

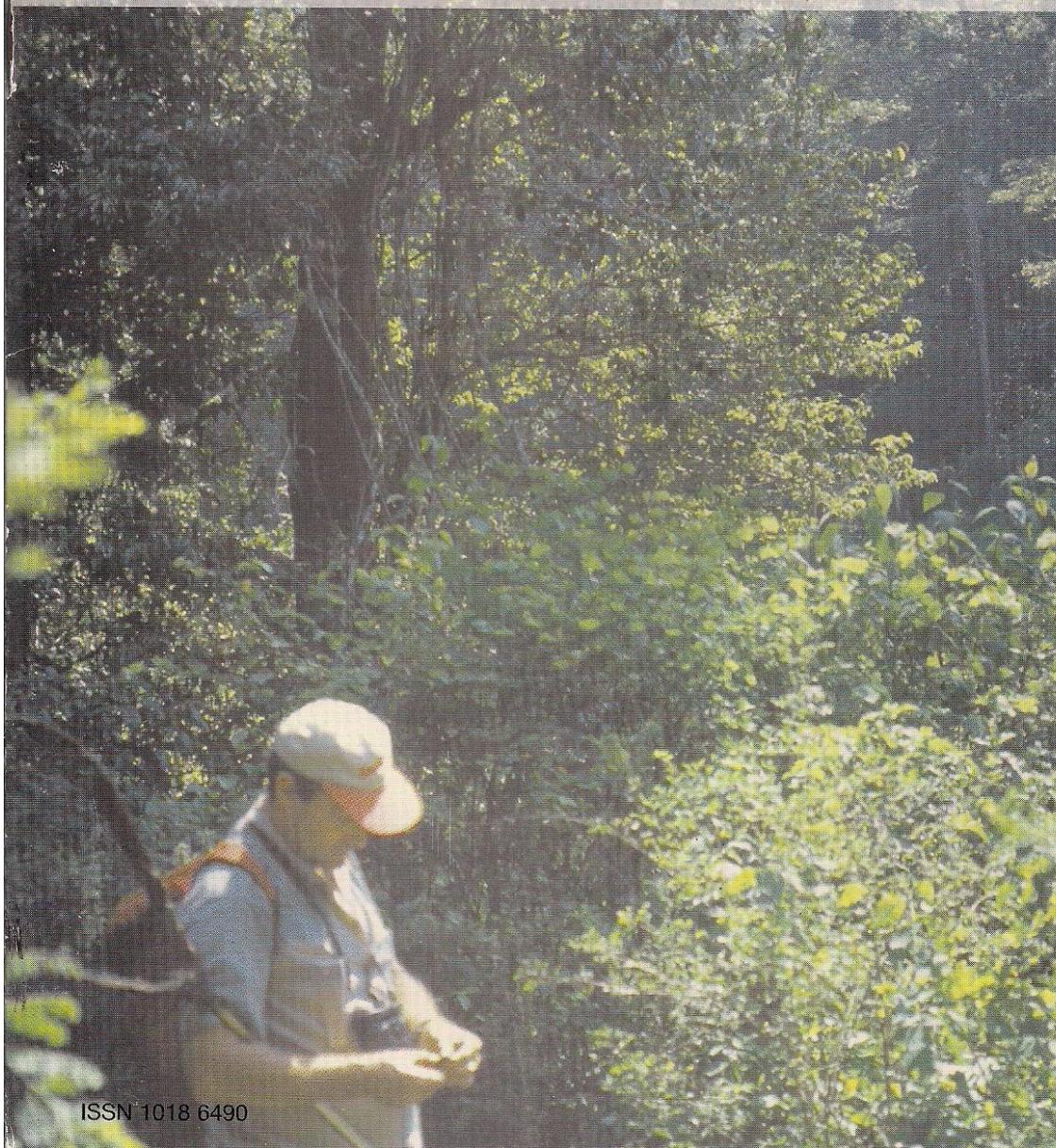
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Notes on Afrotropical butterflies with the description of eleven new species and four new subspecies (Lepidoptera: Rhopalocera) – ABRI Research Paper No. 3

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Keywords: Afrotropical Region, Lepidoptera Rhopalocera, butterflies, new species, taxonomic changes.

Abstract: This paper is mainly devoted to describing eleven new species and four new subspecies from recent collecting under the aegis of the African Butterfly Research Institute, Nairobi (ABRI). The taxa in question are: PIERIDAE - *Mylothris aburi* Larsen & Collins sp. nov. LYCAENIDAE - *Pentila bennetti* Collins & Larsen sp. Nov.; *Liptena ferrymani bissau* Collins & Larsen ssp. nov.; *Liptena seyboui* Warren-Gash & Larsen sp. nov.; *Iolaus alexanderi* Warren-Gash sp. nov.; *Iolaus christofferi* Collins & Larsen sp. nov.; *Iolaus likpe* Collins & Larsen sp. nov.; *Iolaus mane* Collins & Larsen sp. nov.; *Capys vorgasi* Larsen & Collins sp. nov.; *Lepidochrysops dumni* Larsen & Collins sp. nov. NYMPHALIDAE - *Cymothoe hartigi vanessae* Warren-Gash ssp. nov.; *Euphaedra sarcoptera styx* Larsen & Warren-Gash ssp. nov. HESPERIIDAE - *Celaenorrhinus milleri* Collins & Larsen sp. nov.; *Ceratrachia nothus yakoli* Collins & Larsen ssp. nov.; *Fresna jacquelinae* Collins & Larsen, sp. nov. In addition a number of changes in the taxonomic status of some taxa have been made: LYCAENIDAE: *Neurellipes lusones fulvamacula* stat. rev.; HESPERIIDAE: *Celaenorrhinus pooanus* stat. rev.; *C. bitjena* syn. nov.; *Ceratrachia flava benitoensis* stat. rev.; *Ceratrachia semlikensis* stat. nov.; and *Paracleros sangoanus* stat. rev. Finally, there is additional discussion on the genus *Ornipholidotos*, on some aspects of the subgenera of *Iolaus*, and on the females of the Malagasy members of the genus *Apaturopsis*.

Introduction

This paper again illustrates that despite the increasing knowledge of Afrotropical butterflies many species still remain to be found. It follows on two previous papers in *Metamorphosis* (Collins & Larsen 1998, 2000). The three papers, combined, describe two new genera, 27 new species, and nine new subspecies. In this paper most of the new taxa were found through recent collecting, but new ones are also being found through stringent revisions of existing 'difficult' complexes. In West Africa new species are no longer that easily come by. In recent years, in Ghana, Côte d'Ivoire and Nigeria we have found that a new species is discovered only on average after 40 days' collecting by an experienced collector. We also again note that the Fouta Djallon in Guinea and the forests of Guinea-Bissau have evolved a number of distinct species and subspecies. This is almost certainly because the long dry season in these areas places much stress on the true forest fauna and has forced either rapid evolution or extinction. Thus, compared with neighbouring Sierra Leone a large number of common species are absent from the Fouta Djallon in Guinea, while many of the remainder occur as distinct subspecies or as vicariant species.

The present paper also validates the role of the *African Butterfly Research Institute* (referred to as ABRI in the following text) as a focal point for the study of Afrotropical butterflies. The institute now has what must be the most important up-to-date collection of African butterflies, not so much in quantity as in quality (comprehensive collections from interesting geographical areas, not well represented elsewhere, large series of species previously hardly found in other collections, and types or paratypes of a large proportion of species described during the past 25 years). It does not, of course, have the historical depth and the older types found in the major national collections. It will be noted that most of the new species here described were collected within the past six years.

The paper is the collaborative effort of three authors associated with ABRI; one is in Nairobi, one in Manila/Bangladesh/Vietnam, and one in Abidjan/London/Morocco. Without the benefit of e-mail this paper would probably have been published several years later than it is. Let us hope that all African butterfly researchers get hooked up on e-mail, and that eventually the most important data on Afrotropical butterflies will be available on the worldwide web.

Material and Methods

This paper mainly summarizes new taxa and new observations made by the three authors over the past five years, and especially the large material available at ABRI, where it is efficiently sorted on arrival. Holotypes and most paratypes are deposited at ABRI, Nairobi (coll ABRI), while some paratypes are in the private collections of Larsen (coll TBL) and Warren-Gash (coll HWG). Where a large material is on hand, paratypes or non-paratype material will be deposited in other collections as appropriate.

We give the forewing measurement of males from the very base of the wing to the apex. Where many specimens are available we have measured a male of median size. All our females are about ten percent larger than males and the measurement is not given.

We have not bracketed authors and dates of species not presently placed in the genus of their original description. Most older species have been assigned to several genera over time. Thus, *Sevenia amulia* Cramer, 1777 was described in the genus *Papilio*, and has at various times been included in *Asterope* Hübner, 1819, *Eunica* de Boisduval, 1833, and *Sallya* Hemming, 1934, till finally placed in *Sevenia* Koçak, 1996. A set of brackets hardly begins to herald such a turbulent history, and in general seem more of a distraction than a help.

We have also not given full references to all taxa cited in the paper. These can readily be found in the Afrotropical Catalogue (Ackery *et al.* 1995), which was one of its main purposes.

We refer to the authors as SCC, TBL, and HWG throughout the text.

Systematic part

Mylothris aburi Larsen & Collins, sp. nov.

Plate 1, genitalia text figure 1

This butterfly has been confused with other species of *Mylothris* since Talbot (1944) made his only partially successful attempt at revising the genus, which admittedly is a very complex one, and whose taxonomy is presently confused (Ackery *et al.* 1995). However, the new species is recognizable at a glance. That it was not described earlier is due to Talbot confusing it with *M. alcuana* Grünberg, 1910, while others have considered it to be a variation on other species. Furthermore, there are very few in collections, since the species flies mainly in the savannah/forest transition, where little collecting has taken place. It is limited to West Africa from Senegal to Nigeria and to the dry zone of western Cameroun. It may be locally common in suitable habitats; TBL once found it very numerous at Kyabobo in the Volta Region, while Father Maessen only ever found four in the wetter parts of the Volta Region.

Holotype: ♂ Ghana, near Accra, Aburi Botanical Gardens, xii.1994 (coll ABRI, genitalia SCC 477).

Paratypes: 2 ♂♂, 3 ♀♀ Aburi Botanical Gardens, various dates (coll ABRI); 10 ♂♂, 4 ♀♀ Aburi Botanical Gardens (coll TBL). We only include material from the type locality as paratypes; we have more than 100 from other localities (Senegal, Guinea, Burkina Faso, Ghana, Volta, Nigeria).

Diagnosis: Male forewing 29mm. The ground-colour is white. The forewing has a large orange-yellow basal patch that fills out four-fifths of the cell, the base of space 2, and a fifth of spaces 1a and 1b. This is three times the extent of the basal patch in *M. alcuana*, *M. hilara* Karsch, 1892, and *M. poppea* Cramer, 1777, making both sexes recognizable at a glance within its known range. The apical black patch is variable but of medium size, 4-7mm on the costa, curving evenly to just under vein 3, with a free spot at the end of vein 2. The holotype has the wider black patch characteristic of wet season/wet habitat forms; the patch can be much reduced in 'dry' morphs. The hindwing has a small and weak orange-yellow basal area that is absent in *M. alcuana*, *M. hilara*, and *M. poppea*. The black marginal dots are not strongly developed. The orange patch of the male underside is as on the upperside. There are the usual black dots at the end of all veins except vein 1 on the forewing and vein 7 on the hindwing. The female is very similar to the male but the ground-colour is an insipid white that is almost translucent, the black markings are greyer, and the yellow markings weaker. We have collected several pairs *in copula*.

Male genitalia: The male genitalia are typical of the genus and difficult to interpret. The tegumen/uncus complex is not as straight as in most other *Mylothris*. The usual thorn of the valve is well developed and the distal end of the valve is clearly convex. The harpe of the valve is relatively small. The penis is not as strongly bent as in most other species. The shield-like structure from the fulcrum appears to be diagnostic, but it is difficult to detach without damage.

