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Front: *Heniocha apollonia* (Saturniidae) Adult male [Photo A J Duke]Back: *Heniocha apollonia* (Saturniidae) Final instar larva [Photo A J Duke]

COMMENT BY THE PRESIDENT

Major publications on African Lepidoptera over the last year have added enormously to our enjoyment of Lepidoptera: Bernard d'Abrera's first volume of the revised *Butterflies of the Afrotropical region* was launched at the Inaugural Conference on African Lepidoptera in May last year. The first volume of *Living Butterflies of Southern Africa* by Henning, Henning, Joannou & Woodhall was launched in October. The *Kielland's Butterflies of Tanzania Supplement* by Congdon & Collins came out recently.

The publication of the long-awaited supplement to *Metamorphosis* on the *Inaugural Conference on African Lepidoptera*, which ended up at 188 pages, also appeared recently. Plus the publication of our journal *Metamorphosis* every quarter by Hermann Staude and his team. The amount of work merely to produce these publications in the quality to which we have become accustomed is truly staggering. Added to this effort many of these gentlemen also write, edit and research articles for these and other publications. On top of which most of these gentlemen also have responsible jobs in business. Not forgetting the occasional foray into the African bush to collect specimens. My congratulations and salutations to all for your extraordinary efforts.

As you will notice the March edition of *Metamorphosis* has been delayed and you are receiving both March and June *Metamorphosis* together. This was largely due to the size and complexity of the supplement on the African Lepidoptera Conference. We hope that our situation will be back to normal for September, however there is still the *Zambian checklist* in the pipeline. Such a plethora of important publications should be worth the wait so please be patient.

GRAHAM HENNING

BUTTERFLIES OF THE DZANGA-SANGHA SPECIAL RESERVE AND DZANGA-NDOKI NATIONAL PARK CENTRAL AFRICAN REPUBLIC

Andrew J. Noss

The Dzanga-Sangha Special Reserve and Dzanga-Ndoki National Park of the Central African Republic (Figure 1) are most famous for their large mammal fauna, in particular forest elephants, western lowland gorillas, and bongo antelope. But this rainforest is also home to an extremely diverse insect fauna. The most visible and striking of these insects are undoubtedly the day-flying butterflies, and a visit to these protected areas will be greatly enriched for those with some interest in and knowledge of the remarkable butterflies they will encounter along the roads, rivers, and in the forest.

The appendix provides a full list of species identified for the Reserve and Park, from specimens collected between 1992-1994. Ten butterfly families are represented in the Park and Reserve: Acraeidae, Danaidae, Hesperidae, Libytheidae, Lycaenidae, Nymphalidae, Papilionidae, Pieridae, Riodinidae and Satyridae. The 316 species identified represent 98 genera.

The following notes describe the most abundant species and genera that are likely to be encountered during a short visit, as well as the most spectacular species. In general, for most species males are more colorful, smaller, and more frequently seen because they are more likely to feed on or near the ground. They are also more active fliers, and travel greater distances (Owen, 1971). Females sometimes are a completely different color, pattern and shape from males, especially among the Nymphalidae, for example the genera *Charaxes* and *Palla*. Females more often fly around vegetation above the ground, and are noticeable when they are flying from plant to plant to lay eggs.

Species identification can be problematic, not only because males and females may be dimorphic. In some cases, polymorphism within a single species is tremendous, for example *Euphaedra preussi* with red, blue, and green individuals; *Cymothoe caenis* females than range in color from dark brown to white; and *Hypolimnas dubius* with three distinct forms occurring in the region. In other cases, colours and patterns may be almost identical for several species that occur in the same area, for example males of the red *Cymothoe* species (*C. arcuata*, *C. coccinata*, *C. crocea*, *C. distincta trolliae*, *C. excelsa*, *C. mabillei*, *C. reginaelisabethae* and *C. sangaris*). In still other cases, Batesian mimicry has resulted in a high degree of resemblance between species of distinct genera: for example the Nymphalidae *Pseudacraea* spp. and the Acraeidae *Acraea* spp., *Hyalites* spp. and *Bematistes* spp. The Danaidae and Acraeidae families are unpalatable or even toxic to predators, and provide models for mimicry by numerous more closely related species resembling each other as they converge toward a single model: *Acraea* spp., *Amauris* spp., and *Danaus* spp.

