

Genus *Papilio* Linnaeus, 1758 Swallowtails

Systema Naturae 1, Regnum Animale, 10th edition: 458 (824 pp.). Holmiae.

Type-species: *Papilio machaon* Linnaeus, by subsequent designation (Latreille, 1810).
Considerations générales sur l'ordre naturelle des animaux composant les classes des Crustacés, des Arachnides et des Insectes 350, 440 (444 pp.). Paris.) [extralimital].

The genus *Papilio* belongs to the Family Papilionidae Latreille, 1802; Subfamily Papilioninae Latreille, 1802; Tribe Papilionini Latreille, 1802. *Papilio* is the only genus of this tribe in the Afrotropical Region.

Papilio (Swallowtails) is a cosmopolitan genus of 192 species. Sixty-five species occur in the Afrotropical Region, three of which extend extraliminally.

Swallowtails are large to very large insects and include the largest butterfly in the Afrotropical Region (*Papilio antimachus*). Although the common name of the group would lead one to expect that all Swallowtails have tails on their hindwings, tails are in fact absent in species such as the White-banded, Citrus and Green-banded Swallowtails, as well as in females of the Mocker Swallowtail. All Swallowtails are showy butterflies, with predominantly black and yellow patterns on their wings. Generally the male and female of a particular species are similar in appearance, with the striking exception of the mimetic females of the Mocker Swallowtail and the White-banded Swallowtail. The Swallowtails are closely related to the Swordtails, both groups belonging to the Swallowtail family (see above). Most species of Swallowtail are found in subtropical and temperate forests but the familiar Citrus Swallowtail and, to a lesser extent, the Green-banded Swallowtail are more widespread, particularly the former, which is even found in the Karoo of South Africa. All Swallowtails are active and fairly strong fliers, prefer sunny warm weather, and spend a lot of time in search of flowers from which to feed. They appear to be especially fond of red and blue flowers. While feeding at flowers they characteristically flutter their wings as if in constant readiness to fly off at the first sign of danger. Also noticeable, when they are feeding, are their long, spindly legs, which create the impression that they are hovering in mid-air above the flower from which they are sipping nectar. The males of some species, particularly those of the Citrus and Green-banded Swallowtails, often congregate in small groups on damp sand or on mud, where they sit motionless for many minutes, sucking up the fluids (mud-puddling). Male Swallowtails are also very inquisitive and will momentarily interrupt their random flight to inspect a realistic decoy, or a dead specimen of the same species, placed on the ground. In Swallowtails mate locating behaviour is generally of the searching type – the outstanding exception is the male Citrus Swallowtail which shows strong territorial behaviour. Female Swallowtails are slower fliers and are less conspicuous than the males. They tend to keep to the forest understorey, where they fly about in search of flowers, or plants on which to lay their eggs. Trees and shrubs belonging to the Citrus family (Rutaceae) are the usual larval foodplants for Swallowtails. The early stages are described under the family heading, above.

Relevant literature:

- Condamine *et al.*, 2023 [Phylogeny and taxonomy of *Papilio*].
Cotton & Nakae, 2020 [*Nireopapilio* subgenus nov.].
Kunte, 2009 [Diversity and evolution of Batesian mimicry].
Otis *et al.*, 2006 [Local enhancement of mud-puddling].
Zakharov *et al.*, 2004 [Historical phylogeography].

Mallet, 2003 [Role in development of the species concept].
Bryk, 1930 – Catalogue of the genus.
Bryk, 1928 – Mimicry in the genus.

Subgenera and species groups of Afrotropical *Papilio* (65 species)

Subgenus *Druryia*

***Papilio antimachus* group** – *P. antimachus*

***Papilio menestheus* group** – *P. menestheus*, *P. lormieri*, *P. ophidicephalus*

***Papilio echerioides* group** – *P. echerioides*, *P. fuelleborni*, *P. sjoestedti*, *P. jacksoni*,

***Papilio cynorta* group** – *P. cynorta*, *P. arnoldiana*, *P. plagiatas*

***Papilio zenobia* group** – *P. zenobia*, *P. cyproeofila*, *P. bacelarae*, *P. fernandus*, *P. filaprae*, *P. gallienus*, *P. mechowii*, *P. mechowianus*, *P. nobicea* (=maesseni), *P. andronicus*

***Papilio dardanus* group** – *P. dardanus*, *P. constantinus*, *P. phorcas*, *P. rex*

Incertae sedis – *P. leucotaenia*, *P. mangoura*, *P. delalandei*

Subgenus *Papilio*

***Papilio machaon* group** – *P. machaon*

Subgenus *Nireopapilio*

***Papilio zalmoxis* group** – *P. zalmoxis*

***Papilio nireus* group** – *P. nireus*, *P. chitondensis*, *P. aristophontes*, *P. charopus*, *P. chrapkowskii*, *P.*

chrapkowskoides, *P. desmondi*, *P. hornimani*, *P. interjectana*, *P. nerminae*, *P. sosia*, *P. thurau*, *P.*

microps, *P. ufipa*, *P. wilsoni*, *P. oribazus*, *P. epiphorbas*, *P. Manlius*, *P. phorbanta*, *P. mackinnoni*, *P. nobilis*

***Papilio hesperus* group** – *P. hesperus*, *P. euphranor*, *P. horribilis*, *P. pelodurus*

Subgenus *Princeps*

***Papilio demodocus* group** – *P. demodocus*, *P. erithoniodes*, *P. groesmithi*, *P. morondavana*

Subgenus *Druryia* Aurivillius, 1881

Aurivillius, 1881. *Entomologisk Tidskrift* 2: 44 (38-47). Type-species: *Papilio antimachus* Drury, by original designation.

Papilio antimachus group

****Papilio (Druryia) antimachus* Drury, 1782**

Giant Enchanter



Male Giant African Swallowtail (*Papilio antimachus*).
 Foret de Ngota, Central African Republic.
 Image courtesy Barbara Ruda ('Anna Mandrill').

Papilio antimachus Drury, 1782. *Illustrations of Natural History* 3: index et 1 (76 pp.). London.
Papilio antimachus Drury, 1782. Aurivillius, 1899.



Papilio antimachus antimachus. Male. Upperside.
 Bimbo Bangui, Central African Republic. 10 June 1979.
 Image M.C. Williams ex Gardiner Collection.



Papilio antimachus antimachus. Male. Underside.
Bimbo Bangui, Central African Republic. 10 June 1979.
Image M.C. Williams ex Gardiner Collection.

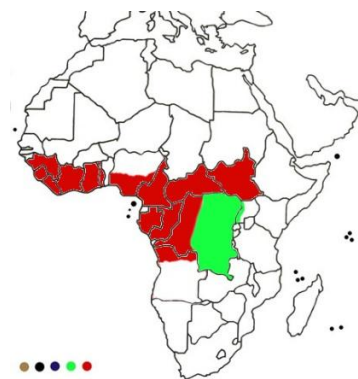


Papilio antimachus antimachus. Female. Left – upperside; right – underside.
Bangui, Central African Republic. December 2005. ex ABRI Collection (ABRI 2018-5002).
Images M.C. Williams ex ABRI Collection.

Published images: Larsen, 2005a (male upperside).

Type locality: Sierra Leone: “Sierra Leon”.

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Nigeria, Cameroon, Gabon, Congo, Central African Republic, Democratic Republic of Congo, Uganda, Sudan, Angola (Bivar de Sousa & Fernandes, 1966).



Distribution of *Papilio antimachus*

Guinea, Sierra Leone, Liberia, Ivory Coast,
Ghana, Togo, Nigeria, Cameroon, Gabon,
Congo, Central African Republic, Angola,
Democratic Republic of Congo, Sudan,
Uganda.

Habitat: Primary forest.

Habits: Much rarer in the west of its range (Guinea to Cameroon) than in the eastern parts of its range (Larsen, 2005a). Probably spends much of its time in the forest canopy but males come down to mud-puddle. Specimens sometimes mud-puddle together with those of *P. zalmoxis*, but usually avoid places where there are large numbers of other papilionids and pierids (Larsen, 2005a). St Leger, *vide* Larsen, 2005a once noted a male inspecting the chrome bumper of his vehicle.

Flight period: October (Larsen, 2005a).

Early stages: Nothing published.

Larval food:

On phylogenetic grounds Hancock (1988) posits that the larval foodplant belongs to the family Piperaceae. Rothschild & Reichstein (Anon, 1994) isolated cardiac glycosides from the larva and, on the basis of this finding, speculated that the larval foodplant is an asclepiad vine, Asclepiadaceae (now Apocynaceae).

Relevant literature:

Anonymous, 1994 – Isolation of cardiac glycosides from larva.

Papilio (Druryia) antimachus antimachus Drury, [1782]
Giant Enchanter

Papilio antimachus Drury, 1782. *Illustrations of Natural History* 3: index et 1 (76 pp.). London.



Papilio antimachus antimachus. Male. Upperside.
Bimbo Bangui, Central African Republic. 10 June 1979.
Image M.C. Williams ex Gardiner Collection.



Papilio antimachus antimachus. Male. Underside.
Bimbo Bangui, Central African Republic. 10 June 1979.
Image M.C. Williams ex Gardiner Collection.



Papilio antimachus antimachus. Female. Left – upperside; right – underside.
Bangui, Central African Republic. December 2005. ex ABRI Collection (ABRI 2018-5002).
Images M.C. Williams ex ABRI Collection.

Published images: Larsen, 2005a (male upperside).

Type locality: Sierra Leone: “Sierra Leon”.

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Nigeria (south), Cameroon, Gabon, Congo, Central African Republic, Democratic Republic of Congo (west), Sudan (south), Angola (north) (Bivar de Sousa & Fernandes, 1966).

Specific localities:

Liberia – Mt Gangra (Safian *et al.*, 2013); Wologizi (Safian *et al.*, 2020).

Ivory Coast – Bingerville (Talbot, 1936).

Ghana – Atewa Range (Larsen, 2005a); Amedzofe (Maessen, *vide* Larsen, 2005a); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007).

Nigeria – Oni Creek, 100 km east of Lagos (Larsen, 2005a), Cross River Loop (Larsen, 2005a); Oban Hills (St Leger, *vide* Larsen, 2005a).

Cameroon – Bipindi (Le Cerf, 1924).

Gabon – Sindara (Vande weghe, 2010); Lambarene (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Kinguele (Vande weghe, 2010); Langoue (Vande weghe, 2010); Minkebe (Vande weghe, 2010).

Angola – Cabinda Province; Lunda Norte Province; Uige Province; Zaire Province (Mendes *et al.*, 2013).

Central African Republic – Dzanga (Noss, 1998).

Democratic Republic of Congo – Djamba (Dufrane, 1929); Ituri Forest (Ducarme, 2018); Semuliki Valley

(Ducarme, 2018); Central Forest Block (Ducarme, 2018); Mt Mitumba (Ducarme, 2018).

gigantea Watkins, 1899 (as var. of *Drurya* [sic] *antimachus*). *Entomologist's Monthly Magazine* **35**: 109 (109). Gabon.

plagiata Stichel, 1903 (as ab. of *Druryia antimachus*). *Insektenbörse* **20**: 165 (164-165). Cameroon: “Kamerun”.

parvus Reuss, 1922 (as f. of *Papilio antimachus*). *Archiv für Naturgeschichte* **87** (A.11.): 232 (230-241). Sierra Leone.

karschi Reuss, 1922 (as f. of *Papilio antimachus*). *Archiv für Naturgeschichte* **87** (A.11.): 233 (230-241). Togo: “Togo, etc.”.

rothschildiana Reuss, 1922 (as f. of *Papilio antimachus*). *Archiv für Naturgeschichte* **87** (A.11.): 234 (230-241). No locality given.

staudingeri Reuss, 1922 (as f. of *Papilio antimachus*). *Archiv für Naturgeschichte* **87** (A.11.): 234 (230-241). Gabon: “Gabun”.

centrispila Le Cerf, 1924 (as f. of *Papilio antimachus*). *Bulletin of the Hill Museum, Witley* **1**: 372 (369-399, 576, 578, 580, 582, 584). Cameroon: “French Cameroon, Bipindi”.

melanescens Le Cerf, 1924 (as f. of *Papilio antimachus*). *Bulletin of the Hill Museum, Witley* **1**: 372 (369-399, 576, 578, 580, 582, 584). “Congo”.

congolanus Dufrane, 1929 (as ssp. of *Papilio antimachus*). *Lambillionea* **29**: 138 (138-139). Democratic Republic of Congo: “Congo Belge”.

Note: Larsen (2005a) states that this may be a senior synonym of *parva* Jackson, 1956.

vreuricki Dufrane, 1929 (as ab. of *Papilio antimachus congolanus*). *Lambillionea* **29**: 138 (138-139). Democratic Republic of Congo: “Congo Belge”.

pupillata Dufrane, 1929 (as ab. of *Papilio antimachus congolanus*). *Lambillionea* **29**: 138 (138-139). Democratic Republic of Congo: “Congo Belge”.

obsoleta Dufrane, 1929 (as ab. of *Papilio antimachus congolanus*). *Lambillionea* **29**: 138 (138-139). Democratic Republic of Congo: “Congo Belge”.

lagai Dufrane, 1929 (as ab. of *Papilio antimachus congolanus*). *Lambillionea* **29**: 139 (138-139). Democratic Republic of Congo: “Congo Belge, Djamba”.

virgularia Dufrane, 1929 (as ab. of *Papilio antimachus congolanus*). *Lambillionea* **29**: 139 (138-139). Democratic Republic of Congo: “Congo Belge”.

coffea Talbot, 1936 (as ssp. of *Papilio antimachus*). *Entomologist* **69**: 113 (112-114). Ivory Coast: “Bingerville”.

burgeoni Dufrane, 1946 (as ab. of *Papilio antimachus congolanus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 102 (101-122). Democratic Republic of Congo: “Congo Belge”.

Papilio (Druryia) antimachus parva Jackson, 1956

Eastern Giant Enchanter

Papilio antimachus parva Jackson, 1956. *Journal of the East Africa Natural History Society* **23**: 72 (63-102).

Synonym of *Papilio antimachus* Drury, 1782. Ackery *et al.*, 1995: 139 **syn. nov.**

Papilio antimachus parva Jackson, 1956. d'Abrera, 1997: 8.

Type locality: Uganda: “Kigezi, Kayonza”.

Distribution: Democratic Republic of Congo (east), Uganda (west).

Specific localities:

Uganda – Kigezi, Kayonza (TL); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001); Kibale Forest (P. Akite, 2016 Facebook post).

Papilio menestheus group

****Papilio (Druryia) menestheus* Drury, 1773**

Stately Gazer

Papilio menestheus Drury, 1773. *Illustrations of Natural History* 2: index et 15 (90 pp.). London.

Papilio menestheus Drury, 1773. Aurivillius, 1899.



Papilio menestheus menestheus. Male. Left – upperside; right – underside.

Abidjan, Ivory Coast. 27 July 1996.

Images M.C. Williams ex Gardiner Collection.



Papilio menestheus menestheus. Female. Left – upperside; right – underside.
Guma Valley, western Sierra Leone. November 1991. S. Collins. ex ABRI Collection (ABRI 2018-5032).
Images M.C. Williams ex ABRI Collection.

Common name: Western Emperor Swallowtail (this is the same name given to *P. horribilis* by Larsen, 2005a).

Type locality: Sierra Leone: “Sierra Leon”.

Distribution: Senegal, Guinea-Bissau (Bacelar, 1949), Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Benin, Togo, Nigeria, Cameroon, Equatorial Guinea, Gabon.

Recorded, in error, from South Africa (Trimen, 1866a) and from Angola (Druce (1875).

Habitat: Though essentially a forest butterfly it has the capacity to survive a considerable amount of forest degradation (Larsen, 2005a).

Habits: A common forest butterfly with some tolerance of degraded habitats, so long as the canopy remains more or less intact (Larsen, 2005a). The flight is fast and direct, usually from one to six metres above the ground; occasionally they fly in the canopy (Larsen, 2005a). Both sexes visit flowers and males mud-puddle or come to foul matter, such as animal droppings (Larsen, 2005a).

Early stages:

Schultze, 1917. (larva and pupa).

Larval food:

Citrus species (Rutaceae) [Owen & Owen, 1972].

Zanthoxylum gillettii (De Wild.) P.G. Waterman (Rutaceae) [Lees, 1989 (Korup, Cameroon); Larsen, 2005a, (Kakum, Ghana); as *Fagara macrophylla*].

Papilio (Druryia) menestheus menestheus Drury, 1773

Stately Gazer

Papilio menestheus Drury, 1773. *Illustrations of Natural History* 2: index et 15 (90 pp.). London.



Papilio menestheus menestheus. Male. Left – upperside; right – underside.
Abidjan, Ivory Coast. 27 July 1996.
Images M.C. Williams ex Gardiner Collection.



Papilio menestheus menestheus. Female. Left – upperside; right – underside.
Guma Valley, western Sierra Leone. November 1991. S. Collins. ex ABRI Collection (ABRI 2018-5032).
Images M.C. Williams ex ABRI Collection.

Type locality: Sierra Leone: “Sierra Leon”.

Distribution: Senegal, Guinea-Bissau (Bacelar, 1949), Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (south, central), Nigeria, Cameroon (west), Gabon.

Specific localities:

Senegal – Basse Casamance (Larsen, 2005a).

Guinea – Ziama (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020); Wonegizi (Safian *et al.*, 2020).

Ghana – Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Togo – Klouto [6°57'15.07"N 0°34'54.40"E] (Safian *et al.*, 2009).

Benin – Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.*, 2017.

Nigeria – Bashu (Brattstrom, 2008).

Cameroon – Duala (Strand, 1914); Bipindi (Schultze, 1917); Korup (Larsen, 2005a).

Gabon – Mondah (Vande weghe, 2010); Malibe (Vande weghe, 2010).

pygmaeus Aurivillius, 1899 *in* Aurivillius, 1898-9 (as ab. of *Papilio menestheus*). *Kungliga Svenska Vetenskapakademiens Handlingar* **31** (5): 478 (1-561). Cameroon: “Kamerun”. Holotype in the Swedish Natural History Museum (images available at www2.nrm.se/en/lep_nrm/m).

unimaculatus Strand, 1914 (as ab. of *Papilio menestheus*). *Archiv für Naturgeschichte* **80** (A.2.): 158 (139-161). Cameroon: “Duala”.

latefasciatus Schultze, 1917 (as ab. of *Papilio menestheus* v. *lormieri*). *Archiv für Biontologie* **4** (2): 20 (1-28). Cameroon: “Südkamerun, Bipindi”.

Papilio (Druryia) menestheus canui Gauthier, 1984

Bioko Stately Gazer

Papilio menestheus canui Gauthier, 1984. *Entomologische Zeitschrift. Frankfurt. a.M.* **94**: 316 (314-320).

Type locality: Equatorial Guinea: “Insel Bioko, Strand bei Ureca”.

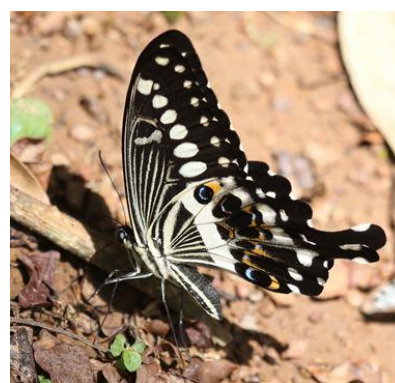
Distribution: Equatorial Guinea (Bioko).

Specific localities:

Equatorial Guinea (Bioko) – Ureca, Bioko (TL); Riaba (Concepcion, Biapa) (Spearman *et al.*, 2000); Luba (San Carlos) (Spearman *et al.*, 2000); Malabo (Sta. Isabel) (Spearman *et al.*, 2000); Caldera de Luba, Bioko (Martin, 2015); Moraca (Martin & Cobos, 2016); Campamento Hormiga (Martin & Cobos, 2016); Río Riaco (Martin & Cobos, 2016).

**Papilio (Druryia) lormieri* Distant, 1874

Royal Gazer



Sunbathing male (left) and mud-puddling male (right) of the Central Emperor Swallowtail (*Papilio lormieri semlikana*).

Left: Kibale Forest, Uganda. Image courtesy Raimund Schutte.

Right: Cameroon, May 2019. Image courtesy Jeremy Dobson.

Papilio lormieri Distant, 1874. *Entomologist's Monthly Magazine* **11**: 129 (129-130).



Papilio lormieri lormieri. Male. Left – upperside; right – underside.
Bayanga, Central African Republic. February 1989.
Images M.C. Williams ex Gardiner Collection.



Papilio lormieri lormieri. Female. Left – upperside; right – underside.
Ediki, western Cameroon. October 2010. ex ABRI Collection (ABRI 2018-5033).
Images M.C. Williams ex ABRI Collection.

Alternative common name: Lormier's Emperor Swallowtail.

Type locality: [French West Africa]: "Madagascar". [False locality.]

Diagnosis: Similar to *P. ophidicephalus* but the median pale band on the upperside of the wings is much narrower (Kielland, 1990d).

Distribution: Cameroon, Equatorial Guinea, Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Central African Republic, Democratic Republic of Congo, Sudan, Uganda, Kenya, Tanzania.

Given, erroneously, as occurring in Nigeria (Congdon & Collins, 1998). Larsen (2005a) states that it does not occur in Nigeria, but instead ranges eastwards from the Sanaga River in central Cameroon. According to Libert (*vide* Larsen, 2005a) it does not even occur in western Cameroon. Mistakenly reported from Madagascar by Saalmüller (1884: 60) and Paulian (1951: 15) (Lees *et al.*, 2003).

Habitat: Undisturbed primary forest.

Habits: Flight powerful and weaving, sometimes high above the ground but also quite low down. Both sexes

come down to feed on low-growing flowers, a low-growing wild balsam being a favourite (Larsen, 1991c). Males are sometimes attracted to animal dung (Larsen, 1991c). Males sometimes mudpuddle in large assemblages and patrol forest paths. Females are less seldom encountered than the males, either feeding from flowers or searching for larval host-plants on which to oviposit (Congdon & Collins, 1998).

Early stages: Nothing published.

Larval food:

Clausena anisata (Willd.) Hook.f. ex Benth. (Rutaceae) [Van Someren, 1974: 316].

Fagaropsis species (Rutaceae) [Van Someren, 1974: 316].

Teclea species (Rutaceae) [Van Someren, 1974: 316].

Zanthoxylum gillettii (De Wild.) P.G. Waterman (Rutaceae) [Kielland, 1990d: 41; as *Fagara macrophylla*].

Papilio (Druryia) lormieri lormieri Distant, 1874

Royal Gazer

Papilio lormieri Distant, 1874. *Entomologist's Monthly Magazine* 11: 129 (129-130).



Papilio lormieri lormieri. Male. Left – upperside; right – underside.
Bayanga, Central African Republic. February 1989.
Images M.C. Williams ex Gardiner Collection.



Papilio lormieri lormieri. Female. Left – upperside; right – underside.
Ediki, western Cameroon. October 2010. ex ABRI Collection (ABRI 2018-5033).
Images M.C. Williams ex ABRI Collection.

Type locality: [French West Africa]: “Madagascar”. [False locality.]

Distribution: Cameroon (south and east), Equatorial Guinea (Bioko), Gabon, Angola (north) (Bivar de Sousa & Fernandes, 1966), Central African Republic, Democratic Republic of Congo (excluding southern Shaba and the extreme north-east), Sudan (south-west).

Specific localities:

Gabon – Throughout (Vande weghe, 2010); Mondah (Vande weghe, 2010); Kinguele (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Alembe (Vande weghe, 2010); Waka (Vande weghe, 2010); Mimongo (Vande weghe, 2010); Mikongo (Vande weghe, 2010); Masouna 2000 (Vande weghe, 2010); Ipassa (Vande weghe, 2010); Franceville (Vande weghe, 2010); Nouna (Vande weghe, 2010).

Angola – Cabinda Province; Kwanza Norte Province; Kwanza Sul Province; Lunda Norte Province; Moxico Province; Uige Province (Mendes *et al.*, 2013).

Central African Republic – Dzanga (Noss, 1998).

Democratic Republic of Congo – Confluence of Louébo and Loangué Rivers (Moreau, 1917); Punia (Dufrane, 1946); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018); Mt Mitumba (Ducarme, 2018).

bassana Strand, 1913 (as ab. of *Papilio menestheus* v. *lormieri*). *Archiv für Naturgeschichte* **79** (A.2.): 24 (10-26). Cameroon: “Kamerun, Bassagebiet a. Lom.”.

aureus Moreau, 1917 (as var. of *Papilio menestheus*). *Bulletin de la Société Entomologique de France* **1917**: 126 (126). Democratic Republic of Congo: “Congo belge, district de Kassaï comprise entre les rivières Louébo et Loangué”.

cuvelieri Dufrane, 1946 (as ab. of *Papilio menestheus lormieri*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 114 (101-122). Democratic Republic of Congo: “Punia, Kivu”.

Papilio (Druryia) lormieri neocrocea Koçak, 1983

Eastern Royal Gazer

Papilio lormieri crocea Storace, 1955. Invalid (see below).

Papilio lormieri neocrocea Koçak, 1983. *Priamus* **2**: 165 (2: 164-166; 3: 38-39). (as replacement name for *Papilio lormieri crocea* Storace).



Papilio lormieri neocrocea. Male. Wingspan 103 mm. Left – upperside; right – underside.
Buikme Road, Mabira Forest, Uganda. 17 February, 2008. P. Ward.
Images M.C. Williams ex Dobson Collection.

Type locality: Uganda: “Entebbe; Mabera Forest; Kibanga; Kyetume; Mubango”.

Distribution: Uganda (central and east), Kenya (west).

Specific localities:

Uganda – Entebbe (TL); Mabira Forest (Stoneham, 1951); Kibanga (Storace, 1955); Kyetume (Storace, 1955); Mubango (Storace, 1955).

Kenya – Kakamega Forest (Larsen, 1991c).

ophidicephaloides Stoneham, 1951 *in* Stoneham, 1951-65 (as f. of *Papilio lormieri*). *The butterflies of western Kenya with notes on allied forms, etc.* 18 (180 pp.). Nairobi. Uganda: “Mabira Forest”.

rufopunctata Stoneham, 1951 *in* Stoneham, 1951-65 (as f. of *Papilio lormieri*). *The butterflies of western Kenya with notes on allied forms, etc.* 18 (180 pp.). Nairobi. No locality given.

crocea Storace, 1955 (as ssp. of *Papilio lormieri*). *Memorie della Società Entomologica Italiana* **33**: 132 (120-137). Uganda: “Entebbe; Mabera Forest; Kibanga; Kyetume; Mubango”. [Invalid; junior primary homonym of *Papilio croceus* Fourcroy, 1785 [Pieridae].]

Papilio (Druryia) lormieri semlikana Le Cerf, 1924
Semliki Royal Gazer

Papilio menestheus-lormieri semlikana Le Cerf, 1924. *Bulletin of the Hill Museum, Witley* **1**: 388 (369-399, 576, 578, 580, 582, 584).



Papilio lormieri semlikana. Male. Left – upperside; right – underside.
Kalinzu Forest, Uganda. 12 December 2009. P. Ward.
Images M.C. Williams ex P. Ward Collection.

Type locality: Democratic Republic of Congo: “Semliki River”.

Distribution: Democratic Republic of Congo (eastern Kivu), Uganda (west), Tanzania (north-west).

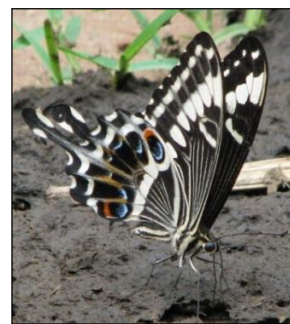
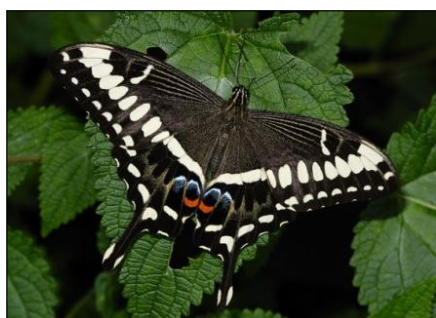
Specific localities:

Democratic Republic of Congo – Semliki River (TL); Mt Mitumba (Ducarme, 2018).

Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001); Kibale Forest (R. Schutte, unpublished).

Tanzania – Mihumu (900 m), Kigoma District (a single sighting) (Kielland, 1990d); Minziro Forest, Bukoba District (Congdon & Collins, 1998).

****Papilio (Druryia) ophidicephalus* Oberthür, 1878#**
Emperor Gazer



Emperor Swallowtails (*Papilio ophidicephalus*). Left – male; middle – female; right – male mudpuddling.
Images courtesy Steve Woodhall (left & middle) and Raimund Schutte (right).

Papilio ophidicephalus Oberthür, 1878. *Études d'Entomologie* **3**: 13 (1-48).

Papilio ophidicephalus Oberthür, 1878. Trimen & Bowker, 1889.

Papilio ophidicephalus Oberthür. Swanepoel, 1953a.

Papilio ophidicephalus Oberthür, 1878. Pringle *et al.*, 1994: 304.



Papilio ophidicephalus ophidicephalus. Male. Left – upperside; right – underside.
Mount Meru lower forests, Tanzania. 31 January 2015.
Images M.C. Williams ex Gardiner Collection.



Papilio ophidicephalus ophidicephalus. Female. Left – upperside; right – underside.
Meru, Kenya. June 1994. S. Collins. (ABRI 2018-5034).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “aux montagnes de Schimba, sur la Côte, en face de l’île de Zanzibar”; [South Africa]: “Bashee River, Kaffraria”.

Distribution: Democratic Republic of Congo, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.

Habitat: Temperate evergreen forest. In Tanzania it is found from sea-level to altitudes of 2 000 m (Kielland, 1990d).

Habits: Frequents especially kloofs and streams in forest. The flight is rather heavy and undulating, usually a few

metres, but sometimes many metres, above the ground. Males are very partial to patrolling up and down streams or dry stream beds. Both sexes feed from flowers, especially those of *Impatiens* species. Males mud-puddle, especially in the afternoon, often sitting motionless in small groups of up to a half dozen individuals. Females keep to the shady undergrowth.

Flight period: September to March, with peak emergences in October and January in southern Africa (Pringle *et al.*, 1994).

Early stages:

Millar, in Trimen & Bowker, 1889: 231 [as *Papilio ophidicephalus* Oberthür; near Durban, KwaZulu-Natal].

“... The young larvae are very similar to those of *P. Demoleus* [*P. demodocus*].”

Fountaine, 1911: 48 [*Papilio ophidicephalus zuluensis* as *Papilio ophidicephalus*].

Clark, in Van Son, 1949: 29 [as *Papilio (Papilio) ophidicephalus phalusco*].

Egg. 1,3 mm in diameter by 1,3 mm high; spherical with flattened base; smooth; light watery yellow when laid, darkening to pale dull yellow; laid singly on the upper- or underside of a leaf of the food-plant, preferably a young sapling; duration of egg stage unrecorded. **First instar larva.** Black with white marking at posterior end; structurally similar to *P. demodocus* but thoracic segments comparatively wider and setose processes blunter. **Second instar larva.** Dark olivaceous brown with last three segments white and sometimes showing traces of central white marking on 6th to 8th segments; setose processes a little reduced but present on all segments; dorsal pair on 8th segment more prominent than rest. **Third instar larva.** Setose processes reduced to mere tubercles except largest anterior pair, which is much reduced compared to previous stage and pair of dorsal tubercles on 8th segment larger; thoracic segments conspicuously swollen and white markings more extensive, giving larva strong resemblance to bird-dropping, especially when it lies curled up on upper surface of leaf. **Fourth instar larva.** A further reduction of anterior processes but paired dorsal tubercles on 8th segment more prominent; white markings more conspicuous, central ones extended forward at sides to form V-like patch, with paired yellowish maculae near middle of 5th and 6th segments. **Fifth (final) instar larva.** Bluish green with narrow transverse blackish bands on first three segments and large somewhat H-shaped marking on 6th to 10th segments, the cross-bar occupying posterior half of 8th segment and sides produced obliquely downwards both in front and behind; underside of six anterior segments blackish, remainder, including all prolegs except first pair, whitish tinged with pinkish; tubercles on 8th segment very prominent, blunt and coriaceous at tips and same colour as dark band on which they are situated; two small whitish dots directly behind tubercles; osmeterium blackish, branches spreading obliquely, upcurved distally and with yellowish tips; full-grown larva 40-43 mm; larval period about five weeks. **Pupa.** Narrow and elongate, ventrally convex, dorsally concave, with sides parallel from head to 4th segment, then evenly widened to 8th segment, behind which gradually tapers to broadly truncate posterior end; dorso-thoracic prominence rather inconspicuous, straight in side view, the anterior slope at right angles to dorsal edge; cephalic processes widely separated, parallel, broad and slightly downcurved at tips; dorsal surface of abdomen with four rows of tubercles, dorsal ones of 8th segment very prominent and curved backwards; whole surface of pupa rather rough, with numerous small tubercles; colour a mixture of greenish, brownish and pinkish-white designs giving it an extraordinary likeness to piece of rotten wood or lichen-covered bark; length about 34 mm; diapause in pupal stage.

Henning, S.F., 1984: 31.

Clark, in Pringle *et al.*, 1994: p. 408; plate 35 [as *Papilio ophidicephalus phalusco*].

“The eggs are laid singly on the leaves of the foodplant. They are 1,6 mm in diameter and 1,6 mm high and are a light, watery yellow when laid, later darkening to pale, dull yellow. There are five larval instars with a duration of about five weeks. Larvae in the first four instars resemble bird droppings while the final instar is leaf-like. The pupa resembles a piece of lichen-covered bark or a broken twig. It is attached by cremastral hooks to a silk pad and is supported in an upright position by a silken girdle. The pupal stage varies in length from about two weeks to about three months.”

Henning, Henning, Joannou, & Woodhall, 1997: 226 (photographs of early instar larvae, intermediate instar larva, final instar larvae (two forms) and pupa).



Papilio ophidicephalus pupa
Image courtesy Raimund Schutte

Larval food:

Calodendrum capense Thunb. (Rutaceae) [Dickson & Kroon, 1978].

Citrus species (Rutaceae) [Dickson & Kroon, 1978].

Clausena anisata (Willd.) Hook.f. ex Benth. (Rutaceae) [Fountaine, 1911: 48; as *Clausena inaequalis* (DC) Benth.; Eshowe, KwaZulu-Natal, South Africa].

Zanthoxylum capense (Thunb.) Harv. (Rutaceae) [Pringle *et al.*, 1994: 304].

Zanthoxylum davyi (I. Verd.) P.G. Waterman (Rutaceae) [Williams, 1994: ; Williams, 1996: 134; Hanglip Forest, near Louis Trichardt, Limpopo Province; ssp. *entabeni*].

Zanthoxylum delagoense P.G. Waterman (Rutaceae) [Dickson & Kroon, 1978].

Zanthoxylum species (Rutaceae) [Bowker & Millar, *in* Trimen & Bowker, 1889: 231; near Durban; as *Zanthoxylon* species].

Papilio (Druryia) ophidicephalus ophidicephalus Oberthür, 1878
Emperor Gazer

Papilio ophidicephalus Oberthür, 1878. *Études d'Entomologie* **3**: 13 (1-48).



Papilio ophidicephalus ophidicephalus. Male. Left – upperside; right – underside.
Mount Meru lower forests, Tanzania. 31 January 2015.
Images M.C. Williams ex Gardiner Collection.



Papilio ophidicephalus ophidicephalus. Female. Left – upperside; right – underside.
Meru, Kenya. June 1994. S. Collins. (ABRI 2018-5034).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “aux montagnes de Schimba, sur la Côte, en face de l’île de Zanzibar”; [South Africa]: “Bashee River, Kaffraria”.

Distribution: Democratic Republic of Congo (south-east), Kenya (east), Tanzania, Zambia (extreme north-east), Mozambique (Congdon *et al.*, 2010).

Specific localities:

Kenya – Shimba Hills (Larsen, 1991c); Mount Sagala (Larsen, 1991c); Meru (Larsen, 1991c; male illustrated above); Kibwezi (Larsen, 1991c); Arabuko-Sokoke (Larsen, 1991c); Nairobi (Larsen, 1991c).

Tanzania – Virtually all forests, except those in the Tukuyu basin (Kielland, 1990d).

Zambia – Mbala (Heath *et al.*, 2002); Sumbu (Heath *et al.*, 2002).

Papilio (Druryia) ophidicephalus ayresi van Son, 1939#
Wolkberg Emperor Gazer

Papilio ophidicephalus ayresi van Son, 1939. *Annals of the Transvaal Museum* **20**: 62 (53-64).

Papilio ophidicephalus ayresi Van Son, 1939. Dickson & Kroon, 1978.

Papilio ophidicephalus ayresi Van Son, 1939. Pringle *et al.*, 1994: 304.



Papilio ophidicephalus ayresi. Male (Wingspan 110 mm). Left – upperside; right – underside.
Springwaters Forest, Mpumalanga, South Africa. 21 February 2003. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio ophidicephalus ayresi. Female (Wingspan 120 mm). Left – upperside; right – underside.
Springwaters Forest, Mpumalanga, South Africa. 21 February 2003. J. Dobson
Images M.C. Williams ex Dobson Collection.

Type locality: South Africa: “North-east Transvaal, Marieps Mountain, boundary of Lydenburg and Pietersburg Districts”. Holotype male in the Transvaal Museum, Pretoria.

Diagnosis: In this subspecies the discal spots are very small, uniform in size, and are separate in both sexes. The spots are arranged in a straighter line than in ssp. *tranvaalensis* (Pringle *et al.*, 1994).

Distribution: South Africa (Mpumalanga, KwaZulu-Natal – north-west), Swaziland.

Specific localities:

Mpumalanga – Marieps Kop (TL); Barberton (Van Son, 1949); Sabie (Swanepoel, 1953); Graskop (Swanepoel, 1953); Sterkspruit Nature Reserve (Williams); Buffelspoort Nature Reserve (Williams).

KwaZulu-Natal – Vryheid (Curle).

Papilio (Druryia) ophidicephalus chirinda van Son, 1939
Chirinda Emperor Gazer

Papilio ophidicephalus chirinda van Son, 1939. *Annals of the Transvaal Museum* **20**: 59 (53-64).

Papilio ophidicephalus chirinda Van Son, 1939. Dickson & Kroon, 1978.

Papilio ophidicephalus chirinda Van Son, 1939. Pringle *et al.*, 1994: 304.



Papilio ophidicephalus chirinda. Male. Left – upperside; right – underside.
Vumba, Zimbabwe. 3 January 1976.
Images M.C. Williams ex Gardiner Collection.



Papilio ophidicephalus chirinda. Female. Left – upperside; right – underside.
Chirinda Forest, Zimbabwe. 6 September 2000.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Zimbabwe]: “South-eastern Rhodesia, Chirinda Forest”.

Diagnosis: In this subspecies the discal spots on the forewing upperside are fused from vein 3 to vein 9 in the male, and in the female are fused into a continuous band (Pringle *et al.*, 1994).

Distribution: Mozambique (west-central); Zimbabwe (east).

Specific localities:

Mozambique – Dondo (Van Son, 1949); Amatongas (Pringle *et al.*, 1994).

Zimbabwe – Christmas Pass (Trimen, 1894); Vumba Mountains (Van Son, 1939); Chirinda Forest (Van Son, 1949); Nyanga (Van Son, 1949).

barnesi van Son, 1939 (as var. of *Papilio ophidicephalus chirinda*). *Annals of the Transvaal Museum* **20**: 60 (53-64). Zimbabwe: “Southern Rhodesia, Vumba Mountains, Umtali District”.

Papilio (Druryia) ophidicephalus cottrelli van Son, 1966
Zambian Emperor Gazer

Papilio ophidicephalus cottrelli van Son, 1966. *Annals of the Transvaal Museum* **25**: 81 (81-89).



Papilio ophidicephalus cottrelli. Male. Left – upperside; right – underside.
Kamaila Forest Reserve, Chisamba, Zambia. 5 February 1955.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Zambia]: “N. Rhodesia, Kamaila Forest Reserve, Chisamba”.

Distribution: Zambia (south-central).

Specific localities:

Zambia – Kamaila Forest Reserve near Chisamba (TL); 140 km south of Mwinilunga (Heath *et al.*, 2002); South Mutundu River (Heath *et al.*, 2002; female illustrated above); Ndola (Heath *et al.*, 2002); Luongo River (Heath *et al.*, 2002); Kafue (Heath *et al.*, 2002); Luapula River (Heath *et al.*, 2002); 50 km west of Mumbwa (Heath *et al.*, 2002).

Papilio (Druryia) ophidicephalus entabeni van Son, 1939[#]
Soutpansberg Emperor Gazer

Papilio ophidicephalus entabeni van Son, 1939. *Annals of the Transvaal Museum* **20**: 60 (53-64).

Papilio ophidicephalus entabeni Van Son, 1939. Dickson & Kroon, 1978.
Papilio ophidicephalus entabeni Van Son, 1939. Pringle *et al.*, 1994: 304.



Papilio ophidicephalus entabeni. Male (Wingspan 110 mm). Left – upperside; right – underside.
 Mpaphuli Nature Reserve, Limpopo Province, South Africa. 30 April 2011. J. Dobson
 Images M.C. Williams ex Dobson Collection.



Papilio ophidicephalus entabeni. Female. Left – upperside; right – underside.
 Mpaphuli Cycad Reserve, Limpopo Province, South Africa. 28 March, 2004. G. Henning.
 Images M.C. Williams ex Henning Collection.

Type locality: South Africa: “Northern Transvaal, Entabeni, Zoutpansberg range”. Holotype male in the Transvaal Museum, Pretoria.

Diagnosis: On the forewing upperside the discal spots are smaller than in ssp. *chirinda*. In males these spots are weakly fused from veins 4 to 8 and in females they are only weakly fused (Pringle *et al.*, 1994).

Distribution: South Africa (Limpopo Province).

Specific localities:

Limpopo Province – Entabeni Forest (TL); Mooiplaats, north of Louis Trichardt (Van Son, 1949); Sibasa

(Swanepoel, 1953); Goedehoop (Swanepoel, 1953); Louis Trichardt (Swanepoel, 1953); Blouberg (Pringle *et al.*, 1994); Buzzard Mountain Retreat [-23.012 29.765] (Williams, unpub., 2015).
Conservation status: Classified as Rare – Habitat Specialist by Mecenero *et al.*, 2013.

Papilio (Druryia) ophidicephalus mkuwadzi Gifford, 1961

Malawi Emperor Gazer

Papilio ophidicephalus mkuwadzi Gifford, 1961. *Entomologist* **94**: 288 (287-289).



Papilio ophidicephalus mkuwadzi. Male. Left – upperside; right – underside.
Wingspan: 105mm. Makutu Mts, Zambia. 9/xii/1978. Fisher. (Gardiner Collection).

Type locality: [Malawi]: “Nyasaland, Mkuwadzi forest, Nkata Bay District”.

Distribution: Tanzania (south-west), Malawi (north), Zambia (north-east).

Specific localities:

Tanzania – Tukuyu, 1 200 m (Congdon, *vide* Kielland, 1990d).

Malawi – Mkuwadzi Forest (TL); Nyika N.P. (J. Timberlake, pers. comm., 2019).

Zambia – Mafinga Mountains (Heath *et al.*, 2002); Makutu Mountains (Heath *et al.*, 2002); Nyika (Heath *et al.*, 2002).

Papilio (Druryia) ophidicephalus niassicola Storace, 1955

Cloud Mountain Emperor Gazer

Papilio ophidicephalus niassicola Storace, 1955. *Memorie della Società Entomologica Italiana* **33**: 130 (120-137).



Papilio ophidicephalus niassicola. Male. Left – upperside; right – underside.
Malawi. 23 April 1973.
Images M.C. Williams ex Gardiner Collection.

Type locality: Malawi: “Niassa, Linderdale”.

Distribution: Malawi (south and central).

Specific localities:

Malawi – Niassa, Linderdale (TL); Mt Mulanje (Congdon *et al.*, 2010); Zomba Mountain (Congdon *et al.*, 2010).

Mozambique – Mt Mabu (Congdon *et al.*, 2010).

***Papilio (Druryia) ophidicephalus phalusco* Suffert, 1904#**
Southern Emperor Gazer

Papilio ophidicephalus [sic] *phalusco* Suffert, 1904. *Deutsche Entomologische Zeitschrift, Iris* **17**: 103 (12-107).

Papilio ophidicephalus phalusco Suffert, 1904. Dickson & Kroon, 1978.

Papilio ophidicephalus phalusco Suffert, 1904. Pringle *et al.*, 1994: 304.



Papilio ophidicephalus phalusco. Male (Wingspan 115 mm). Left – upperside; right – underside.

Linwood Forest, KwaZulu-Natal, South Africa. 13 February 2005. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio ophidicephalus phalusco. Female (Wingspan 130 mm). Left – upperside; right – underside.
Ngele Forest, KwaZulu-Natal, South Africa. 30 December 2011. J. Dobson
Images M.C. Williams ex Dobson Collection.

Type locality: [South Africa]: “Natal”.

Diagnosis: In this subspecies the discal spots are arranged in a nearly straight line, showing their greatest enlargement near the costa of the forewing (Pringle *et al.*, 1994).

Distribution: South Africa (KwaZulu-Natal – south, Eastern Cape Province).

Specific localities:

KwaZulu-Natal – Karkloof (Van Son, 1949); Pietermaritzburg (Van Son, 1949); Balgowan (Van Son, 1949); Durban (Swanepoel, 1953); Pinetown (Swanepoel, 1953); Tugela River Valley (Pringle *et al.*, 1994).

Eastern Cape Province – Gonubie River (Van Son, 1949); Bashee River (Van Son, 1949); Tsomo River (Van Son, 1949); Pirie Forest (Van Son, 1949); King William’s Town (Van Son, 1949); Katberg (Van Son, 1949); Hogsback (Van Son, 1949); Stutterheim (Van Son, 1949); Port St Johns (Van Son, 1949); Ngqeleni (Van Son, 1949); Amatola Mountains (Swanepoel, 1953); East London (Swanepoel, 1953).

Papilio (Druryia) ophidicephalus transvaalensis van Son, 1939#

Escarpment Emperor Gazer

Papilio ophidicephalus transvaalensis van Son, 1939. *Annals of the Transvaal Museum* **20**: 61 (53-64).

Papilio ophidicephalus transvaalensis Van Son, 1939. Dickson & Kroon, 1978.

Papilio ophidicephalus transvaalensis Van Son, 1939. Pringle *et al.*, 1994: 304.



Papilio ophidicephalus transvaalensis. Male (Wingspan 110 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 8 January, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio ophidicephalus transvaalensis. Female (Wingspan 120 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 6 January, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.

Type locality: South Africa: “North Transvaal, Woodbush, Pietersburg District”. Holotype male in the Transvaal Museum, Pretoria.

Diagnosis: On the forewing upperside the discal spots are separated and those in areas 1B and 2 are distinctly enlarged. On the hindwing upperside, in addition, the discal area is heavily irrorated with yellow scales (Pringle *et al.*, 1994).

Distribution: South Africa (Limpopo Province).

Specific localities:

Limpopo Province – Woodbush (TL); Lekgalameetse Nature Reserve (“Malta Forest”) (Van Son, 1949); Elim Hospital (Ball; specimens are intermediate between ssp. *transvaalensis* and *entabeni*) (Pringle *et al.*, 1994).

Conservation status: Classified as Rare – Habitat Specialist by Mecenero *et al.*, 2013.

Papilio (Druryia) ophidicephalus zuluensis van Son, 1939#
Zulu Emperor Gazer

Papilio ophidicephalus zuluensis van Son, 1939. *Annals of the Transvaal Museum* **20**: 63 (53-64).

Papilio ophidicephalus zuluensis Van Son, 1939. Dickson & Kroon, 1978.

Papilio ophidicephalus zuluensis Van Son, 1939. Pringle *et al.*, 1994: 304.



Papilio ophidicephalus zuluensis. Male. Left – upperside; right – underside.
Nkandla, KwaZulu-Natal, South Africa. January, 1957. W. Teare.
Images M.C. Williams ex Henning Collection.



Papilio ophidicephalus zuluensis. Female. Left – upperside; right – underside.
Eshowe, KwaZulu-Natal, South Africa. 3 January 1993. M. Lunderstedt.
Images G. Henning ex Henning Collection.

Type locality: South Africa: “Zululand, Eshowe”. Holotype male in the Transvaal Museum, Pretoria.

Diagnosis: Discal spots larger than in ssp. *ayersii* and weakly fused in females. The spots in areas 1B and 2 are comparatively elongated (Pringle *et al.*, 1994).

Distribution: South Africa (KwaZulu-Natal – north-east).

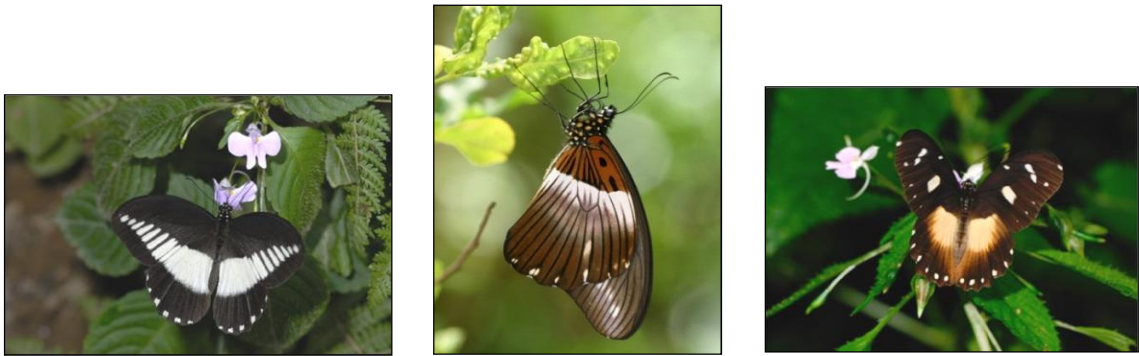
Specific localities:

KwaZulu-Natal – Eshowe (TL); Dlinza Forest in Eshowe (Van Son, 1949); Nkandla Forest near Mtunzini (Van Son, 1949); Ngoye Forest (Pringle *et al.*, 1994).

Conservation status: Classified as Rare – Habitat Specialist by Mecenero *et al.*, 2013.

Papilio echerioides group

****Papilio (Druryia) echerioides* Trimen, 1868#** White-banded Sash



White-banded Swallowtail (*Papilio echerioides*). Left – male; middle – male underside; right – female.
Images on sides courtesy Steve Woodhall; central image courtesy Raimund Schutte.

Papilio echerioides Trimen, 1868. *Transactions of the Entomological Society of London* **1868**: 72 (69-96).

Papilio echerioides Trimen, 1868. Trimen & Bowker, 1889.

Papilio echerioides Trimen, 1868. Aurivillius, 1899.

Papilio echerioides Trimen. Swanepoel, 1953a.

Papilio echerioides Trimen, 1868. Dickson & Kroon, 1978.

Papilio echerioides Trimen, 1868. Pringle *et al.*, 1994: 302.



Papilio echerioides echerioides. Male (Wingspan 70 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 5 January, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio echerioides echerioides. Female (Wingspan 70 mm). Left – upperside; right – underside.
Woodbush, Limpopo Province, South Africa. 23 February 2003. J. Dobson
Images M.C. Williams ex Dobson Collection.

Type locality: [South Africa]: “Perie Bush, Sogana and Boolo forests near the river Tsomo, in Kaffraria; Tunjumbili, Tugela frontier of Natal”.

Diagnosis: Females mimic the unpalatable *Amauris echeria*. When at rest the underside pattern of the closed wings resembles that of the distasteful acraeine, *Acraea aganice*. This is therefore a remarkable instance of dual mimicry (Pringle *et al.*, 1994).

Distribution: Cameroon, Equatorial Guinea, Angola, Democratic Republic of Congo, Sudan, Ethiopia, Uganda, Rwanda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.

Habitat: Temperate and montane evergreen forest. In Tanzania subspecies *wertheri* occurs at altitudes of 1 400 to 2 200 m (one female from 2 400 m); subspecies *pseudowertheri* is found as low as 250 m (Magombera Forest) to 1 300 m, occasionally up to 1 600 m (Nguru Mountains); ssp. *joiceyi* is found at altitudes from 700 to 1 700 m (Kielland, 1990d). Subspecies *kiellandi* is found at altitudes of 1 800 to 2 400 m in Tanzania (Congdon & Collins, 1998).

Habits: Compared to other swallowtails the flight is weak, especially in the female. Both sexes fly low down, seldom more than two metres above the ground, with a fluttering flight pattern. Females keep almost exclusively to the shady undergrowth of the forest. Both sexes are fond of flowers, especially *Impatiens* species, and males occasionally mud-puddle. Males sometimes come to horse manure or cow pats (Larsen, 1991c). Males patrol forest edges randomly.