Discussion: For some reason this butterfly is very scarce in major collections. There are just two in the Natural History Museum, London and one in the Musée Royal de l'Afrique Centrale, Tervuren (MRAC.) The two in London were treated as *M. alcuana* by Talbot (1944) and illustrated as such by D'Abrera (1997). The latter was described from Alcu in Equatorial Guinea and is a species that has nothing to do with *M. aburi*; it is a rainforest butterfly with a small orange basal patch on the forewing. We have found *M. aburi* locally common on the Jos Plateau in Nigeria, at Klouto in Togo, Aburi Botanical Gardens in Ghana, Kyabobo National Park in the Volta Region, and in the Fouta Djallon of Guinea. There are other records from much of northern Nigeria and eastern Senegal, often as *M. hilara*. It flies with the larger *M. poppea* in the southern parts of the range, as well as with *M. hilara* in the Fouta Djallon. *M. rueppellii josi* Larsen, 1986 was described in comparison with the sympatric *M. aburi* (thought at the time possibly to be the true *M. hilara* - which it is certainly not). The habitat is the forest/savannah transition zone into which *M. poppea*, a forest species just penetrates; *M. hilara* is an essentially submontane butterfly, which just manages a toe-hold on the few mountains above 800 metres west of the Dahomey Gap (Mt Tonkoui in Côte d'Ivoire and the Fouta Djallon in Guinea). The large orange-yellow basal patch on the forewing and the yellow basal shading of the hindwing base make the new species absolutely unmistakable between Senegal and northern Nigeria.

Etymology: We are pleased to dedicate this new butterfly to Aburi Botanical Gardens just north of Accra in Ghana where the species is common. In the late 19th century many new butterflies came out of this area. It has now been nearly deforested, but the gardens have some residual forest and some very interesting butterflies, especially rare Epitolini. There is even a restaurant which serves an excellent prawn provençale, the quality of which is not diminished by the spelling 'provinciale'. The director, Mr. G. Owusu-Afriyie, has been most helpful in facilitating our research in the gardens.



Figure 1 The male genitalia of *Mylothris aburi* sp. nov.

***Pentila bennetti* Collins & Larsen, sp. nov.**

Plate 1, genitalia text figure 2

The usual orange members of the *Pentila* are variable and often difficult to identify. Slight, but sometimes confusing, sexual dimorphism complicates the matter further. However, a series of three males and two females of one such orange species collected in the rainforest zone of Guinea is so clearly different from other West African species that we would have been willing to describe it even without being able to examine the genitalia, which were in fact, not surprisingly, found to be most distinctive.

Holotype: ♂ Guinea, Conakry, Dubreka, ix.1999 (coll ABRI, genitalia SCC 468).

Paratypes: 2 ♂♂ same data as holotype; 4 ♀♀ Guinea, Fouta Djalon, Labé area (coll HWG).

Diagnosis: Male forewing 20mm. The male is larger than the other orange *Pentila* in West Africa, the orange being a fully saturated brick and not insipid ochreous as in *P. preussi* Staudinger, 1888, while the black markings are very dark and firm. The costa is black, as are three-quarters of the cell, leaving just a little orange before a large, round end-cell spot. There is a large black apical patch, continuing as a margin of 3.5mm width to the tornus, narrowing slightly in space 1a. There is black scaling at the base of space 1b, encompassing a black spot that is free in the female. There is a large rounded spot at the base of space 2. There are prominent

round postdiscal spots in spaces 1b, 2, and 3 - very close to the black margin - and one in 4 that is almost subsumed in the apical patch. On the hindwing there is slight basal black suffusion, as well as a few sub-basal black spots, and a prominent end-cell spot. There is a complete row of large postdiscal spots, which are almost subsumed by the broad black margin, though distinctly darker. The females are similar to the males but all black markings are slightly less developed; e.g. there is no basal black scaling on the hindwing, the postdiscal hindwing spots are almost free of the margin, and those of the forewing are well separated. The underside of both sexes is almost identical. They are very light and the black upperside spots are extremely prominent (absent or reduced in most other West African species). The underside, except for the discal area of the forewing, is overlaid with both ochreous and black scaling. The black scaling is intensified between the black postdiscal spots and the margin.

Male genitalia: The male genitalia are of the usual, very homogeneous, *Pentila* type but differ from all other West African species in having two pairs of processes on the tegumen, in addition to the uncus tip (genitalia text figure 2). The only other known *Pentila* with five such processes is *P. mesia* Hulstaert, 1924 from Bitje in Cameroun. However, it differs from that species in numerous other details, including a more elongated uncus. The 'gnathos' is quite a large structure and the penis is narrow and proportionately very long. Whether the two represent an ancient common ancestry or have simply evolved in parallel is a moot point, but the differences are too great for it to be considered a subspecies of *P. mesia*. *Cymothoe hartigi* Belcastro, 1990 in Sierra Leone and the equatorial *C. anitorgis* Hewitson, 1874 have the same disjunct distribution, being related but not conspecific.

Discussion: We doubt it is possible that this butterfly has been overlooked in Côte d'Ivoire or Ghana, though it might occur in Sierra Leone and perhaps in western Liberia. It is recognizable at a glance and the five uncus/tegumen processes make the genitalia unique in West African *Pentila*. Having a most distinctive forest butterfly like this only in the extreme west seems to be an echo from when long periods of dry climate limited the West African forest fauna to small refuges (Liberian and Ghana subregions), and when contact between the equatorial and the West African fauna was even more strongly cut than today. It is a faint echo, though. The number of forest species from Guinea/Sierra Leone/Liberia that are not represented or have sister species in the Ghana subregion are few. The series from Dubreka was caught by Malang Mane on behalf of ABRI. Mr. Mane is to be congratulated on adding another new species to his many interesting records from Guinea, Guinea-Bissau, and Senegal.

Etymology: We dedicate this new species to the late Neville Bennett of the then British Museum of Natural History. None of the authors knew him personally, but he was a good and helpful correspondent and collaborated most fruitfully with Henri Stempffer in Paris on bringing some order to the African Lycaenidae, a task

that made life so much simpler for current researchers. The revision of the genus *Pentila* (Stempffer & Bennett 1961) was a high point of their collaboration. Much of the current arrangement of the Lycaenidae in the Museum is Bennett's doing.

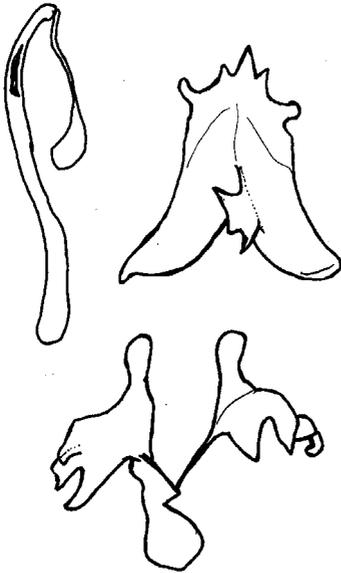


Figure 2 The male genitalia of *Pentila bennetti* sp. nov.

The genus *Ornipholidotos* Bethune-Baker, 1914

Libert (2000) published a comprehensive paper describing eleven new species with a review of the Cameroun fauna. He also transferred five species to the new genus *Torbenia*, members of which are distinguished especially through having segmented foreleg tarsi in the male, unique in the Lipteninae, as well as distinctive male and female genitalia. Several of his new species had already been identified by us, but not yet described. Libert's conclusions only add further support to our expectation that a full biogeographical study of the two genera would be very interesting.

***Ornipholidotos dargei* Libert, 2000**

Plate 1

Kennedy Wamalwa, who has worked for many years setting large numbers of butterflies for ABRI, recently started doing genitalia preparations. He was given photocopies of all known *Ornipholidotos* genitalia and asked to check members of the genus that he thought 'looked interesting'. He correctly reported that he had found a new species from Man in Cameroun. We intended to name this butterfly after him, but it turned out that it was already being described by Michel Libert. Even relatively crude genitalia drawings, sent by fax between Manila and France, soon established that the two must be the same species, again illustrating the genitalic constancy in the genus. Research will continue and Kennedy will doubtless soon find another species to carry his name.

***Ornipholidotos irwini* Collins & Larsen, 1998**

This species was described on the basis of a single male from Batanga in Cameroun because of a very distinctive genital structure. It is of interest to note that we have since received two additional specimens from Cameroun (Ebogo, Ndoupé), the genitalia of which are identical. Libert (2000) also collected it in Cameroun and found an old specimen from Gabon; he agrees that the genitalia are very characteristic. It illustrates the constancy of the genitalia in the genus and we suspect that a few apparently 'variable' species actually pertain to several closely related taxa. It has since been found also in Ghana.

***Ornipholidotos issia* Stempffer, 1969**

O. issia was described from a pair collected by Boniface Watulege, the star collector of T.H.E. Jackson, at Issia, Côte d'Ivoire. There are no subsequent records. A collector for ABRI found a male in Mamou, some 90 km north of Conakry in Guinea, with absolutely identical genitalia. HWG also obtained it from there (male genitalia examined *in situ*). Females in the Natural History Museum, London from Sierra Leone are so similar that there can be little doubt they are also *O. issia*; a few records from Liberia of *O. kirbyi* Aurivillius, 1895 (though known from Ghana) are likely to refer to this species as well. The genitalia indicate a close relationship with *O. jacksoni* Stempffer, 1961 (Cameroun to Kenya) and *O. goodgerae* Libert, 2000 (Cameroun). What is interesting about these records is that *O. issia* seems to be the only member of the genus that is endemic to the area west of the Dahomey Gap as well as its westernmost representative – though with the *Ornipholidotos* such a statement is a courageous one!

Ornipholidotos nguru Kielland, 1987

Plate 1, genitalia text figure 3

This fine butterfly was described on the basis of a single female from the Nguru Mountains (1400 m) in eastern Tanzania, probably the highest altitude at which an *Ornipholidotos* species has been found. It is slightly smaller than the largest member of the genus, *O. peucetia* Hewitson, 1866. The male has not previously been figured; as usual in the genus it hardly differs from the female. ABRI recently received two further males in perfect condition from the Nguru Mountains and we were therefore able to study the male genitalia (SCC 466). Kielland emphasized that the species was close to *O. peucetia*, the only other of the 40 or so members of the genus to be found east of the Rift Valley. The two species are morphologically similar and very different from any of the equatorial species. Accordingly, we had expected some similarity also in the genitalia, but they are very different indeed. Both are built on the standard groundplan of the genus, but all the main features are completely different (genitalia text figure 3). Especially the 'saccus' with its two narrow lobes is unusual. The penis lacks the usual batch of small black cornuti; it is hardly twisted. The 'subunci' are almost symmetrical, finely sculpted at the tip and with a small, triangular chitinous flap. The special processes are not fused and have unusual shapes. The large expanse of the tegumen and saccus is almost free of any features, such as sutures. Kielland (1987) believed he had seen differences in the female genitalia as well.

It is worth mentioning that the genitalia of nominate *P. peucetia* do not seem to differ materially from those of the much larger ssp. *peucedata* Grose-Smith, 1898 in Kenya (= *chyuluensis* van Someren, 1939).

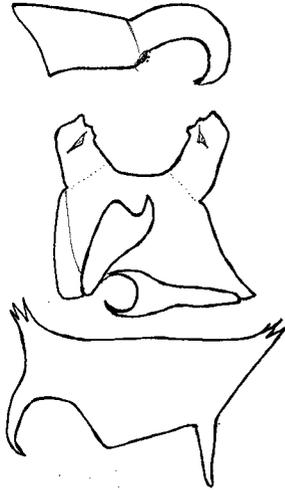


Figure 3 The male genitalia of *Ornipholidotos nguru*.