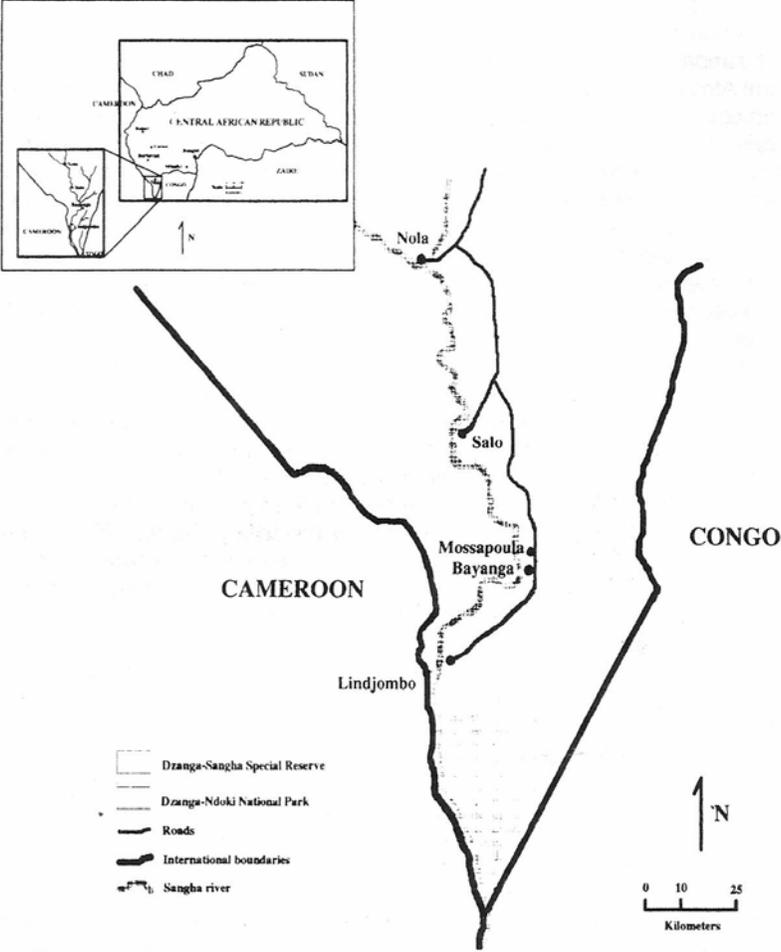


Fig. 1 The Dzanga-Sangha National Park and Dzanga-Sangha Special Reserve

The casual visitor to Dzanga-Sangha-Ndoki is most likely to encounter butterflies of the following genera flying along roads and streams, and settling to drink from puddles or patches of wet sand: *Papilio* [Papilionidae], *Graphium* [Papilionidae], *Danaus* [Danaiidae], *Amauris* [Danaiidae], and *Hypolimnias* [Nymphalidae]. Also abundant in these locations are Acraeidae, Lycaenidae and Pieridae.

Flying along roads, and frequently seen feeding on carnivore excrement are Nymphalidae of the following genera: *Charaxes*, *Palla*, *Euxanthe*, *Pseudacraea*, and *Hypolimnias*. When feeding they are oblivious to all else and can be captured by hand, often without disturbing their neighbors. Despite their distasteful feeding habits, these are some of the most boldly colored and exquisitely patterned butterflies found anywhere.

Often found feeding on rotting fruit and on the forest floor are species of three extremely diverse forest genera of African forest butterflies: *Euphaedra*, *Bebearia*, and *Cymothoe*. These species also present some of the most difficult identification problems.

The other butterfly families generally include smaller and less flashy species. However, many Lycaenidae (the largest family of butterflies in Africa) are brightly colored, in particular iridescent blue species of the genera *Epitola*, and several of the hairstreaks with "tails" longer than their bodies. Numerous Lycaenidae and Hesperidae are seen along roads as well as in the forest. The Satyridae are shade-loving species of the forest floor. The Satyridae and Hesperidae are also the most crepuscular of the day-flying butterfly families. The Libytheidae are represented by a single species in central Africa, *Libythea labdaca*, which often gathers in tremendous numbers on wet sand or fresh cement. The Riodinidae are represented by a small number of species and appear to be extremely uncommon.

Vast migrations of butterflies are periodically observed: *Cymothoe caenis* in Bangui in August, 1993; *Libythea labdaca* in Bayanga in January, 1994; and a mixed species migration of Pieridae and Papilionidae in March, 1994.

Several species of butterflies generally found only in savanna areas now occur in the cleared areas around Bayanga, and perhaps enter forest regions along road corridors. These species include several *Acraea* spp., *Precis* spp., *Hypolimnias misippus*, and *Papilio demodocus*. Although they are present in cleared areas only along the forest/field ecotone, the forest species remain in selectively logged areas of the Dzanga-Sangha region, and are more visible along logging roads where sunlight reaches the ground. However, no studies on butterfly fauna have been conducted in the area to determine the ecological effects of logging and forest clearing on butterfly diversity and abundance.

Table 1 presents several of the most abundant large and colorful butterflies of the Park and Reserve, while Table 2 lists spectacular but uncommon species. Africa's two largest butterflies, *Papilio antimachus* and *Papilio zalmoxis*, are sometimes encountered on sandbars in the Sangha river as well as at salines (see Illustrations 1 and 2).

Butterflies are exploited commercially in the Central African Republic (CAR), primarily in the Lobaye region south of Bangui. CAR is known for its

unique butterfly-wing art, for example greeting cards, pictures, and decorative platters sold on the streets and in artisanal markets. Although there are no butterfly farms and all butterflies are therefore wild-caught, this artisanal activity may not seriously harm butterfly populations, for they are collected primarily with baits that attract virtually all males: male to female capture ratios ranging from 5:1 to 200:1 (New, 1991). Males are more desirable for art because they are generally brighter and more showy. Roughly 50 full-time collectors also sell specimens to international collectors through the Catholic Mission's Foyer de Charités in Bangui. Again, as they depend on wild-caught specimens, females of most species are captured much less frequently and are sold for as much as 200 times the price of a male. So long as oftakes of females remain low, and all females are fertilized by the remaining males, populations may remain stable despite relatively heavy oftakes of males.

Despite the experience of commercial exploitation in CAR, no attention has been given to sustainable use or conservation of butterflies. The successful butterfly farming projects of Papua New Guinea and Costa Rica may provide useful models for combining small-scale commercial harvesting with butterfly and forest conservation in central Africa where both economic development and biodiversity conservation are urgently needed.

Table 1: Most abundant large and colorful day-flying butterflies of the Dzanga-Sangha Special Reserve and Dzanga-Ndoki National Park, Central African Republic

NYMPHALIDAE

Charaxes brutus
Charaxes candiope
Charaxes cynthia
Charaxes etesipe
Charaxes smaragdalis
Charaxes tiridates
Cymothoe caenis
Cymothoe egesta confusa
Cymothoe haynae diphyia
Cymothoe "red" species

Euphaedra eleus
Euphaedra preussi
Hypolimnas salmacis
Palla species
 PAPILIONIDAE
Papilio bromius
Papilio gallienus
Papilio lormieri
Papilio nireus
Papilio phorcas
Graphium policenes



Plate 1. *Papilio antimachus*, a – in flight, b – feeding on mud.



Plate 2. *Papilio zalmoxis*, a – in flight, b – feeding on mud.