Flight period: In the nominate subspecies this is from September to April, with peak emergences in September and October, and again from February to April in KwaZulu-Natal. In the Eastern Cape Province the two broods are in November and from January to March (Pringle *et al.*, 1994).

Early stages:

Fountaine, 1911: 49 [*Papilio echerioides echerioides* as *Papilio echerioides*].

Clark, in Van Son, 1949: 16 [as *Papilio (Papilio) echerioides echerioides*].

Egg. Spheroidal, with flattened base; pale yellow, with a few small reddish brown spots; 1,2 mm in diameter by 1 mm high; smooth; laid singly on underside of leaf; egg stage about 5 days. **First instar larva.** 3 mm long; black, with 1st and last two segments white; structurally resembling *P. dardanus* but with setate processes slightly shorter. **Second and third instar larva.** Light brown; setate processes somewhat reduced and with shorter setae. **Fourth instar larva.** Olive brown, variegated with white and closely resembles bird dropping; no setate processes and only a pair of slight elevations on 8th segment. **Fifth (final) instar larva.** 32 mm long; bright green, with brownish transverse band along posterior half of 4th segment, widened laterally to merge with similarly coloured lower half of body, and a peculiar band resembling two brown triangles, apices of which touching in mid-dorsal line, and posterior sides of which are deeply and roundly excised; this band also merging laterally into the yellowish brown sides, which become abruptly lighter below spiracles; both bands finely edged with whitish; anterior one with transverse row of small bluish-pupilled ocellate spots and with a larger median incision between inner two spots, and a smaller one on each of their outer sides; posterior band has two similar ocellate spots near middle line, and both bands variegated posteriorly with small whitish dots; osmeterium bright pink throughout; larval stage

35 days. **Pupa.** Resembles partly detached piece of lichen, variegated with greenish, brown, pinkish and whitish markings; two diverging, shortly furcate anterior processes; dorsum markedly raised, with anterior part forming sharply raised keel, rounded in side-view; wing-cases laterally expanded in posterior half, with edges crenulate; whole body curved in S-shape as seen from side; abdominal segments with raised tubercles, except at posterior end; pupal stage about two weeks.

Henning, S.F., 1984: 31.

Clark, in Pringle *et al.*, 1994: p. 400; plate 31 [as *Papilio echerioides echerioides*].

“Eggs are laid singly on the undersides of the leaves of the foodplant. They are 1 mm high by 1,2 mm in diameter and pale yellow with a few small, reddish-brown spots. The egg stage lasts about five days. There are five larval instars lasting about 35 days. Larvae in the first four resemble a bird dropping, while those in the final instar are leaf-like. The pupa resembles a partly detached piece of lichen and the coloration is somewhat variable depending on where the larva pupates. The pupal stage lasts about two weeks.”

Henning, Henning, Joannou, & Woodhall, 1997: 233 (photograph of early instar larva, final instar larva and pupa).



Fourth instar larva, final instar larva and pupa of *Papilio echerioides echerioides*.
Images courtesy Allison Sharp (left and centre) and Raimund Schutte (right).

Larval food:

Citrus species (Rutaceae) [Pringle *et al.*, 1994: 302].

Clausena anisata (Willd.) Hook.f. ex Benth. (Rutaceae) [Fountaine, 1911: 50; as *Clausena inaequalis* (DC.) Benth.; Dargle, KwaZulu-Natal, South Africa].

Teclea species (Rutaceae) [Kielland, 1990d: 46; for ssp. *joiceyi*].

Vepris lanceolata (Lam.) G.Don (Rutaceae) [Pringle *et al.*, 1994: 302].

Zanthoxylum asiatica (L.) Lam. (Rutaceae) [Van Someren, 1974: 316].

Zanthoxylum capense (Thunb.) Harv. (Rutaceae) [Van Son, 1949: 17; as *Fagara capensis* Thunb.].

Zanthoxylum delagoense P.G.Waterman (Rutaceae) [Dickson & Kroon, 1978].

Relevant literature:

Stewart, 2017 [Ultraviolet fluorescence in various subspecies].

Papilio (Druryia) echerioides echerioides Trimen, 1868#

White-banded Sash

Papilio echerioides Trimen, 1868. *Transactions of the Entomological Society of London* **1868**: 72 (69-96).

Papilio echerioides echerioides Trimen, 1868. Dickson & Kroon, 1978.

Papilio echerioides echerioides Trimen, 1868. Pringle *et al.*, 1994: 302.



Papilio echerioides echerioides. Male (Wingspan 70 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 5 January, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio echerioides echerioides. Female (Wingspan 70 mm). Left – upperside; right – underside.
Woodbush, Limpopo Province, South Africa. 23 February 2003. J. Dobson
Images M.C. Williams ex Dobson Collection.

Type locality: [South Africa]: “Perie Bush, Sogana and Boolo forests near the river Tsomo, in Kaffraria; Tunjumbili, Tugela frontier of Natal”.

Distribution: South Africa (Limpopo Province, Mpumalanga, KwaZulu-Natal, Eastern Cape Province), Swaziland.

Specific localities:

Limpopo Province – Haenertsburg (Van Son, 1949); Woodbush (Van Son, 1949); Lekgalameetse Nature Reserve (“Malta Forest”) (Van Son, 1949); Hanglip Forest, Louis Trichardt (Van Son, 1949); Entabeni (Van Son, 1949); Duiwelskloof (Swanepoel, 1953); Sibasa (Swanepoel, 1953); Buzzard Mountain Retreat [-23.012 29.765] (Williams, unpub., 2015).

Mpumalanga – Barberton (Van Son, 1949); Marieps Kop (Van Son, 1949); Malelane (Van Son, 1949); Waterval Onder (Van Son, 1949); Sabie (Swanepoel, 1953); Graskop (Swanepoel, 1953); Buffelspoort Nature Reserve (Williams).

KwaZulu-Natal – Tunjumbili (Trimen, 1868); Tugela River (Van Son, 1949); Oribi Gorge (Swanepoel, 1953); Port Shepstone (Swanepoel, 1953); Umkomaas (Swanepoel, 1953); Durban (Swanepoel, 1953); Pietermaritzburg (Swanepoel, 1953); Karkloof (Swanepoel, 1953); Eshowe (Swanepoel, 1953).

Eastern Cape Province – Pirie Forest (Trimen, 1868); Sogana Forest (Trimen, 1868); Boolo Forest (Trimen, 1868); Stutterheim (Van Son, 1949); Hogsback (Van Son, 1949); King William’s Town (Van Son, 1949); Katberg (Van Son, 1949); Tsomo River (Van Son, 1949); Port St. Johns (Swanepoel, 1953); Amatola Mountains (Pringle *et al.*, 1994).

Swaziland – Malolotja N. R. (www.sntc.org.sz).

Papilio (Druryia) echerioides ambangulu Clifton & Collins, 1997
Ambangulu White-banded Sash

Papilio echerioides ambangulu Clifton & Collins, 1997. *In*: d'Abreu, 1997. *Butterflies of the Afrotropical region. Part I*: 44.

Type locality: Tanzania: Ambagulu, West Usamabara.

Diagnosis: Larger than ssp. *wertheri*. Male with narrower white forewing band; female with larger white spots, those on hindwing placed further from margin (Congdon & Collins, 1998).

Distribution: Tanzania.

Specific localities:

Tanzania – Ambagulu (TL); West Usambara Mountains; Pare Mountains?; Mount Lossoganeu?.

Papilio (Druryia) echerioides chirindanus van Son, 1956
Chirinda White-banded Sash

Papilio echerioides chirindanus van Son, 1956. *Annals of the Transvaal Museum* 22: 504 (503-509).

Papilio echerioides chirindanus Van Son, 1956. Dickson & Kroon, 1978.

Papilio echerioides chirindanus Van Son, 1956. Pringle *et al.*, 1994: 302.



Papilio echerioides chirindanus. Male. Left – upperside; right – underside.
Bunga Forest, Vumba National Park, Zimbabwe. 4 May 1970.
Images M.C. Williams ex Gardiner Collection.



Papilio echerioides chirindanus. Female. Left – upperside; right – underside.
Bunga Forest, Vumba National Park, Zimbabwe. 7 September 1970.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Zimbabwe]: “S. Rhodesia, Mount Selinda”.

Diagnosis: Smaller than the nominate subspecies, and the male has purer white bands on the upperside of the wings. In males, on the hindwing upperside, the marginal spots are positioned further outwards and in females the light spots are smaller (Pringle *et al.*, 1994).

Distribution: Mozambique (Mt Gorongosa); Zimbabwe (east).

Specific localities:

Mozambique – Mount Gorongosa.

Zimbabwe – Chirinda Forest, Mount Selinda (TL); Melsetter (Van Son, 1949); Vumba Mountains (Van Son, 1949); Umtali (Van Son, 1949).

Papilio (Druryia) echerioides homeyeri Plötz, 1880

Angola White-banded Sash

Papilio homeyeri Plötz, 1880. *Stettiner Entomologische Zeitung* **41**: 306 (298-307).

Papilio Homeyeri Plötz, 1880. Aurivillius, 1899.



Papilio echerioides homeyeri. Male. Left – upperside; right – underside.
Wingspan: 74mm. North Mutundu, Mufulira, Copperbelt Prov., Zambia. 1250 m. 8-IX-1978.
M.A. Newport (Newport Collection).



Papilio echerioides homeyeri. Female. Left – upperside; right – underside.
Wingspan: 90mm. South Mutundu River, Mufulira, Copperbelt Prov., Zambia. 1250 m. 2-V-1983.
M.A. Newport (Newport Collection).

Type locality: Angola: “Pungo-Adongo”.

Distribution: Angola, Democratic Republic of Congo (Lomami, Shaba, Lualaba, Tanganika), Tanzania (south-

west), Zambia (north)

Specific localities:

Angola – Pungo-Adongo (TL); Kwanza Sul Province; Malanje Province (Mendes *et al.*, 2013).

Tanzania – Geri (Ssubuso) (Karsch, 1895).

Zambia – Mwinilunga Township (Heath *et al.*, 2002); Ikelenge (Heath *et al.*, 2002); Kanongesha (Heath *et al.*, 2002); Kanyama (Heath *et al.*, 2002); Kakoma (Heath *et al.*, 2002); Kabompo Gorge (Heath *et al.*, 2002); (Heath *et al.*, 2002); Mpongwe (Heath *et al.*, 2002); Samfya (Heath *et al.*, 2002); Mutundu River (Mufulira) (male and female illustrated above).

neumanni Karsch, 1895 (as sp. of *Papilio*). *Entomologische Nachrichten. Berlin* **21**: 226 (225-227). Tanzania: “Geri (Ssubuso)”.

tanganikae Oberthür, 1897 (as sp. of *Papilio*). *Bulletin de la Société Entomologique de France* **1897**: 190 (188-194). Tanzania: “aux bords du lac Tanganikae”.

subtanganikae Strand, 1916 *in* Strand, 1916-8 (as ab. of *Papilio zoroastres neumanni*). *Lepidoptera Niepeltiana* **2**: 24 (1-26 (1916); 1-4 (1918)). Tanzania: “Deutsch Ost Afrika”.

zoroastrides Strand, 1916 *in* Strand, 1916-8 (as ab. of *Papilio zoroastres neumanni*). *Lepidoptera Niepeltiana* **2**: 24 (1-26 (1916); 1-4 (1918)). Tanzania: “Deutsch Ost Afrika”.

Papilio (Druryia) echerioides joiceyi Gabriel, 1945

Central White-banded Sash

Papilio zoroastres joiceyi Gabriel, 1945. *Entomologist* **78**: 152 (151-152).



Papilio echerioides joiceyi. Male. Wingspan 72 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 14 September 2008. P. Ward.
Images M.C. Williams ex Dobson Collection.

Type locality: Sudan: “S. Sudan, Opare Forest and Imatong Mts., 3-4000 ft”.

Distribution: Sudan (south), Uganda, Kenya (west), Tanzania (west), Rwanda, Democratic Republic of Congo (North Kivu).

Specific localities:

Sudan – Opare Forest (TL); Imatong Mountains (Gabriel, 1945).

Uganda – Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001; as *P. zoroastres*).

Rwanda – Cyamudongo Forest (Uwizelimana *et al.*, 2021).

Kenya – Mount Elgon (Stoneham, 1944); Kakamega Forest (Larsen, 1991c).

Tanzania – forests from Mpanda to the Bukoba Region in western and north-western Tanzania (Kielland, 1990d).

pallidochrea Stoneham, 1944 (as female f. of *Papilio zoroastres*). *Bulletin of the Stoneham Museum* (48): [2] ([3 pp.]). Kenya: “Western Kenya Colony, Mount Elgon”.

Papilio (Druryia) echerioides kiellandi Clifton & Collins, 1997
Kingarama White-banded Sash

Papilio echerioides kiellandi Clifton & Collins, 1997. *In*: d’Abrera, 1997. *Butterflies of the Afrotropical region. Part 1*: 44.

Type locality: Tanzania: Kingarama Forest Reserve, Loliondo.

Distribution: Kenya (south), Tanzania (north).

Specific localities:

Kenya – Teita Hills; Chyulu Hills.

Tanzania – Kingarama Forest Reserve (TL); Loliondo District (Congdon & Collins, 1998).

Papilio (Druryia) echerioides leucospilus Rothschild, 1902
Ethiopia White-banded Sash

Papilio echerioides leucospilus Rothschild, 1902. *Novitates Zoologicae* **9**: 598 (595-598).

Type locality: Ethiopia: “Gara Mulata near Harar”.

Distribution: Ethiopia (highlands south-east of Rift Valley).

Specific localities:

Ethiopia – Gara Mulata, near Harar (TL).

Papilio (Druryia) echerioides nioka (Hancock, 1989)
Congo White-banded Sash

Papilio zoroastres joycei f. *nioka* Berger, 1974. *Lambillionea* **72-73**: 70 (69-76).

Priniceps echerioides nioka Hancock, 1989. *Papilio International* **5**: 369 (363-374).

Type locality: Democratic Republic of Congo: “Nioka, Ituri district”.

Distribution: Democratic Republic of Congo. Known only from the type locality. Holotype in the Royal Museum for Central Africa, Tervuren, Belgium.

Specific localities:

Democratic Republic of Congo – Nioka, Ituri district (TL); Ituri Forest (Ducarme, 2018).

nioka Berger, 1974 (as form of *Papilio zoroastres joycei*). *Lambillionea* **72-73**: 70 (69-76). Democratic Republic of Congo: “Kibali-Ituri: Nioka”. Holotype in the Royal Museum for Central Africa, Tervuren, Belgium.

Papilio (Druryia) echerioides nyiro Carcasson, 1962
Kenya White-banded Sash

Papilio echerioides nyiro Carcasson, 1962. *Journal of the East Africa Natural History Society & Coryndon Museum* **24** (1): 62 (54-63).

Type locality: Kenya: “Northern Frontier District, Mt. Nyiro, 7000 ft.”.

Distribution: Kenya (north-west).

Specific localities:

Kenya – Mount Nyiro (TL).

Papilio (Druryia) echerioides oscari Rothschild, 1902

Kaffa White-banded Sash

Papilio echerioides oscari Rothschild, 1902. *Novitates Zoologicae* 9: 597 (595-598).



Papilio echerioides oscari. Male. Left – upperside; right – underside.
Boter Becho, Ethiopia. 19 September 1997.
Images M.C. Williams ex Gardiner Collection.



Papilio echerioides oscari. Female. Left – upperside; right – underside.
Boter Becho, Ethiopia. 19 September 1997.
Images M.C. Williams ex Gardiner Collection.

Type locality: Ethiopia: “Kaffa and Djima”.

Distribution: Ethiopia (highlands west of the Rift Valley).

Specific localities:

Ethiopia – Kaffa (TL); Djima (Rothschild, 1902).

Papilio (Druryia) echerioides pseudowertheri Kielland, 1990

Tanzania White-banded Sash

Papilio echerioides pseudowertheri Kielland, 1990. *Butterflies of Tanzania* 39 (363 pp.). Melbourne.

Type locality: Tanzania: “Ulanga District, Muhulu Forest, 1500 m.”. Holotype (male) in the Natural History Museum, London.

Description: “MALE. Black with creamy-white markings; f.w. post-discal band very wide near inner margin, sharply, but evenly tapering to small dots in spaces 6 and 7; distal part of the band generally narrower than in ssp. *wertheri*; h.w. white band very wide, as that of *wertheri*; submarginal white spots often touching margin, but in some specimens separated from the margin by a black line. Underside f.w. postdiscal spot in space 6 diffuse or lacking, but the one in 7 is present. Length of f.w. 41–48 mm. FEMALE. All markings white to creamy-white, more extended than in ssp. *rectofasciata* (= *wertheri*); f.w. white median spot in space 2 oblong; cell spot rather large; subapical spots comparatively large, but smaller than in *wertheri*; h.w. submarginal spots closer to the margin than in *rectofasciata* (= *wertheri*); median patch creamy-white with nearly even distal border (in *wertheri* ochreous, and often with strongly indented distal border). Length of f.w. 40–46 mm.”

Distribution: Tanzania (east and south-east).

Specific localities:

Tanzania – Muhulu Forest, Ulanga District (TL); Mwanihana Forest, Ifakara (Kielland, 1990d); Kimboza Forest (Kielland, 1990d); Magombera Forest (Kielland, 1990d); Nguru Mountains (Kielland, 1990d); Masagati Forest (Kielland, 1990d); Nguu Forests (Kielland, 1990d); Uluguru Forests (Kielland, 1990d).

Papilio (Druryia) echerioides shirensis (Hancock, 1987)

Malawi White-banded Sash

Priniceps echerioides shirensis Hancock, 1987. *Papilio International* 3: 193 (193–195).



Papilio echerioides shirensis. Male. Left – upperside; right – underside.

Mlanje, Malawi. 24 April 1973.

Images M.C. Williams ex Gardiner Collection.

Type locality: Malawi: “Mlanje, 2000”.

Distribution: Malawi (south – Shire Highlands), Mozambique (Timberlake *et al.*, 2007).

Specific localities:

Malawi – Mt Mulanje (TL); Zomba Mountains (Congdon *et al.*, 2010).

Mozambique – Mount Chipirone (Timberlake *et al.*, 2007); Mt Namuli (Congdon *et al.*, 2010); Mt Mabu (Congdon *et al.*, 2010).

Papilio (Druryia) echerioides wertheri Karsch, 1898

Mangati White-banded Sash

Papilio echerioides var. *wertheri* Karsch, 1898. *In*: Werther, C.W., *Die mittleren Hochländer des nördlichen Deutsch-Ost-Afrika*: 315 (311–317). Berlin.



Papilio echerioides wertheri. Male. Left – upperside; right – underside.
Forestry Training Institute, Tanzania. 25 January 2015.
Images M.C. Williams ex Gardiner Collection.

Type locality: Tanzania: “Mangati”.

Distribution: Kenya (east); Tanzania (east and north).

Specific localities:

Tanzania – Modji (Suffert, 1904); Mangati (TL); The Oldeani-Ngorongoro Range (Kielland, 1990d); Mount Meru (Kielland, 1990d); Mount Kilimanjaro (Kielland, 1990d); Mbulu Forests (Kielland, 1990d); Mount Kwaraha at Babati (Kielland, 1990d); Mount Longido (Kielland, 1990d); Meto Hills (Kielland, 1990d); Mount Lolkisale (Kielland, 1990d).

rideschi Suffert, 1904 (as ssp. of *Papilio echerioides*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 93 (12-107). Tanzania: “Modji an Fusse des Kilima-Ndjaru”.

rectofasciata Kielland, 1990 (as ssp. of *Papilio echerioides*). *Butterflies of Tanzania* 39 (363 pp.). Melbourne. Tanzania: “Oldeani, 1900 m.”.

Papilio (Druryia) echerioides zoroastres Druce, 1878

Cameroon White-banded Sash

Papilio zoroastres Druce, 1878. *Entomologist's Monthly Magazine* **14**: 226 (226).

Papilio zoroastres Druce, 1878. Aurivillius, 1899.

Type locality: [Cameroon]: “Fernando Po”. [False locality.]. Description of female by Canu, 1994 (as *Papilio zoroastres gabrieli*). *Lambillionea* **94** (3) (Tome I): 316 (311-320).

Distribution: Cameroon, Equatorial Guinea (Bioko), Democratic Republic of Congo.

Specific localities:

Cameroon – Buea (Karsch, 1893); Mussahe (Strand, 1914); Soppo (Strand, 1914).

Equatorial Guinea (Bioko) – Bioko (Gabriel, 1945).

Democratic Republic of Congo – Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018).

preussius Karsch, 1893 (as sp. of *Papilio*). *Berliner Entomologische Zeitschrift* **38**: 368 (367-372). Cameroon: “Buea-Gebirge, 2100 m”. Given as a valid species by Aurivillius (1899).

zoroastroides Strand, 1914 (as ab. of *Papilio zoroastres*). *Archiv für Naturgeschichte* **80** (A.2.): 159 (139-161). Cameroon: “Mussahe”.

sapponis Strand, 1914 (as ab. of *Papilio zoroastres*). *Archiv für Naturgeschichte* **80** (A.2.): 159 (139-161). Cameroon: “Soppo”.

barnsi Gabriel, 1945 (as ssp. of *Papilio zoroastres*). *Entomologist* **78**: 152 (151-152). Equatorial Guinea: “Fernando Po, 3-4000 ft”. [Invalid; junior primary homonym of *Papilio rex barnsi* Le Cerf, 1924 [Papilionidae].]

gabrielii Gauthier, 1984 (as ssp. of *Papilio echerioides*). *Entomologische Zeitschrift. Frankfurt. a.M.* **94**: 319 (314-320). Equatorial Guinea: “Fernando Po, 3-4000 ft”. [Synonymized with *zoroastres* Druce by Spearman *et al.*, 2000: 451.]

****Papilio (Druryia) fuelleborni* Karsch, 1900**
Scalloped Sash

Papilio fülleborni Karsch, 1900. *Entomologische Nachrichten. Berlin* **26**: 353 (353-359).

Papilio fuelleborni Karsch, 1900. Smith *et al.*, 2008.



Papilio fuelleborni fuelleborni. Male. Left – upperside; right – underside.
Ifakara, Mwanihana, Tanzania. April 1981. J. Kielland. (ABRI 2018-5051).
Images M.C. Williams ex ABRI Collection.



Papilio fuelleborni fuelleborni. Female. Left – upperside; right – underside.
Mafwemiru, Rubeho, Tanzania. May 2013. ex ABRI Collection (ABRI 2018-5052).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “zwischen Uhehe und Iringa; zwischen Idunda und Iringa in Uhehe”.

Distribution: Tanzania, Malawi.

Habitat: Montane forest. In Tanzania the nominate subspecies occurs at altitudes from 1 200 to 2 500 m;

subspecies *rydoni* is found from 1 000 to 2 200 m in altitude (Kielland, 1990d).

Habits: Similar to those of *P. echerioides*. Specimens have been seen flying even on cloudy days (Kielland, 1990d).

Early stages:

Congdon *et al.*, 2017 [final instar larva].

Larval food:

Clausena species (Rutaceae) [Kielland, 1990d: 40].

Clausena anisata (Willd.) Hook f. ex Benth. (Rutaceae) [Congdon *et al.*, 2017; Mufindi, Tanzania].

Papilio (Druryia) fuelleborni fuelleborni Karsch, 1900

Scalloped Sash

Papilio fülleborni Karsch, 1900. *Entomologische Nachrichten. Berlin* **26**: 353 (353-359).

Papilio fuelleborni Karsch, 1900. Smith *et al.*, 2008.



Papilio fuelleborni fuelleborni. Male. Left – upperside; right – underside.
Ifakara, Mwanihana, Tanzania. April 1981. J. Kielland. (ABRI 2018-5051).
Images M.C. Williams ex ABRI Collection.



Papilio fuelleborni fuelleborni. Female. Left – upperside; right – underside.
Mafwemiru, Rubeho, Tanzania. May 2013. ex ABRI Collection (ABRI 2018-5052).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “zwischen Uhehe und Iringa; zwischen Idunda und Iringa in Uhehe”.

Distribution: Tanzania (east and south), Malawi (north).

Specific localities:

Tanzania – Mount Rungwe (Kielland, 1990d); Njombe (Kielland, 1990d); Livingstone Mountains (Kielland, 1990d); Uzungwa Range (Kielland, 1990d); Rubeho Mountains (Kielland, 1990d); Ukaguru Mountains (Kielland, 1990d); Nguru Mountains (Kielland, 1990d); Nguu Mountains (Kielland, 1990d); Kanga Mountain (Smith *et al.*, 2008); Iringa (including Mafinga mountains) (Smith *et al.*, 2008); Songea (Smith *et al.*, 2008); Kitesa Forest (Smith *et al.*, 2008); Mbinga (Smith *et al.*, 2008); Bundali Hills (Smith *et al.*, 2008); Udzungwa mountains (Smith *et al.*, 2008); Ngamo (Smith *et al.*, 2008).

Malawi – Misuku Hills (Gifford, 1965); Matipa Forest.

***Papilio (Druryia) fuelleborni rydoni* Kielland, 1987**
Eastern Scalloped Sash

Papilio fuelleborni rydoni Kielland, 1987. *Lambillionea* **87**: 118 (114-126).

Type locality: Tanzania: “Morogoro, Uluguru Mts., Bondwa Mt., 2100 m”.

Distribution: Tanzania (north-east).

Specific localities:

Tanzania – Bondwa Mountain (6° 54' S, 37° 41' E; Hall, 1984 [reference in Smith *et al.*, 2008]), Uluguru Mountains (TL); Usamabra Mountains (Kielland, 1990d); South Pare Mountains (Kielland, 1990d); Nguru mountains (Smith *et al.*, 2008).

Note1: The population in the South Pare Mountains may constitute a distinct population (only one male available) (Kielland, 1990d: 40).

Note2: The taxa *fuelleborni fuelleborni* and *fuelleborni rydoni* may have overlapping ranges and, if so, would merely be infrasubspecific forms (Smith *et al.*, 2008).

****Papilio (Druryia) sjoestedti* Aurivillius, [1908]**
Thin-line Sash

Papilio sjoestedti Aurivillius, [1908]. *In*: Seitz, [1908-25]. *Die Gross-Schmetterlinge der Erde*, Stuttgart (2) **13** *Die Afrikanischen Tagfalter*: 15 (614 pp.).

Papilio sjoestedti Aurivillius, 1908. Smith *et al.*, 2008.



Papilio sjoestedti sjoestedti. Male. Left – upperside; right – underside.
Meru Mountain, Tanzania. November 2003. S. Collins. (ABRI 2018-5053).
Images M.C. Williams ex ABRI Collection.



Papilio sjoestedti sjoestedti. Female. Left – upperside; right – underside.
Meru Mountain, Tanzania. November 2003. S. Collins. (ABRI 2018-5054).
Images M.C. Williams ex ABRI Collection.

Type locality: Tanzania: “German East Africa, Meruberg”. Holotype in the Swedish Natural History Museum (images available at www2.nrm.se/en/lep_nrm/s).

Diagnosis: Differs from *fuelleborni* in the much narrower white median bands on the upperside of the wings (Kielland, 1990d).

Distribution: Tanzania (north).

Habitat: Montane forest. Occurs at altitudes above 2 000 m (common at 2 200 – 2 600 m but rarely seen as low as 1 700 m) (Kielland, 1990d).

Habits:

Early stages: Nothing published.

Larval food: Nothing published.

Papilio (Druryia) sjoestedti sjoestedti Aurivillius, [1908]

Thin-line Sash

Papilio sjoestedti Aurivillius, [1908]. *In*: Seitz, [1908-25]. *Die Gross-Schmetterlinge der Erde*, Stuttgart (2) **13** *Die Afrikanischen Tagfalter*: 15 (614 pp.).

Papilio sjoestedti Aurivillius, 1908. Smith *et al.*, 2008.



Papilio sjoestedti sjoestedti. Male. Left – upperside; right – underside.
Meru Mountain, Tanzania. November 2003. S. Collins. (ABRI 2018-5053).
Images M.C. Williams ex ABRI Collection.



Papilio sjoestedti sjoestedti. Female. Left – upperside; right – underside.
Meru Mountain, Tanzania. November 2003. S. Collins. (ABRI 2018-5054).
Images M.C. Williams ex ABRI Collection.

Type locality: Tanzania: “German East Africa, Meruberg”. Holotype in the Swedish Natural History Museum (images available at www2.nrm.se/en/lep_nrm/s).

Diagnosis: Differs from *fuelleborni* in the much narrower white median bands on the upperside of the wings (Kielland, 1990d).

Distribution: Tanzania (north).

Specific localities:

Tanzania – Mount Meru (TL); Oldeani-Ngorongoro Highlands (Kielland, 1990d); the Mbulu forests (Marang, Nou Forest, Hasama Forest) (Kielland, 1990d); Mount Kwaraha at Babati (Kielland, 1990d); Mount Hanang? (Kielland, 1990d).

Papilio (Druryia) sjoestedti atavus Le Cerf, 1912

Kilimanjaro Thin-line Sash

Papilio sjoestedti var. *atavus* Le Cerf, 1912. *Bulletin de la Société Entomologique de France* **1912**: 336 (336-337). Invalid.

Papilio fuelleborni neocesa Kemal & Kocak, 2005: 10; **nom. nov.**

Papilio sjoestedti atavus Le Cerf, 1912. Smith *et al.*, 2008.

Type locality: Tanzania: “Afrique orientale allemande, Forêt du Kilimandjaro, au-dessus du Narangu, versant Sud-est alt. 1800 à 200 m”.

Diagnosis: Males differ from those of ssp. *sjoestedti* in that the hindwing upperside white band is wider (Kielland, 1990d).

Distribution: Tanzania (north).

Specific localities:

Tanzania – Mount Kilimanjaro (TL). Endemic to this mountain (Kielland, 1990d).

neocesa Kemal & Koçak, 2005 (as replacement name for *atavus* Le Cerf, 1912). *Centre for Entomological Studies Miscellaneous Papers* **91-92**: 10-11. Synonymized with *Papilio sjoestedti atavus* by Smith *et al.*, 2008. *Journal of Natural History* **42** (19-20): 1349-1359.

****Papilio (Druryia) jacksoni* Sharpe, 1891**

Tapered Sash

Papilio jacksoni Sharpe, 1891. *Proceedings of the Zoological Society of London* **1891**: 188 (187-194).

Papilio Jacksoni Em. Sharpe, 1891. Aurivillius, 1899.



Papilio jacksoni jacksoni. Male. Left – upperside; right – underside.

Gatamayu Forest, Kenya. 2 June 2002.

Images M.C. Williams ex Gardiner Collection.



Papilio jacksoni jacksoni. Female. Left – upperside; right – underside.

Gatamayu Forest, Kenya. 2 June 2002.

Images M.C. Williams ex Gardiner Collection.

Type locality: Kenya: “Kikuyu”.

Distribution: Sudan, Democratic Republic of Congo, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, Zambia.

Habitat: Montane forest, usually above 1 600 m. In Tanzania subspecies *kungwe* occurs from 1 300 to 2 200 m (Kielland, 1990d).

Habits: Common in Kenya (Larsen, 1991c) but uncommon in Tanzania (Kielland, 1990d). Flies on forest margins, along forest paths and in fairly open forest. Feeds from low-growing flowers and is rather shy; flies quite fast (Kielland, 1990d).

Early stages: Nothing published.

Larval food:

Clausena anisata (Willd.) Hook.f. ex Benth. (Rutaceae) [Van Someren, 1974: 316].

Zanthoxylum species (Rutaceae) [Larsen, 1991c: 116].

Relevant literature:

Berger, 1954b – Notes on.

Papilio (Druryia) jacksoni jacksoni Sharpe, 1891
Tapered Sash

Papilio jacksoni Sharpe, 1891. *Proceedings of the Zoological Society of London* **1891**: 188 (187-194).



Papilio jacksoni jacksoni. Male. Left – upperside; right – underside.
Gatamayu Forest, Kenya. 2 June 2002.
Images M.C. Williams ex Gardiner Collection.



Papilio jacksoni jacksoni. Female. Left – upperside; right – underside.
Gatamayu Forest, Kenya. 2 June 2002.
Images M.C. Williams ex Gardiner Collection.

Type locality: Kenya: “Kikuyu”.

Distribution: Uganda (east), Kenya (highlands).

Specific localities:

Kenya – Ngong Forest (Larsen, 1991c); Nandi Escarpment (Larsen, 1991c); Mount Elgon (Larsen, 1991c).

multimaculata Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio jacksoni*). *The butterflies of western Kenya with notes on allied forms, etc.* 19 (180 pp.). Nairobi. No locality given.

Papilio (Druryia) jacksoni hecqui Berger, 1954
Central Tapered Sash

Papilio jacksoni hecqui Berger, 1954. *Lambillionea* **54**: 93 (92-94).

Type locality: Democratic Republic of Congo: “Kibale-Ituri, Nioka”. Holotype and allotype in the Royal Museum for Central Africa, Tervuren, Belgium.

Distribution: Democratic Republic of Congo (north-east – restricted to an area on the north-west shores of Lake Albert).

Specific localities:

Democratic Republic of Congo – Nioka (TL); Mt Blue (Ducarme, 2018).

Papilio (Druryia) jacksoni imatonga Clifton & Collins, 1997

Sudanese Tapered Sash

Papilio jacksoni imatonga Clifton & Collins, 1997. *In*: d’Abrera, 1997 *Butterflies of the Afrotropical region. Part 1*: 44.

Type locality: Sudan: Imatong Mountains.

Distribution: Sudan.

Specific localities:

Sudan – Imatong Mountains (TL).

Papilio (Druryia) jacksoni kungwe Cottrell, 1963

Kungwe Tapered Sash

Papilio jacksoni kungwe Cottrell, 1963. *Proceedings of the Royal Entomological Society of London (B)* **32**: 127 (125-128).

Type locality: [Tanzania]: “Tanganyika, western Province, Mt. Kungwe”.

Distribution: Tanzania (Kigoma, Mpanda and Ufipa Districts).

Specific localities:

Tanzania – Mount Kungwe (TL); Mount Sitebi (Kielland, 1990d); Mweze Highlands (Kielland, 1990d); Ntakatta Forest (Kielland, 1990d); Wanzizi (Kielland, 1990d); Mahale Mountain (Kielland, 1990d); Mbuizi Mountain (Kielland, 1990d); Chulwe Mountain (Kielland, 1990d); Bizi Forest (Kielland, 1990d).

Papilio (Druryia) jacksoni nyika Cottrell, 1963

Southern Tapered Sash

Papilio jacksoni nyika Cottrell, 1963. *Proceedings of the Royal Entomological Society of London (B)* **32**: 127 (125-128).



Papilio jacksoni nyika. Male. Left – upperside; right – underside.
Corner Forest, Nyika, Malawi. 6 November 2014.
Images M.C. Williams ex Gardiner Collection.



Papilio jacksoni nyika. Female. Left – upperside; right – underside.
Nyika, Zambia. 6 December 1963.
Images M.C. Williams ex Gardiner Collection.

Type locality: Malawi: “Nyassaland, Nyika Plateau, and Northern Rhodesia border”.

Distribution: Malawi (Nyika Plateau), Zambia (Nyika Plateau).

Specific localities:

Malawi – Nyika Plateau (TL); Uzumara Forest.

Zambia – Nyika (Heath *et al.*, 2002); Mafinga Mountains (Heath *et al.*, 2002); Makutu Mountains (Heath *et al.*, 2002).

Papilio (Druryia) jacksoni ruandana Le Cerf, 1924
Kivu Tapered Sash

Papilio jacksoni ruandana Le Cerf, 1924. *Bulletin of the Hill Museum, Witley* 1: 393 (369-399, 576, 578, 580, 582, 584).

Type locality: Democratic Republic of Congo: “Congo belge oriental, Masisi, N.W. Kivu, 5,000 ft.”.

Distribution: Democratic Republic of Congo (Kivu), Uganda (south-east shore of Lake Albert), Rwanda, Burundi.

Specific localities:

Democratic Republic of Congo – Masisi (TL).

Rwanda – Cyamudongo Forest (Uwizelimana *et al.*, 2021).

Papilio cynorta group

****Papilio (Druryia) cynorta* Fabricius, 1793**
Blotched Sash

Papilio cynorta Fabricius, 1793. *Entomologia Systematica emendata et aucta* 3 (1): 37 (488 pp.).
Papilio cynorta Fabr., 1793. Aurivillius, 1899.



Papilio cynorta. Male. Wingspan 74 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 15 June 2009. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio cynorta. Female. Wingspan 74 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 15 June 2009. J. Dobson.
Images M.C. Williams ex Dobson Collection.

Published images: Larsen, 2005a (male upperside and underside; female upperside).

Type locality: No locality given. Larsen (2005a) gives the type locality as Uganda.

Diagnosis: The female is a near perfect mimic of *Acraea epaea* (Larsen, 2005a).

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (south, central), Nigeria (south), Cameroon, Equatorial Guinea (Bioko island), Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Uganda, Tanzania.

Recorded, in error, from Kenya by Stoneham, 1951 and Carcasson, 1975 (Larsen, 1991c).

Specific localities:

Guinea – Ziama (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020); Wonegizi (Safian *et al.*, 2020).

Ghana – Cape Coast (Larsen, 2005a); Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Benin – Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.*, 2017.

Cameroon – Bitje (Le Cerf, 1924); Korup (Larsen, 2005a).

Equatorial Guinea (Bioko) – Luba (San Carlos) (Schultze *et al.*, 1917-1923).

Gabon – Akaka (Vande weghe, 2010); Pointe Pongara (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Mboumie (Vande weghe, 2010); Waka (Vande weghe, 2010); Lope (Vande weghe, 2010); Langoue (Vande weghe, 2010); Kongou (Vande weghe, 2010); Ipassa (Vande weghe, 2010); Nouna (Vande weghe, 2010).

Angola – Kwanza Norte Province; Kwanza Sul Province; Uige Province (Mendes *et al.*, 2013).

Central African Republic – Dzanga (Noss, 1998).

Democratic Republic of Congo – Between Epuru and Ituri River (Le Cerf, 1924); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018).

Uganda – Entebbe (Neave, 1904); Bujaka (Ehrmann, 1918); Mabira Forest (Bryk, 1928); Semuliki N.P. (Davenport & Howard, 1996); Kibale N.P. (Davenport, 1996); Moroto (Davenport, 1996); Nyangae-Napere (Davenport, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

Tanzania – Kigoma District and extreme northern parts of Mpanda District (Kielland, 1990d).

Habitat: In Tanzania it occurs in evergreen forest at elevations of 780 to 1 400 m, rarely at the latter altitude (Kielland, 1990d). Larsen (2005a) found it in drier forests in West Africa.

Habits: This is a fairly common butterfly (Larsen, 2005a). It is locally common where it occurs (Kielland, 1990d). It keeps strictly to the forest understorey, weaving its way through tangled undergrowth. It even feeds from flowers growing in very shady places (Larsen, 2005a). Females have the slow wandering flight of their acraeine model (Larsen, 2005a). The flight is low down and rather erratic. The males mud-puddle.

Early stages:

Schultze, 1917 [pupa].

Larval food:

Calodendrum species (Rutaceae) [Larsen, 2005a].

Citrus species (Rutaceae) [Larsen, 2005a].

Clausena species (Rutaceae) [Van Someren, 1974: 316].

Fagara species (Rutaceae) [Larsen, 2005a].

Teclea species (Rutaceae) [Larsen, 2005a].

Vepris species (Rutaceae) [Kielland, 1990d: 38].

zerynthius Boisduval, 1836 (as sp. of *Papilio*). *In*: [Roret, Suites à Buffon] *Histoire naturelle des Insectes. Species général des Lépidopteres* **1**: 370 (690 pp.). Paris. Sierra Leone.

boisduvallianus Westwood, 1842 *in* Westwood, [1842-3] (as sp. of *Papilio*). *Arcana Entomologica; or illustrations of new, rare, and interesting species* **1**: 151 (192 pp.). London. Sierra Leone.

norcyta Suffert, 1904 (as ssp. of *Papilio cynorta*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 94 (12-107). Togo.

peculiaris Neave, 1904 (as ssp. of *Papilio gallienus*). *Novitates Zoologicae* **11**: 342 (323-363). Uganda: “Entebbe”.

triptolemus Ehrmann, 1918 (as sp. of *Papilio*). *Lepidoptera, Forest Hills* **2**: 21 (21-22). Uganda: “Bujaka”.

lavochrea Le Cerf, 1924 (as f. of *Papilio cynorta*). *Bulletin of the Hill Museum, Witley* **1**: 391 (369-399, 576, 578, 580, 582, 584). Cameroon: “Cameroon, Bitje, Ja River, 2,000 ft.”.

ochrospila Le Cerf, 1924 (as f. of *Papilio cynorta*). *Bulletin of the Hill Museum, Witley* **1**: 392 (369-399, 576, 578, 580, 582, 584). Democratic Republic of Congo: “Congo Belge oriental, Forest between Epuru, E. side, and Ituri River”.

acraeamimus Bryk, 1928 (as female f. of *Papilio cynorta*). *Societas Entomologica* **43**: 15 (13-16). Uganda: “Mabira Forest”.

albofurculatus Bryk, 1928 (as f. of *Papilio cynorta*). *Societas Entomologica* **43**: 15 (13-16). No locality given.

parageoides Stoneham, 1944 (as female f. of *Papilio cynorta*). *Bulletin of the Stoneham Museum* (48): [2] ([3 pp.]). Uganda: “Uganda Protectorate”.

agayana Stoneham, 1951 *in* Stoneham, 1951-65 (as f. of *Papilio cynorta cynorta*). *The butterflies of western Kenya with notes on allied forms, etc.* 20 (180 pp.). Nairobi. No locality given.

bwambensis Stoneham, 1951 *in* Stoneham, 1951-65 (as f. of *Papilio cynorta cynorta*). *The butterflies of western Kenya with notes on allied forms, etc.* 20 (180 pp.). Nairobi. No locality given.

****Papilio (Druryia) arnoldiana* Vane-Wright, 1995**
Broad Blotched Sash

Papilio cynorta arnoldi Poulton, 1926. Invalid (see below).

Papilio (Princeps) arnoldiana Vane-Wright, 1995. *In*: Ackery *et al.*, 1995: 139. Replacement name for *arnoldi* Poulton, 1926.



Papilio arnoldiana. Male. Left – upperside; right – underside.
 Godare River, western Ethiopia. September 1974. S. Collins. (ABRI 2018-5058).
 Images M.C. Williams ex ABRI Collection.



Papilio arnoldiana. Female. Left – upperside; right – underside.
 Godare River, western Ethiopia. September 1974. S. Collins. (ABRI 2018-5059).
 Images M.C. Williams ex ABRI Collection.

Type locality: Ethiopia: “S.W. Abyssinia, Grine, 4000 ft”.

Distribution: Ethiopia (south-west).

Specific localities:

Ethiopia – Grine (TL).

Early stages: Nothing published.

Larval food: Nothing published.

arnoldi Poulton, 1926 (as ssp. of *Papilio cynorta*). *Proceedings of the Entomological Society of London* **1925**: xlix (42-52). Ethiopia: “S.W. Abyssinia, Grine, 4000 ft”. [Invalid; junior primary homonym of *Papilio rex* var. *arnoldi* Richelmann, 1909 [Papilionidae].]

****Papilio (Druryia) plagiatus* Aurivillius, 1898**
Peculiar Sash

Papilio plagiatus Aurivillius, 1898. *Entomologisk Tidskrift* **19**: 183 (177-186).
Papilio plagiatus Auriv., 1898. Aurivillius, 1899.



Papilio plagiatus. Male. Left – upperside; right – underside.
 Garoua Boulai, Cameroon. July 2010. ex ABRI Collection (ABRI 2018-5062).
 Images M.C. Williams ex ABRI Collection.



Papilio plagiatus. Female. Left – upperside; right – underside.
 Bangui, Central African Republic. November 1977. Basquin. ex ABRI Collection (ABRI 2018-5063).
 Images M.C. Williams ex ABRI Collection.

Published images: Larsen, 2005a (male upperside and female upperside).

Type locality: [Democratic Republic of Congo]: “Congogebiet, Sassa am oberen Ubangi”. Holotype and allotype in the Royal Museum for Central Africa, Tervuren, Belgium.

Diagnosis: The male differs from *P. cynorta* in that the discal bands are pure white without any trace of ivory (Larsen, 2005a). The female is an excellent mimic of *Acraea* species, such as *A. macaria* and *A. alcinoe* (Larsen, 2005a).

Distribution: Nigeria (east), Cameroon, Central African Republic, Democratic Republic of Congo (Mongala, Uele, Ituri), Sudan (south), Uganda.

Specific localities:

Nigeria – Gashaka-Gumti (Larsen, 2005a); Obudu Plateau (Larsen, 2005a); Oban Hills (Larsen, 2005a).

Democratic Republic of Congo – Sassa (TL).

Habitat: Submontane forest but also flying in lowland forest (Larsen, 2005a).

Habits: A reasonably common butterfly, which flies slowly through tangled forest undergrowth. Males are

known to mud-puddle (Larsen, 2005a).

Early stages: Nothing published.

Larval food: Nothing published.

Papilio zenobia group

****Papilio (Druryia) zenobia* Fabricius, 1775** **Black-spotted Sash**

Papilio zenobia Fabricius, 1775. *Systema Entomologiae* Flensburgi & Lipsiae: 503 (832 pp.).

Papilio zenobia Fabr., 1775. Aurivillius, 1899.



Papilio zenobia. Male. Left – upperside; right – underside.
Sagamase, Atewa Mtns, Ghana. July 1998. MMPW. (ABRI 2018-5049).
Images M.C. Williams ex ABRI Collection.



Papilio zenobia. Female. Left – upperside; right – underside.
Sagamase, Atewa Mtns, Ghana. February 2000. ex ABRI Collection (ABRI 2018-5050).
Images M.C. Williams ex ABRI Collection.

Published images: Larsen, 2005a (male upperside).

Type locality: Sierra Leone: “Sierra Leon”.

Diagnosis: Similar to *P. cyproeofila* but lacks white marginal spots on the hindwings. Also close to *P. nobicea* but differs in its cream bands, which are also of a different shape (Larsen, 2005a).

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Nigeria (south), Cameroon, Equatorial Guinea (Bioko), Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Democratic Republic of Congo, Uganda (west).

Erroneously recorded from South Africa, as *Papilio zenobius* and *Papilio messalina*, by Trimen, 1862c (MCW).

Specific localities:

Guinea – Conakry (Larsen, 2005a); Nimba (Larsen, 2005a); Ziama (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020); Wonegizi (Safian *et al.*, 2020).

Ghana – Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007).

Nigeria – Calabar (Westwood, 1872).

Cameroon – Korup (Larsen, 2005a).

Equatorial Guinea (Bioko) – Basiloe, Malabo (Sta. Isabel) (Schultze *et al.*, 1917-1923).

Equatorial Guinea – Sta Isabel (Schultze, 1913); Basile (Schultze, 1913); Nkolentangen (Schultze, 1913).

Gabon – Camp Lonmin (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Waka (Vande weghe, 2010); Bitam (Vande weghe, 2010); Kongou (Vande weghe, 2010); Ipassa (Vande weghe, 2010); Franceville (Vande weghe, 2010).

Angola – Uige Province (Mendes *et al.*, 2013).

Democratic Republic of Congo – Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018); Mt Mitumba (Ducarme, 2018).

Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

Habitat: Wetter forest in good to reasonable condition (Larsen, 2005a).

Habits: Much scarcer than *P. cyproeofila* but otherwise has similar habits (Larsen, 2005a).

Early stages: Nothing published.

Larval food:

Piper umbellatum L. (Piperaceae) [Fontaine, 1985; Democratic Republic of Congo].

Piper species (Piperaceae) [Larsen, 2005a; Kakum N.P., Ghana].

messalina Stoll, 1790 *in* Stoll, [1787-90] (as sp. of *Papilio*). *Die Uitlandsche Kapellen voorkomende in de drie waerrelddeelen Asia, Africa en America* [Supplement]: 125 ([184 pp.]) Amsterdam. South Africa: “Land der Caffers”. [False locality]. Erroneously recorded from South Africa by Trimen, 1862c (MCW).

odenatus Westwood, 1872 (as sp. of *Papilio*). *Transactions of the Entomological Society of London* **1872**: 96 (85-110). Nigeria: “Old Calabar”.

amygdaliferus Schultze, 1913 (as f. of *Papilio zenobia*). *Entomologische Rundschau* **30**: 49 (49-50). Equatorial Guinea: “Sta Isabel; Basilé”.

Note: Spearman *et al.*, 2000: 452 treat *amygdaliferus* as a valid subspecies of *zenobia*.

infrapicta Strand, 1913 (as ab. of *Papilio zenobia*). *Archiv für Naturgeschichte* **79** (A.2.): 23 (10-26). Equatorial Guinea: “Span Guinea, Nkolentangen”.

****Papilio (Druryia) cyproeofila* Butler, 1868**

Beige Sash

Papilio cyproeofila Butler, 1868. *Entomologist's Monthly Magazine* **5**: 60 (60).

Papilio cypraefolia Butler, 1869. Aurivillius, 1899. [misspelling of species name]



Papilio cyproeofila cyproeofila. Male. Wingspan 88 mm. Left – upperside; right – underside.
Bobiri Forest, Ghana. 22 November 2011. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio cyproeofila cyproeofila. Female. Left – upperside; right – underside.
Abidjan, Ivory Coast. 22 October 1997.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Ghana]: “Ashantee”.

Diagnosis: See *P. gallienus* for differentiating features.

Distribution: Guinea-Bissau (Biver-de-Sousa *et al.*, 2016), Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Nigeria, Cameroon, Central African Republic.

Habitat: Forest, with some tolerance for degraded forest (Larsen, 2005a).

Habits: Fairly common. Often seen flying down forest paths with an effortless but rapid flight (Larsen, 2005a). Both sexes are fond of flowers, sometimes up to half a dozen can be found feeding together at a patch of flowers (Larsen, 2005a).

Early stages: Nothing published.

Larval food:

Piper species (Piperaceae) [Larsen, 2005a; oviposition; Kakum, Ghana].

Papilio (Druryia) cyproeofila cyproeofila Butler, 1868

Beige Sash

Papilio cyproeofila Butler, 1868. *Entomologist's Monthly Magazine* 5: 60 (60).



Papilio cyproeofila cyproeofila. Male. Wingspan 88 mm. Left – upperside; right – underside.
Bobiri Forest, Ghana. 22 November 2011. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio cyproeofila cyproeofila. Female. Left – upperside; right – underside.
Abidjan, Ivory Coast. 22 October 1997.
Images M.C. Williams ex Gardiner Collection.

Type locality: Ghana: “Ashantee”.

Distribution: Guinea-Bissau (Biver-de-Sousa *et al.*, 2016), Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Nigeria (west).

Specific localities:

Guinea – Ziama (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020); Wonegizi (Safian *et al.*, 2020).

Ghana – Ashanti (TL); Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

***Papilio (Druryia) cyproeofila praecyola* Suffert, 1904**
Central Beige Sash

Papilio cypraeafila [sic] *praecyola* Suffert, 1904. *Deutsche Entomologische Zeitschrift, Iris* 17: 94 (12-107).

Type locality: Cameroon: “Camerun”.

Distribution: Nigeria (east), Cameroon, Central African Republic.

Specific localities:

Cameroon – Korup (Larsen, 2005a).

Nigeria – Bashu (Brattstrom, 2008).

****Papilio (Druryia) bacelarae* (Biver de Sousa & Mendes, 2009)**

Angolan Sash

Princeps (Druryia) bacelarae Bivar de Sousa & Mendes, 2009. *SHILAP Revista de Lepidopterologia* **37**: 328 (327-334).

Type locality: Angola: “Cabinda: Buco Zau, dia, 27-VII-1952 (CZ-5639)”. The female is unknown.

Distribution: Angola.

Specific localities:

Angola – Buco Zau, Cabinda Province (TL).

Etymology: Named for Miss Amelia Bacelar, the first Portuguese entomologist to study the Lepidoptera of Angola (Bivar de Sousa & Fernandes, 2009).

Early stages: Nothing published.

Larval food: Nothing published.

****Papilio (Druryia) fernandus* Fruhstorfer, 1903**

Snowy Sash

Papilio cypraeaefila [sic] *fernandus* Fruhstorfer, 1903. *Stettiner Entomologische Zeitung* **64**: 360 (359-361).



Papilio fernandus. Male. Left – upperside; right – underside.
Bioko Island, Equatorial Guinea. January 1988. J.G. Canu. (ABRI 2018-5043).
Images M.C. Williams ex ABRI Collection.



Papilio fernandus. Female. Left – upperside; right – underside.
Bioko Island, Equatorial Guinea. January 1986. J.G. Canu. (ABRI 2018-5044).
Images M.C. Williams ex ABRI Collection.

Type locality: Equatorial Guinea: “Fernando Po”.

Distribution: Equatorial Guinea (Bioko).

Specific localities:

Equatorial Guinea – Bioko (TL); Caldera de Luba, Bioko (Martin, 2015); Campamento (Martin & Cobos, 2016);
Río Riaco (Martin & Cobos, 2016).