***Liptena ferrymani bissau* Collins & Larsen, ssp. nov.**

Plate 2

Liptena ferrymani Grose-Smith & Kirby, 1891 (TL Nigeria, Lokoja) has always been rare in collections. Only a dozen or so from Nigeria, Cameroun, and southern Sudan were available to Stempffer *et al.* (1974) when they revised parts of the genus. *L. ferrymani bigoti* Stempffer, 1964 was described from Nion in northern Côte d'Ivoire on the basis of a single male. ABRI has recently received large numbers of ssp. *ferrymani* from Cameroun and of ssp. *bigoti* from the Fouta Djallon in Guinea, in addition to a series of another subspecies from Guinea-Bissau, which is described below.

Ssp. *bigoti* differs from ssp. *ferrymani* in a number of respects: i) it is considerably smaller (18mm against 20mm); ii) the black apical markings are differently shaped; in particular there is a strong white notch into the black at vein 6, and the black margins widen considerably in space 2; iii) the seven dark lines on the hindwing underside are not as well defined; iv) the two outer black lines are strongly crenulate.

The population in Guinea-Bissau is different again. It is smaller than ssp. *bigoti* and with much reduced black markings. This is not a seasonal variation since eleven were collected at various locations and various times of the year, and

taking into account that the Guinea material of more than 60 specimens of ssp. *bigoti* shows little variation.

Holotype: ♂ Guinea-Bissau, Buba, ii.2000 (coll ABRI).

Paratypes: 5 ♂♂, 5 ♀♀ various localities in Guinea-Bissau, as above.

Diagnosis: Male forewing 18mm. Smaller than ssp. *bigoti*. All dark markings are much reduced in comparison, the broad dark margin in space 2 and the cell streak especially so. However, the white wedge intruding into the black apical area along vein 6 is still clear. On the underside the dark markings are even more reduced, to the point where the seven black lines are almost invisible in worn specimens. The females are slightly larger than the males but sexual dimorphism is very limited.

Male genitalia: We have examined the male genitalia of all three subspecies and find no valid diagnostic characters; the genitalia are figured by Stempffer *et al.* (1974).

Discussion: *L. ferrymani bissau* appears to have evolved as an adaptation to the very dry habitat of Guinea-Bissau, but since it is essentially a savannah species, typical ssp. *bigoti* flies in the Fouta Djallon. In a forest species such as *Euriphene gambiae* Feisthamel, 1850 the nominate subspecies is shared between Guinea-Bissau and the Fouta Djallon in Guinea, while ssp. *vera* Hecq, 2002 shares the rest of West Africa (plate 5).

***Liptena seybouii* Warren-Gash & Larsen, sp. nov.**

Plate 2, genitalia text figure 4

This little butterfly flies high among ants' nests under the crown of trees, which may be one of the reasons it has not been collected before. It is close to *Liptena eketi* Bethune-Baker, 1926, an almost unknown species. It is also related to the more common *Liptena rochei* Stempffer, 1951, which is found from Sierra Leone to the Niger River.

Holotype: ♂ Côte d'Ivoire, 100 km west of Abidjan, Alépé, 1.xi.2000 (coll ABRI).

Paratypes: 2 ♂♂, 1 ♀ same data, xi-xii.2000 (coll HWG).

Diagnosis: Male forewing 14mm. The male is closest to *L. eketi*, with which it will be compared, but differs in a deeper orange ground-colour, more extensive dark markings, and a different arrangement of the dark bands of the hindwing underside. On the forewing upperside the dark costa is wider, filling out the upper half of the entire forewing cell; at the end of the cell the orange ground-colour extends nearly to the costa. The apical markings are also wider, extending to vein 3, with a black tooth on vein 2, and with a narrow dark margin to the tornus. The hindwing has

some basal dark scaling and a narrow submarginal band from tornus to vein 6 as well as a marginal band from tornus to vein 7. The lower and tornal parts of the hindwing are dusted with dark scales. The dark bands on the underside show through indistinctly, giving a mottled effect. The forewing underside has a broader dark costa, containing light striae. But the key difference lies in the different and more uneven placement of the seven dark bands on the hindwing. The dark bands are significantly broader; only 20% of the hindwing underside is creamy-ochreous compared to 40% in *L. eketi*. As in *L. eketi*, bands three and four (measured from the base) meet to form a V. The fourth and fifth bands are very close for most of their length but diverge shortly before the costa, leaving an isolated ochreous spot. On the costa there is a broader ochreous patch (1mm) till the two outer bands meet; these two bands are also parallel till they meet at the apex of the hindwing. The single female is similar to the males, though slightly larger.

Male genitalia: The genitalia of the first male dissected by HWG appear to be teratological. When dissected after the usual KOH immersion, most of the vinculum and the saccus were missing. On one side of the uncus the simple subuncus is duplicated, though both are slightly smaller than the single one on the other side (we have never seen anything comparable). So the type was dissected at ABRI; only one valve shown). The valves are fairly close to those of *L. rochei* in general shape, but there is an unusual excrescence on the outer side. The penis is rather massive and very different from that of *L. rochei*. Unfortunately the genitalia of *L. eketi* are not available.

Discussion: The species was found at Alépé, a very rich butterfly locality in eastern Côte d'Ivoire on the Comoë River, where rarities such as *Iolaus pollux oberthueri* Riley, 1929 (not recorded since the type series), *Anthene radiata* Bethune-Baker, 1910, and *Bebearia ashantina* Dudgeon, 1913 occur. The deep forest can become inaccessible during the wet season and the species was found in a cocoa plantation at the fringes of the forest where tall shade trees had nests of *Crematogaster* ants high up, the kind of habitat that often produces members of the Epitolini. At the top of one of these trees a small orange butterfly was seen. It was necessary to tie several poles together to catch the single specimen seen that day. *L. eketi* is known from just a few specimens and probably shares the very high-flying habits of *L. seyboui*. It is remotely possible that the two are subspecies of a single species, but the colour pattern and distance of 1,500 km seem to indicate specific status.

Etymology: The species is named after Seybou Lingani, a collector working for HWG who, with commendable perseverance and skills with a long net, collected the four known specimens.

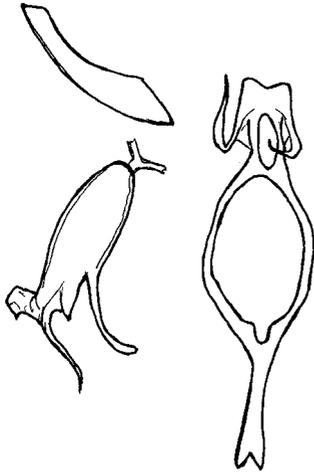


Figure 4 The male genitalia of
Liptena seyboui sp. nov.

Iolaus (Epamera) banco Stempffer, 1969
Plate 1

Iolaus banco was described from the Banco Forest in Côte d'Ivoire, a lovely bit of forest at the edge of Abidjan City. Two males in very poor condition had genitalia that differed substantially from those of *I. laon* Hewitson, 1878. HWG found that all his material from Banco is referable to *I. banco* (the genitalia are distinctive) and we believe that this may actually be the only member of the *I. laon*-group to occur in Côte d'Ivoire (except on the Ghana border). The female has never been described or figured, and is figured on Plate 1. It differs from *I. laon laon* from the Ghana/Togo Mountains as follows: i) the ground-colour is deeper blue, ii) the black tornal markings and the hindwing margin are better developed, and iii) the white scaling at the tornal margin of *I. laon* is absent. The female holotype of *I. laon* is from Ghana ('Gold Coast'), but is in very poor condition. A male from Cape Three Points in western Ghana (coll ABRI) is the first record of *I. banco* from outside Côte d'Ivoire.

***Iolaus (Iolaphilus) alexanderi* Warren-Gash, sp. nov.**

Plate 2, genitalia text figure 5

This new species belongs to the characteristic *I. trimeni*-subgroup of the subgenus *Iolaphilus* Stempffer & Bennett, 1958. Members of the subgroup are united by a unique structure of the male genitalia; the fultura consists of two large lamellae, fused at their base, from which extend two long narrow, simple valves that are fully fused with the fultura at the base. Together with *I. iulus* Hewitson, 1869, *I. jamesoni* Druce, 1891, and *I. gabunica* Riley, 1928, with more complex valves, they were considered the only members of the subgenus deemed worthy of retention in *Iolaphilus* by Heath (1985 – as later followed by Carcasson's Catalogue). This restriction of the subgenus united adult morphology with the characters shown by the early stages. The subgroup is homogeneous and probably monophyletic so we accept Heath's concept.

There are six known species of the *I. trimeni* subgroup: *I. menas* Druce, 1890 is widespread in the driest zones of West Africa to northern Kenya, as is *I. ismenias* Klug, 1834. *Iolaus trimeni* Wallengren, 1875 is found from Tanzania to South Africa in the denser savannah formations and miombo woodlands. *Iolaus schultzei* Aurivillius, 1905 is only known from the type from northern Cameroun; it must be a dry zone species. *Iolaus henryi* Stempffer, 1961 is from Uganda, where it seems to be a true forest butterfly. The sixth species is *I. carolinae* Collins & Larsen, 2000, the first member of the group to be found in the West African forest zone, simultaneously in Côte d'Ivoire and Ghana, though apparently in rather open habitats. It was therefore a surprise that a seventh member of the group, described below, was collected in one of the wettest rainforest habitats in Côte d'Ivoire.

Holotype: ♂ Côte d'Ivoire, on border with Liberia, Taï National Park, vi.2000 (coll ABRI).

Paratypes: 1 ♂ same data, 2 ♂♂ same data, but iv.2001 (leg. et coll HWG).

Diagnosis: Male forewing 17mm. The male is close to that of *I. carolinae*, but it is smaller and the ground-colour has a less greenish tinge. The forewing costa is black, merging into a fairly large apical patch. Unlike in *I. carolinae*, the latter has an irregular inner edge with a prominent black tooth on vein 2. The apical patch is continued as a 2mm wide margin. The hindwing has a fine black margin with small, but distinct, submarginal spots in the anal angle and a small black apical patch. The underside is white. The forewing is unmarked, with faint brown shading towards the apex. The androconial brushes are black. The hindwing is characteristic of the group; there is a fine, somewhat irregular, postdiscal line, which is parallel with the margin and with a submarginal line that is red at the apex,

becoming black at vein 5. There are the usual black spots, generously surrounded by red, at the anal lobe and in space 3. The female is unknown.

Male genitalia: The male genitalia have the usual large fultura and narrow valves of the *I. trimeni*-group. However, the valves are much shorter than in other members of the group, being straight and barely longer than the fultura, making them identifiable at a glance. The other species can hardly be told apart by the genitalia (*I. menas* is shown in half next to those of the new species as a representative of the other species). The penis is also longer and narrower in comparison, though still containing the two strong cornuti.

Discussion: The first specimen was found flying rapidly in the undergrowth along a road, out of reach of the net, and disappeared from sight. Five minutes later it suddenly dived down and perched on a low bush. In these circumstances you have no choice but to strike, never mind how tricky your position; low perching of an *Iolaus* often lasts just a fraction of a second. Two further paratypes were collected under similar circumstances eleven months later. In the field it was considered close to *I. paneperata* Druce, 1890, but the genitalia clearly placed it in the *I. trimeni*-subgroup. It is an amazing coincidence that this new species was discovered just a year after the closely related *I. carolinae* was collected almost simultaneously in Côte d'Ivoire and in Ghana.

Etymology: The species is named after Alexander Warren-Gash, son of HWG, who during several visits to Côte d'Ivoire contributed significantly to our knowledge of the local butterfly fauna.

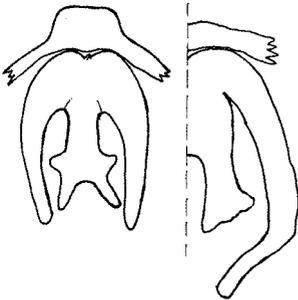


Figure 5 The male valves and fultura of *Iolaus alexanderi* sp. nov. To the right those of *I. menas*.

