

Genus *Danaus* Kluk, [1780]

Tigers

Hist. nat. poczatki i gospodarstwo 84 (4 vols.). Publication date of *Danaus* was given as 1780 by the ICZN in 2014 (*Bulletin of Zoological Nomenclature* 71 (3): 203-207).

Type-species: *Papilio plexippus* Linnaeus, by subsequent designation (Hemming, 1933. *Entomologist* 66: 222 (222-225).).



Two female African monarchs feeding from the flowers of Milkweed, their larval host plant. Image courtesy Johan Greyling.

= *Danaida* Latreille, 1804. *Nouveau Dictionnaire d'Histoire Naturelle* 24: 185, 189 (129-200). Type-species: *Danaus plexippus* Linnaeus, by monotypy.

= *Limnas* Hübner, 1806. *Tentamen determinationis digestionis atque denominationis singularum stirpium Lepidoptorum, peritis ad inspiciendum et dijudicandum communicatum* [1] ([2] pp.). Augsburg. Type-species: *Papilio chrysippus* Linnaeus, by monotypy. Placed on the Official List of Rejected and Invalid Names in Zoology; Opinion 278, 1954. *Opinions and Declarations Rendered by the International Commission on Zoological Nomenclature* 6: 137-177.

= *Danais* Latreille, 1807. *Magazin für Insektenkunde (Illiger)* 6: 292 (290-295). Type-species: *Danaus plexippus* Linnaeus, by monotypy.

= *Danaus* Latreille, 1809. *Genera Crustaceorum et Insectorum.....4*: 201 (399 pp.). Parisiis & Argentorati. Type-species: *Danaus plexippus* Linnaeus, by subsequent designation (Scudder, 1872. *Report of the Peabody Academy of Science* 1871: 28 (24-82).).

= *Festivus* Crotch, 1872. *Cistula Entomologica* 1: 62 (59-71). Type-species: *Danaus plexippus* Linnaeus, by original designation.

= *Panlymnas* Bryk, 1937. *In*: Bryk, F., *Lepidopterorum Catalogus* 28 (78): 56 (1-432). 's-Gravenhage. Type-species: *Papilio chrysippus* Linnaeus. Replacement name for *Limnas* Hübner.

Synonyms based on extralimital type-species: *Tasitia* Moore; *Danamorpha* Kremky.

The genus *Danaus* belongs to the Family Nymphalidae Rafinesque, 1815; Subfamily Danainae Boisduval, 1833; Tribe Danaini Boisduval, 1833; Subtribe Dainaina, Boisduval, 1833. The other genus in the Subtribe Danaina in the Afrotropical Region is *Tirumala*.

Danaus (**Tigers**) is a cosmopolitan genus of 12 species, two of which are found in the Afrotropical Region. Classification of the genus follows Smith *et al.*, 2005.

Relevant literature:

Zhang *et al.*, 2020 [Taxonomy].

Smith *et al.*, 2005 [Classification].

Helmus & Dussourd, 2005 [Triggers for vein cutting by larvae].

Lushai *et al.*, 2003 [Molecular clocks and phylogeny].

Subgenus *Danaus* Kluk, [1780]

Hist. nat. poczatki i gospodarstwo 84 (4 vols.). Publication date of *Danaus* was given as 1780 by the ICZN in 2014 (*Bulletin of Zoological Nomenclature* 71 (3): 203-207).

Type-species: *Papilio plexippus* Linnaeus, by subsequent designation (Hemming, 1933. *Entomologist* 66: 222 (222-225)).

****Danaus (Danaus) plexippus* (Linnaeus, 1758)** American Tiger

Papilio plexippus Linnaeus, 1758. *Systema Naturae* 1, Regnum Animale, 10th edition: 471 (824 pp.). Holmiae.

Type locality: U.S.A.: "New York State, Kendall".

Distribution: Generally extralimital.

Early stages: ?

Larval food: ?

Danaus (Danaus) plexippus plexippus (Linnaeus, 1758) American Tiger

Papilio plexippus Linnaeus, 1758. *Systema Naturae* 1, Regnum Animale, 10th edition: 471 (824 pp.). Holmiae.

Type locality: U.S.A.: “New York State, Kendall”.

Distribution: Generally extralimital. Recorded from Mauritius in 1984 by Dr J.R. Williams of the Sugar Industry Research Institute of Mauritius (Davis & Barnes, 1991) and from Reunion in 1985 (Ackery *et al.*, 1995: 268). No further records have been made for Mauritius or Reunion, or for any other part of the Afrotropics (Ward *et al.*, 2018). Recorded from Sao Vicente, probably a stray, in Cape Verde Islands by Tennent & Russel, 2019.

Specific localities:

Mauritius – Curepipe (J.R. Williams; April 1984). By 1991 widespread and fairly common (Davis & Barnes, 1991).

Subgenus *Anosia* Hübner, [1816]

Hübner, 1816. *In*: Hübner, [1816-[1826]. *Verzeichniss bekannter Schmettlinge* 16 (432 + 72 pp.). Augsburg.

Type-species: *Papilio gilippus* Cramer, by subsequent designation (Scudder, 1875. *Proceedings of the American Academy of Arts and Sciences* 10: 113 (91-293).) [extralimital].