Early stages: Nothing published.

Larval food: Nothing published.

fumigatus Canu, 1994 (as f. of *Papilio cyproeofila fernandus*). *Lambillionea* **94** (3) (Tome I): 317 (311-320).
Equatorial Guinea – Bioko.

****Papilio (Druryia) filaprae* Suffert, 1904** **Faded Sash**

Papilio cypraeaefila [sic] *filaprae* Suffert, 1904. *Deutsche Entomologische Zeitschrift, Iris* **17**: 94 (12-107).
Papilio filaprae Suffert, 1904. Ackery *et al.*, 1995.



Papilio filaprae filaprae. Female. Left – upperside; right – underside.
Zanaga, Longou, Congo. April 2010. G. v.d. weghe. (ABRI 2018-5046).
Images M.C. Williams ex ABRI Collection.

Type locality: Cameroon: “Camerun, Barombi Station”.

Distribution: Cameroon, Equatorial Guinea, Gabon, Angola, Congo, Democratic Republic of Congo.

Early stages: Nothing published.

Larval food: Nothing published.

Note: Larsen, 2005a: 77 doubts that this is a valid taxon, intimating that it is the equatorial subspecies of *P. cyproeofila* (p.78).

Papilio (Druryia) filaprae filaprae Suffert, 1904

Faded Sash

Papilio cypraeaefila [sic] *filaprae* Suffert, 1904. *Deutsche Entomologische Zeitschrift, Iris* **17**: 94 (12-107).

Papilio filaprae filaprae Suffert, 1904. Ackery *et al.*, 1995.



Papilio filaprae filaprae. Female. Left – upperside; right – underside.
Zanaga, Longou, Congo. April 2010. G. v.d. weghe. (ABRI 2018-5046).
Images M.C. Williams ex ABRI Collection.

Type locality: Cameroon: “Camerun, Barombi Station”.

Distribution: Cameroon (south-east), Gabon, Angola, Congo, Democratic Republic of Congo (south-west).

Specific localities:

Cameroon – Barombi Station (TL); Bitje (Le Cerf, 1924).

Gabon – Mondah (Vande weghe, 2010); Mimengo (Vande weghe, 2010).

lactifascia Le Cerf, 1924 (as f. of *Papilio cyraeofila* [sic]). *Bulletin of the Hill Museum, Witley* **1**: 390 (369-399, 576, 578, 580, 582, 584). Cameroon: “Bitje, Ja River, 2000 ft”.

Papilio (Druryia) filaprae musolanus (Hancock, 1988)

Enclosed Faded Sash

Princeps filaprae musolanus Hancock, 1988. *Papilio International* **5**: 302 (295-310).



Papilio filaprae musolanus. Male. Left – upperside; right – underside.
Gambari Forest Reserve, Nigeria. April 1963. J. Boorman. (ABRI 2018-5045).
Images M.C. Williams ex ABRI Collection.

Type locality: Equatorial Guinea: “Fernando Po”.

Distribution: Equatorial Guinea (Island of Bioko), Cameroon (west).

Specific localities:

Equatorial Guinea (Bioko) – Luba (San Carlos) (Schultze, 1913)

insularis Schultze, 1913 (as f. of *Papilio cypraeaefila* [sic]). *Entomologische Rundschau* **30**: 49 (49-50). Equatorial Guinea: “Fernando Po”. [Invalid; junior primary homonym of *Papilio agetes insularis* Staudinger, 1895 [Papilionidae].]

****Papilio (Druryia) gallienus* Distant, 1879**

Big Sash

Papilio cypraeaefila [sic] *gallienus* Distant, 1879. *Proceedings of the Zoological Society of London* **1879**: 649 (647-649).
Papilio gallienus Dist., 1879. Aurivillius, 1899.



Papilio gallienus. Male. Left – upperside; right – underside.
Kivu, DRC. June 2013. ex ABRI Collection (ABRI 2018-5042).
Images M.C. Williams ex ABRI Collection.



Papilio gallienus. Female. Left – upperside; right – underside.
Ivindo N.P., Gabon. 27 November 2017. J. Dobson.
Images M.C. Williams ex Dobson Collection.

Published images: Larsen, 2005a (male upperside).

Type locality: Nigeria: “Isubu, Mongu-ma-lobah and Calabar district”.

Diagnosis: Similar to *P. cyproeofila* but has creamy yellow rather than creamy white bands, and hindwing band much narrower and curved on inner edge (Larsen, 2005a).

Distribution: Nigeria (Cross River loop), Cameroon, Gabon, Congo, Central African Republic, Democratic Republic of Congo (central and north-east).

Specific localities:

Nigeria – Isubu and Calabar district (TL).

Gabon – Ipassa (Vande weghe, 2010).

Central African Republic – Dzanga (Noss, 1998).

Democratic Republic of Congo – Salonga River (Dufrane, 1936); Flandria, Tshuapa (Berger, 1950); Central Forest Block (Ducarme, 2018).

Habitat: Strictly limited to wetter forests in good condition (Larsen, 2005a).

Habits: Localized and rare (Schultze, 1917). The flight is more persistent and faster than in other members of the group. It begins to fly early in the morning and shuns the company of other swallowtails (Schultze, 1917).

Early stages: Nothing published.

Larval food: Nothing published.

vreuricki Dufrane, 1936 (as ab. of *Papilio gallienus gallienus*). *Lambillionea* **36**: 40 (40-42). “Congo”.

ochreata Dufrane, 1936 (as ab. of *Papilio gallienus gallienus*). *Lambillionea* **36**: 40 (40-42). Democratic Republic of Congo: “sur les bords de la rivière Salonga, aux environs de Watzikengo, Congo Belge”.

hulstaerti Berger, 1950 (as ab. of *Papilio gallienus*). *Annales du Musée Royal du Congo Belge. C-Zoologie* (3) **8** (1): 46 (102 pp.). Democratic Republic of Congo: “Flandria, Distr. Tshuapa”. Holotype in the Royal Museum for Central Africa, Tervuren, Belgium.

****Papilio (Druryia) mechowi* Dewitz, 1881** **Cream Sash**

Papilio mechowi Dewitz, 1881. *Berliner Entomologische Zeitschrift* **25**: 286 (286).



Papilio mechowii mechowii. Male. Left – upperside; right – underside.
Mapimbi, Kivu, Democratic Republic of Congo. January 2013. ex ABRI Collection (ABRI 2018-5041).
Images M.C. Williams ex ABRI Collection.



Papilio mechowii whitnalli. Female. Left – upperside; right – underside.
Mpanga Forest, Uganda. 10 June 2017. J. Dobson.
Images M.C. Williams ex Dobson Collection.

Type locality: Angola: “Westafrika, Quango”.

Distribution: Cameroon, Angola, Congo, Central African Republic, Sudan, Democratic Republic of Congo, Uganda.

Early stages: Nothing published.

Larval food: Nothing published.

Papilio (Druryia) mechowii mechowii Dewitz, 1881
Cream Sash

Papilio mechowii Dewitz, 1881. *Berliner Entomologische Zeitschrift* **25**: 286 (286).



Papilio mechowii mechowii. Male. Left – upperside; right – underside.
Mapimbi, Kivu, Democratic Republic of Congo. January 2013. ex ABRI Collection (ABRI 2018-5041).
Images M.C. Williams ex ABRI Collection.

Type locality: Angola: “Westafrika, Quango”.

Distribution: Cameroon, Angola, Congo, Central African Republic, Sudan (south – around Tambura), Uganda (west), Democratic Republic of Congo.

Specific localities:

Angola – Lunda Norte Province; Uige Province (Mendes *et al.*, 2013).

Sudan – Tambura.

Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

Democratic Republic of Congo – Kapanga (Berger, 1950); Ituri Forest (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).

albomaculata Berger, 1950 (as female ab. of *Papilio mechowii mechowii*). *Annales du Musée Royal du Congo Belge. C-Zoologie* (3) **8** (1): 45 (102 pp.). Democratic Republic of Congo: “Kapanga”. Type in the Royal Museum for Central Africa, Tervuren, Belgium.

Papilio (Druryia) mechowii whitnalli Neave, 1904
Entebbe Cream Sash

Papilio gallienus whitnalli Neave, 1904. *Novitates Zoologicae* **11**: 342 (323-363).



Papilio mechowii whitnalli. Male. Wingspan 87 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 15 June 2009. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio mechowii whitnalli. Female. Left – upperside; right – underside.
Mpanga Forest, Uganda. 10 June 2017. J. Dobson.
Images M.C. Williams ex Dobson Collection.

Type locality: Uganda: “Entebbe”.
Distribution: Uganda (east and central).
Specific localities:
Uganda – Entebbe (TL).

****Papilio (Druryia) mechowianus* Dewitz, 1885**
Fused Sash

Papilio cypraeafla [sic] var. *mechowianus* Dewitz, 1885. *Entomologische Nachrichten. Berlin* 11: 305 (305-306).
Papilio mechowianus Dew., 1885. Aurivillius, 1899.



Papilio mechowianus. Male. Left – upperside; right – underside.
Bamako, Central African Republic. February 1985. S. Collins. ex ABRI Collection (ABRI 2018-5060).
Images M.C. Williams ex ABRI Collection.



Papilio mechowianus. Female. Left – upperside; right – underside.
Batalimo, Central African Republic. June 1990. S. Collins. ex ABRI Collection (ABRI 2018-5061).
Images M.C. Williams ex ABRI Collection.

Type locality: Democratic Republic of Congo/Sudan: “Niam Niam Ländern”.

Distribution: Angola (north), Democratic Republic of Congo, Central African Republic, Sudan?

Specific localities:

Democratic Republic of Congo – Niam Niam (TL); Stanley Falls (Grose-Smith, 1900); Salonga River (Dufrane, 1936); Ituri Forest (Ducarme, 2018); Central Forest Block (Ducarme, 2018).

Early stages: Nothing published.

Larval food: Nothing published.

andoclide Grose-Smith, 1900 *in* Grose-Smith, 1897-1902 (as sp. of *Papilio*). *Rhopalocera exotica*, being illustrations of new, rare and unfigured species of butterflies 3: 47 (214 pp.). London. Democratic Republic of Congo: “Upper Congo, Stanley Falls”.

lagai Dufrane, 1936 (as ab. of *Papilio mechowianus*). *Lambillionea* 36: 40 (40-42). Democratic Republic of Congo: “Congo Belge, sur les bords de la rivière Salonga, aux environs de Watzikengo”.

****Papilio (Druryia) nobicea* Suffert, 1904** **Volta Sash**

Papilio zenobia nobicea Suffert, 1904. *Deutsche Entomologische Zeitschrift, Iris* 17: 94 (12-107).
Papilio nobicea Suffert, 1904. Larsen, 2005a.



Papilio nobicea. Male. Wingspan 88 mm. Left – upperside; right – underside.
Biakpa Mountain Paradise, Ghana. 24 November 2011. J. Dobson.

Images M.C. Williams ex Dobson Collection.



Papilio nobicea. Female. Left – upperside; right – underside.
Likpe, Ghana. May 1980. T. Maessen. ex ABRI Collection (ABRI 2018-5048).
Images M.C. Williams ex ABRI Collection.

Published images: Larsen, 2005a (male upperside).

Type locality: Togo.

Diagnosis: The chief difference between *P. nobicea* and *P. zenobia* lies in the colour of the discal bands; pure white with no cream tinge in the former (Larsen, 2005a).

Distribution: Ghana, Togo.

Berger (1974) states that *P. nobicea* and *P. zenobia* are sympatric but this is apparently not true (Larsen, 2005a).

Specific localities:

Ghana – Likpe (Larsen, 2005a); Wli Falls (Larsen, 2005a); Kyabobo (Larsen, 2005a).

Habitat: Forest in mountainous terrain (Larsen, 2005a).

Habits: Where it occurs this can be a common species (Larsen, 2005a).

Early stages: Nothing published.

Larval food: Nothing published.

maesseni Berger, 1974 (as sp. of *Papilio*). *Lambillionea* **72-73**: 71 (69-76). Ghana: “Likpe”. Holotype and allotype in the Royal Museum for Central Africa, Tervuren, Belgium. Synonymized with *P. nobicea* Suffert, 1904 by Larsen, 2005a: 78, **syn. nov.**

****Papilio (Druryia) andronicus* Ward, 1871** **Ribbon Sash**

Papilio andronicus Ward, 1871. *Entomologist's Monthly Magazine* **8**: 121 (34-36, 58-60, 81-82, 118-122).

Papilio andronicus Ward, 1871. Aurivillius, 1899.



Papilio andronicus. Male. Left – upperside; right – underside.
Mount Kupe, Cameroon. January 2011. ex ABRI Collection (ABRI 2018-5047).
Images M.C. Williams ex ABRI Collection.



Papilio andronicus. Female. Left – upperside; right – underside.
Mount Kala, Cameroon. August 1998. S. Collins (ABRI 2018-5073).
Images M.C. Williams ex ABRI Collection.

Type locality: Cameroon: “Camaroons”.

Distribution: Cameroon, Gabon.

Specific localities:

Cameroon – Barombi Station (Karsch, 1893).

Gabon – Mimongo (Vande weghe, 2010); Tchimbele (Vande weghe, 2010).

Early stages: Nothing published.

Larval food: Nothing published.

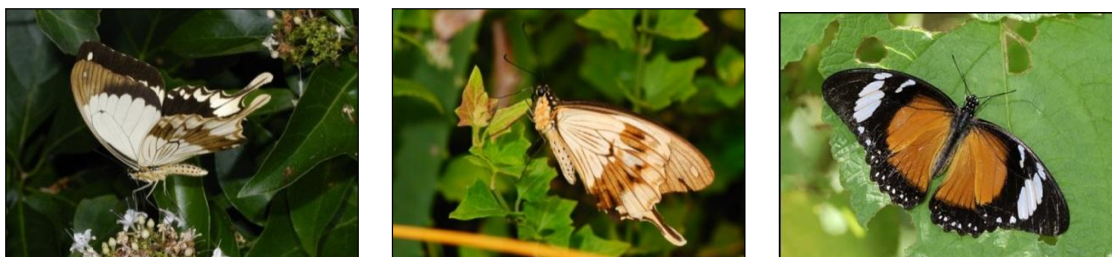
Note: Considered, by Bivar de Sousa & Mendes (2009) to belong to the *zenobia* species group.

chionicus Karsch, 1893 (as sp. of *Papilio*). *Berliner Entomologische Zeitschrift* **38**: 370 (367-372). Cameroon: “Barombi Station”.

Papilio dardanus group

****Papilio (Druryia) dardanus* Brown, 1776#**

Flying Handkerchief



Mocker Swallowtail (*Papilio dardanus*). Left and centre – males. Right – female form *trophonius*.
Images courtesy Steve Woodhall.

Papilio dardanus Brown, 1776. *New Illustrations of Zoology containing fifty coloured plates of new curious, and Non-Descript Birds, with a few Quadrupeds, Reptiles and Insects. Together with a short scientific description of the same*, London: 51 (136 pp.). London.

Papilio dardanus Brown, 1776. Aurivillius, 1899.

Papilio dardanus Brown, 1776. Pringle *et al.*, 1994: 301.

Alternative common name: Flying Handkerchief.

Published images: Larsen, 2005a (male upperside; usual female form; female form *dionysos*).



Papilio dardanus dardanus. Male. Wingspan 93 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 14 June 2009. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus dardanus. Female. Left – upperside; right – underside.
Mabira Forest, Uganda. 1 July 2015. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus dardanus. Female form *planemoides*. Left – upperside; right – underside.
Mabira Forest, Uganda. 24 August 2008. P. Ward.
Images M.C. Williams ex P. Ward Collection.



Papilio dardanus dardanus. Female. Left – upperside; right – underside.
Sakeji School, Hillwood, Ikelenge, Zambia. 21 June 2007.
Images M.C. Williams ex Gardiner Collection.



Papilio dardanus dardanus. Female. Left – upperside; right – underside.
Mabira Forest, Uganda. 5 December 2009. P. Ward.
Images M.C. Williams ex P. Ward Collection.

Type locality: No locality given [West Africa].

Distribution: Senegal, Guinea-Bissau (Bacelar, 1949), Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Burkina Faso, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Sao Tome & Principe, Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Sudan, Uganda, Rwanda, Kenya, Ethiopia, Eritrea, Somalia, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland, ?Seychelles.

A single sighting of a specimen of an unknown subspecies from Aldabra Atoll, Seychelles; most probably a vagrant (Legrand, 1965).

Diagnosis: The many female forms are easily confused with their respective danaine, heliconiine and day-flying moth models. Females from Madagascar and the Comoros Islands are non-mimetic, resembling the males, while those from Ethiopia, while being tailed like males, show mimetic wing patterns in some of the female forms (Pringle *et al.*, 1994). In West Africa the usual female form is a mimic of *Amauris niavius*. A second, rare, female form (f. *dionysos* Doubleday, 1846) has much more white on the forewing and the hindwings are mainly orange-yellow – this form appears to mimic day-flying moths of the type also mimicked by *Cymothoe beckeri* (Larsen, 2005a). Polymorphism and mimicry is reviewed in detail, in French, by Bernardi *et al.*, 1985.

Habitat: Evergreen forest, both primary and secondary. Also in riparian forest. Larsen (2005a) notes that it prefers drier forests in West Africa, not penetrating wetter forests to any extent. In West Africa its ability to utilize species of cultivated citrus has led to it being common in large cities such as Lagos and Freetown (Larsen, 2005a). In Tanzania the nominate subspecies is found at altitudes between 780 and 1 700 m, subspecies *tibullus* from sea-level to 2 100 m, and subspecies *meseres* above 1 140 m (Kielland, 1990d).

Habits: A common to very common species. Males are conspicuous on the wing and have a fairly leisurely but rather erratic flight pattern. They alight on a leaf, with closed wings, as soon as a cloud obscures the sun. Females have a slow, wandering flight pattern, usually keeping low down in the forest undergrowth. Both sexes are attracted to flowers and males mudpuddle (Pringle *et al.*, 1994). Males are also attracted to foul matter (Larsen, 2005a). Males patrol large territories, flying about two metres above the ground, along forest edges and in forest clearings. A large body of literature, mainly by Clarke & Sheppard, has accumulated with respect to the genetics of mimicry in this species (see Bibliography for references). Larsen (1991) states that there is some evidence that *P. dardanus* is distasteful to some birds, indicating that mimicry may be partly Müllerian rather than wholly Batesian.

Flight period: All year, with peaks in December-January, and April in southern Africa (Pringle *et al.*, 1994).

Early stages:

Mansel Weale, 1874: 131 (Trans Ent. Soc. Lond.).

Trimen & Bowker, 1889: 250 [as *Papilio Cenea* Stoll].

“**Larva.** 1st Stage. Black, with white filamentous tubercles on second segment and anal segment. 2nd Stage. Two pairs of filamentous tubercles on same segments, the first and last pairs longest; a white transverse lunular band, connected with the head laterally, across sixth and seventh segments. Laterally a broad white band above spiracles. Last two segments whitish. From this growth to the last change but one, the filamentous tubercles grow longer, and the ground colour changes from greenish-brown to greenish, and the white markings grow less distinct. Full-grown larva. Bluish-green, like larva of *Philognoma Varanes* [*Charaxes varanes*]. Tubercles very short, those next head yellowish, on anal segment whitish; very much like a slug in shape. Y-like organ crimson-lake at base, tapering to greenish-white. On fourth segment, two small black spots, bordered by a narrow white line; sixth and seventh segments festooned with delicate whitish zigzag lines. A double row of bluish-white dots along back. Lateral borders above spiracles white. Head and true legs green, false legs pale-ochreous. 1¼ to 1⅜ inch long.” “**Pupa.** Anteriorly much attenuated, but about middle greatly expanded laterally; posteriorly tapering rather abruptly to a point. Inferior side strongly convex, especially about broadest part of wing-covers; superior side moderately concave from tail to disco-thoracic prominence, which is acute but not much elevated; lateral line along expansion forming a thin sharp ridge. Head very prominent; the two ordinary points not being divergent, but directed straight forward with their inner edges closely contiguous, so as to form a single forward projection tapering together to one point. Bright yellowish-green on back and rather dull-green on under side. Along back, a median whitish-ferruginous streak, commencing with a small spot on thoracic elevation, and gradually becoming slightly wider and better defined until it reaches anal extremity. On each side of this streak on fifth abdominal segment, a subquadrate reddish-white spot, external to which is a dot of the same colour (the second and most apparent in a longitudinal row of four). Expansion of lateral margin bounded by yellow (here and there varied with whitish-ferruginous) along the ridge separating the dorsal and ventral aspects,

from head to tail. Spiracles situated just above this thin lateral ridge. On ventral aspect a narrow longitudinal streak defines the line of the median convex ridge. On wing-covers, besides some very fine pale lines indicating the neurulation, some similar transverse lines on each side of median streak. On sixth segment of abdomen, on each side of median streak, a sub-ovate whitish ferruginous spot. Length, 1 in. 3½ and 1 in. 4½ lin.; greatest width (across third abdominal segment) 6 lin.; greatest depth (at junction of second and third abdominal segments) from breast to back 4 lin. and 5 lin. (Described from two pupae forwarded by Mr. J.P. Mansel Weale from the neighbourhood of King William's Town.)

Mr. Weale [1874] observes "that the larva about to pupate generally fixes its anal legs below the axil of a leaf-stalk, and fastens itself below sixth" [actually metathoracic] "segment with a double thread to the petiole." In this position the ventral or under side of the pupa, which is darker than the dorsal or upper side, is uppermost; and the general resemblance of the insect to the leaflets of its food-plant, which in outline is very remarkable, is thus completed, *V. lanceolata* having the leaflets darker above and paler below. Mr. Weale further points out that such minutiae as the more glossy upper surface of the leaflets, the slight inflections of their margins, the slightly ferruginous tint of the mid-rib, and the reticulated venation, are all to some extent imitated in this chrysalis. The modifications of shape and outline which combine with the colouring to complete this deceptive resemblance are unusually great, when the pupa is compared with those of the other species of *Papilio*. Not only is the whole pupa much flattened, and the convexity of the ventral and pectoral region balanced by an unusual concavity of the dorsal region (with almost a suppression of the dorso-thoracic prominence), but the development and expansion of the lateral longitudinal ridges is very pronounced. The cephalic projections, however, exhibit the most unique form. If these had retained the customary conspicuous divergence into two prominent processes, as in *P. Demoleus* [*demodocus*], *P. Lyaeus* [*P. nireus lyaeus*], etc., it is obvious that the general resemblance to a leaf would have been greatly lessened, and the object of concealment to some extent frustrated. These projections are, however, brought closely together, so that their inner edges touch throughout their length to the very extremity, and their outer edges converge to a common point; and in this manner the top of the leaf is accurately represented."

Clark, in Van Son, 1949: 14 [as *Papilio (Papilio) dardanus cenea*].

Egg. 1.5 mm in diameter; white with reddish brown spots in upper half, which are confluent around middle, forming a ring; egg stage 9 days. **Larva.** Five larval instars taking 35-40 days. **First instar larva.** 3 mm long on hatching; blackish brown except dorsal half of two anterior and two posterior segments, W-shaped mark on dorsum of 6th segment and some marks at bases of dorsal processes, which are white; a double outer row of setate processes dorsally on each side, those of first and last segments being longest, and inner row of smaller processes on 1st to 5th segments; head black; thickest at 3rd segment. **Second instar larva.** Lighter brown (some larvae greenish); wider white marking on 6th segment; only anterior pair and last two posterior pairs of setate processes remain, a small inner pair on first, and two small outer pairs on second and third. **Third instar larva.** Only differs from 2nd instar in absence of smaller setate processes of first three segments, and in presence of a double row of small blue tubercles on 3rd, 4th and 7th to 9th segments; white mark on 6th segment enlarged and extending laterally over sides of 2nd and dorsally a little over 4th segment; posterior white part partially covers 11th segment; dorsum lighter brown than in 2nd instar, and sides and head greenish. **Fourth instar larva.** Ground colour green; processes smooth, with second last pair much reduced; blue dorsal tubercles on all abdominal segments except last, with additional rows on thoracic segments. **Fifth (final) instar larva.** 35 mm long; green with all white markings broken up into small spots or lines; ventral half of sides light blue with oblique white lines; anterior edge of 1st segment rusty yellow; 3rd segment with two small dorso-lateral black spots edged with white; head and thoracic legs yellowish green; prolegs green; body much thickened and humped at 3rd segment, tapering to posterior end; 1st and last segments with pairs of small projections; blue tubercles as in 4th instar but more prominent. **Pupa.** Anteriorly much attenuated, with paired cephalic processes contiguous along their inner edges; greatly widened at middle and attenuated posteriorly; thorax raised dorsally; abdomen dorso-ventrally flattened, with lateral edges forming sharp ridge; colour yellowish green dorsally, dull green ventrally, with rusty brown dorso-medial and lateral markings; a spot at middle of thoracic hump; series of streaks on middle of abdomen; lateral patches on 5th to 7th segments and smaller ones on 9th and 10th segments; ventral surface with only a few dark markings on abdomen near wing-cases.

Carcasson, 1981 [larva and pupa].

Henning, S.F., 1984: 30.

Clark, in Pringle et al., 1994: p.398; plate 30 [as *Papilio dardanus cenea*].

"The eggs are laid singly on the leaves of the foodplant. They are 1,5 mm in diameter. The egg stage lasts about nine days. The larvae at first eat holes out of the leaves, but later eat from the edge. They rest along the midrib of the leaf. The larval stage lasts about 40 days. Larvae usually pupate on the stem. The pupae are held upright by a silken girdle and are attached by cremastral hooks to a silken pad. The pupal stage may vary in length from a couple of weeks to several months."

Henning, Henning, Joannou, & Woodhall, 1997: 217 & 218 (photograph of early instar larva, final instar larva

and pupa).



Papilio dardanus cenea fourth (left) and final (right) instar larvae.
Images courtesy Allison Sharp (left) and Raimund Schutte (right)



Papilio dardanus cenea pupa.
Image courtesy Raimund Schutte

Larval food:

Calodendrum capense Thunb. (Rutaceae) [Kielland, 1990d: 38].

Citrus species (Rutaceae) [Van Son, 1949: 15; Van Someren, 1974: 315].

¹*Clausena anisata* (Willd.) Hook.f. ex Benth. (Rutaceae) [Van Son, 1949: 14; as *Clausena inaequalis* (DC.) Benth.].

Macrostylis villosa (Thunb.) Sond. (Rutaceae) [Van Someren, 1974: 315; as *Teclea villosa* N.R.F. Tayler].

Oricia bachmannii (Engl.) I.Verd. (Rutaceae) [Van Son, 1949: 15; as *Teclea swynnertoni*].

Oricia bachmannii (Engl.) I.Verd. (Rutaceae) [Williams, 1994: ; Williams, 1996: 134; Lekgalameetse Nature Reserve, Limpopo Province].

Teclea natalensis (Sond.) Engl. (Rutaceae) [Van Son, 1949: 15; as *Toddalia natalensis*].

Teclea stuhlmanni Engl. (Rutaceae) [Van Someren, 1974: 315].

Vepris eugeniifolia (Engl.) I.Verd. (Rutaceae) [Van Someren, 1974: 315].

Vepris lanceolata (Lam.) G.Don (Rutaceae) [Henning, G.A. *et al.*, 1997; *Vepris undulata*].

Vepris lanceolata (Lam.) G.Don (Rutaceae) [J.P. Mansel Weale, 1874: 133].

Vepris nobilis (Delile) Mziray (Rutaceae) [Van Someren, 1974: 315; Mullin, *in* Pringle *et al.*, 1994: 302; as *Teclea nobilis* Delile].

Vepris simplicifolia (Engl.) Mziray (= *viridis*) (Rutaceae) [Van Someren, 1974: 315; as *Teclea simplicifolia* (Engl.) Verdoorn].

Xymalos monospora (Harv.) Baill. (Monimiaceae) [Wykeham, *in*: Dickson & Kroon, 1978].

Zanthoxylum asiatica (L.) Lam. (Rutaceae) [Van Son, 1949: 15; as *Toddalia aculeata* Pers; Van Someren, 1974: 315].

Zanthoxylum species (Rutaceae) (syn. *Fagara*) [Larsen, 1991c: 110].

¹Unpublished observations:

I have tried, on several occasions, to rear the larvae of *P. dardanus cenea* on *Clausena anisata*, and have found that they do not thrive. A few larvae managed to pupate but the resulting adults were severely runted. Additionally, I have never observed *dardanus cenea* ovipositing on *C. anisata* in nature and although I have found many larvae of *P. ophidicephlus* and *P. echerioides* on *C. anisata*, in the wild, I have never found *dardanus cenea* larvae on this plant.

Relevant literature:

- Thompson & Timmermans, 2014 [Phenotypic diversity of wing patterns].
Thompson *et al.*, 2014 [Evolutionary genetics of the mimicry locus].
Timmermans *et al.*, 2014 [Comparative genomics of the mimicry switch].
Davis, 2009 [Literature and historical review; mutation; evolution; mimicry].
Clark *et al.*, 2008 [Genetics of mimicry colour patterns]
McLeod & McLeod, 2004 [Description of ab. *obscura*].
Madzvamuse *et al.*, 2003 [Mathematical models of wing patterns].
Nijhout, 2003 [Polymorphic mimicry].
Cieslak *et al.*, 2003 *in* Sekimura *et al.*, 2003 [Morphogenesis of wing pattern].
Nijhout *et al.*, 2003 [Pigmentation and pattern formation].
Cohen, 2002 [Historical account of taxonomy].
Clarke *et al.*, 1991 [Phylogenetic relationship with *P. phorcas* and *P. constantinus*].
Clarke *et al.*, 1987 [Crosses between subspecies].
Clarke, 1986 [Experimental hybridization with *Papilio phorcas*].
Bernardi *et al.*, 1985 [Review of polymorphism and mimicry].
Clarke & Sheppard, 1963 [Genetics of mimetic patterns in].
Clarke & Sheppard, 1962 [Genetics of various subspecies].
Clarke & Sheppard, 1960a [Genetics of various subspecies].
Clarke & Sheppard, 1960b [Genetics of ssp. *antinorii* and *meriones*].
Clarke & Sheppard, 1960c [Evolution of mimicry in].
Clarke & Sheppard, 1960d [Super-genes and mimicry in].
Clarke & Sheppard, 1960e [Evolution of dominance patterns in].
Clarke & Sheppard, 1959 [Genetics of ssp. *cenea*].
Barker, 1917b [Descriptions of varieties of *Papilio dardanus cenea*].

Papilio (Druryia) dardanus dardanus Brown, 1776

Flying Handkerchief

Papilio dardanus Brown, 1776. *New Illustrations of Zoology containing fifty coloured plates of new curious, and Non-Descript Birds, with a few Quadrupeds, Reptiles and Insects. Together with a short scientific description of the same*, London: 51 (136 pp.). London.



Papilio dardanus dardanus. Male. Wingspan 93 mm. Left – upperside; right – underside.

Mabira Forest, Uganda. 14 June 2009. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus dardanus. Female. Left – upperside; right – underside.
Mabira Forest, Uganda. 1 July 2015. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus dardanus. Female form *planemoides*. Left – upperside; right – underside.
Mabira Forest, Uganda. 24 August 2008. P. Ward.
Images M.C. Williams ex P. Ward Collection.



Papilio dardanus dardanus. Female. Left – upperside; right – underside.
Sakeji School, Hillwood, Ikelenge, Zambia. 21 June 2007.
Images M.C. Williams ex Gardiner Collection.



Papilio dardanus dardanus. Female. Left – upperside; right – underside.
Mabira Forest, Uganda. 5 December 2009. P. Ward.
Images M.C. Williams ex P. Ward Collection.

Type locality: No locality given [West Africa].

Distribution: Senegal, Guinea Bissau (Bacelar, 1949), Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Burkina Faso, Togo, Benin (south, central), Nigeria, Cameroon, Equatorial Guinea (Bioko), Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Uganda (excluding western shores of Lake Victoria), Rwanda, Kenya (extreme west), Zambia (north).

Erroneously recorded from South Africa, as *Papilio merope* Cramer, by Trimen, 1862c (MCW).

Specific localities:

Senegal – Basse Casamance (Larsen, 2005a).

Guinea – Ziama (Safian *et al.*, 2020).

Sierra Leone – Freetown (Larsen, 2005a).

Liberia – Wologizi (Safian *et al.*, 2020); Wonegizi (Safian *et al.*, 2020).

Ivory Coast – Sassandra Forest (Poulton, 1923).

Ghana – Aburi (Larsen, 2005a); Shai Hills (Larsen, 2005a); Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Burkina Faso – Ougadougou (A. Prost, *vide* Larsen, 2005a); Banfora (A. Prost, *vide* Larsen, 2005a).

Togo – Klouto [6°57'15.07"N 0°34'54.40"E] (Safian *et al.*, 2009).

Benin – Lokoli (Tchiboze *et al.*, 2008); Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.*, 2017.

Nigeria – Calabar (Aurivillius, 1899); Lagos (Larsen, 2005a); Kaduna (Larsen, 2005a); Jos (Larsen, 2005a); Bashu (Brattstrom, 2008).

Cameroon – Victoria (Suffert, 1904); Barombi Station (Suffert, 1904); Edea (Dufrane, 1933).

Angola – Chinchoso (Suffert, 1904); Bengo Province; Bie Province; Cabinda Province; Huambo Province; Huila Province; Kwanza Norte Province; Kwanza Sul Province; Lunda Norte Province; Lunda Sul Province; Malanje Province; Moxico Province; Uige Province (Mendes *et al.*, 2013).

Central African Republic – Dzanga (Noss, 1998).

Equatorial Guinea – San Carlos South (Shultze, 1913).

Equatorial Guinea (Bioko) – Moraca (Martin & Cobos, 2016); Campamento (Martin & Cobos, 2016); Río Riaco (Martin & Cobos, 2016); Campamento Ureka (Martin & Cobos, 2016); Fondo Caldera (Martin & Cobos, 2016); Junta río Riaco (Martin & Cobos, 2016).

Gabon – Almost throughout (Vande weghe, 2010).

Central African Republic – Bangui (Basquin & Turlin, 1986).

Democratic Republic of Congo – Ituri (Aurivillius, 1907); Luebo (Dufrane, 1946); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).

Uganda – Mpolegoma (Bryk, 1928); Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001); Kayonza Forest (male illustrated above); Kampala (female illustrated above).

Rwanda – Cyamudongo Forest (Uwizelimana *et al.*, 2021).

Kenya – Kakamega Forest (Larsen, 1991c).

Tanzania – Mpanda to Kigoma and Bukoba (Kielland, 1990d).

Zambia – Ikelenge (Heath *et al.*, 2002); Kasangezhi (Heath *et al.*, 2002); Mwinilunga (Heath *et al.*, 2002); Chilibombwe (Heath *et al.*, 2002); Mufulira (Heath *et al.*, 2002); Ndola (Heath *et al.*, 2002); Chisamba (Heath *et al.*, 2002); Kundalila Falls (Heath *et al.*, 2002); Samfya (Heath *et al.*, 2002); Lunzua Falls (Heath *et al.*, 2002); Bwingi Mfumu (Heath *et al.*, 2002); Kalungwishi River (Heath *et al.*, 2002); Mbala (Heath *et al.*, 2002).

merope Cramer, 1777 (as sp. of *Papilio*). *Die Uitlandsche Kapellen voorkomende in de drie waereld-deelen Asia, Africa en America* 2: 87 (151 pp.). Amsteldam & Utrecht. [West Africa]: “Java and Amboina”. [False locality]. [Invalid; junior primary homonym of *Papilio merope* Fabricius, 1775 [Satyrinae].]

brutus Fabricius, 1781 (as sp. of *Papilio*). *Species Insectorum* 2: 13 (499 pp.). Hamburgi & Kilonii. West Africa: “in Africa aequinoctiali”. [Invalid; junior primary homonym of *Papilio brutus* Cramer, 1779 [Nymphalidae].]

hippocoön Fabricius, 1793 (as sp. of *Papilio*). *Entomologia Systematica emendata et aucta* 3 (1): 38 (488 pp.). Sierra Leone: “Sierra Leon”.

westermannii Boisduval, 1836 (as sp. of *Papilio*). *In*: [Roret, Suites à Buffon] *Histoire naturelle des Insectes. Species général des Lépidoptères* 1: 372 (690 pp.). Paris. West Africa: “Côte de Guinée”.

trophonius Westwood, 1842 (as sp. of *Papilio*). *Annals and Magazine of Natural History* 9: 38 (36-39). “Tropical Western Africa”.

dionysos Doubleday, 1846 *in* Doubleday & Westwood, [1846-52] (as sp. of *Papilio*). *The genera of diurnal Lepidoptera*, London: pl. 4 [1846], 20 [1847] (1: 1-250 pp.; 2: 251-534 pp.). London. “Western Africa”.

niobe Aurivillius, 1899 *in* Aurivillius, 1898-9 (as ab. female of *Papilio dardanus*). *Kungliga Svenska Vetenskapsakademiens Handlingar* 31 (5): 465 (1-561). Nigeria: no locality given [“Calabar”].

nioboides Aurivillius, 1899 *in* Aurivillius, 1898-9 (as ab. female of *Papilio dardanus*). *Kungliga Svenska Vetenskapsakademiens Handlingar* 31 (5): 465 (1-561). Gabon: no locality given [“Gaboon”].

heimsi Suffert, 1904 (as ssp. of *Papilio dardanus*). *Deutsche Entomologische Zeitschrift, Iris* 17: 90 (12-107). Cameroon: “Victoria”.

benio Suffert, 1904 (as ssp. of *Papilio dardanus*). *Deutsche Entomologische Zeitschrift, Iris* 17: 91 (12-107). Cameroon: “Barombi station”; Angola [Kabinda]: “Chinchoxo”.

trophonissa Aurivillius, 1907 (as female f. of *Papilio dardanus*). *Arkiv för Zoologi* 3 (23): 2 (7 pp.). Democratic Republic of Congo: “von der Gegend des Ituri-Flusses im östlichen Teil des Kongostaates”.

alluaudi Boulet & Le Cerf, 1912 (as female f. of *Papilio dardanus polytrophus*). *Bulletin de la Société Entomologique de France* 1912: 141 (141-143). Uganda: “Uganda occidentale, province de Toro”.

latemarginatus Schultze, 1913 (as f. of *Papilio*). *Entomologische Rundschau* 30: 49 (49-50). Equatorial Guinea: “San Carlos Süd”.

sirius Reuss, 1921 (as female f. of *Papilio dardanus*). *Entomologische Rundschau* 38: 23 (23-24). No locality given.

crocotus Poulton, 1923 (as ab. of *Papilio dardanus*). *Proceedings of the Entomological Society of London* 1923: xlvii (57-58). Ivory Coast: “Forêt du Poste de Borabo, Haut Sassandra, Côte d’Ivoire”; Kenya: “Nairobi”.

ceneispila Le Cerf, 1924 (as female f. of *Papilio dardanus*). *Bulletin of the Hill Museum, Witley* 1: 374 (369-399, 576, 578, 580, 582, 584). Uganda.

fagerskioldi Bryk, 1928 (as f. of *Papilio dardanus*). *Societas Entomologica* 43: 13 (13-16). Uganda: “Mpolegoma”.

punctata Dufrane, 1933 (as ab. of *Papilio dardanus dardanus*). *Lambillionea* **33**: 165 (164-166). Democratic Republic of Congo: “Congo Belge”.

divisa Dufrane, 1933 (as ab. of *Papilio dardanus dardanus*). *Lambillionea* **33**: 165 (164-166). Cameroon: “Edéa”.

bipunctata Dufrane, 1933 (as ab. of *Papilio dardanus dardanus*). *Lambillionea* **33**: 165 (164-166). Democratic Republic of Congo: “Congo Belge”.

paradoxa Dufrane, 1946 (as ab. of *Papilio dardanus dardanus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 102 (101-122). Democratic Republic of Congo: “Luébo”.

completa Dufrane, 1946 (as female f. of *Papilio dardanus dardanus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 102 (101-122). Democratic Republic of Congo: “Congo Belge”.

subpunctata Dufrane, 1946 (as female f. of *Papilio dardanus dardanus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 102 (101-122). Democratic Republic of Congo: “Congo Belge, Luébo, Kasai”.

dawanti Dufrane, 1946 (as female f. of *Papilio dardanus dardanus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 102 (101-122). Democratic Republic of Congo: “Congo Belge, Luébo, Kasai”.

impunctata Dufrane, 1946 (as female f. of *Papilio dardanus dardanus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 102 (101-122). Democratic Republic of Congo: “Congo Belge, Luébo, Kasai”.

jottrandi Dufrane, 1946 (as female f. of *Papilio dardanus dardanus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 102 (101-122). Democratic Republic of Congo: “Congo Belge, Luébo, Kasai”.

extrema Dufrane, 1946 (as female f. of *Papilio dardanus dardanus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 103 (101-122). Democratic Republic of Congo: “Congo Belge, Luébo, Kasai”.

semimelas Basquin & Turlin, 1986 (as f. of *Papilio dardanus*). *Bulletin de la Société Scientifique Naturelles*: (49): 22 ((49): 22; (51): 1). Central African Republic: “Bangui”.

obscura McLeod & McLeod, 2004 (as ab. of *Papilio dardanus*). *Entomologist's Record and Journal of Variation* as s**116** (2): 60 (60). Locality and subspecies?.

Papilio (Druryia) dardanus antinorii Oberthür, 1883 Ethiopia Flying Handkerchief

Papilio antinorii Oberthür, 1883. *Annali del Museo Civico di Storia Naturale (di Genova)* Giacomo Doria **18**: 711 (709-740).
Papilio Antinorii Oberthür, 1883. Aurivillius, 1899.



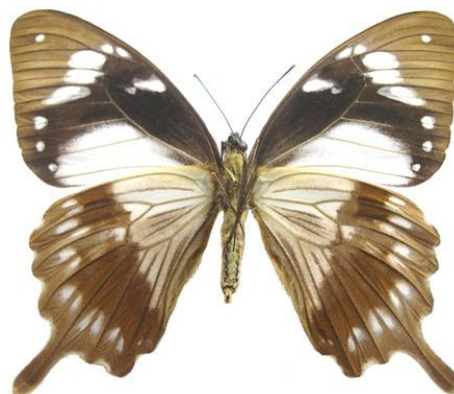
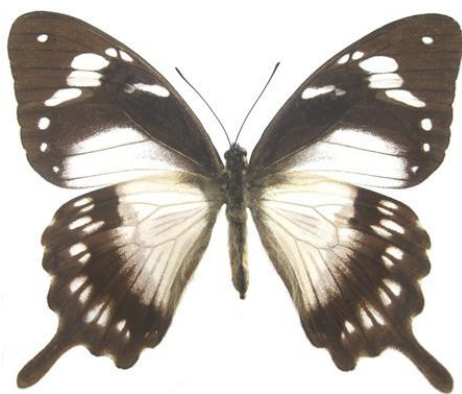
Papilio dardanus antinorii. Male. Left – upperside; right – underside.
Boter Becho, Ethiopia. 18 September 1997.
Images M.C. Williams ex Gardiner Collection.



Papilio dardanus antinorii. Female. Left – upperside; right – underside.
Boter Becho, Ethiopia. 19 September 1997.
Images M.C. Williams ex Gardiner Collection.



Papilio dardanus antinorii. Female. Left – upperside; right – underside.
Boter Becho, Ethiopia. 20 September 1997.
Images M.C. Williams ex Gardiner Collection.



Papilio dardanus antinorii. Female. Left – upperside; right – underside.
 Boter Becho, Ethiopia. 20 September 1997.
 Images M.C. Williams ex Gardiner Collection.



Papilio dardanus antinorii. Female. Left – upperside; right – underside.
 Boter Becho, Ethiopia. 18 September 1997.
 Images M.C. Williams ex Gardiner Collection.



Papilio dardanus antinorii. Female. Left – upperside; right – underside.
 Ghibe Tolley, Ethiopia. 10 September 1997.
 Images M.C. Williams ex Gardiner Collection.

Type locality: Ethiopia: “Abissinia, Feleklek and Sciotalit”.

Distribution: Ethiopia (highlands).

Specific localities:

Ethiopia – Feleklek (TL); Sciotalit (Oberthür, 1883); Korata (Kheil, 1890); Yumbo (Boullet & Le Cerf, 1912); Got River (Poulton, 1926); Apeny River (Poulton, 1926); Gore (Poulton, 1927); Oumbi (Ungemach, 1932); Wallega Valley, Ghedo (Gabriel, 1949); Scio, Mantek (Storace, 1963); Awasa (Mollet, 1975); Yabelo (Mollet, 1975); Bonga (Mollet, 1975); Arba Minch (Mollet, 1975); Metu (Mollet, 1975); Guebre Mengist (Mollet, 1975); Bedele (Mollet, 1975); Hossana (Mollet, 1975).

niavioides Kheil, 1890 (as female ab. of *Papilio antinorii*). *Deutsche Entomologische Zeitschrift, Iris* **3**: 335 (333-336). Ethiopia: “Abessynien, Korata am Tana-See”.

ruspinae Kheil, 1890 (as female ab. of *Papilio antinorii*). *Deutsche Entomologische Zeitschrift, Iris* **3**: 336 (333-336). Ethiopia: “Abessynien, Korata am Tana-See”.

niavina Haase, 1891 (as var. of *Papilio merope antinorii*). *Bibliotheca Zoologica. Cassel & Stuttgart* **4** (Heft 8): (2) (120 pp. + 161 pp.). Ethiopia: “Abessinien”. [Probably a *lapsus* for *niavioides* Kheil.]

alticola Boullet & Le Cerf, 1912 (as var. of *Papilio dardanus antinorii*). *Bulletin de la Société Entomologique de France* **1912**: 141 (141-143). Ethiopia: “Abyssinie, Yumbo, province de Gaba, 1485 m”.

hodsoni Poulton, 1926 (as ssp. of *Papilio dardanus*). *Proceedings of the Entomological Society of London* **1**: 6 (6-7). Ethiopia: “S.W. Abyssinia, Got River, 1700 ft; Apeny River, 1700 ft”.

weinholti Poulton, 1927 (as female f. of *Papilio dardanus hodsoni*). *Proceedings of the Entomological Society of London* **2**: 10 (10-11). Ethiopia: “Gore, 6600 ft, W. Abyssinia”.

zaoditou Ungemach, 1932 (as female f. of *Papilio dardanus*). *Mémoires de la Société des Sciences Naturelles (et Physiques) du Maroc* **32**: 18 (1-122). Ethiopia: “Oumbi”.

alameitu Gabriel, 1949 (as female f. of *Papilio dardanus antinorii*). *Proceedings of the Royal Entomological Society of London (B)* **18**: 212 (207-216). Ethiopia: “Abyssinia, Wallega Valley, Ghedo, 7000 ft”.

conjunctiflava Stoneham, 1951 *in* Stoneham, 1951-65 (as male f. of *Papilio dardanus*). *The butterflies of western Kenya with notes on allied forms, etc.* 12 (180 pp.). Nairobi. Ethiopia: “South-west Abyssinia”.

seriata Storace, 1963 (as ab. of *Papilio dardanus antinorii*). *Bollettino della Società Entomologica Italiana* **93**: 28 (21-30). Ethiopia: “Etiopia centrale, Scioa (zona di Ancòber): Mantek”.

immaculata Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Awasa”.

extensinigra Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Yabelo”.

obsoleta Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Bonga”.

ornata Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Arba Minch”.

rufomaculata Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Arba Minch”.

aurantiaca Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Metu”.

aperta Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Guebre Mengist”.

depuncta Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Bedele”.

obscura Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Arba Minch”.

parvicaudata Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Hossana”.

cenaeoides Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Bedele”.

streckerioides Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Metu”.

lambornieoides Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Hossana”.

niobeoides Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Hossana”.

salaamioides Mollet, 1975 (as female morph of *Papilio dardanus antinorii*). *Bulletin de la Société de Entomologique de France* **80**: 38 (32-38). Ethiopia: “Bonga”.

***Papilio (Druryia) dardanus byatti* Poulton, 1926**
Somali Flying Handkerchief

Papilio dardanus byatti Poulton, 1926. *Proceedings of the Entomological Society of London* **1925**: xlv (42-52).

Type locality: Somalia: “Near the summit of Wager mountain (6000 ft), Golis range, 45 m. S.E. of Berera, Somaliland”.

Distribution: Somalia (highlands in north).

Specific localities:

Somalia – Wager Mountain, Golis Range (TL).

***Papilio (Druryia) dardanus cenea* Stoll, [1790][#]**
Southern Flying Handkerchief

Papilio cenea Stoll, [1790] in Stoll, [1787-90]. *Die Uitlandsche Kapellen voorkomende in de drie waerelddeelen Asia, Africa en America* [Supplement]: 134 ([184 pp.]) Amsterdam.

Papilio cenea Stoll. Trimen, 1862c.

Papilio cenea Stoll, 1791. Trimen & Bowker, 1889.

Papilio cenea Stoll, 1791. Aurivillius, 1899.

Papilio dardanus cenea Stoll. Swanepoel, 1953a.

Papilio dardanus cenea Stoll, 1791. Dickson & Kroon, 1978.

Papilio dardanus cenea Stoll, 1790. Pringle *et al.*, 1994: 301.



Papilio dardanus cenea. Male (Wingspan 90 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 6 January, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio dardanus cenea. Female form *cenea* (Wingspan 100 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 6 January, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio dardanus cenea. Female form *hippocoonides* (Wingspan 100 mm). Left – upperside; right – underside.
Mpaphuli Nature Reserve, Limpopo Province, South Africa. 2 May 2008. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus cenea. Female form *sylvicola* (Wingspan 100 mm). Left – upperside; right – underside.
Mpaphuli Nature Reserve, Limpopo Province, South Africa. 22 March 2004. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus cenea. Female f. *aikenii*. Left – upperside; right – underside.
Woodbush, Limpopo Province, South Africa. 4 April, 1968. W. Henning.
Images M.C. Williams ex Henning Collection.



Papilio dardanus cenea. Female f. *natalica*. Left – upperside; right – underside.
Woodbush, Limpopo Province, South Africa. 1 April, 1968. W. Henning.
Images M.C. Williams ex Henning Collection.



Papilio dardanus cenea. Female form *cephonius* (Wingspan 100 mm). Left – upperside; right – underside.
Port St Johns, Eastern Cape Province, South Africa. 23 March 2008. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus cenea. Female form *trophonius* (Wingspan 100 mm). Left – upperside; right – underside.
Port St Johns, Eastern Cape Province, South Africa. 23 March 2008. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus cenea. Female form *leighi* (Wingspan 100 mm). Left – upperside; right – underside.
Port St Johns, Eastern Cape Province, South Africa. 30 July 2008. J. Dobson
Images M.C. Williams ex Dobson Collection.



Papilio dardanus cenea. Female form *hypolimnides* (Wingspan 100 mm). Left – upperside; right – underside.
Port St Johns, Eastern Cape Province, South Africa. 5 July 2008. J. Dobson
Images M.C. Williams ex Dobson Collection.

Type locality: South Africa: “Päis des Caffres”.

Distribution: Mozambique (south), Zimbabwe (east), Botswana (single record – probably a vagrant), South Africa (Limpopo Province, Mpumalanga, KwaZulu-Natal, Eastern Cape Province, Western Cape Province – south-east), Swaziland.

Specific localities:

Mozambique – Delagoa Bay (Le Cerf, 1924); Maputo Special Reserve (Miles & Mulvaney, 2022).

Zimbabwe – Chirinda Forest (Van Son, 1949); Umtali (Van Son, 1949); Vumba Mountains (Van Son, 1949); Christmas Pass (Van Son, 1949); Lomagundi district (Van Son, 1949); Honde Valley (Pinhey).

Botswana – Thune River, near Selibe-Phikwe (Cecil Coombs, Aug 1986; single female *vide* Larsen, 1991).

Limpopo Province – Zoutpansberg (Swanepoel, 1953); Lekgalameetse Nature Reserve (“Malta Forest”) (Van Son, 1949); Woodbush (Van Son, 1949); Entabeni (Van Son, 1949); Naboomspruit (Van Son, 1949 – single record); Haenertsburg (Van Son, 1949); Duiwelskloof (Swanepoel, 1953); Sibasa (Swanepoel, 1953); Louis Trichardt (Swanepoel, 1953); Wyliespoort (Swanepoel, 1953); Saltpan (Swanepoel, 1953); Buzzard Mountain Retreat [-23.012 29.765] (Williams, unpub., 2015).

Mpumalanga – Barberton (Van Son, 1949); Mariepskop (Van Son, 1949); Nelspruit (Swanepoel, 1953); Sabie (Swanepoel, 1953); Graskop (Swanepoel, 1953); Buffelspoort Nature Reserve (Williams).

KwaZulu-Natal – Karkloof (Van Son, 1949); Pinetown (Van Son, 1949); Durban (Van Son, 1949); Pietermaritzburg (Van Son, 1949); Eshowe (Van Son, 1949); St. Lucia (Van Son, 1949); Kosi Bay Nature Reserve (Van Son, 1949); Sarnia (Van Son, 1949); Umgeni (Van Son, 1949); Oribi Gorge (Swanepoel, 1953); Port Shepstone (Swanepoel, 1953); Umkomaas (Swanepoel, 1953); Tembe Nature Reserve (Pringle & Kyle, 2002); Ndumo Nature Reserve (Pringle & Kyle, 2002).