Taxonomic issues in *Iolaus* (*Argiolaus*, *Iolaphilus*, and *Philiolaus*)

The following three species are allied to those included by Stempffer (1967) in the subgenus *Iolaphilus*, but excluded from that subgenus by Heath (1985) because the early stages, as far as is known, are very different from those of what he considered the valid *Iolaphilus* (which has *I. menas* as its type species). He therefore transferred the remaining species in Stempffer's *Iolaphilus* to the subgenus *Argiolaus* Druce, 1891, which has strong similarities in the early stages. However, where all other *Iolaus* have typical thecline genitalia (with *Etesiolaus* as an exception – see later), the type (*Iolaus silas* Westwood, 1851) and the few other species in Stempffer's concept of the subgenus are radically different. The uncus has two long, slender projections that are fully fused to a small tegumen; there are no subunci as such. The species transferred to *Argiolaus* by Heath have the typical wide, large, bilobed uncus with prominent, hinged subunci. There is no seamless fusion with the tegumen; in some species the uncus can quite easily become detached from the tegumen. We believe that Stempffer's narrow concept of *Argiolaus* is correct.

Accepting Stempffer's restriction of the subgenus *Argiolaus* as well as Heath's restriction of the subgenus *Iolaphilus* leaves the rather disparate 'rump' of the latter without a current name. However, Stempffer & Bennett (1958) created the subgenus *Philiolaus* for the species *I. parasilanus* Rebel, 1914, because it has a sort of pseudotergum. Heath (1985) synonymized this with *Argiolaus* since *I. pamela* Heath, 1983 and *I. diana* Heath, 1983 have only a vestigial pseudotergum. This action leaves *Philiolaus* as an available name for the species not clearly falling into either *Iolaphilus* or into *Argiolaus* as discussed above. The three subgenera may thus be characterized by:

Subgenus	Genitalia	Early Stages
<i>Iolaphilus</i>	Differ from both other	Differ from both other
<i>Argiolaus</i>	Differ from both other	Shared with <i>Philiolaus</i>
<i>Philiolaus</i>	Diverse but different	Shared with <i>Argiolaus</i>

However, while each of the two other subgenera appears to be monophyletic and well characterized, *Philiolaus* might well be paraphyletic. Until further studies have taken place, we will tentatively use this name.

***Iolaus* (*Philiolaus*) *christofferi* Collins & Larsen, sp. nov.**

Plate 3, genitalia text figure 6

Two specimens of a bright blue *Philiolaus* were received from northern Cameroun. We initially thought it might be the elusive *Iolaus* (*Iolaphilus*) *schultzei* Aurivillius, 1905, known only from the type. A subsequent special expedition collected a large series. However, the present species has genitalia of a quite different type from *I.*

schultzei, matching the groundplan of *I. vansomereni* Stempffer & Bennett, 1958 and *I. newporti* Larsen, 1995. It is clearly a distinct species and is described below.

Holotype: ♂ Wak, Ngaoundéré, northern Cameroun, i.2000 (coll ABRI, genitalia SCC 458).

Paratypes: 22 ♂♂, 5 ♀♀ same locality, many different dates, 1999-2001 (coll ABRI).

Diagnosis: Male forewing 20mm. The male is close to what seems to be its nearest relative, *I. vansomereni*; the tone of blue is slightly darker, but this is not a reliable character in the genus. It differs only in that the black margin of the hindwing is not as broad and that it fades towards the tornus, leaving the red anal spot in space 2 free on a blue field; there is no trace of anal red in *I. newporti*. There are faint traces of a black postdiscal line in spaces 1c, 2, and 3. The undersides are very similar and the androconial brush on the forewing underside is beige as in the other two species. Were it not for the genital differences, this taxon would have been described as a subspecies of *I. vansomereni*. The female is very close to *I. vansomereni* and differs only through the postdiscal black striae on the hindwing being well separated from the black margin by a white line.

Male genitalia: The male genitalia clearly fall into the same group as *I. vansomereni* and *I. newporti*. The colour pattern is closest to the former, while the genitalia are closest to the latter. The main difference lies in the valves that differ from *I. newporti* (bottom left in genitalia text figure 6) in that the inner lobe is not gently curved but forms a very precise angle of 45 degrees; the valve is much shorter than in *I. vansomereni* (bottom right in genitalia text figure 6), as is its narrow distal end. The uncus is slightly more massive than in the two others. The tip of the valves is pointed and not rounded. It shares with *I. newporti* a small lobe at the outer edge of the valve that is missing in the much longer valve of *I. vansomereni*. The fultura (cingulum) is massive, but the two branches are not fused in any of the three. The penis has the same shape as the other two, though straighter; the two massive cornuti are of equal size, as in *I. newporti*. There is an additional curved sclerotized tooth at the distal end of the penis.

Discussion: It is curious to encounter in northern Cameroun a species that is not really intermediate between *I. newporti* from Nigeria and *I. vansomereni* from Uganda since all three are dry zone species. They were described as recently as 1958, 1995, and now, which indicates that more species remain to be discovered in the dry zones between Uganda and Senegal.

Etymology: We take much pleasure in naming this new species after P.O. Christoffer Aurivillius whose 1898 monograph on African butterflies was a true *tour-de-force* for its time, and which led him later to write single-handedly the Seitz volume on African butterflies. The 1898 book remains a useful reference to this day. The accuracy and precision of his descriptions were outstanding for his time

and, though never visiting Africa, his biogeographical observations were unusually astute and prescient. His types are mostly conserved in the Natural History Museum in Stockholm, where they are readily available to researchers. We would really have liked to meet Aurivillius in person; honouring his memory is, unfortunately, the best we can do.

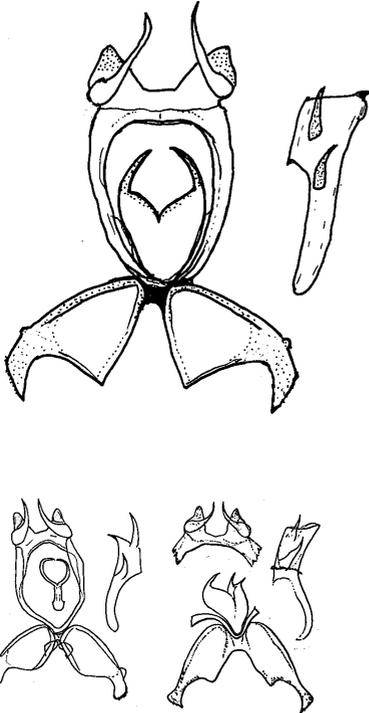


Figure 6 The male genitalia of *Iolaus christofferi* sp. nov. Below left: *I. newporti*, right: *I. vansomereni*.

***Iolaus (Philiolaus) mane* Collins & Larsen, sp. nov.**

Plate 3, genitalia text figure 7

We thought this new *Philiolaus* from the Fouta Djalon in Guinea might be the elusive *I. theodori* Stempffer, 1970, which we have not yet come across. So far it is only known from its type locality in Ghana's Volta Region from where we have a single male bred by Father Theodor Maessen. The only difference we can see

between the latter and the Guinea series is that the androconial tuft of the forewing seems to be darker beige and is more extensive. Examination of the male genitalia showed that the Guinea series was actually closest to *I. aequatorialis* Stempffer & Bennett, 1958, which is found in Uganda, northwestern Tanzania, DRC (Zaire), Congo, and Gabon. This is complemented by the upperside pattern and the beige colour of the forewing hair-pencils. The genital differences are too great to consider the two conspecific and the Guinea species is herewith described.

Holotype: ♂ Guinea, Fouta Djallon, Labé area, x.2001 (coll ABRI).

Paratypes: 6 ♂♂, 5 ♀♀ same data, but at various times of the year between 1998 and 2001 (coll ABRI, genitalia SCC 500). One male is from Mamou at the foot of the Fouta Djallon. 1 ♂ Ghana, Atewa Range, Sagamase, Ghana, ii.2000 (coll ABRI). HWG also has specimens from Guinea (coll HWG), which are not included as paratypes.

Diagnosis: Male forewing 21mm. The male upperside is very similar to that of *I. aequatorialis*, but the colour is somewhat lighter and tinged with green. The black forewing apex and margin is identical, including small black teeth intruding into the blue along veins 2 and 3. The hindwing margin is slightly narrower. The forewing underside is nearly pure white except for some slight grey-brown shading at the very tip. The androconial brush is very light beige, the lightest we have seen. The hindwing is also very lightly marked; the two anal eye-spots are small, surmounted by thin black chevrons. There is a very faint orange submarginal line, parallel to the margin, but it is almost invisible. The paratype from Ghana is slightly darker. *Iolaus aequatorialis* has well marked orange lines on both the forewing and the hindwing. The male cannot really be told from that of *I. theodori*. The female has a black apex and margin much as in the male, and there are black teeth extending along veins 2 and 3. The forewing colour is a light powdery blue that decreases in intensity towards the margin, and with a white discal area from just before the cell to the black margin; this is variable, in some specimens being limited to spaces 3, 4, and end-cell, in others including much of space 2. The hindwing is powdery light blue, except that the costa is white with some grey scaling. There is a full row of neat post-discal lunules, a fine black margin, and two small black tornal spots not crowned by red (as is the case in *I. theodori*). On both wings the veins are very finely black from base to margin, not usual in the genus. The female of *I. aequatorialis* is as dark blue as the male though not as brilliant. The underside is like the male, but the faint orange submarginal line is also visible on the forewing (except in a very pale paratype).

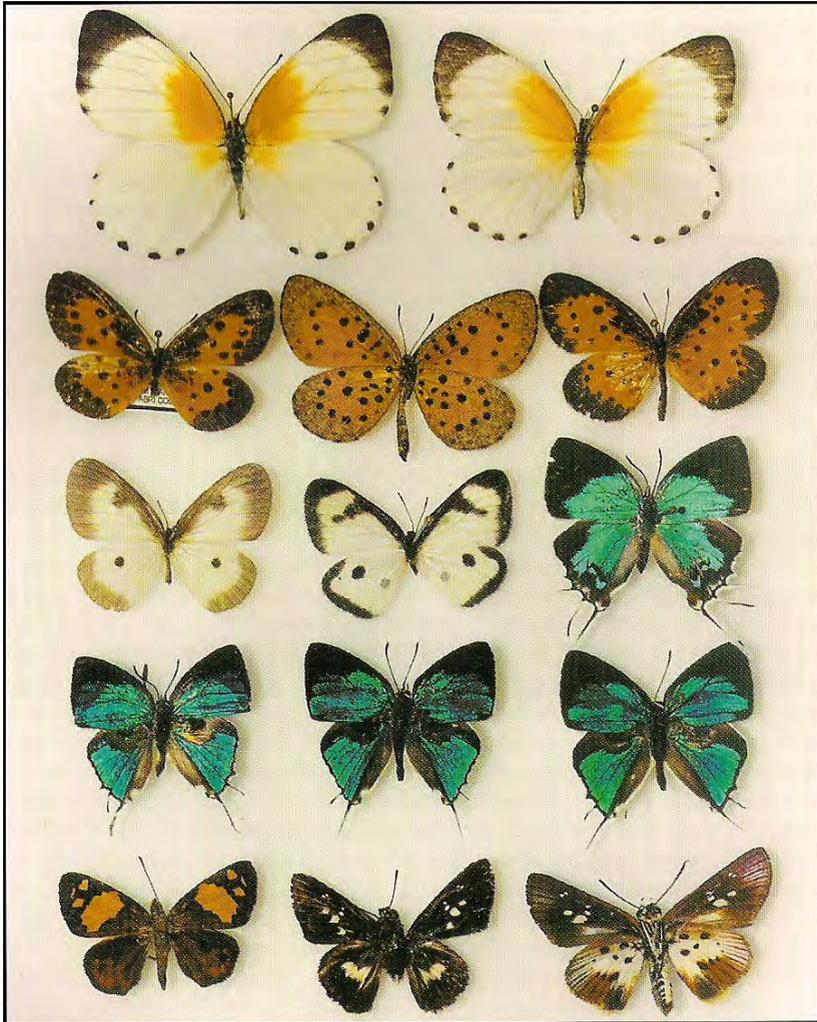
Male genitalia: The uncus structure is as in *I. aequatorialis*, but the subunci are not slightly twisted. The valves are shorter and twice as wide. The *fultura inferiora* does not encircle the penis, but is open-ended (illustrated left of the

penis). The penis has the same unusual shape, being strongly bulbous at the distal end with two solid spines, and a small cornutus in the penis itself. The genitalia of the male Ghana paratype are identical.