Synonymized with *Danaus* by Smith *et al.*, 2005 but recognized as a valid subgenus by Zhang, *et al.*, 2020: 25.

**Danaus (Anosia) chrysippus* (Linnaeus, 1758)# Plain Tiger



Upperside and underside of the Plain Tiger (*Danaus chrysippus*).
Images courtesy Steve Woodhall (left) and Raimund Schutte (right).

Papilio chrysippus Linnaeus, 1758. *Systema Naturae* 1, Regnum Animale, 10th edition: 471 (824 pp.). Holmiae.

Danaüs chrysippus Linnaeus. Trimen, 1862c. [Referable to subspecies *orientis* (Aurivillius, 1909)]

Danaüs chrysippus (Linnaeus, 1764). Trimen & Bowker, 1887a. [Referable to subspecies *orientis* (Aurivillius, 1909)]

Danaus chrysippus Linnaeus. Swanepoel, 1953a. [Referable to subspecies *orientis* (Aurivillius, 1909)]

Danaus chrysippus (Linnaeus, 1758). Dickson & Kroon, 1978. [Referable to subspecies *orientis* (Aurivillius, 1909)]

Danaus anosia chrysippus (Linnaeus, 1758). Pringle *et al.*, 1994: 47. [Referable to subspecies *orientis* (Aurivillius, 1909)]



Danaus chrysippus chrysippus. Male. Left – upperside; right – underside.
 Adi Missino Station, Aru Terr., Ituri, DRC. 7 June 2014. T. Desloges.
 Images courtesy Thomas Desloges.



Danaus chrysippus chrysippus. Female. Left – upperside; right – underside.
 Lolwa, Mambasa Terr., Ituri, DRC. 17 September 2020. T. Desloges.
 Images courtesy Thomas Desloges.

Alternative common names: African Queen, African Monarch. Known as the Plain Tiger or Common Tiger in the Oriental Region.

Type locality: [China, Canton]: “Aegyptus, America”. [False locality; *see* Corbet, 1949.]

Taxonomy: Talbot (1943) divided the Afrotropical populations of *Danaus chrysippus* into three subspecies, viz. subspecies *alcippus* in West Africa, subspecies *dorippus* in the horn of Africa and the southern Arabian Peninsula, and subspecies *chrysippus* in the rest of Africa. Ackery *et al.* (1995) do not list this publication in their bibliography and, therefore, apparently missed it. Lushai *et al.* (2003; 2005) not only recognize Talbot’s subspecific treatment but suggest that subspecies *alcippus* should probably be accorded specific status. They do not, however, formally raise it to species level. Smith *et al.* (2005) recognize three subspecies: *chrysippus* (Linnaeus, 1758), *alcippus* (Cramer, 1777) and *orientis* (Aurivillius, 1909). The taxon *dorippus* (Klug, 1845) was elevated to a full species (Smith *et al.*, 2005) but five years later was downgraded to a subspecies of *D. chrysippus* (Smith *et al.*, 2010). Braby *et al.*, 2015 have reservations about the robustness of the existing classification. They state that the subspecies concept in this case may have ‘outlived its usefulness’ (Braby *et al.*, 2012).

Distribution: Throughout the Afrotropical Region, including Mauritania, Senegal, Gambia, Guinea-Bissau (Bacelar, 1949), Guinea, Sierra Leone, Liberia, Mali, Ivory Coast, Ghana, Burkina Faso, Togo, Benin (Fermon *et al.*, 2001), Nigeria, Niger, Cameroon, Equatorial Guinea, Gabon, Congo, Angola, Central African Republic, Democratic Republic of Congo, Sudan, Uganda, Ethiopia, Somalia, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Lesotho, Swaziland, Arabia (Yemen (including Socotra), Saudi Arabia, Oman, United Arab Emirates), Madagascar, Comoro Islands, Mauritius, Rodrigues, Reunion, Bourbon, Seychelles, Aldabra, St Helena, Cape Verde Islands (Tennent &

Russell, 2019).

Extralimitally (as the nominate subspecies) in China, Taiwan, Japan, Indo-China, Philippines, Borneo, Malay Peninsula (Kedah & Langkawi Island), Thailand, Burma, India, Sri Lanka, Andaman & Nicobar Islands (Khatri & Khatri, 2012), Palestine, Lebanon, Turkey, Cyprus, Malta, Greece, Italy, Spain, Corsica, Sardinia, Tunisia, Algeria, Morocco, Canary Islands, Arabia, Egypt (Smith *et al.*, 2005). Recently recorded from Great Britain (Jersey) (Long, 2006). Extralimitally (as subspecies *dorippus*) in Iran, Iraq, Pakistan (Baluchistan), Afghanistan and India (Sind, Kutch).

Habitat: A variety of habitats, excluding dense forest, from sea-level to high mountains. Even dense primary forest can be temporarily penetrated during the dry season (Larsen, 2005a).