Eastern Cape Province – Bathurst (Van Son, 1949); East London (Van Son, 1949); Grahamstown (Van Son, 1949); King William’s Town (Van Son, 1949); Pirie (Van Son, 1949); Port St Johns (Van Son, 1949); Ngqeleni (Van Son, 1949); Bashee River (Van Son, 1949); Manubie Forest (Van Son, 1949); Port Elizabeth (Van Son, 1949); Hogsback (Van Son, 1949); Zuurberg (Swanepoel, 1953) Cintsa East (the Dobsons and Williams, 2002).

Western Cape Province – George (Van Son, 1949); Knysna (Van Son, 1949); Coldstream (Van Son, 1949); Plettenberg Bay (Van Son, 1949); Storms River (Van Son, 1949); Mossel Bay (G. van den Berg).

rechila Godart, 1819 *in* Latreille & Godart, [1819], [1824] (as sp. of *Danaïs*). *Encyclopédie Méthodique*. Histoire Naturelle [Zoologie] 9 Entomologie: 183 (1-328 [1819], 329-828 [1824]). Paris. South Africa: “Cafrerie”.

cephonius Hopffer, 1866 (as a uninomial). *Stettiner Entomologischer Zeitung* 27: 132 (131-132). No locality given.

hippocoonides Haase, 1891 (as var. of *Papilio merope tibullus*). *Bibliotheca Zoologica*. Cassel & Stuttgart 4 (Heft 8): 70 (2) (120 pp. + 161 pp.). South Africa: “Cap.”.

acene Suffert, 1904 (as ssp. of *Papilio cenea*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 92 (12-107). South Africa: “Transvaal”.

leighi Poulton, 1912 (as female f. of *Papilio dardanus*). *Proceedings of the Entomological Society of London* **1912**: xxxviii (33-42). South Africa: “Natal”; Kenya: “Unyori, N.E. of Kisumu”.

radiata Reuss, 1921 (as female f. of *Papilio dardanus cenea*). *Entomologische Rundschau* **38**: 23 (23-24). No locality given.

natalica Le Cerf, 1924 (as female f. of *Papilio dardanus-cenea*). *Bulletin of the Hill Museum, Witley* **1**: 377 (369-399, 576, 578, 580, 582, 584). Mozambique: “Delagoa Bay”.

hypolimnides Le Cerf, 1924 (as female f. of *Papilio dardanus-cenea*). *Bulletin of the Hill Museum, Witley* **1**: 377 (369-399, 576, 578, 580, 582, 584). South Africa: “West Pondoland”.

extensiflava Le Cerf, 1924 (as male f. indiv. of *Papilio dardanus-cenea*). *Bulletin of the Hill Museum, Witley* **1**: 378 (369-399, 576, 578, 580, 582, 584). South Africa: “Natal”.

sylvicola van Son, 1949 (as f. of *Papilio dardanus cenea*). *Transvaal Museum Memoirs* **No 3**: 11 (237 pp.). South Africa: “Malta Forest, , Pietersburg district, Transvaal; King William’s Town”; Mozambique: “Delegoa Bay”.

neocenea Stoneham, 1951 *in* Stoneham, 1951-1965 (as new name for *Papilio dardanus cenea* female f. *cenea* auctt., nec Stoll). *The butterflies of western Kenya with notes on allied forms, etc.* : 10 (180 pp.) Nairobi. South Africa.

nigricans Storace, 1955 (as female f. of *Papilio dardanus cenea*). *Memorie della Società Entomologica Italiana* **33**: 124 (120-137). South Africa: “Africa australe”.

transiens Storace, 1955 (as female f. of *Papilio dardanus cenea*). *Memorie della Società Entomologica Italiana* **33**: 124 (120-137). South Africa: “Natal”.

aikeni van Son, 1956: (as female f. of *Papilio dardanus cenea*). *Annals of the Transvaal Museum* **22**: 503 (503-509). South Africa: “N. Transvaal, Woodbush, Pietersburg District”.

infuscata van Son, 1956: (as female f. of *Papilio dardanus cenea*). *Annals of the Transvaal Museum* **22**: 503 (503-509). South Africa: “Durban”.

Papilio (Druryia) dardanus figinii Storace, 1962 Eritrea Flying Handkerchief

Papilio dardanus figinii Storace, 1962. *Doriana* **3** (120): 2 (4 pp.).

Type locality: Ethiopia: “Eritrea centrale, Dorfù, m. 1500 s.l.m. (Zona delle pendici orientali, presso Asmara)”.

Distribution: Eritrea (highlands).

Specific localities:

Eritrea – Dorfu (TL).

vaccaroï Storace, 1947 (as female f. of *Papilio dardanus antinorii*). *Annali del Museo Civico di Storia Naturale (di Genova) Giacomo Doria* **63**: 116 (116-119). Ethiopia: “Eritrea, Dorfù, m. 1500 s.m. (presso Asmara)”.

protoniavioides Storace, 1962 (as female f. of *Papilio dardanus antinorii*). *Bollettino della Società Entomologica Italiana* **92**: 72 (68-73). Ethiopia: “Dorfù in Eritrea (zona delle pendici orientali, presso Asmara, m. 1500 s.l.m.)”.

protomima Storace, 1962 (as female f. of *Papilio dardanus figinii*). *Doriana* **3** (120): 3 (4 pp.). Ethiopia: “orientale eritree presso Asmara (Dorfù)”.

***Papilio (Druryia) dardanus flavicornis* Carpenter, 1947**
Kulal Flying Handkerchief

Papilio dardanus flavicornis Carpenter, 1947. *Proceedings of the Royal Entomological Society of London* (B) **16**: 55 (55-56).

Type locality: Kenya: “Kenya Colony, Mount Kulal, northern frontier, 6500 ft”.

Diagnosis: As the subspecific name indicates, this subspecies is characterized by its yellow antennae.

Distribution: Kenya (north-west).

Specific localities:

Kenya – Mount Kulal (TL).

***Papilio (Druryia) dardanus meseres* Carpenter, 1948**
Mabira Flying Handkerchief

Papilio dardanus meseres Carpenter, 1948. *Proceedings of the Royal Entomological Society of London* (B) **17**: 14 (11-17).

Type locality: Kenya: “Kenya Colony, South Kavirondo, Suna”.

Diagnosis: Forewing upperside of male lacks submarginal yellow spots; upperside hindwing band narrowly entire (Congdon & Collins, 1998).

Distribution: Uganda, Kenya (south-west), Tanzania (western, southern and south-eastern shores of Lake Victoria).

Specific localities:

Uganda – Mabira Forest (Le Cerf, 1924).

Kenya – Suna (TL); N.E. of Nyanza (Aurivillius, 1907); Nyangori (Poulton, 1929); Kitale (Stoneham, 1932); Soy (Stoneham, 1933); Kakamega Forest (Stoneham, 1934); Masai Mara (Larsen, 1991c).

Tanzania – Kibara (Aurivillius, 1907); Ukerewe Island (Aurivillius, 1907); Kakindu Hill (Poulton, 1929); southern and eastern shores of Lake Victoria: Mwaya (Kielland, 1990d); Mwanza (Kielland, 1990d); Bukoba (Kielland, 1990d); Ukerewe Island (Kielland, 1990d).

Note: According to Larsen (*vide* Congdon & Collins, 1998: 26) ssp. *meseres* is of doubtful validity.

planemoides Trimen, 1904 (as female f. of *Papilio merope*). *Proceedings of the Entomological Society of London* **1903**: xli (38-41). Kenya: “Kavirondo-Nandi district of the Uganda British Protectorate”; Angola.

dionysoides Aurivillius, 1907 (as female f. of *Papilio dardanus*). *Arkiv för Zoologi* **3** (23): 1 (7 pp.). Tanzania: “Kibara; von der Insel Ukerewe in Victoria Nyanza”.

pemtoliplus Aurivillius, 1907 (as female f. of *Papilio dardanus*). *Arkiv för Zoologi* **3** (23): 2 (7 pp.). Tanzania: “Kibara”.

mixtus Aurivillius, 1907 (as female f. of *Papilio dardanus*). *Arkiv för Zoologi* **3** (23): 4 (7 pp.). Kenya: “Ost-Afrika” [N.E. of Nyanza].

acenides Le Cerf, 1924 (as female f. of *Papilio dardanus*). *Bulletin of the Hill Museum, Witley* **1**: 375 (369-399, 576, 578, 580, 582, 584). Tanzania: “Mabira Forest”; Uganda.

swynnertoni Poulton, 1929 *in* Eltringham *et al.*, 1929 (as female f. of *Papilio dardanus*). *Transactions of the Entomological Society of London* **77**: 500 (475-504). Kenya: “Unyori (Nyangori), N.E. of Kisumu”.

carpenteri Poulton, 1929 *in* Eltringham *et al.*, 1929 (as female f. of *Papilio dardanus*). *Transactions of the Entomological Society of London* **77**: 500 (475-504). Tanzania: “Kakindu Hill, Tang. Terr., in Lat. 1° 10'S., long. 31° 30'E, about 30 miles W. of the Victoria Nyanza”; Uganda.

xanthocaudatus Stoneham, 1932 (as male f. of *Papilio dardanus*). *Bulletin of the Stoneham Museum* (13): 1 ([3 pp.]). Kenya: “Kitale”.

hippococonatus Stoneham, 1933 (as female f. of *Papilio dardanus*). *Bulletin of the Stoneham Museum* (15): [2] ([3 pp.]). Kenya: “Kenya Colony, Kitale”.

dominicanoides Stoneham, 1933 (as female f. of *Papilio dardanus*). *Bulletin of the Stoneham Museum* (15): [2] ([3 pp.]). Kenya: “Kenya Colony, Soy”.

planematus Stoneham, 1934 (as female f. of *Papilio dardanus*). *Bulletin of the Stoneham Museum* (19): [2] ([3 pp.]). Kenya: “Kenya Colony, Kakamega Forest”.

epiplanemoides Stoneham, 1934 (as female f. of *Papilio dardanus*). *Bulletin of the Stoneham Museum* (19): [2] ([3 pp.]). Kenya: “Kenya Colony, Kakamega Forest”.

briani Stoneham, 1944 (as female f. of *Papilio dardanus xanthocaudatus*). *Bulletin of the Stoneham Museum* (48): [2] ([3 pp.]). Kenya: “Kenya Colony, Kitale”.

***Papilio (Druryia) dardanus ochraceana* Vane-Wright, 1995**
Marsabit Flying Handkerchief

Papilio dardanus ochracea Carpenter, 1948. Invalid.

Papilio (Princeps) dardanus ochraceana Vane-Wright, 1995. *In*: Ackery *et al.*, 1995: 144. As replacement name for *ochracea*.

Type locality: Kenya: “Marsabit”.

Diagnosis: Similar to ssp. *flavicornis* but with black antennae (Larsen, 1991c).

Distribution: Kenya (north).

Specific localities:

Kenya – Mount Marsabit (TL); Mount Nyiro.

ochracea Poulton, 1924 (as female f. of *Papilio dardanus cenea ochracea*). *Proceedings of the Entomological Society of London* **1924**: xxvii (25-29). Kenya: “Marsabit, S.E. of Lake Rudolph”. Invalid name.

ochracea Carpenter, 1948 (as ssp. of *Papilio dardanus*). *Proceedings of the Royal Entomological Society of London* (B) **17**: 16 (11-17). Kenya: “Marsabit”. [Invalid: junior primary homonym of *Papilio woodfordi* var. *ochracea* Ribbe, 1897 [Papilionidae].]

atavica Storace, 1955 (as female f. of *Papilio dardanus ochracea*). *Memorie della Società Entomologica Italiana* **33**: 123 (120-137). Kenya: “Marsabit, 4500 piedi, Northern Frontier District, Chenia”.

***Papilio (Druryia) dardanus polytrophus* Rothschild & Jordan, 1903**
Kikuyu Flying Handkerchief

Papilio dardanus polytrophus Rothschild & Jordan, 1903. *Novitates Zoologicae* **10**: 488 (488-490).



Papilio dardanus polytrophus. Male. Left – upperside; right – underside.
Imenti Forest, near Mweru, Kenya. 12 May 2002.
Images M.C. Williams ex Gardiner Collection.



Papilio dardanus polytrophus. Female. Left – upperside; right – underside.
Karen, Nairobi, Kenya. 26 March 1995.
Images M.C. Williams ex Gardiner Collection.

Type locality: Kenya: “Kikuyu Escarpment, British East Africa”.

Distribution: Kenya (highlands east of the Rift Valley). Material from Loliondo in Tanzania appears to be intermediate between *polytrophus* and *meseres* (Congdon & Collins, 1998).

Specific localities:

Kenya – Kikuyu Escarpment (TL); Nairobi (Trimen, 1909); Kijabe (Le Cerf, 1912); Elmenteita (Bryk & Peebles, 1932).

nandina Rothschild & Jordan, 1901 (as sp. of *Papilio*). *Novitates Zoologicae* **8**: 403 (401-407). Kenya: “British E. Africa, Escarpment, 6500-9000 ft.”. [Invalid: hybrid of *P. dardanus polytrophus* x *P. phorcas ansorgei*. *See* Clarke, 1980; Clarke *et al.*, 1991 (*Systematic Entomology* **16**: 257-273.).]

dorippoides Trimen, 1909 (as female f. of *Papilio dardanus tibullus*). *Transactions of the Entomological Society of London* **1909**: 554 (547-557). Kenya: “Nairobi”.

speciosa Le Cerf, 1912 (as female f. of *Papilio dardanus*). *Bulletin de la Société Entomologique de France* **1912**: 290 (290-292). Kenya: “Afrique orientale anglaise: Kijabé, 2100 d’alt, dans le Kikuyu Escarpment”.

jeanneli Le Cerf, 1912 (as female f. of *Papilio dardanus*). *Bulletin de la Société Entomologique de France* **1912**: 290 (290-292). Kenya: “Afrique orientale anglaise: Kijabé, 2100 m., dans le Kikuyu Escarpment”.

- punctimargo** Le Cerf, 1912 (as f. of *Papilio dardanus* var. *polytrophus*). *Bulletin de la Société Entomologique de France* **1912**: 336 (336-337). Kenya: “Afrique orientale allemande, Kijabé (Kikuyu Escarpment), alt 2100 m.”.
- hippocoöninus** Reuss, 1921 (as female f. of *Papilio dardanus polytrophus*). *Entomologische Rundschau* **38**: 23 (23-24). No locality given.
- albescens** Reuss, 1921 (as female f. of *Papilio dardanus polytrophus*). *Entomologische Rundschau* **38**: 23 (23-24). No locality given.
- nigrescens** Reuss, 1921 (as female f. of *Papilio dardanus polytrophus*). *Entomologische Rundschau* **38**: 23 (23-24). No locality given.
- acenoides** Reuss, 1921 (as female f. of *Papilio dardanus polytrophus*). *Entomologische Rundschau* **38**: 24 (23-24). No locality given.
- trophonoides** Reuss, 1921 (as female f. of *Papilio dardanus polytrophus*). *Entomologische Rundschau* **38**: 24 (23-24). No locality given.
- mixtoides** Reuss, 1921 (as female f. of *Papilio dardanus polytrophus*). *Entomologische Rundschau* **38**: 24 (23-24). No locality given.
- protocenea** Bryk & Peebles, 1932 (as f. of *Papilio dardanus* var. *polytrophus*). *Mitteilungen der Deutschen Entomologischen Gesellschaft* **3**: 10 (10). Kenya: “Elmenteita, Kenya Colony”.
- astarte** Bryk & Peebles, 1932 (as f. of *Papilio dardanus* var. *polytrophus*). *Mitteilungen der Deutschen Entomologischen Gesellschaft* **3**: 10 (10). Kenya: “Elmenteita, Kenya Colony”.
- nairobianus** Stoneham, 1932 (as male f. of *Papilio dardanus*). *Bulletin of the Stoneham Museum* (13): 2 ([3 pp.]). Kenya: “Kenya Colony, Nairobi”.
- poultoni** Ford, 1936 (as female form of *Papilio dardanus*). *Transactions of the Royal Entomological Society of London* **85**: 465 (435-466). Kenya: “Kenya Colony, Nairobi”.
- akechia** Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus nairobianus*). *The butterflies of western Kenya with notes on allied forms, etc.* 8 (180 pp.). Nairobi. Kenya: “Nairobi”.
- neria** Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus nairobianus*). *The butterflies of western Kenya with notes on allied forms, etc.* 8 (180 pp.). Nairobi. No locality given.
- millari** Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus*). *The butterflies of western Kenya with notes on allied forms, etc.* 9 (180 pp.). Nairobi. No locality given.
- babingtonia** Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus*). *The butterflies of western Kenya with notes on allied forms, etc.* 9 (180 pp.). Nairobi. No locality given.
- akechiana** Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus nairobianus*). *The butterflies of western Kenya with notes on allied forms, etc.* 10 (180 pp.). Nairobi. No locality given. [Nairobi].
- neriana** Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus nairobianus*). *The butterflies of western Kenya with notes on allied forms, etc.* 11 (180 pp.). Nairobi. No locality given. [Nairobi].
- harmonia** Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus*). *The butterflies of western Kenya with notes on allied forms, etc.* 11 (180 pp.). Nairobi. No locality given.
- ariadne** Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus*). *The butterflies of western Kenya with notes on allied forms, etc.* 11 (180 pp.). Nairobi. No locality given.

Papilio (Druryia) dardanus sulfurea Palisot de Beauvois, [1806]
Sao Tome Flying Handkerchief

Papilio sulfurea Palisot de Beauvois, [1806] in Palisot de Beauvois, [1805-21]. *Insectes recueillis en Afrique et en Amérique* 40 (276 pp.). Paris.

Type locality: Sao Tome & Principe: “Isle-du-Prince”.

Distribution: Sao Tome & Principe (Island of Principe), Equatorial Guinea (Bioko).

Specific localities:

Equatorial Guinea (Bioko) – Luba (San Carlos) (Schultze *et al.*, 1917-1923); Malabo (Sta. Isabel) (Viejo, 1984); Caldera de Luba, Bioko (Martin, 2015).

storacei Gauthier, 1984 (as ssp. of *Papilio dardanus*). *Entomologische Zeitschrift. Frankfurt. a.M.* **94**: 314 (314-320). Equatorial Guinea: “Central Bioko, 1500 m, l.”. [syn. n. (Ackery *et al.*, 1995: 145)].

sulphureus Bernardi, Pierre & Nguyen, 1985 (as ssp. of *Papilio dardanus*). *Bulletin de la Société Entomologique de France* **90**: 1109 (1106-1155). [*Lapsus* for, or unjustified emendation of *sulfurea*.]

Papilio (Druryia) dardanus tibullus Kirby, 1880
Mulanje Flying Handkerchief

Papilio tibullus Kirby, 1880. *Scientific Proceedings of the Royal Dublin Society* **2**: 339 (292-340).



Papilio dardanus tibullus. Male. Left – upperside; right – underside.
Mount Meru low forest, Tanzania. 31 January 2015.
Images M.C. Williams ex Gardiner Collection.



Papilio dardanus tibullus. Female. Left – upperside; right – underside.
Shimba Hills, Kenya. 27 May 2002.
Images M.C. Williams ex Gardiner Collection.

Type locality: Tanzania: “Zanzibar”.

Distribution: Kenya (east), Tanzania (east), Malawi, Zambia, Mozambique (Congdon *et al.*, 2010).

Kemal (2004) records this subspecies from the Soutpansberg Mountains, Limpopo Province, South Africa. This is highly dubious (Ed.).

Specific localities:

Kenya – Mombasa (Stoneham, 1951); Bamburi (Stoenham, 1951); Shimba Hills (male illustrated above); Diani Forest (female illustrated above).

Tanzania – Zanzibar (TL); Dar-es-Salaam (Suffert, 1904); Gomja (Strand, 1911); Ufiomi (Poulton, 1918); Coastal areas, inland to the Northern Highlands, the Ruhebo Mountains and Southern Highlands; also Pemba Island (Kielland, 1990d); Semdoe Forest Reserve (Doggart *et al.*, 2001).

Malawi – Mt Mulanje (Congdon *et al.*, 2010); Zomba Mountain (Congdon *et al.*, 2010); Nyika N.P. (J. Timberlake, pers. comm., 2019).

Zambia – Mafinga Mountains (Heath *et al.*, 2002).

Mozambique – Mount Chipirone (Timberlake *et al.*, 2007); Mt Inago (Congdon *et al.*, 2010); Mt Namuli (Congdon *et al.*, 2010); Mt Mabui (Congdon *et al.*, 2010).

maculatus Suffert, 1904 (as ssp. of *Papilio cenea*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 91 (12-107). Tanzania: “Deutsch-Ost-Africa”.

discopunctatus Suffert, 1904 (as ssp. of *Papilio cenea*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 92 (12-107). Tanzania: “Deutsch-Ost-Africa”.

salaami Suffert, 1904 (as ssp. of *Papilio cenea*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 92 (12-107). Tanzania: “Dar-es-Salaam”.

boosi Suffert, 1904 (as sp. of *Papilio*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 89 (12-107). Tanzania: “Dar-es-Salaam”.

trimeni Poulton, 1906 (as female f. of *Papilio dardanus*). *Transactions of the Entomological Society of London* **1906**: 283 (281-311). Tanzania: “Zanzibar”; Kenya: “Kikuyu Escarpment, B.E. Africa”.

gomia Strand, 1911 (as ab. of *Papilio dardanus* var. *tibullus*). *Deutsche Entomologische Zeitschrift, Iris* **25**: 121 (110-121). Tanzania: “Gomja”.

lamborni Poulton, 1918 (as female f. of *Papilio dardanus tibullus*). *Transactions of the Entomological Society of London* **1917**: 335 (322-337). Tanzania: “Ufiomi, 35° 50'E., 4° 16'S.”.

mombasicus Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus*). *The butterflies of western Kenya with notes on allied forms, etc.* 3 (180 pp.). Nairobi. Kenya: “Protectorate of Kenya, Mombasa”.

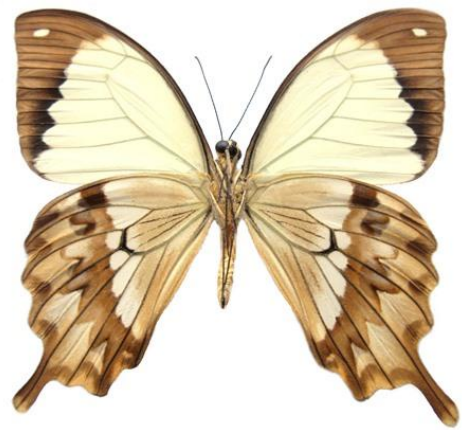
melanoleuca Stoneham, 1951 *in* Stoneham, 1951-65 (as female f. of *Papilio dardanus*). *The butterflies of western Kenya with notes on allied forms, etc.* 8 (180 pp.). Nairobi. Kenya: “Bamburi, Kenya Coast”.

****Papilio (Druryia) meriones* Felder & Felder, [1865]
Malagasy Flying Handkerchief**

Papilio meriones Felder & Felder, [1865] *in* Felder & Felder, 1865-7. *Reise der Österreichischen Fregatte Novara* 95 (549 pp.). Wien.

Papilio meriones Felder, 1865. Aurivillius, 1899.

Papilio meriones Felder, 1865. Condamine *et al.*, 2023. *Stat. rev.*



Papilio meriones. Male. Left – upperside; right – underside.
Zombitse, Madagascar. 16-17 April 2018. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio meriones. Female. Left – upperside; right – underside.
Ranamofana, Madagascar. 11 April. 2018. J. Lawrence.
Images M.C. Williams ex Lawrence Collection.

Type locality: Madagascar: “Region de Toamasina”.

Distribution: Madagascar.

Specific localities:

Madagascar – Toamasina (TL); Maroansetra (Le Cerf, 1924); Zombitse (male illustrated above).

palaeotypus Le Cerf, 1924 (as male f. indiv. of *Papilio dardanus-meriones*). *Bulletin of the Hill Museum, Witley* 1: 379 (369-399, 576, 578, 580, 582, 584). Madagascar: “Maroansetra”.

****Papilio (Druryia) humbloti* Oberthür, 1888**
Comoro Flying Handkerchief

Papilio humbloti Oberthür, 1888. *Bulletin de la Société Entomologique de France* (6) **8**: XL (40-42).

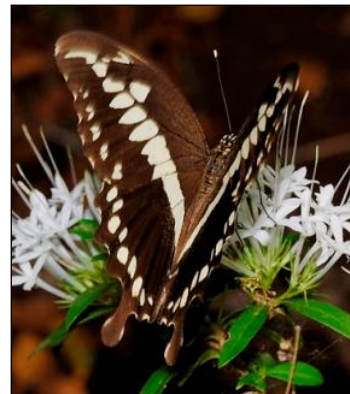
Papilio Humbloti Oberthür, 1888. Aurivillius, 1899.

Papilio humbloti Oberthür, 1888. Condamine *et al.*, 2023. **Stat. rev.**

Type locality: Comoro Islands: “Grande-Comoro”.

Distribution: Comoro Islands (Grand Comore).

****Papilio (Druryia) constantinus* Ward, 1871#**
Dusty Handkerchief



Constantine's Swallowtail (*Papilio constantinus*) females on flowers.
Images on sides courtesy Steve Woodhall. Central image courtesy Raimund Schutte.

Papilio constantinus Ward, 1871. *Entomologist's Monthly Magazine* **8**: 34 (34-36, 58-60, 81-82, 118-122).

Papilio constantinus Ward, 1871. Trimén & Bowker, 1889.

Papilio constantinus Ward, 1871. Aurivillius, 1899.

Papilio constantinus Ward. Swanepoel, 1953a.

Papilio constantinus Ward, 1871. Dickson & Kroon, 1978.

Papilio constantinus Ward, 1871. Pringle *et al.*, 1994: 303.



Papilio constantinus constantinus. Male (Wingspan 80 mm). Left – upperside; right – underside.
Nibela Peninsula, KwaZulu-Natal. November, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio constantinus constantinus. Female (Wingspan 87 mm). Left – upperside; right – underside.
Nibela Peninsula, KwaZulu-Natal. November, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.

Type locality: [Kenya]: “Ribé, East Africa”.

Diagnosis: Similar to one of the female forms of *Papilio phorcas* but the latter lacks the cream spot in the forewing cell and the underside is very different (Larsen, 1991c).

Distribution: Congo, Democratic Republic of Congo, Ethiopia, Somalia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, South Africa, Swaziland.

Habitat: Frost-free savanna and forest. In Tanzania the nominate subspecies occurs in heavy woodland, forests and forest margins. Found from sea-level to 1 200 m. There is a single record from Rubeho (1950 m). Subspecies *mweruanus* occurs at altitudes of 780 to 1 400 m (Kielland, 1990d).

Habits: The flight is low down, wandering and fairly leisurely. Both sexes regularly feed from flowers and males mudpuddle. Males are not territorial and fly randomly through the bush and along forest roads in search of females and flowers. Females tend to remain in the forest undergrowth (Larsen, 1991c). In Tanzania it is commonest in certain coastal forests, such as the Kiono Forest near Sadani (Kielland, 1990d).

Flight period: September to April, with peak abundance from December to March (Pringle *et al.*, 1994).

Early stages:

Joannou, 1992: 89 [as *Papilio constantinus constantinus*; ex Chuniespoort, Limpopo Province, South Africa].

“**Egg.** Approximately spherical, pale yellow, measuring 1.2 mm in diameter and laid singly on either surface of the leaf. Later if fertile the egg develops a brown spot in the area of the micropyle (although no such structure is actually visible) and two uneven rings develop, the upper of which is more pronounced. The egg stage lasts 4 days. See plate 2a. 1st instar: On hatching, the 3mm larva consumes only a portion of the egg shell. The head is brown and tucked in below a fold of the 1st segment making it visible only when extended for feeding. NB This habit is consistently adopted by all the larval stages. The ground colour of the 1st, 2nd, 6th, 7th, 11th, 12th and last segments is yellow, dorsally marbled with various shades of brown. The 3rd, 4th and 5th segments are brown variegated by lighter shades of the same colour. Laterally the 5th segment is invaded by the yellow colour of the 6th and 7th. The 8th, 9th and 10th segments are again brown with burnt orange dorsal markings. As with the 5th segment, the 10th is laterally invaded by the yellow colour of the last three segments. The 1st segment bears two pairs of setose processes, one small and insignificant, the other very pronounced. Due to the larva’s habit of head tucking these are projected forwards. The setal papillae of the 2nd, 3rd and 4th segments although smaller than the processes of the 1st, are also prominent. The 12th segment bears a pair of posterior projecting processes whose ends are setose. Duration of the first instar is 4 days growing to 8 mm. See plate 2b. 2nd instar: The larva now has a waxy appearance with the markings much the same as previously. There are however colour changes, the head is pea green while the previously brown and yellow portions are now olive and off white respectively. There is also the appearance of an additional smaller pair of posterior processes on the 11th segment. Sky blue dots develop dorsally and sub-dorsally, adjoining the setae but only on the dark coloured areas. These remain present in all the latter instars. The second instar lasts 4 days and grows to 15mm. See plate 2c. 3rd instar: The 2nd, 3rd and 4th segments are enlarged. The larva now has a lustrous appearance and is darkly blotched olive green in colour with white markings. These only extend dorsally on the 6th and 7th segments, but laterally also occur on the 1st, 2nd, 5th, 6th, 7th, 10th, 11th and 12th segments. The processes on the 1st, 11th and 12th segments are pale yellow. The 3rd instar grows to 21mm in 4 days. See plate 2d. 4th instar: No major differences occur in the 4th instar apart from a lightening of the green and reduction in the extent of the white. This stage last 5 days and attains

a length of 26mm. See plate 2e. 5th instar: The final instar is finely mottled green with remnant white markings laterally on the 5th, extending dorsally to the 6th and 7th segments. The processes on the 12th segment remain prominent but are now glabrous whilst those on the 11th are reduced to small moles. The smaller pair of processes of the 1st segment disappear and the remaining pair become glabrous and lemon yellow in colour. They are adjoined by a lateral white stripe of the same width extending to the prothoracic segment. There is a small lateral ocellus on the 3rd segment. The 5th instar grows to 33mm in 7 days. See plate 2f. Pupa: Pupation occurs in a suitable site on the foodplant, often a stem or leaf petiole inclined at 45 degrees to the vertical. The cremaster is attached to a pad and the pupa is held in a horizontal position by a girdle. It is light green in colour with a pale yellow lateral stripe extending from the cremaster to just short of the eye. The pupa is tapered at both ends and depressed dorso-ventrally particularly at the margins. The head is well defined and bears a bifid process. Measured laterally as a straight line the length from cremaster to tip of the cephalic process is 33mm. The pupal stage lasts 13 days. See plate 2g.” Resulting imagoes were within the size range of wild caught individuals.

Henning, Henning, Joannou, & Woodhall, 1997: 220 (photograph of early instar larva, final instar larva and pupa).

Congdon *et al.*, 2017 [final instar larva].

Larval food:

Citrus species (Rutaceae) [Williams, 1983: 1].

Clausena anisata (Willd.) Hook.f. ex Benth. (Rutaceae) [Dickson & Kroon, 1978].

Clausena species (Rutaceae) [Van Someren, 1974: 316].

Teclea gerrardii I.Verd. (Rutaceae) [Nichols, 1995].

Teclea species (Rutaceae) [Van Someren, 1974].

Teclea trifoliatum (Rutaceae) [Larsen, 1991c: 111].

Vepris glomerata (F. Hoffm.) Engl. (Rutaceae) [Congdon *et al.*, 2017; Mkwaja, Tanzania].

Vepris lanceolata (La.) G.Don (Rutaceae) [Joannou, 1992: 89; in captivity; as *Vepris undulata* Verdoorn & Smith].

Vepris lanceolata (Lam.) G.Don. (Rutaceae) [Pringle *et al.*, 1994: 303].

Vepris nobilis (Delile) Mziray (Rutaceae) [Mullin, *in* Pringle *et al.*, 1994: 303; as *Teclea nobilis* Del.].

Vepris reflexa I.Verd. (Rutaceae) [Williams, 1983: 1; Nelspruit, Mpumalanga] (*Metamorphosis* 1(2): 1, 1983].

Unpublished observations: I reared this species in captivity, from eggs, on *Citrus* sp. (lemon). The resulting adults were as large as those reared on *Vepris reflexa* (a natural larval host), from the same batch of eggs. However, larvae placed on *Clausena anisata* did not thrive; eventually all of them died. I very much doubt that *P. constantinus* utilizes *Clausena anisata* in nature. [Comment on the references to *C. anisata*, above]. *P. constantinus* was found by me to use *V. reflexa* as a larval foodplant at Nelspruit (Mpumalanga) and Chuniesspoort (Limpopo Province).

Relevant literature:

Clarke *et al.*, 1991 – Phylogenetic relationship with *P. dardanus* and *P. phorcas*.

Papilio (Druryia) constantinus constantinus Ward, 1871#

Dusty Handkerchief

Papilio constantinus Ward, 1871. *Entomologist's Monthly Magazine* 8: 34 (34-36, 58-60, 81-82, 118-122).

Papilio constantinus constantinus Ward, 1871. Pringle *et al.*, 1994: 303.



Papilio constantinus constantinus. Male (Wingspan 80 mm). Left – upperside; right – underside.
Nibela Peninsula, KwaZulu-Natal. November, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio constantinus constantinus. Female (Wingspan 87 mm). Left – upperside; right – underside.
Nibela Peninsula, KwaZulu-Natal. November, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.

Type locality: Kenya: “Ribé, East Africa”.

Distribution: Ethiopia (south-east), Somalia (south), Uganda, Kenya (coast), Tanzania, Malawi, Zambia (south and north-east), Mozambique, Zimbabwe, Botswana (north-east), South Africa (Limpopo Province, Mpumalanga, North West Province, Gauteng, KwaZulu-Natal – north), Swaziland.

Specific localities:

Uganda – Moroto (Davenport, 1996); Nyangea-Napore (Davenport, 1996).

Kenya – Ribe (TL); Kibwezi (Stoneham, 1931).

Tanzania – Coastal areas from Tanga Region to the Rondo Plateau near Lindi, inland to the Rubeho Mountains, Uluguru Mountains, Nguru Mountains and Madibira near Mufundi (Kielland, 1990d); Kioni Forest (Kielland, 1990d).

Malawi – Mt Mulanje (Congdon *et al.*, 2010).

Zambia – Mumbwa (Heath *et al.*, 2002); Kafue (Heath *et al.*, 2002); Livingstone (Heath *et al.*, 2002); Victoria Falls (Heath *et al.*, 2002); Luangwa Bridge (Heath *et al.*, 2002); Kasaba Bay (Lake Tanganyika) (Heath *et al.*, 2002).

Mozambique – Maputo (Van Son, 1949); Rikatla (Van Son, 1949); Beira (Van Son, 1949); Mt Mecula [-12.0772 37.6297] (Congdon & Bayliss, 2013); Maputo Special Reserve (Miles & Mulvaney, 2022).

Zimbabwe – Victoria Falls (Pringle *et al.*, 1994); Bulawayo (Pringle *et al.*, 1994); Save Valley (Pringle *et al.*,

1994); Mount Selinda (Pringle *et al.*, 1994); Mutare (Pinhey).
Botswana – Bamangwato territory (Van Son, 1949); Palapye Road (Van Son, 1949); Kasane area (Larsen, 1991); Tswapong Hills (Larsen, 1991).
Limpopo Province – Lekgalameetse Nature Reserve (“Malta Forest”) (Swanepoel, 1953); Matlapetsi River (Swanepoel, 1953); Tubex (Swanepoel, 1953); Malipsdrift (Swanepoel, 1953); Chuniespoort (Swanepoel, 1953); Zoutpansberg (Swanepoel, 1953); Saltpan (Swanepoel, 1953); Louis Trichardt (Swanepoel, 1953); Pietersburg District (Van Son, 1949).
Mpumalanga – Barberton (Van Son, 1949); Lydenburg district (Van Son, 1949); Nelspruit (Williams); Buffelspoort Nature Reserve (Williams).
North-West Province – Rustenburg (Van Son, 1949); Brits (Van Son, 1949); Magaliesberg (Swanepoel, 1953).
Gauteng – Pretoria District (Van Son, 1949); Baviaanspoort (Williams).
KwaZulu-Natal – Durban (Van Son, 1949); Estcourt (Van Son, 1949); False Bay (Swanepoel, 1953); St. Lucia Bay (Swanepoel, 1953); Tugela River Valley; Mooi River Valley (Pringle *et al.*, 1994); Umhlanga Rocks (Brauer and Dickson); Kosi Bay Nature Reserve (Pringle & Kyle, 2002); Tembe Nature Reserve (Pringle & Kyle, 2002); Ndumo Nature Reserve (Pringle & Kyle, 2002); Sodwana Bay (Williams).
Swaziland – Mlawula N. R. (www.sntc.org.sz).

chrysothemis Stoneham, 1931 (as f. of *Papilio constantinus*). *Bulletin of the Stoneham Museum* (3): 1 ([1 p.]). Kenya: “Kibwezi”.

***Papilio (Druryia) constantinus lecerfi* Koçak, 1996**
Northern Dusty Handkerchief

Papilio constantinus monticolus Le Cerf, 1924. Invalid (see below).

Papilio (Princeps) constantinus alticola Le Cerf. Ackery *et al.*, 1995: 141. Invalid (see below).

Papilio constantinus lecerfi Koçak, 1996. *Centre for Entomological Studies Miscellaneous Papers* 27-28:10-16. Replacement name for *monticolus* Le Cerf, 1924.

Type locality: [Kenya]: “Escarpment, B.E.A., 6,500-9,000 ft”.

Distribution: Kenya (central highlands and Mau Escarpment).

Specific localities:

Kenya – Masai Mara (Larsen, 1991c); Naivasha (Larsen, 1991c).

monticolus Le Cerf, 1924 (as ssp. of *Papilio constantinus*). *Bulletin of the Hill Museum, Witley* 1: 387 (369-399, 576, 578, 580, 582, 584). Kenya: “Escarpment, B.E.A., 6,500-9,000 ft”. [Invalid: junior primary homonym of *Papilio sarpedon monticolus* Fruhstorfer, 1896 [Papilionidae].]

alticola Le Cerf, 1924 (as ssp. of *Papilio constantinus*). *Bulletin of the Hill Museum, Witley* 1: 578 (369-399, 576, 578, 580, 582, 584). Kenya: “Tanganyika Territ., Escarpment, 6,500-9,000 ft”. [Invalid: junior primary homonym of *Papilio antinorii* var. *alticola* Boulet & Le Cerf, 1912 [Papilionidae].]

***Papilio (Druryia) constantinus mweruana* Joicey & Talbot, 1927**
Central Dusty Handkerchief

Papilio constantinus mweruana Joicey & Talbot, 1927. *Encyclopédie Entomologique* (B.3. Lepidoptera) 2: 1 (1-14).



Papilio constantinus mweruana. Male. Left – upperside; right – underside.
Victoria Falls, Zimbabwe. 3 October 1966.
Images M.C. Williams ex Gardiner Collection.



Papilio constantinus mweruana. Female. Left – upperside; right – underside.
Livingstone, Zambia. 20 February 1953.
Images M.C. Williams ex Gardiner Collection.

Type locality: Democratic Republic of Congo: “S.E. Congo, Kasenga, west bank of Luapala River, S.W. Lake Mweru district”.

Diagnosis: Yellow markings on the upperside of the wings larger than in the nominate subspecies (Kielland, 1990d).

Distribution: Democratic Republic of Congo (Lomami, Shaba), Tanzania (west), Zambia (Copperbelt), Zimbabwe.

Specific localities:

Democratic Republic of Congo – Kasenga (TL); Sankishia (Dufrane, 1946); Mabwe, Upemba National Park (Berger, 1981).

Tanzania – Kigoma and Mpanda Districts, in western Tanzania: Gombe Stream (Kielland, 1990d); Kibweza Point (Kielland, 1990d); Ikola (Kielland, 1990d); Mishamu (Kielland, 1990d) (single records from each of these localities).

Zambia – Ndola (Heath *et al.*, 2002); Mufulira (Heath *et al.*, 2002); Chingola (Heath *et al.*, 2002); Sumba, Mporokoso (male illustrated above).

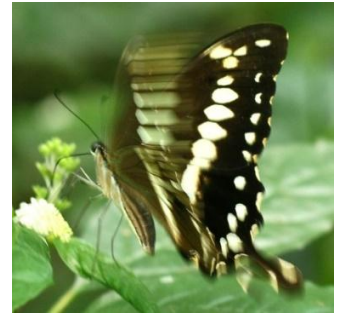
Zimbabwe – Victoria Falls (Gardiner – male illustrated above).

mathieui Dufrane, 1946 (as f. of *Papilio constantinus*). *Bulletin et Annales de la Société Royale Entomologique de*

Belgique **82**: 104 (101-122). Democratic Republic of Congo: “Congo Belge, Sankishia”.

wittei Berger, 1981 (as f. of *Papilio constantinus mweruana*). *Les Papillons du Zaïre* 47 (543 pp.). Bruxelles. Democratic Republic of Congo: “Mabwe, 585 m.... Parc national de l’Upemba”. Holotype and allotype in the Royal Museum for Central Africa, Tervuren, Belgium.

****Papilio (Druryia) phorcas* Cramer, [1775]**
Apple-green Handkerchief



Apple-green Swallowtail (*Papilio phorcas congoanus*). Left – male. Centre – female. Right – feeding female. Kibale Forest, Uganda. Images courtesy Raimund Schutte.

Papilio phorcas Cramer, [1775] *in* Cramer, [1775-6]. *Die Uitlandsche Kapellen voorkomende in de drie waerrelddeelen Asia, Africa en America* **1**: 4 (155 pp.). Amsteldam and Utrecht.

Papilio phorcas Cramer, 1775. Aurivillius, 1899.



Papilio phorcas phorcas. Male. Left – upperside; right – underside. Dubreka, Guinea. July 1999. M. Mane. ex ABRI Collection (ABRI 2018-5004). Images M.C. Williams ex ABRI Collection.

Alternative common name: Green-banded Swallowtail (Larsen, 1991c).

Published images: Larsen, 2005a (male upperside; female upperside yellow morph; female upperside green morph).

Type locality: Sierra Leone: “Sierra Leona”.

Diagnosis: There are two distinct female forms. The one with yellow bands (*thersander* Fabricius) is somewhat rarer than the male-like female but is the dominant female form in the Democratic Republic of Congo (Larsen, 1991c). In West Africa (Freetown) about 75% of the females are of the yellow-banded form, yet all of the early records appear to be of male-like females. It has thus been speculated that the proportions have changed over time (Owen & Owen, 1972). In Kenya the proportions of female forms vary from place to place (Larsen, 1991c). In the Chyulu Hills in south-east Kenya and southwards through Tanzania and Malawi all females have the male wing pattern (Larsen, 1991c). Vane-Wright (1984) hypothesizes that green females may evoke a long-distance male competitive response from conspecific males, while yellow-banded females may possess some unknown protective advantage. Larsen (1991) suggests that yellow-banded females are “Swynnertonian” mimics i.e. are partially protected from attacks from birds due to their resemblance to the larger *P. lormieri* and *P. ophidicephalus*.

Natural hybrids of *Papilio phorcas* and *P. dardanus* are occasionally found. Male hybrids resemble small versions of *P. phorcas*, with the coloration of *P. dardanus*, and were described as a distinct species, *Papilio nandina* Rothschild & Jordan, 1901 (Larsen, 1991c). Female hybrids have been reared in the laboratory but have, so far, not been encountered in nature (Larsen, 1991c).

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (Tchiboza, 2002), Nigeria, Cameroon, Equatorial Guinea, Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Democratic Republic of Congo, Central African Republic, Sudan, Uganda, Rwanda, Kenya, Tanzania, Malawi, Zambia, Mozambique.

In West Africa the distribution appears to be patchy as it is absent from many forests that seem to be suitable (Larsen, 2005a).

Habitat: Forest and heavy woodland. In Tanzania ssp. *congoanus* occurs at altitudes of 800 to 1 800 m; ssp. *nyikanus* is found at altitudes from 300 to 2 200 m; ssp. *tenuifasciatus* has been recorded at altitudes from 1 700 to 2 400 m (Kielland, 1990d).

Habits: A relatively common tropical species with a patchy distribution (Larsen, 2005a). Males will patrol up and down forest streams in search of females (Larsen, 2005a). Males are known to mudpuddle on river banks, sometimes in large aggregations (Kielland, 1990d). Males also regularly visit cow-pats and decomposing matter (Larsen, 1991c). Females spend most of their time in the forest understorey, searching for plants on which to oviposit (Larsen, 2005a). Early in the morning, in montane forests, when it is still cool, both sexes perch low down, with open wings, basking before taking to the wing (Larsen, 1991c). Both sexes are fond of flowers (Kielland, 1990d).

Early stages:

Congdon *et al.*, 2017 [final instar larva].

Larval food:

Calodendrum species (Rutaceae) [Larsen, 2005a].

Citrus species (Rutaceae) [Larsen, 2005a].

Clausena species (Rutaceae) [Larsen, 2005a].

Fagara species (Rutaceae) [Larsen, 2005a].

Macrostylis villosa (Thunb.) Sond. (Rutaceae) [Van Someren, 1974: 315; Kielland, 1990d: 44; as *Teclea villosa*].

Oriciopsis species (Rutaceae) [Bampton *et al.*, 1991].

Teclea sp. (Rutaceae) [Congdon *et al.*, 2017; ssp. *nyikanus*; Sanje, Tanzania].

Vepris nobilis (Delile) Mziray (Rutaceae) [Van Someren, 1974: 315; as *Teclea nobilis* Delile].

Vepris simplicifolia (Engl.) Mziray (Rutaceae) [Van Someren, 1974: 315; as *Teclea simplicifolia* Verdoorn].

Zanthoxylum species (Rutaceae) [Larsen, 2005a].

Relevant literature:

Coache & Rainon, 2016 [Notes; Benin].

Tchiboza, 2002 [First record for Benin].

Clarke, 1986 [Experimental hybridization with *P. dardanus*].

Clarke *et al.*, 1991 [Phylogenetic relationship with *P. dardanus* and *P. constantinus*].

Papilio (Druryia) phorcas phorcas Cramer, [1775]

Apple-green Handkerchief

Papilio phorcas Cramer, [1775] *in* Cramer, [1775-6]. *Die Uitlandsche Kapellen voorkomende in de drie waerelddeelen Asia, Africa en America* 1: 4 (155 pp.). Amsterdam and Utrecht.



Papilio phorcas phorcas. Male. Left – upperside; right – underside.
Dubreka, Guinea. July 1999. M. Mane. ex ABRI Collection (ABRI 2018-5004).
Images M.C. Williams ex ABRI Collection.

Published images: Larsen, 2005a (male upperside; female upperside yellow morph; female upperside green morph).

Type locality: Sierra Leone: “Sierra Leona”.

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (south), Nigeria.

Specific localities:

Guinea – Ziama (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020); Wonegizi (Safian *et al.*, 2020).

Ghana – Kakum National Park (Larsen, 2006d).

Benin – Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.*, 2017.

Nigeria – Gambari Forest, Ibadan (Larsen, 2005a);

doreus Fabricius, 1775 (as sp. of *Papilio*). *Systema Entomologiae* 457 (832 pp.). Flensburgi & Lipsiae. Sierra Leone: “Sierra Leon”.

thersander Fabricius, 1793 (as sp. of *Papilio*). *Entomologia Systematica emendata et aucta* 3 (1): 32 (488 pp.). Sierra Leone: “Sierra Leon”.

media Le Cerf, 1924 (as female f. of *Papilio phorcas*). *Bulletin of the Hill Museum, Witley* 1: 381 (369-399, 576, 578, 580, 582, 584). Sierra Leone.

Papilio (Druryia) phorcas ansorgei Rothschild, 1896
Nairobi Apple-green Handkerchief

Papilio phorcas ansorgei Rothschild, 1896. *Novitates Zoologicae* 3: 324 (322-328).



Papilio phorcas ansorgei. Female. Left – upperside; right – underside.
Karen, Nairobi, Kenya. 26 March 1995.
Images M.C. Williams ex Gardiner Collection.



Papilio phorcas ansorgei. Female. Left – upperside; right – underside.
Karen, Nairobi, Kenya. 5 October 1997.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Kenya]: “Uganda Protectorate, Man”.

Distribution: Kenya (highlands east of the Rift Valley, including the Loita Hills), Tanzania (north – Loliondo).

Specific localities:

Kenya – Man (TL); Nairobi (Suffert, 1904); Loita Hills.

Tanzania – Loliondo.

nandina Rothschild & Jordan, 1901 (as sp. of *Papilio*). *Novitates Zoologicae* **8**: 403 (401-407). Kenya: “British E. Africa, Escarpment, 6500-9000 ft.”. [Invalid; hybrid of *P. dardanus polytrophus* x *P. phorcas ansorgei*. *See* Clarke *et al.*, 1991.]

tippelskirchi Suffert, 1904 (as ssp. of *Papilio phorcas*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 96 (12-107). Kenya: “Brit.-Ost.-Africa, Nairobi”.

thersandroides Aurivillius, 1908 *in* Seitz, 1908-25 (as female f. of *Papilio phorcas*). *Die Gross-Schmetterlinge der Erde, Stuttgart* (2) **13 Die Afrikanischen Tagfalter**: 17 (614 pp.). No locality given.

Papilio (Druryia) phorcas bardamu Canu, 1994
Bioko Apple-green Handkerchief

Papilio phorcas bardamu Canu, 1994. *Lambillionea* **94** (3) (Tome I): 316 (311-320).

Type locality: Equatorial Guinea – Bioko Island.

Distribution: Equatorial Guinea (Bioko Island).

Specific localities:

Equatorial Guinea (Bioko) – Luba (San Carlos) (Schultze *et al.*, 1917-1923); Caldera de Luba, Bioko (Martin, 2015).

velledae Canu, 1994 (as form of *Papilio phorcas bardamu*). *Lambillionea* **94** (3) (Tome I): 317 (311-320).
Equatorial Guinea – Bioko.

Papilio (Druryia) phorcas congoanus Rothschild, 1896
Central Apple-green Handkerchief

Papilio phorcas congoanus Rothschild, 1896. *Novitates Zoologicae* **3**: 325 (322-328).



Papilio phorcas congoanus. Male. Left – upperside; right – underside.
66 km south of Chiwoma, N.W. Province, Zambia. 14 April 2004.
Images M.C. Williams ex Gardiner Collection.



Papilio phorcas congoanus. Female A. Left – upperside; right – underside.
Ikkelenge, Zambia. 28 December 1983.
Images M.C. Williams ex Gardiner Collection.



Papilio phorcas congoanus. Female B. Left – upperside; right – underside.
Sakeji School, Hillwood, Mwinilunga district, Zambia. 30 October 2006.
Images M.C. Williams ex Gardiner Collection.

Type locality: Congo/Democratic Republic of Congo: “Upper Congo, Lukolele”.

Diagnosis: Larger than the nominate subspecies and has smaller marginal spots on the hindwing (Larsen, 2005a).

Distribution: Nigeria (nominate and ssp. *congoanus* intergrade in the Cross River loop), Cameroon, Equatorial Guinea (Bioko), Gabon, Angola (north) (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Uganda (west), Rwanda, Tanzania (west), Zambia (north).

Specific localities:

Nigeria – Bashu (Brattstrom, 2008).

Cameroon – Korup (Larsen, 2005a).

Equatorial Guinea (Bioko) – Campamento Hormiga (Martin & Cobos); Río Riaco (Martin & Cobos); Fondo Caldera (Martin & Cobos).

Gabon – Kinguele (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Bitam (Vande weghe, 2010); Lope (Vande weghe, 2010); Ipassa (Vande weghe, 2010); Kongou (Vande weghe, 2010); Franceville (Vande weghe, 2010).

Angola – Cabinda Province; Kwanza Norte Province; Kwanza Sul Province; Moxico Province; Zaire Province (Mendes *et al.*, 2013).

Central African Republic – Dzanga (Noss, 1998); Bangui (specimens illustrated above).

Democratic Republic of Congo – Lukolele (TL); Kassai River (Strand, 1916); Kakakumba (Storace, 1955); Tshiboe (Storace, 1955); Kinda (Storace, 1955); Mutumba (Storace, 1955); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).

Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001); Kibale Forest (R. Schutte, unpublished).

Rwanda – Cyamudongo Forest (Uwizelimana *et al.*, 2021).

Tanzania – Mpanda and Kigoma districts (Kielland, 1990d); Tabora (Suffert, 1904).