Discussion: There can be little doubt that this species is closely allied to *I. aequatorialis*. Nothing like it has been seen between the Congo and Ghana. The white discal area and the white hindwing costa of the female are also found in Fouta Djalon populations of other species, such as *I. djaloni* Collins & Larsen, 1998.

Etymology: We give this fine lycaenid the name of the Mané family in Guinea, several of whose members have provided ABRI with excellent material from all parts of that country.

Plate 1



Line 1 *Mylothris aburi* sp. nov. Left: ♂ holotype; right: ♀ paratype, both Ghana, Aburi, xii.1994.

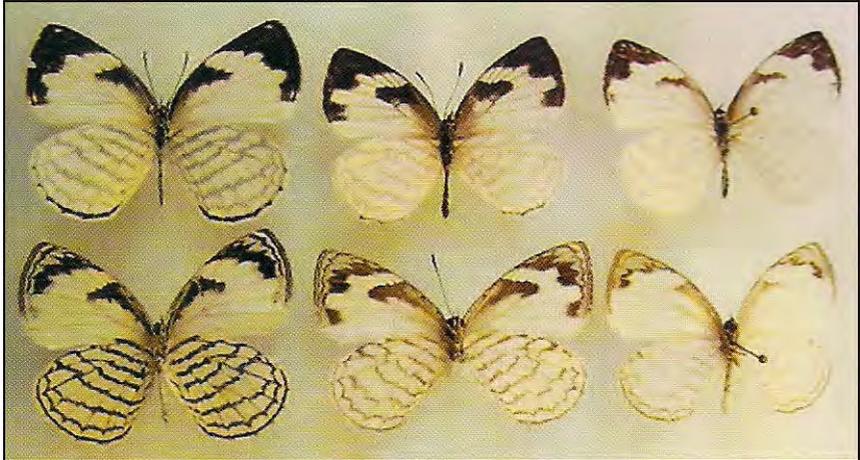
Line 2 *Pentila bennetti* sp. nov. Left: ♂ holotype; middle: ♀ paratype underside; right: ♀ paratype, all Guinea, Dubreka, ix.1999.

Line 3 Left: *Ornipholidotos dargei*, ♂ S. Cameroun, Man, vii.1999; middle: ♂ *Ornipholidotos nguru*, Tanzania, Nguru Mountains, iii.1999; right: ♀ *Iolaus banco*, Côte d'Ivoire, Banco, ix.1998.

Line 4 *Etesiolaus* ♂♂: Left: *E. catori catori* Central African Republic, Yakoli, v.1996 (atypical large margins); middle: *E. catori cottoni*, Tanzania, Bukoba, Minziro, i.1995; right: *E. kyabobo*, Central African Republic, Bangui, vi.1996.

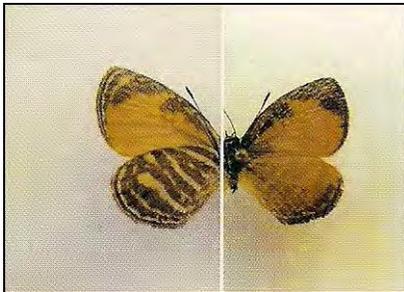
Line 5 Left: ♂ holotype, *Celaenorhynchus milleri* sp. nov. Cameroun, Dja, vii.1998; middle: ♂ holotype *Fresna jacquelineae* sp. nov.; right: ♀ paratype, *Fresna jacquelineae*, both Cameroun, Ebogo, xii.1998.

Plate 2

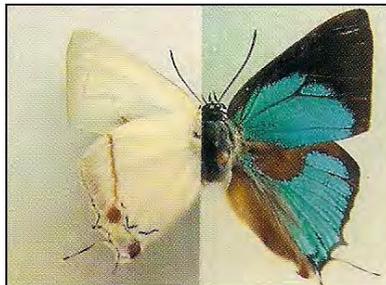


Line 1 *Liptena ferrymani* ♂♂ uppersides (near natural size)

Line 2 *Liptena ferrymani* ♂♂ undersides (near natural size): Left: ssp. *ferrymani*, Cameroun; middle: ssp. *bigoti*, Guinea; right: ssp. *bissau* **sp. nov.** Guinea-Bissau (paratypes).



Line 3 Left: ♂ holotype, *Liptena seyboui* **sp. nov.** The left side is the underside, the right side the upperside. Right: ♂ *Iolaus alexanderi* **sp. nov.** Holotype.



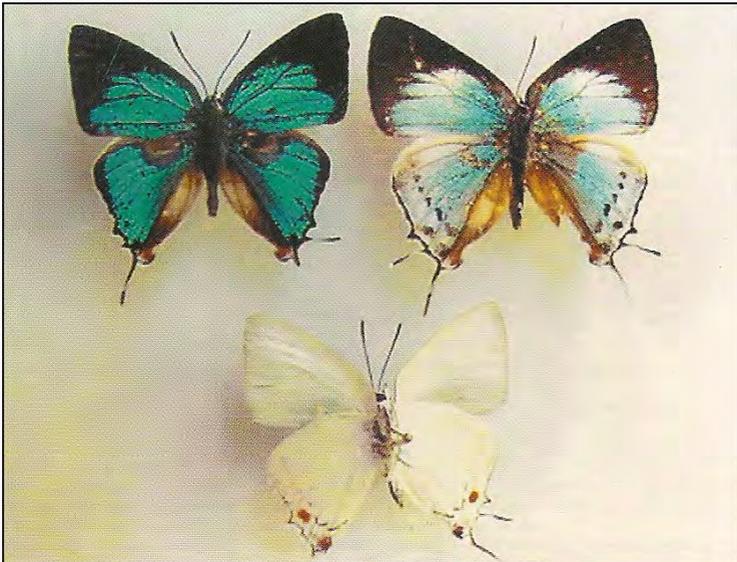
Line 4 ♂ *Iolaus likpe* **sp. nov.**

The left is the underside, the right side the upperside of the holotype.

Plate 3

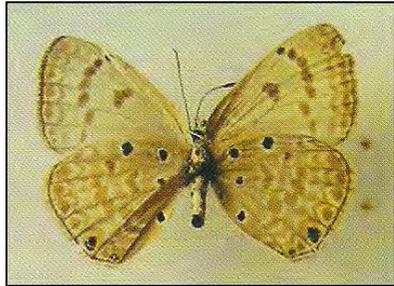
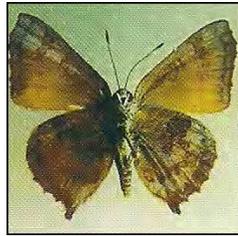


Left: ♂ above the ♀ of *Iolus christofferi* sp. nov. (paratypes).
 Right: ♂ above the ♀ of *Iolus vansomereni* from Uganda.



Left: ♂, right ♀ of *Iolus mane* sp. nov., below male underside (paratypes).

Plate 4



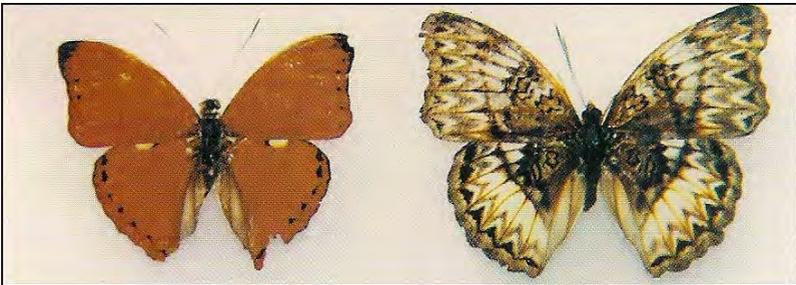
Line 1 Left: ♂ upperside, right: ♂ underside of *Capys vorgasi* sp. nov

Line 2 Left: ♂ upperside, right: ♂ underside of *Lepidochrysops dunnii* sp. nov.

Line 3 Left: ♂ upperside, right: ♀ underside of *Euphaedra sarcoptera sarcoptera* from central and western Côte d'Ivoire.

Line 4 Left ♂ upperside, right ♂ underside of *Euphaedra sarcoptera styx* ssp. nov. from Taï National Park, Côte d'Ivoire

Plate 5

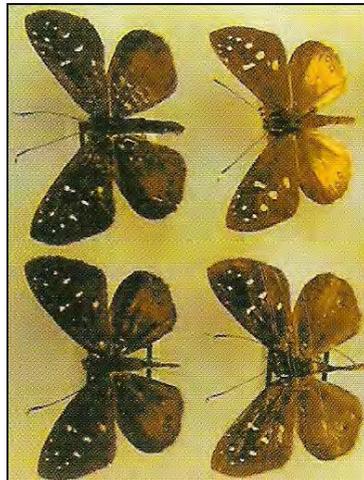
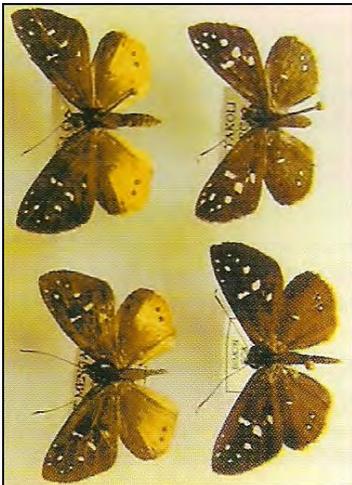


{Line 1/2: Left: ♂ above the ♀ of *Euriphene gambiae gambiae* from Guinea-Bissau. Right: ♂ above the ♀ of *Euriphene gambiae vera* Hecq, 2002 from Freetown, Sierra Leone). Ssp. *vera* Hecq was described after the manuscripts was submitted. We have large series of ssp. *gambiae* from Guinea-Bissau and the Fouta Djallon in Guinea.

Line 3: Left: ♂ and right: ♀ of *Cymothoe hartigi vanessae* **ssp. nov.** from western Côte d'Ivoire

Line 4: ♀ *Cymothoe hartigi hartigi* from western Liberia; note the near absence of the white markings internal to the discal line.

Plate 6



Line 1/2 Left: ♂ above the ♀ of *Apaturopsis paulianii*, right: ♂ above the ♀ of *Apaturopsis kilusa*, all from Madagascar. To our knowledge only ♂ *A. kilusa* has ever been illustrated in colour.

Lines 3-6 (turned 45 degrees). Left column: males of four subspecies of *Ceratrachia nothus*; right column females of the four subspecies.

Line 3. Ssp. *nothus* from Sierra Leone.

Line 4. Ssp. *enantia* from Ghana and western Nigeria.

Line 5. Ssp. *makomensis* from Cameroun.

Line 6. Ssp. *yakoli* **spp. nov.** from Central African Republic.

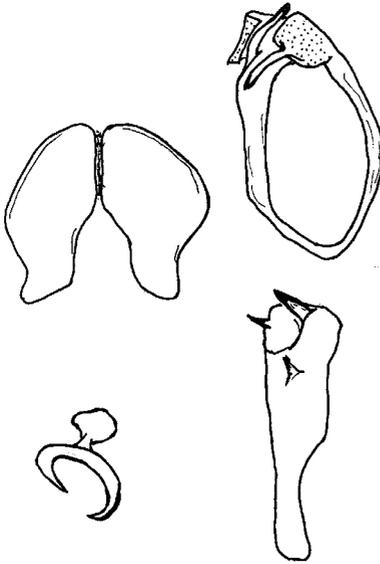


Figure 7 The male genitalia of
Iolaus mane sp. nov.

