

First Record of *Euchloron megaera* (Linnaeus, 1758) (Sphingidae) from Seychelles

Author: Lawrence, James M.

Source: The Journal of the Lepidopterists' Society, 69(2) : 144-146

Published By: The Lepidopterists' Society

URL: <https://doi.org/10.18473/lepi.69i2.a17>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

FIRST RECORD OF *EUCHLORON MEGAERA* (LINNAEUS, 1758) (SPHINGIDAE) FROM SEYCHELLES

Additional key words: ephemeral population; faunal affinities, vagrant

The Seychelles Archipelago comprises 115 islands in the western Indian Ocean. Along with Madagascar, Comoros, Réunion, Mauritius and Rodrigues these islands form the Malagasy subregion, which is part of the Afrotropical biogeographical region. The Seychelles experience a tropical humid climate (Walsh 1984), and can be broadly divided into the northern granitic and southern coral islands (Braithwaite 1984) (Fig. 1). The granitic islands, along with the two coral islands of Bird and Denis, make up the inner Seychelles islands. The Lepidoptera fauna of the Seychelles can be considered fairly well-known, with much historical and recent work been done (Matyot 2005; Gerlach & Matyot 2006). This paper presents a new hawkmoth record for Seychelles. Furthermore, an updated biogeographical checklist of all known Seychelles hawkmoth species is provided.

A single specimen of the large hawkmoth *Euchloron megaera megaera* (Linnaeus, 1758) (Fig. 2) was collected on the 27 October 2005 adjacent to the Veuve Special Nature Reserve on the granitic Seychelles island of La Digue at La Passé (Fig. 1: inset map). The specimen was found resting on a white coloured wall at 0730 h. The specimen is housed in the private collection of the author. The Veuve Special Nature Reserve was set up in 1982 to protect the last remaining population of the Critically Endangered Seychelles Black Paradise-flycatcher, *Terpsiphone corvina* (Newton, 1867) (Aves: Muscicapidae) (Currie 2002), locally known as 'Veuve'. The reserve lies on the western plateau of the island and was originally covered with marshland, and extensive indigenous forests dominated by *Calophyllum inophyllum* L. (Calophyllaceae) and *Terminalia catappa*

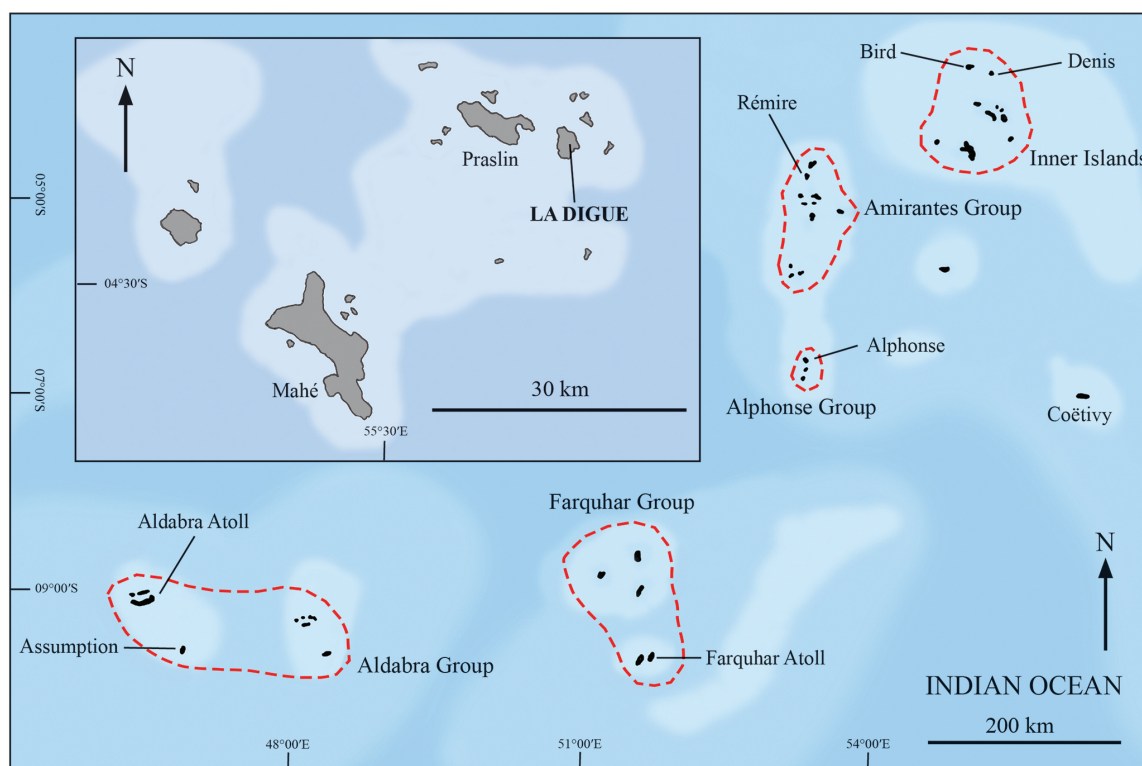


FIG. 1. The Seychelles Archipelago, with detailed inset map of the granitic islands showing the position of La Digue. La Digue lies within the Inner Islands.