Zambia – Ikelenge (Heath *et al.*, 2002); Chibwika (Heath *et al.*, 2002); South Mutundu River (Mufulira) (Heath *et al.*, 2002); Kalungwishi River (Heath *et al.*, 2002).

caspor Suffert, 1904 (as ssp. of *Papilio phorcas*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 97 (12-107). Tanzania: “Tabora”.

kassaiensis Strand, 1916 *in* Strand, 1916-8 (as ab. of *Papilio phorcas*). *Lepidoptera Niepeltiana* **2**: 25 (1-26 (1916); 1-4 (1918)). Democratic Republic of Congo: “Kongo, Kassaifluss”.

bergeri Storace, 1955 (as f. of *Papilio phorcas*). *Memorie della Società Entomologica Italiana* **33**: 126 (120-137). Democratic Republic of Congo: “Lualaba; Kakakumba; Tshiboe; Kinda; Mutumba”.

xera Storace, 1955 (as f. of *Papilio phorcas*). *Memorie della Società Entomologica Italiana* **33**: 127 (120-137). Democratic Republic of Congo: “Kafakumba nel Catanga”.

viridissima Basquin & Turlin, 1986 (as f. of *Papilio phorcas*). *Bulletin de la Société Scientifique Naturelles* (49): 22 (22; (51): 1). Central African Republic: “Bangui (Centrafrique)”.

ponzonii Sala, 1992 (as f. of *Papilio phorcas congoanus*). *Bulletin de la Societe Sciences Nat* No. 75-76: 35 (34-35). Gabon.

Papilio (Druryia) phorcas nyikanus Rothschild & Jordan, 1903
Nyika Apple-green Handkerchief

Papilio phorcas nyikanus Rothschild & Jordan, 1903. *Novitates Zoologicae* **10**: 489 (488-490).



Papilio phorcas nyikanus. Male. Left – upperside; right – underside.
Mount Namuli, Mozambique. 26 April 2008.
Images M.C. Williams ex Gardiner Collection.



Papilio phorcas nyikanus. Female. Left – upperside; right – underside.
Chowo Forest, Nyika, Zambia. 20 May 2006.
Images M.C. Williams ex Gardiner Collection.

Type locality: Malawi: “Nyassaland, Kasunga Mts., Nyika”.

Diagnosis: Smaller than ssp. *congoanus* and with narrower green bands. Only the green-banded (male-like) female form is known in this subspecies (Kielland, 1990d).

Distribution: Tanzania (east), Malawi, Zambia (north-east), Mozambique.

Specific localities:

Tanzania – Eastern parts, from Lake Malawi, the Njombe Highlands, the Unzungwa Range, the Ulugurus and Nguru Mountains, to the Usambaras, inland to the Rubehos and south-west to Mount Rungwe (Kielland, 1990d); between Mori and Mangati (Suffert, 1904); Amani (Strand, 1911); Mount Meru (male specimen illustrated above).

Malawi – Kasunga Mountains, Nyika (TL); Mt Mulanje (Congdon *et al.*, 2010); Zomba Mountain (Congdon *et al.*, 2010).

Zambia – Nyika Plateau (Heath *et al.*, 2002); Mafinga Mountains (Heath *et al.*, 2002).

Mozambique – Mt Inago (Congdon *et al.*, 2010); Mt Namuli (Congdon *et al.*, 2010); Mt Mabu (Congdon *et al.*, 2010).

leopoldi Suffert, 1904 (as ssp. of *Papilio phorcas*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 97 (12-107).
Tanzania: “Deutsch-Ost-Africa, Walde zwischen Mori und Mangati”.

phorcadius Strand, 1911 (as ab. of *Papilio phorcas*). *Deutsche Entomologische Zeitschrift, Iris* **25**: 121 (110-121).
Tanzania: “Amani I.”.

***Papilio (Druryia) phorcas ruscoei* Krüger, 1928**
Western Rift Apple-green Handkerchief

Papilio phorcas f. *ruscoei* Krüger, 1928. *Internationale Entomologische Zeitschrift* **22**: 230 (229-231).

Papilio phorcas ruscoei Krüger, 1928. Ackery *et al.*, 1995.



Papilio phorcas ruscoei. Male. Wingspan 80 mm. Left – upperside; right – underside.
Buikwe Road, Mabira Forest, Uganda. 14 June, 2009. J. & C. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio phorcas ruscoei. Female. Wingspan 76 mm. Left – upperside; right – underside.
Buikwe Road, Mabira Forest, Uganda. 31 August 2008. P. Ward.
Images M. C. Williams ex Dobson Collection.

Type locality: Uganda/Kenya: “Brit. O. Africa, Mt. Elgon”.

Distribution: Uganda (east), Kenya (highlands west of the Rift Valley), ?Democratic Republic of Congo (Kivu) (Storace, 1961).

Specific localities:

Uganda – Mount Elgon (TL); Mabira Forest (Le Cerf, 1924); Busoga (Storace, 1955).

mutans Le Cerf, 1924 (as female f. of *Papilio phorcas*). *Bulletin of the Hill Museum, Witley* **1**: 380 (369-399, 576, 578, 580, 582, 584). Uganda: “Mabira Forest, Kyagive, Mulanga, 4000 ft.”.

furcula Bryk, 1927 (as f. of *Papilio phorcas*). *Zoologische Anzeiger* **74**: 77 (77-81). Uganda/Kenya: “Mount Elgon, Gebirgsbach Koptawelil, 2465 m.”.

inexpectata Bryk, 1927 (as f. of *Papilio phorcas*). *Zoologische Anzeiger* **74**: 78 (77-81). Uganda/Kenya: “Mount Elgon, Gebirgsbach Koptawelil, 2465 m.”.

pseudothersander Krüger, 1937 (as ssp. of *Papilio phorcas*). *Entomologische Rundschau* **55**: 84 (84). Uganda.

polyxena Stoneham, 1951 *in* Stoneham, 1951-65 (as f. of *Papilio phorcas*). *The butterflies of western Kenya with notes on allied forms, etc.* 14 (180 pp.). Nairobi. No locality given [? W. Kenya].

bayoni Storace, 1955 (as f. of *Papilio phorcas*). *Memorie della Società Entomologica Italiana* **33**: 128 (120-137). Uganda: “Busoga”.

nilotica Storace, 1961 (as ssp. of *Papilio phorcas*). *Doriana* **3** (115): 1 (3 pp.). Uganda: “Uganda occidentale e centrale”; Democratic Republic of Congo: “Kivu orientale”.

***Papilio (Druryia) phorcas sudanicola* Storace, 1965**
Sudanese Apple-green Handkerchief

Papilio phorcas sudanicola Storace, 1965. *Journal of the East Africa Natural History Society and National Museum* **25** (1): 71 (71-73).

Type locality: Sudan: “S.E. Sudan, Didinga, Nagichot”.

Distribution: Sudan (south).

Specific localities:

Sudan – Didinga (TL); Nagichot (Storace, 1965).

***Papilio (Druryia) phorcas tenuifasciatus* Kielland, 1990**
Eastern Apple-green Handkerchief

Papilio phorcas tenuifasciatus Kielland, 1990. *Butterflies of Tanzania* 44 (363 pp.). Melbourne.

Type locality: Tanzania: “Ngorongoro, 2200 m”. Holotype male in the Natural History Museum, London.

Diagnosis: Compared to ssp. *nyikanus* the bands on the upperside are narrower and more bluish green; hindwing tail more slender (Kielland, 1990d).

Description:

“Male. Upperside pale band narrower and generally more bluish-green than in ssp. *nyikanus*; f.w. usually with well developed submarginal spots (except in f. *meto* in which they are faint or lacking); h.w. tail more slender than in ssp. *nyikanus*. Underside green band as on the upperside; h.w. distal half paler than in *nyikanus*; length of f.w. 42-47 mm. Female. Differs from ssp. *nyikanus* in the generally narrower green band on both wings. Length of f.w. 46-51 mm. Male genitalia. Valva similar to that of ssp. *nyikanus*, but dorsally more convex, giving it a wider appearance. Form *meto* nov. lacks f.w. submarginal white spots and the subapical spot is tiny or almost lacking; h.w. with a large, triangular green spot just beyond the end of cell; there is also a second green spot below it.”

Distribution: Tanzania (highlands in the north), Kenya (south-east).

Specific localities:

Kenya – Chyulu Hills.

Tanzania – Oldeani-Ngorongoro (TL); the Mbulu forests (Kielland, 1990d); Mount Kwaraha (Kielland, 1990d); Mount Meru (Kielland, 1990d); Mount Kilimanjaro (Kielland, 1990d); Mount Longido (Kielland, 1990d); Meto Hills (Kielland, 1990d); North Pare Mountains (Kielland, 1990d); Mount Lolkisale (Kielland, 1990d); Mount Lossoganeu (Kielland, 1990d).

meto Kielland, 1990d (as f. of *Papilio phorcas tenuifasciatus*). *Butterflies of Tanzania* 44 (363 pp.). Melbourne. Tanzania.

****Papilio (Druryia) rex* Oberthür, 1886**
Regal Enchanter



Regal Swallowtail (*Papilio rex*) mudpuddling in Uganda.
Images courtesy Raimund Schutte.

Papilio rex Oberthür, 1886. *Bulletin de la Société Entomologique de France* (6) 6: CXIV (114-115).
Papilio rex Oberthür, 1886. Aurivillius, 1899.



Papilio rex rex. Male. Left – upperside; right – underside.
Kilimanjaro, Tanzania. March 2015.
Images M.C. Williams ex J. Lawrence Collection.

Type locality: Tanzania: “Mhonda, dans l’Ouzigoua”.

Distribution: Nigeria, Cameroon, Democratic Republic of Congo, Sudan, Uganda, Rwanda, Burundi, Ethiopia, Kenya, Tanzania.

Habitat: Semi-montane and montane forest. In Kenya it occurs above 1 300 m (Larsen, 1991c). In Tanzania the nominate subspecies is found at altitudes from 1 400 to 2 600 m (Kielland, 1990d) and ssp. *mimeticus* from 1 150 to 1 800 m (Congdon & Collins, 1998).

Habits: A relatively common species (Larsen, 1991c). Both sexes usually keep to the forest canopy, the males above it and the females within it (Larsen, 1991c). The flight is slow and soaring but intruders into the territory of a male are vigorously chased (Kielland, 1990d). In the early morning and late afternoon specimens descend from the forest canopy to feed from the flowers of plants, such as *Lantana*, *Balsaminum* and *Bougainvillea* (Larsen, 1991c). Males will also come down, from midday and in the afternoon, to suck at damp spots (Kielland, 1990d). Males hilltop (e.g. at Kakamega in Kenya and Kere Hill in Tanzania), but only in the early morning hours. Schultze (*vide* Larsen, 2005a) noted subspecies *schultzei* hilltopping on rounded, bare granite outcrops. This butterfly is an excellent mimic of the danaine *Tirumala formosa* (Godman). Apparently the putative model, *Tirumala formosa morgeni*, is absent from the north of the species range (Larsen, 2005a). Males are much larger than females and, unlike other papilios, carry the female when *in copula* (Kielland, 1990d). Despite the very different colour pattern, *P. rex* is most closely related to *P. dardanus* and *P. phorcas* (Larsen, 2005a).

Early stages: Nothing published.

Larval food:

Calodendrum species (Rutaceae) [Larsen, 1991c: 109; East Africa].

Citrus species (Rutaceae) [Larsen, 1991c: 109; East Africa].

Clausena species (Rutaceae) [Larsen, 1991c: 109; East Africa].

Fagara species (Rutaceae) [Larsen, 1991c: 109; East Africa].

Teclea stuhlmanni Engl. (Rutaceae) [Van Someren, 1974: 316].

Vepris heterophylla (Engl.) Letouzey (Rutaceae) [Libert *et al.*, 2000; suspected to be a foodplant].

Vepris trichocarpa (Engl.) Mziray (Rutaceae) [Van Someren, 1974: 316; as *Teclea trichocarpa* Engler].

Zanthoxylum species (Rutaceae) [Larsen, 1991c: 109; East Africa].

Papilio (Druryia) rex rex Oberthür, 1886

Regal Enchanter

Papilio rex Oberthür, 1886. *Bulletin de la Société Entomologique de France* (6) 6: CXIV (114-115).



Papilio rex rex. Male. Left – upperside; right – underside.
Kilimanjaro, Tanzania. March 2015.
Images M.C. Williams ex J. Lawrence Collection.

Type locality: Tanzania: “Mhonda, dans l’Ouzigoua”.

Distribution: Tanzania (central and north-east).

Specific localities:

Tanzania – Mhonda (TL); Oldeani-Ngorongoro Highlands (Kielland, 1990d); Mount Meru (Kielland, 1990d); Mount Kilimanjaro (Kielland, 1990d); Mount Longido (Kielland, 1990d); the Mbulu forests (Kielland, 1990d); Kwaraha Mountain (Kielland, 1990d); Uluguru Mountains (Kielland, 1990d); Nguru Mountains (Kielland, 1990d).

? *arnoldi* Richelmann, 1909 (as var. of *Papilio rex*). *Internationale Entomologische Zeitschrift* 3: 102 (102-103).
Tanzania: “Hochländern zwischen Viktoria See und indischem Ozean”.

Papilio (Druryia) rex abyssinicana Vane-Wright, 1995

Ethiopian Regal Enchanter

Papilio rex abyssinicus Poulton, 1926. Invalid.

Papilio (Princeps) rex abyssinicana Vane-Wright, 1995. *In*: Ackery *et al.*, 1995: 156. Replacement name.

Type locality: Ethiopia: “S. W. Abyssinia, Ganji River, Nado’s Prov., 5500 ft.”.

Distribution: Ethiopia (south-east).

Specific localities:

Ethiopia – Ganji River (TL).

abyssinicus Poulton, 1926 (as ssp. of *Papilio rex*). *Proceedings of the Entomological Society of London* **1925**: XLIII (42-52). Ethiopia: “S. W. Abyssinia, Ganji River, Nado’s Prov., 5500 ft.”. [Invalid; junior primary homonym of *Papilio nireus* var. *abyssinica* Cannaviello, 1900 [Papilionidae].]

Papilio (Druryia) rex alinderi Bryk, 1928

Light Regal Enchanter

Papilio rex f. *commixta* Aurivillius, 1908 *in* Seitz, 1908-25. *Die Gross-Schmetterlinge der Erde*, Stuttgart (2) **13** *Die Afrikanischen Tagfalter*: 12 (614 pp.). Invalid.

Papilio rex commixta Aurivillius, 1908. Ackery *et al.*, 1995. Invalid.

Papilio rex alinderi Bryk, 1928 (*Societas Entomologica* **43**: 14 (13-16)). Kemel & Kocak, 2005: 11. Replacement name.



Papilio rex alinderi. Female. Left – upperside; right – underside.
Karen, Nairobi, Kenya. 26 March 1995.
Images M.C. Williams ex Gardiner Collection.

Type locality: Kenya: “Northern Victoria Nyanza”.

Diagnosis: Basal colouring on the forewings lighter than in the other subspecies (Larsen, 1991c).

Distribution: Kenya (highlands west of the Rift Valley).

Specific localities:

Kenya – Mount Elgon (Aurivillius, 1908); Nyangori (Bryk, 1930); Kisumu (Bryk, 1930); Kaptega Estate, Mount Elgon (Bryk, 1953); Kakamega (Larsen, 1991c), Elgon (Larsen, 1991c), Kitale (Larsen, 1991c).

commixta Aurivillius, 1908 (as f. of *Papilio rex*). *In* Seitz, 1908-25. *Die Gross-Schmetterlinge der Erde*, Stuttgart (2) **13** *Die Afrikanischen Tagfalter*: 12 (614 pp.). *Societas Entomologica* **43**: 14 (13-16). Kenya: “Mount Elgon”. Found to be a homonym by Kemel & Kocak, 2005, who replaced it with *alinderi* Bryk, 1928.

lindblomi Bryk, 1928 (as f. of *Papilio rex* var. *alinderi*). *Societas Entomologica* **43**: 14 (13-16). Kenya: “Mount Elgon”.

intermediata Bryk, 1930 (as f. of *Papilio rex*). *In*: Strand, E., *Lepidopterorum Catalogus* **24** (39): 515 (511-676). ‘s-Gravenhage. Kenya: “Nyangori; Kisumu, Victoria Nyanza”.

holmi Bryk, 1953 (as f. of *Papilio rex alinderi*). *Entomologisk Tidskrift* **74**: 48 (46-50). Kenya: “Ost-Seite Mount Elgon, Kaptega Estate, 2100 m”.

Papilio (Druryia) rex franciscae Carpenter, 1928

Sudan Regal Enchanter

Papilio rex franciscae Carpenter, 1928. *Transactions of the Entomological Society of London* **76**: 28 (25-540).

Type locality: Sudan: “Didinga”.

Distribution: Sudan (south), Ethiopia (south-west).

Specific localities:

Sudan – Didinga (TL).

Papilio (Druryia) rex mimeticus Rothschild, 1897

Dark Regal Enchanter

Papilio mimeticus Rothschild, 1897. *Entomologist* **30**: 165 (165).

Papilio mimeticus Rothschild, 1897. Aurivillius, 1899.



Papilio rex mimeticus. Male. Wingspan 117 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 14 September 2008. P. Ward.
Images M.C. Williams ex Dobson Collection.

Type locality: Uganda: “Msarosaro”.

Diagnosis: Darker than the other subspecies, with upperside basal areas and hindwing discal areas reddish brown. An accurate mimic of *Tirumala formosa mercedonia* (Congdon & Collins, 1998).

Distribution: Democratic Republic of Congo (Ituri, Kivu), Uganda, Rwanda, Burundi, Tanzania (north-west), Kenya (extreme west).

Specific localities:

Democratic Republic of Congo – Upper Lowa Valley, west of Masisi (Le Cerf, 1924); Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018).

Uganda – Msarosaro (TL); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

Tanzania – Minziro Forest (Congdon & Collins, 1998); Rumanyika Game Reserve (Congdon & Collins, 1998).

barnsi Le Cerf, 1924 (as ssp. of *Papilio rex*). *Bulletin of the Hill Museum, Witely* 1: 373 (369-399, 576, 578, 580, 582, 584). Democratic Republic of Congo: “Congo Belge, Upper Lowa Valley, West of Masisi N.O. Kivu, 4500-5000 ft.”.

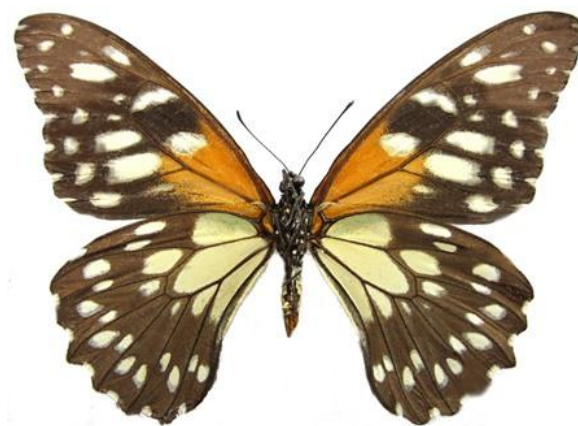
Papilio (Druryia) rex regulana Vane-Wright, 1995

Kenyan Regal Enchanter

Papilio rex var. *regulus* Le Cerf, 1919.

Papilio rex regulus Le Cerf, 1919. Invalid.

Papilio (Princeps) rex regulana Vane-Wright, 1995. *In*: Ackery *et al.*, 1995: 156. Replacement name.



Papilio rex regulana. Male. Left – upperside; right – underside.

Karen, Nairobi, Kenya. 26 March 1995.

Images M.C. Williams ex Gardiner Collection.



Papilio rex regulana. Female. Left – upperside; right – underside.

Langata Forest, Nairobi, Kenya. November 1980. ex ABRI Collection (ABRI 2018-5003).

Images M.C. Williams ex ABRI Collection.

Type locality: Kenya: “Kijabé (Kikuyu Escarpment), 2100 m”.

Diagnosis: Base of forewing cinnamon coloured (Larsen, 1991c).

Distribution: Kenya (highlands east of the Rift Valley).

Kenya – Kijabe (TL); Nairobi (Stoneham, 1951); Kitale (Stoneham, 1951); Mount Kenya (Larsen, 1991c); Meru (Larsen, 1991c); Thomson's Falls (Larsen, 1991c); Nyeri (Larsen, 1991c); Namanga (Larsen, 1991c); Maralal (Larsen, 1991c).

Note: The population at Maralal is probably subspecifically distinct (Larsen, 1991c: 109).

regulus Le Cerf, 1919 (as var. of *Papilio rex*). *Bulletin du Muséum National d'Histoire Naturelle. Paris* **25**: 162 (162-165). Kenya: "Kijabé (Kikuyu Escarpment), 2100 m". [Invalid; junior primary homonym of *Papilio regulus* Stoll, 1790 [Papilionidae].]

eisneri Bryk, 1928 (as ab. of *Papilio rex*). *Societas Entomologica* **43**: 14 (13-16). Kenya: "Br. Ost. Afr., Escarpment, 9000 ft.".

endymion Stoneham, 1951 *in* Stoneham, 1951-65 (as f. of *Papilio rex*). *The butterflies of western Kenya with notes on allied forms, etc.* 5 (180 pp.). Nairobi. Kenya: "[Nairobi], Nairobi and Kitale".

Papilio (Druryia) rex schultzei Aurivillius, 1904

Western Regal Enchanter

Papilio schultzei Aurivillius, 1904. *Insektenbörse* **21**: 363 (363).

Papilio rex schultzei Aurivillius, 1904. Ackery *et al.*, 1995.

Published images: Larsen, 2005a (male upperside).

Type locality: Nigeria: "Hossere Uba, Nord Adamana".

Diagnosis: Lacks the basal chestnut patch on the upperside of the forewings (present in the nominate subspecies), thus corresponding to its co-occurring model *Tirumala formosa morgeni* (Larsen, 2005a).

Distribution: Nigeria (east), Cameroon (highlands).

Specific localities:

Nigeria – Mandara Mountains, Uba (09.30N) in Adamawa (Schultze; TL); Pella, near Mubi (Larsen, 2005a); Alantika Mountains, south of Yola (Larsen, 2005a).

Cameroon – see Libert *et al.*, 2000; Tschabal Mbabo (Larsen, 2005a).

Incertae sedis

**Papilio (Druryia) leucotaenia* Rothschild, 1908

Frayed Handkerchief

Papilio leucotaenia Rothschild, 1908. *Entomologist's Monthly Magazine* **44**: 249 (249-250).



Papilio leucotaenia. Male. Left – upperside; right – underside.
Nyungwe Forest, Rwanda. July 1990. S. Collins. (ABRI 2018-5010).
Images M.C. Williams ex ABRI Collection.

Type locality: [Rwanda]: “German East Africa, Rugoge Forest, east of the south end of Lake Kivu, 2100-2300 m.”.

Distribution: Uganda (south-west – Kigezi), Rwanda, Burundi, Democratic Republic of Congo (Kivu).

Specific localities:

Uganda – Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001); Bwindi Forest (Davenport, 2002).

Rwanda – Rugoge Forest (TL).

Habitat: Forest at altitudes from 2 100 to 2 300 m (Davenport, 2002).

Early stages: Nothing published.

Larval food: Nothing published.

****Papilio (Druryia) mangoura* Hewitson, 1875**
Exquisite Malachite

Papilio mangoura Hewitson, 1875. *Entomologist's Monthly Magazine* **11**: 226 (226-227).
Papilio mangoura Hew., 1875. Aurivillius, 1899.



Papilio mangoura. Male. Left – upperside; right – underside.
 Madagascar. March 2013.
 Images M.C. Williams ex J. Lawrence Collection.



Papilio mangoura. Female. Left – upperside; right – underside.
 Moramanga, Madagascar. March 1996. N.A. Brauer. ex ABRI Collection (ABRI 2018-5030).
 Images M.C. Williams ex ABRI Collection.

Type locality: Madagascar.
Distribution: Madagascar.
Habitat: Forest (Lees *et al.*, 2003).
Early stages: Nothing published.
Larval food: Nothing published.

****Papilio (Druryia) delalandei* Godart, [1824]**
Banded Handkerchief

Papilio delalandei Godart, [1824] *in* Latreille & Godart, [1819], [1824]. *Encyclopédie Méthodique*. Histoire Naturelle [Zoologie] 9
 Entomologie: 811 (1-328 [1819], 329-828 [1824]). Paris.
Papilio Delalande(i) God., 1823. Aurivillius, 1899.



Papilio delalandei. Male. Left – upperside; right – underside.
Madagascar. March 2014.
Images M.C. Williams ex J. Lawrence Collection.



Papilio delalandei. Female. Left – upperside; right – underside.
Mount D'ambre, Diego Suarez, Madagascar. March 1990. S. Collins. (ABRI 2018-5031).
Images M.C. Williams ex ABRI Collection.

Type locality: [Madagascar]: “Cafrerie, sur les bords de Groot Fisch Rivier”. [False locality.]

Erroneously recorded from South Africa by Trimen, 1862c (MCW).

Distribution: Madagascar (east).

Specific localities:

Madagascar – Perinet (R. Schutte, pers. comm., April 2010); Analamazoatra Forest (R. Schutte, pers. comm., April 2010).

Habitat: Forest (Lees *et al.*, 2003).

Habits: Occasionally seen, exhibiting extremely rapid and erratic flight up and down the outer forest canopy and in clearings, even while rain is falling. However, settles as soon as the sun is obscured by cloud (R. Schutte, pers. comm., April 2010).

Early stages: Nothing published.

Larval food: Nothing published.

delalandei Boisduval, 1836 (as sp. of *Papilio*). In: [Roret, Suites à Buffon] *Histoire naturelle des Insectes. Species*

Subgenus *Papilio* Linnaeus, 1758

Type-species: *Papilio machaon* Linnaeus, by subsequent designation (Latreille, 1810. *Considérations générales sur l'ordre naturelle des animaux composant les classes des Crustacés, des Arachnides et des Insectes* 350, 440 (444 pp.). Paris.) [extralimital].

Relevant literature:

Dupuis & Sperling, 2020 [Downgraded *P. saharae* to *P. machaon saharae*].

Pellecchia *et al.*, 2004 [*Papilio machaon* complex – mitochondrial DNA].

**Papilio (Papilio) machaon* Linnaeus, 1758

Swallowtail

Papilio machaon Linnaeus, 1758. *Systema Naturae* 1, Regnum Animale, 10th edition: 462 (824 pp.). Holmiae.

Type locality: Sweden.

Distribution: Throughout the Nearctic and Palaearctic Regions, in many subspecies. One subspecies extends into the Afrotropical Region.

Papilio (Papilio) machaon saharae Oberthür, 1879

Saharan Swallowtail

Papilio machaon var. *saharae* Oberthür, 1879. *Études d'Entomologie* 4: 68 (1-117).

Papilio machaon saharae Oberthür, 1879. Dupuis & Sperling, 2020. *Molecular Phylogenetics and Evolution* 152.



Papilio machaon saharae. Male. Left – upperside; right – underside.
Jabal Sabr near Taizz, Yemen. October 1987. S. Collins. (ABRI 2018-5035).
Images M.C. Williams ex ABRI Collection.

Type locality: Algeria: “Laghouat”.

Distribution: Extralimital (North Africa, Sinai), extending into Arabia, including Yemen.

Specific localities:

Saudi Arabia – Hejaz – 50 km SE of Haql (Pittaway, 27.III.1983, *vide* Larsen, 1983b).

Yemen – Bab el Mendjjil, San a (TL; Warnecke, 1932); Sana’a-Hodeida Rd (Larsen, 1983b); Taizz area (Larsen, 1983b); Jabal Sabr (Larsen, 1983b); Jabal Bada’an (Larsen, 1983b); Jabal Masnah (Naumann, *vide* Larsen, 1983b); Mahwit area (Naumann, *vide* Larsen, 1983b); Asir Mountains (Pittaway, *vide* Larsen, 1983b).

Habitat: Subspecies *saharae* occurs in the high mountains of western Arabia (Larsen, 1983b). It occurs in both wet and dry mountains, above about 2 300 m (Larsen, 1983b).

Habits: Subspecies *saharae* is quite common on the green mountains of Ibb and Taizz Provinces in Yemen (Larsen, 1983b). Males are avid hilltoppers; females arriving on hilltops are courted and mated and the mating pair then fly down to the breeding grounds at lower altitudes (Larsen, 1983b).

Early stages:

Larsen, 1983b: 345.

“All instars of the larva are different from those of *P. machaon*. Young larvae are darker and have white markings only on the flanks, lacking the typical saddle of *P. machaon*. Mature larvae have a much more complex, crenellated pattern of black stripes than *P. machaon*. ... In many respects the larvae resemble those of *P. hospiton* Gén  from Corsica.”

Larval food:

Ferula communis L. (Apiaceae) [Larsen, 1983b; Jabal Sabr, Yemen; Libya; Hejaz].

rathjensi Warnecke, 1932 (as ssp. of *Papilio machaon*). *Internationale Entomologische Zeitschrift* **25**: 473 (473-476). **Type locality:** Yemen: “B b el Mendjjil; San ‘a”. Synonymised with *Papilio machaon saharae* by Dupuis & Sperling, 2020.

Subgenus *Nireopapilio* Cotton & Nakae, 2020

Cotton & Nakae, 2020. *Butterflies* No. **84**: 47. Replacement name for *Eques* Kirby, 1896.

= *Eques* Kirby, 1896. *In*: Allen’s Naturalist’s Library, *A handbook to the order Lepidoptera*. Part 1. Butterflies **2**: 290 (332 pp.). London. Type-species: *Papilio nireus* Linnaeus, by original designation. [Invalid; junior homonym of *Eques* Bloch, 1793.]

Papilio zalmoxis group

**Papilio (Nireopapilio) zalmoxis* Hewitson, [1864]

Sage Enchanter



Males of the Giant Blue Swallowtail (*Papilio zalmoxis*) in flight (left) and mud-puddling (right).
Cameroon, May 2019. Images courtesy Jeremy Dobson.

Papilio zalmoxis Hewitson, [1864] *in* Hewitson, 1862-6. *Illustrations of new species of exotic butterflies* 3: [2] (124 pp.). London.
Papilio zalmoxis Hewitson, 1864. Aurivillius, 1899.



Papilio zalmoxis. Male. Upperside.
Lobeke, Cameroon. 4 May 2019. J. Dobson.
Images M.C. Williams ex Dobson collection.



Papilio zalmoxis. Male. Underside.
Lobeke, Cameroon. 4 May 2019. J. Dobson.
Images M.C. Williams ex Dobson collection.

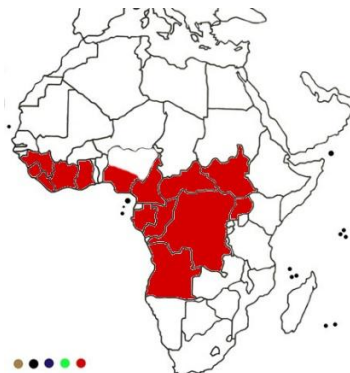


Papilio zalmoxis. Female. Upperside.
Lobaye River, Central African Republic. September 1987. ex ABRI Collection (ABRI 2018-5001).
Images M.C. Williams ex ABRI Collection.



Papilio zalmoxis. Female. Underside.
Lobaye River, Central African Republic. September 1987. ex ABRI Collection (ABRI 2018-5001).
Images M.C. Williams ex ABRI Collection.

Type locality: Nigeria: “Calabar”.



Distribution of *Papilio zalmoxis*

Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, ?Togo, Nigeria, Cameroon, Gabon, Congo, Angola, Central African Republic, Democratic Republic of Congo, Sudan, Uganda.

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, ?Togo, Nigeria (south), Cameroon, Gabon, Congo, Angola (Bivar de Sousa, 1983), Central African Republic, Democratic Republic of Congo, Sudan (south), Uganda.

Specific localities:

Ivory Coast – Tai National Park (Plowes family, *vide* Larsen, 2005a).

Ghana – Bia National Park (Anthony Dan, *vide* Larsen, 2005a).

Nigeria – Calabar (TL); Oni Creek, 100 km east of Lagos (Larsen, 2005a); Cross River Loop (Larsen, 2005a); Okwangwo (Larsen, 2005a); Bashu (Brattstrom, 2008).

Cameroon – Mundame on the Mango River (Schultze, 1913).

Gabon – Alen Nkoma (Vande weghe, 2010); Kinguele (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Rabi (Vande weghe, 2010); Waka (Vande weghe, 2010); Bitam (Vande weghe, 2010); Nouna (Vande weghe, 2010); Bakouaka (Vande weghe, 2010); Franceville (Vande weghe, 2010); Bateke Plateau (Vande weghe, 2010); Lope (Vande weghe, 2010); Ivindo (Vande weghe, 2010); Abeilles (Vande weghe, 2010).

Angola – Cabinda Province; Uige Province (Mendes *et al.*, 2013).

Central African Republic – Dzanga (Noss, 1998).

Democratic Republic of Congo – Ituri Forest (Ducarme, 2018); Central Forest Block (Ducarme, 2018).

Habitat: Primary forest.

Habits: This is the second largest Afrotropical butterfly (Larsen, 2005a). It is rare west of the Dahomey Gap (Larsen, 2005a). Both sexes fly in the forest canopy but males are known to mud-puddle. Like the males of *P. antimachus* they do not join the large communal mud-puddling assemblages (Larsen, 2005a).

Flight period: December (Larsen, 2005a).

Early stages: Nothing published.

Larval food: Nothing published.

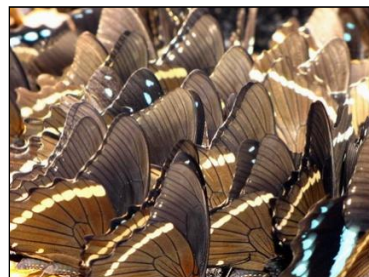
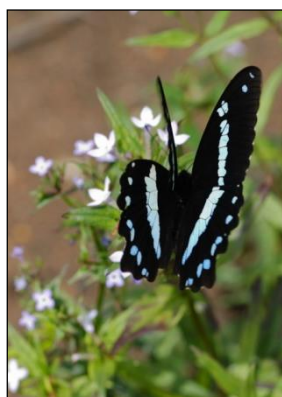
sufferti Röber, 1898 (as f. of *Icarus zalmoxis*). *Entomologische Nachrichten. Dresden* **24**: 186 (185-187). No locality given.

ripponi Röber, 1898 (as f. of *Icarus zalmoxis*). *Entomologische Nachrichten. Dresden* **24**: 186 (185-187). Nigeria, etc.: “Calabar, Congo, etc.”.

cinereus Schultze, 1913 (as ab. of *Papilio zalmoxis*). *Archiv für Naturgeschichte* **79** (A.7.): 4 (4-5). Cameroon: “Nordwestkamerun, Mundame am Mangofluss”.

Papilio nireus group

****Papilio (Nireopapilio) nireus* Linnaeus, 1758#** **Green-banded Malachite**



Narrow Green-banded Swallowtails (*Papilio nireus*). Left and centre – two males feeding from flowers (images courtesy Steve Woodhall).
Right – massed male Narrow Green-banded Swallowtails mud-puddling (image courtesy Raimund Schutte).

Papilio nireus Linnaeus, 1758. *Systema Naturae* **1**, Regnum Animale, 10th edition: 464 (824 pp.). Holmiae.

Papilio nireus Linnaeus. Trimen, 1862c. [Referable to subspecies *lyaeus* Doubleday, 1845]

Papilio nireus L., 1758. Aurivillius, 1899.

Papilio nireus Linnaeus, 1758. Pringle *et al.*, 1994: 303.



Papilio nireus nireus. Male. Left – upperside; right – underside.
Bobiri Forest, Ghana, 238m; 6 41.36N 1 20.46W. 18-24 May 2014.
Images M.C. Williams ex Gardiner Collection.

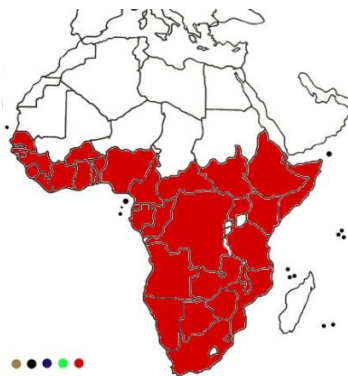


Papilio nireus nireus. Female. Left – upperside; right – underside.
Bobiri Forest, Ghana, 238m; 6 41.36N 1 20.46W. 18-24 May 2014.
Images M.C. Williams ex Gardiner Collection.

Alternative common names: Narrowly Green-banded Swallowtail; Narrow Green-banded Swallowtail.

Type locality: [W. Africa]: “Indiis”. [False locality.]

Published images: Larsen, 2005a (male upperside x2 and underside).



Distribution of *Papilio nireus*

Senegal, Gambia, Guinea-Bissau, Guinea, Burkina Faso, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Angola, Congo, Central African Republic, Democratic Republic of Congo, Sudan, Uganda, Rwanda, Ethiopia, Eritrea, Somalia, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.

Distribution: Senegal, Gambia, Guinea-Bissau (Bacelar, 1949), Guinea, Burkina Faso, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (Fermon *et al.*, 2001), Nigeria, Cameroon, Equatorial Guinea, Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Sudan, Uganda, Ethiopia, Eritrea, Somalia, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.

Habitat: Forest and frost-free savanna. Kielland (1990) states that ssp. *nireus* occurs in *Brachystegia* woodlands and forest margins, sometimes penetrating forests along roads, but not actually inhabiting forests. Also found flying over open montane country. In Tanzania the nominate subspecies is found at altitudes of 780 to 2 000 m. In Tanzania, subspecies *lyaeus* is found from sea-level to 1 500 m (Kielland, 1990dd).

Habits: This is a common butterfly (Larsen, 2005a). The flight is fast and direct. Both sexes readily feed from flowers and males are avid mudpuddlers, often congregating in large numbers on damp patches. Males have also been recorded feeding from animal droppings. Males appear not to be territorial and fly randomly around the habitat, from a few to many metres above the ground. Females are most often encountered in and around denser bush and in the undergrowth of forests. On cool mornings specimens may be seen perched low down basking with opened wings (Larsen, 1991c). Tree-topping assemblages of up to half a dozen males were noted at Aburi Botanical Gardens by Larsen (2005a). P. Namkana once observed a male hovering over an emerging female, mating with her before her wings had dried (Larsen, 1991c).

Flight period: All year in warmer climates and September to April in colder areas. Peak emergence is in mid-summer.

Early stages:

Barber, 1874: 519 (*Trans. Ent. Soc. Lond.*).

Trimen & Bowker, 1889: 240 [as *Papilio Lyaeus* Doubleday].

“**Larva.** Deep yellowish-green. Widest portion of back, on third thoracic and first abdominal segments, occupied by a subovate patch or shield of pale bluish-green, crossed mesially by a thin whitish line, closely irrorated generally with white dots, and bearing near its posterior edge a transverse row of four small pinkish-lilac spots. Anteriorly a greenish-yellow, posteriorly a narrow ochreous-yellow, edging borders this patch, the anterior edging being marked with four double (concentric) very small, thin, blackish rings, and at each extremity by a small black yellow-pupilled ocellus, surrounded by a separate, thin, imperfect blackish ring. All the green of the back posterior to the patch is mottled irregularly with greenish-yellow. From second to last abdominal segment a lower-lateral white stripe; on each side of back more or less distinct traces of a thin yellowish stripe, which in some examples is crossed obliquely by a short whitish inferiorly dark-bordered streak. Projections on back of first thoracic segment yellow, shorter and blunter than in *P. Demoleus* [*P. demodocus*], but those on back of anal segment pale-yellow, longer, farther apart, and with a straight creamy-white connecting streak between their bases. Head and thoracic legs pale bluish-green; pro-legs very pale-greyish with a greenish tinge.

Described from larvae found on the Orange at Highlands, near Grahamstown. Mrs. Barber informed me that the native food-trees in that locality were *Vepris lanceolata* and *Calodendron* [*Calodendrum*] *capense*. The dorsal green (excepting the ovate patch of a blue tint) assimilates very closely to that of the upper surface of the leaves of the orange, upon which the caterpillar is always found resting; but Mrs. Barber (*Trans. Ent. Soc. Lond.*, 1874, p. 519) has pointed out that when the larva feeds on *Vepris* it is of a lighter green, so as to resemble in tint the leaves of that tree. (Plate II fi. 5, 5.).

Pupa. Length, 1 in. 3 lin. Somewhat attenuated anteriorly, cephalic processes short and directed laterally outward (not obliquely forward, as in *Demoleus* [*demodocus*]), so that frontal line of head is widened and but slightly concave. Thoracic lateral angles moderately acute; dorsal prominence also elevated acutely, but not inclined forward. Sides of abdomen widely flattened, and so extended as to form a very marked angle on each side of third abdominal segment; whence the abdomen narrows very rapidly and greatly to the extremity. Infra-pectoral region, where wing-covers meet, very strongly convex. A marked constriction dorsally at junction of thorax and abdomen. In its natural position, attached vertically or nearly so, head uppermost, the anterior portion of this pupa is seen to be very much bent backward than it is in *Demoleus* [*demodocus*]. Usually pale bluish-green, inclining to yellowish on under surface of abdomen, but very variable in tint. Point of dorso-thoracic prominence, two spots below it (at abdominal base), and edge of abdominal lateral angles, creamy-reddish. A row of minute indistinct blackish spots on each side of back of abdomen. This chrysalis, though usually pale-green, is variable in colouring, specimens that I reared near Grahamstown pupating in the same wooden box (on the sides) within a day or two of each other, varying from that tint to a more or less ochreous-tinged, much duller hue. Mrs. Barber was so fortunate as to observe the extreme susceptibility of this pupa to colour influences, as pointed out in her paper above quoted. From these most interesting observations it appears that the colour of the object on which a larva pupated was very closely reproduced in the pupa. Pupae among orange twigs were of the ordinary green colour; others, among half-dried leaves of the “bottle-brush”, were pale yellowish-green; one attached to the wooden frame of the case was of the yellowish tint of the wood; and another, attached to a part of the frame where wood and purplish-brown brick joined each other, was coloured on

the under surface like the wood and on the upper surface like the brick. The experiment of causing a larva to pupate on scarlet cloth had no effect except that the ordinary small red spots were brighter than usual; but this is not to be wondered at, considering that the environment of these insects could never, through endless generations in the past, have rendered the assumption of a scarlet colour of any advantage in concealment.

Colonel Bowker, in 1874, sent me from King William's Town four pupae, three of the ordinary green colour, and the fourth (which had been purposely placed when changing on the mud-mortar of a wall) of a dull greenish-yellow, much clouded dorsally with dull creamy ferruginous-grey. These were winter pupae; two became perfect insects in July (1st and 24th), one on October 1st, and the last on December 21st."

Clark, in Van Son, 1949: 32 [as *Papilio (Papilio) nireus lyaeus*].

"Egg. Spherical with flat base, 1.15 mm in diameter by 0.95 mm high, pale cream-coloured when laid, later with reddish-brown spots around the sides; surface plain, but slightly rough, giving the appearance of very fine pubescence. The eggs are laid singly. Egg-stage five days. **Larva.** There are five larval instars. **First instar** black and brown with two pairs of setose processes on each of first four segments, and single pair on each of the remaining segments; **second** and **third** instars are yellow with black, **fourth** instar green with black, white and salmon markings; the **final** instar is green, finely irrorated with white, with yellowish latero-dorsal streak and a white lateral line from second to last abdominal segments, and with a brown, black or white diagonal line cutting across the 7th, 8th and 9th segments (4th to 6th abdominal segments); there is a bluish-green, broad subovate patch on the last thoracic and first abdominal segments, irregularly irrorated with whitish lines and bordered anteriorly by a transverse row of six posteriorly incomplete narrow black rings, the two lateral ones enclosing white-pupilled black circular spots; posteriorly the dorsal patch is bordered with a narrow transverse purplish or reddish line; **osmeterium** reddish-purple, with the branches spreading horizontally; paired processes on first segment yellow, short and blunt, those on the 11th segment very light yellow, sharp and spreading horizontally. Head and sclerotized parts of the legs and prolegs light bluish-green or yellowish-green. The colour of the larva is variable in adaptation to the colour of the leaves of the food-plant. **Pupa.** A little over an inch in length, ventrally strongly convex, dorsally almost straight along the abdomen, but with a high dorso-thoracic prominence. Head with laterally spreading projections. Abdomen much widened up to the end of the wingcases where the margins are roundly excurved, thence attenuate to the posterior end. Colour rather variable, but usually light bluish-green, the ventral surface of the abdomen more yellowish; the dorso-thoracic prominence, two spots on anterior part of thorax, two similar spots on first abdominal segment and the expanded parts of the lateral margin are pale reddish; two rows of small black spots along the dorsal side of abdomen. The colour of the pupa varies in adaptation to the colour of the objects on which the larva pupates."

Henning, S.F., 1984: 32.

Clark, in Pringle *et al.*, 1994: p. 406; plate 34 [as *Papilio nireus lyaeus*].

"The eggs are laid singly on the leaves of the foodplant. They are a pale cream colour when first laid, developing reddish-brown spots around the sides, and are 0.95 mm high by 1.15 mm in diameter. The egg stage lasts about five days. There are five larval instars. The colour of the larva varies depending on the leaf colour of the foodplant. The pupa is attached by the cremastral hooks to a silken pad and is held upright by a silken girdle. The colour is variable in accordance with where the larva pupates."

Henning, Henning, Joannou, & Woodhall, 1997: 229 & 230 (photograph of early instar larva, final instar larva and pupa).

Congdon *et al.*, 2017 [final instar larva].



Early stages of *Papilio nireus*. 3rd instar larva. Image courtesy Steve Woodhall.

Larval food:

Calodendrum capense Thunb. (Rutaceae) [Mrs Barber, *in* Trimen & Bowker, 1889: 240; as *Calodendron capense*; Grahamstown, Eastern Cape].
Citrus species (Rutaceae) [Trimen & Bowker, 1889: 240; as "Orange"; Grahamstown, Eastern Cape].
Clausena anisata (Willd.) Hook.f. ex Benth. (Rutaceae) [Dickson & Kroon, 1978].
Clausena species (Rutaceae) [Van Someren, 1974: 316].
Fagaropsis sp. (Rutaceae) [Congdon *et al.*, 2017; Minziro, Tanzania].
Oricia bachmannii (Engl.) I.Verd. (Rutaceae) [Henning, Henning, Joannou & Woodhall, 1997: 230].
Oricia bachmannii (Engl.) I.Verd. (Rutaceae) [Van Son, 1949: 32; as *Teclea swynnertonii*].
Teclea natalensis (Sond.) Engl. (Rutaceae) [Van Son, 1949: 32; as *Toddalia natalensis*].
Vepris lanceolata (Lam.) G.Don (Rutaceae) [Mrs Barber, *in* Trimen & Bowker, 1889: 240; Grahamstown, Eastern Cape].
Zanthoxylum asiatica (L.) Lam. (Rutaceae) [Van Son, 1949: 32; as *Toddalia aculeata* Pers.].
Zanthoxylum capense (Thunb.) Harv. (Rutaceae) [Van Son, 1949: 32; as *Fagara capensis* Thunb.].
Zanthoxylum delagoense P.G.Waterman (Rutaceae) [Dickson & Kroon, 1978].
Zanthoxylum gillettii (De Wild.) P.G.Waterman (Rutaceae) [Larsen, 2005a (Korup, Cameroon); as *Fagara macrophylla*].

Relevant literature:

Vukusic & Hooper, 2005 [Fluorescence emission].

Papilio (Nireopapilio) nireus nireus Linnaeus, 1758
Green-banded Malachite

Papilio nireus Linnaeus, 1758. *Systema Naturae* 1, Regnum Animale, 10th edition: 464 (824 pp.). Holmiae.



Papilio nireus nireus. Male. Left – upperside; right – underside.
Bobiri Forest, Ghana, 238m; 6 41.36N 1 20.46W. 18-24 May 2014.
Images M.C. Williams ex Gardiner Collection.



Papilio nireus nireus. Female. Left – upperside; right – underside.
Bobiri Forest, Ghana, 238m; 6 41.36N 1 20.46W. 18-24 May 2014.
Images M.C. Williams ex Gardiner Collection.

Type locality: [W. Africa]: “Indiis”. [False locality.]

Distribution: Senegal, Gambia, Guinea-Bissau (Bacelar, 1949), Guinea, Burkina Faso, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (south, central), Nigeria (south), Cameroon, Equatorial Guinea (Bioko), Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Uganda (west – Bwamba), Rwanda, Tanzania (west), Zambia.

Specific localities:

Senegal – Ziguinchor (Storace, 1952); Basse Casamance (Larsen, 2005a).

Gambia – Fajara, Abuko, Bijilo, Pirang, Bao Bolong, Sanyang, Farasutu, Gunjur, Soma, Farafenni (Jon Baker, pers. comm, May 2020).

Guinea – Boffa (Storace, 1952); Farmorea (Storace, 1952); Ziama (Safian *et al.*, 2020).

Liberia – Ogrugra (Storace, 1952); Wologizi (Safian *et al.*, 2020).

Ivory Coast – Man (Dufrane, 1946); Dimbroko (Storace, 1952); Elmina (Storace, 1952).

Ghana – Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Togo – Klouto [6°57'15.07"N 0°34'54.40"E] (Safian *et al.*, 2009).

Benin – Noyau Central, Lama Forest (Fermon *et al.*, 2001); Lokoli (Tchiboza *et al.*, 2008); Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.*, 2017.

Nigeria – Bashu (Brattstrom, 2008).

Cameroon – Bonaberi (Strand, 1915); Korup (Larsen, 2005a).

Gabon – Malibe (Vande weghe, 2010); Alen Nkoma (Vande weghe, 2010); Kinguele (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Waka (Vande weghe, 2010); Mimongo (Vande weghe, 2010); Bitam (Vande weghe, 2010); Abeilles (Vande weghe, 2010); Langoue (Vande weghe, 2010); Ipassa (Vande weghe, 2010); Franceville (Vande weghe, 2010); Ekouyi (Vande weghe, 2010); Bateke Plateau (Vande weghe, 2010).

Angola – Bengo Province; Bie Province; Cabinda Province; Huambo Province; Kwanza Norte Province; Kwanza Sul Province; Luanda Province; Lunda Norte, Lunda Sul Province; Malanje Province; Moxico Province; Uige Province (Mendes *et al.*, 2013).

Central African Republic – Dzanga (Noss, 1998).

Democratic Republic of Congo – Luebo Kasai (Dufrane, 1946); Kafakumba (Storace, 1952); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).

Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

Rwanda – Cyamudongo Forest (Uwizelimana *et al.*, 2021).

Tanzania – Western Tanzania, from Lake Rukwa in the south to the Ugandan border in the north (Kielland,

1990dd).

Zambia – Mwinilunga (Heath *et al.*, 2002); Mbala (Heath *et al.*, 2002); Lusaka (Heath *et al.*, 2002); Mumbwa (Heath *et al.*, 2002).

erinus Gray, [1853] (as sp. of *Papilio*). *Catalogue of the lepidopterous insects in the collection of the British Museum*. Part 1. Papilionidae: 26 (84 pp.). London. W. Africa [etc.].

nora Strand, 1915 (as f. of *Papilio nireus*). *Entomologische Mitteilungen* **4**: 194 (173-194). Cameroon: “Kamerun, Bonaberi”. *Nomen nudum*.

dimidiatus Le Cerf, 1924 (as f. (? indiv.) of *Papilio nireus*). *Bulletin of the Hill Museum, Witley* **1**: 385 (369-399, 576, 578, 580, 582, 584). “W. Africa, Aguapim”.

nireoides Braun, 1932 (as sp. of *Papilio*). *Entomologische Zeitschrift. Frankfurt a.M.* **46**: 11 (11-12). Cameroon: “Kamerun”; Togo.

bedoci Dufrane, 1946 (as ab. of *Papilio nireus nireus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 104 (101-122). Democratic Republic of Congo: “Congo Belge”.

punctata Dufrane, 1946 (as ab. of *Papilio nireus nireus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 104 (101-122). Democratic Republic of Congo: “Congo Belge”.

seeldrayersi Dufrane, 1946 (as ab. of *Papilio nireus nireus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 104 (101-122). Democratic Republic of Congo: “Congo Belge”.

pierardi Dufrane, 1946 (as ab. of *Papilio nireus nireus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 104 (101-122). Democratic Republic of Congo: “Congo Belge”.

falcata Dufrane, 1946 (as ab. of *Papilio nireus nireus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 104 (101-122). Democratic Republic of Congo: “Luebo Kasai”.

houzeau Dufrane, 1946 (as ab. of *Papilio nireus nireus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 105 (101-122). Ivory Coast: “Côte d’Ivoire, Man”.

tenuivittata Dufrane, 1946 (as f. of *Papilio nireus nireus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 105 (101-122). Ivory Coast: “Côte d’Ivoire, route de Man à Danané, bac sur le Covally”.

xerophila Storace, 1952 *in* Storace, 1951-2 (as var. of *Papilio nireus nireus*). *Lambillionea* **52**: 15 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Democratic Republic of Congo: “Kafakumba”.

micronireus Storace, 1952 *in* Storace, 1951-2 (as ssp. of *Papilio nireus*). *Lambillionea* **52**: 15 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Senegal: “Sénégal, Afrique Occidentale Française, Ziguinchor”; Guinea: “Afrique Occidentale Française, Guinée, Boffa; Guinée Française, Farmoréa”; Sierra Leone; Liberia: “Ogrugra”; Ivory Coast: Côte d’Ivoire, Man; Dimbroko; Elmina”.

lyaeoides Storace, 1952 *in* Storace, 1951-2 (as ? ab. of *Papilio nireus*). *Lambillionea* **52**: 19 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Cameroon.

cedae Sala, 1992 (as form of *Papilio nireus nireus*). *Bulletin de la Societe Sciences Nat* No. 75-76: 35 (34-35). Central African Republic.