Habits: Because the Plain Tiger is distasteful to vertebrate predators, the flight is slow. Both sexes often feed from flowers and males will occasionally mud-puddle; rarely males are also attracted to carnivore dung. Males are often noted imbibing pyrrolizidine alkaloids from suitable plant material (e.g. *Heliotropium* species) (Larsen, 2005a). In Madagascar, Raymond Schutte (pers. comm. April 2010) found them to be common in all types of habitat, even forest. They seemed, to him, more sedate than in Africa, spending much of the day settled on aromatic creepers (with a strong pyrrolizidine alkaloid smell). Often he found areas where multiple pairs were settled *in copula*, which were very reluctant to be disturbed into flight. In Mauritius specimens have been noted imbibing exudations from the ends of broken branches lying on the ground, belonging to the tree *Tournefortia argentea* L. (Boraginaceae), presumably for the pyrrolizidine alkaloids that may be present in the exudations (Davis & Barnes, 1991). In Botswana, Larsen (1991) saw numbers attracted to scarabs that had been crushed on a road in the Kalahari. Sometimes small clusters can be found roosting on grass or dry plants. Migrations are common; often they form part of mixed migrations (Larsen, 1968, 1978, 1992; Samraoui, 1993). North-bound migrations in West Africa are probably the source of records of numbers of white-hindwing individuals in North Africa and Malta (Larsen, 1986; 2005a). Brower *et al.* (1978) found that 40% of Kenyan specimens contained cardenolides. In West African populations this is apparently much lower (Larsen, 1991c). Two successful mimics are the females of *Hypolimnas misippus* and *Pseudacraea poggei*. Curiously, in West Africa all *Danaus chrysippus* have white hindwings, whereas the females of *Hypolimnas misippus* usually have brown hindwings (Larsen, 2005a). There are a number of papers dealing with female-biased sex ratios in east African populations. This is the result of infection by bacteria belonging to the genus *Spiroplasma*, which specifically kills male embryos (Smith, 1975f, 1976a; Gordon *et al.*, 1999; Jiggins *et al.*, 2000).

Flight period: All year, peaking in late summer an autumn in southern Africa (Pringle *et al.*, 1994).

Early stages:

Horsfield & Moore, 1857 (*Cat. Lep.E.I.C. Mus.* Volume 1, plate 4, ff. 7,7a) [Java].

Trimen, 1862c: 89 and 90 (*Rhop. Afr. Aus.*, Vol. 1) [South Africa].

Trimen, 1866: plate 1, figs 3, 3a (*Rhop. Afr. Aus.*, Vol. 2) [South Africa].

Moore, 1880 (*Lep. Ceylon*, p.7, pl. 3, f. 1b) [Ceylon].

Trimen & Bowker, 1887, Vol. 1: 53 [as *Danais Chrysippus* (L.)].

“Larva. Pale bluish-grey; on the back transversely barred with bright pale-yellow and streaked with black. Yellow bar on front of each segment from 3rd to 12th (both inclusive), edged with black both anteriorly and posteriorly, and usually divided mesially by a short black streak uniting the black edges; three thin black streaks across each of these segments in its middle and posterior portion, and three similar streaks also on 2nd and last segments; front of head with a black horseshoe-shaped streak; spiracular stripe bright-yellow, rather suffused; legs bluish-grey barred with black. Three pairs of moderately long, black, flexible filaments, springing from the back of the 3rd, 6th, and 12th segments respectively, in each case from near the extremities of the transverse yellow bar; all these filaments are crimson just at the base, and the front pair longer than the others. Length, 1 in. 6-9 lin.” “Pupa. Semi-translucent; either green or pinkish, and sometimes of a tint including both hues. A raised golden spot on each eye, at the base of the wings, and about the middle of the costal edge of the wings; also two similar spots on each side of back of thorax. On fourth segment of abdomen, dorsally and laterally, a thin blackish tuberculated ridge, edged posteriorly by a continuous row of golden dots. Attached to twigs of the larva’s food-plant. Usual period of development into imago, fourteen to twenty days.”

Rogers & Van Someren, 1925: 28 (*J. E. Afr. Uganda Nat. Hist. Soc.* 21: 28).

Eggs laid singly on upper- or underside of leaves; occasionally four or five eggs scattered on a single leaf. Sometimes eggs are laid on other vegetation near the foodplant. Egg is oval; rather pointed at top end; flattened at base; longitudinally ribbed with ridges between the ribs. Larvae may emerge in as little as three days. First instar 3 mm long; greyish brown in colour; translucent, with faint indications of cross bars. Growth is very rapid. Second instar coloration similar to final instar but ornamentation less pronounced. Final instar reaches 40-50 mm in length; bluish grey dorsally; finely barred transversely with black; each segment, except first, dorsally ornamented with two contiguous oval orange or yellow spots; purplish black ventrally, separated from the bluish grey of the upper parts by a somewhat diffuse spiracular line. Head greyish with frontal horseshoe-shaped line of black. Dorsum of 2nd, 5th and 11th segments with a pair of long flexible filaments arising from the extremities of the yellow spots; bases of filaments reddish; anterior pair are the longest. Just before pupation the dorsal yellow marks become less pronounced and the yellow body-line becomes more distinct; larvae becomes translucent purplish. Larva suspends itself from the posterior end and pupates within 48 hours. Pupa translucent pale pink or pale green, slightly more opaque in the region of the wing cases; ornamented dorsally with golden spots at the line of angulation of the abdominal segments; abdominal spiracles denoted by faint yellowish dots. Pupal period 10 days to 3 weeks. Larvae heavily parasitised by several species of fly.

