

## Three new species of *Liptena* Westwood, [1851] (Lepidoptera: Lycaenidae: Poritiinae)

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**Abstract:** Three new species of *Liptena* are described, *L. biokoensis* **sp. nov.** from the island of Bioko (Equatorial Guinea), *L. bakassi* **sp. nov.** from western Cameroon and *L. demerodei* **sp. nov.** from north-eastern Democratic Republic of the Congo; subspecies *oniens* Talbot is synonymised with the nominate *L. flavicans* (Grose-Smith & Kirby) (**syn. nov.**), and subspecies *aequatorialis* Stempffer of *L. flavicans* is synonymised with subspecies *praeusta* Schultz (**syn. nov.**); finally, *L. priscilla* Larsen is shown to be a subspecies of *L. boei* Libert (**stat. rev.**).

**Key words:** Lepidoptera, Lycaenidae, African butterflies, Poritiinae, Liptenini, new taxa.

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### INTRODUCTION

Among the new material in the African Butterfly Research Institute collection (ABRI, Nairobi) are a number of *Liptena* specimens that obviously belong to undescribed species, and this paper aims to describe three of these species. There is no obvious relationship between the new species and, in the absence of an overall study of the genus, they can not be associated with existing groups. Until the “badly needed” revision (Larsen, 2005: 142) of the genus can be done, the new species are described separately, after a close examination of related taxa.

Similarly, the examination of the material curated under the names of *L. boei* Libert, 1993 and *L. priscilla* Larsen, 1995 results in a revision of the relation between the two taxa.

### MATERIALS AND METHODS

#### Genitalic preparations

The posterior half of male abdomens (or the whole female abdomens) were cut from specimens and soaked in hot molar solution of ammonia, as long as necessary to progressively eliminate soft tissues. This progressive, soft, method allows to determine whether coremata are present or not (see Libert, 2005a). After cleaning, the genitalia were examined in water, and drawings realized in various positions. If necessary, two preparations can be examined side to side, in the same positions. Only the penis was separated from the

other parts of the genitalia. Eventually, the various parts were transferred to 100% glycerol for conservation.

#### Abbreviations

ABRI: African Butterfly Research Institute, Nairobi, Kenya.

FMNH: Florida Museum of Natural History, McGuire Centre, Gainesville, Florida, USA.

MNHM: Muséum national d'Histoire naturelle, Paris, France.

NHM: Natural History Museum, London.

RDC: Robert Ducarme collection, Brussels, Belgium.

### DESCRIPTION OF NEW SPECIES

#### Genus *Liptena* Westwood, [1851]

In: Doubleday & Westwood, [1846-52]. *The genera of diurnal Lepidoptera* London: pl. 77 (1: 1–250; 2: 251–534). London. Type-species: *Liptena undularis* Hewitson, by subsequent designation (Opinion 566, 1959 Opinions and Declarations Rendered by the International Commission on Zoological Nomenclature 20: 377-389.)

*Liptena helena* (Druce, 1888) and *L. modesta* (Kirby, 1890)

Recently, a female close to, but different from those of *L. helena* (Figs 1A, E) and *L. modesta* (Figs 1C, G), was captured on the island of Bioko, and this prompted the authors to examine these two taxa, to determine whether the female from Bioko, which is unique, represents indeed a new species.

*L. helena* flies in most of West Africa, and is replaced to the east by *L. modesta*, the range of which extends to Uganda and north-western Tanzania. The proximity of the two species has often been emphasised, and

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Larsen (2005: 145) even wondered whether *modesta* should not be considered as a subspecies of *L. helena*.

The two taxa are indeed very similar, and differ in the presence of a red discal spot on the hindwing of the males of *L. helena*, a spot that is absent in those of *L. modesta* (the females of the two taxa are similar – Figs 1A, E and B, F). The genitalia of the males collected from Cameroon to DRC are similar, and they only slightly differ from those of the two males from West Africa (distal part of the valves a little longer); no difference was found between the genitalia of the females. It would therefore probably be more appropriate to treat *L. modesta* as a subspecies of *L. helena*, as suggested by Larsen.

However, if the red discal spot does exist in all the 33 males from Ghana that were examined, it is absent in nine of the fifteen males recently captured in the Putu Range (eastern Liberia). Although the genitalia of both types of males (one from Ghana and one from Putu) are similar, a distinct taxon might exist in the westernmost part of the range of *L. helena* (Liberia, Sierra Leone).

There is also in western Cameroon a population (Figs 1D, H) in which, on the underside of males and females, the discal spot of the hindwing is particularly developed, at least as much as in specimens from north-eastern Democratic Republic of the Congo (NE DRC, see below). These specimens are similar to the type of *L. erycinoides* (Grose-Smith & Kirby, 1890), a female from Barombi (western Cameroon) in the Staudinger collection (Berlin Museum). Thus, *erycinoides*, which is treated as a synonym of *helena* by Ackery *et al.* (1995: 507), but which would rather be a synonym of *modesta* for Williams (2018: 16), could also be a valid subspecies of *L. helena*; male and female genitalia of *L. erycinoides* are similar to those of *L. helena* and *L. modesta*.

