

A note on the butterflies of Cousine Island, Seychelles

¹O. Bourquin, ²J. Lawrence & ³P.M. Hitchens¹PO Box 1083, Hilton 3245, SOUTH AFRICA²PO Box 16027, Atlasville 1459, SOUTH AFRICA³Cousine Island, PO Grande Anse, Praslin, SEYCHELLES**Introduction**

No information has been published on the butterflies of Cousine island, and the records given are those collected from 1995 to 1999. Cousine Island is a small (26ha) granitic island rising to just over 70m above sea level and lies at 4°20'41"S and 55°38'44"E. The vegetation and general characteristics have been described in Bourquin (1996).

Common diadem *Hypolimnas misippus* (Linnaeus, 1764)

The common diadem butterfly (*Hypolimnas misippus*) is widely distributed through the greater part of the Indo-Australian region, a part of the tropical and subtropical America, the Afrotropical region and in Seychelles (van Son 1979). Its food plants include *Asystasia gangetica* and *Portulaca oleracea* (Pringle et al. 1994; de Nolet 1984). Both the food plants are common and wide-spread on Cousine Island (Bourquin 1996). The male is black with two oblique elongated white spots on each forewing and a large white spot on the hindwing. The female is orange with black and white patterns on the wings, much resembling an African monarch (*Danaus chrysippus*) for which it is often mistaken. The females show several colour patterns, varying in the degree of black and white markings.

The adults appear suddenly, numbers increasing either rapidly (within a few days) or peak in numbers over a few weeks. They may be seen flying for between a week and a month and a half before disappearing.

During 1996, the first adult was noted on Cousine on 29th March at 05h00, resting on a tree branch. An estimated ratio of 1 female to 4 males was observed during the day. One pair was seen in copula. Predominating winds during the preceding few days were north-west and since no butterflies were observed during this period, it is believed that a mass hatching took place on the night of the 28th or morning of the 29th. Some 95mm of rain had fallen between the 27th to 29th March, prior to which no rain had fallen for a week and temperatures were high. Butterfly numbers declined rapidly after a week and they had disappeared entirely by 14th April. During 1997, the butterflies appeared on 18th March with the last record being on the 11th April. Following heavy, unseasonably early rains in August 1997, the butterflies appeared on 17th December and had disappeared by the 12th January 1998. They appeared again on 15th March and were gone by the 30th April 1998. On 29th March 1999 the first common diadem butterflies of the season were again noted, but in very low numbers. No sightings were recorded after 5th April. During their brief appearances copulation was observed.

On Aride Island similar events have been recorded (Bullock 1989; Bowler & Hunter 1999). During 1988 the species was seen between 20th February and 26th March, and again on 19th November. In 1989 they flew from 20th May to late April and in 1998 they were seen between 15th March to 31st April.

It seems therefore that on other islands the adults appear at much the same time and stay for the characteristically short periods. Are the butterflies permanent residents on the small Seychelles islands? If so, then mass synchronised hatching of the pupae following required climatic conditions must be taking place. The possibility also exists that the butterflies hatch on larger islands and are blown onto the smaller ones. This is unlikely since the butterflies normally appear during the end of the light, variable north-west monsoon winds (March) and during the clam period prior to commencement of the stronger south-east trade winds (April). There are great distances of open ocean to the north-west of Cousine Island, the nearest islands being Cousin and Praslin, a few kilometres to the north-east.

The rainfall for Cousine is highest during January and February, immediately preceding the butterflies' appearance, but when unseasonally high rains occur (as during August 1997), the butterflies may appear during early summer, indicating a flexibility in adapting to favourable rainfall conditions. We assume that the rainfall effect is one which spurs food-plant growth rates, therefore creating suitable conditions for larval growth, and triggering mass adult emergences from the pupae. The butterflies are therefore considered to be permanent resident on the islands. As such, it would be interesting to see if any genetic traits have developed for individual islands.