TABLE 1. Distribution and faunal affinities of the Seychelles hawkmoths. C = Comoros; Ma = Madagascar; R = Réunion; M = Mauritius; A = Continental Africa; SE = Seychelles Endemic; X = taxon present in geographic area; (X) = taxon present as different subspecies in geographic area. Taxon distribution based on Carcasson (1967); Lawrence (2009); Matyot (2005); Pinhey (1962).

Seychelles taxon	C	Ma	R	M	A	SE
<i>Acherontia atrops</i> (Linnaeus, 1758)	X	X	X	X	X	-
<i>Agrius convolvuli</i> (Linnaeus, 1758)	X	X	X	X	X	
<i>Batocnema cocquerellii aldabrensis</i> Aurivillius, 1905 Note 1	(X)	(X)	-	-	-	X
<i>Cephonodes hylas virescens</i> (Wallegren, 1865)	X	X	-	-	X	-
<i>Cephonodes tamsi</i> Griveaud, 1960	-	-	-	-	-	X
<i>Daphnis nerii</i> (Linnaeus, 1758)	X	X	X	X	X	-
<i>Euchloron megaera megaera</i> (Linnaeus, 1758)	(X)	(X)	-	-	X	-
<i>Hippotion aurora aurora</i> Rothschild & Jordan, 1903 Note 2	-	X	-	-	-	-
<i>Hippotion aurora delicatum</i> Rothschild & Jordan, 1915 Note 2	-	-	-	-	-	X
<i>Hippotion celerio</i> (Linnaeus, 1758)	X	X	X	X	X	-
<i>Hippotion eson</i> (Cramer, 1779)	X	X	X	X	X	-
<i>Hippotion geryon</i> (Boisduval, 1875)	X	X	-	-	-	-
<i>Hippotion osiris</i> (Dalman, 1823)	-	X	-	-	X	-
<i>Macroglossum alluaudi</i> De Joannis, 1893	-	-	-	-	-	X
<i>Nephele leighi</i> Joicey & Talbot, 1921	-	-	-	-	-	X
<i>Temnora peckoveri</i> (Butler, 1877)	-	X	-	-	-	-

Note 1 *B. c. aldabrensis* is known from a single specimen collected in 1895 on Aldabra (Matyot 2005). The Madagsacan subspecies is *occidentalis* Griveaud, 1971. Two subspecies are found in Comoros, *comorana* Rothschild & Jordan, 1903 on Grande Comore and *anjounensis* Viette, 1982 on Anjouan. The Aldabra subspecies is poorly known and further specimens are required to confirm its subspecies status.

Note 2 Subspecies *aurora* occurs on Madagascar, and has been listed as occurring on the island of Assumption (south of Aldabra Atoll) in Seychelles by Carcasson (1967). The source of this record is unknown (I. Kitching pers. com.). Subspecies *delicatum* is listed as occurring on the islands of Coëtivy, Alphonse, Rémire, Assumption and Farquhar Atoll (Matyot 2005). Subspecies *gloriosana* Rothschild & Jordan, 1915 occurs on the Glorios Islands north of Madagascar. This species is not widely collected and further work on its taxonomy is required.

L. (Combretaceae) trees. Most of the original vegetation has been removed or degraded, with wetland drainage, agricultural and urban development being significant anthropogenic threats (Skerrett et al. 2001). Although this hawkmoth is easily identifiable it can be confused with the smaller but similar looking *Basiothia medea* (Fabricius, 1781).

Two other species of hawkmoths have been recorded from La Digue. These are *Acherontia atropos*

(Linnaeus, 1758) (Fletcher 1910) and *Cephonodes tamsi* Griveaud, 1960 (Mazzei 2009). *C. tamsi* is endemic to the granitic Seychelles islands where it is Red-Listed as Critically Endangered (Gerlach & Matyot 2006).

Larvae of *E. megaera* are polyphagous on numerous species within the plant family Vitaceae. *E. m. megaera* larvae have been recorded on *Cissus* sp. and *Vitis* sp. (Kroon 1999). In Seychelles, these plant genera are

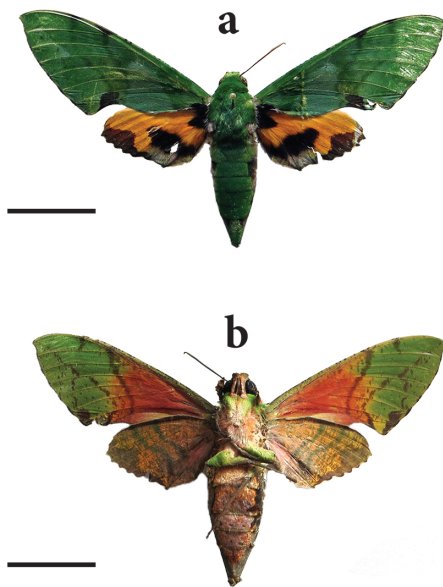


FIG. 2: **a)** *Euchloron megaera megaera* dorsal surface. **b)** *Euchloron megaera megaera* ventral surface. Specimen collected on La Digue 27 October 2005 (Photos: J.M. Lawrence). Scale bar = 2 cm.

represented by *C. rotundifolia* (Forsk.) Vahl and *V. vinifera* L. respectively. *V. vinifera* has been recorded on Mahé and Praslin, and *C. rotundifolia* occurs on Mahé (Friedmann 2011). However, there are no records of these plants on La Digue so far.

