

Genus *Libythea* Fabricius, 1807

In: Illiger, K., *Magazin für Insektenkunde* 6: 284 (277-289).

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

= *Dichora* Scudder, 1889 *in* Scudder, 1888-9. *The butterflies of the eastern United States and Canada with special reference to New England* 1: 470 (766 pp.). Cambridge, Mass. Type-species: *Libythea labdacca* Westwood, by monotypy. Invalid; junior homonym of *Dichora* Paetel, 1875.

Synonyms based on extralimital type-species: *Chilea* Billberg; *Hecaerge* Ochseneimer; *Hypatus* Hübner.

The genus *Libythea* belongs to the Family Nymphalidae Rafinesque, 1815; Subfamily Libytheinae Boisduval, 1833. *Libythea* is the only Afrotropical genus in the Subfamily Libytheinae.

Libythea (Snouts) is a cosmopolitan relict genus of about a dozen species, five of which occur in the Afrotropical Region. The genus was revised by Okano (1987), who provided a checklist of all the species. Since this review three Afrotropical taxa have been elevated from subspecific to specific rank (Lees *et al.*, 2003). Kawahara reviewed the genus in 2013 but was apparently unaware of Lees *et al.*, 2003.

**Libythea labdacca* Westwood, [1851]

Northern African Snout

Libythea labdacca Westwood, [1851] *in* Doubleday & Westwood, [1846-52]. *The genera of diurnal Lepidoptera*, London: 413 (1: 1-250 pp.; 2: 251-534 pp.). London.

Libythea labdacca Westwood and Hewitson, 1851. Pringle *et al.*, 1994: 125. [misattribution of authorship]



Libythea labdacca. Male (Wingspan 42 mm). Left – upperside; right – underside. Mabira Forest, Uganda. 15 June 2009. J. Dobson. Images M.C. Williams ex Dobson Collection.

Alternative common name: African Beak.

Type locality: Sierra Leone.

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (Fermon *et al.*, 2001), Nigeria, Cameroon, Equatorial Guinea, Sao Tome & Principe, Gabon, Angola, Democratic Republic of Congo, Central African Republic, Ethiopia, Uganda, Kenya (west), Tanzania (west).

Specific localities:

Guinea – Nimbas (Larsen, 2005a).

Ivory Coast – Kosangbe near Bouake (Gottlieb & Graham, *vide* Larsen, 2005a).

Ghana – Krokosoa Hills (Larsen, 2005a); Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.* 2009).

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

Cameroon – Korup (Larsen, 2005a).

Gabon – Probably throughout (Vande weghe, 2010); Tchimbele (Vande weghe, 2010); Waka (Vande weghe, 2010); Gare Ivindo (Vande weghe, 2010); Massouna 2000 (Vande weghe, 2010); Ipassa (Vande weghe, 2010); camp Nouna (Vande weghe, 2010); Bakouaka (Vande weghe, 2010); Franceville (Vande weghe, 2010).

Central African Republic – Dzanga (Noss, 1998).

Uganda – Semuliki N.P. (Davenport & Howard, 1996).

Kenya – South Kavirondo (Larsen, 1991c).

Tanzania – Mpanda to the Ugandan border (Kielland, 1990d).

Habitat: Forest and moist woodland. Larsen (2005a) states that it seems to be commonest on the edges of the forest zone and in disturbed areas within the rainforest zone. In Tanzania it is found at altitudes from 800 to 1 800 m (Kielland, 1990d).

Habits: In West Africa large migrations have been recorded, usually at the beginning of the rainy season (March and April) (*Proc. Ent. Soc. Lond.*, 1912, p. xcvi; 1916, p. iv; 1921, p. lxii; Farquharson, 1921: 404; Larsen, 1977, 1981, 2005a). In West Africa people use these migrations as an indicator that the dry season is about to end and that it is time to prepare the fields for sowing maize (Larsen, 2005a). Flowers are not visited but occasionally males come to damp patches (Kielland, 1990d; Larsen, 1991c). Multitudes may sometimes be seen mud-puddling, presumably in preparation for migration (Larsen, 2005a). Specimens have occasionally been taken in banana-baited traps (Owen & Owen, 1973). Periodic massive irruptions appear to characterize the population dynamics of this species, these population explosions presumably leading to migratory behaviour (much as in a number of species of *Sevenia*).

Flight period: Not recorded.

Early stages: Not recorded.

Larval food: Not recorded.

Relevant literature:

Coache *et al.*, 2014 [Migration event in Benin]

****Libythea laius* Trimen, 1879#**

Southern African Snout

Libythea laius Trimen, 1879. *Transactions of the Entomological Society of London* **1879**: 337 (323-346).

Libythea laius Trimen, 1879. Trimen & Bowker, 1887b.

Libythea labdaca form *laius* Trimen. Swanepoel, 1953a.