***Iolaus (Philiolaus) likpe* Collins & Larsen, sp. nov.**

Plate 2, genitalia text figure 8

While examining the type material of *I. mane* (above) we found one male from Ghana with a strongly orange, curved postdiscal line on the hindwing, as in *I. aequatorialis*, and wondered whether it might be a transition between the two. On dissection this turned out not to be so, since the species comes very close to *I. ndolae* Stempffer & Bennett, 1958, known only from the area between Zambia and Uganda. It is described as a new species below on the basis of small, but significant, features of the male genitalia. We are sure that this is not the unknown male of *I. manasei* Libert, 1993 from Cameroun since the shape of the apical patch does not match, and vein 2 and the distal end of the median vein is not black.

Holotype: ♂ Ghana, Volta Region, Likpe, xii.1975 (coll ABRI, genitalia SCC 503).

Diagnosis: Male forewing 21mm. The upperside is very similar to *I. theodori* and to *I. mane*, with the same greenish tinge to the blue, but it differs in having the inside edge of the black apical area regularly curved without black wedges intruding into the blue along the veins. In both tone and markings the species is very close to *I. ndolae* and the only difference seems to be that the black apical patch is slightly larger (1/4 of space 2 and none of space 3 is blue in the current species, compared to half of space 2 and 1/4 of space 3 in *I. ndolae*). Vein 2 and the median vein from the branch with vein 2 are black. The underside is also just like *I. ndolae* (but not *theodori*) with a prominent orange postdiscal band, the distance of which to the margin widens considerably from the tornus to the costa, a trait not shared with other West African members of the genus. The androconial brushes are dark beige in both species.

Male genitalia: The uncus and subunci are as in *I. ndolae*. On the vinculum, just where it fuses with the tegumen, there are two small, but clear triangular flaps of the same shape as in the *Argiolaus*-group with their very different tegumen and uncus. Within the rest of the *Philiolaus* we know them only from *I. maritimus* Stempffer & Bennett, 1958, which seems to be closely related to *I. likpe*, and from *I. shaba* Collins & Larsen, 1995, which does not. The fultura of *I. ndolae* is described by Stempffer as an 'anneau porté par un pédoncule'; *I. likpe* differs in having a short but massive base so that it does not extend as far up towards the tegumen. On either side of the ring is a strongly chitinized dagger-shaped projection of which any trace is missing in *I. ndolae*, and homologues of which we do not recollect having seen elsewhere in the genus. There is little difference in the valves, but the tips are most strongly recurved in *I. likpe*. The rather massive penis has a tooth at its distal end (not a cornutus); in *I. likpe* there is a single large curved cornutus; in *I. ndolae* two smaller cornuti, one curved the other straight. We have verified these differences by dissecting a male of *I. ndolae* in addition to studying Stempffer's drawings.

Discussion: This is one of the cases where it is difficult to decide in favour of specific or subspecific status. Given the genital differences, small but in our view highly significant, and the vast apparent disjunction, we have opted for specific status.

Etymology: We give this fine butterfly the name of the village-group of Likpe in Ghana's Volta Region. Father Theodor Maessen lived in Likpe-Mate for many years. Through correspondence with Henri Stempffer and others he began breeding many species of *Iolaus* from Loranthaceae near his residence, including *I. theodori*. The single male of the present species looks as if it was probably bred. Many other interesting butterflies are known from Likpe, including *Iolaus mane* (described above), and *Capys vorgasi* (described below).

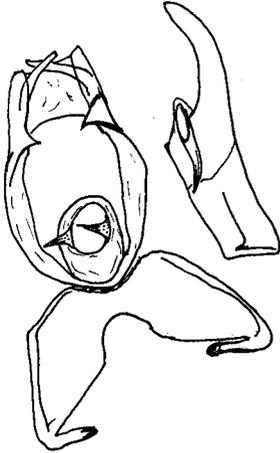


Figure 8 The male genitalia of *Iolaus likpe* sp. nov.

The genus *Etesiolaus* Stempffer & Bennett, 1958 stat. rev.

Plate 1

The genus *Etesiolaus* is usually considered a subgenus of *Iolaus* Hübner, 1819, but in view of the very special genitalia and the fact that *E. catori* feeds on various Sapotaceae and never on the usual Loranthaceae (Congdon & Bampton 2000), we now believe it deserves full generic status. There are three known species with remarkably different genitalia, though all built on the same basic plan. The three are superficially very similar, having a brilliant, strongly iridescent greenish-blue ground-colour. Some anomalous specimens in the curated material at ABRI prompted us to dissect a number of males, giving rise to the following comments:

E. catori catori Bethune-Baker, 1904 is characterized by the small size of the black apical patch, which usually only reaches the level of vein 4, though in some cases (mainly in Guinea) it is larger, almost as large as in ssp. *cottoni*. It is found from Guinea to parts of DRC (Zaire) (genitalia figured in Stempffer & Bennett 1958, Stempffer 1967, Larsen 1996). The specimen figured from the Central African Republic actually has as extensive black markings as ssp. *cottoni*, as do some from the Fouta Djallon. We have not had material to study this issue in depth.

E. catori cottoni Bethune-Baker, 1908 has a larger apical patch, reaching vein 3 or even 2, but the patch is never continued to the tornus. It is found in eastern Zaïre, Uganda, western Kenya, western Tanzania, and northern Zambia. We can confirm that the genitalia (western Kenya) are identical to those of the nominate subspecies (as stated by Stempffer & Bennett 1958).

E. pinheyi Kielland, 1986 is still known only from eastern Tanzania (Usambara and Uluguru Mountains) and is thus not sympatric with either of the other two. It resembles *E. catori cottoni* but has an even larger black apical patch, encroaching on the cell and extending finely to the tornus. The genitalia are most distinctive, and are figured in the original description.

E. kyabobo Larsen, 1996 was so far reported only from the type locality in Ghana's Volta Region, but specimens dissected from the Fouta Djallon in Guinea, Gagnoa in Côte d'Ivoire, and from Batalimo in the Central African Republic proved to be this species, as is one from Beni in eastern DRC (Zaïre). The apical patch is large and continues to the tornus, with a width of 1mm in space 1b and followed by a strong, sharp inward tooth in 1a. They were easily selected from long series of nominate *E. catori*. The genitalia are figured in the original description; those from central Africa differ slightly in having two tiny thorns on the tegumen and slightly stouter valves. *E. kyabobo* is thus largely sympatric with *E. catori*.

***Capys vorgasi* Larsen & Collins, sp. nov.**

Plate 4

Members of the genus *Capys* feed on *Protea* spp. (Proteaceae) and presumably evolved originally in southern Africa where there is a profusion of species at low levels. However, *Capys* are also found throughout eastern Africa, in the case of Kenya having split into many submontane species with very limited disjunct distributions, sometimes restricted to a single, isolated mountain-top. About 100 years ago Schultze (1908) found *Capys ?disjunctus bamendanus* in the Cameroun Highlands, and we described *Capys stuarti* from the Jos Plateau (Collins & Larsen 2000). The new Ghana species was caught in numbers within walking distance of the house in which Father Maessen lived for at least ten years without finding it.

Holotype: ♂ Ghana, Volta Region, Likpe (coll ABRI).

Paratypes: 23 ♂♂, 2 ♀♀ same data, but at various times of the year between 1998 and 2001 (coll ABRI).

Diagnosis: Male forewing 19mm. The base of the male forewing is dark brown to the level of near the end of the cell and the centre of the inner margin; the costa is narrowly dark brown, and there is a 3mm wide margin of even width throughout. The hindwing costa is broadly dark brown to the cell, and the base is dark brown to almost end-cell, the dark markings narrowing to just reach the tornus. The cilia are chequered. The hindwing has a clear androconial patch at the base of the hindwing. The underside is a dark burgundy overlaid with dense grey scaling that only allows vestigial appearance of the usual '*Deudorix*' pattern; there is a darker margin to both wings. The female is uniformly greyish-brown above; one female has additional bluish-grey scales which gives it a lighter appearance. In both cases the female has a diffuse orange margin to the hindwing.

Male genitalia: The male genitalia are not considered diagnostic in the genus, even between morphologically well-differentiated taxa, and were not studied.

Discussion: The Volta population differs substantially from the closest population on the Jos Plateau in Nigeria, some 850km to the east-northeast. This species, *C. stuarti*, is smaller, with a more subdued orange colour, wholly lacking an androconial patch, and its underside is much paler. The type is a bright insect with less dark brown markings on the forewing base, the hindwing costa, and the abdominal fold than in the present species, as well as lacking an androconial patch. We feel the best policy at the moment is to follow Henning & Henning (1988) in describing new, isolated populations at the specific level.

Etymology: The species is named for Mr. Richard Vorgas who has collected a large number of interesting butterflies in Ghana on behalf of ABRI, including most of the series of *Capys* from Volta.

***Neurellipes lusones fulvimacula* Mabille, 1890 stat. rev.**

During Oct/Nov 2000 TBL collected a large series of *N. lusones* Hewitson, 1874 at damp patches while conducting a butterfly biodiversity survey in Ankasa National Park, Ghana. This species is normally uncommon west of the Dahomey Gap. Since the usual large orange patch in space 1b of the forewing underside was almost absent, and *N. chryseostictus* Bethune-Baker, 1910 was not available for comparison in the field, there seemed to be some doubt as to which species it was. On his return to Manila, and on dissection, it became clear that the species was indeed *N. lusones* and that it differed from the nominate subspecies on the forewing underside, but not in the genitalia. However, though smaller than in Cameroun, the total surface of the orange patch on the upperside is three times that of *N. chryseostictus*. HWG confirmed that his material from Côte d'Ivoire differed from his Cameroun series. The western populations from Ghana to Côte d'Ivoire, and perhaps further west, are subspecifically distinct and the name *fulvimacula* Mabille, 1890 is available, having been described from the border of Ghana and Côte

d'Ivoire (TL Assinie). Till now it has been considered a junior subjective synonym of *lusones*. The underside of ssp. *fulvimacula* is figured in D'Abrera (1980).

***Lepidochrysops dunnii* Larsen & Collins, sp. nov.**

Plate 4, genitalia text figure 9

This is a typical example of the capture of a single male of a new *Lepidochrysops* in the savannah zone, with most of which it is not possible to deal taxonomically. It was collected by John Boorman, who kindly gave it to TBL. In this case the single male has a number of morphological and genital features that allows us to describe it as a new species.

Holotype: ♂ Northern Nigeria, Kaduna, v.1960 (coll ABRI, genitalia BFZ).

Diagnosis: Male forewing 18mm. The male is a light greyish-brown, with a hint of a silvery sheen, thus falling between the true brown species and those with some tone of blue, but on the brown side. It is much lighter than any of the other brown West African species. All four wings have the distal third of the veins darkened, most clearly so on the hindwings. The forewing has a rather massive end-cell spot shaped like a bold parenthesis with the centre pointing towards the apex. The costa is of the ground-colour but there is a very narrow, dark brown margin. The cilia are uniformly brown, turning lighter at the tornus. The postdiscal and submarginal markings of the underside show clearly through by translucence. The hindwing is like the forewing. As in most brown species, the costa is not darkened. There is a very fine end-cell streak, made more visible through translucence. There is a dark ternal spot in space 2, not well developed, and separated from the margin by a greyish-white line. The other underside markings are less visible than on the forewing. The dark marginal line is slightly better developed. The cilia are lighter, becoming bi-coloured, the inner half brown, the outer whitish, towards the tornus. The underside is the typical one of the genus. The forewing is a very light beige, so that the markings stand out very strongly and their white outlines are almost invisible. A curious, and possibly not significant, feature is that the two costal postdiscal spots are much darker than the others, almost black. The hindwing is darker, warm beige; the usual markings are slightly darker and clearly outlined in white. The ternal spot is circled by insipid orange and there is a tiny, orange-capped spot also in space 1c. The forewing cilia are brown, those of the hindwing lighter. The species appears to lack tails, but this is not entirely certain since the distal end of vein 2 is missing on one side and the cilia around the vein on the other are missing; however, the overall aspect is like one of the untailed brown species.