Table 2: Most spectacular but uncommon day-flying butterflies of the Dzanga-Sangha Special Reserve and Dzanga-Ndoki National Park, Central African Republic

NYMPHALIDAE

Charaxes ameliae
Charaxes hadrianus
Charaxes nobilis
Charaxes zingha
Cymothoe hypatha
Cymothoe lurida
Cymothoe oemilius
Euphaedra adonina
Euphaedra eusemoides
Euxanthe crossleyi
Euxanthe eurinome
Euxanthe trajanus

Kallima cymodoce

LYCAENIDAE

Epitola urania
 PAPILIONIDAE
Graphium antheus
Graphium illyris
Graphium tynderaeus
Papilio antimachus
Papilio dardanus
Papilio hesperus
Papilio zalmoxis

APPENDIX: Species list for Dzanga-Sangha Special Reserve and Dzanga-Ndoki National Park

SPECIES

ACRAEIDAE

Acraea abdera abdera (Hewitson)
Acraea admatha Hewitson
Acraea cepheus cepheus (Linnaeus)
Acraea egina egina (Cramer)
Acraea neobule neobule Doubleday
Acraea quirina quirina (Fabricius)
Acraea rogersi rogersi Hewitson
acerata (Hewitson)
Hyalites alciope (Hewitson)
Hyalites althoffi rubrofasciata (Aurivillius)
Hyalites eponina (Cramer)
Hyalites jodutta jodutta (Fabricius)
Hyalites lycoa mediafra (Eltringham)
Hyalites orina orina (Hewitson)
Hyalites peneleos peneleos (Ward)
Hyalites servona servona (Godart)
Hyalites vesperalis (Grose-Smith)

Bematistes elongata (Butler)
Bematistes epaea epaea (Cramer)
Bematistes macaria macaria (Fabricius)
Bematistes tellus tellus (Aurivillius)

DANAIDAE

Amauris damocles hyalites Butler
Amauris hecate Hecate (Butler)
Amauris niavius niavius (Linnaeus)
Amauris vashti (Butler)
Danaus chrysippus aegyptius (Schreber)
Tirumaia petiverana (Doubleday) *Hyalites*

HESPERIIDAE

Abantis contigua Evans
Celaenorrhinus chrysoglassa (Mabille)
Celaenorrhinus galenus (Fabricius)
Celaenorrhinus illustri (Mabille)
Celaenorrhinus rutilans (Mabille)s

Ceratrícia flava Hewitson

Coliades anchises anchises (Gertaeker)
Coliades forestan forestan (Stoll)

Pardaleodes bule Holland

Pteroteinon caenira (Hewitson)

LIBYTHEIDAE

Libythea labdacca labdacca Westwood

LYCAENIDAE

Anthene lachares lachares (Hewitson)

Anthene larydas (Cramer)

Anthene leptines (Hewitson)

Anthene makala (Bethune-Baker)

Anthene nigropunctata (Bethune-Baker)

Anthene pyroptera (Aurivillius)

Anthene sylvanus (Drury)

Aphnaeus argyrocyclus Holland

Aphnaeus asterius Plotz

Aphnaeus orcas (Drury)

Azanus mirza (Plotz)

Tuxentius carana carana (Hewitson)

Citrinophila erastus erastus (Hewitson)

Cupidesthes caerulea Jackson

Iolaus (Epamera) bellina bellina (Plotz)

Iolaus (Epamera) frater frater (Joicey & Talbot)

Epitola coerulea Jackson

Epitola flavoantennata Roche

Epitola mirifica Jackson

Epitola urania urania Kirby

Falcuna margarita (Suffert)

Falcuna synesia fusca Stempffer & Bennett

Freyeria trochylus (Freyer)

Hewitsonia boisduvalii boisduvalii
(Hewitson)

Hypokopelates eleala (Hewitson)

Hypokopelates marginata (Stempffer)

Hypokopelates ultramarine (Stempffer)

Hypolycaena antifaunus antifaunus
(Westwood)

Hypolycaena lebona (Hewitson)

Hypolycaena nigra Bethune-Baker

Iolaus Argiolaus paneperata Druce

Kopelates virgata (Druce)

Lachnocnema camerunica D'Abrera

Larinopoda lagyra lagyra (Hewitson)

Larinopoda lircaea (Hewitson)

Leptotes pirithous pirithous (Linnaeus)

Liptena fatima (Kirby)

Liptena flavicans (Grose-Smith & Kirby)

Liptena o-rubrum o-rubrum (Holland)

Megalopalpus zymna (Westwood)

Mimacraea krausei krausei Dewitz

Neurellipes lusones (Hewitson)

Neurypexina lamprocles (Hewitson)

Oboronia punctatus (Dewitz)

Ornipholidotos bakotae Stempffer

Oxylides faunus albata (Aurivillius)

Pentila abraxas maculate (Kirby)

Pentila hewitsoni (Grose-Smith & Kirby)

Pentila occidentalum occidentalum

Aurivillius

Pentila rotha marianna Suffert

Pentila tachyroides tachyroides Dewitz

Phylaria cyara cyara (Hewitson)

Phytala elais elais Westwood

Pseudaletis clymenus clymenus (Druce)

Ptelina carnuta parva (Kirby)