Euchloron megaera is widespread across the Afrotropical region where five subspecies are recognised: 1) *E. m. megaera* (Linnaeus, 1758) occurs throughout most of Africa south of the Sahara, including Grand Comore in the Comoros; 2) *E. m. asiatica* (Haxaire & Melichar, 2009) is found in Yemen; 3) *E. m. lacordairei* (Boisduval, 1833) occurs on Madagascar and the Comoro islands of Mayotte, Mohéli and Anjouan; 4) *E. m. orhanti* (Haxaire, 2010) is found on Réunion; 5) *E. m. serra* (Darge, 1970) is restricted to São Tomé off the west coast of Africa.

Interestingly, the Seychelles specimen belongs to the African mainland subspecies and not the Madagascan or Réunion subspecies. Whether this moth has been previously overlooked by researchers or the species was recently introduced is unknown. It may represent a vagrant specimen or an ephemeral population. An analysis of the faunal affinities of the Seychelles butterfly fauna found that the granitic islands shared a closer affinity to continental Africa than to Madagascar

or Comoros (Lawrence 2014), suggesting that natural arrival of this species in Seychelles cannot be dismissed.

This record increases the number of hawkmoth species found in Seychelles to 15. One species is represented by two subspecies making the total number of taxa 16 (Table 1), of which 31.25% are endemic (i.e. three species and two subspecies). Five taxa are widespread across the Afrotropical region including the Malagasy subregion, and three species are confined to the Malagasy subregion.

ACKNOWLEDGEMENTS

I would like to thank Dr. I. Kitching of the Natural History Museum, London for identifying the specimen and for information on the distribution of *Hippotion aurora* subspecies.

LITERATURE CITED

- BRAITHWAITE, C.J.R. 1984. Geology of Seychelles, pp. 17-38. In Stoddart, D.R. (ed.), Biogeography and ecology of the Seychelles islands. Junk Publishers, The Hague.
- CARCASSON, R.H. 1967. Revised catalogue of the African Sphingidae (Lepidoptera) with descriptions of the East African species. J. E. Afr. Nat. Hist. Soc. XXVI No. 3 (115):1-148.
- CURRIE, D. 2002. Ecological requirements of the Seychelles Black Paradise Flycatcher: consequences for conservation and management. Nature Seychelles, Seychelles. 158 pp.
- FLETCHER, T.B. 1910. Lepidoptera, exclusive of the Tortricidae and Tineidae, with some remarks on their distribution and means of dispersal amongst the islands of the Indian Ocean. Trans. Linn. Soc. Lond. 13(2):265-323.
- FRIEDMANN, F. 2011. Flore des Seychelles: Dicotylédones. Publications Scientifiques du Muséum, France. 663 pp.
- GERLACH, J. & P. MATYOT. 2006. Lepidoptera of the Seychelles islands. Backhuys Publishers, The Netherlands. 130 pp.
- KROON, D.M. 1999. Lepidoptera of southern Africa: host-plants & other associations. Lepidopterists' Society of Africa, South Africa. 160 pp.
- LAWRENCE, J.M. 2009. First record of the threatened hawkmoth *Temnora peckoveri* from Cousine Island, Seychelles. Phelsuma 17:50-52.
- . 2014. Field guide to butterflies of Seychelles: their natural history and conservation. Siri Scientific Press, U.K.. 125 pp.
- MATYOT, P. 2005. The hawkmoths (Lepidoptera: Sphingidae) of Seychelles: identification, historical background, distribution, food plants and ecological considerations. Phelsuma 13:55-80.
- MAZZEI, P. 2009. Forum Entomologi Italiani. Available from: www.entomologiitaliani.net/forum (accessed 17 November 2014).
- PINHEY, E. 1962. Hawk moths of central and southern Africa. Longmans, South Africa. 139 pp.
- SKERRETT, A., BULLOCK, I. & T. DISLEY. 2001. Birds of Seychelles. A & C Black, U.K.. 320 pp.
- WALSH, R.P.D. 1984. Climate of the Seychelles, pp. 39-62. In Stoddart, D.R. (ed.), Biogeography and ecology of the Seychelles islands. Junk Publishers, The Hague.

JAMES M. LAWRENCE, *Research Fellow, Department of Environmental Sciences, College of Agriculture and Environmental Sciences, University of South Africa, email: jameslawrence@telkomsa.net*

Submitted for publication 3 November 2014; revised and accepted 20 November 2014.