Clark, in Van Son, 1955: 7.

Egg 0.9 mm in diameter; 1.4 mm high; 19-21 longitudinal ribs of which 10-12 reach micropyle; 23-25 (occasionally 30) cross-ridges; pale yellow or white. Five larval instars lasting about one month. First instar dirty yellow or grey, with dull yellow or purplish red protuberances and black head; darkens later to pale olive with protuberances brown; densely setose. Second instar glabrous; protuberances more elongated; colour a little darker and beginning to show variegation apparent in the later instars.

Dickson, 1972.

Carcasson, 1981 [larva and pupa].

Ackery & Vane-Wright, 1984 [larva].

Shafi *et al.*, 2006: 49. [Assiut, Egypt].

Khatri & Khatri, 2012 [Andaman & Nicobar Islands; *D. chrysippus chrysippus*].



Danaus chrysippus orientis egg and first instar larva.
Images courtesy Steve Woodhall



Danaus chrysippus orientis fourth and fifth instar larva and pupa.
Images courtesy Steve Woodhall

Larval food:

- Antirrhinum* species (Scrophulariaceae) [Van Son, 1955: 7; possibly erroneous].
- Araujia sericifera* Brot. (Apocynaceae) (exotic) [Williams, 1996: 131; Onderstepoort, Pretoria district, Gauteng].
- Asclepias aurea* (Schultr.) Schltr. (Apocynaceae) [Staude *in* CRG database, 2016; Magaliesburg, Gauteng].
- Asclepias meyeriana* (Schutr.) Schultr. (Apocynaceae) [Kroon, 1999].
- Aspidoglossum interruptum* Bull. (= *Schizoglossum massaicum*) (Apocynaceae) [Van Someren, 1974: 323].
- Calotropis gigantea* (Apocynaceae) [Lawrence, 2014: 49; Seychelles].
- Calotropis procera* (Aiton) R.Br. or *Calotropis gigantea* (L.) R.Br. (Apocynaceae) [Larsen, 2005a; Accra, Ghana].
- Calotropis procera* (Aiton) R.Br. (Apocynaceae) [Golestaneh *et al.*, 2009 (Iran); Tennent & Russell, 2019 (Cape Verde Islands)].
- Caralluma europaea* (Guss.) N.E.Br. (Apocynaceae) [Pisciotta *et al.*, 2008; Lampedusa, Sicily].
- Caralluma* species (Apocynaceae) [Van Someren, 1974: 323].
- Ceropegia barberae* Harv. (Apocynaceae) [M. E. Barber, *in* Trimen & Bowker, 1887, Vol. 1: 53; Trans-Kei, Eastern Cape].
- Ceropegia bulbosa* var *lushii* (Grah.) Hook. F. (Apocynaceae) [Patil & Almeida, 1996; India].
- Cynanchum abyssinicum* Decne. (Apocynaceae) [Van Someren, 1974: 323].
- Cynanchum altiscadens* K.Schum. (Apocynaceae) [Van Someren, 1974: 323].
- Cynanchum obtusifolium* L.f. (Apocynaceae) [Pringle *et al.*, 1994: 48].
- Dyerophytum indicum* (Plumbaginaceae) [Larsen (1975) *vide* Granville-White. This is probably erroneous (Larsen, 2005a)].
- Fockea angustifolia* K. Schum. (Apocynaceae) [I. Sharp, 2017; Mpumalanga, South Africa].
- Fockea edulis* (Thunb.) K. Schum (Apocynaceae) [J. Ball, pers. comm., 2012; Sedgefield, Western Cape Province].
- Gomphocarpus fruticosus* (L.) Aiton (= *Asclepias fruticosa* L.) (Apocynaceae) [Trimen & Bowker, 1887, Vol. 1: 53; Cape Town?, Western Cape, and M. E. Barber, *in* Trimen & Bowker, 1887, Vol. 1: 53; Grahamstown, Eastern Cape].
- Gomphocarpus kaessneri* (N.E.Br.) Goyder & Nicholas (Apocynaceae) [Van Someren, 1974: 323].
- Gomphocarpus physocarpus* E.Mey. (= *Asclepias physocarpa* (E. Mey. Schltr.)) (Apocynaceae) [Van Someren, 1974: 323].
- Gomphocarpus fruticosus* subsp. *rostratus* (N.E. Br.) Goyden & Nicholas (Apocynaceae) [Larsen, 1991; Gaborone and Kgalagadi, Botswana].
- Gomphocarpus semilunatus* A.Rich. (Apocynaceae) [Van Someren, 1974: 323].
- Gomphocarpus stenophyllus* Oliv. (= *leucocarpa*) (Apocynaceae) [Van Someren, 1974: 323].
- Huernia hystrix* (Hook.f.) N.E.Br. (Apocynaceae) [Nichols, 1995].
- Huernia* species (Apocynaceae) [Van Son, 1955: 7].
- Huernia zebrina* N.E.Br. (Apocynaceae) [Nichols, *vide* Botha & Botha, 2006].
- Ipomoea* species (Convolvulaceae) [Larsen, 1991c: 257; improbable].
- Kanahia laniflora* (Forssk.) R.Br. (Apocynaceae) [Van Someren, 1974: 323; as *Kanahia glaberrima*].
- Kanahia laniflora* (Forssk.) R.Br. (Apocynaceae) [Van Someren, 1974: 323].