<i>Spindasis crustaria crustaria</i> (Holland)	<i>Catuna erithea pallidior</i> Rothschild
<i>Telipna albofasciata</i> Aurivillius	<i>Charaxes acraeoides</i> Druce
<i>Telipna atrinervis</i> Hulstaert	<i>Charaxes ameliae ameliae</i> Dournet
<i>Telipna cameroonensis</i> Jackson	<i>Charaxes brutus augustus</i> Rothschild
<i>Telipna hollandi</i> Joicey & Talbot	<i>Charaxes candiope candiope</i> (Godart)
	<i>Charaxes castor castor</i> (Cramer)
<i>Tetrarhanis simplex</i> (Aurivillius)	<i>Charaxes catachrous</i> Van Someren & Jackson
	<i>Charaxes cedreatis</i> Hewitson
<i>Thermoniphys fumosa</i> Stempffer	<i>Charaxes cynthia kindduana</i> Le Cerf
	<i>Charaxes etesipe etesipe</i> (Godart)
<i>Uranotauma falckensteini</i> (Dewitz)	
<i>Deudorix (Virachola) lorisona lorisona</i> (Hewitson)	<i>Charaxes etheocles etheocles</i> (Cramer)
<i>Deudorix (Virachola) odana</i> Druce	<i>Charaxes eupale latimargo</i> Joicey & Talbot
	<i>Charaxes fulvescens fulvescens</i> (Aurivillius)
<i>Zizina antanossa</i> (Mabille)	<i>Charaxes hadrianus hadrianus</i> Ward
	<i>Charaxes hildebranti hildebranti</i> (Dewitz)
	<i>Charaxes imperialis albipuncta</i> Joicey & Talbot
NYMPHALIDAE	
<i>Antanartia delius</i> (Drury)	<i>Charaxes kahldenii</i> Homeyer & Dewitz
	<i>Charaxes lycurgus</i> Fabricius
<i>Apaturopsis cleochares cleochares</i> (Hewitson)	<i>Charaxes lucretius intermedius</i> Van Someren
	<i>Charaxes mycerina nausicaa</i> Staudinger
<i>Ariadne actisanes</i> (Hewitson)	<i>Charaxes nobilis nobilis</i> Druce
<i>Ariadne enotrea suffuse</i> (Joicey & Talbot)	<i>Charaxes numenes numenes</i> (Hewitson)
	<i>Charaxes paphianus paphianus</i> Ward
<i>Aterica galene galena</i> (Brown)	<i>Charaxes pleione pleione</i> (Godart)
	<i>Charaxes porthos porthos</i> Grose-Smith
<i>Bebearia absolon absolon</i> (Fabricius)	<i>Charaxes protoclea protonothodes</i> Van Someren
<i>Bebearia aurora aurora</i> (Aurivillius)	<i>Charaxes smaragdalis smaragdalis</i> Butler
<i>Bebearia carshena</i> (Hewitson)	<i>Charaxes subornatus subornatus</i> Schultze
<i>Bebearia eliensis</i> (Hewitson)	<i>Charaxes tiridates tiridatinus</i> Rober
<i>Bebearia flaminia</i> (Staudinger)	<i>Charaxes virilis virilis</i> Van Someren & Jackson
<i>Bebearia fulgurata</i> (Aurivillius)	<i>Charaxes zelica rougeoti</i> Plantrou
<i>Bebearia mandinga</i> (Felder & Felder)	<i>Charaxes zingha</i> (Stoll)
<i>Bebearia mardania mardania</i> (Fabricius)	
<i>Bebearia maximiana</i> (Staudinger)	<i>Cymothoe amenides</i> (Hewitson)
<i>Bebearia nivaria</i> (Ward)	<i>Cymothoe aramis aramis</i> (Hewitson)
<i>Bebearia oxione squalida</i> (Talbot)	<i>Cymothoe arcuata</i> Overlaet
<i>Bebearia phranza phranza</i> (Hewitson)	<i>Cymothoe caenis</i> (Drury)
<i>Bebearia plistonax</i> (Hewitson)	<i>Cymothoe capella</i> (Ward)
<i>Bebearia sophus arunda</i> (Fabricius)	<i>Cymothoe crocea</i> Schultze
<i>Bebearia tentyris subtentyris</i> (Strand)	<i>Cymothoe distincta distincta</i> Overlaet
<i>Bebearia zonara</i> (Butler)	<i>Cymothoe egesta confusa</i> Aurivillius
<i>Catuna angustatum angustatum</i> (Felder & Felder)	

- Cymothoe euthalioides euthalioides* Kirby
Cymothoe excelsa excelsa Neustetter
Cymothoe fumana fumana (Westwood)
Cymothoe haynae diphyia Karsch
Cymothoe herminia herminia (Grose-Smith)
Cymothoe hesiodotus hesiodotus Staudinger
Cymolhoe hypatha (Hewitson)
Cymothoe indamora indamora (Hewitson)
Cymothoe jodutta ciceronis (Ward)
Cymothoe lurida lurida (Butler)
Cymothoe oemilius oemilius (Doumet)
Cymothoe reginaeelisabethae belgaum Overlaet
Cymothoe reinholdi vitalis Rebel
Cymothoe sangaris sangaris (Godart)
Cymothoe weymeri weymeri Suffer!
Cymothoe zenkeri Richelmann
Cynandra opis (Drury)
Cyrestis pantheus pantheus Drury

Euphaedra adonina adonina (Hewitson)
Euphaedra afzelii (Felder & Felder)
Euphaedra aureola Kirby
Euphaedra bombeana D'Abrera
Euphaedra caerulescens Grose-Smith
Euphaedra campaspe (Felder & Felder)
Euphaedra ceres electra Hecq
Euphaedra edwardsii (van der Hoeven)
Euphaedra imitans Holland
Euphaedra harpalyce spatiosa (Mabille)
Euphaedra lupercoides Rothschild
Euphaedra medon vindinotata (Butler)
Euphaedra preussi preussi Staudinger
Euphaedra rezioides Holland
Euphaedra rubrocostata (Aurivillius)
Euphaedra themis themis (Hübner)
Euphaedra xypete (Hewitson)
Euphaedra ferruginae Staudinger

Euptera elabontas (Hewitson)

Euriphene amaranta (Karsch)
Euriphene atossa atossa (Hewitson)
Euriphene barombina (Aurivillius)
Euriphene gambiae gabonica Bernardi
Euriphene grose-smithi (Staudinger)

Euriphene lysandra (Stoll)
Euriphene tadema tadema (Hewitson)
Euriphene chalcis
Euriphene nobilis nobilis (Staudinger)
Euriphene sp.

