons (1999) notes that while females have been observed laying on *Passiflora foetida* and the cultivated Granadilla, these plants are toxic to the larvae and he surmises that *Adenia heterophylla* (Passifloraceae) may be the true host plant for *A. meyeri*. The larvae has



the branching spines typical of the Nymphalidae and the white pupa has black longitudinal stripes like *A. andromacha* (Gotts and Pangemanan, 2001). I note Gotts and Pangemanan use the spelling *andromache*. A form in which the yellow on the underside of the hindwing is replaced by white is known from some areas (Gotts and Pangemanan, 2001).

Acraea natalica Boisduval, 1847 (Fig. 11) is found from Kenya, Uganda and Tanzania southwards into Zaire, Zambia, Mozambique, Zimbabwe, Botswana and South Africa (Ackery *et al.*, 1995). Being originally named from Natal it is known as the Natal *Acraea*. It has a wingspan between 55-63 mm and a rather zigzag flight (Migdoll, 1994). The larvae feed on plants in the families Turneraceae and Passifloraceae.

Acraea rogersi Hewitson, 1873 (Fig. 12) is found across central Africa from Sierra Leone to Uganda and south-western Kenya, southward to Angola (Ackery, Smith & Vane-Wright, 1995). The larvae feed on plants in the Passifloraceae family.

Acraea zetes (Linnaeus, 1758) (Fig. 13) is found in deciduous woodland, savanna and thorn scrub in eastern and southern Africa; more frequently associated with evergreen forest in Zaire and West Africa (Ackery, Smith & Vane-Wright, 1995). Known as the Large Spotted *Acraea*, it has a wingspan in males of 55-65 mm and females 60-70 mm. It is a large slow flying *Acraea* which is on the wing throughout the year although less so in winter (Migdoll, 1994). The larvae feed on plants in the families Achariaceae (Flacourtiaceae) and Passifloraceae.



Fig. 13

In preparing this article I am indebted to Dominique Bernaud for the use of his image of the Fiery *Acraea*. I am also indebted to Jak Guyomar for access to his collection from which I photographed all set specimens of *Acraea*. The *Graphium ridleyanus* image is from my own collection. The images of the Glasswing, adult, larva and pupa are also my own. I would also like to acknowledge the Biodiversity Heritage Library and the Smithsonian libraries for the use of plate ii from Eltringham's Monograph of the African species of the Genus *Acraea*.

Below is the original explanation of plate ii from Eltringham's 1912 Monograph of the African species of the Genus *Acraea* - the names in blue are the current standing

1. *A. egina medea*, Cram. ♂,? Senegal. (Berlin.)
2. *A. doubledayi arabica*, Eltr. ♂ (Type), Azvaki Ravine, Arabia. (Tring.)
Acraea arabica Rebel, 1899
3. *A. doubledayi doubledayi*, Guér. ♂, Abyssinia. (Tring.)



4. *A. welwitschii welwitschii*, Rogenh. ♂, Cerambè, Bihè, Angola. (Tring.)
Acraea welwitschi (Rogenhofer)
5. *A. welwitschii welwitschii*, Rogenh. ♀, Biuaba, Angela. (Tring.)
Acraea welwitschi (Rogenhofer)
6. *A. rhodesiana*, Wichgr. ♂, Rhodesia. (London.)
7. *A. ella*, Eltr. ♂ (Type), Benguella. (Tring.)
8. *A. aureola*, Eltr. ♂ (Type), Bihe, Angola. (Tring.)
9. *A. grosvenori*, Eltr. ♂ (Type), Rutschuru R. (Tring.)
Actinote grosvenori Eltringham, 1912
10. *A. equatorialis equatorialis*, Neave ♂, Kisumu. (Oxford.)
11. *A. equatorialis equatorialis*, Neave ♀, Kisumu. (Oxford.)