Orbea variegata (L.) Haw. (Apocynaceae) [Nichols, *vide* Botha & Botha, 2006; van der Heyden, 2010 (Canary Islands)].
Pachycarpus dealbatus E.Mey. (Apocynaceae) [Kroon, 1999].
Pergularia daemia (Forssk.) Chiov. subsp. *daemia* (Apocynaceae) [Van Someren, 1974: 323; as *Pergularia extensa*].
Periploca linearifolia Quart.-Dill. & A.Rich. ex A.Rich. (Apocynaceae) [Van Someren, 1974: 323].
Riocreuxia torulosa (Apocynaceae) [M. Purves, 2011; Umdoni, KwaZulu-Natal; SABCA Record 16734].
Rosa species (Rosaceae) [Van Son, 1955: 7; probably erroneous (MCW)].
Secamone africana (Oliv.) Bullock (Apocynaceae) [Van Someren, 1974: 323; as *Secamone platystigma*].
Stapelia species (Apocynaceae) [Bowker, *in* Trimen & Bowker, 1887, Vol. 1: 53; near King William's Town, Eastern Cape].
Stathmostelma gigantiflorum K.Schum. (Apocynaceae) [Van Someren, 1974: 323].
Stathmostelma pedunculatum (Decne.) K.Schum. (= *macrantha*) (Apocynaceae) [Van Someren, 1974: 323].
Xysmalobium undulatum (L.) W.T.Aiton (Apocynaceae) [Nichols, *vide* Botha & Botha, 2006].

Relevant literature:

MARTIN, S.H., SINGH, K.S., GORDON, I.J., OMUFWOKO, K.S., COLLINS, S., WARREN, I.A., MUNBY, H., BRATTSTRÖM, O., TRAUT, W., MARTINS, D.J., SMITH, D.A.S., JIGGINS, C.D., BASS, C., & FFRENCH-CONSTANT, R.H. 2020. Whole-chromosome hitchhiking driven by a male-killing endosymbiont. *PLoS Biology* February 27, 2020.

Vane-Wright & John, 2019 [synonymy of *aegyptius* and *chrysippus*].
Agius, 2014 [form *alcippoides* recorded from the Maltese Islands].
Idris & Hassan, 2013 [Sudan as part of the hybrid zone].
Tang *et al.*, 2013 [Visual and olfactory responses during foraging].
Hassan *et al.*, 2013 [Aposematic polymorphism and sex ratio distortion].
Franchimont, 2012 [Observations in Morocco].
Moreau & Moreau 2011 [New records from France].
Akhtar & Butt, 2010 [Seasonal variations in India].
Pandey *et al.*, 2010 [Studies of the haemocytes].
Smith *et al.*, 2010 [Reinforcement in hybrids in Africa].
Van der Heyden, 2009 [Biology and distribution in Turkey].
Murria-Beltran, 2009 [New locality record in Spain].
Granados, 2009 [Biology in Spain].
Golestaneh *et al.*, 2009 [Life cycle on *Calotropis procera*; Iran].
Golestaneh *et al.*, 2009 [Life cycle in Iran].
Pandey *et al.*, 2008 [Effects of plant extracts on haemocyte count and moulting].
Pisciotta *et al.*, 2008 [New food-plant record from Lampedusa Island near Sicily].
Baijal *et al.*, 2006 [Population dynamics in India].
Gil-T, 2006 [Cryptic pre-imaginal polymorphism; Spain].
Kishi *et al.*, 2006 [Distribution records in Japan].
Long, 2006 [Recorded in Jersey].
Perkovic, 2006 [First record from Croatia].
Venkatesha, 2006 [Ecology; India].
Larsen, 2005b [Feeding on Gemsbok droppings; Botswana].
Lushai *et al.*, 2005 [Interaction of lineages].
Mebs *et al.*, 2005 [Cardenolide sequestration].
Lushai *et al.*, 2004 [Previous migration in East Africa supported by DNA evidence].
Fukuda, 2004 [Range expansion in Japan].
Moreau & Moreau, 2004 [Migration patterns on the coast of France].
Pandey & Tiwari, 2004 [Effects of haemolymph withdrawal].
Lushai *et al.*, 2003 [Sympatric and hybrid mating zones].
Pringle, 2003 [Associated with a human death].
Fukuda, 2003 [Distribution in Japan].
Smith *et al.*, 2002 [*Danaus chrysippus* x *Danaus gilippus* and Haldane's rule].
Fukuda, 2002 [Population dynamics; Japan].
Smith *et al.*, 1993 [Polymorphism and evolution].

Danaus (Anosia) chrysippus chrysippus (Linnaeus, 1758)
Plain Tiger

Papilio chrysippus Linnaeus, 1758. *Systema Naturae* 1, Regnum Animale, 10th edition: 471 (824 pp.). Holmiae.



Danaus chrysippus chrysippus. Male. Left – upperside; right – underside.
Adi Missino Station, Aru Terr., Ituri, DRC. 7 June 2014. T. Desloges.
Images courtesy Thomas Desloges.