Fifteen males and six females of *L. erycinoides* were collected in Bakassi ("Cameroon-Nigeria border", see note with *L. bakassi* sp. nov. below), as well as one female on Mount Kupe (near Loum), all in the ABRI collection; Figs 1C, G illustrate a female from Bakassi.

Finally, it should also be noted that, on the underside of the males and females of *L. modesta*, the size of the hindwing white discal spot varies considerably: it is small in Cameroon and, with some exceptions, in Central African Republic (CAR), much more developed among the specimens from NE DRC, with a few exceptions as well. The type-locality of *modesta* is "Cameroon", and it is possible that a distinct taxon flies in NE DRC, but this needs to be confirmed, for example by comparing DNA barcodes of specimens from both populations.

Even if this review shows that some questions remain about *L. helena* and *L. modesta*, it confirms that the female from Bioko belongs to a distinct species, which is described below as *L. biokoensis* sp. nov.

***Liptena biokoensis*** Libert & Collins **sp. nov.** (Figs 1D, H)  
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According to Spearman *et al.* (2000: 474), 53 species of Lycaenidae were observed on the island of Bioko; this largely underestimated total<sup>1</sup> does not include *L. helena* or *L. modesta*, and it is likely that *L. biokoensis* sp. nov., which is very similar to *L. modesta*, is its vicariant on the island of Bioko. The male of *L. biokoensis* is unknown, and the female holotype is the only known specimen.

**Holotype** ♀: Moka, S.C. Bioko, Equatorial Guinea, 03°21'42"N, 08°39'42"E (within 5km radius), 1500m; 24.i–12.ii.2011; ABRI leg; genitalia Libert 117–130; ABRI.

### Description

Forewing length: 13 mm.

On the upper side, the forewings of the female are identical to those of *L. modesta*, with the same wide discal band between the costal edge and vein 3, but the difference is very marked on the hindwings, where there is only a narrow band between veins 1 and 5, and no spot in the cell. The band is much more developed in all the *L. modesta* females that were examined, which also always have several orange spots in the cell; no exceptions or intermediate specimens were found in the examined material. On the underside, there is almost no difference between the two species, but the two white spots in the forewing cell are particularly small, hardly visible.

### Genitalia (Figs 2A, B)

The genitalia of the female holotype were compared to those of three females, two of *L. modesta* from Cameroon and NE DRC and one of *L. helena* from Ghana; they are very close in all four females, but the ventral plate (sternite 8) is about 30% longer in the type of *L. biokoensis* (Fig. 2A) than in the other three females (Fig. 2B).

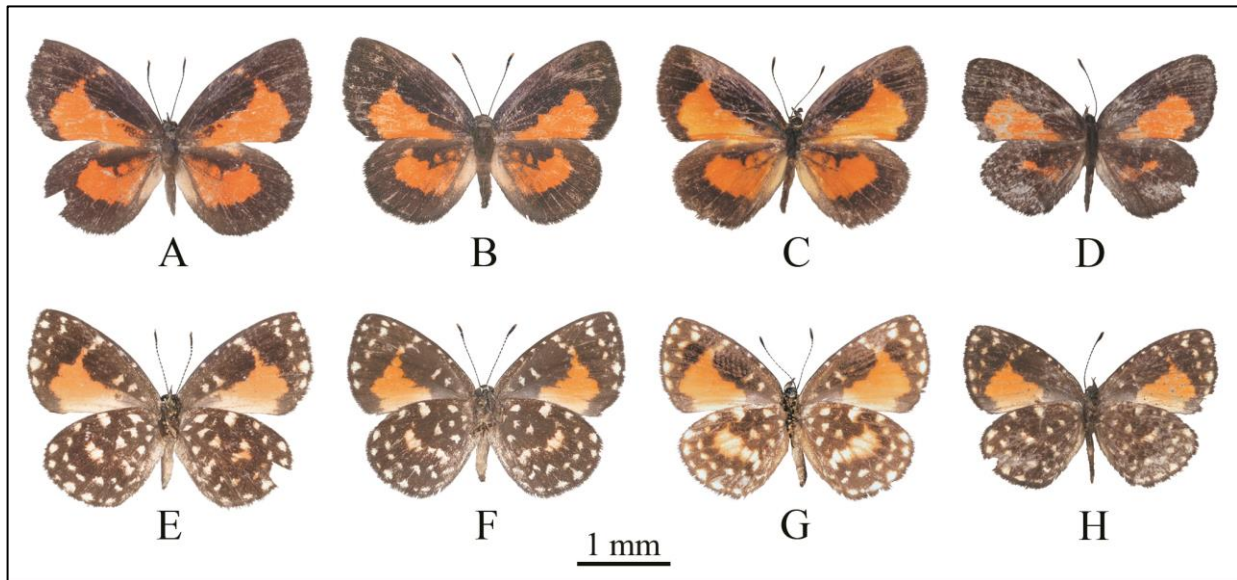
### *Liptena rubromacula* Hawker-Smith, 1933

The facies of *L. rubromacula* is very characteristic, and it is very difficult to understand how d'Abrera (2009: 652) could synonymise it with *Kakumia ferruginea* (Schultze, 1923), just as characteristic but so different. D'Abrera logically extended his error to subspecies *jacksoni* (Carpenter, 1934) of *L. rubromacula*, which he treated as a subspecies of *K. ferruginea*. Both taxa were rehabilitated by Collins *et al.* (2013: 51), who also reinstated them in the genus *Liptena*.