Eurytela hiarbas hiarbas (Drury)

Euxanthe crossleyi crossleyi (Ward)
Euxanthe eurinome ansellica (Butler)
Euxanthe trajanus trajanus (Ward)

Harma theobene superna (Fox)

Hypolimnas bartelotti Grose-Smith
Hypolimnas dinarcha dinarcha (Hewitson)
Hypolimnas anthedon anthedon Doubleday
Hypolimnas mechowii (Dewitz)
Hypolimnas misippus (Linnaeus)
Hypolimnas monteironis monteironis (Druce)
Hypolimnas salmacis salmacis (Drury)

Junonia pelarga (Fabricius)
Junonia rauana omisssa (Rothschild)
Junonia sinuata sinuata (Plotz)
Junonia sophia sophia (Fabricius)
Junonia stygia stygia (Aurivillius)
Junonia terea tereoides (Butler)
Junonia westermanni westermanni Westwood

Kallimoides rumia rumia (Doubleday)

Lachnoptera anticlia Hübner

Mesoxantha ethosea ethoseoides Rebel

Neptidopsis ophione ophione (Cramer)

Neptis biafra Ward
Neptis constantiae angusta Conamin
Neptis trigonophora melicertula Strand
Neptis jamesoni Goodman & Salvin
Neptis nebroses Hewitson
Neptis nemetes nemetes Hewitson

Neptis nicomedes Hewitson
Neptis serena Overlaet
Neptis strigata Aurivillius

Palla publius centralis van Someren
Palla ussheri ussheri (Butler)
Palla violinitens violinitens (Crowley)

Phalanta eurytis eurytis (Doubleday)

Pseudacraea boisduvalii boisduvalii
 (Doubleday)
Pseudacraea clarkii Butler & Rothschild
Pseudacraea lucretia protracta (Butler)
Pseudacraea semire (Cramer)

Pseudathyma sibyllina (Staudinger)

Pseudoneptis bugandensis ianthe
 Hemming

Salamis parhassus (Drury)
Sallya amulia amulia (Cramer)
Sallya boisduvali omissa (Rothschild)
Sallya occidentaliu occidentaliu
 (Mabille)

Vanessula mi/ca mi/ca (Hewitson)

PAPILIONIDAE

Graphium antheus (Cramer)
Graphium hachei moebii (Suffert)
Graphium illyris (Hewitson)
Graphium latreillianus theorini (Aurivillius)
Graphium leonidas leonidas (Fabricius)
Graphium policeses policeses (Cramer)
Graphium ridleyarws (White)
Graphium tynderaeus (Fabricius)
Graphium fulleri ucalegonides Staudinger

Papilio antimachus antimachus Drury
Papilio bromius bromius Doubleday
Papilio cynorta Fabricius
Papilio dardanus dardanus Brown
Papilio demodocus demodocus Esper
Papilio gallienus Distant
Papilio hesperus hesperus Westwood
Papilio lormieri lormieri Distant

Papilio nireus nireus Linnaeus
Papilio phorcas congoanus Rothschild
Papilio zalmoxis Hewitson

PIERIDAE

Appias sabina sabina (Felder & Felder)
Appias sylvia sylvia (Fabricius)

Belenois calypso dentigera Butler
Belenois theora ratheo (Suffer!)
Belenois theuszi (Dewitz)

Catopsilia florella (Fabricius)

Colotis euipe euipe (Linnaeus)

Eurema hapale (Mabille)
Eurema hecabe solifera (Butler)
Eurema senegalensis (Boisduval)

Leptosia marginea (Mabille)

Mylothris chloris (Fabricius)
Mylothris poppea (Cramer)
Mylothris rhodope (Fabricius)
Mylothris sulphurea Aurivillius

Nepheronia argia argia (Fabricius)
Nepheronia pharis pharis (Boisduval)
Nepheronia thalassina verulanus (Ward)

Pseudopontia paradoxa (Felder & Felder)

RIODINIDAE

Abisara rutherfordii herwigii Dewitz

SATYRIDAE

Bicyclus dorothea dorothea (Cramer)
Bicyclus ephorus bergeri Condamin
Bicyclus hewitsoni (Doumet)
Bicyclus ignobilis eurini Condamin & Fox
Bicyclus italicus (Hewitson)
Bicyclus mandanes Hewitson
Bicyclus medontias (Hewitson)
Bicyclus mollitia (Karsch)
Bicyclus safitza safitza (Westwood)
Bicyclus sangmelinae Condamin
Bicyclus sophrosyne sophrosyne (Plotz)

Bicyclus xeneoides Condamin

Melanitis ansorgei Rothschild

Elymnias bammakoo bammakoo
(Westwood)

Melanitis leda helena (Westwood)

Gnophodes chelys (Fabricius)

Hallelesis asochis congoensis (Joicey &
Talbot)

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**DESCRIPTION OF A NEW SPECIES OF *EPITOLA* WESTWOOD FROM
CAMEROON (LEPIDOPTERA: LYCAENIDAE).**

by S. C. Collins
P.O. Box 14308, Nairobi, Kenya

Abstract: A new species of *Epitola* Westwood (1851), *Epitola liberti* is described from central Cameroon.

Introduction

The genus *Epitola* Westwood (1851) comprises more than 80 species found in the western and central African tropical forest blocks (Ackery *et al*, 1995). Recently, a series of *Epitola* (four males and one female) have been collected in Ebogo (central Cameroon), which are completely different from all known species. These are described here as representing a distinct species.

***Epitola liberti* sp. n.**

Figure 1 & Plate 1

TYPE MATERIAL

Male holotype: Ebogo. Nyong River approx. 50 km south of Yaoundé, C. Cameroon

03.20N 11. 20E. 630m., X 1997, S. C. Collins, (ABRI, Nairobi, Kenya).

Paratypes: 3M 1F all: Ebogo. Nyong River approx. 50 km south of Yaoundé, C. Cameroon

03.20N 11. 20E. 630m., X 1997, S. C. Collins, (A.B.R.I., Nairobi, Kenya).

DESCRIPTION Adult

Forewing length: 15-17 mm; forewing slightly convex for males, more strongly for female.