Libythea labdaca laius Trimen, 1879. Dickson & Kroon, 1978.

Libythea labdaca laius Trimen, 1879. Pringle *et al.*, 1994: 125.

Libythea laius Trimen, 1879. Kawahara, 2013.



Libythea laius. Male (Wingspan 43 mm). Left – upperside; right – underside.
Lekgalameetse Nature Reserve, Limpopo Province, South Africa. 19 December 2006. M. Williams.
Images M.C. Williams ex Williams Collection.

Alternative common names: Southern African Snout; African Beak.

Type locality: [South Africa]: “D’Urban, Umgeni Railway Station, Pinetown, Avoca and Illovo, Natal”.

Diagnosis: Compared to *labdaca* the ground colour of the upperside of the wings is brighter and the spots are larger (Kielland, 1990d).

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

Distribution: Sudan (Liseki & Vane-Wright, 2015), Kenya (east), Tanzania (east and north), Malawi, Zambia, Angola, Mozambique, Zimbabwe (east), Botswana (north), South Africa (Limpopo Province, Mpumalanga, KwaZulu-Natal, Eastern Cape Province), Swaziland (Duke *et al.*, 1999). It was recorded from Yemen by Turlin (2000).

Specific localities:

Tanzania – Lake Manyara N.P. (Cordeiro, 1990); Mt Kilimanjaro (Liseki & Vane-Wright, 2015); New Moshi (Liseki & Vane-Wright, 2015).

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

Zambia – Mpongwe (Heath *et al.*, 2002); Chisamba (Heath *et al.*, 2002); Chinyuny (Heath *et al.*, 2002).

Zimbabwe – Mazoe (A. Duke); 20 km north of Harare (Pinhey); Dichwe Farm, north-east of Chinhoyi (Mullin); Mount Selinda (male illustrated above).

Limpopo Province – Duiwelskloof (Swanepoel, 1953); Sibasa (Swanepoel, 1953); Lekgalameetse Nature Reserve (“Malta Forest”); Mpaphuli N.R.

Mpumalanga – Barberton (Swanepoel, 1953); Mariepskop area (Henning, 1994c).

KwaZulu-Natal – Durban (TL); Umgeni Railway Station (Trimen, 1879); Pinetown (Trimen, 1879); Illovo (Trimen, 1879); Avoca (Morant; Trimen, 1879); Umkomaas (Swanepoel, 1953); Durban (Swanepoel, 1953); Eshowe (Swanepoel, 1953); Mtubatuba (Swanepoel, 1953); Hluhluwe (Swanepoel, 1953); Umdoni Park (Pringle *et al.*, 1994); Ndumo Nature Reserve (Pringle & Kyle, 2002).

Eastern Cape Province – East London (Pringle *et al.*, 1994); Bashee River (Pringle *et al.*, 1994); Port St Johns (Williams, Jan. 1969).

Swaziland – Mlawula Nature Reserve (www.sntc.org.sz); Malolotja Nature Reserve (www.sntc.org.sz).

Habits: Specimens are most often seen flying in the forest canopy, among the branches of trees (Pringle *et al.*, 1994). The flight is very fast and curiously jerky. Individuals settle head down, with closed wings, on the bark of branches and tree trunks; this habit is very similar to that seen in some species of *Sevenia* (e.g. *Sevenia natalensis* and *Sevenia boisduvali*) (Pringle *et al.*, 1994). Flowers are not visited but occasionally males come to damp patches (Kielland, 1990d; Larsen, 1991c).

Flight period: All year but scarce in winter (Pringle *et al.*, 1994).

Early stages:

Clark & Dickson, 1964: 290 [Durban, KwaZulu-Natal].

Dickson, 1972.

Clark, in Pringle *et al.*, 1994: plate 5.

“The eggs are laid singly in bracts of the foodplant, and are 0,5 mm in diameter and 1 mm high. They are pure white when first laid and become pale brown as the larvae develop. There are 21 longitudinal ribs and 45 cross ribs on the eggs. The young larva feeds on the surface of the leaves, later feeding along the edge. It often rests with the anterior segments raised and the head tucked down. When nearing the end of the final instar the larva gradually turns green and all dark colouring begins to disappear. Just before pupation the entire larva is pale green. Larva: On emergence 1,5 mm, egg duration four days. 1st instar 1,5 mm to 3,0 mm in five days; 2nd instar 3,0 to 4,5 mm in three days; 3rd instar 4,5 mm to 8,0 mm in three days; 4th instar 8,0 mm to 12,0 mm in four days; 5th instar 12,0 mm to 22,0 mm in eight days. Pupa 13,0 mm hatched after eight days. The pupa is suspended head downwards. It turns entirely black just before emergence.”