Male genitalia: The male genitalia (genitalia text figure 9) are typical of the genus, except that the valve ends in a finely serrate spatulate tip that is about 1.4 times broader than the narrowest part of the valve. This is unusual since most valves end in a tapering point. Stempffer (1967) was too dismissive of the potential taxonomic value of the genitalia in the genus.

Discussion: *Lepidochrysops* is one of the largest genera of world butterflies; even after the removal of some South African species to *Orachrysops* Vári, 1980 there are about 130 species. Some have wide distributions, but most are more limited; there are, for instance, four species in Arabia, all endemic (Larsen 1983). Many species are very close to each other and problems remain in the correct application of some names. It might therefore seem precipitate to describe a new species on the basis of a single male. However, the combination of a unique silvery-grey upperside, the rare translucence of the wings, the unusual spatulate tip of the valves, the general stability of known species, and the absence of known similar species in Uganda and Kenya give us the confidence to do so.

Etymology: The species is named in honour of Andrew Dunn who for many years, in collaboration with the Nigerian Conservation Society and the Worldwide Fund for Nature, worked to establish the Gashaka-Gumpti National Park and to improve our knowledge of its flora and fauna. At the time the manuscript was submitted he was working in Korup National Park.

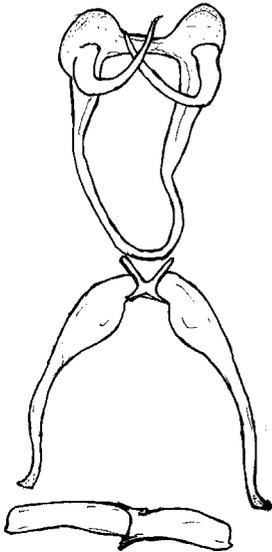


Figure 9 Male genitalia of *Lepidochrysops dumni* sp. nov.

***Euphaedra sarcoptera styx* Larsen & Warren-Gash, ssp. nov.**

Plate 4

Holotype: ♂ Côte d'Ivoire, Taï National Park, vi.2000 (coll ABRI).**Paratypes:** 3 ♂♂ same data, 2 ♀♀, 1 ♂ same data (coll HWG).

Diagnosis: Male forewing 40mm. Both sexes differ from the nominate subspecies in being a very dark and sombre bottle green and in lacking all or most of the blue sheen at the tornal end of the hindwing. The usual bright orange-yellow subapical patch is also green. The underside is also more sombre. It is remarkably different from the nominate, which is one of the brightest and prettiest of all the West African *Euphaedra*.

Discussion: This very distinctive butterfly has been collected on a number of occasions in the Taï National Park by several collectors and over a period of years. It seems to be morphologically stable. Interestingly, its closest relative (one of only two in the subgenus *Euphaedra*), *E. cyparissa tai* Hecq, 1980, also occurs in a very dark subspecies that is limited to the Taï area; this has also been collected on several occasions and seems not to vary much. Evidently some environmental pressure, possibly during a period of ecological stress, has had a parallel influence on the two species. However, from what is known, Taï is not in general a centre of speciation and subspeciation, and certainly less so than the Nimba Mountains further north. Two other *Euphaedra* also differ somewhat from the usual populations, but not as consistently nor as dramatically.

Etymology: The sombre aspect of this subspecies leads us to give it the name of the river Styx in Greek mythology, which separated the land of the living from the dark and gloomy netherworld of Hades. We also need to state that without the painstaking work of our friend and colleague J. Hecq in revising the genus *Euphaedra* (Hecq 1997) this interesting subspecies would never have been described.

***Cymothoe hartigi vanessae* Warren-Gash, ssp. nov.**

Plate 5

In December 1997, two unusual red *Cymothoe* males were found in the Béréby Forest, close to the Liberian border on the southwestern coast of Côte d'Ivoire. At the time they were taken to be a form of *C. coccinata* Hewitson, 1874 - which does occur in the West of Côte d'Ivoire, including in the nearby Taï Forest. It was not an obvious fit, but there was insufficient material to be confident that they were anything else. Then, in September 2000, a much larger colony, including females, was found in the Monogaga forest 100 km further east. They were clearly part of

the *C. anitorgis*-group, close to *C. hartigi* Belcastro, 1990, but with enough differences, especially in the female, to justify the creation of a new subspecies.

Holotype: ♂ Monogaga Forest, western coast, Côte d'Ivoire, 2.ix.2000 (coll ABRI).

Paratypes: 2 ♂♂, same data (coll ABRI); 7 ♂♂, 3 ♀♀ same data; ♀ same data, but v.1999; 2 ♂♂ Béréby Forest, Côte d'Ivoire, xii.1997 (coll HWG).

Diagnosis: Male forewing 30mm. The male of this new subspecies is very close to that of the nominate subspecies from Sierra Leone. It shares the large white hindwing costal spot, bordered inwardly with black, that immediately sets it apart from all other 'red' *Cymothoe* from west of the Dahomey gap. The hindwing margin is almost straight from the tornus to vein 6 (again, unlike *C. coccinata*). The females differ significantly, having more extensive pale markings than the nominate subspecies. On the forewing upperside, the transversal line (t2 in the terminology used in Belcastro's description) is well defined, running straight from the middle of the inner margin until vein 6 where it turns inwards at about 90 degrees to meet the costa. Unlike the nominate subspecies, there is a large pale postdiscal patch on the inner side of this transversal line, running from vein 2 in an arc to the costa, with an irregular inner edge marked by darker intrusions along the veins. The transversal line is also well marked on the hindwing upperside, running almost straight from the inner margin to the costa, without the bend in space 4 that is a feature of the nominate subspecies. The line is not only more visible, it also provides a sharper division between the dark area basad of the transversal line and the pale area beyond. Because the line does not bend, the paler distal band is noticeably reduced in ssp. *vanessae*. In the nominate subspecies the colour of the hindwing paler area in the female is a rich ochreous yellow. In ssp. *vanessae*, it varies between off-white, matching the forewing markings, and a colour closer to but not as rich as the nominate subspecies, with intergradations. The nominate female on the wing could be taken for *Euryphura togoensis* Suffert, 1904; ssp. *vanessae*, with its reduced pale markings, is much more likely to be confused with pale female forms of *Euryphura chalcis* Felder & Felder, 1860, with which it flies in Monogaga. One Liberian female is as light orange as the darkest from Côte d'Ivoire. A more typical Liberian female is figured on plate 5.

Discussion: The type locality, Monogaga Forest, is east of San Pedro in eastern Côte d'Ivoire. It is a very dense coastal forest of difficult access that doubtless contains other interesting species. It is likely that this butterfly is responsible for a few earlier diffuse records of *C. anitorgis* Hewitson, 1874 from west of the Dahomey Gap. It would not be impossible to consider the taxa *anitorgis*, *vanessae*, and *hartigi* as being three subspecies of *C. anitorgis*, but given the known extreme

host-specificity of most *Cymothoe* it seems unlikely that western populations remain conspecific with *C. anitorgis*, so we maintain *C. hartigi* at the specific level.

Etymology: It is with pleasure that this new subspecies is named after the daughter of the author; Vanessa Warren-Gash participated in many collecting expeditions in Côte d'Ivoire, including to the Monogaga Forest.

Females of the genus *Apaturopsis* Aurivillius, 1898

Plate 6

The genus *Apaturopsis* was erected for the species *A. cleochares* Hewitson, 1878 and *A. kilusa* Grose-Smith, 1891. These were the only two species of Apaturinae known from the Afrotropical Region, the latter only from Madagascar. A third species, *A. paulianii* Viette, 1962, also from Madagascar, was added about forty years ago. That Aurivillius had been fully justified in erecting the genus and including it in the Apaturinae was proved by Schultze (1920) who stated that the pupa was exactly like that of the European members of the subfamily. The genitalia are also typical of the subfamily.

A. cleochares cleochares is widespread, though local and scarce, in forests from Sierra Leone and Guinea to the Rift Valley, east of which it flies as ssp. *schultzei* Schmidt, 1921. Both subspecies are canopy dwellers that are rarely encountered, though sometimes particularly attractive bait might entice small numbers.

The two Malagasy species are even rarer. D'Abrera (1980) only figures the male of *A. kilusa*; the female of this butterfly has never been figured in colour and neither has either sex of *A. paulianii*. We figure them with the following comments:

A. kilusa Grose-Smith, 1891: Sexual dimorphism is stronger than in the other two species. The female has wings that are considerably squatter. The ground-colour is a much lighter orange than in the male and the forewing markings are strongly expanded to the point where all the elements are almost fused. The black costal bar of the hindwing is missing and the entire hindwing is effectively orange. The male underside is variegated with dark chestnut and silver; there is a small red eye-spot in the tornal area and another in space 5. The female underside is very pale ochreous with fine black speckling. There is a faint paler discal band bordering a fine discal line.

A. paulianii Viette, 1962: The female is larger than the male and the wings are more squat. The ground-colour is olive, lacking the reddish tinge of the male. The light markings on the forewing are slightly larger and pale ochreous without the orange tone of the male. The hindwing underside is lighter grey and less variegated than in the male.

***Celaenorrhinus pooanus* Aurivillius, 1910**

genitalia text figure 10

The genus *Celaenorrhinus* Hübner, 1819 is in need of a thorough revision. Especially *C. galenus* Fabricius, 1793 covers a complex of distinct species with very similar genitalia, some sympatric, others allopatric. When we were trying to determine the status of a small species collected by TBL in the Oban Hills of Nigeria, it was found that the series of putative *C. bitjena* Evans, 1937 in ABRI was composed of two apparently distinct species, one being *C. bitjena* (TL Cameroun, Bitje), the other an undescribed species.

Michel Libert drew our attention to the taxon *C. pooanus* Aurivillius, 1910 (TL Bioko), placed as a synonym of *C. meditrina* Hewitson, 1877 by Evans (1937). He confirmed that the holotype in Genoa matches the one in ABRI that is identical with *C. bitjena*. Thanks to the kind assistance of Bert Gustafson at the Royal Natural History Museum, Stockholm we also received an e-mail photo of a female that Aurivillius considered to be this species. The name *C. pooanus* is clearly a senior synonym of *C. bitjena* (**syn. nov.**). *Celaenorrhinus bitjena* is well figured on plate 1 in Evans (1937), who considered *C. pooanus* a junior synonym of *C. meditrina* Hewitson, 1877, apparently on the basis that Aurivillius - surprisingly - thought it might be just a form thereof. The original description of *C. pooanus* omits mentioning that there are orange spots in spaces 2 and 3 of the forewing, but they are present in the type specimen. One of the two species has been found in the Oban Hills, Cross River Loop, Nigeria by TBL, but the specimen cannot at present be located; however, the manuscript note states 'in all respects like *bitjena* in Evans'; he particularly remembers the diffuse paler markings on the hindwing (end-cell and submarginal) and does not think it could have been the new species.

***Celaenorrhinus milleri* Collins & Larsen, sp. nov.**

Plate 1, genitalia text figure 10

All material of this taxon was collected between 1994 and 1998 during most months of the year. M. Libert has a male from near Edea and a female from Limbé, both in Cameroun.

Holotype: ♂ South Cameroun, Dja Forest, February 1997 (coll ABRI, genitalia SCC 452).

Paratypes: 7 ♂♂, 4 ♀♀ Dja River, 2 ♂ Mt. Mengale, 1 ♂ Lolodorf, 1 ♂ Nyong R., Ebogo, 1 ♂ Mt Cameroun (the last two being the only ones not from S. Cameroun (coll ABRI).