Papilio (Nireopapilio) nireus lyaeus Doubleday, 1845#
Southern Green-banded Malachite

Papilio lyaeus Doubleday, 1845. *Annals and Magazine of Natural History* (1) **16**: 178 (176-182).

Papilio lyaeus Doubleday, 1845. Trimen & Bowker, 1889.

Papilio nireus lyaeus Doubleday. Swanepoel, 1953a.

Papilio nireus lyaeus Doubleday, 1845. Dickson & Kroon, 1978.
Papilio nireus lyaeus Doubleday, 1845. Pringle *et al.*, 1994: 304.



Papilio nireus lyaeus. Male (Wingspan 85 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 5 January, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio nireus lyaeus. Male. Wingspan 86 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 14 June 2009. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio nireus lyaeus. Female (Wingspan 90 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 7 January, 2010. M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio nireus lyaeus. Female. Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo Province, South Africa. 26 April 2016. M. Williams.
Images M.C. Williams ex Williams Collection.

Type locality: Southern Africa: “Africa Australiori”.

Diagnosis: Smaller than the nominate subspecies and with narrower green bands (Kielland, 1990dd).

Distribution: Sudan (south – Didinga Mountains), Democratic Republic of Congo, Uganda, Kenya, Tanzania, Malawi, Zambia, Angola, Mozambique, Zimbabwe, Botswana, Namibia (Caprivi), South Africa (Limpopo Province, Mpumalanga, North West Province, Gauteng, Free State Province – north, KwaZulu-Natal, Eastern Cape Province, Western Cape Province – south-east), Swaziland.

Specific localities:

Democratic Republic of Congo – Semuliki Valley (Ducarme, 2018).

Uganda – Jinja (Storace, 1952).

Kenya – Ngong Forest (Larsen, 1991c).

Tanzania – Throughout, except western and north-western parts (Kielland, 1990dd); between Mori and Mangati (Suffert, 1904); Semdoe Forest Reserve (Doggart *et al.*, 2001).

Malawi – Mt Mulanje (Congdon *et al.*, 2010); Zomba Mountain (Congdon *et al.*, 2010); Nyika N.P. (J. Timberlake, pers. comm., 2019).

Zambia – Zambezi Valley, from Kariba to Feira (Heath *et al.*, 2002).

Angola – Kuando-Kubango Province (Mendes *et al.*, 2013).

Mozambique – Mount Chiperoone (Timberlake *et al.*, 2007); Njesi Plateau (Congdon *et al.*, 2010); Mt Inago (Congdon *et al.*, 2010); Mt Namuli (Congdon *et al.*, 2010); Mt Mabu (Congdon *et al.*, 2010); Mt Mecula [-12.0772 37.6297] (Congdon & Bayliss, 2013); Maputo Special Reserve (Miles & Mulvaney, 2022).

Zimbabwe – Gwanda (Van Son, 1949); Bulawayo (Van Son, 1949); Gwelo (Van Son, 1949); Harare (Van Son, 1949); Mutare (Van Son, 1949); Chirinda Forest (Van Son, 1949); Melsetter (Van Son, 1949); Vumba (Van Son, 1949).

Botswana – Maun (T. Liversedge *vide* Larsen, 1991); Shashe (R Hartland-Rowe *vide* Larsen, 1991); Okavango (N. Ashby *vide* Larsen, 1991); Chobe (E. Pinhey *vide* Larsen, 1991).

Namibia – Waterberg (Van Son, 1949).

Limpopo Province – Warmbaths (Swanepoel, 1953); Potgietersrus (Swanepoel, 1953); Blouberg (Swanepoel, 1953); Lekgalameetse Nature Reserve (“Malta Forest”) (Swanepoel, 1953); Tubex (Swanepoel, 1953); Chuniespoort (Swanepoel, 1953); Woodbush (Swanepoel, 1953); Duiwelskloof (Swanepoel, 1953); Mokeetzi (Swanepoel, 1953); Sibasa (Swanepoel, 1953); Punda Maria (Swanepoel, 1953); Entabeni Forest (Swanepoel, 1953); Louis Trichardt (Swanepoel, 1953); Wyliespoort (Swanepoel, 1953);

Waterpoort (Swanepoel, 1953); Saltpan (Swanepoel, 1953); Messina (Swanepoel, 1953); Alldays (Swanepoel, 1953); Doorndraai Dam Nature Reserve (Warren, 1990); Percy Fyfe Nature Reserve (Warren, 1990); Highlands Wilderness (Bode & Bode, unpublished checklist); Soetdoring Farm [-24.561 28.233] (A. Mayer, pers. comm. 2015); Bateleur Nature Reserve (Williams & Dobson, unpub., 2015).

Mpumalanga – Barberton (Swanepoel, 1953); Graskop (Swanepoel, 1953); Ohrigstad (Swanepoel, 1953); Marieps Kop (Swanepoel, 1953); Verloren Vallei Nature Reserve (Warren, 1990); Sterkspruit Nature Reserve (Williams); Buffelspoort Nature Reserve (Williams).

North West Province – Kgaswane Mountain Reserve (Williams); Utopia Resort (C. Dobson, 2006).

Gauteng – Pretoria (Van Son, 1949); Witwatersrand Botanical Gardens (J. Dobson, unpublished checklist, 2001).

Free State Province – Sasolburg (Kroon).

KwaZulu-Natal – Oribi Gorge (Swanepoel, 1953); Durban (Swanepoel, 1953); Pietermaritzburg (Swanepoel, 1953); Eshowe (Swanepoel, 1953); St. Lucia Bay (Swanepoel, 1953); Magut (Swanepoel, 1953); Kosi Bay Nature Reserve (Swanepoel, 1953); Tembe Nature Reserve (Pringle & Kyle, 2002); Ndumo Nature Reserve (Pringle & Kyle, 2002).

Eastern Cape Province – Uitenhage (Van Son, 1949); Grahamstown (Van Son, 1949); East London (Van Son, 1949); Katberg (Van Son, 1949); Humansdorp (Swanepoel, 1953); Port Alfred (Swanepoel, 1953); King William's Town (Swanepoel, 1953); Stutterheim (Swanepoel, 1953); Butterworth (Swanepoel, 1953); Bashee River (Swanepoel, 1953); Port St. Johns (Swanepoel, 1953).

Western Cape Province – Knysna (Van Son, 1949); Plettenburg Bay (Van Son, 1949); Cape Town (occasional specimens); George (Swanepoel, 1953); Mossel Bay (Pringle *et al.*, 1994); Bonnievale (S 33°56'26'' E 20°04'10'') (J. Ball, pers. comm. 20 Feb. 2023).

Swaziland – Throughout (Swanepoel, 1953); Mlawula N. R. (www.sntc.org.sz); Malolotja N. R. (www.sntc.org.sz).

aelyus Suffert, 1904 (as ssp. of *Papilio lyaeus*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 98 (12-107). Tanzania: "Deutsch-Ost-Africa, Walde zwischen Mori und Mangati".

mantitheus Ehrmann, 1920 (as sp. of *Papilio*). *Bulletin of the Brooklyn Entomological Society* **15**: 21 (21-22). Uganda: "Br. East Africa".

callistria Le Cerf, 1927 (as f. of *Papilio nireus-lyaeus*). *Encyclopédie Entomologique* (B. 3. Lepidoptera) **2**: 57 (44-58). Tanzania: "Afrique orientale ex allemande".

pseudonireoides Storace, 1952 (as [form] of *Papilio nireus pseudonireus*). *Annali del Museo Civico di Storia Naturale (di Genova) Giacomo Doria* **66**: 51 (33-52). Uganda: "Busog, strada fra Jinja e Jganga".

***Papilio (Nireopapilio) nireus pseudonireus* Felder & Felder, [1865]
Ethiopian Green-banded Malachite**

Papilio pseudonireus Felder & Felder, [1865] *in* Felder & Felder, 1865-7. *Reise der Österreichischen Fregatte Novara* 94 (549 pp.). Wien.



Papilio nireus pseudonireus. Male. Wingspan 83 mm. Left – upperside; right – underside.
 Budongo Forest, Uganda. 13 April 2009. P. Ward.
 Images M.C. Williams ex Dobson Collection.



Papilio nireus pseudonireus. Female. Left – upperside; right – underside.
 Lake Langano, Ethiopia. June 1995. S. Collins. (ABRI 2018-5027).
 Images M.C. Williams ex ABRI Collection.

Type locality: [Ethiopia]: “Africa Septentrionali Oriental, Bogos”. Paratype in the Royal Museum for Central Africa, Tervuren, Belgium.

Distribution: Kenya (extreme north-east), Uganda (extreme north), Sudan (south), Somalia, Ethiopia, Eritrea.

Specific localities:

Somalia – Darro Mountains (Sharpe, 1896); Meo (Sharpe, 1896).

Ethiopia – Bogos (TL); Adua (Cannaviello, 1900); Dorfu (Storace, 1952); Ascalena (Storace, 1952).

Kenya – Moyale (Hancock, 1984).

donaldsoni Sharpe, 1896 (as sp. of *Papilio*). *Proceedings of the Zoological Society of London* **1896**: 537 (523-537).
 Somalia: “Darro Mts.; Meo”. Given as a valid taxon by Aurivillius (1899).

abyssinica Cannaviello, 1900 (as var. of *Papilio nireus*). *Bollettino della Società Entomologica Italiana* **32**: 292 (289-308). Ethiopia: “Adua”.

pseudolyaeus Storace, 1952 (as ab. of *Papilio nireus pseudonireus*). *Annali del Museo Civico di Storia Naturale (di Genova) Giacomo Doria* **66**: 47 (33-52). Ethiopia: “Dorfu”.

anticemaculata Storace, 1952 (as ab. of *Papilio nireus pseudonireus*). *Annali del Museo Civico di Storia Naturale (di Genova) Giacomo Doria* **66**: 47 (33-52). Ethiopia: “Dorfu”.

minor Storace, 1952 (as ab. of *Papilio nireus pseudonireus*). *Annali del Museo Civico di Storia Naturale (di Genova) Giacomo Doria* **66**: 47 (33-52). Ethiopia: “Ascalena, presso Let Marefia, Scioa”.

semivittata Storace, 1952 (as f. of *Papilio nireus pseudonireus*). *Annali del Museo Civico di Storia Naturale (di Genova) Giacomo Doria* **66**: 47 (33-52). Ethiopia: “Dorfu”.

****Papilio (Nireopapilio) chitondensis* Bivar de Sousa & Fernandes, 1966**
Painted Malachite

Papilio bromius chitondensis Bivar de Sousa & Fernandes, 1966. *Arquivos do Museu Bocage* (2) **1** (10): 163 (161-169).
Papilio chitondensis Bivar de Sousa & Fernandes, 1966. Bivar de Sousa, 1983, **stat. n.**



Papilio chitondensis. Male. Left – upperside; right – underside.
 Cuanza Sul, Angola. April 1998. M. Hasson. (ABRI 2018-5023).
 Images M.C. Williams ex ABRI Collection.



Papilio chitondensis. Female. Left – upperside; right – underside.
 Cuanza Sul, Angola. April 1998. M. Hasson. (ABRI 2018-5024).
 Images M.C. Williams ex ABRI Collection.

Type locality: Angola: “Roça Chitonde-Jungo-Novo Redondo. Fevereiro de 1963”. Holotype (male) in Museu Bocage. Female described by Bouyer, 2005b.

Distribution: Angola.

Specific localities:

Angola – Roça Chitonde-Jungo-Novo Redondo, Kwanza Sul Province (TL).

Early stages: Nothing published.

Larval food: Nothing published.

Relevant literature:

Bouyer, 2005b [Notes and description of female].

****Papilio (Nireopapilio) aristophontes* Oberthür, 1897**
Variable Malachite

Papilio aristophontes Oberthür, 1897. *Bulletin de la Société Entomologique de France* **1897**: 188 (188-194).

Papilio nireus aristophontes Oberthür, 1897. Ackery *et al.*, 1995: 153.

Papilio aristophontes Oberthür, 1897. d'Abrera, 1997: 32.

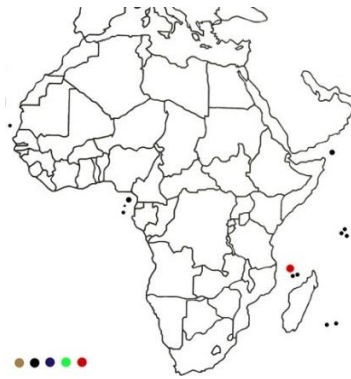


Papilio aristophontes. Male. Left – upperside; right – underside.
 Grande Comore, Comoro Islands. Emerged May 1991. S. Collins. (ABRI 2018-5028).
 Images M.C. Williams ex ABRI Collection.



Papilio aristophontes. Female. Left – upperside; right – underside.
 Grande Comore, Comoro Islands. Emerged June 1991. S. Collins. (ABRI 2018-5029).
 Images M.C. Williams ex ABRI Collection.

Type locality: Comoro Islands: “Grand Comore”.



Distribution of *Papilio aristophontes*

Comoro Islands (Grand Comore).

Early stages:

Congdon *et al.*, 2017 [final instar larva].

Larval food:

Zanthoxylum asiatica (L.) Lam. (Rutaceae) [Congdon *et al.*, 2017; Grand Comore].

Note: Larsen (2005a) treats *aristophontes* as a subspecies of *P. nireus* but does not formally change its status.

****Papilio (Nireopapilio) charopus* Westwood, [1843]
Racquet-tailed Malachite**



Resting female of the Tailed Green-banded Swallowtail (*Papilio charopus montuosus*).
Kibale Forest, Uganda. Image courtesy Raimund Schutte.

Papilio charopus Westwood, [1843] *in* Westwood, [1842-3]. *Arcana Entomologica; or illustrations of new, rare, and interesting species* 1: 189 (192 pp.). London.
Papilio charopus Westw., 1843. Aurivillius, 1899.



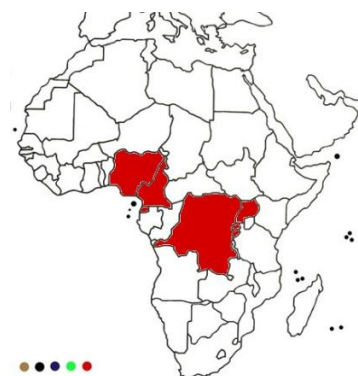
Papilio charopus charopus. Male. Left – upperside; right – underside.
Ako Forest, western Cameroon. July 2012. ex ABRI Collection (ABRI 2018-5011).
Images M.C. Williams ex ABRI Collection.



Papilio charopus charopus. Female. Left – upperside; right – underside.
Obudu Plateau, eastern Nigeria. Emerged May 2007. S. Collins. (ABRI 2018-5012).
Images M.C. Williams ex ABRI Collection.

Published images: Larsen, 2005a (male upperside).

Type locality: “Gold Coast” [False locality.]. Larsen (2005a) states that the type locality is actually Cameroon.



Distribution of *Papilio charopus*

Nigeria, Cameroon, Equatorial Guinea, Democratic Republic of Congo, Uganda, Rwanda, Burundi.

Habitat: Nominate subspecies strictly limited to submontane dense forest, from 1 300 m and higher (Larsen, 2005a).

Habits: The flight is fast, in the forest canopy. On occasion it flies lower down where a small river opens the canopy. Females are rarely seen (Larsen, 2005a).

Early stages: Nothing published.

Larval food: Nothing published.

Papilio (Nireopapilio) charopus charopus Westwood, [1843]

Racquet-tailed Malachite

Papilio charopus Westwood, 1843 *in* Westwood, [1842-3]. *Arcana Entomologica; or illustrations of new, rare, and interesting species* 1: 189 (192 pp.). London.

Papilio charopus Westw., 1843. Aurivillius, 1899.



Papilio charopus charopus. Male. Left – upperside; right – underside.
Ako Forest, western Cameroon. July 2012. ex ABRI Collection (ABRI 2018-5011).
Images M.C. Williams ex ABRI Collection.



Papilio charopus charopus. Female. Left – upperside; right – underside.
Obudu Plateau, eastern Nigeria. Emerged May 2007. S. Collins. (ABRI 2018-5012).

Published images: Larsen, 2005a (male upperside).

Type locality: “Gold Coast” [False locality.]. Larsen (2005a) states that the type locality is actually Cameroon.

Distribution: Nigeria, Cameroon, Equatorial Guinea (Bioko).

Specific localities:

Nigeria – Obudu Plateau (Larsen, 2005a); Mambilla Plateau (Larsen, 2005a).

Equatorial Guinea (Bioko) – Luba (San Carlos) (Schultze *et al.*, 1917-1923); Riaba (Biapa, Concepcion) (Spearman *et al.*, 2000); Moca (Moka) (Spearman *et al.*, 2000); Malabo (Sta. Isabel) (Spearman *et al.*, 2000); Caldera de Luba, Bioko (Martin, 2015); Moraca (Martin & Cobos).

Papilio (Nireopapilio) charopus montuosus Joicey & Talbot, 1927
Central Racquet-tailed Malachite

Papilio charopus montuosus Joicey & Talbot, 1927. *Encyclopédie Entomologique* (B.3. Lepidoptera) 2: 2 (1-14).



Papilio charopus montuosus. Male. Left – upperside; right – underside.
Uganda. May 2015.

Images M.C. Williams ex J. Lawrence Collection.

Type locality: [Democratic Republic of Congo]: “N.W. Kivu, Upper Iowa Valley, near Masisi, 5000-6000 ft., forest and long grass country”.

Distribution: Democratic Republic of Congo (Ituri, Kivu), Uganda (west), Rwanda, Burundi.

Specific localities:

Democratic Republic of Congo – Upper Iowa Valley, near Masisi (TL); Semliki Valley (Le Cerf, 1924); Ituri Forest (Ducarme, 2018); Mt Mitumba (Ducarme, 2018).

Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001); Kibale Forest (R. Schutte, unpublished).

juventus Le Cerf, 1924 (as ssp. of *Papilio charopus*). *Bulletin of the Hill Museum, Witely* 1: 385 (369-399, 576, 578, 580, 582, 584). Democratic Republic of Congo: “Semliki Valley”. [Invalid; junior primary homonym *Papilio juventa* Cramer, 1777 [Danainae].]

**Papilio (Nireopapilio) chrapkowskii* Suffert, 1904
Satin Malachite

Papilio chrapkowskii Suffert, 1904. *Deutsche Entomologische Zeitschrift, Iris* **17**: 98 (12-107).



Papilio chrapkowskii. Male. Left – upperside; right – underside.
Gatamayu Forest, Kenya. 15 May 2002.
Images M.C. Williams ex Gardiner Collection.



Papilio chrapkowskii. Female. Left – upperside; right – underside.
Gatamayu Forest, Kenya. 15 May 2002.
Images M.C. Williams ex Gardiner Collection.

Alternative common name: Broad Green-banded Swallowtail.

Type locality: [Kenya]: “Brit.-Ost.-Africa, Nairobi”.

Diagnosis: According to Kielland (1990) the satiny markings on the underside of the wings are better developed than in *P. chrapkowskoides*.



Distribution of *Papilio chrapkowskii*

Uganda, Kenya, Tanzania.

Specific localities:

Kenya – Nairobi (TL); Ngong Forest (Storace, 1951).

Tanzania – Amani (Strand, 1911); Oldeani (Kielland, 1990dd); Ngorongoro (Kielland, 1990dd); Marang and Nou Forests of Mbulu (Kielland, 1990dd); Kwaraha Mountain at Babati (Kielland, 1990dd).

Habitat: In Tanzania, montane forest and forest margins from 1 500 to 2 200 m (Kielland, 1990dd).

Habits: Locally common in Tanzania (Kielland, 1990dd). Flight fast and weaving. Flowers, damp patches and even carrion are visited by the species (Larsen, 1991c).

Early stages: Nothing published.

Larval food:

Teclea species (Rutaceae) [Kielland, 1990dd: 37].

brontia Strand, 1911 (as var. of *Papilio bromius*). *Deutsche Entomologische Zeitschrift, Iris* **25**: 120 (110-121). Tanzania: “Sigiund Amani”.

obliterata Dufrane, 1946 (as ab. of *Papilio bromius chrapkowskii*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 105 (101-122). Kenya/Uganda: “Afrique Orientale Britannique”.

addenda Storace, 1951 *in* Storace, 1951-2 (as ab. of *Papilio bromius chrapkowskii*). *Lambillionea* **51**: 76 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Kenya: “Forêt de Ngong”.

**Papilio (Nireopapilio) chrapkowskoides* Storace, [1952]

Streaked Malachite

Papilio bromius chrapkowskoides Storace, [1952] *in* Storace, 1951-2. *Lambillionea* **52**: 9 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76).

Papilio chrapkowskoides Storace, 1952. Larsen, 2005a: 75.



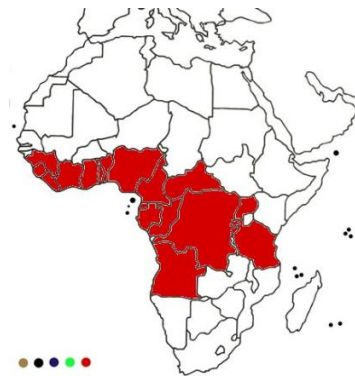
Papilio chrapkowskoides chrapkowskoides. Male. Wingspan 75 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 11 March 2008. P. Ward.
Images M.C. Williams ex Ward Collection.



Papilio chrapkowskoides chrapkowskoides. Female. Left – upperside; right – underside.
Kibale Forest, Uganda. October 2014. J. Dobson.
Images M.C. Williams ex Dobson Collection.

Type locality: [Uganda]: “Kalinzu Forest, Uganda occidental; Entebbe”; [etc.].

Diagnosis: In the male of *P. chrapkowskoides* there are broad white postdiscal spots on the forewing underside; in *P. sosia* there are small submarginal white spots (as in *chrapkowskoides*) but there are no discal spots; in *P. nireus* the forewing underside is usually without spotting (Larsen, 2005a). Females are more difficult to tell apart (Larsen, 2005a).



Distribution of *Papilio chrapkowskoides*

Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Angola, Congo, Central African Republic, Democratic Republic of Congo, Uganda, Rwanda, Burundi, Tanzania.

Habitat: In Tanzania the nominate subspecies is found in evergreen forest and forest margins, at altitudes from 780 to 2 000 m (Kielland, 1990d). In West Africa it also occurs in degraded forest and has been noted in the suburbs of Lagos (Larsen, 2005a).

Habits: This is a common forest butterfly (Larsen, 2005a). It is a common species in Tanzania (Kielland, 1990d). The flight is fast and weaving (Larsen, 2005a). Both sexes feed from flowers and males mud-puddle. Males also feed at fresh animal carcasses, and elephant and human urine. Females are most often found in the forest understorey (Larsen, 2005a).

Early stages: Nothing published.

Larval food:

Calodendrum capense Thunb. (Rutaceae) [Van Someren, 1974: 316].

Teclea species (Rutaceae) [Van Someren, 1974: 316].

Vepris species (Rutaceae) [Larsen, 2005a].

Citrus species (Rutaceae) [Larsen, 2005a].

Papilio (Nireopapilio) chrapkowskoides chrapkowskoides Storace, [1952]

Streaked Malachite

Papilio bromius chrapkowskoides Storace, [1952] *in* Storace, 1951-2. *Lambillionea* **52**: 9 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76).

Papilio chrapkowskoides Storace, 1952. Larsen, 2005a: 75.



Papilio chrapkowskoides chrapkowskoides. Male. Wingspan 75 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 11 March 2008. P. Ward.
Images M.C. Williams ex Ward Collection.



Papilio chrapkowskoides chrapkowskoides. Female. Left – upperside; right – underside.
Kibale Forest, Uganda. October 2014. J. Dobson.
Images M.C. Williams ex Dobson Collection.

Type locality: [Uganda]: “Kalinzu Forest, Uganda occidental; Entebbe”; [etc.].

Distribution: Democratic Republic of Congo (east), Uganda (south-west), Rwanda, Burundi, Tanzania (west).

Specific localities:

Democratic Republic of Congo – Rutschuru, east Kivu (Storace, 1961); Altouelle (Storace, 1961); Faradje (Storace, 1961); Itimbiri (Storace, 1961); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).
Uganda – Kalinzu Forest (TL); Entebbe (Storace, 1952); Bukassa Island (Storace, 1952); Semuliki N.P. (Davenport, 1996).
Rwanda – Cyamudongo Forest (Uwizelimana *et al.*, 2021).

opposita Storace, 1952 *in* Storace, 1951-2 (as ab. of *Papilio bromius chrapkowskoides*). *Lambillionea* **52**: 11 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Uganda: “Bukussu, = île de Bukassa, Archipel de sesse?”.

interjacens Storace, 1961 (as ?). *Doriana* **3** (115): 2 (3 pp.). Democratic Republic of Congo: “Rutschuru, Kivu orient; Altouelle, Faradje, Congo Republic di N.E., Uele-Itimbiri”.

***Papilio (Nireopapilio) chrapkowskoides nurettini* Koçak, 1983**
Western Streaked Malachite

Papilio bromius Doubl., 1845. Aurivillius, 1899.

Papilio nurettinii Koçak, 1983 (as replacement name for *Papilio bromius*). *Priamus* **2**: 165 (164-166; **3**: 38-39).

Papilio chrapkowskoides nurettini Koçak, 1983. Larsen, 2005a.



Papilio chrapkowskoides nurettini. Male. Left – upperside; right – underside.
 Bobiri Forest, Ghana, 238m; 6 41.36N 1 20.46W. 18-24 May 2014.
 Images M.C. Williams ex Gardiner Collection.



Papilio chrapkowskoides nurettini. Female. Left – upperside; right – underside.
Ivindo N.P., Gabon. 20 November 2017. J. Dobson.
Images M.C. Williams ex J. Dobson Collection.

Published images: Larsen, 2005a (male upperside; male underside; female underside).

Type locality: [Ghana]: “Ashanti”.

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (south), Nigeria, Cameroon, Equatorial Guinea (including Bioko – Viejo, 1984), Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Uganda (west).

Specific localities:

Guinea – Ziam (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020); Wonegizi (Safian *et al.*, 2020).

Ivory Coast – Man (Dufrane, 1946); Dimbroki (Storace, 1951).

Ghana – Ashanti (TL); Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Togo – Klouto [6°57'15.07"N 0°34'54.40"E] (Safian *et al.*, 2009).

Benin – see Coache *et al.*, 2017.

Nigeria – Lagos (Larsen, 2005a).

Cameroon – Edea (Strand, 1913); Lolodorf (Strand, 1913); Korup (Larsen, 2005a).

Equatorial Guinea (Rio Muni) – Makomo (Strand, 1913).

Equatorial Guinea (Bioko) – Bioko (Viejo, 1984).

Gabon – Waka (Vande weghe, 2010); Langoue (Vande weghe, 2010); Ipassa (Vande weghe, 2010); Kinguele (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Bitam (Vande weghe, 2010); Nouna (Vande weghe, 2010); Ivindo (Vande weghe, 2010).

Angola – Cabinda Province; Kwanza Norte Province; Kwanza Sul Province; Lunda Norte Province; Lunda Sul Province; Uige Province (Mendes *et al.*, 2013).

Congo – Etoumbi (Storace, 1951).

Central African Republic – Dzanga (Noss, 1998; as *bromius bromius*).

Democratic Republic of Congo – Kasai (Storace, 1951).

Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

bromius Doubleday, 1845 (as sp. of *Papilio*). *Annals and Magazine of Natural History* (1) **16**: 176 (176-182). Ghana: “Ashanti”. [Strictly invalid – Ackery *et al.*, 1995: 140 propose to apply to the I.C.Z.N. to set aside the principle of priority in order to maintain stability. However, since the name *bromius* is still currently used for a Neotropical skipper it will not be possible to set aside the principle of priority in order to maintain nomenclatural stability (Larsen, 2005a).]

tessmanni Strand, 1913 (as ab. of *Papilio bromius*). *Archiv für Naturgeschichte* **79** (A.2.): 23 (10-26). Cameroon: “Kamerun, Bassagebt b. Edea; Lolodorf Bipindi”.

incerta Strand, 1913 (as ab. of *Papilio bromius*). *Archiv für Naturgeschichte* **79** (A.2.): 23 (10-26). Equatorial Guinea: “Span. Guinea, Makomo Ntumgebt”.

impunctata Dufrane, 1946 (as ab. of *Papilio bromius bromius*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 105 (101-122). Democratic Republic of Congo: “Congo Belge”.

ornata Dufrane, 1946 (as ab. of *Papilio bromius chrapkowskii*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 105 (101-122). Ivory Coast: “Côte d’Ivoire, route de Man à Danané, bac sur le Covally”.

macrops Storace, 1951 *in* Storace, 1951-2 (as f. (race locale?) of *Papilio bromius bromius*). *Lambillionea*: **51**: 55 (51: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Democratic Republic of Congo: “Kasai”.

latior Storace, 1951 *in* Storace, 1951-2 (as f. of *Papilio bromius bromius*). *Lambillionea* **51**: 55 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Congo: “Congo Français, Etoumbi”.

imitans Storace, 1951 *in* Storace, 1951-2 (as f. of *Papilio bromius bromius*). *Lambillionea* **51**: 55 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Cameroon: “Cameroun”.

angustevittata Storace, 1951 *in* Storace, 1951-2 (as f. of *Papilio bromius bromius*). *Lambillionea* **51**: 55 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Congo: “Etoumbi”.

caerulea Storace, 1951 *in* Storace, 1951-2 (as f. of *Papilio bromius bromius*). *Lambillionea* **51**: 56 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Congo: “Etoumbi”.

tenuis Storace, 1951 *in* Storace, 1951-2 (as var. of *Papilio bromius bromius*). *Lambillionea* **51**: 56 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Ivory Coast: “Côte d’Ivoire, Dimbroki”; Sierra Leone.

septentrionalis Storace, 1951 *in* Storace, 1951-2 (as var. of *Papilio bromius bromius*). *Lambillionea* **51**: 57 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Ivory Coast: “Côte d’Ivoire, Ashanti, septentrional”.

****Papilio (Nireopapilio) desmondi* van Someren, 1939**
Wedge Malachite

Papilio brontes desmondi van Someren, 1939. *Journal of the East Africa and Uganda Natural History Society* **14**: 132 (130-151).

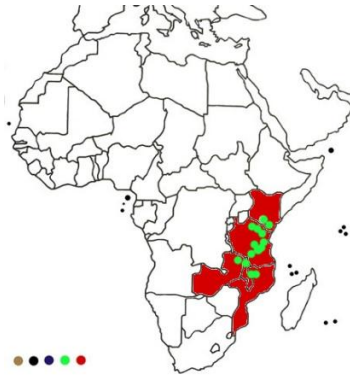


Papilio desmondi desmondi. Male. Left – upperside; right – underside.
Chyulu Hills, Kenya. March 1976. ex ABRI Collection (ABRI 2018-5025).
Images M.C. Williams ex ABRI Collection.

Type locality: Kenya: “Chyulu Range, 6800 feet”.

Distribution: Kenya, Tanzania, Malawi, Zambia, Mozambique (Congdon *et al.*, 2010).

Diagnosis: Appearance on upperside similar to *P. chrapkowskii* but on the underside of the wings the satiny sheen is absent in *P. desmondi* (Kielland, 1990d).



Distribution: Kenya, Tanzania, Malawi, Zambia, Mozambique (Congdon *et al.*, 2010).

Habitat: Montane forest. In Tanzania subspecies *usambaraensis* is found as low down as 300 m, at the foot of the Uzungwa Mountains, Kilombero District. It occurs up to 2 600 m (Kielland, 1990d). Subspecies *magdae* occurs at altitudes of 1 600 to 2 600 m in Tanzania (Kielland, 1990d).

Habits: The flight is strong, as in other members of the species group. Specimens of subspecies *magdae* visit flowers in gardens and are very fond of the blossoms of the exotic *Bougainvillea* (Kielland, 1990d).

Early stages:

Congdon *et al.*, 2017 [final instar larva].

Larval food:

Calodendrum species (Rutaceae) [Larsen, 1991c: 113].

Citrus species (Rutaceae) [Larsen, 1991c: 113].

Clausena species (Rutaceae) [Larsen, 1991c: 113].

Teclea species (Rutaceae) [Van Someren, 1974: 316].

Vepris eugenifolia (Engl.) I. Verd. (Rutaceae) [Van Someren, 1974: 316].

Zanthoxylum asiatica (L.) Lam. (Rutaceae) [Congdon *et al.*, 2017; Mufindi, Tanzania].

Zanthoxylum species (Rutaceae) [Larsen, 1991c: 113; as *Fagara*].

Papilio (Nireopapilio) desmondi desmondi van Someren, 1939

Wedge Malachite

Papilio brontes desmondi van Someren, 1939. *Journal of the East Africa and Uganda Natural History Society* **14**: 132 (130-151).



Papilio desmondi desmondi. Male. Left – upperside; right – underside.

Chyulu Hills, Kenya. March 1976. ex ABRI Collection (ABRI 2018-5025).
Images M.C. Williams ex ABRI Collection.

Type locality: Kenya: “Chyulu Range, 6800 feet”.

Distribution: Kenya (south-east).

Specific localities:

Kenya – Chyulu Hills (TL).

Papilio (Nireopapilio) desmondi magdae Gifford, 1961

Kilimanjaro Wedged Malachite

Papilio magdae Gifford, 1961. *Entomologist* **94**: 287 (287-289).



Papilio desmondi magdae. Male. Left – upperside; right – underside.
Mount Meru low forest, Tanzania. 31 January 2015.
Images M.C. Williams ex Gardiner Collection.

Type locality: Kenya/Tanzania: “Kilimanjaro, in forest country at 5000 ft”.

Distribution: Tanzania (north).

Specific localities:

Tanzania – Mount Kilimanjaro (TL); Mount Meru (Kielland, 1990d); North Pare Mountains (Kielland, 1990d); Arusha; Ngorongoro.

brontes Godman, 1885 (as sp. of *Papilio*). *Proceedings of the Zoological Society of London* **1885**: 540 (537-541).
Kenya/Tanzania: “Kilimanjaro, in forest country at 5000 ft”. [Invalid; junior primary homonym of *Papilio brontes* Denis & Schiffermüller, 1775 [Hesperiidae]; *Papilio brontes* Fabricius, 1787 [Hesperiidae]; and *Papilio brontes* Hübner, [1803] [Hesperiidae].]

Papilio (Nireopapilio) desmondi teita van Someren, 1960

Teita Wedged Malachite

Papilio teita van Someren, 1960. *Boletim de Sociedade de Estudos (da Colónia) de Moçambique* **29** (No. 123): 70 (61-93).

Type locality: Kenya: “Wandanyi-Mabida, Teita Range”.

Distribution: Kenya (south-east).

Specific localities:

Kenya – Wandanyi-Mabida, Teita Hills (TL); Mount Sagala.

Note: Included in the IUCN red data book on swallowtail butterflies (Collins & Morris, 1985). Larsen (1991) regards this to be an inaccurate assessment.

Papilio (Nireopapilio) desmondi usambaraensis (Koçak, 1980)

Usambara Wedged Malachite

Priniceps desmondi usambaraensis Koçak, 1980. *Nota Lepidopterologicae* 2: 139 (139-146).



Papilio desmondi usambaraensis. Male. Left – upperside; right – underside.
Luisenga Nature Reserve, near Mafinga, Tanzania. 4 April 1995.
Images M.C. Williams ex Gardiner Collection.



Papilio desmondi usambaraensis. Female. Left – upperside; right – underside.
Luisenga Nature Reserve, near Mafinga, Tanzania. 4 April 1995.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Tanzania]: “Tanganyika Territory, Usambara Range”.

Distribution: Tanzania (east and south), Malawi (north), Zambia (north-east), Mozambique.

Specific localities:

Tanzania – From the Usambaras in the north-east, to the Njombe Highlands and Mount Rungwe near Mbeya (Kielland, 1990d).

Zambia – Mafinga Mountains (Heath *et al.*, 2002); Makutu Mountains (Heath *et al.*, 2002).

Mozambique – Mt Namuli (Congdon *et al.*, 2010); Mt Mabu (Congdon *et al.*, 2010).

australis van Someren, 1960 (as ssp. of *Papilio brontes*). *Boletim de Sociedade de Estudos (da Colônia) de Moçambique* **29** (No. 123): 69 (61-93). Tanzania: “Tanganyika Territory, Usambara Range”. [Invalid; junior primary homonym of *Papilio turnus australis* Maynard, 1891 [Papilionidae] and *Papilio rumina australis* Esper, 1781 [Papilionidae].]

****Papilio (Nireopapilio) hornimani* Distant, 1879**

Club-tailed Malachite

Papilio hornimani Distant, 1879. *Proceedings of the Zoological Society of London* **1879**: 647 (647-649).

Papilio Hornimani Distant, 1879. Aurivillius, 1899.



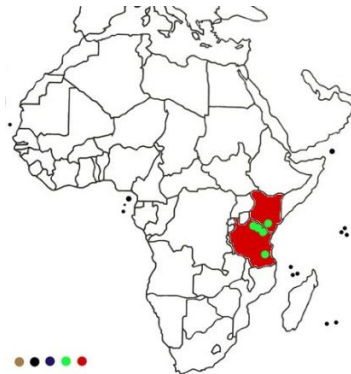
Papilio hornimani hornimani. Male. Left – upperside; right – underside.
Amani, east Usambara, Tanzania. January 1993. S. Collins. (ABRI 2018-5013).
Images M.C. Williams ex ABRI Collection.



Papilio hornimani hornimani. Female. Left – upperside; right – underside.
 Ambangulu, east Usambara, Tanzania. January 1992. S. Collins. (ABRI 2018-5014).
 Images M.C. Williams ex ABRI Collection.

Alternative common name: Horniman's Swallowtail.

Type locality: [Tanzania]: "Magila, East Africa".



Distribution:
 Kenya, Tanzania.

Habitat: Forest. In Tanzania the nominate subspecies is found in heavy forest, from 400 to 2 200 m, subspecies *mwanihanae* from 300 to 1 300 m, and subspecies *mbulu* from 1 400 to 2 400 m (Kielland, 1990d).

Habits: The flight is powerful. Both sexes visit flowers and males frequently mudpuddle. Females are not encountered nearly as often as males (Kielland, 1990d).

Early stages: Nothing published.

Larval food:

Citrus species? (Rutaceae) [Kielland, 1990d: 40].

Teclea species (Rutaceae) [Kielland, 1990d: 40].

Papilio (Nireopapilio) hornimani hornimani Distant, 1879
 Club-tailed Malachite

Papilio hornimani Distant, 1879. *Proceedings of the Zoological Society of London* **1879**: 647 (647-649).

Papilio Hornimani Distant, 1879. Aurivillius, 1899.



Papilio hornimani hornimani. Male. Left – upperside; right – underside.
 Amani, east Usambara, Tanzania. January 1993. S. Collins. (ABRI 2018-5013).
 Images M.C. Williams ex ABRI Collection.



Papilio hornimani hornimani. Female. Left – upperside; right – underside.
 Ambangulu, east Usambara, Tanzania. January 1992. S. Collins. (ABRI 2018-5014).
 Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “Magila, East Africa”.

Distribution: Kenya (south-east), Tanzania (east and west Usambara, South Pare Mountains).

Records for Lindi in Tanzania and for Uganda are erroneous (Takano *et al.*, 2021).

Specific localities:

Kenya – Chyulu Hills, northern parts (Larsen, 1991c).

Tanzania – Magila (TL).

Papilio (Nireopapilio) hornimani mbulu Kielland, 1990
Mbulu Club-tailed Malachite

Papilio hornimani mbulu Kielland, 1990. *Butterflies of Tanzania* 40 (363 pp.). Melbourne.



Papilio hornimani mbulu. Male. Wingspan 86 mm. Left – upperside; right – underside.
Mount Meru, Tanzania. 31 August 2011. S. Collins.
Images M.C. Williams ex Dobson Collection.

Type locality: Tanzania: “Mbulu, Mamahisara, Hasama Forest, 2000 m”. Holotype male in the Natural History Museum, London.

Description: “A smaller insect than ssp. *hornimani*, and less variable in the width and shape of the blue median band. Male. F.w. blue median band generally wider and straighter than in the nominate race, almost of even width, greenish to bluish-green; h.w. tails shorter; blue median band wide, more even in width and its distal border much more even than in ssp. *hornimani*. Underside f.w. with the distal border of the submarginal silver-white spots only slightly indented or nearly straight (in ssp. *hornimani* strongly concave, making the spots look sickle-shaped). Length of f.w. Mbulu-Oldeani specimens 53-56 mm; average 55 mm; Meru-Kilimanjaro specimens 54-57 mm; average 56 mm. The latter populations have slightly longer tails. Female. Upperside very variable, but differs from ssp. *hornimani* in the markings being much greener (not blue as in *hornimani*), and h.w. median band not being strongly indented as it is in *hornimani*; tails shorter. Underside f.w. submarginal grey-white spots less concave distally than in *hornimani*. Length of f.w. 57 mm in the Mbulu population (only one); 63 mm in Mt Meru population (only one). Females are rare in collections.”

Distribution: Tanzania (northern highlands).

Specific localities:

Tanzania – Mbulu forests (Hasama, Marang) (TL); Ngorongoro (Kielland, 1990d); Oldeani (Kielland, 1990d); Mount Kwaraha (Kielland, 1990d); Mount Meru (Kielland, 1990d); Mount Kilimanjaro (Kielland, 1990d).

Papilio (Nireopapilio) hornimani mwanihanae Kielland, 1987
Mwanihana Club-tailed Malachite

Papilio hornimani mwanihanae Kielland, 1987. *Lambillionea* **87**: 122 (114-126).

Type locality: Tanzania: “Kilombero, Sanje, 300 m”. The female is unknown (Kielland, 1990d: 40).

Distribution: Tanzania (south-east).

Specific localities:

Tanzania – Mwanihana National Park, in Kilombero District (TL).

**Papilio (Nireopapilio) interjectana* Vane-Wright, 1995
Barred Malachite

Papilio (Priniceps) interjectana Vane-Wright, 1995. *In*: Ackery *et al.*, 1995: 150. Replacement name for *interjecta* van Someren, 1960.

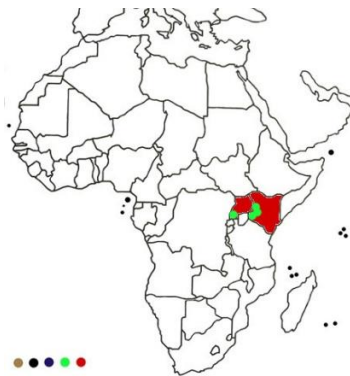


Papilio interjectana. Male. Left – upperside; right – underside.
Kakamega Forest, Kenya. 13 June 1996.
Images M.C. Williams ex Gardiner Collection.



Papilio interjectana. Female. Left – upperside; right – underside.
Kakamega Forest, Kenya. 16 June 1996.
Images M.C. Williams ex Gardiner Collection.

Type locality: Kenya: “Kaimosi Forest”.



Distribution: Uganda, Kenya (west).

Specific localities:

Uganda – Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

Kenya – Kaimosi Forest (TL); Mount Elgon (Larsen, 1991c); South Kavirondo (Larsen, 1991c).

Habitat: Forest. Only undisturbed forest in good condition is inhabited.

Habits: A common species in western Kenyan forests (Larsen, 1991c). Specimens appear to spend most of the time in the forest canopy, only coming down to drink from damp patches (Larsen, 1991c). Indistinguishable, on the wing, from the sympatric *P. chrapkowskii*.

Early stages:

Congdon *et al.*, 2017 [final instar larva].

Larval food:

Zanthoxylum asiatica (L.) Lam. (Rutaceae) [Congdon *et al.*, 2017; Kakamega, Kenya].

interjecta van Someren, 1960 (as sp. of *Papilio*). *Boletim de Sociedade de Estudos (da Colónia) de Moçambique* **29** (No. 123): 70 (61-93). Kenya: “Kaimosi Forest”. [Invalid; junior primary homonym of *Papilio leucothoe* var. *interjectus* Honrath, 1892 [Papilionidae].]

****Papilio (Nireopapilio) nerminae* Koçak, 1983**
Sao Tome Malachite

Papilio bromius nerminae Koçak, 1983. *Priamus* 2: 165 (2: 164-166; 3: 38-39).



Papilio nerminae. Male. Left – upperside; right – underside.
Rio Grande, Sao Tome. March 1992. S.C. Collins. ABRI Coll.
Images J. Dobson ex ABRI Collection.



Papilio nerminae. Female. Left – upperside; right – underside.
Sao Tome. April 1980. Dr Canu. ABRI Coll.
Images J. Dobson ex ABRI Collection.

Type locality: Sao Thome and Principe: “Island of Sao Thomé, West Africa”.



Distribution of *Papilio nerminae*

Sao Tome & Principe.

Distribution: Sao Tome & Principe (Island of Sao Tome).

Early stages: Nothing published.

Larval food: Nothing published.

[Given in Ackery *et al.*, 1995: 140 as *Papilio bromius nerminae* Koçak. Raised from *Papilio bromius furvus* Joicey & Talbot, 1926 (*Entomologist* **59**: 220) by Wojtusiak & Pyrcz, 1997 (*Lambillionea* **97** (1): 53-63). However, Koçak, 1983 (*Priamus* **2**: 165) proposed the replacement name *nerminae* for *furvus* - see Ackery *et al.*, 1995: 140.]

furvus Joicey & Talbot, 1926 (as ssp. of *Papilio bromius*). *Entomologist* **59**: 220 (220-226). Sao Thome and Principe: "Island of Sao Thomé, West Africa". [Invalid; junior primary homonym of *Papilio furvus* Goeze, 1779 [Pieridae].]

****Papilio (Nireopapilio) sosia* Rothschild & Jordan, 1903**
Fair-banded Malachite

Papilio sosia Rothschild & Jordan, 1903. *Novitates Zoologicae* **10**: 488 (488-490).



Papilio sosia sosia. Male. Left – upperside; right – underside.
Bobiri Forest, Ghana. 238m; 6 41.36N 1 20.46W. 18-24 May 2014.
Images M.C. Williams ex Gardiner Collection.

Published images: Larsen, 2005a (male upperside).

Type locality: Sierra Leone.

Diagnosis: Specimens of *P. sosia*, occurring sympatrically with *P. chrapkowskoides* in western Tanzania, can

only be separated with certainty by examination of the genitalia (Kielland, 1990d).



Distribution of *Papilio sosia*

Ssp. *sosia* (red) – Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon.

Ssp. *pulchra* (green) – Cameroon, Equatorial Guinea (Bioko), Gabon, Angola, Congo, Central African Republic, Democratic Republic of Congo.

Ssp. *debilis* (blue) – Uganda, Tanzania.

Distribution: Guinea-Bissau (Biver-de-Sousa *et al.*, 2007), Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Angola, Congo, Democratic Republic of Congo, Central African Republic, Uganda, Tanzania.

Habitat: Lowland forest. Only occurs in good quality wet or drier forests (Larsen, 2005a). In Tanzania ssp. *debilis* occurs at altitudes from 800 to 1 500 m (Kielland, 1990d).

Habits: Much scarcer than *P. chrakovskoides* but the behaviour is similar (Larsen, 2005a).

Early stages: Nothing published.

Larval food:

(possibly) *Citrus* species (Rutaceae) [Larsen, 2005a].

(probably) *Teclea* species (Rutaceae) [Kielland, 1990d: 45].

(probably) *Zanthoxylum* species (Rutaceae) [Kielland, 1990d: 45].

Zanthoxylum gillettii (De Wild.) P.G.Waterman (Rutaceae) [Larsen, 2005a (Ankasa, Ghana); as *Xanthoxylon gillesi*].

Papilio (Nireopapilio) sosia sosia Rothschild & Jordan, 1903

Fair-banded Malachite

Papilio sosia Rothschild & Jordan, 1903. *Novitates Zoologicae* **10**: 488 (488-490).



Papilio sosia sosia. Male. Left – upperside; right – underside.
Bobiri Forest, Ghana. 238m; 6 41.36N 1 20.46W. 18-24 May 2014.
Images M.C. Williams ex Gardiner Collection.

Published images: Larsen, 2005a (male upperside).

Type locality: Sierra Leone.

Distribution: Guinea-Bissau (Biver-de-Sousa *et al.*, 2007), Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (south), Nigeria (south), Cameroon (west).

Specific localities:

Guinea – Parc National du Haut Niger (Larsen, 2005a); Ziama (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020).

Ghana – Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Benin – Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.*, 2017.

Nigeria – Bashu (Brattstrom, 2008).

Cameroon – Korup (Larsen, 2005a).

Papilio (Nireopapilio) sosia debilis Storace, [1951]
Eastern Fair-banded Malachite

Papilio sosia debilis Storace, [1951] *in* Storace, 1951-2. *Lambillionea* **51**: 47 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76).

Type locality: Uganda: “Bussa-Busoga; route Jinja-Iganga (Busoga); Kakindu; Butiaba (Lac Albert, Uganda), Forêt de Budongo, 1200 m.”

Distribution: Uganda, Tanzania (north-west).

Specific localities:

Uganda – Bussa-Busoga (TL); Kakindu (Storace, 1951); Butiaba (Storace, 1951); Budongo Forest (Storace, 1951); Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

Tanzania – forests near Lake Tanganyika (Kielland, 1990d); Ntakatta Forest (Kielland, 1990d).

Papilio (Nireopapilio) sosia pulchra Berger, 1950
Central Fair-banded Malachite

Papilio sosia pulchra Berger, 1950. *Annales du Musée Royal du Congo Belge. C-Zoologie* (3) **8** (1): 30 (102 pp.).



Papilio sosia pulchra. Female. Left – upperside; right – underside.
Bangui, Central African Republic. 1970. ex ABRI Collection (ABRI 2018-5026).
Images M.C. Williams ex ABRI Collection.

Type locality: Democratic Republic of Congo: “Stanleyville, Secteur de Basoka”. Holotype and allotype in the Royal Museum for Central Africa, Tervuren, Belgium.

Distribution: Cameroon, Equatorial Guinea (Bioko), Gabon, Angola (north), Congo, Central African Republic, Democratic Republic of Congo.

Specific localities:

Cameroon – Makak station (Birket-Smith, 1960).

Equatorial Guinea – Santa Isabel, Bioko (Martin, 2015); Basile, Bioko (Martin, 2015).

Gabon – Tchimbele (Vande weghe, 2010); Waka (Vande weghe, 2010); Ipassa (Vande weghe, 2010); Langoue (Vande weghe, 2010).

Angola – Cabinda Province; Kwanza Norte Province; Uige Province (Mendes *et al.*, 2013).

Congo – Etoumbi (Storace, 1951).

Democratic Republic of Congo – Stanleyville (TL); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018).

imitatrix Storace, 1951 *in* Storace, 1951-2 (as f. of *Papilio sosia*). *Lambillionea* **51**: 45 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Congo: “Etoumbi”.

pristina Storace, 1951 *in* Storace, 1951-2 (as ab. of *Papilio sosia*). *Lambillionea* **51**: 46 (**51**: 44-52, 54-57, 73-76; **52**: 9-11, 14-20, 30-35, 75-76). Congo: “Etoumbi”.

atlantica Birket-Smith, 1960 (as ab.? of *Papilio sosia*). *Bulletin de l'Institut Français d'Afrique Noire* (A) **22**: 525 (521-554, 924-983, 1259-1284). Cameroon: “French Cameroons, near the river Nyong just south of Makak station”.

****Papilio (Nireopapilio) thuraui* Karsch, 1900**

Black Malachite

Papilio thuraui Karsch, 1900. *Entomologische Nachrichten. Berlin* **26**: 126 (126-128).

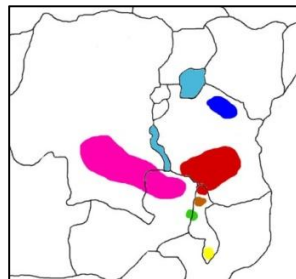
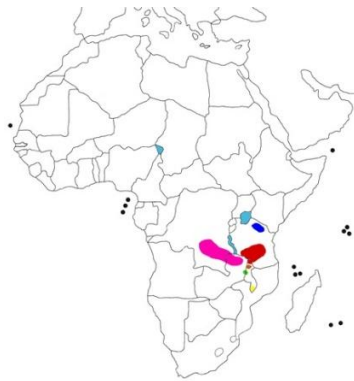


Papilio thuraui thuraui. Male. Left – upperside; right – underside.
Luisenga Nature Reserve, near Mafinga, Tanzania. 4 April 1995.
Images M.C. Williams ex Gardiner Collection.