The nominate subspecies of *L. rubromacula* flies in NE DRC, where some 15 specimens (11 ♂, 3 ♀) were collected recently [a male from Kithokolo is illustrated (Figs 4E, F)]; subspecies *jacksoni* is also extremely localised [very close forests of Malabigambo (type-

<sup>1</sup> – Six additional species were found by Martin (2015: 189) in the collection of the Madrid Museum, seven others (*Ornipholidotos tessmani*, *Anthene agumatsa*, *A. sylvanus*,

*A. rubricinctus*, *A. amarah*, *Neurellipes kampala* and *Aphnaeus argyrocyclus*) in Revisions by LIBERT (2005b, 2010 and 2013).



**Figure 1** – *L. helena* ♀ (Putu Range, Liberia) recto (A) and verso (E); *L. modesta* ♀ (Ndjok, Cameroon) recto (B) and verso (F); *L. c.f. erycinoides* ♀ (Bakassi, Cameroon) recto (C) and verso (G); *L. biokoensis* sp. nov., female holotype (Bioko, Equatorial Guinea) recto (D) and verso (H)

locality, near Katera in south-western Uganda) and Minziro (in north-western Tanzania)].

The taxon recently discovered in Bakassi in south-western Cameroon is clearly close to *L. rubromacula*, but the differences in both habitus and genitalia with the two subspecies already described are much more important than between these two subspecies, and the Cameroonian taxon is treated as a species distinct from *L. rubromacula*, and it is described below.

***Liptena bakassi* Collins & Libert sp. nov.** (Figs 3E–H)  
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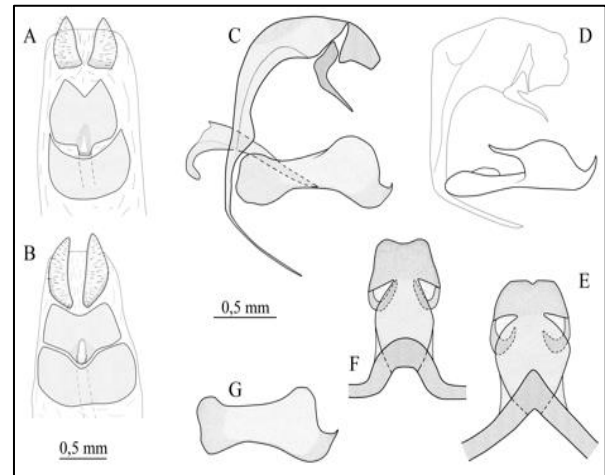
**Holotype** ♂: Bakassi, Cameroon-Nigeria border, Cameroon, viii.2011; ABRI leg.; genitalia Libert 117–136; ABRI.

**Allotype** ♀: Bakassi, Cameroon-Nigeria border, Cameroon, viii.2011; ABRI leg.; ABRI.

**Paratypes** (same data as holotype and allotype): 3♂ in ABRI; 1♂ in FMNH; 1♂ in MNHM; 1♂ in NHM.

### Description

Forewing length: ♂s 14–15mm (n=20); ♀s, 15–16mm (n=3). The males are very different from those of *L. rubromacula*, especially on their upper side, and it follows that sexual dimorphism is much more important than in *L. rubromacula*. While the upper side of the males of *L. rubromacula* is barred with a broad orange discal band, the males of *L. bakassi* are almost entirely black, with only a small orange discal spot on the hindwings, at the base of spaces 2 to 5, sometimes also in 1 and 6. The difference is not as important on the underside, where the characteristic pattern of *L. rubromacula* is clearly visible; the discal band is however much narrower, on the forewings, where it reaches neither the costal edge nor the anal edge, as on the hindwings, with the same characteristic point on the external edge, in 4 and 5. The