Diagnosis: Male forewing 16mm. The male forewing is very similar to that of *C. pooanus* but differs in that: i) the spot in space 4 is very narrow; ii) the discal band

is only half as wide in space 1b; iii) the orange spot half-way between the base and the discal band in space 1b is absent; iv) there is no diffuse yellow spot at the base of the forewing costa. On the hindwing the traces of orange at the end of the cell and the diffuse orange marginal spots are missing. Instead the hindwing is dusted with deep orange scales, except for the costa, a 1mm dark margin, and a few dark discal patches. Females are similar to males except that they are slightly larger, sometimes have a minute spot in space 1b, and the hindwings are not overlaid with deep orange scales. On the underside, especially in females, there may be traces of some orange spots.

Male genitalia: As illustrated in genitalia text figure 10 the male genitalia are very different from those of *C. poanus* (shown as 10A); even Evans' crude depiction shows a clear difference from *C. milleri*. The whole structure is smaller, the tegumen has a fenestrula, the penis differs in shape, the tip of the valve is pointed, and the process of the valve is tightly folded against the tip of the valve instead of being erect. These differences are of interest since there are species pairs in the genus where clear morphological differences are not matched by significant genital differences (e.g. *C. illustris/perlustris*, *C. meditrina/ovalis*, and various forms of *C. galenus* that are almost certainly different species).

Discussion: It is interesting that the bulk of material of *C. milleri* is actually from the Dja River on which the type locality of *C. 'bitjena'* lies. Both species must be very scarce since we have located no further material. The two are sympatric in much of the Cameroun rainforest zone.

Etymology: We are pleased to dedicate this interesting new skipper to Lee D. Miller of the Allyn Museum in Sarasota, Florida in appreciation of the assistance and hospitality that we have received during several study visits and honouring his previous work on *Celaenorrhinus* and the Afrotropical Hesperiididae in general.

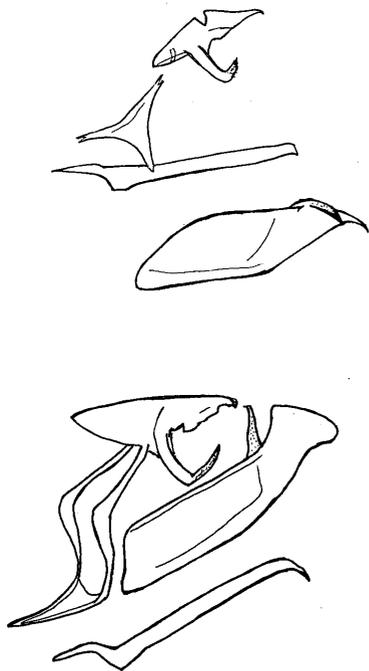


Figure 10 Top: The male genitalia of *Celaenorrhinus milleri* sp. nov. Below: The male genitalia of *C. poanus*.

The genus *Ceratrichia* Butler, 1870

Plate 6

This genus seems to be considerably more complex than allowed for by Evans (1937). Here the species *C. nothus* is studied and a new subspecies described. Changes are also made to the subspecific classification of *C. flava* and one of its currently accepted subspecies is raised to specific status.

***Ceratrichia nothus* Fabricius, 1787**

Fabricius (1787) described *Papilio Plebeius Urbicola nothus* as being from "America". At this time all, or virtually all, material from Africa available to Fabricius was from either Sierra Leone or the Cape of Good Hope, so Sierra Leone

is considered to be the type locality. When Evans (1937) dealt with the genus he worked with very small series, with just one female from Sierra Leone. ABRI has in recent years received substantial series from various parts of Africa (Guinea to the Central African Republic), which has led us to revise Evans' approach and to describe one new subspecies. We have inspected more than 30 of each of the subspecies.

C. nothus nothus. Both sexes are black above with small white spots on the forewing. The two cell spots are small and not usually fused. The hindwing is unmarked black. On the white hindwing underside the black margins are well developed. This subspecies ranges from Guinea to western Ghana.

C. nothus enantia Karsch, 1893 (TL Togo). The male is similar to the nominate subspecies, but the hindwing is somewhat lighter and the ocelli of the hindwing underside spaces 2 and 3 tend to shine through. The cell spots tend to be fused. The female has the hindwing cream to a larger or smaller extent, but shows considerable variation. It ranges from central Ghana to Togo and most of Nigeria.

C. nothus makomensis Strand, 1912 (TL Spanish Guinea). In both sexes the hindwing is broadly cream; on the underside of the hindwing the black markings are much reduced; the eye-spots in spaces 2 and 3 usually have no pupils and show through clearly as black dots on the upperside.

***C. nothus yakoli* Collins & Larsen, ssp. nov.**

Holotype: ♂ Central African Republic, near Bangui, Bimon, September 1995 (coll ABRI).

Paratypes: 30+ specimens of both sexes from various points and various dates near Bangui (coll ABRI).

Diagnosis: Both sexes have larger white spots on the forewings than the other three subspecies and there is usually a tiny additional spot in space 1b above the main spot. The hindwing is black in both sexes, as in the nominate subspecies; there is a white cell spot and two small white spots in spaces 2 and 3. On the underside the black tornal markings of the hindwing are absent, making the two eye-spots very prominent.

Discussion: The nominate subspecies is clear-cut. Ssp. *enantia* more or less forms a transition between the nominate and ssp. *makomensis* and could be considered a cline, but since Karsch's name was available, we use it. It is, however, surprising to find that the Central African Republic population differs so strongly from ssp. *makomensis* in neighbouring Cameroun. No transitional material has been met with. If there were to be overlap between the new subspecies and ssp. *makomensis* in Congo or Gabon, from where we have not seen material, ssp. *yakoli* might need

to be raised to species level. No material from east of Cameroun was available to Evans, and indeed there is still none in the Natural History Museum, London.

Etymology: The new subspecies is named after the village of Yakoli from where a steady flow of extremely interesting butterflies has reached ABRI during the past ten years.

Ceratrichia flava flava Hewitson, 1878

Ceratrichia flava f. benitoensis Miller, 1964 **stat. nov.**

Ceratrichia semlikensis Joicey & Talbot, 1921 **stat. nov.**

Ceratrichia flava semlikensis was described as a subspecies of *C. flava* by Joicey & Talbot, but the two have an area of overlap in the Central African Republic and Congo, without transitional forms occurring. This prompted us to study the male genitalia, which differ sufficiently to confirm that two distinct species are involved. *C. semlikensis* flies from the Congo to the Central African Republic and western Kenya, south to Zambia; the Zambian specimens have an even wider black margin than usual.

C. flava flava flies from eastern Nigeria to Cameroun, Gabon, Congo, and the Central African Republic. There is a certain amount of variation in the width of the black forewing margin, which is sometimes very narrow in the westernmost part of the range. *C. flava benitoensis* was described by Miller from Equatorial Guinea on the African coast as being of an insipid yellow and with narrow black margins. We have seen nothing like it and it must have been a temporary local variation; having a local subspecies in Equatorial Guinea, surrounded by the nominate, seems biogeographically improbable and we downgrade the name *benitoensis* to the status of a form; we do not think the Afrotropical Catalogue (Ackery *et al.* 1995) is correct in using it as an equatorial subspecies. We have not seen enough material to judge the validity of *C. flava fernanda* Evans, 1937 from Bioko.

Paracleros sangoanus Carcasson, 1964 **stat. rev.**

This species was described as *Acleros sangoanus* (TL Uganda, Sango Bay, Katera), but the structure of the genitalia with the large pseuduncus places it firmly in *Paracleros* Berger, 1978, a small and homogeneous genus of six species, including the present taxon and the recently described *P. staudei* Larsen & Collins, 2000. *P. sangoanus* was synonymized with the common and sympatric *P. biguttulus* Mabille, 1889 by Berger (1978), but that is in error; *P. sangoanus* is the only member of the genus that can immediately be distinguished from the other five, where examination of the genitalia is needed for certain identification. The main distinction from the other species lies in the hindwing underside. From the costa to vein 6 the ground colour is pale grey with slight brownish dusting; the rest

of the wing is light vinaceous-brown, overlaid with white scaling. All other members of the genus have a black hindwing that is heavily overlaid with uniform grey scaling and cannot effectively be told apart by their patterns, whereas *P. sangoanus* is most distinctive because of the bi-coloured hindwing underside. The genitalia are very similar to those of *P. biguttulus* (illustrated in Carcasson 1964). We suspect that Berger did not have true *P. sangoanus* on hand when synonymizing it with *P. biguttulus* and looked only at the published illustration of the genitalia in the original description.

The late Jan Kielland collected a small series during many years of work in the Bukoba area on the western side of Lake Victoria in northwestern Tanzania. Based on present knowledge this species is limited to the western area of Lake Victoria, in Uganda and Tanzania.

***Fresna jacquelineae* Collins & Larsen, sp. nov.**

Plate 1, genitalia text figure 11

Holotype: ♂ Cameroun, south of Yaoundé, Ebogo, December 1998 (coll ABRI, genitalia SCC 465).

Paratype: ♀ same data.

Diagnosis: Male forewing 19mm. Both sexes are close to *F. cojo* Karsch, 1893 but differ in a number of respects. On the forewing upperside there is a complete lack of the usual light ochreous shading in space 1a that is characteristic of *F. cojo*. Both sexes have two subapical spots, but this is variable in the genus. On the hindwing upperside there is an exceptionally long and wide discal band that is pure white, and largest in the female. In the male of *F. cojo* this band is short or absent and of a sullied ochreous; in the female it is always ochreous, though sometimes as large as in the new species. On the underside the spot pattern is as in *F. cojo* but the area between the base and the black discal spots is almost pure white, except for the costa. The tornal half of the hindwing is black. On the forewing underside the defined hyaline spot in space 1b is surrounded by white scaling, normally lacking in *F. cojo*. The underside of both sexes is very similar.

Male genitalia: The male genitalia in the genus are not usually very differentiated, and we did not expect major differences from *F. cojo*. The tegumen/uncus and the penis are typical, and the large fultura is also present (shown above the tegumen). However, the serrated edge of the harpe of the valve is short and the harpe itself much smaller than in *F. cojo*; the shape of the distal end of the valve also differs (see genitalia text figure 11).

Discussion: *Fresna* Evans, 1937 constitutes a compact genus of five known species, characterized by an ochreous or brown underside with black spots, unusual in the skippers, making the vernacular name of 'Acraea Skippers' apposite. Two of

the species are not that uncommon throughout much of tropical Africa: *F. netopha* Hewitson, 1878 and the very variable *F. nyassae* Hewitson, 1878. The larger *F. cojo* Karsch, 1893 is distinctly scarce, though occasionally small series can be collected on attractive flower patches. *F. carlo* Evans, 1937 is one of the rarest skippers in Africa. Finally, *F. maesseni* Miller, 1971 was known only from Ghana's Volta Region till collectors for ABRI surprisingly found it in Cameroun. We were quite amazed to receive this sixth species from Cameroun, where all of the six species thus occur.

Etymology: We are pleased to dedicate this interesting new skipper to Jacqueline Miller of the Allyn Museum in Sarasota, Florida in appreciation of the assistance and hospitality that TBL and SCC have received during several study visits, as well as replies to many information requests by e-mail.

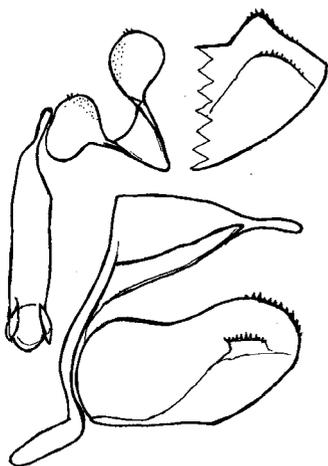


Figure 11 The male genitalia of *Fresna jacquelinae* sp. nov. The tip and harpe of the valve of *F. cojo* are shown top right.

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We would like to thank Bert Gustafson of the Royal Natural History Museum in Stockholm for promptly sending a photo of what Aurivillius considered to be his *Celaenorrhinus pooanus*, the type of which was returned to Genoa. Michel Libert kindly sent a photo of the actual holotype from Genoa and helped us in numerous other ways.

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