Danaus chrysippus chrysippus. Female. Left – upperside; right – underside.
Lolwa, Mambasa Terr., Ituri, DRC. 17 September 2020. T. Desloges.
Images courtesy Thomas Desloges.

Type locality: [China, Canton]: “Aegyptus, America”. [False locality; *see* Corbet, 1949.]

Distribution: Sudan, Uganda, Ethiopia, Kenya (Smith *et al.*, 2005), Tanzania, Democratic Republic of Congo.

Extraliminally in China, Taiwan, Japan, Indo-China, Philippines, Borneo, Malay Peninsula (Kedah & Langkawi Island), Thailand, Burma, India, Sri Lanka, Pakistan, Afghanistan, Iran, Iraq, Palestine, Lebanon, Turkey, Cyprus, Malta, Greece, Italy, Spain, Tunisia, Algeria, Morocco, Canary Islands, Arabia, Egypt (Smith *et al.*, 2005). Recently recorded from Great Britain (Jersey) (Long, 2006).

Specific localities:

Sudan – Nubia (Aurivillius, 1899).

Uganda – Bombo (Stoneham, 1958); Semuliki N.P. (Davenport & Howard, 1996).

Kenya – Karuna, near Nairobi (Stoneham, 1958).

Tanzania – Parumbira (Lanz, 1896); Amani (Strand, 1910); Mt Kilimanjaro (Liseki & Vane-Wright, 2015).

Democratic Republic of Congo – Leopoldville (Dufrane, 1948); Kipushi (Dufrane, 1948); Kikwendi

(Dufrane, 1948); Kilo-Moto (Dufrane, 1948); Ganza (Overlaet, 1955); Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).

aegyptius von Schreber, 1759 (as sp. of *Papilio*). *Novae Species Insectorum* 12 (16 pp.). Available as facsimile in *Journal of the Society for the Bibliography of Natural History* 1: 221-240. [Egypt]: “Aegypto”. Synonymized with *chrysippus* by Lushai *et al.*, 2005.

asclepiadis Gagliardi, 1811 (as sp. of *Papilio*). *Atti del Reale Istituto d’Incoraggiamento alle Scienze Naturali di Napoli* 1: 160 (155-161). “India Orientali vel Aegypto”.

alcippoides Moore, 1883 (as sp. of *Limnas*). *Proceedings of the Zoological Society of London* 1883: 238 (201-324). Nepal. Based on extralimital material, but applied to a form of the African subspecies (Ackery, *et al.*, 1995: 268).

infumata Aurivillius, 1899 *in* Aurivillius, 1898-9 (as ab. of *Danaida dorippus*). *Kungliga Svenska Vetenskapakademiens Handlingar* 31 (5): 33 (1-561). [Sudan]: “Nubia”.

transiens Suffert, 1900 (as ab. of *Danaus dorippus*). *Berliner Entomologischer Zeitschrift* 45: 116 (115-116). Deutsche-Ostafrika bis Arabien”.

semialbinus Strand, 1910 (as ab. of *Danaida dorippus*). *Societas Entomologica* 25: 5 (5-6). [Tanzania]: “Amani”.

impunctata Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Léopoldville”.

bipunctata Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Congo belge”.

duplicata Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Léopoldville”.

anomala Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Léopoldville”.

reducta Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Congo belge”.

subreducta Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Kipushi, Haut-Katanga”.

completa Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Léopoldville”.

duponti Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “les environs de la mission norvégienne de Kikwendi, à environs 100 Km. S-O. De Costermansville, Kivu”.

deficiens Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Léopoldville”.

radiata Dufrane, 1948 (as ab. of *Danaus (Limnas) chrysippus*). *Miscellanea Entomologica* 45: 50 (49-51). [Democratic Republic of Congo]: “Kilo-Moto”.

witteellus Overlaet, 1955 (as f. of *Danaus (Panlymnas) chrysippus liboria*). *Exploration du Parc National de l’Upemba* 27: 7 (1-106). [Democratic Republic of Congo]: “Ganza”.

hypermnestra Stoneham, 1958 (as f. of *Danaus chrysippus*). *Bulletin of the Stoneham Museum* (71): [1] ([3

pp.]). Kenya: “Karuna, near Nairobi”; Uganda: “Bombo”.

Danaus (Anosia) chrysippus alcippus (Cramer, 1777)
White-winged Plain Tiger

Papilio alcippus Cramer, 1777. *Die Uitlandsche Kapellen voorkomende in de drie waereld-deelen Asia, Africa en America* 2: 45 (151 pp.). Amsteldam & Utrecht.

Danaus chrysippus alcippus Lushai *et al.*, 2003.



Danaus chrysippus alcippus. Male (Wingspan 71 mm). Left – upperside; right – underside. Wingspan 71 mm. Biakpa Mountain Paradise, Ghana. 23 November 2011. J. Dobson. Images M.C. Williams ex Dobson Collection.



Danaus chrysippus alcippus. Male (Wingspan 70 mm). Left – upperside; right – underside. Wingspan 70 mm. Bergpan, Limpopo, South Africa. 5 February 2002. J. Dobson. Images M.C. Williams ex Dobson Collection.



Danaus chrysippus alcippus. Female (Wingspan 70 mm). Left – upperside; right – underside. Wingspan 70 mm.
Khartoum, Northern Sudan. 14 September 2007. P. Ward.
Images M.C. Williams ex Dobson Collection.