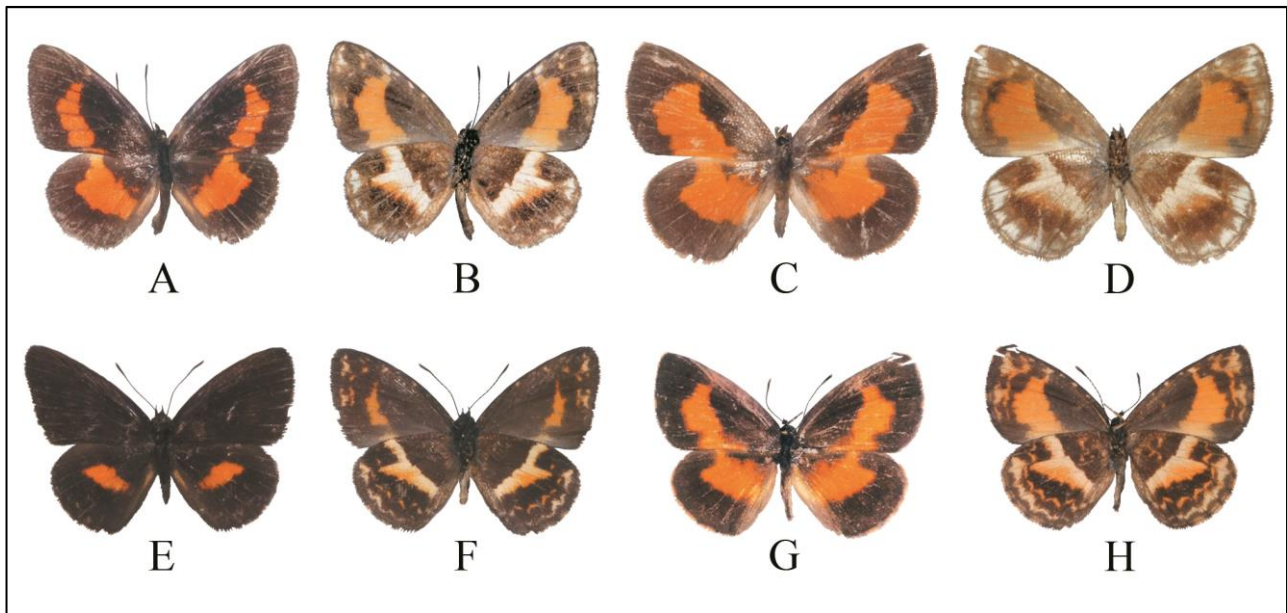
**Figure 2** – Genitalia of *Liptena* species. A, B: ventral view of the extremity of the abdomen for *L. biokoensis* (A; female holotype, prep. 117-130) and *L. modesta* (B; female from Cameroon (Ebogo), prep. 117-131). C–G: male genitalia of *L. bakassi* (C, D, E; prep. 117–136) and *L. rubromacula* (F, G; male from DRC (Kithokolo), prep. 117–135). C: left lateral view of the genitalia; D: dorsal view of the left valve; E, F: dorsal view of the tegumen and of the uncus; G: lateral view of the valve.

marginal band is thinner than in *L. rubromacula*, but the antimarginal band is more apparent. In females, the discal band is somewhat narrower than in *L. rubromacula*, on the upper and under sides.

### Genitalia (Figs 2C–E)

The male genitalia of *L. bakassi* resemble those of the males of *L. rubromacula* (Figs 2F, G), but there are several differences between the two species. In *L. bakassi*, the valves are longer, with a more prominent bump toward the distal end (lateral view, Figs 2C v. G); in both species, the valves have an internal fold, which can only be observed in dorsal view (Fig. 1D). In *L. bakassi* the uncus is wider, shorter and differently





**Figure 3** – *L. rubromacula* ♂ (Kithokolo, DRC) recto (A) and verso (B); *L. rubromacula* ♀ (Kirina, DRC) recto (C) and verso (D); *L. bakassi* sp. nov. ♂ (Bakassi, Cameroon) recto (E) and verso (F); *L. bakassi* sp. nov. ♀ (Bakassi, Cameroon) recto (G) and verso (H).

notched, the subunci stronger, and the tegumen is pointed instead of rounded (dorsal view, Figs 2E v. F).

Coremata are present in the two species; they consist of large plates (up to about 0.3 x 0.5 mm), with a rounded end. These coremata are similar to those of *L. modesta* and *L. helena*, but quite different from those encountered not only in, for example, *Epitola* l. s., but also in other *Liptena* species, and it would be interesting to see if different types of coremata can be associated with groups of species.

### Etymology

This species is named after the type-locality<sup>2</sup>, where all the specimens were caught (20 ♂, 3 ♀).

### *Liptena flavicans* (Grose-Smith & Kirby, 1891)

The type-locality of *L. flavicans* is Barombi, in western Cameroon, but the species is widely distributed, from Sierra Leone to north-western Tanzania. The strong variation of the underside has led to the description of four subspecies, sometimes from a very limited material. The five subspecies were reviewed by Stempffer *et al.* (1974: 173, here referred to as "the Revision"), and the results of this work were taken up practically unchanged by all authors, up to Williams (2018).

The five subspecies have similar male genitalia (seven males were dissected), and they can only be distinguished by their facies, mainly the pattern of the hindwings (underside). This pattern consists of a succession of light and dark bands: a very thin marginal line plus eight wider bands, two sub and antemarginal bands, sometimes