Painted lady *Vanessa cardui* (Linnaeus, 1758)

The painted lady is a widespread butterfly in north America, Africa and some Indo-Pacific regions (Pringle *et al.* 1994; Pyle 1996). A gravid female was collected on 3rd April 1996, while one other specimen was seen on the same day. Subsequently no further painted ladies were seen until January 1998, when another gravid female was found. More were seen between 29th March and 7th April 1998. The species appears during roughly the same time as the common diadem. Food plants include members of the Boraginaceae, Compositae and Malvaceae (van Son 1979; Pringle *et al.* 1994), of which 7 representatives are found on Cousine (Bourquin 1996).

Lucerne blue *Lampides baeticus* (Linnaeus, 1767)

Five specimens of the lucerne blue were seen during 14th and 15th March 1998. The species is widespread in Africa and the western Indian Ocean islands (de Nolet 1984), and extends into Europe and most of the warmer parts of the East. The food plants are legumes including a wide variety of genera (Pringle *et al.* 1994). Legumes are not common on Cousine, being represented by one tree, one climber, one creeper and two shrubs (Bourquin 1996).

Sooty blue *Zizera knysna* (Trimen, 1862)

The sooty blue is wide-spread in Africa, western Indian Ocean, Spain and southern Arabia and is a common and permanent inhabitant on the open flat areas of Cousine, flying around low growing plants and seen during all months of the year. Known food plants

include *Amaranthus* spp. and *Euphorbia* spp. (Pringle *et al.* 1994), both genera being represented on Cousine by one and three species respectively (Bourquin 1996).

Olive-haired swift *Borbo borbonica* (Boisduval, 1833) *morella* (Joannis, 1893)

The olive-haired swift is widespread in Africa and is found on the Indian Ocean islands (de Nolet 1984; Henning *et al.* 1997). It is seemingly scarce on Cousine, but has been seen from October to April, usually near the edge of *Pisonia/Ficus* forest and open areas. The species is a very swift flyer, and is dark brown with a row of white spots across the forewing. The food plants include various grasses (Henning *et al.* 1997) of which 20 species have been recorded for Cousine (Bourquin 1996).

References

- Bowler, J. & Hunter, J. 1999 - *Annual Report, Aride Island Nature Reserve*. RSNC, unpub.
- Bourquin, O. 1996 - *Vegetation of Cousine Island, Seychelles*. Cousine Island Co., unpub.
- Bullock, I.D. 1989 - 1987-1989 *Aride Island Nature Reserve, Seychelles, Scientific Report. Part I*. RSNC unpublished. 64pp.
- Henning, G.A., Henning, S.F., Joannou, J.G. & Woodall, S.E. 1997 - *Living butterflies of southern Africa; Biology, ecology and conservation, Vol. 1. (Hesperiidae, Papilionidae and Pieridae of South Africa)*. Umदाus Press, South Africa. 397pp.
- Nolet A. Desegaulx de 1984 - *Lepidopteres-Ropaloceres, Arctiidae, Sphingidae, de l'Ocean Indien - Comores, Mascareignes, Seychelles*. Agence de Cooperation Culturelle et Technique, Paris. 80pp.
- Pringle, E.L.L., Henning, G.A. & Ball, J.B. 1994 - *Pennington's butterflies of southern Africa*. Struik, Cape Town. 800pp.
- Pyle, R.M. 1996 - *National Audubon Society: Field guide to North American butterflies*. Alfred E. Knopf, New York. 924pp.
- Van Son, G. 1979 - *The butterflies of southern Africa, Part 4. Nymphalidae: Nymphalinae*. Trans. Mus. Mem. 22; 1-286

NOTES

On the first captive breeding of the Seychelles black mud turtle
Pelusios subniger parietalis

J. Gerlach

133 Cherry Hinton Road, Cambridge CB1 7BX, UK
PO Box 207, Mahé, SEYCHELLES

The granitic islands of Seychelles are the most isolated islands to support natural populations of terrapins. Two species are present, both represented by endemic subspecies: the yellow bellied mud turtle (*Pelusios castanoides* Hewitt, 1931 *intergularis* Bour, 1983) and the black mud turtle (*P. subniger* (Lacépède, 1788) *parietalis* Bour, 1983). There is