Papilio thuraui thuraui. Female. Left – upperside; right – underside.
Mufindi, Tanzania. September 2003. S. Collins. (ABRI 2018-5020).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “Ostafrika, auf der Route von Ubena nach Langenburg”.



Distribution of *Papilio thuraui*

Ssp. *thuraui* (red) – Tanzania (south), Malawi (north).
Ssp. *cyclopis* (green) – Malawi & Zambia (Nyika Plateau).
Ssp. *heathi* (yellow) – Malawi (south).
Ssp. *ngorongoro* (dark blue) – Tanzania (north).
Ssp. *occidua* (pink) - Democratic Republic of Congo (Kasai),
Zambia (north-east).
Ssp. *viphya* (brown) – Malawi (north).

Distribution: Democratic Republic of Congo, Tanzania, Malawi, Zambia.

Habitat: Montane forest. In Tanzania occurs at altitudes from 1 300 to 2 600 m (Kielland, 1990d).

Habits: Both sexes are strongly attracted to flowers, even visiting those in gardens. The flight is fast and powerful. Males are sometimes found mud-puddling (Kielland, 1990d).

Early stages: Nothing published.

Larval food:

Zanthoxylum species (Rutaceae) [Congdon, *vide* Kielland, 1990d: 45].

Zanthoxylum asiatica (L.) Lam. (Rutaceae) [Heath *et al.*, 2002: 24].

Papilio (Nireopapilio) thuraui thuraui Karsch, 1900

Black Malachite

Papilio thuraui Karsch, 1900. *Entomologische Nachrichten. Berlin* **26**: 126 (126-128).



Papilio thuraui thuraui. Male. Left – upperside; right – underside.
Luisenga Nature Reserve, near Mafinga, Tanzania. 4 April 1995.
Images M.C. Williams ex Gardiner Collection.



Papilio thuraui thuraui. Female. Left – upperside; right – underside.
Mufindi, Tanzania. September 2003. S. Collins. (ABRI 2018-5020).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “Ostafrika, auf der Route von Ubena nach Langenburg”.

Distribution: Tanzania (south), Malawi (north).

Specific localities:

Tanzania – Between Ubena and Langenburg (TL); from Luhombero Mountain in the Uzungwa Range to Mufindi (Kielland, 1990d); Njombe (Kielland, 1990d); Livingstone Mountains (Kielland, 1990d); Mount Rungwe (Kielland, 1990d); mountains surrounding the Tukuyu basin (Kielland, 1990d).

Papilio (Nireopapilio) thuraui cyclopis Rothschild & Jordan, 1903

Nyika Black Malachite

Papilio thuraui cyclopis Rothschild & Jordan, 1903. *Novitates Zoologicae* 10: 489 (488-490).



Papilio thuraui cyclopis. Male. Left – upperside; right – underside.
Near Livingstonia, Malawi. 8 April 1995.
Images M.C. Williams ex Gardiner Collection.



Papilio thuraui cyclopis. Female. Left – upperside; right – underside.
Nyika Plateau, Zambia. 8 September 1963.
Images M.C. Williams ex Gardiner Collection.

Type locality: Malawi: “Kasungu Mt., Nyika, Nyassaland, 7450 ft.”.

Distribution: Malawi (Nyika Plateau), Zambia.

Specific localities:

Malawi – Kasungu Mountain (TL); Nyika N.P. (J. Timberlake, pers. comm., 2019).

Zambia – Nyika Plateau (Heath *et al.*, 2002); Chowa Forest.

***Papilio (Nireopapilio) thuraui heathi* (Hancock, 1984)**
Southern Black Malachite

Priniceps (Druryia) thuraui occidua f. *heathi* Hancock, 1984. *Arnoldia Zimbabwe* **9**: 205 (181-215).

Papilio thuraui occidua f. *heathi* (Hancock, 1984). Ackery *et al.*, 1995: 157.

Papilio thuraui heathi (Hancock, 1984). Hancock, 1993: 563.

Type locality: Malawi: “Mlanje”

Distribution: Malawi.

Specific localities:

Malawi – Mt Mulanje (TL).

Papilio (Nireopapilio) thuraui ngorongoro (Hancock, 1984)
Ngorongoro Black Malachite

Princeps (Druryia) thuraui ngorongoro Hancock, 1984. *Arnoldia. Zimbabwe* 9: 204 (181-215).

Type locality: Tanzania: “Ngorongoro Crater, 3° 15'S, 35° 30'E, NW of Lake Manyara”.

Distribution: Tanzania (north).

Specific localities:

Tanzania – Ngorongoro Crater (TL).

Note: Kielland (1990: 37) states that *ngorongoro* is a synonym of *P. chrapkowskii* but does not officially sink it.

Papilio (Nireopapilio) thuraui occidua Storace, [1951]
Central Black Malachite

Papilio brontes occidua Storace, [1951] *in* Storace, 1951-2. *Lambillionea* 51: 51 (51: 44-52, 54-57, 73-76; 52: 9-11, 14-20, 30-35, 75-76).



Papilio thuraui occidua. Male. Left – upperside; right – underside.
Zomba, Malawi. 12 December 2003.
Images M.C. Williams ex Gardiner Collection.



Papilio thuraui occidua. Female. Left – upperside; right – underside.
Kuchowie Inn, Zomba, Malawi. 19 April 1973.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Democratic Republic of Congo]: “Congo Belge, Kasai”.

Distribution: Democratic Republic of Congo (Kasai), Malawi, Zambia (north-east).

Specific localities:

Democratic Republic of Congo – Kasai (TL).

Zambia – Bwingi Mfumu (Heath *et al.*, 2002).

occidentale van Someren, 1960 (as ssp. of *Papilio brontes*). *Boletim de Sociedade de Estudos (da Colónia) de Moçambique* **29** (No. 123): 69 (61-93). [*Lapsus* for *occidua* Storage.]

Papilio (Nireopapilio) thuraui viphya (Hancock, 1984)

Viphya Black Malachite

Princeps (Druryia) thuraui f. *viphya* Hancock, 1984. *Arnoldia Zimbabwe* **9**: 206 (181-215).

Papilio thuraui occidua f. *viphya* (Hancock, 1984). Ackery *et al.*, 1995: 157.

Papilio thuraui viphya (Hancock, 1984). Hancock, 1993: 557.

Type locality: Malawi: “Musamba, Viphya, 1570 m”.

Distribution: Malawi.

Specific localities:

Malawi – Musamba, Viphya (TL).

**Papilio (Nireopapilio) microps* Storage, [1952]

Highland Malachite

Papilio aethiops microps Storage, [1952] *in* Storage, [1951-2]. *Lambillionea* **51**: 52 (51: 44-52, 54-57, 73-76; 52: 9-11, 14-20, 30-35, 75-76).



Papilio microps. Male. Left – upperside; right – underside.

Boter Becho, Ethiopia. 18 September 1997.

Images M.C. Williams ex Gardiner Collection.



Papilio microps. Female. Left – upperside; right – underside.
 Boter Becho, Ethiopia. 18 September 1997.
 Images M.C. Williams ex Gardiner Collection.

Type locality: Ethiopia: “Shoa, Abyssinia centrale”.

Distribution: Ethiopia, Somalia (north).

Specific localities:

Ethiopia – Shoa (TL); Wor to Gamitscha, Kaffa (Rothschild & Jordan, 1905); Eli (Strand, 1911); Shaki River, Mocha District (Carpenter, 1935); Scioa (Storace, 1952); Scitalit (Storace, 1952); Mantec (Storace, 1952).

Early stages: Nothing published.

Larval food: Nothing published.

aethiops Rothschild & Jordan, 1905 (as sp. of *Papilio*). *Novitates Zoologicae* **12**: 190 (175-191). Ethiopia: “Wori to Gamitscha, Kaffa”. [Invalid: junior primary homonym of *Papilio aethiops* Esper, 1777 [Satyrinae] and *Papilio aethiops* Palisot de Beauvois, [1805] [Nymphalidae].]

elicola Strand, 1911 (as ab. of *Papilio aethiops*). *Entomologische Rundschau* **28**: 140 (137-141). Ethiopia: “Abyssinien, Eli”.

oribazoides Carpenter, 1935 (as f. of *Papilio aethiops*). *Transactions of the Royal Entomological Society of London* **83**: 331 (313-447). Ethiopia: “Abyssinia, Saki (Shaki) R., Mocha district, 7° 26', 35° 26', 5800 ft.”.

ragazzii Storace, 1952 (as ab. of *Papilio aethiops*). *Annali del Museo Civico di Storia Naturale (di Genova) Giacomo Doria* **66**: 40 (33-52). Ethiopia: “Scioa, Scitalit, torrente Mantec”.

aethiopsis Hancock, 1983 (as [unnecessary] objective replacement name for *Papilio aethiops* Rothschild & Jordan). *Smithersia* **2**: 38 (1-48).

yildizae Koçak, 1983 (as [unnecessary] objective replacement name for *Papilio aethiops* Rothschild & Jordan). *Priamus* **2**: 165 (2: 164-166; 3: 38-39).

****Papilio (Nireopapilio) ufipa* Carcasson, 1961**

Straight Malachite

Papilio bromius ufipa Carcasson, 1961. *Occasional Papers. Coryndon Memorial Museum, Nairobi* **7**: 3 (1-23).

Papilio thuraui ufipa Carcasson, 1961. Hancock, 1984.

Papilio ufipa Carcasson, 1961. Kielland, 1990d: 46 **stat. rev.**



Papilio ufipa. Male. Left – upperside; right – underside.
Ufipa, western Tanzania. ex ABRI Collection (ABRI 2018-5022).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “Mbisi forest, Sumbawanga, Ufipa, south-west Tanganyika”.

Diagnosis: Distinguished on the forewing underside by the very large white postdiscal markings (Kielland, 1990d).



Papilio ufipa

Tanzania – south-west

Distribution: Tanzania (south-west – Ufipa district).

Specific localities:

Tanzania – Mbisi Forest, Ufipa, Rukwa region (TL).

Habitat: Riparian and montane forest at altitudes from 1 000 to 2 400 m (Kielland, 1990d).

Habits: The flight is rapid but males will swoop down to investigate dead specimens placed on the ground as decoys. The males are territorial, patrolling a specific area. Females are seldom seen (Kielland, 1990d).

Early stages: Nothing published.

Larval food: Nothing published.

ufipa Carcasson, 1960 (as ssp. of *Papilio bromius*). *Journal of the East African Natural History Society* Special Supplement No. 6: 16 (33 pp.). [*Nomen nudum*.]

****Papilio (Nireopapilio) wilsoni* Rothschild, 1926**

Black-winged Malachite

Papilio wilsoni Rothschild, 1926. *Annals and Magazine of Natural History* (9) **17**: 113 (112-114).
Synonym of *P. nireus pseudonireus*. Ackery *et al.*, 1995: 153.
Papilio wilsoni Rothschild, 1926. d'Abrera, 1997: 32.

Type locality: Ethiopia: "Nubar Hills, Taldi, 10° 39'N, 1625 ft."

Distribution: Ethiopia.

Specific localities:

Ethiopia – Nubar Hills, Taldi (TL).

Early stages: Nothing published.

Larval food: Nothing published.

****Papilio (Nireopapilio) oribazus* Boisduval, 1836**
Malagasy Tailed Malachite

Papilio oribazus Boisduval, 1836. *In*: [Roret, Suites à Buffon] *Histoire naturelle des Insectes. Species général des Lépidopteres* **1**: 223 (690 pp.). Paris.

Papilio oribazus Boisd., 1836. Aurivillius, 1899.



Papilio oribazus. Male. Left – upperside; right – underside.
Andasibe, Madagascar. 5-7 April 2018. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio oribazus. Female. Left – upperside; right – underside.
Andasibe, Madagascar. December 2011. ex ABRI Collection (ABRI 2018-5015).
Images M.C. Williams ex ABRI Collection.

Type locality: Madagascar.

Distribution: Madagascar (east).

Specific localities:

Madagascar – Andasibe (male illustrated above).

Habitat: Forest and forest margins (Lees *et al.*, 2003).

Early stages: Nothing published.

Larval food: Nothing published.

****Papilio (Nireopapilio) epiphorbas* Boisduval, 1833**
Shattered Malachite

Papilio epiphorbas Boisduval, 1833. *Nouvelles Annales du Muséum d'Histoire Naturelle, Paris* **2**: 161 (149-270).

Papilio epiphorbas Boisd., 1833. Aurivillius, 1899.



Papilio epiphorbas epiphorbas. Male. Left – upperside; right – underside.
Ranamofana, Madagascar. 10-13 April 2018. J. Dobson.

Images M.C. Williams ex Dobson Collection.



Papilio epiphorbas epiphorbas. Female. Left – upperside; right – underside.
Anjajavy, Madagascar. 24 May 2005.
Images M.C. Williams ex Gardiner Collection.

Type locality: Madagascar: “Sainte-Marie and Madagascar”.

Distribution: Madagascar, Comoro Islands.

Habitat: Forest, forest margins and anthropogenic environments (Lees *et al.*, 2003). Confined to thickly wooded areas and forest, even degraded forest and farmlands (R. Schutte, pers comm., April 2010).

Habits: A common resident displaying typical rapid Papilio flight (R. Schutte, pers comm., April 2010).

Early stages: Nothing published.

Larval food: Females seen ovipositing on cultivated Citrus, and larvae were common (R. Schutte, pers comm., April 2010).

Papilio (Nireopapilio) epiphorbas epiphorbas Boisduval, 1833
Shattered Malachite

Papilio epiphorbas Boisduval, 1833. *Nouvelles Annales du Muséum d'Histoire Naturelle, Paris* 2: 161 (149-270).

Papilio epiphorbas Boisd., 1833. Aurivillius, 1899.



Papilio epiphorbas epiphorbas. Male. Left – upperside; right – underside.
 Ranamofana, Madagascar. 10-13 April 2018. J. Dobson.
 Images M.C. Williams ex Dobson Collection.



Papilio epiphorbas epiphorbas. Female. Left – upperside; right – underside.
 Anjajavy, Madagascar. 24 May 2005.
 Images M.C. Williams ex Gardiner Collection.

Type locality: Madagascar: “Sainte-Marie and Madagascar”.

Distribution: Madagascar.

Specific localities:

Madagascar – Tamatave (Le Cerf, 1924); Tananarive (Le Cerf, 1924); Nosy Iranje (R. Schutte, pers comm., April 2010); Anjajavy Peninsula (R. Schutte, pers comm., April 2010); Perinet Forest (R. Schutte, pers comm., April 2010); Ranamofana (male illustrated above).

hova Le Cerf, 1924 (as f. indiv. female of *Papilio epiphorbas*). *Bulletin of the Hill Museum, Witley* **1**: 386 (369-399, 576, 578, 580, 582, 584). Madagascar: “Tamatave”.

oriphorbas Le Cerf, 1924 (as f. indiv. male of *Papilio epiphorbas*). *Bulletin of the Hill Museum, Witley* **1**: 386 (369-399, 576, 578, 580, 582, 584). Madagascar: “Tananarive”.

Papilio (Nireopapilio) epiphorbas guyonnaudii Turlin & Guilbot, 1990
 Anjouan Shattered Malachite

Papilio epiphorbas guyonnaudii Turlin & Guilbot, 1990. *Bulletin de la Société Entomologique de France* **94** (7-8): 214 (213-219).

Type locality: Comoro Islands: “Ajaho, 50, Ile d’Anjouan, Comores”.

Distribution: Comoro Islands (Anjouan).

Papilio (Nireopapilio) epiphorbas praedicta Turlin & Guilbot, 1990
 Comoro Shattered Malachite

Papilio epiphorbas praedicta Turlin & Guilbot, 1990. *Bulletin de la Société Entomologique de France* **94** (7-8): 216 (213-219).

Type locality: Comoro Islands: “Trou de Prophète, Mitsamiouli, Littoral nord de Grande Comore”.

Distribution: Comoro Islands (Grand Comore).

****Papilio (Nireopapilio) manlius* Fabricius, 1798**
Mauritian Malachite

Papilio manlius Fabricius, 1798. *Supplementum entomologiae systematica* 422 (572 pp.). Hafniae.

Papilio manlius Fabr., 1798. Aurivillius, 1899.



Papilio manlius. Male. Left – upperside; right – underside.
Black River, Mauritius. December 1991. ex ABRI Collection (ABRI 2018-5016).
Images M.C. Williams ex ABRI Collection.



Papilio manlius. Female. Left – upperside; right – underside.
“Maurice” [Mauritius]. ex ABRI Collection (ABRI 2018-5017).
Images M.C. Williams ex ABRI Collection.

Type locality: [Mauritius]: “Isle de France”.

Diagnosis: Belongs to the *P. nireus* group and is closely related to *P. phorbanta* and *P. epiphorbas*.

General notes: The conservation status of this species is dealt with in the Red Data Book for Papilionidae (Collins & Morris, 1985).

Distribution: Mauritius.

Specific localities:

Mauritius – Widespread and common (Davis & Barnes, 1991). Chamarel (Lawrence, 2016); Le Morne (Lawrence, 2016); Ramgoolam Botanical Gardens (Lawrence, 2016).

Habitat: Found throughout the island because it uses introduced *Citrus* species as larval foodplants (Davis & Barnes, 1991).

Habits: Males are very strong flyers and seldom settle. Two males have been observed circling a hilltop at Chamarel but hilltopping behavior was not confirmed (Lawrence, 2016).

Early stages:

Davis & Barnes, 1991.

The larvae are, apparently, bright green in all instars.

Larval food:

Citrus spp. (Rutaceae) [Davis & Barnes, 1991].

grachus Fabricius, 1798 (as sp. of *Papilio*). *Supplementum entomologiae systematica* 422 (572 pp.). Hafniae. Mauritius: “Isle de France”.

philemon Fabricius, 1938 (as sp. of *Papilio*). *Systema Glossatorum*: 13-112. *In*: Bryk, F., J. Chr. Fabricius *Systemata Glossatorum (Brunovia 1807)*: 29 (112 + [18] pp.). Feller, Neubrandenburg. Mauritius: “Isle-de-Franc”.

****Papilio (Nireopapilio) phorbanta* Linnaeus, 1771**

Broken Malachite

Papilio phorbanta Linnaeus, 1771. *Mantissa Plantarum altera Generum editionis VI & Specierum editionis II. (Mantissa prioris additamenta)*. [Regni Animalis appendix] 535 (143-588 pp.).

Papilio phorbanta L., 1771. Aurivillius, 1899.



Papilio phorbanta phorbanta. Male. Left – upperside; right – underside.
St. Denis, Reunion. Emerged November 1980. S. Collins. (ABRI 2018-5018).
Images M.C. Williams ex ABRI Collection.



Papilio phorbanta phorbanta. Female. Left – upperside; right – underside.
St. Denis, Reunion. Emerged November 1980. S. Collins. (ABRI 2018-5019).
Images M.C. Williams ex ABRI Collection.

Type locality: [Reunion]: “Cayenna”. [False locality.]

Distribution: Reunion, Seychelles.

Reported, in error, as *P. disparalis* Boisduval, 1833, from Madagascar by Van Vollenhoven (1869) (Lees *et al.*, 2003).

Early stages: Nothing published.

Larval food:

Rutaceae [Matire & Rochat, 2008].

Relevant literature:

Guillermet, 2003c [Biology notes; Reunion].

Papilio (Nireopapilio) phorbanta phorbanta Linnaeus, 1771
Broken Malachite

Papilio phorbanta Linnaeus, 1771. *Mantissa Plantarum altera Generum editionalis VI & Specierum editionis II. (Mantissa prioris additamenta)*. [Regni Animalis appendix] 535 (143-588 pp.).
Papilio phorbanta L., 1771. Aurivillius, 1899.



Papilio phorbanta phorbanta. Male. Left – upperside; right – underside.
St. Denis, Reunion. Emerged November 1980. S. Collins. (ABRI 2018-5018).

Images M.C. Williams ex ABRI Collection.



Papilio phorbanta phorbanta. Female. Left – upperside; right – underside.
St. Denis, Reunion. Emerged November 1980. S. Collins. (ABRI 2018-5019).
Images M.C. Williams ex ABRI Collection.

Type locality: [Reunion]: “Cayenna”. [False locality.]

Distribution: Reunion.

disparilis Boisduval, 1833 (as sp. of *Papilio*). *Nouvelles Annales du Muséum d'Histoire Naturelle, Paris* 2: 163 (149-270). Reunion: “Bourbon”.

Papilio (Nireopapilio) phorbanta nana Oberthür, 1879

Seychelles Broken Malachite

Papilio disparilis var. *nana* Oberthür, 1879. *Études d'Entomologie* 4: 54 (1-117).

Type locality: Seychelles: “Iles Seychelles”.

Distribution: Seychelles. Extinct (*see* Legrand, 1965: 173).

Specific localities – Assumed to have been collected on Mahe (Lawrence, 2014).

Notes: Known from a single pair allegedly collected from Seychelles before 1880 (Lawrence, 2014). May represent vagrants from Reunion (Paulian & Viette, 1968). Alternatively it could have been intentionally introduced (Hancock, 1983) or unintentionally introduced on *Citrus* trees from Reunion in the 1700s and 1800s (Legrand, 1959).

Papilio hesperus group

**Papilio (Nireopapilio) hesperus* Westwood, [1843]

Imperial Bush Kite



Hesper's Bush Kite Swallowtail (*Papilio hesperus*) males from Cameroon (left) and Uganda (right) feeding on moist sand.
Images courtesy Jeremy Dobson (left) and Raimund Schutte (right).

Papilio hesperus Westwood, [1843] in Westwood, [1842-3]. *Arcana Entomologica; or illustrations of new, rare, and interesting species* 1: 189 (192 pp.). London.

Papilio hesperus Westw., 1843. Aurivillius, 1899.



Papilio hesperus hesperus. Male. Wingspan 120 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 14 June 2009. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio hesperus hesperus. Female. Left – upperside; right – underside.
Nyangombe, NW. Province, Zambia. 25 April 2004.
Images M.C. Williams ex Gardiner Collection.

Alternative common name: Emperor Swallowtail (Larsen, 2005a). This is also the common name for *P. ophidicephalus*. I suggest using the name ‘Hesper’s Bush Kite Swallowtail’ for *Papilio hesperus* (MCW).

Type locality: Ghana: “Gold Coast”. False locality: Larsen (2003, 2005a) states that the type locality is Cameroon.

Distribution: Nigeria, Cameroon, Equatorial Guinea, Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Sudan, Uganda, Burundi, Tanzania, Zambia.

Habitat: Submontane forest. In Nigeria/Cameroon at 1 400 m (Larsen, 2005a). Forest and heavy woodland, at altitudes up to 1 700 m (near Mt. Sitebi) in Tanzania (Kielland, 1990d). Scarce in West Africa (Larsen, 2005a).

Habits: Flies high up, often visiting flowers in the forest canopy. Specimens have been seen feeding on the flowers of *Mussaenda* species (Larsen, 2005a). Males frequently mud-puddle on river banks, single specimens often joining aggregations of other butterflies (Kielland, 1990d; Larsen, 2005a). Larsen (2005a) has also seen males on decomposing fish. Females oviposit on low plants in the forest understorey (Larsen, 2005a).

Early stages:

Thiery & Vingerhoedt, 1991 (*Lambillionea* **91**: 178; larva and pupa; Burundi).

Larval food:

Beilschmiedia ugandensis Rendle (Lauraceae) [Van Someren, 1974: 316 (as *Tylostemon ugandensis*); Kielland, 1990d: 40 (as *Tylostemon ugandensis*); Thiery & Vingerhoedt, 1991: 178; Burundi].

Beilschmiedia species (Lauraceae) [Lees, 1989; Korup, Nigeria].

Relevant literature:

ICZN, 2013 [Conservation of the name *Papilio hesperus* Westwood, [1843].

Larsen, 2003b [Notes].

Papilio (Nireopapilio) hesperus hesperus Westwood, [1843]
Imperial Bush Kite

Papilio hesperus Westwood, [1843] *in* Westwood, [1842-3]. *Arcana Entomologica; or illustrations of new, rare, and interesting species* **1**: 189 (192 pp.). London.



Papilio hesperus hesperus. Male. Wingspan 120 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 14 June 2009. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio hesperus hesperus. Female. Left – upperside; right – underside.
Nyangombe, NW. Province, Zambia. 25 April 2004.
Images M.C. Williams ex Gardiner Collection.

Type locality: Ghana: “Gold Coast”. False locality: Larsen (2005a) states that the type locality is Cameroon.

Distribution: Nigeria, Cameroon, Equatorial Guinea (mainland), Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Congo, Central African Republic, Democratic Republic of Congo, Uganda, Burundi, Tanzania (north-west), Zambia (north).

Specific localities:

Nigeria – Isubu (Distant, 1879); Cross River Loop (Larsen, 2005a); Agege near Lagos (Larsen, 2005a; stray specimen); Bashu (Brattstrom, 2008).

Cameroon – Ndian (Suffert, 1904); Duala (Strand, 1914); Korup (Larsen, 2005a).

Gabon – Almost throughout (Vande weghe, 2010).

Angola – Cabinda Province; Lunda Norte Province; Uige Province (Mendes *et al.*, 2013).

Central African Republic – Dzanga (Noss, 1998); Bangui (male illustrated above).

Democratic Republic of Congo – Confluence of Louébo and Loangué Rivers (Moreau, 1917); Luluabourg (Le Cerf, 1924); Lomela, Gombe (Dufrane, 1946); Longatshimo (Dufrane, 1946); Punia (Dufrane, 1946);

Muana River (Dufrane, 1953); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).
Uganda – Mabira Forest (Stoneham, 1944); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001); Semuliki N.P. (S. Forbes, pers. comm., 2017).
Tanzania – Bukoba (Strand, 1913); Mpanda District (Kielland, 1990d); Kigoma District (Kielland, 1990d).
Zambia – Ikelenge (Heath *et al.*, 2002); Mwinilunga (Heath *et al.*, 2002); Shiwa Ngandu (Heath *et al.*, 2002); Kalungwishi River (Heath *et al.*, 2002); Lofu (Lofubu) River (Heath *et al.*, 2002); Mpika (Heath *et al.*, 2002).

calabaricus Distant, 1879 (as var. of *Papilio horribilis*). *Proceedings of the Zoological Society of London* **1879**: 649 (647-649). Nigeria: “Isubu, Mongo-ma-lobah”. This taxon is an aberration of *P. hesperus* (Larsen, 2005a).

maculatissimus Suffert, 1904 (as ssp. of *Papilio hesperus*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 95 (12-107). Cameroon: “Nordwest Camerun, Ndian”.

additionis Strand, 1913 (as f. of *Papilio hesperus*). *Archiv für Naturgeschichte* **79** (A.2.): 175 (171-175). Tanzania: “Bukoba”.

bukoba Richelmann, 1913 (as f. of *Papilio hesperus*). *Internationale Entomologische Zeitschrift* **7**: 106 (105-106). Tanzania: “Bei Bukoba am Viktoria-See”.

dualana Strand, 1914 (as ab.? of *Papilio hesperus*). *Archiv für Naturgeschichte* **80** (A.2.): 160 (139-161). Cameroon: “Duala, Kamerun”.

kassaiensis Moreau, 1917 (as var. of *Papilio hesperus*). *Bulletin de la Société Entomologique de France* **1917**: 126 (126). Democratic Republic of Congo: “Congo Belge, district de Kassai, entre les rivières Louébo et Loangué”.

embodinus Ehrmann, 1921 (as sp. of *Papilio*). *Lepidoptera, Forest Hills* **5**: 18 (17-19). Uganda: “E. Africa”.

insolitus Le Cerf, 1924 (as f. indiv. of *Papilio hesperus*). *Bulletin of the Hill Museum, Witely* **1**: 384 (369-399, 576, 578, 580, 582, 584). Democratic Republic of Congo: “Congo Belge, Luluabourg, Kassai”.

rufopuncta Stoneham, 1944 (as male f. of *Papilio hesperus*). *Bulletin of the Stoneham Museum* (48): [3] ([3 pp.]). Uganda: “Uganda Protectorate, Mabira Forest”.

lagai Dufrane, 1946 (as ab. of *Papilio hesperus hesperus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 103 (101-122). Democratic Republic of Congo: “Bord de la Lomela environs de Gombé”.

blariauxi Dufrane, 1946 (as ab. of *Papilio hesperus hesperus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 103 (101-122). Democratic Republic of Congo: “Longatshimo, 85 km. de Tshikapa, Kasai”.

cuvelleri Dufrane, 1946 (as ab. of *Papilio hesperus hesperus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 103 (101-122). Democratic Republic of Congo: “Congo Belge, Punia, Kivu”.

mariae Dufrane, 1953 (as f. of *Papilio hesperus hesperus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **89**: 43 (41-57). Democratic Republic of Congo: “Kivu, rivière Muana”.

punctata Dufrane, 1953 (as f. of *Papilio hesperus hesperus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **89**: 43 (41-57). Democratic Republic of Congo: “Kivu, rivière Muana”.

***Papilio (Nireopapilio) hesperus feae* Storace, 1963**
Localised Imperial Bush Kite

Papilio hesperus feae Storace, 1963. *Memorie della Società Entomologica Italiana* **42**: 99 (98-101).

Type locality: Equatorial Guinea: “Punta Frailes”.

Distribution: Equatorial Guinea (Bioko).

Specific localities:

Equatorial Guinea – Punta Frailes, Bioko (TL); Luba (San Carlos) (Schultze *et al.*, 1917-1923); Malabo (Sta. Isabel) (Spearman *et al.*, 2000).

Papilio (Nireopapilio) hesperus sudana Gabriel, 1945
Sudanese Imperial Bush Kite

Papilio hesperus sudana Gabriel, 1945. *Entomologist* **78**: 151 (151-152).

Type locality: Sudan: “Lotti Forest”.

Distribution: Sudan (south).

Specific localities:

Sudan – Lotti Forest (TL).

**Papilio (Nireopapilio) euphranor* Trimen, 1868#
Soaring Bush Kite



Bush-kite Swallowtails (*Papilio euphranor*). Male left; female right.
Images courtesy Steve Woodhall.

Papilio euphranor Trimen, 1868. *Transactions of the Entomological Society of London* **1868**: 70 (69-96).

Papilio euphranor Trimen, 1868. Trimen & Bowker, 1889.

Papilio euphranor Trimen, 1868. Aurivillius, 1899.

Papilio euphranor Trimen. Swanepoel, 1953a.

Papilio euphranor Trimen, 1868. Dickson & Kroon, 1978.

Papilio euphranor Trimen, 1868. Pringle *et al.*, 1994: 302.



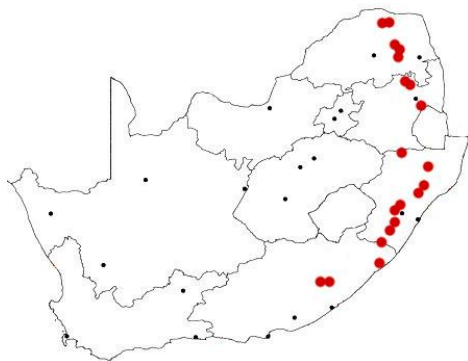
Papilio euphranor. Male (Wingspan 90 mm). Left – upperside; right – underside.
 Linwood Forest, KwaZulu-Natal, South Africa. 16 February 2008. J. Dobson.
 Images M.C. Williams ex Dobson Collection.



Papilio euphranor. Female (Wingspan 100 mm). Left – upperside; right – underside.
 Linwood Forest, KwaZulu-Natal, South Africa. 13 February 2005. J. Dobson.
 Images M.C. Williams ex Dobson Collection.

Alternative common name: Vlieëndepiering-swaelstert (Afrikaans).

Type locality: [South Africa]: “Kaffraria Proper, Boolo Forest, near Tsomo, a tributary of the Kei.”



Distribution: South Africa –

Limpopo Province, Mpumalanga,
 KwaZulu-Natal, Eastern Cape
 Province), Swaziland (Duke *et al.*,
 1999).

Distribution: South Africa (Limpopo Province, Mpumalanga, KwaZulu-Natal, Eastern Cape Province), Swaziland (Duke *et al.*, 1999).

Specific localities:

Limpopo Province – Woodbush (Van Son, 1949); Lekgalameetse Nature Reserve (“Malta Forest”) (Van Son, 1949); Duiwelskloof (Swanepoel, 1953); Soutpansberg (Swanepoel, 1953); Entabeni Forest (Swanepoel, 1953).

Mpumalanga – Barberton District (Van Son, 1949); Mariepskop (Van Son, 1949); Sabie (Swanepoel, 1953); Graskop (Swanepoel, 1953).

KwaZulu-Natal – Impetyenyeni Forest (Le Cerf, 1924); Tunjumbili, Tugela River (Van Son, 1949); Karkloof (Van Son, 1949); Town Bush, Pietermaritzburg (Van Son, 1949); Oribi Gorge (Swanepoel, 1953); Balgowan (Swanepoel, 1953); Worlds View, Pietermaritzburg (Williams).

Eastern Cape Province – Boolo Forest, near Tsomo River (Bowker; TL); Tsomo River (Swanepoel, 1953); Port St. Johns (Swanepoel, 1953); Kokstad (Swanepoel, 1953); Ngele Forest (Swanepoel, 1953); Stutterheim (Pringle *et al.*, 1994).

Habitat: Temperate evergreen forest.

Habits: Males defend territories in clearings between tall forest trees, sometimes day after day. They glide around, high up in these clearings, and the floating flight has given rise to their common name. Short periods are spent resting on a leaf, high up, at the edge of the clearing. Both sexes feed from flowers, with a particular preference for those with red blooms. A small, red-flowered, forest tree that is commonly utilized is *Burchellia bubalina* (L.f.) Sims (wild pomegranate), which belongs to the gardenia family (Rubiaceae) (Williams, unpublished). Besides red flowers, *euphranor* is also attracted to anything else that is red, such as a red hat or even a red motor vehicle (Pringle *et al.*, 1994). Females are often found flying on forest edges, or along forest paths, where they feed from flowers.

Flight period: August to May, with peak emergences in September and October, and February to April (Pringle *et al.*, 1994).

Early stages:

Trimen & Bowker, 1889: 236 [as *Papilio Euphranor* Trimen; Eastern Cape].

“A living specimen of the pupa was forwarded to me, but the perfect insect emerged on the journey, so that only the pupal skin reached me. Colonel Bowker describes its colouring as “bright green beneath and pale green with bright spots above.” In shape it somewhat resembles the pupa of *P. Nireus* (L.), but is more attenuated anteriorly (with the cephalic prominences much shorter, and scarcely bent outwardly at all), and very much broader abdominally; the superior part of abdominal margin not angulated, but prominently convex.”

Wells, 1957: 117 [as *Papilio euphranor*].

“Egg: spherical, smooth, pale yellow when laid, turning later to pale green, oviposited on underside of leaf. [egg stage 10 days]. 1st Instar: larva black save for three transverse white patches on dorsal portions of head and the 4th, 6th, 7th, 10th and 11th segments. Protuberances in pairs from all segments, black except when from white patches in which case they are yellow. Processes are hairy. The 1st instar lasts 6 days, the larva remaining entirely on underside of the leaf. 2nd Instar: larva colouration dark brown instead of black, white patches as in 1st instar, processes spiny, not hairy. Duration of instar 4 days. 3rd Instar: colouration and processes as for 2nd instar. 4th Instar: complete change in colouration to entirely bluish-green, no white patches. One red and one black spot on each side of 3rd segment. Processes in pairs on each segment, black. Larva in this instar remains always on the upper side of the leaf which tones well with the blue-green colour. Duration of instar 3 days. 5th Instar: General colour change to velvety olive green. No protuberances save anal pair, which are short, black. Row of small circular markings at forward edge of 3rd segment. These markings are black rings save for orange-red spots, one on each side. Between 3rd and 4th segments a transverse row of orange-red spots, five or six in number backed by a cream strip. White line running from 3rd segment longitudinally at junction of claspers with body and passing across top of anal segment. Duration of instar 12 days. Pupa: Pupal stage begun on 24th November after quiescent period of 3 days suspended by single thread and cremaster attachment from underside of leaf. Upper side deep green to tone with upper side of *C. latifolia* and better still with that of *C. woodii*. Underside light green as in leaf. Pupa widest across middle and tapering markedly towards each end. Thoracic portion raised, two short protuberances anteriorly. Two white dots on upper side of thorax matched by two reddish brown dots on underside. Underside has also line of reddish-brown dots arranged longitudinally and centrally on last five segments. Pupa outline margined with thin reddish-brown line. Imago: Emerged 18th December. Total period from hatching of larva to appearance of imago 71 days.”

Clark, in Pringle *et al.*, 1994: p.402; plate 32 [as *Papilio euphranor*].

“The eggs, laid singly on the leaves of the foodplant, are a very pale yellowish green at first, later developing a

central ring of salmon-brown spots with scattered spots on the dorsal half and a cluster of spots around the micropyle. They are 1,3 mm in diameter and 1,1 mm high. When it emerges the larva eats some of the discarded shell. The young larva eats the edges of the leaves or bites a hole in the leaf. The osmeterium in the 3rd instar is watery yellow and in the final instar becomes tinged with pale green. The final instar larva is a green colour which reduces to pale green at the ridge; later, the dorsum darkens with sooty patches on each segment. The white stripe of the fourth segment turns a dull yellow and the decorative colours are almost obliterated by the sooty patches. Legs two to four are particularly heavily sooted. The white stripe on the 12th segment is touched with reddish-brown blotches. Later, the larva turns dull yellow over the dorsum and is paler towards the spiracles where it changes to pale green. The sooty markings become brown. Egg duration six to 10 days. Larva: 1st instar 3,0 mm, growing to 6,0 mm in five days; 2nd instar growing to 11,0 mm in four days; 3rd instar growing to 16,0 mm in four days; 4th instar growing to 25,0 mm in six days; 5th instar growing to 42,0 mm in nine days. Pupa 27,5 mm, hatching after 22 days. The pupa is attached, head upwards, by the cremastral hooks and a silken girdle around the middle.”

Henning, Henning, Joannou, & Woodhall, 1997: 211 (photograph of early instar larva and final instar larva).

Larval food:

Cryptocarya latifolia (Lauraceae) [Wells, 1957].

Cryptocarya woodii Engl. (Lauraceae) [Wells, 1957].

moratus Le Cerf, 1924 (as ssp. of *Papilio euphranor*). *Bulletin of the Hill Museum, Witley* 1: 381 (369-399, 576, 578, 580, 582, 584). South Africa: “Natal, Alfred District, Impetyenyeni Forest, 3000 ft.”.

****Papilio (Nireopapilio) horribilis* Butler, [1874]**

Majestic Bush Kite

Papilio horribilis Butler, [1874] in Butler, [1869-74]. *Lepidoptera Exotica, or descriptions and illustrations of exotic lepidoptera* 88 (190 pp.). London.



Papilio horribilis. Male. Left – upperside; right – underside.
Mount Dotroh, Putu Range, Liberia. April 2011. S. Safian & Stausz. (ABRI 2018-5007).
Images M.C. Williams ex ABRI Collection.



Papilio horribilis. Female. Left – upperside; right – underside.
Banco Forest, Ivory Coast. J. Bouche. ex ABRI Collection (ABRI 2018-5008).
Images M.C. Williams ex ABRI Collection.

Alternative common name: Western Emperor Swallowtail.

Published images: Larsen, 2005a (male upperside and underside).

Type locality: Ghana: “Cape Coast, Fantee”.

Diagnosis: Differs from *P. hesperus* in that there are four large round cream submarginal spots on the hindwing (only three in *P. hesperus*) (Larsen, 2005a). There are small differences between the genitalia (Condamin & Roy, 1963).

Distribution: Guinea (south), Sierra Leone, Liberia, Ivory Coast, Ghana.

Recorded, in error, from east of Ghana by Fox, 1965 (Larsen, 2005a).

Specific localities:

Guinea – Ziama (Safian *et al.*, 2020).

Liberia – Cavally Forest (Boullet & Le Cerf, 1912); Wologizi (Safian *et al.*, 2020).

Ghana – Fantee (TL); Kakum National Park (Larsen, 2005a).

Habitat: Wetter forest in good condition (Larsen, 2005a).

Habits: Not rare in suitable habitat (Larsen, 2005a). Flight fast and winding. Males dive down from the forest canopy with the wings held still and open at an angle of about 40 degrees. They readily move between the canopy and ground level, often visiting flowers such as those of *Mussaenda*. They may also roost low down. They are therefore not as closely linked to the canopy as *P. hesperus*. Males float high up in forest clearings, chasing rival males, between 10:00 and 12:00 (Larsen, 2005a).

Early stages: Nothing published.

Larval food:

Probably *Beilschmiedia manni* (Meisn.) Benth. & Hook.f. (Lauraceae) [Larsen, 2005a; Kakum, Ghana].

Relevant literature:

Larsen, 2003b [Notes].

hermes Boullet & Le Cerf, 1912 (as sp. of *Papilio*). *Bulletin de la Société Entomologique de France* **1912**: 142 (141-143). Liberia: “Haut Cavally, hinterland franco-libérien, Mission franco-libérienne”; Sierra Leone.

pellax Boullet & Le Cerf, 1912 (as var. of *Papilio hermes*). *Bulletin de la Société Entomologique de France* **1912**: 142 (141-143). Liberia: “Haut Cavally, hinterland franco-libérien, Mission franco-libérienne”.

****Papilio (Nireopapilio) pelodurus* Butler, 1896**

Crowned Bush Kite

Papilio pelodurus Butler, 1896. *Proceedings of the Zoological Society of London* **1895**: 720 (720-721).
Papilio pelodurus Butler, 1896. Aurivillius, 1899.



Papilio pelodurus pelodurus. Female. Left – upperside; right – underside.
Zomba Plateau, Malawi. 25 September 1975.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Malawi]: “Nyasaland, Zomba”.

Diagnosis: Similar to *P. hesperus* but the hindwing upperside row of yellow postdiscal spots is entire (Kielland, 1990d).

Distribution: Tanzania, Malawi, Zambia, Mozambique (Congdon & Bampton, 2009).

Habitat: Forest. In Tanzania, subspecies *vesper* occurs at altitudes from 300 to 2 000 m (Kielland, 1990d).

Habits: Observed flying at forest canopy level on Mt Namuli and along riverine courses within forest on Mt Mabu (Bayliss *et al.*, 2018). Both sexes are frequently found feeding from flowers in forest glades as well as in the forest canopy (Kielland, 1990d). Specimens have been noted mud-puddling (Bayliss *et al.*, 2018).

Early stages: Nothing published.

Larval food:

Cryptocarya liebertiana Engl. (Lauraceae) [Kielland, 1990d: 44].

Ocotea usambarensis Engl. (Lauraceae) [Congdon & Bampton, unpublished 2003; Bundali Hills, Tanzania].

Relevant literature:

Larsen, 2003b [Notes].

Papilio (Nireopapilio) pelodurus pelodurus Butler, 1896
Crowned Bush Kite

Papilio pelodurus Butler, 1896. *Proceedings of the Zoological Society of London* **1895**: 720 (720-721).



Papilio pelodurus pelodurus. Female. Left – upperside; right – underside.
Zomba Plateau, Malawi. 25 September 1975.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Malawi]: “Nyasaland, Zomba”.

Distribution: Malawi (south).

Specific localities:

Malawi – Zomba Mountain (TL); Mt Mulanje (Le Cerf, 1924).

lyrus Le Cerf, 1924 (as f. indiv. of *Papilio pelodurus-pelodurus*). *Bulletin of the Hill Museum, Witley* 1: 382 (369-399, 576, 578, 580, 582, 584). Malawi: “Nyasaland, Mlanje”.

extensus Le Cerf, 1924 (as f. indiv. of *Papilio pelodurus pelodurus*). *Bulletin of the Hill Museum, Witley* 1: 382 (369-399, 576, 578, 580, 582, 584). Malawi: “Nyasaland, Zomba”.

***Papilio (Nireopapilio) pelodurus vesper* Le Cerf, 1924**
Central Crowned Bush Kite

Papilio pelodurus vesper Le Cerf, 1924. *Bulletin of the Hill Museum, Witley* 1: 383 (369-399, 576, 578, 580, 582, 584).



Papilio pelodurus vesper. Male. Left – upperside; right – underside.
Mzuzu, Malawi. November 1992. R. Stephen. ex ABRI Collection (ABRI 2018-5009).

Type locality: [Tanzania]: “German East Africa”.

Distribution: Tanzania (east and south), Malawi (north), Zambia (north-east).

Records for Lindi in south-east Tanzania are erroneous (Takano *et al.*, 2021).

Specific localities:

Tanzania – Tanga (Boullet & Le Cerf, 1912); Kitesa Forest west of Songea (Kielland, 1990d); Usambara Mountains (Kielland, 1990d); Uluguru Mountains (Kielland, 1990d); Uzungwa Range (Kielland, 1990d); Sanje (Kielland, 1990d); Mwanihana Forest (Kielland, 1990d); Bundali Hills (Congdon & Bampton, unpub. 2003); Magamba Forest, Usambaras (male illustrated above).

Malawi – Misuku Hills (Heath *et al.*, 2002); Nyika N.P. (J. Timberlake, pers. comm., 2019).

Zambia – Nyika (Heath *et al.*, 2002).

histricus Boullet & Le Cerf, 1912 (as ab. of *Papilio pelodurus*). *Bulletin de la Société Entomologique de France* 1912: 142 (141-143). Tanzania: “Afrique orientale allemande, Tanga”.

excedens Le Cerf, 1924 (as f. indiv. of *Papilio pelodurus vesper*). *Bulletin of the Hill Museum, Witley* 1: 383 (369-399, 576, 578, 580, 582, 584). Tanzania: “German east Africa”.

Papilio (Nireopapilio) pelodurus allani Bayliss, Congdon & Collins, 2018
Cloud Mountain Crowned Bush Kite

Papilio pelodurus allani Bayliss, Congdon & Collins, 2018. *Metamorphosis* 29: 134 (132-136).

Type locality: Mozambique: “Mt Namuli, Malama Valley, 1200m, 15°23'S 37°02'E, NE Mozambique. 26.xi.2007. ABRI: 2018-4666.”. Holotype (male) in the African Butterfly Research Institute (ABRI), Nairobi, Kenya.

Diagnosis: Differs from the nominate subspecies, *P. pelodurus pelodurus*, with respect to the occurrence of continuous yellow markings in the forewing postdiscal band on the upper side of both males and females. This contrasts with the material from the type locality of *P. pelodurus pelodurus* on Mt Zomba in Malawi, which shows a distinct break in the forewing band, and this ‘space 4’ (Larsen, 2005) is not yellow but brownish black as in the rest of the wing. In addition, the orange tornal spot on the hindwing anal angle is variable in *P. pelodurus allani*, from well-developed to missing (Bayliss *et al.*, 2018).

Etymology: Named for Allan Bayliss, whose participation and assistance on the Mt Namuli expedition in 2008 resulted in the collection of the new subspecies, and inspired in his son an appreciation and love of the natural world (Bayliss *et al.*, 2018).

Distribution: Mozambique (north) (Congdon & Bampton, 2009).

Specific localities:

Mozambique – Mount Mabu (Congdon & Bampton, 2009); Mt Inago (Congdon *et al.*, 2010); Mt Namuli (Congdon *et al.*, 2010).

**Papilio (Nireopapilio) mackinnoni* Sharpe, 1891
Hedgehopper Handkerchief



MacKinnon's swallowtail (*Papilio mackinmoni*) (foreground) feeding on wet mud together with Hesper's Swallowtail (*Papilio hesperus*) (background). Uganda.
Images courtesy Raimund Schutte.

Papilio mackinmoni Sharpe, 1891. *Proceedings of the Zoological Society of London* **1891**: 187 (187-194).
Papilio Mackinmoni Em. Sharpe, 1891. Aurivillius, 1899.



Papilio mackinmoni mackinmoni. Male. Left – upperside; right – underside.
Gatamayu Forest, Kenya. 15 May 2002.
Images M.C. Williams ex Gardiner Collection.



Papilio mackinnoni mackinnoni. Female. Left – upperside; right – underside.
 Gatamayu Forest, Kenya. March 2002.
 Images M.C. Williams ex Gardiner Collection.

Type locality: [Kenya]: “Between Sotik and Kavirondo, Kikuyu”.

Distribution: Sudan, Democratic Republic of Congo, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, Zambia, Angola.

Habitat: Montane forest, at altitudes above 1 400 m. In Tanzania, subspecies *isokae* is found at altitudes from 1 400 to over 2 000 m, subspecies *reductofascia* from 1 900 to 2 600 m, and subspecies *mpwapwana* in montane forest margins and forest-grassland mosaic from 1 800 to 2 300 m (Kielland, 1990d).

Habits: The flight is fast and weaving and males often patrol a 10 to 20 metre section of forest road or rivulet (Kielland, 1990d; Larsen, 1991c). It usually flies high up but frequently descends to feed from flowers low down. It may be quite common in the localities in which it is found. Specimens of subspecies *reductofascia* have been observed flying on Mount Longido even in misty weather, frequently settling on vegetation low down. The usual patrolling flight was not noted in the Longido population. Males at both Mount Longido and the Meto Hills have been found mudpuddling on river banks on the lower slopes (Kielland, 1990d). Specimens of subspecies *mpwapwana* were found feeding from the flowers of bushes some distance from the forest (Kielland, 1990d).

Early stages:

Congdon *et al.*, 2017 [final instar larva].

Larval food:

Citrus species (Rutaceae) [Larsen, 1991c: 112].

Clausena species (Rutaceae) [Congdon, *vide* Kielland, 1990d: 41].

Clausena anisata (Willd.) Hook f. ex Benth. (Rutaceae) [Congdon *et al.*, 2017; Loliondo, Tanzania].

Vepris nobilis (Delile) Mziray (Rutaceae) [Van Someren, 1974: 316; as *Teclea nobilis* Delile].

Vepris simplicifolia (Engl.) Mziray (Rutaceae) [Van Someren, 1974: 316; as *Teclea simplicifolia* Verdoorn].

Vepris trichocarpa (Engl.) Mziray (Rutaceae) [Van Someren, 1974: 316; as *Teclea trichocarpa* Engler].

Zanthoxylum species (Rutaceae) [Larsen, 1991c: 112].

Relevant literature:

Bryk, 1926 – Melanism in.

Papilio (Nireopapilio) mackinnoni mackinnoni Sharpe, 1891

Hedgehopper Handkerchief

Papilio mackinnoni Sharpe, 1891. *Proceedings of the Zoological Society of London* **1891**: 187 (187-194).



Papilio mackinnoni mackinnoni. Male. Left – upperside; right – underside.
Gatamayu Forest, Kenya. 15 May 2002.
Images M.C. Williams ex Gardiner Collection.



Papilio mackinnoni mackinnoni. Female. Left – upperside; right – underside.
Gatamayu Forest, Kenya. March 2002.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Kenya]: “Between Sotik and Kavirondo, Kikuyu”.

Distribution: Democratic Republic of Congo (Ituri, Kivu), Uganda, Rwanda, Burundi, Kenya, Tanzania (north-east).

Specific localities:

Democratic Republic of Congo – Muana River (Dufrane, 1953); Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).

Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P.

(Tumuhimbise *et al.*, 2001); Mount Elgon (Turlin & Lequeux, 2010); Kadam (Turlin & Lequeux, 2010); Napak (Turlin & Lequeux, 2010).

Rwanda – Cyamudongo Forest (Uwizelimana *et al.*, 2021).

Kenya – Between Sotik and Kavirondo (TL); Mount Elgon (Bryk, 1926); Aberdare Mountains (Larsen, 1991c); Ngong Forest (Larsen, 1991c); Nyeri (Larsen, 1991c); Nandi (Larsen, 1991c).

Tanzania – Loliondo (Kielland, 1990d); Bukoba Region (Kielland, 1990d); Moshi (Kielland, 1990d).

immaculatus Suffert, 1904 (as ssp. of *Papilio mackinnoni*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 96 (12-107). Tanzania: “Hinterlande von Usambara”.

bimaculatus Suffert, 1904 (as ssp. of *Papilio mackinnoni*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 96 (12-107). Tanzania: “Hinterlande von Usambara”.

unimaculatus Le Cerf, 1924 (as f. indiv. of *Papilio mackinnoni*). *Bulletin of the Hill Museum, Witley* **1**: 384 (369-399, 576, 578, 580, 582, 584). Tanzania: “Usambara hinterland”.

elgonia Bryk, 1926 (as var. of *Papilio mackinnoni* [sic]). *Journal of the East Africa and Uganda Natural History Society* (25): 89 (89). Kenya/Uganda: “Mt. Elgon, 8300 ft.”.

ampliusmaculata Krüger, 1928 (as ab. of *Papilio mackinnoni*). *Internationale Entomologische Zeitschrift* **22**: 255 (255). Kenya/Uganda: “Mt. Elgon Gebiet”.

addenda Dufrane, 1953 (as f. of *Papilio mackinnoni mackinnoni*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **89**: 43 (41-57). Democratic Republic of Congo: “Kivu, rivière Muana”.