Type locality: Sierra Leone: “Cote de Guinée, Sierra Leona”.

Distribution: Cape Verde Islands, Mauritania, Senegal, Gambia, Guinea-Bissau (Bacelar, 1949), Guinea, Sierra Leone, Liberia, Mali, Ivory Coast, Ghana, Burkina Faso, Togo, Benin (throughout), Nigeria, Niger, Cameroon, Equatorial Guinea (Bioko), Congo, Central African Republic, Sudan, Uganda, Ethiopia, Kenya, Tanzania, Yemen, Saudi Arabia, Oman, United Arab Emirates (Smith *et al.*, 2005). Occasional records from as far south as South Africa.

Specific localities:

Cape Verde Islands – Brava Island (Tennent & Russell, 2019); Ilheus do Rombo (Ilheu de Cima) 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); Sal Island (Tennent & Russell, 2019); Sao Nicolau Island (Tennent & Russell, 2019); Raso Island (Tennent & Russell, 2019); Santa Luzia Island (Tennent & Russell, 2019); Sao Vicente Island (Tennent & Russell, 2019); Sao Antao Island (Tennent & Russell, 2019).

Gambia – Fajara, Farasutu, Bijilo, Abuko, Pirang, Tintinto, Sanyang, Yundum, 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).

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

Benin – Noyau Central, Lama Forest (Fermon *et al.*, 2001); Lokoli (Tchibozo *et al.*, 2008); Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.*, 2017.

Nigeria – Oban Hills (Larsen, 2005a).

Cameroon – Barombi Station (Strand, 1909).

Central African Republic – Dzanga (Noss, 1998).

Tanzania – Parumbira (Lanz, 1896).

Limpopo Province – Bateleur Nature Reserve (Williams & Dobson, unpub., 2015)

albinus Lanz, 1896 (as ab. of *Danais dorippus*). *Deutsche Entomologische Zeitschrift, Iris* **9**: 130 (113-147). [Tanzania]: “Parumbira”.

chrysipellus Strand, 1909 (as ab. of *Danaida chrysippus*). *Archiv für Naturgeschichte* **75** (1.3.): 373 (367-386). Cameroon: “Barombi-Station in Kamerun”.

Danaus (Anosia) chrysippus dorippus (Klug, [1845])

Tawny Plain Tiger

Euploea dorippus Klug, [1845]. *In* Klug, [1829-45]. *In*: Ehrenburg, C.G., *Symbolae Physicae, seu icones et descriptiones corporum naturalium novarum aut minus cognitorum* pl. 48 ([183] pp.).

Limnas dorippus (Klug, 1845). Moore, 1883.

Danaus chrysippus (L.) *aegyptius* (Schreber, 1759) f. *dorippus* (Klug, 1845). Talbot, 1943.

Danaus (Anosia) chrysippus (L.) f. *dorippus* (Klug, 1845). Ackery & Vane-Wright, 1984.

Danaus chrysippus dorippus (Klug, 1845). Lushai *et al.*, 2003.

Danaus dorippus (Klug, 1845). Smith *et al.*, 2005.

Danaus chrysippus dorippus (Klug, 1845). Smith *et al.*, 2010. **stat. rev.**

Danaus dorippus dorippus (Linnaeus, 1758). Lawrence, 2014 [taxonomic status and authorship erroneous].



Danaus chrysippus dorippus. Male (Wingspan 70 mm). Left – upperside; right – underside. Wingspan 70 mm.
Zanzibar, Tanzania. 28 December 2010. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Danaus chrysippus dorippus. Male (Wingspan 70 mm). Left – upperside; right – underside. Wingspan 70 mm.
Zanzibar, Tanzania. 28 December 2010. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Danaus chrysippus dorippus. Male (Wingspan 67 mm). Left – upperside; right – underside. Wingspan 70 mm.
Zanzibar, Tanzania. 28 December 2010. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Danaus chrysippus dorippus. Female (Wingspan 70 mm). Left – upperside; right – underside. Wingspan 70 mm. Zanzibar, Tanzania. 28 December 2010. J. Dobson. Images M.C. Williams ex Dobson Collection.

Type locality: Sudan: “Dongala, Ambukohl”.

Distribution: Sudan, Ethiopia, Somalia, Uganda, Kenya, Tanzania, Arabia, Seychelles.

Occasional dispersing individuals are recorded as far south as South Africa (Swanepoel, 1953; Pringle *et al.*, 1994).

Extralimitally in Iran, Pakistan (Baluchistan), India (Sind, Kutch). Subspecies *bataviana* (Moore, 1883) occurs in the Oriental Region (see Smith *et al.*, 2005).

Specific localities:

Sudan – Dongala (TL); Ambukohl (Klug, 1845).

Somalia – South of Berbera (Butler, 1886); Belet Amin (Storace, 1949).

Limpopo Province – Great Saltpan (Williams, unpublished, 1978).

KwaZulu-Natal – Durban (Trimen & Bowker, 1887).

Seychelles – Aldabra Atoll (Lawrence, 2014); Assumption Island (Lawrence, 2014).

klugii Butler, 1886 (as sp. of *Limnas*). *Proceedings of the Zoological Society of London* **1885**: 758 (756-776). Somalia: “Inland, South of Berbera”.

evanescens Storace, 1949 (as ab. of *Danaus chrysippus dorippus*). *Annali del Museo Civico di Storia Naturale (di Genova) Giacomo Doria* **64**: 20 (12-29). Somalia: “Belet Amin”.