Larval food:

Celtis africana Burm.f. (syn. *kraussiana* Burm. f.) (Ulmaceae) [Platt, 1921; Durban, KwaZulu-Natal].

Celtis mildbraedii Engl. (syn. *franksiae*) (Ulmaceae) [Platt, 1921; Durban, KwaZulu-Natal].

Celtis zenkeri Engl. (syn. *soyauxii*) (Ulmaceae) [Platt, 1921].

Note: Lees *et al.* (2003) state that the distributions of *Libythea labdaca labdaca* and *Libythea labdaca laius* may overlap broadly in Kenya, implying that they might represent distinct species. Kawahara (2013) treats *labdaca* and *laius* as separate species.

****Libythea cinyras* Trimen, 1866**

Mauritius Snout

Libythea cinyras Trimen, 1866. *Transactions of the Entomological Society of London* (3) 5: 337 (329-344).

Libythea labdaca cinyras Trimen, 1866. Ackery *et al.*, 1995.

Libythea cinyras Trimen, 1866. Davis & Barnes, 1991.

Libythea cinyras Trimen, 1866. Kawahara, 2013. **Stat. rev.**

Type locality: Mauritius: “Moka district”. Known only from the type specimen, taken by Mr Colville Barclay in 1865. The specimen is in the Natural History Museum, London and is in very poor condition (Davis & Barnes, 1991).

Distribution: Mauritius. Probably extinct (Ackery *et al.*, 1995: 472). Regarded by Lawrence (2016) to be extinct.

Specific localities:

Mauritius – Moka district (TL).

Early stages: Nothing published.

Larval food: Nothing published.

****Libythea ancoata* Grose-Smith, 1891**

Madagascar Coast Snout

Libythea ancoata Grose-Smith, 1891. *Annals and Magazine of Natural History* (6) 7: 126 (122-128).

Libythea labdaca ancoata Grose-Smith, 1891. Ackery *et al.*, 1995.

Libythea ancoata Grose-Smith, 1891. Lees *et al.*, 2003 **stat. rev.**

Type locality: Madagascar: North-west coast of Madagascar.

Diagnosis: Most closely resembles subspecies *laius* from the African mainland (Lees *et al.*, 2003).

Distribution: Madagascar (north-west coast).

Specific localities:

Madagascar – Antanosy (Lees *et al.*, 2003).

Habitat: Unknown (Lees *et al.*, 2003).

Early stages: Nothing published.

Larval Food: Nothing published.

Note 1: Apparently last captured in 1893 by J. T. Last who collected it from “Antanosy, S. Madagascar”. According to Lees *et al.* (2003) this locality is at the Onilahy River east of Tongobory, not the Tolagnaro region: see Last (1895).

Note 2: B. Turlin (*teste* D’Abrera, 2004: in Errata, 2005) regards *ancoata* Grose-Smith, 1891 to be a synonym of *tsiandava* Grose-Smith, 1891. No formal taxonomic changes have been made and if they were *tsiandava* would be a junior synonym of *ancoata* since the former was published in volume 8, while the latter was published in volume 7 of the *Annals and Magazine of Natural History*.

subintegra Aurivillius, 1921 (as subspecies of *Libythea labdaca*). *Arkiv för Zoologi* **14** (5): 1-27. Kawahara (2013) maintains that *subintegra* is a synonym of *Libythea labdaca ancoata* Grose-Smith, 1891. He appears to be unaware of Lees *et al.* (2003) who formally raised *ancoata* to species level.

****Libythea tsiandava* Grose-Smith, 1891**

Libythea tsiandava Grose-Smith, 1891. *Annals and Magazine of Natural History* (6) **8**: 81 (78-81).

Libythea labdaca tsiandava Grose-Smith, 1891. Ackery *et al.*, 1995.

Libythea tsiandava Grose-Smith, 1891. Lees *et al.*, 2003 **stat. rev.**

Type locality: Madagascar: “Mahobo [= Mahabo]”.

Diagnosis: Most closely resembles *Libythea lepita* Moore [1858] (TL N. India and Bootan [Bhutan]) from northern India, a taxon that Okano (1987) considered subordinate to *Libythea celtis* (Laicharting, [1782]).

Distribution: Madagascar, Comoros Islands (Grand Comore and Anjouan) (B. Turlin, *teste* D’Abrera, 2004: in Errata, 2005).

Specific localities:

Madagascar – Mahabo (TL); Forêt d’Andranovory (Lees *et al.*, 2003); Zombitse (Lees *et al.*, 2003); Bemaraha (Lees *et al.*, 2003); Ankarana (Lees *et al.*, 2003); Mamomgarivo (Lees *et al.*, 2003); Beforona (Lees *et al.*, 2003).

Habitat: Deciduous and humid lowland forest (Lees *et al.*, 2003).

Early stages: Nothing published.

Larval food: Nothing published.