The recto of males is uniformly brown, just as in *Epitola conception* Suffert, 1904; the basal half of vein 1a only slightly swollen, but clearly visible. The ground colour of verso is not white, as in *E. conception*, but dark brown, with only three lighter lines in the marginal part of both wings : a thin, straight marginal band and two slightly wider, but more irregular submarginal bands. There are no drawings in the discal and basal parts of the wings; but a very faint discal line can be seen on the posterior wings of one of the males and of the female.

Male genitalia (fig. 1) The genitalia are close to those of *E. cercene* Hewitson, 1873; the general shape is similar, with a short, rounded uncus; valvae are not very broad, with a rather thin apex and a small, but distinct process on the upper edge; the penis is thin and slightly curved; there are no coremata.

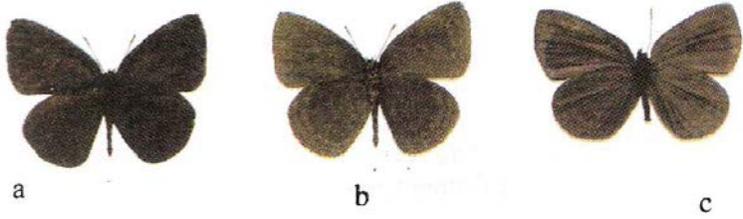


Plate 1 – *E. liberti* sp.n. – a) male recto; b) male verso; c) female verso

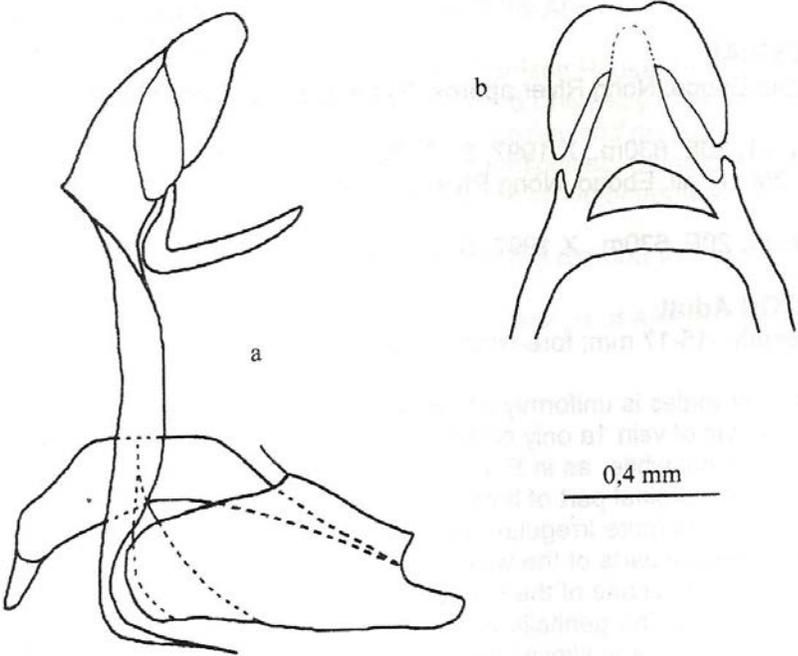


Fig. 1 – Male genitalia of *E. liberti* sp.n.

a) general lateral view;
b) dorsal view of uncus.

DIAGNOSIS

Although the general aspect is close to *E. pinodes* Druce, 1890, male genitalia show that *E. liberti* is definitely related to those species similar to *E. cercene* Hewitson, 1873.

DISTRIBUTION & HABITAT

So far known only from the type series all from one locality where specimens were collected in vast riverine mosaic forest along the Nyong River.

ETYMOLOGY

This species is named after Michel Libert, in recognition of his contribution to the knowledge of Cameroonian Lycaenidae and ongoing revision of the *Epitola* complex.

REFERENCE

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TWO NEW GENERA AND EIGHT NEW SPECIES OF AFRICAN LYCAENIDAE (LEPIDOPTERA) - ABRI RESEARCH PAPER No. 1

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Abstract: Two new genera, *Obania* gen. n. and *Kakumia* gen. n., in the subfamily Lipteninae are described. *Kakumia ferruginea* (Schultze, 1923) comb. n. is re-described. Two new species of *Ornipholidotos* Bethune-Baker, 1914, *Ornipholidotos jax* sp. n. and *Ornipholidotos. irwini* sp. n. are described. The previously unknown female of *Mimeresia moyambina* Bethune-Baker (1904), is described. Three new species of *Eresiomera* Clench, 1965, *Eresiomera phillipi* sp. n., *Eresiomera campbelli* sp. n. and *Eresiomera nancy* sp. n., are described as well as one new subspecies, *Eresiomera isca occidentalis* ssp. n.. Three new species of Theclinae, *Iolaus epamera djaloni* sp. n. *Iolaus (Iolaphilus) icipe* sp. n. and *Diopetes ducarmeii* sp. n. are described.

Introduction

Recent massive additions to the collections of the *African Butterfly Research Institute (ABRI)*, Nairobi have brought to light a number of new species, some of which are described in this paper. However, first we wish to follow up an old and overdue suggestion to upgrade two sections of the genus *Liptena* to generic status.

Two new genera of the Lipteninae

As long ago as the 1960s, Stempffer (1967), in his account of the genera of the African Lycaenidae, pointed out that on genitalic grounds two groups of butterflies now placed in the genus *Liptena* Westwood, 1851 (type species *L. undularis* Hewitson, [1866]) deserved their own genera: 'However, one can say at once that the species included in groups B (*L. ideoides*-group) and C (*L. subvariegata*-group) ought to be excluded from the genus *Liptena*, the genitalia being of a type plainly different from those of *undularis*'.

Genitalic differences are not always sufficient to warrant generic status, but where highly specialized genital features are paired with strong morphological similarities between several species, generic status is indicated. Two genera (*Falcuna* Stempffer & Bennett, 1963 and *Tetrarhanis* Karsch, 1893) were removed from *Liptena* long ago, yet their specializations in relation to other *Liptena* are less than in the two groups to be described here.