Danaus (Anosia) chrysippus orientis (Aurivillius, 1909)#
African Plain Tiger

Danaida chrysippus var. *orientis* Aurivillius, 1909. *In*: Voeltzkow, A., *Reise in Ostafrika in den Jahren 1903-1905* **2**: 310 (309-348). Stuttgart.

Danaus chrysippus aegyptius (Schreber, 1759). Pringle *et al.*, 1994. [Synonym of the nominate subspecies; referable to ssp. *orientis*]

Danaus chrysippus orientis (Aurivillius, 1909). Smith *et al.*, 2005.



Danaus chrysippus orientis. Male (Wingspan 67 mm). Left – upperside; right – underside.
Bushman's River Mouth, Eastern Cape Province, South Africa. 11 December 2003. M. Williams.
Images M.C. Williams ex Williams Collection.



Danaus chrysippus orientis. Female (Wingspan 68 mm). Left – upperside; right – underside.
Rankin's Pass, Limpopo Province, South Africa. 5 April 1998. M. Williams.
Images M.C. Williams ex Williams Collection.

Type locality: Comoro Islands: “Comoren”; Madagascar: “Madagaskar”; Seychelles: “Aldabra”.
Lectotype in the Swedish Natural History Museum (images available at www2.nrm.se/en/lep_nrm/c).

Distribution: Gabon, Congo, Angola, Uganda, 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, Madagascar, Comoro Islands, Mauritius, Rodriguez, Reunion, Bourbon, Seychelles, Saint Helena.

Specific localities:

Gabon – Nyonie (Vande weghe, 2010); Pongara (Vande weghe, 2010); Iguela (Vande weghe, 2010); Gamba (Vande weghe, 2010); Kinguele (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Lope (Vande weghe, 2010); Ipassa (Vande weghe, 2010); Makokou (Vande weghe, 2010); Zadio River (Vande weghe, 2010); Bakouaka (Vande weghe, 2010); Ekouyi (Vande weghe, 2010); Camp PPG, Bateke Plateau (Vande weghe, 2010).

Angola – Estacao Zootechnica, Huila [14°55'14.7"S 13°15'41.1"E] (Willis, 2009); 28 km E of Tombua, Namibe [15°48'02.9"S 12°07'26.7"E] (Willis, 2009); Espinheira, Iona National Park, Namibe [16°47'24.7"S 12°21'29.4"E] (Willis, 2009).

Tanzania – 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).

Mozambique – 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); Mt Yao [-12.4432 36.5114] (Congdon & Bayliss, 2013).

Botswana – Kang (Larsen, 1991); Gemsbok National Park (Larsen, 1991); Takotakwane (Larsen, 1991); Molopo Valley (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); Nylsvley; Soetdoring Farm [-24.561 28.233] (A. Mayer, pers. comm. 2015); Bateleur Nature Reserve (Williams & Dobson, unpub., 2015); Buzzard Mountain Retreat [-23.012 29.765] (Williams, unpub., 2015).

Mpumalanga – Mariepskop area (Henning, 1994c); Sterkspruit Nature Reserve (Williams); Buffelskloof Nature Reserve (Williams).

North West Province – Kgaswane Mountain Reserve (Williams); Mountain Sanctuary Nature Reserve (Williams); Utopia Resort (C. Dobson, 2006); Borakalalo Nature Reserve (J. Dobson, unpublished, 2009).

Gauteng – Witwatersrand Botanical Gardens (J. Dobson, unpublished checklist, 2001); Buffelsdrif Conservancy (Williams); Oori Nature Reserve (Williams).

Free State Province – Platberg, Harrismith (Dobson, Williams & Schutte, unpublished, 2010); 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).

Madagascar – Nosy Iranje (R. Schutte, pers. comm. April 2010); Nosy Be (R. Schutte, pers. comm. April 2010); Anjajavy Peninsula (R. Schutte, pers. comm. April 2010); Perinet Mantodia Forest (R. Schutte, pers. comm. April 2010).

Mauritius – Common and widespread (Davis & Barnes, 1991). Chamarel (Lawrence, 2016); Grand Gaube (Lawrence, 2016).

Seychelles – Mahe (Lawrence, 2014); St. Anne (Lawrence, 2014); Silhouette (Lawrence, 2014); Praslin (Lawrence, 2014); La Digue (Lawrence, 2014); Aride (Lawrence, 2014); Denis Island (Lawrence, 2014); Cosmoledo (Lawrence, 2014); Aldabra (Lawrence, 2014); Astove (Lawrence, 2014).

praealbata Froreich, 1928 (as ab. of *Danaus chrysippus*). *Societas Entomologica* **43**: 39 (39). South Africa: “Fort Napier, Südafrika (Kapland)”.

liboria Hulstaert, 1931 (as ssp. of *Danaus chrysippus*). *Genera Insectorum* (193) **28** (213 pp.). “Inde continent, Afrique orientale”. Synonymized with *Danaus chrysippus orientis* by Lushai *et al.*, 2005.