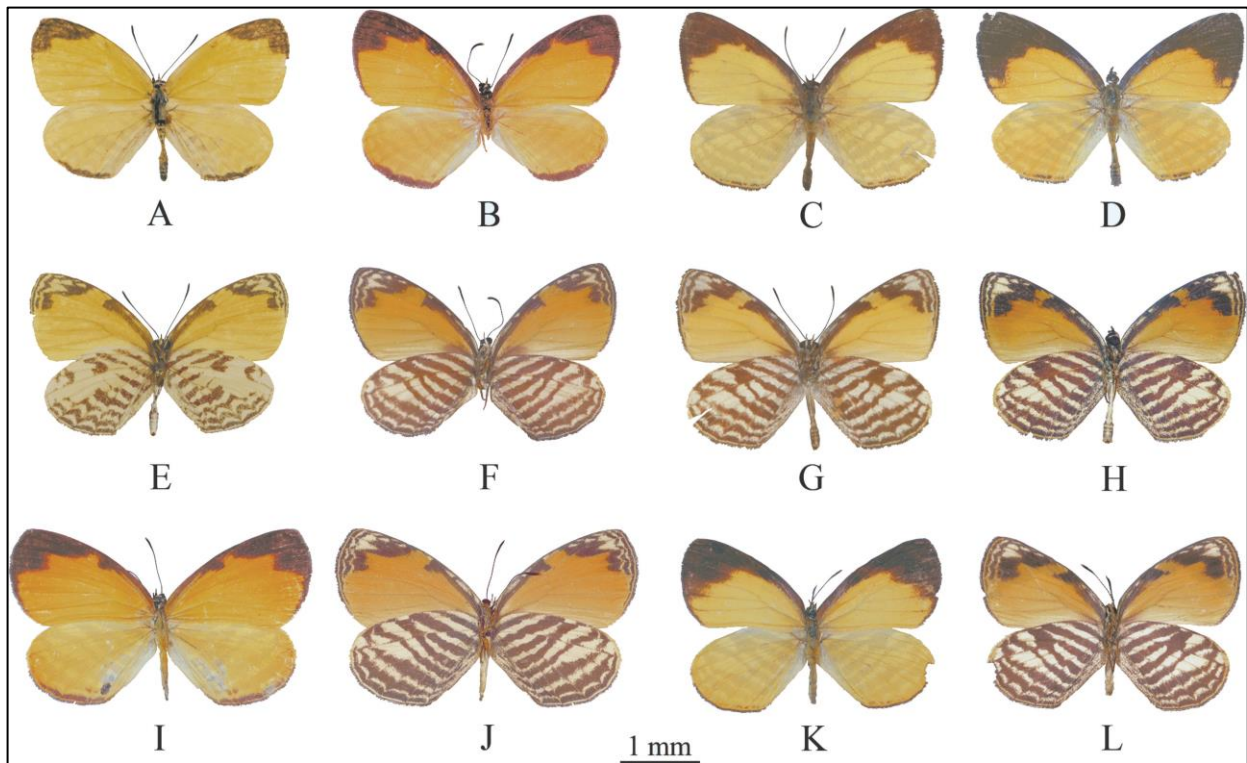
irregular, and six more regular bands (two discal and four basal, the last one hardly distinct from the costal margin). Examination of the material recently collected results in synonymisation of subspecies *oniens* Talbot and *aequatorialis* Stempffer with, respectively, the nominate subspecies and subspecies *praeusta* Schultze, and also to describe a new species from north-east of the Democratic Republic of the Congo, *L. demerodei* sp. nov.

First of all, the male and female from the Staudinger collection on which the description of *L. flavicans* is based were not destroyed, as supposed in the Revision: they are in the Berlin Museum, each bearing the violet label characteristic of Staudinger's typical material, and the male can be considered as the holotype and the female as the allotype [the male holotype is illustrated (Figs 4A, E)]. Both were collected by Preuss in what he calls "Inner Cameroon", i.e. in western Cameroon, near the border with Nigeria (the male in Barombi Station, near Kumba). This has no practical consequence, since the authors of the Revision considered that it was unnecessary to designate a neotype (p. 173).

The two specimens are almost identical, with in particular a very developed light area on the hindwing (ventral side); this area, which extends from vein 4 to the costal margin, interrupting the discal bands, is characteristic of *L. flavicans*, but its size is very variable. It is particularly wide in the two typical specimens: 2 to 3 mm in 6 and 7, about 12 mm in 5 and 6 mm in 4. A similar light area (sometimes a little less developed) is found in two populations: in West Africa on the one hand, and in Cameroon on the other hand.

<sup>2</sup> – "Cameroon-Nigeria border" is the indication on the labels, and Bakassi probably refers to the Bakassi Peninsula, close to the Niger delta. One must however note that there is also a

"Bakossi National Park" in western Cameroon, about 100 km east of the border with Nigeria; Mount Kupe is just outside the park.



**Figure 4** – *L. flavicans flavicans* ♀ holotype recto (A) and verso (E); *L. f. praeusta* ♂ (Biakatu, DRC) recto (B) and verso (F); *L. f. katera* ♂ (Minziro, Tanzania) recto (C) and verso (G); *L. demerodei* sp. nov. ♂ (Mamove, RDC); recto (D) and verso (H); *L. f. praeusta* ♀ (Biakatu, DRC) recto (I) and verso (J); *L. demerodei* sp. nov. ♀ (Makusa, RDC) recto (K) and verso (L).

According to the Revision, the nominate subspecies is replaced in West Africa by **subspecies *oniens*** Talbot, 1937 (type-locality = Oni, about 100 km east of Lagos), but the holotype of *oniens* is not really different from that of *L. flavicans*. Likewise, none of the differences mentioned in the Revision stand up to the examination of the long series in the ABRI collection. Note also that in the list of material reviewed for the Revision, five males collected in western Cameroon (Johan Albrecht Höhe, near the type-locality, and Mamfe) are attributed to subspecies *oniens* (all the material assigned to the nominate subspecies comes from Bitje, not far from Sangmélíma). We conclude that *oniens* is a synonym for *flavicans* (**syn. novum**), and that the range of the nominate subspecies extends from eastern Sierra Leone [Gola, near the border with Liberia (Belcastro & Larsen, 2006: 32)] to Cameroon.