Genus *Obania* gen. n.

Type species: *Liptena subvariegata* Grose-Smith and Kirby, 1890, by present designation

DIAGNOSIS

Members of the genus are exceptionally large in relation to most *Liptena*. The uncus is two-pronged and the tegumen massive. From the tegumen emerges two pairs of long, narrow processes. They are fully fused to the tegumen and cannot be considered subunci in the conventional sense. The structure of the uncus/tegumen does not even begin to match any other *Liptena*, all of which have one pair of unfused, swivelling true subunci. The valves, penis, and saccus are more conventional. There is a small gnathos, not present in any other *Liptena* studied. There are three species in the genus, the genitalia of which are almost identical:

Obania subvariegata subvariegata (Grose-Smith & Kirby, 1890) comb. n. (*Liptena*)

subvariegata aliquantum (Druce, 1910), comb. n. (*Liptena*)

Obania tullia (Staudinger, 1891), comb. n. (*Pseuderesia*)

Obania tulliana (Grose-Smith, 1901), comb. n. (*Liptena*)

ETYMOLOGY

The genus is named after the Oban Hills, a division of the Cross River National Park in Nigeria. The Oban Hills and the adjacent Korup National Park in Cameroun have 1,100 butterfly species between them, a third of the continental African fauna, and they are one of the most important conservation areas in Africa.

Genus *Kakumia* gen. n.

Type species: *Liptena ideoides* Dewitz, 1886, by present designation

DIAGNOSIS:

This genus is characterized by the extreme reduction of the dorsal structures of the male genitalia, which consist of a small triangular structure, which is really no more than an expanded vinculum, hardly qualifying for the term of tegumen. There is no uncus at all, and thus no subunci. All other members of the *Liptena*, except *Obania*, have an uncus and subunci that are not fully fused with, but hinged to the uncus. The base of the valves are strongly fused, much more so than their fusion to the vinculum. The penis has a unique strong hook at its distal end. There are three members of the genus, the genitalia of which are almost identical, but the underside pattern of *K. ferruginea* differs from the two others:

Kakumia ideoides (Dewitz, 1886), comb. n. (*Liptena*)

Kakumia otlauga (Grose-Smith & Kirby, 1890) comb. n. (*Durbania*)

= *infima* Grose-Smith & Kirby, 1890 (*Durbania*)

= *gordoni* Druce, 1903 (*Durbania*)
= *bakeriana* Cator, 1904 (*Pseuderesia*)
Kakumia ferruginea (Schultze, 1923) comb. n. (*Pseuderesia*)

In the series available to us, we cannot find evidence that more than one true species is subsumed under the above synonymy of *K. otauga*. Shortly before his death, Stempffer told Larsen that he also now thought a single species was involved, after many years of trying to find differences between *otauga* and *gordoni*.

ETYMOLOGY

The genus is named after Kakum National Park in Ghana. Though not the most important conservation area in Ghana (as a butterfly *hot-spot* it is surpassed by Ankasa National Park, by the Atewa Range, Kibi, and the Volta Region), its accessibility and the present tourist development (sponsored by the Ghana Government and Conservation International/USAID) has made it a flagship for habitat conservation in Ghana, and for West Africa as a whole. There are probably 630 species in the park, two-thirds of the Ghana butterfly fauna.

The taxon *K. ferruginea* has been virtually unknown since it was described by Schultze, and the male remained undescribed. We therefore redescribe and figure both sexes after material in the ABRI collections.

Kakumia ferruginea (Schultze, 1923) comb. n. Plate 1 B 1-3
Liptena ferruginea Schultze, 1923: in Schultze A. & Aurivillius, C., 1923, Lepidoptera. III. Teil. *Ergebnisse der Zweiten Deutschen Zentral-Afrika Expedition* 1 (17):1113-1242.

Schultze (1923) figured a large, orange female Liptenid from M'peum in southern Cameroun which he named *Liptena ferruginea*. We have seen no references to additional material since, though the species is listed in Carcasson's African Butterflies (Ackery *et al.* 1995).

RE-DESCRIPTION Adult

Male: Fore-wing 20 mm. The general aspect is almost exactly like that of *K. otauga*, except that size is much larger. The fore-wing is jet black with the middle half of space 1 a orange, this colour just penetrating space 1 b at the distal end of the streak. The hind-wing is mainly orange, with a dark margin of 4 mm, continued to the base along the abdominal fold, tapering to a point at the base of the wing. The general underside colour is rusty orange with darker blackish markings, but the discal area of the fore-wing is uniformly grey, lightening towards the inner margin. The dark markings on the hind-wing are disposed as five somewhat irregular bands.

Male genitalia: The male genitalia are similar to those of *L. otlauga* and *L. ideoides*, though larger. The characteristic hook at the end of the penis is not as strongly developed, though still present.

Female: The female is slightly larger than the male. The fore-wing is orange with a black tip and margin. The base and cell of the fore-wing is also black, but the orange ground-colour penetrates to the costa in a narrow wedge. The hind-wing is like that of the male. The orange colour of the underside is somewhat brighter and the darker markings a lighter grey. The discal area and the inner margin are bright orange instead of grey.

ABRI material of this species consists of eight specimens from locations in southern Cameroun and Congo Republic. The species appears to be very stable.

Two new *Ornipholidotos* spp.