Papilio (Nireopapilio) mackinnoni benguellae Jordan, 1908

Benguella Hedgehopper Handkerchief

Papilio mackinnoni benguellae Jordan, 1908. *Novitates Zoologicae* **15**: 253 (253-258).

Type locality: Angola: “Cuval River, Benguella”.

Distribution: Angola (central highlands).

Specific localities:

Angola – Cuval River (TL); Benguela Province; Huambo Province; Kwanza Sul Province (Mendes *et al.*, 2013).

Papilio (Nireopapilio) mackinnoni isokae (Hancock, 1984)

Central Hedgehopper Handkerchief

Princeps (Druryia) mackinnoni isokae Hancock, 1984. *Arnoldia. Zimbabwe* **9**: 187 (181-215).



Papilio mackinnoni isokae. Male. Left – upperside; right – underside.
Nyika, Malawi. 6 November 2014.
Images M.C. Williams ex Gardiner Collection.



Papilio mackinnoni isokae. Female. Left – upperside; right – underside.
Nyika, Malawi. 6 November 2014.
Images M.C. Williams ex Gardiner Collection.

Type locality: Zambia: “Chowa Forest, Nyika Plateau, 2300 m”.

Diagnosis: Differs from the nominate subspecies on the forewing upperside where the discal band is much wider (Kielland, 1990d).

Distribution: Tanzania (west), Malawi (north), Zambia (north-east).

Specific localities:

Tanzania – Mbeya (Haldane, 1956); Njombe District: near Iboma Forest (Kielland, 1990d); Mpanda District: Mweze (Kielland, 1990d); Wanzizi (Kielland, 1990d); Kampisa (Kielland, 1990d); Sitebi Mountain (Kielland, 1990d).

Malawi – Nyika N.P. (J. Timberlake, pers. comm., 2019).

Zambia – Chowo Forest, Nyika (TL); Makutu Mountains (Heath *et al.*, 2002); Mafinga Mountains (Heath *et al.*,

2002).

***Papilio (Nireopapilio) mackinnoi mpwapwana* Kielland, 1990**
Mpwapwa Hedgehopper Handkerchief

Papilio mackinnoi mpwapwana Kielland, 1990. *Butterflies of Tanzania* 42 (363 pp.). Melbourne.

Type locality: Tanzania: “Mpwapwa, Rubeho Mts., Mangalisa Mt., 2200 m”. Holotype (male) in the Natural History Museum, London.

Diagnosis: Compared to the nominate subspecies the forewing upperside discal row of yellow spots is slightly wider (Kielland, 1990d).

Description:

“Closest to ssp. *mackinnoi*. Male. Upperside f.w. discal row of yellow spots slightly wider than in the nominate race; a small yellow spot beyond end of cell near costa, sometimes another, smaller one just below it; the discal spot in space 1b smaller than those in 2, 3 and 4 (in *mackinnoi* this spot is usually the largest); in the h.w. the lower discal spot in space 5 is very narrow and greatly elongated distally and the spot in 4 to a lesser degree; the band looks more serrated than in *mackinnoi*; tail longer and narrower. Underside close to that of the nominate race, but h.w. discal yellow band narrower. Length of f.w. 51-54. Female. Upperside a little paler than the male, discal yellow band much wider, a little wider and more ochreous than in *mackinnoi*; spots of h.w. band wider than those of the f.w. band. Underside similar to that of *mackinnoi*. Length of f.w. 52-56 mm.”

Distribution: Tanzania (east – Rubeho Mountains of Mpwapwa and Kilosa Districts).

Specific localities:

Tanzania – Mangalisa Forest (TL; most abundant here); Mount Chugu (Kielland, 1990d); Mafwemiru Forest Reserve (Kielland, 1990d); Wotta Forest (Kielland, 1990d); east of Mbugu Mission (Kielland, 1990d); Ukwiwa Forest (probable) (Kielland, 1990d).

***Papilio (Nireopapilio) mackinnoi reductofascia* Kielland, 1990**
Arusha Hedgehopper Handkerchief

Papilio mackinnoi reductofascia Kielland, 1990. *Butterflies of Tanzania* 41 (363 pp.). Melbourne.

Type locality: Tanzania: “Arusha, Longido, 2600 m”. Holotype (male) in the Natural History Museum, London.

Diagnosis: The yellow bands are very narrow, with the forewing band being narrower than the hindwing band in both sexes (Kielland, 1990d).

Description:

“Male. The postdiscal band of yellow f.w. spots very narrow, narrower than the h.w. post discal row of yellow spots (in ssp. *mackinnoi* the f.w. spots are equal in width or wider than the h.w. spots); the spots comprising the band being discrete; f.w. in most specimens without any trace of spots on the proximal side of the band, in a few specimens just a trace of a diffuse dot beyond cell (in the nominate race this spot is prominent and there is often a smaller dot just below it); margins as in the nominate race. H.w. row of yellow twin spots in spaces 2, 3, 4 and 5 are usually more or less conjoined; tail long and curved, less spatulate than in ssp. *mackinnoi*. Underside h.w. discal pale yellow spots wider than in ssp. *mackinnoi*. Length of f.w., Longido Mt: 52-58 mm, average 56 mm; specimens from Metu Hills are on average smaller. Female. Upperside yellow markings larger than in the male, but the proportions of the discal band are the same; there is one small yellow spot beyond cell (in ssp. *mackinnoi* from one to two, and often also with a spot just inside the cell end). Underside markings as in the nominate race. Length of f.w. 53-61 mm.”

Distribution: Kenya (south), Tanzania (north).

Specific localities:

Kenya – Oldoinyo Orok (Collins, *vide* Kielland, 1990d).

Tanzania – Mount Longido (TL; near and on the summit); Meto Hills (Kielland, 1990d).

Papilio (Nireopapilio) mackinnoni theodori Riley, 1921
Solwezi Hedgehopper Handkerchief

Papilio mackinnoni theodori Riley, 1921. *Transactions of the Entomological Society of London* **1921**: 234 (234-259).



Papilio mackinnoni theodori. Male. Left – upperside; right – underside.
Nyangombe, N.W. Province, Zambia. 25 April 2004.
Images M.C. Williams ex Gardiner Collection.

Type locality: [Zambia]: “N.W. Rhodesia, Solwezi”.

Distribution: Democratic Republic of Congo (Shaba), Zambia (north-west).

Specific localities:

Zambia – Solwezi (TL); Ikelenge (Heath *et al.*, 2002); Mwinilunga (Heath *et al.*, 2002); Kasangezhi (Heath *et al.*, 2002); Kamapanda (Heath *et al.*, 2002); St. Anthony’s Mission (near Mpongwe) (Heath *et al.*, 2002); upper Kafue River (Heath *et al.*, 2002); Lake Kashiba, Mpongwe.

Papilio (Nireopapilio) mackinnoni chiwomana Turlin & Lequeux, 2010
Chiwoma Hedgehopper Handkerchief

Papilio mackinnoni chiwomana Turlin & Lequeux, 2010. *Lepidopteres (Paris)* **19** (47): 123 (116-124).

Type locality: Zambia: “Chiwoma Forest”. Holotype (male), Chiwoma Forest, 1350 m, north-west Zambia, 28 October 2004, T.C.E. Congdon leg. Allotype (female), same data but 30 October 2004.

Distribution: Zambia (north-west). Types in A.B.R.I., Nairobi.

Specific localities:

Zambia – Chiwoma Forest (12°21'S; 24°14'E) (TL).

Papilio (Nireopapilio) mackinnoni equatoriana Turlin & Lequeux, 2010
Northern Hedgehopper Handkerchief

Papilio mackinnoni equatoriana Turlin & Lequeux, 2010. *Lepidopteres (Paris)* **19** (47): 117 (116-124).

Type locality: Uganda: “Agoro-Agu Forest”. Holotype (male): Agoro-Agu Forest, Kitgum district, northern Uganda, altitude 1500/2000 m, January 2001, 3°52'N; 33°E, J.P. Lequeux leg. Allotype (female): same data as holotype but October 2001. Types deposited in the M.N.H.N., Paris.

Distribution: Sudan (south), Uganda (north).

Specific localities:

Sudan – Imatong Mountains (Turlin & Lequeux, 2010).

Uganda – Agoro-Agu Forest (TL).

Papilio (Nireopapilio) mackinnoni karamojae Turlin & Lequeux, 2010
Morungole Hedgehopper Handkerchief

Papilio mackinnoni karamojae Turlin & Lequeux, 2010. *Lepidopteres (Paris)* **19** (47): 118 (116-124).

Type locality: Uganda: “Mount Morungole”. Holotype (male): Mount Morungole, Kaabong district, south-east Kidepo National Park, north-east Uganda (3°49'N; 34°02'E), altitude 1500/2000 m, March 2009, J.P. Lequeux, leg. Allotype (female), same data but April 2008. Types deposited in the M.N.H.N., Paris.

Distribution: Uganda (north-east).

Specific localities:

Uganda – Mount Morungole (TL); Zulia Forest (4°07'N; 34°E), Kaabong district (Turlin & Lequeux, 2010).

**Papilio (Nireopapilio) nobilis* Rogenhofer, 1891
Noble Handkerchief

Papilio nobilis Rogenhofer, 1891. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien* **42**: 563 (571-575).

Papilio nobilis Rogenhofer, 1891. Aurivillius, 1899.



Papilio nobilis nobilis. Male. Wingspan 89 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 2 December 2007. P. Ward.
Images M.C. Williams ex Dobson Collection.



Papilio nobilis nobilis. Female. Left – upperside; right – underside.
Lososansu, Masai Plain, Kenya. March 1987. J. Kielland. ex ABRI Collection (ABRI 2018-5006).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “Africa Orientalis, Pare”.

Distribution: Sudan, Democratic Republic of Congo, Uganda, Kenya, Tanzania.

Habitat: Montane forest. Also common in riverine forest, such as the Masai Mara (Larsen, 1991c). In Tanzania specimens of the nominate subspecies have been noted at 2 100 m. Subspecies *mpanda* inhabits riparian forest at altitudes of 1 300 to 1 800 m (Kielland, 1990d).

Habits: Flies several metres above the ground. Both sexes feed from flowers. Females are apparently uncommon, most often being seen in the early morning when feeding from flowers. Males are sometimes attracted to the urine and dung of elephants (Kielland, 1990d). They apparently have quite strong powers of dispersal and may be found, on occasion, far from their forest habitats (Larsen, 1991c).

Early stages: Nothing published.

Larval food:

Warburgia ugandensis Sprague (Canellaceae) [Van Someren, 1974: 316].



Third instar larva of *Papilio nobilis nobilis* from Nairobi.
Image courtesy S. Woodhall.

Relevant literature:

Bryk, 1929 – Sexual dimorphism in.

Papilio (Nireopapilio) nobilis nobilis Rogenhofer, 1891
Noble Handkerchief

Papilio nobilis Rogenhofer, 1891. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien* **42**: 563 (571-575).



Papilio nobilis nobilis. Male. Wingspan 89 mm. Left – upperside; right – underside.
Mabira Forest, Uganda. 2 December 2007. P. Ward.
Images M.C. Williams ex Dobson Collection.



Papilio nobilis nobilis. Female. Left – upperside; right – underside.
Lososansu, Masai Plain, Kenya. March 1987. J. Kielland. ex ABRI Collection (ABRI 2018-5006).
Images M.C. Williams ex ABRI Collection.

Type locality: [Tanzania]: “Africa Orientalis, Pare”.

Distribution: Uganda (east), Kenya (central highlands, Masai Mara and shores of Lake Victoria), Tanzania (north-west).

Specific localities:

Kenya – Mount Kenya (Larsen, 1991c); Masai Mara (Larsen, 1991c); Ngong Forest, Nairobi (Larsen, 1991c).

Tanzania – Mount Lossoganeu, south of Arusha (Kielland, 1990d); Usambara Mountains (Kielland, 1990d); Kahe Forest, south of Moshi (Rydon, *vide* Kielland, 1990d).

pringlei Sharpe, 1894 (as sp. of *Papilio*). *Proceedings of the Zoological Society of London* **1894**: 352 (334-353). Kenya: “Kikuyu to Victoria Nyanza via Sotik”.

mariaabonaparte Bryk, 1929 (as f. of *Papilio nobilis*). *Societas Entomologica* **44**: 22 (22-23). Tanzania: “Deutsch-Ostafrika”.

nobilissima Bryk, 1929 (as f. of *Papilio nobilis*). *Societas Entomologica* **44**: 22 (22-23). Uganda: “Zentral-Afrika”.

pallidus Stoneham, 1931 (as ssp. of *Papilio nobilis*). *Bulletin of the Stoneham Museum* (1): 1 ([1 p.]). Kenya: “Kenya Colony, Tranz-Nzoia District”.

joseffa Smart, 1976 (as female ab. of *Papilio nobilis*). *The illustrated encyclopedia of the butterfly world* 274 (277 pp.). London. Uganda: “Ugan”.

***Papilio (Nireopapilio) nobilis crippsius* Stoneham, 1936**
Western Noble Handkerchief

Papilio nobilis crippsius Stoneham, 1936. *Bulletin of the Stoneham Museum* (30): 2 ([2 pp.]).



Papilio nobilis crippsius. Male. Left – upperside; right – underside.
Uganda. May 2013.

Images M.C. Williams ex J. Lawrence Collection.

Type locality: Uganda: “Western Uganda Protectorate, Kalinzu Forest”.

Diagnosis: In this subspecies the brown apical markings in the forewing of the nominate subspecies are replaced by cream (Larsen, 1991c).

Distribution: Democratic Republic of Congo (Kivu), Uganda (west – Ruwenzori, Ankole, Kigezi), Kenya (extreme western border), Tanzania? (north-west).

Specific localities:

Democratic Republic of Congo – Rutshuru (Berger, 1950); Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018).

Uganda – Kalinzu Forest (TL); Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).

Tanzania – near Kasulu (Kielland, 1990d); near Biharamulo (Kielland, 1990d).

leroyi Berger, 1950 (as ssp. of *Papilio nobilis*). *Annales du Musée Royal du Congo Belge. C-Zoologie* (3) **8** (1): 20 (102 pp.). Democratic Republic of Congo: “Kivu, Rutshuru”. Holotype and allotype in the Royal Museum for Central Africa, Tervuren, Belgium.

***Papilio (Nireopapilio) nobilis didingensis* Carpenter, 1928**
Norhtern Noble Handkerchief

Papilio nobilis didingensis Carpenter, 1928. *Transactions of the Entomological Society of London* **76**: 30 (25-54).

Type locality: Sudan: “Didinga”.

Distribution: Sudan (south).

Specific localities:

Sudan – Didinga (TL).

Papilio (Nireopapilio) nobilis mpanda Kielland, 1990

Mpanda Noble Handkerchief

Papilio nobilis mpanda Kielland, 1990. *Butterflies of Tanzania* 43 (363 pp.). Melbourne.

Type locality: Tanzania: “Mpanda, Kampisa River, 1500 m”.

Description:

“Male. Upperside pale yellow (the nominate race more ochreous); all markings brown; f.w. brown margin and apex more extended than in ssp. *nobilis*; both apical yellow spots are small and enclosed by the brown area (in *nobilis* the spot in space 7 is larger and only separated from the yellow part of the wing by vein 7); inner half of costa and part of cell distinctly outlined in brown (much more diffuse in *nobilis*), ending almost like a distinctly outlined “golf club” before cell-end; h.w. with a large postdiscal spot in space 7 and a smaller one in 6, of the same shade of brown as the rest of the markings (in *nobilis* the spot in 7 is darker brown); marginal brown spots more extended into the internervular spaces; markings on the lower part of the h.w. as in *nobilis*. Underside as in *nobilis*. Length of f.w. 52-55 mm. Female unknown.”

Distribution: Tanzania (west – Mpanda district).

Specific localities:

Tanzania – Kampisa River (TL); Mkulya River in the Mweze Highlands (Kielland, 1990d); Katuma River (Kielland, 1990d); Ntakatta Forest (Kielland, 1990d).

Subgenus *Princeps* Hübner, [1807]

In: Hübner, [1806-19]. *Sammlung exotischer Schmetterlinge* 1: pl. 116 ([vi] pp., 213 pls). Augsburg.

Type-species: *Papilio demodocus* Esper, by subsequent designation (Opinion 179, 1946. *Opinions and Declarations Rendered by the International Commission on Zoological Nomenclature* 2: (557-568)).

= *Orpheides* Hübner, 1819 in Hübner, [1816-[1826]. *Verzeichniss bekannter Schmettlinge* 86 (432 + 72 pp.). Augsburg. Type-species: *Papilio demodocus* Esper, by subsequent designation (Opinion 179, 1946. *Opinions and Declarations Rendered by the International Commission on Zoological Nomenclature* 2: (557-568)).

= *Icarus* Röber, 1898. *Entomologische Nachrichten. Dresden* 24: 186 (185-187). Type-species: *Papilio zalmoxis* Hewitson, by monotypy.

= *Melindopsis* Aurivillius, 1899 in Aurivillius, 1898-9. *Kungliga Svenska Vetenskapakademiens Handlingar* 31 (5): 461 (1-561). Type-species: *Papilio rex* Oberthür, by monotypy

= *Iterus* Donitz, 1899. *Berliner Entomologische Zeitschrift* 44: (22) (21)-(24). [Replacement name for *Icarus* Röber.]

Synonyms based on extralimital type-species: *Menelaides* Hübner, *Achillides* Hübner,

Nestorides Hübner, *Iliades* Hübner, *Harimala* Moore, *Charus* Moore, *Sarbaria* Moore, *Sainia* Moore, *Araminta* Moore, *Pangeranopsis* Wood-Mason & de Nicéville, *Tamera* Moore, *Sadengia* Moore, *Mimbyasa* Moore.

Papilio demodocus group

Relevant literature:

Zakharov *et al.*, 2004 [Phylogeography].

**Papilio (Princeps) demodocus* Esper, [1798][#] Citrus Gazer



Citrus Swallowtail (*Papilio demodocus*). Left – male. Centre – female. Right – male underside.
Images courtesy Steve Woodhall (left and right) and Jeremy Dobson (centre).

Papilio demodocus Esper, [1798] *in* Esper, [1784-1801]. *Die ausländischen oder die ausserhalb Europa zur Zeit in den übrigen Welttheilen vorgefundene Schmetterlinge in Abbildungen nach der Natur mit Beschreibungen*: 205 (254 pp.). Ehrlangen.

Papilio demoleus Linnaeus. Trimen, 1862c. [misidentification]

Papilio demoleus Linnaeus, 1764. Trimen & Bowker, 1889. [misidentification]

Papilio demodocus Esper, 1798. Aurivillius, 1899.

Papilio demodocus Esper. Swanepoel, 1953a.

Papilio demodocus Esper, 1798. Dickson & Kroon, 1978.

Papilio demodocus Esper, 1798. Pringle *et al.*, 1994: 303.



Papilio demodocus demodocus. Male (Wingspan 85 mm). Left – upperside; right – underside.
Pretoria, Gauteng, South Africa. February, 1991 (bred). M. Williams.
Images M.C. Williams ex Williams Collection.



Papilio demodocus demodocus. Female (Wingspan 90 mm). Left – upperside; right – underside.
Pretoria, Gauteng, South Africa. February, 1991 (bred). M. Williams.
Images M.C. Williams ex Williams Collection.

Alternative common names: Citrus Butterfly; Christmas Butterfly; Orange Dog; African Lime Butterfly.

Type locality: [Africa]: “China”; “Bengalen”. [False localities.]

Distribution: Sub-Saharan Africa, including Mauritania, Senegal, Gambia, Guinea-Bissau (Aurivillius, 1910), Guinea, Sierra Leone, Liberia, Ivory Coast, Mali, Burkina Faso, Ghana, Togo, Benin (Fermon *et al.*, 2001), Niger, Nigeria, Cameroon, Sao Tome and Principe Islands (Mendes & Bivar de Sousa, 2022), Equatorial Guinea, Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Democratic Republic of Congo, Central African Republic, Ethiopia, Somalia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland, Lesotho. Also in Saudi Arabia, Yemen, Oman, Cape Verde Islands, Comoro Islands, Madagascar, Mauritius, Reunion, Socotra.

Recorded in Belgium by Cluck & Rousseaux in 2003.

Diagnosis: Similar to the Oriental *P. demoleus* Linnaeus, 1758 but the two species apparently diverged from each other between 10 and 20 million years ago (Zakharov *et al.*, 2004).

Habitat: Tolerates a very wide range of habitats, being absent only from desert and afro-alpine habitats. It is often found in gardens and parks (Pringle *et al.*, 1994). In Tanzania from sea-level to 2 600 m (Kielland, 1990d). Larsen (2005a) records that he found a small population in the middle of the Kalahari, breeding on domesticated *Citrus* species. In Madagascar in forest margins and anthropogenic environments (Lees *et al.*, 2003).

Habits: This is a very common butterfly throughout the Afrotropical Region. Although the flight pattern has a relaxed and almost casual look to it, *demodocus* is capable of powerful flight. Both sexes frequently feed from flowers and males are avid mudpuddlers. Larsen (1983b) noted a specimen in Yemen, trapped by its proboscis when it tried to feed on a flower of *Kahania laniflora* (Asclepiadaceae). Larsen (2005a) found old females with the hindwing underside completely covered by the pollen of the flowers of *Delonix regia*, amongst others, so much so that they often had difficulty flying. Larsen (1991c) records large numbers on fresh elephant dung in the Shimba Hills, Kenya. Males show pronounced hilltopping behaviour, patrolling a hill or ridge almost incessantly. Males also establish and defend territories on the flats, often in the vicinity of a female pupa that is about to eclose. Here they patrol about with a leisurely, floating flight, a few metres above the ground. On encountering an unmated female the male will pursue her relentlessly until she tires and perches. Courtship is short and mating soon follows. The species is a well known participant in mixed butterfly migrations in eastern Africa. Communal roosting at night has been noted by Gibson & Panchen (1975); specimens settle in groups on grass stems beneath trees (Pringle *et al.*, 1994).

Flight period: All year but commonest from September to May in cooler areas (Pringle *et al.*, 1994).

Early stages:

Trimen, 1862c: 18 and 1866: plate 1 [(*Rhop. Afr. Aust.* i, p.18 and ii, pl.1, figs 1, 1a)].

Trimen & Bowker, 1889: 225 [as *Papilio Demoleus* Linnaeus].

“**Larva.** Pale yellowish-green, marbled with purple or purplish-grey, running in irregular transverse, and in places irregularly confluent, markings on the sides. Numerous pale-ferruginous, small, ocellate spots sprinkled about purple markings. A broad longitudinal white stripe above spiracles. Head and legs pale sandy-brown, as well as two small pointed tubercles on segment next head, from between which is protruded, when the animal is irritated, a crimson Y-shaped tentacle-like organ, emitting a very peculiar pungent odour. Two similar smaller tubercles on anal segment. A very sluggish larva, and very variable in the distribution of its colours. The young caterpillar differs strikingly from the full-grown one, being very dark, without green colouring, and clothed with short spines.”

“I noticed at Highlands, near Grahamstown, that the larvae feeding on the orange were all of a darker green than the umbellifer-feeders above described, and with the purple bands (though strongly and broadly marked) limited to the three thoracic and six succeeding segments. The head was almost ferruginous and the pro-legs pale greenish-grey.”

“**Pupa.** Elongate, rather slender anteriorly; head bluntly but deeply bifid, the projections irregularly dentate on the inner edge, and with a denticulated superior ridge inclining outward; thorax moderately angulated laterally, its dorsal projection rather acute, considerably elevated as to its anterior edge; abdomen widening from base to hind part of third segment, where it is very slightly angulated, and thence narrowing gradually to tail. On back of abdomen four rows of tubercles, of which those of the two middle rows (especially on fourth, fifth, and sixth segments) are larger and more prominent; also a solitary mesial tubercle on back of second segment, and a tuberculated ridge margining from base to widest parts. Surface generally rough, with here and there minute acute tubercles, anteriorly on under side. Variable in colouring; usually ashy-grey or brownish-grey (when, as usual, attached to the old stems of its food-plants, which it closely resembles), but often much tinged with pale dull-sandy or ochreous-yellow, and more rarely with greenish. Prominences of head and peak of thorax, a dorsal median stripe from meta-thorax to fourth abdominal segment, an irregular streak at each side of back of same abdominal segments, some streaks roughly indicating main neurulation of wings, and some longitudinal streaking on under side of head and leg-cases, all darker and in parts approaching to blackish.”

In a footnote on page 226 Trimen gives details of experiments that he did to see the effects of backgrounds on the coloration of the pupa of *P. demodocus*.

Clark, in Van Son, 1949: 23 [as *Papilio (Papilio) demodocus*].

“**Egg.** Spherical with flattened base; smooth; 1,3 mm diameter by 1,1 mm high; white when laid, becoming pale yellow, and after 24 hours variegated with light brown markings; laid singly on underside of leaf or young shoot; shortly before hatching turns black; egg stage about 5 days. **Larva.** Five instars, lasting about 24 days. First instar larva. Brownish black, with whitish marking at middle and on 1st and two last segments; body covered with numerous setose processes, three pairs on 1st segment, four pairs each on 2nd to 4th segments, two pairs each on 5th to 10th segment, lower processes much shorter than upper (dorso-lateral) ones, and one pair each on last two segments; longest processes are dorso-lateral ones on 1st and last segments; processes become smaller with each consecutive instar and are absent in final instar, there being only an anterior and posterior pair of small plain tubercles on 1st and last segments. Two distinct colour forms – larvae feeding on Rutaceae at first nearly black with conspicuous whitish markings at middle and on posterior abdominal segments, resembling bird-dropping; head and posterior extremity of body yellowish; final instar green, irrorated at sides with purplish reticulated lines and small ocellate reddish spots; broad white lateral line above spiracles; anterior edge of swollen 3rd thoracic segment with transverse row of small black rings, two central ones circular, complete and separate, those next to them nearly quadrangular, followed by small anteriorly rounded ones, then by trace of smaller ring, beyond which a large ocellate black spot crossed by narrow longitudinal white line; two central rings bordered anteriorly by two narrow black semi-circular lines united at middle and continued posteriorly to constitute sides of nearly quadrangular rings mentioned above; whole of these markings bordered anteriorly by transverse purplish stripe along posterior edge of 2nd thoracic segment; transverse velvety black line along anterior edge of 1st abdominal segment; paired reticulate oblique purplish or blackish fasciae from upper edge of white lateral line of 3rd abdominal segment to upper side of 4th segment and from there backwards to posterior edge of 5th segment; similar but smaller fasciae at lower sides of 5th abdominal segment. Larvae feeding on Umbelliferae white with brownish or blackish longitudinal stripes which, in final instar, are broader and are edged and spotted with light orange-red. Anterior and posterior tubercles brownish; osmeterium crimson, with short base and long horizontally spreading branches; length of final instar 40 mm. **Pupa.** Surface rough, with scattered small acute tubercles anteriorly on underside; length about 36 mm; colour varies according to colour of support (green, brown, black or combinations of these colours); pupal period about 2 weeks but considerably longer under adverse conditions.”

Darlow, 1949b.

Van Son, 1959: 54

Larvae found in the Kagaligadi Transfrontier Park were of the “Fennel” type, and were feeding on a member of the Apiaceae.

Clarke et al., 1963: 130.

Dickson & Kroon, 1978: 177.

Carcasson, 1981 [larva and pupa].

Larsen, 1983: 347.

“The larvae on the Salalah plain [on *Haplophyllum*] have a colour pattern which differs completely from the typical African form. Their ground colour is light green or yellow with extensive dark brown markings broken up into mottled patches. They resemble the form described from South Africa by Clark, Dickson & Sheppard (1963) which has so far been recorded nowhere else. The typical form co-exists with the atypical and there is some evidence that the atypical form is genetically adapted to feeding on Umbelliferae where it is better camouflaged than the typical form. In May 1981 A.R. Pittaway (pers. comm..) found the species on *Citrus* in Dhofar [Arabian Peninsula], where this plant must be a very recent introduction. About 5% of the larvae were of the typical African form, the remainder were of the lighter mottled form and were very evident on the dark green, glossy *Citrus* foliage. This represents a promising research topic.”

Henning, S.F., 1984: 32.

Larsen, 1991c: 115.

Larvae in the Dhofar province of Oman are dimorphic, those feeding on *Haplophyllum* (Rutaceae) being variegated in black and cream instead of the usual green.

Larsen, 1992c: 53 [Metamorphosis 3: 53-55].

Clark, in Pringle *et al.*, 1994: p.404; plate 33 [as *Papilio demodocus demodocus*].

“The eggs are laid singly on the undersides of leaves or on young shoots. They are 1,3 mm in diameter and white when first laid, turning pale yellow. After about 24 hours they become variegated with light brown markings. The egg stage lasts about five days. There are five larval instars lasting about 24 days. Two distinct colour forms are apparent, one feeds on Rutaceae (citrus) and the other on Apiaceae (fennel). In the Rutaceae-feeding form, the first four instars mimic a bird dropping while the final instar looks leaf-like. The pupa resembles a piece of bark or a twig and varies in colour depending on where the larva pupated. The pupal stage can last from two weeks to several months.”

Henning, Henning, Joannou, & Woodhall, 1997: 222, 223 [photographs of early instar larva, final instar larva (both colour forms) and pupa].



Early stages of *Papilio demodocus*. Left – egg. Centre – 1st instar larva. Right – 3rd instar larva.
Images courtesy Steve Woodhall (left & right) and Raimund Schutte (centre).



Early stages of *Papilio demodocus*. Final instar larva.

Image courtesy Raimund Schutte



Early stages of *Papilio demodocus*. Aberrant 4th and final instar larvae.
Images courtesy Raimund Schutte



Early stages of *Papilio demodocus*. Pupae.
Images courtesy Raimund Schutte (left) and Steve Woodhall (right).

Larval food:

Archangelica officinalis (Rutaceae) [Henning, Henning, Joannou & Woodhall, 1997: 223].

Asteraceae [Larsen, 1991c: 114].

Calodendrum capense Thunb. (Rutaceae) [Bowker, *in* Trimen & Bowker, 1889: 225; as *Calodendron capense*; KwaZulu-Natal].

Citropsis daweana Swingle & M. Kellerm. (Rutaceae) [Larsen, 1991; Shakawe, Botswana].

Citrus microcarpa x *C. citrofortunella* (Rutaceae) [Kroon, 1999: 23].

Citrus species (Rutaceae) [Trimen & Bowker, 1889: 225; as "the orange and lemon"].

Clausena anisata (Willd.) Hook.f. ex Benth. (Rutaceae) [Van Son, 1949: 24; as *Clausena inequalis* (DC.) Benth.].

Deverra burchelli (DC.) Eckl. & Zeyh. (Apiaceae) [Dickson & Kroon, 1978].

Deverra denudata subsp. *aphylla* (Cham. & Schltdl.) Pfister & Podlech (Apiaceae) [Van Son, 1959:54; as *Pituranthos aphyllus*].

Fagaropsis angolensis (Engl.) Dale (Rutaceae) [Van Someren, 1974: 316].

Foeniculum vulgare Mill. (Apiaceae) (exotic) [Trimen & Bowker, 1889: 225; as "the fennel"].

Haplophyllum species (Rutaceae) [Larsen, 1983b; Dhofar province in Oman].

Hippobromus pauciflorus (L.f.) Radlk. (Sapindaceae) [Mrs Barber, *in* Trimen & Bowker, 1889: 225; as *Hippobromus alata*; Grahamstown, Eastern Cape].

Oricia bachmanni (Engl.) I. Verd. (Rutaceae) [Van Son, 1949: 24; as *Teclea swynnertoni*].

Oricia bachmannii (Engl.) I. Verd. (Rutaceae) [Henning, Henning, Joannou & Woodhall, 1997: 223].

Peucedanum galbanum (L.) Drude (Apiaceae) [Trimen & Bowker, 1889: 225; as *Bubon galbanum*].

Peucedanum gummiferum (L.) Wijnands (Apiaceae) [Trimen & Bowker, 1889: 225; as *Bubon gummiferum*].

Pseudospondias microcarpa (A.Rich.) Engl. (Anacardiaceae) [Van Someren, 1974: 316].

Pseudospondias species (Anacardiaceae) [Dahlgren & Van Wyk, 1988].
Ptaeroxylon obliquum (Thunb.) Radlk. (Ptaeroxylaceae) [Dickson & Kroon, 1978].
Ruta species (Rutaceae) [Larsen, 1983b; Yemen].
Teclea species (Rutaceae) [Larsen, 1983b; Yemen].
Teclea natalensis (Sond.) Engl. (Rutaceae) [Van Son, 1949: 24; as *Toddalia natalensis*].
Teclea pilosa (Engl.) I. Verd. (Rutaceae) [Otto *et al.*, 2013: 72].
Vepris lanceolata (Lam.) G.Don (Rutaceae) [Mrs Barber, *in* Trimen & Bowker, 1889: 225; Grahamstown, Eastern Cape].
Zanthoxylum asiatica (L.) Lam. (Rutaceae) [Van Son, 1949: 24; as *Toddalia aculeata* Pers.].
Zanthoxylum capense (Thunb.) Harv. (Rutaceae) [Pringle *et al.*, 1994: 303].
Zanthoxylum delagoense P.G. Waterman (Rutaceae) [Dickson & Kroon, 1978].

Relevant literature:

Cluck & Rousseaux, 2003 [Recorded in Belgium].
 Curle, 2002 [Mimicry with *Aeropetes tulbaghia*].
 CAB International, 1987 – Distribution map.
 Burger *et al.*, 1978, 1985, 1990 – Chemistry of osmeterial secretion.
 Abu Yaman, 1973 – Larval biology in Saudi Arabia.
 Clarke *et al.*, 1963 – Larval colour patterns in.

Papilio (Princeps) demodocus demodocus Esper, [1798][#] Citrus Gazer

Papilio demdocus Esper, [1798] *in* Esper, [1784-1801]. *Die ausländischen oder die ausserhalb Europa zur Zeit in den übrigen Welttheilen vorgefundene Schmetterlinge in Abbildungen nach der Natur mit Beschreibungen*: 205 (254 pp.). Ehrlangen.
Papilio demoleus Linnaeus. Trimen, 1862c. [misidentification]
Papilio demoleus Linnaeus, 1764. Trimen & Bowker, 1889. [misidentification]
Papilio demodocus Esper. Swanepoel, 1953a.
Papilio demodocus Esper, 1798. Dickson & Kroon, 1978.
Papilio demodocus demodocus Esper, 1798. Pringle *et al.*, 1994: 303.



Papilio demodocus demodocus. Male (Wingspan 85 mm). Left – upperside; right – underside.
 Pretoria, Gauteng, South Africa. February, 1991 (bred). M. Williams.
 Images M.C. Williams ex Williams Collection.



Papilio demodocus demodocus. Female (Wingspan 90 mm). Left – upperside; right – underside.
Pretoria, Gauteng, South Africa. February, 1991 (bred). M. Williams.
Images M.C. Williams ex Williams Collection.

Type locality: [Africa]: “China”; “Bengalen”. [False localities.]

Distribution: Sub-Saharan Africa, including Mauritania, Senegal, Gambia, Guinea-Bissau (Aurivillius, 1910), Guinea, Sierra Leone, Liberia, Ivory Coast, Mali, Burkina Faso, Ghana, Togo, Benin (throughout), Niger, Nigeria, Cameroon, Sao Tome and Principe Islands (Mendes & Bivar de Sousa, 2022), Equatorial Guinea (Bioko), Gabon, Angola (Bivar de Sousa & Fernandes, 1966), Democratic Republic of Congo, Central African Republic, Ethiopia, Somalia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa (Limpopo Province, Mpumalanga, North West Province, Gauteng, Free State Province, KwaZulu-Natal, Eastern Cape Province, Western Cape Province, Northern Cape Province), Swaziland, Lesotho. Also in Saudi Arabia (south-west), Yemen, Oman, Cape Verde Islands, Comoro Islands, Madagascar, Mauritius, Reunion.

Specific localities:

Cape Verde Islands – Brava Island (Tennent & Russell, 2019); Fogo Island (Tennent & Russell, 2019); Santiago Island (Tennent & Russell, 2019); Maio Island (Tennent & Russell, 2019); Boa Vista Island (Tennent & Russell, 2019); Sao Nicolau Island (Tennent & Russell, 2019); Santa Luzia Island (Tennent & Russell, 2019); Sao Vicente Island (Tennent & Russell, 2019); Santo Antao Island (Tennent & Russell, 2019).

Gambia – Fajara, Abuko, Bijilo, Pirang, Brufut, Tintinto, Sanyang, Yundum, Kotu, Keneba, Walikunda, Basse (Jon Baker, pers. comm, May 2020).

Guinea – Ziama (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020); Wonegizi (Safian *et al.*, 2020).

Mali – Bamako (Dufrane, 1936).

Burkina Faso – Bobo (Dufrane, 1936); Diolasso (Dufrane, 1936).

Benin – Noyau Central, Lama Forest (Fermon *et al.*, 2001); Lokoli (Tchiboze *et al.*, 2008); Houeyogbe Forest (Coache & Rainon, 2016).

Ghana – Accra (Storace, 1963); Kakum National Park (Larsen, 2006d); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Togo – Klouto [6°57'15.07"N 0°34'54.40"E] (Safian *et al.*, 2009).

Benin – see Coache *et al.*, 2017.

Nigeria – Bashu (Brattstrom, 2008).

Cameroon – Barombi (Suffert, 1904); Akoafim (Schultze, 1914); Duala (Strand, 1914); Korup (Larsen, 2005a).

Equatorial Guinea (Bioko) – Malabo (Sta. Isabel) (Schultze *et al.*, 1917-1923); Basile (Spearman *et al.*, 2000).

Gabon – Throughout (Vande weghe, 2010); Aghwey (Capronnier, 1881).

Angola – Bengo Province; Bie Province; Cabinda Province; Huambo Province; Huila Province; Kuando-Kubango Province; Kwanza Norte Province; Kwanza Sul Province; Luanda Province; Lunda Norte Province; Lunda Sul Province; Malanje Province; Moxico Province; Namibe Province; Uige Province (Mendes *et al.*, 2013).

Democratic Republic of Congo – North Kalule (Dufrane, 1936); Elisabethville (Dufrane, 1946); Luebo (Dufrane, 1946); Leopoldville (Dufrane, 1946); Doruma-Sili (Berger, 1950); Kafakumba (Storace, 1963); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Central Forest Block (Ducarme, 2018); Mt

Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).
Central African Republic – Dzanga (Noss, 1998).
Ethiopia – Asmara (Storace, 1963); Himberti (Storace, 1963); Dalle (Storace, 1963).
Somalia – Belet Amin sul basso Giuba (Storace, 1963).
Uganda – Semuliki N.P. (Davenport & Howard, 1996); Maramogambo Forest, Queen Elizabeth N.P. (Tumuhimbise *et al.*, 2001).
Kenya – Throughout (Larsen, 1991c).
Tanzania – Throughout (Kielland, 1990d); Tabora (Suffert, 1904); Bismarckburg (Strand, 1911); Karema (Strand, 1911); Kilwa (Strand, 1911); Maliwe (Strand, 1911); Mtanga (Strand, 1911); Sokosi (Strand, 1911); Kitungulu (Strand, 1911); Semdoe Forest Reserve (Doggart *et al.*, 2001); Katavi National Park (Fitzherbert *et al.*, 2006).
Malawi – Mt Mulanje (Congdon *et al.*, 2010); Zomba Mountain (Congdon *et al.*, 2010); Nyika N.P. (J. Timberlake, pers. comm., 2019).
Zambia – Throughout (Heath *et al.*, 2002).
Mozambique – Njesi Plateau (Congdon *et al.*, 2010); Mt Imago (Congdon *et al.*, 2010); Mt Mabu (Congdon *et al.*, 2010); Mt Mecula [-12.0772 37.6297] (Congdon & Bayliss, 2013); Maputo Special Reserve (Miles & Mulvaney, 2022).
Botswana – Widespread (Larsen, 1991).
Limpopo Province – Doorndraai Dam Nature Reserve (Warren, 1990); Percy Fyfe Nature Reserve (Warren, 1990); Lekgalameetse Nature Reserve (“Malta Forest”); Highlands Wilderness (Bode & Bode, unpublished checklist); Bateleur Nature Reserve (Williams); Soetdoring Farm [-24.561 28.233] (A. Mayer, pers comm. 2015); Bateleur Nature Reserve (Williams & Dobson, unpub., 2015).
Mpumalanga – Verloren Vallei Nature Reserve (Warren, 1990); Sterkspruit Nature Reserve (Williams); Buffelspoort Nature Reserve (Williams); Malelane (female illustrated above).
North West Province – Kgaswane Mountain Reserve (male illustrated above); Mountain Sanctuary N.R. (Williams); Utopia Resort (C. Dobson, 2006); Borakalalo Nature Reserve (J. Dobson, unpublished, 2009).
Gauteng – Pretoria (Vári, 1976); Witwatersrand Botanical Gardens (J. Dobson, unpublished checklist, 2001); Buffelsdrif Conservancy (Williams).
Free State Province – Cyferfontein [-30.3736 25.8131] (R. Griesel, unpublished).
KwaZulu-Natal – Kosi Bay Nature Reserve (Pringle & Kyle, 2002); Tembe Nature Reserve (Pringle & Kyle, 2002); Ndumo Nature Reserve (Pringle & Kyle, 2002).
Northern Cape Province – Kagaligadi Transfrontier Park (van Son, 1959).
Swaziland – Mlawula N. R. (www.sntc.org.sz); Malolotja N. R. (www.sntc.org.sz).
Arabian Peninsula
Hejaz: Medina (Larsen, 1983b).
Asir: Jeddah (Larsen, 1983b); Azzan (Larsen, 1983b); Abha (Larsen, 1983b).
Yemen: Jabal Sabr (Larsen, 1983b); Ibb (Larsen, 1983b); Jabal Bada’an (Larsen, 1983b); Wadi Dur (Larsen, 1983b); Wadi Annah (Larsen, 1983b); Dalil (Larsen, 1983b).
Aden: Dhala (Larsen, 1983b); Jabal Jihaf (Larsen, 1983b).
Hadhramaut: Ras Fartak (Larsen, 1983b).
Dhofar: Ain Arzat (Larsen, 1983b); Salalah (Larsen, 1983b); km 7 and 12 Thamarit Rd (Larsen, 1983b); Darbat (Larsen, 1983b).
Madagascar – Tananarive (Storace, 1963).
Mauritius – Widespread and common (Davis & Barnes, 1991). Following its deliberate introduction into Reunion from Madagascar in 1863 (Davis & Barnes, 1991) it was first recorded from Mauriius in 1970 (Vinson, 1938); Curepipe (Le Cerf, 1913); Moka (Le Cerf, 1927).

nubila Capronnier, 1881 (as var. of *Papilio demoleus*). *Bulletin de la Société Entomologique de Belgique* **1881**: 43 (42-43). Gabon: “Côte Occidentale d’Afrique, Golfe Benin, d’Agoué (Aghwey)”.

decusdemo Suffert, 1904 (as ssp. of *Papilio demodocus*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 101 (12-107). Tanzania: “Tabora”.

albicans Suffert, 1904 (as ssp. of *Papilio demodocus*). *Deutsche Entomologische Zeitschrift, Iris* **17**: 102 (12-107).

Cameroon: “Barombi Station”.

karema Strand, 1911 (as ab. of *Papilio demodocus*). *Mitteilungen aus dem Zoologischen Museum in Berlin* **5**: 294 (275-304). Tanzania: “S. Tanganyika, Bismarckburg; Tanganyika, Karema; Kilwa, Maliwe; Mtanga, Ufipa; Sokosi, Ufipa; Kitungulu, Urungu”.

cariei Le Cerf, 1913 (as ab. of *Papilio demodocus*). *Bulletin de la Société Entomologique de France* **1913**: 406 (405-406). Mauritius: “Île Maurice, Curepipe”.

tessmanni Schultze, 1914 (as ab. of *Papilio demodocus*). *Archiv für Naturgeschichte* **79** (A.8.): 2 (1-2). Cameroon: “Süd Kamerun, Akoafim”.

conflua Strand, 1914 (as ab. of *Papilio demodocus*). *Archiv für Naturgeschichte* **80** (A.2.): 158 (139-161). Cameroon: “Duala”.

epunctatus Le Cerf, 1927 (as f. of *Papilio demodocus*). *Encyclopédie Entomologique* (B. 3. Lepidoptera) **2**: 58 (44-58). Mauritius: “Île Maurice, Moka”.

minor Dufrane, 1936 (as ab. of *Papilio demodocus demodocus*). *Lambillionea* **36**: 40 (40-42). Mali: “Bamako, S.O. Soudan, sur les bords du niger”.

juncta Dufrane, 1936 (as ab. of *Papilio demodocus demodocus*). *Lambillionea* **36**: 40 (40-42). Mali: “Bamako, S.O. Soudan, sur les bords du Niger”.

semijuncta Dufrane, 1936 (as ab. of *Papilio demodocus demodocus*). *Lambillionea* **36**: 40 (40-42). Burkina Faso: “Côte d’Ivoire (ancienne Haute Volta), Bobo, Diolasso”.

mathieui Dufrane, 1936 (as ab. of *Papilio demodocus demodocus*). *Lambillionea* **36**: 41 (40-42). Democratic Republic of Congo: “Kalule Nord, Katanga”.

houzeau Dufrane, 1936 (as ab. of *Papilio demodocus demodocus*). *Lambillionea* **36**: 41 (40-42). Mali: “Bamako, S.O. Soudan, sur les bords du Niger”.

longsdoni Krüger, 1937 (as f. of *Papilio demodocus*). *Entomologische Rundschau* **55**: 84 (84). Mozambique: “Portug. Ostafrika”.

oblongula Berio, 1941 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **73**: 91 (90-92). “S. Nicolau, Dominga”.

viginta Berio, 1941 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **73**: 91 (90-92). Ghana: “Ascianti”.

adla Berio, 1941 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **73**: 92 (90-92). Democratic Republic of Congo: “Congo Belga”.

vreuricki Dufrane, 1946 (as ab. of *Papilio demodocus demodocus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 114 (101-122). Democratic Republic of Congo: “Congo Belge”.

dubois Dufrane, 1946 (as ab. of *Papilio demodocus demodocus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 114 (101-122). Democratic Republic of Congo: “Elisabethville, Katanga”.

aurantiaca Dufrane, 1946 (as ab. of *Papilio demodocus demodocus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 114 (101-122). Democratic Republic of Congo: “Congo Belge, Luébo”.

ochrea Dufrane, 1946 (as ab. of *Papilio demodocus demodocus*). *Bulletin et Annales de la Société Royale Entomologique de Belgique* **82**: 114 (101-122). Democratic Republic of Congo: “Congo Belge, Léopoldville”.

dufranei Berger, 1950 (as ab. of *Papilio demodocus*). *Annales du Musée Royal du Congo Belge. C-Zoologie* (3) **8** (1): 41 (102 pp.). Democratic Republic of Congo: “Uele, Doruma-Sili”. Holotype in the Royal Museum for Central Africa, Tervuren, Belgium.

overlaeti Berger, 1950 (as ab. of *Papilio demodocus*). *Annales du Musée Royal du Congo Belge. C-Zoologie* (3) **8** (1): 42 (102 pp.). Democratic Republic of Congo: “Uele, Doruma-Sili”. Holotype in the Royal Museum for Central Africa, Tervuren, Belgium.

confluens Storace, 1963 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **92**: 102 (102-104). Madagascar: “Tananarive”.

bennettoides Storace, 1963 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **92**: 102 (102-104). Democratic Republic of Congo: “Congo ex Belga, Kafakumba”.

atromaculatus Storace, 1963 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **92**: 102 (102-104). Ethiopia: “Eritrea, Dorfu presso Asmara, m. 1500 s.l.m.”.

continua Storace, 1963 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **92**: 103 (102-104). Ethiopia: “Eritrea, Himberti”.

deminuta Storace, 1963 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **92**: 103 (102-104). Ethiopia: “Eritrea centrale, Himberti”.

flavocincta Storace, 1963 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **92**: 103 (102-104). Ethiopia: “Abissinia sud-occidentale, Dalle”.

latevittata Storace, 1963 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **92**: 103 (102-104). Ghana: “Guinea superiore, Accra”.

pseudopraeses Storace, 1963 (as f. of *Papilio demodocus*). *Bollettino della Società Entomologica Italiana* **92**: 104 (102-104). Somalia: “Somalia meridionale, Belet Amin sul basso Giuba”.

belonota Vári, 1976 (as ab. of *Papilio demodocus*). *Annals of the Transvaal Museum* **30**: 125 (121-144). South Africa: “Pretoria”.

Papilio (Princeps) demodocus bennetti Dixey, 1898

Socotra Citrus Gazer

Papilio bennetti Dixey, 1898 in Dixey *et al.*, 1898. *Proceedings of the Zoological Society of London* **1898**: 381 (372-391).

Type locality: Yemen: “Jebel Dryet, 4900 ft.”.

Diagnosis: Characterised by the narrow yellow bands on all four wings, compared to the nominate subspecies (Larsen, 1983b).

Distribution: Yemen (Island of Socotra).

Specific localities:

Yemen – Jebel Dryet, Socotra (TL).

**Papilio (Princeps) demoleus* Linnaeus, 1758

Lime Swallowtail

Papilio demoleus Linnaeus, 1758. *Systema Naturae* **1**, Regnum Animale, 10th edition: 824 pp.. Holmiae.

Type locality:

Distribution: Asia, Seychelles (Matyot, 2018).

Habitat:

Early stages:

Larval food:

Citrus species (Rutaceae) (Kolosova & Bolotov, 2020).

Relevant literature:

Matyot, 2018.

Kolosova & Bolotov, 2020.

Papilio (Princeps) demoleus malayanus Wallace, 1865

Papilio ?

Type locality: Singapore.

Distribution: In the Afrotropical Region it has been recorded from Seychelles. Extraliminally this taxon occurs in Singapore, Indonesia, Malaysia, Burma, Thailand, Cambodia and Vietnam (Smith & Vane-Wright, 2008).

Specific localities:

Seychelles – Mahé Island (Matyot, 2018).

**Papilio (Princeps) erithonioides* Grose-Smith, 1891
Malagasy Gazer

Papilio erithonioides Grose-Smith, 1891. *Annals and Magazine of Natural History* (6) 7: 122 (122-128).

Papilio erithonioides Smith, 1891. Aurivillius, 1899.



Papilio erithonioides. Male. Left – upperside; right – underside.
Zombitse, Madagascar. 16-17 April 2018. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Papilio erithonioides. Female. Left – upperside; right – underside.
Berenty, southern Madagascar. 1989. A. Peyrieras. (ABRI 2018-5036).
Images M.C. Williams ex ABRI Collection.

Type locality: Madagascar: “North-west coast of Malagasy Republic”.

Distribution: Madagascar.

Specific localities:

Madagascar – Zombitse (male illustrated above), Berenty (female above).

Habitat: Forest (Lees *et al.*, 2003).

Early stages: Nothing published.

Larval food: Nothing published.

****Papilio (Princeps) groesmithi* Rothschild, 1926**
Stubby Gazer

Papilio groesmithi Rothschild, 1926. *Annals and Magazine of Natural History* (9) **17**: 113 (112-114).



Papilio groesmithi. Male. Left – upperside; right – underside.
Madagascar. February 1971. N.A. Brauer. ex ABRI Collection (ABRI 2018-5039).
Images M.C. Williams ex ABRI Collection.



Papilio grose-smithi. Female. Left – upperside; right – underside.
Sakaraha, Madagascar. February 1976. S. Collins. (ABRI 2018-5038).
Images M.C. Williams ex ABRI Collection.

Type locality: Madagascar: “N.W. Madagascar”.

Distribution: Madagascar.

Habitat: Forest (Lees *et al.*, 2003).

Early stages: Nothing published.

Larval food: Nothing published.

praeses Le Cerf, 1924 (as f. (? an subsp.) of *Papilio grose-smithi*). *Bulletin of the Hill Museum, Witley* 1: 288 (369-399, 576, 578, 580, 582, 584). Madagascar: “N.W. Madagascar”.

****Papilio (Princeps) morondavana* Grose-Smith, 1891**

Jagged Gazer

Papilio morondavana Grose-Smith, 1891. *Annals and Magazine of Natural History* (6) 8: 78 (78-81).

Papilio morondavana Smith, 1891. Aurivillius, 1899.



Papilio morondavana. Male. Left – upperside; right – underside.
Beparasy, Madagascar. November 1972. S. Collins. (ABRI 2018-5039).

Images M.C. Williams ex ABRI Collection.



Papilio morondavana. Female. Left – upperside; right – underside.
Sakaraha, Madagascar. November 1975. S. Collins. (ABRI 2018-5040).
Images M.C. Williams ex ABRI Collection.

Type locality: Madagascar: “West Madagascar, Mahobo, Morondava River”.

Distribution: Madagascar.

Specific localities:

Madagascar – Mahobo, Morondava River (TL).

Habitat: Forest (Lees *et al.*, 2003).

Early stages: Nothing published.

Larval food: Nothing published.