Specimens similar to the types of *L. flavicans* were collected as far as at least Ebogo and nearby localities, some 50 km south of Yaoundé, but the light patch on the hindwings tends to be less developed further south; the dorsal surface may also be a little darker and a little more orange (rather on the forewings), with a costal margin of the forewings more distinctly black, and some specimens collected in southern Cameroon (approximately south of Sangmélíma) are quite different from the types of *L. flavicans*.

It is indeed from "a number" (unspecified) of specimens collected "in south-eastern Cameroon, including Sangmelima" that Schultze described the **subspecies *praeusta*** (Schultze, 1917: 38), without however

designating a holotype. Thirteen syntypes, identifiable by their red framed label, were found, one in the Munich museum, twelve in the Berlin museum; the underside was photographed for those collected at Adjela, Akok, Kungulu, Mbio and Nginda, and the drawings are visible by transparency on an overall picture for the others (from Bitje, Lomié, Madjo and Sangmélíma). Bitje (NE Sangmélíma) is the most northerly of these localities, the most southerly being N'ginda and Mbio, close to Moloundou and the border with Congo.

Schultze's syntypes are not homogeneous: in eight / nine specimens, the light area of the hindwings is not as developed as in typical *L. flavicans*, but clearly visible, whereas it has completely disappeared in the others (and the discal bands are slightly enlarged and reach the costal margin). Among these are a male of Mbio and that from N'ginda that was designated as the lectotype of *praeusta* in the Revision. This male, which is in the Munich Museum, is not the most representative of the Schultze syntypes, but it is the most different from the nominate subspecies.

The male from N'ginda is besides practically identical to the holotype of subspecies *aequatorialis* Stempffer, 1956, which was described from that single male from Eala (near Mbandaka, in the Equateur Province of DRC); a female from the same locality and identical to the type was chosen as a neallotype in the Revision], and there is no choice but to treat *aequatorialis* as a synonym for *praeusta* (**syn. novum**). In his description of *aequatorialis*, Stempffer does not explicitly compare *aequatorialis* to *praeusta*, but the comparison is made in

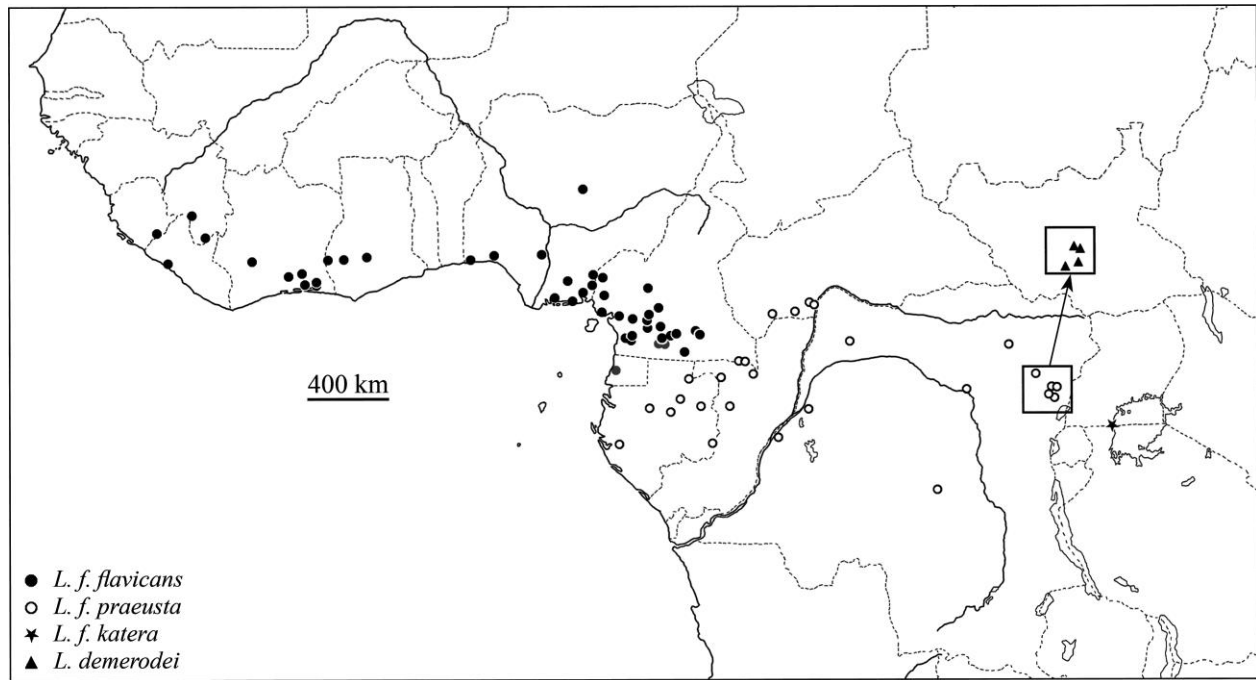


Figure 5 – Distribution of the subspecies of *L. flavicans* and of *L. demerodei* sp. nov.

the Revision; the differences indicated by Stempffer are real, but modest, and they fall within the variability of *praeusta* as it emerges from the examination of all the specimens that can be attributed to this subspecies.

Specimens of subspecies *praeusta* have been collected in Meyo Messi and Nyazanga, south of Sangmélina, where they fly with the nominate subspecies; these localities seem to mark the limit of the distribution of *praeusta* in Cameroon.