References

- Ackery P. R., Smith C. R. & Vane-Wright R. I. editors, 1995. *Carcasson's African Butterflies*. London : The Natural History Museum.
- Barrett C. & Burns A. N., 1951. *Butterflies of Australia and New Guinea* : Morris & Walker Pty. Ltd.
- Braby M. F., 2000. *Butterflies of Australia; Their Identification, Biology and distribution* : CSIRO Publishing.
- D'Abrera B., 1971. *Butterflies of the Australian Region* : Landsdowne Press Pty. Ltd.
- Eltringham H., 1912. A Monograph of the African species of the Genus *Acraea*, Fab., with a supplement on those of the Oriental Region. : Transactions of the Entomological Society of London.
- Gotts R. & Pangemanan N., 2001. *Mimika Butterflies* : Quality Press Western Australia.
- Harvey D. J., 1991. Higher Classification of the Nymphalidae, Appendix B. - In: Nijhout, H. F. (ed) *The Development and Evolution of Butterfly Wing Patterns*. Smithsonian Institution Press, pp. 255-273.
- Jiggins F. M., Hurst G. D. D. & Majerus M. E. N. 1997. Sex Ratio Distortion in *Acraea encedon* (Lepidoptera: Nymphalidae) is caused by a male-killing bacterium : *Heredity* 81 (1998) 87-91.
- Migdoll I., 1994. *Butterflies of South Africa* Field Guide 2nd Edition : Struik Publishers Cape Town.
- Parsons M., 1991. *Butterflies of the Bulolo-Wau Valley* : South China Printing Company.
- Parsons, M., 1999. *The Butterflies of Papua New Guinea their systematics and biology* : Academic Press.
- Sourakov A. and Emmel T. C., 1997. Mating habits in the genus *Acraea*, with a possible explanation for monosexual populations (Lepidoptera: Nymphalidae: Acraeinae) : *Tropical Lepidoptera*, 8 (Suppl. 3): 33-35.

Photos as previously credited



Amendments to The Genus *Acraea* (Lepidoptera : Nymphalidae)

Published in Metamorphosis Australia, Issue No. 70, September 2013 –
Peter Hendry

I have had the privilege of having my article on the genus *Acraea* being read by a world expert on the subject, Dominique Bernaud. Dominique has studied the *Acraea* for over 30 years and together with J. Pierre was responsible for resurrecting the name *terpsicore* to the newly arrived butterfly in Australia. He has published many papers, many of which are available on his website www.acraea.com.

Dominique points out that the listing of the tribe Acraeini, by Niklas Wahlberg, I referred to is based on old and out of date data. He has contacted Niklas, who has put a warning on his website and referred viewers to Dominique's website.

In my paper I state, in regards to *Acraea buettneri*, that "Nothing is published on its early stages or host plants". Dominique, himself, has in fact discovered and published the host plant in his paper, "Ecologie des *Acraea* du parc de la Sangba (République Centrafricaine) (Lepidoptera Nymphalidae)" published in Revue D'entomologie Generale, Lambillionea, Supplément au N° 4, décembre 2000. *Acraea buettneri* hosts on the plant *Caloncoba glauca* [Achariaceae (Flacourtiaceae)], feeding on seedlings up to 1 metre.

In my explanation of plate ii from Eltringham's monograph, I noted *Acraea arabica* as being the current name for *A. doubledayi arabica*. this should in fact be *A. d. azvaki* Carcasson & Ackery, 1981

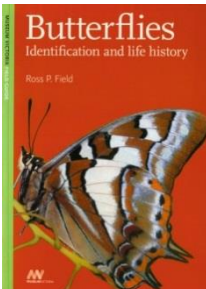
I thank Dominique for taking the time to make me aware of my errors.

P.S. Dominique has sent me an updated checklist of the *Acraea* with synonyms, forms and aberration names. If you would like a copy, please email me at bevjoy93@gmail.com.

BOOK REVIEW

Field Guide - *Butterflies: Identification and life history* –

reviewed by *Kelvyn Dunn*



Author: R.P. Field. Museum Victoria Publishing, 2013; 315pp.
ISBN 978-1-921833-09-0 Paperback, Aust. \$29.95. E-book
(\$19.95) available online at: <http://museumvictoria.com.au>

For centuries, butterflies have captured the attention of naturalists – in Europe, since the late 1500s and in Australia, since its discovery in 1770. The proliferation of books on butterflies worldwide is testimony to their ongoing fascination among many observers, keen and casual alike. This field guide now joins the ranks of those others dealing with Australia or