However, all *praeusta* syntypes cannot be associated with subspecies *praeusta* as it has just been redefined, and several specimens are much closer to the nominate subspecies. This is also the case of four other specimens that are similar to the type of this subspecies (three from Akoafim, near the border with Gabon, and one from Benito, in Equatorial Guinea). For the specimens he collected in Gabon, Vande weghe (2010: 348) indicates "*L. f. flavicans* and *L. f. praeusta*", without further details, but the specimens illustrated (Plate 106, Figs 17–20, probably too light) belong to subspecies *praeusta*. There is therefore an area where both subspecies coexist. Its extent can be estimated at about fifty kilometers on either side of the southern border of Cameroon, which is very little compared to the ranges of each subspecies. That of the nominate subspecies extends from Sierra Leone to south central Cameroon, while subspecies *praeusta* has been collected in Gabon, Congo and CAR (some twenty specimens from around Bangui) and in much of the DRC, from Lukolela to the west (about 200 km downstream from Mbandaka on the Congo River; the twelve specimens collected there form the population most similar to the types) to Kisangani and

Paulis<sup>3</sup> to the east (see below for specimens collected further east); to the south, Katak-Kombe (Sankuru) represents the southern limit of its distribution.

The map of Fig. 5 illustrates the distribution of the subspecies of *L. flavicans*; the localities where they fly together are indicated by grey circles (most of those where the *praeusta* syntypes were collected could not be located).

What's happening east of Paulis? The Revision only mentions three specimens from Beni (curiously attributed to subspecies *praeusta*, not to subspecies *aequatorialis*), and the pair from Katera (south-western Uganda) on which the description of **subspecies *katera*** Stempffer, 1956 was based. Later, twelve specimens (10 ♂, 2 ♀) of this subspecies, which is quite different from subspecies *praeusta*, were collected in Minziro, a locality in north-western Tanzania, but very close to Katera (the two localities are not distinguished on the map of Fig. 5); a male from Minziro is illustrated (Figs 4C, G).

The situation is more complex in NE DRC, where about 150 specimens, belonging to two distinct and sympatric taxa, were collected:

– The most abundant (about 90% of the specimens) is very similar to the subspecies *praeusta* of *L. flavicans*; the dorsal surface is on the whole more orange, but there are exceptions, and no other difference than the upperside colour was found [a male from Biakatu is illustrated (Figs 4B, F)]. Although these specimens could represent another subspecies of *L. flavicans*, subspecies *praeusta* is itself variable enough for them to be tentatively attached

<sup>3</sup> – A male from Kisangani almost identical to the lectotype of *praeusta* was photographed with the latter in Munich; it carries a handwritten label from Stempffer hand stating "*Liptena*

*flavicans aequatorialis* Stempffer (description under publication)". The specimen from Paulis is the female illustrated by Berger, 1981 (pl. 192, Fig. 16).

to it, and the distribution of this subspecies extends from the southern border of Cameroon to the DRC – Uganda border.

– Eighteen specimens of the second taxon were collected. Their ventral surface differs little from that of subspecies *katera* but, on the upperside, the black apical zone of forewings is more extensive than in the three subspecies of *L. flavicans* (including *katera*), and these specimens certainly represent a taxon distinct from both *L. f. praeusta* and *L. f. katera*. Sympatry with subspecies *praeusta* forbids treating it as another subspecies of *L. flavicans*, and it is described as a new species, *L. demerodei* **sp. nov.**

In conclusion, three subspecies are sufficient to account for the diversity of *L. flavicans* within its range, the nominate from Sierra Leone to Cameroon, subspecies *praeusta* from Gabon to Uganda, and subspecies *katera*, which is restricted to a small area straddling the border between Uganda and Tanzania.

*L. demerodei* sp. nov. is confined to a small region of DRC, where it is sympatric with *L. flavicans praeusta*; this region is located inside the black square on the map of Fig. 5 that illustrates the distribution of the various taxa. In order for the map to remain legible, the triangles that represent the localities where *L. demerodei* was observed are placed in an identical black square which is moved outside the range of *L. f. praeusta*.

***Liptena demerodei*** Libert & Collins **sp. nov.** (Figs 4D, H, K, L)  
urn:lsid:zoobank.org:act:5C7782F8-9DB0-4A0D-8D39-42C9F89ED833

**Holotype** ♂ (Figs 4D, H): Mamove, Kivu, E Democratic Republic of the Congo; vi.2013; ABRI leg.; genitalia Libert 117–137; ABRI, Nairobi.

**Allotype** ♀: (Figs 4K, L) Mamove Alt., N Kivu, E Democratic Republic of the Congo; xii.2011; ABRI leg.; ABRI, Nairobi.

**Paratypes** (all NE DRC): 1 ♂ (Mamove, iv.2013) in FMNH; 1 ♀ (Mambungu, iii.2014) in NHM; 1 ♂ (Mamove, 1050m, Province Orientale, xii.2017) and 1 ♀ (Makusa, 1050m, Province Orientale, i.2001), both in RDC.

#### Material examined and distribution

All the eighteen specimens (9 ♂, 9 ♀) were collected at four close localities in Kivu (Biakatu, Makusa, Mambungu and Mamove; the distance is less than 150 km between the two most distant localities); in Mamove and Biakatu, *L. demerodei* flies with *L. flavicans praeusta*.

#### Description

Forewing length: males, 15–17 mm, females, 16–17 mm. The upperside is yellow, with a black apical zone on forewings, as in *L. flavicans*. The yellow colour is lighter than in the specimens of *L. flavicans* flying in the same region, and not as orange, closer to those of the nominate

subspecies. The black apical zone of forewings is larger than in any of the subspecies of *L. flavicans*, the difference being particularly apparent with the specimens of subspecies *praeusta* that fly in Kivu. Along the external edge, it is about 3 mm wide in space 3 and 2 mm in space 2, whereas *L. flavicans* only has a very thin dark margin in these spaces; the internal edge of the apical zone is more evenly rounded (it always has a more or less pronounced notch in *L. flavicans*). On the hindwings, on the opposite, the marginal black line is usually thinner than in *L. flavicans* (where its width is less than 1 mm). The underside is similar to that of *L. flavicans*, but closer to that of subspecies *katera* than to that of subspecies *praeusta*, i.e. with a more developed light patch (much less however than in the nominate subspecies). Females do not significantly differ from males.

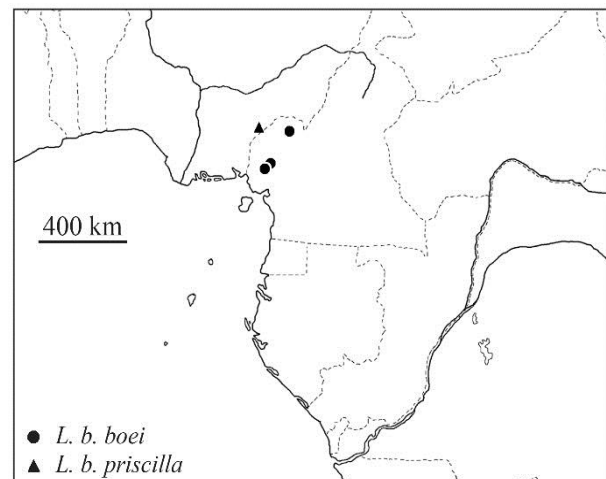
#### Etymology

This species is named after Emmanuel de Mérode, Director of the Virunga National Park, in recognition of his efforts to preserve the wildlife in the particularly difficult conditions that the region is currently experiencing.

***Liptena boei*** Libert, 1993 and ***L. priscilla*** Larsen, 1995

The description of *Liptena boei* was based on four specimens captured on Mount Tabenken, about 10 km southeast of Nkambe (north-western Cameroon); later, about 160 additional specimens were collected on Mount Tabenken or on two other close mountains of the Cameroon highlands, Mounts Kupe, near Loum, and Manengouba, near Nkongsoamba (all in ABRI collection). These records confirm the orophilic character of *L. boei*, especially as it has not been observed elsewhere than on the Cameroon highlands.

Soon after the description of *Liptena boei*, Larsen (1995) described *L. priscilla* from two males captured on the Obudu Plateau (Nigeria); the description does not mention *L. boei*; thirteen more specimens have since been collected in the same locality, which is also part of the Cameroon highlands.



**Figure 6** – Distribution of the subspecies of *L. boei*.



The pattern of *L. priscilla* is similar to that of *Liptena boei*, but specimens from Nigeria are a little lighter than most *L. boei* from Cameroon. However, some specimens of *L. boei* are not really different from *L. priscilla*: about 20% of those found on Mount Kupe, some from Mount Manengouba, and even two from Mount Tabenken, where the darkest specimens of *L. boei* were collected (the map of Fig. 6 shows the positions of the different localities).

The variation of the coloration could be related to the altitude at which collecting was done; precise data are lacking, but it is probably on Mount Tabenken that it is the highest.

Two males captured on each of the four summits were dissected, and their genitalia are similar (the “pseudo saccus”<sup>4</sup> is more deeply indented in the males from Mount Kupe, but experience shows that the characters provided by this organ are rarely significant).

These data do not justify considering *L. priscilla* as a species distinct from *L. boei*; the difference in color remains, to which can be added a difference of size hardly more convincing (*L. priscilla* is on the whole slightly smaller). Until the analysis of DNA barcodes perhaps allows to clarify the status of *priscilla*, it is treated as a subspecies of *L. boei*, *L. boei priscilla*, **stat. rev.**

## CONCLUSIONS

Collecting of *Liptena* specimens that clearly belong to undescribed species was the starting point for this work, and the descriptions of *L. biokoensis* and *L. bakassi* perfectly illustrate this aspect. There was no doubt either about the novelty of *L. demerodei*, but the need to clarify its relationship with *L. flavicans* resulted in a reordering of this species and synonymising two taxa. There are other examples of this type of situation<sup>5</sup>, and this article can be considered as a note prior to a full revision of the genus *Liptena*.

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<sup>4</sup> – The (true) saccus is directed cephalad; the saccus is directed caudad in Liptenini, and the expression “pseudo saccus”

underlines this difference; this configuration is also observed in Poritiinae (Eliot, 1973).

<sup>5</sup> – The case of *L. amabilis* Schultze is treated in Libert (2018).