Genus *Ornipholidotos* Bethune-Baker, 1914

Type species: *Pentila kirbyi* Aurivillius, by subsequent designation (Opinion 814, 1967)

The genus *Ornipholidotos* Bethune-Baker, 1914 is a fascinating one. There are about 30 defined species, half of which described by Stempffer, and most of the rest re-defined by him, through study of the genitalia of existing holotypes. A few species are identifiable at a glance, but the 'run-of-the-mill' majority need examination of the male genitalia to be sure. The genitalia are massive, perhaps proportionately the most massive among all butterflies. They are also very complex and it is impossible to be sure which parts, except the penis, are homologous to the structures of more conventional genitalia. About five additional species are pending description in the ABRI collection, the genitalia being temporarily separated from the holotypes (the former in Manila, the latter in Nairobi). Members of the genus are tied to individual 'ant-trees' in deep forest, but many of the species have wide ranges over which the genitalia are entirely stable. Thus, *O. kirbyi* (Aurivillius, 1895) occurs unchanged from Ghana to Uganda. Part of the present ABRI field activities is the exploration of the fauna of the Central African Republic, which is not well known. Hundreds of butterflies not hitherto recorded from the area have been collected, including several new species. Amongst material recently collected is a small series of an amazing new *Ornipholidotos* which is described here. It is one of the few members of the genus that can be recognized at a glance.

***Ornipholidotos jax* sp. n.** Plate 1 A 1-2**TYPE MATERIAL**

Male holotype: Central African Republic, Boukoko (near Bangui), xi .1995 (African Butterfly Research Institute (ABRI), Nairobi).

Paratypes: Two males and two females, same data (a paratype has been donated to the Natural History Museum, London, all other paratypes in African Butterfly Research Institute (ABRI), Nairobi) (genitalia SCC 315).

DESCRIPTION Adult

Male: Forewing 20mm. The ground colour is translucent slightly off-white. The bases of both wings are tinged with orange. There is a thinly scaled grey apical patch extending from the tornus, curving evenly to the end of the cell, then recurving slightly, to meet the costa somewhat distally of the cell. The inner edge of the dark patch thus becomes S-shaped. Though both males show this feature it is possibly not a constant feature. The costa has hardly any grey scaling, and much less than *O. latimargo*. The hind-wing has a 0.5 mm grey margin, wider on the underside than on the upperside. The underside is otherwise similar to the upperside. Both sexes of *O. latimargo* show faint traces of an end-cell dark spot; such traces are wholly missing in the new species.

Male genitalia: The male genitalia are close to those of *O. latimargo* (figured in Stempffer 1967), but with considerable differences. The tegumen is much larger, the upper processes ('unci') more elaborated, and a small 'gnathos' is present, in the form of a round plate. The special processes are different. The lower processes ('saccus') are fairly similar.

Female: The female is slightly larger than the male. The inner edge of the apical patch curves regularly and just invades the cell before reaching the costa, which is narrowly overlaid with grey. The marginal band of the hind-wing is slightly wider than in the male. .

DISTRIBUTION

All known specimens are from the type locality Central African Republic, Boukoko (near Bangui).

ETYMOLOGY

The species is named in honour of Jackie Collins, the wife of Steve Collins.

REMARKS

Both sexes come closest to *Ornipholidotos latimargo* (Hawker-Smith, 1933), but differ in having the bases of both wings strongly tinged with orange, which is quite unique for the genus. It is recognizable at a glance, where dissection is usually needed for firm identification, and is one of the most special members of the genus.

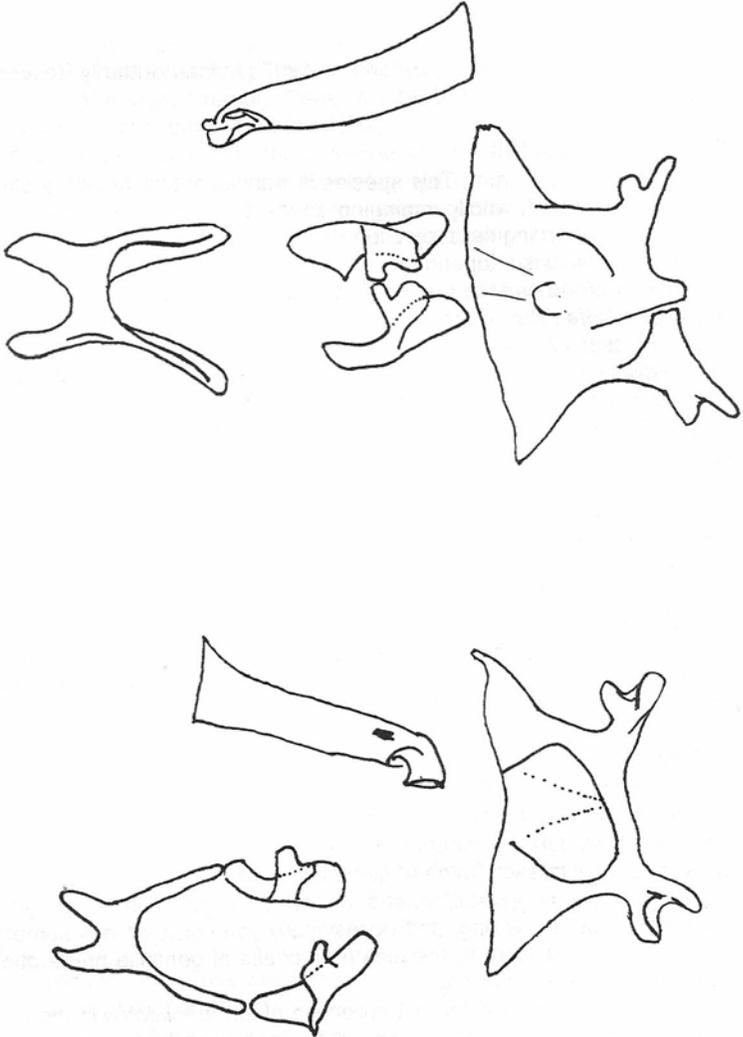


Figure 1
Left: The Holotype of *Ornoipholidotos jax*. Right: The holotype of *Ornoipholidotos irwini*

***Ornipholidotos irwini* sp. n.** Plate 1 A 3**TYPE MATERIAL**

Male holotype: Cameroun, Batanga, i.1997 (African Butterfly Research Institute) (genitalia preparation sec 334).

DESCRIPTION Adult

Male: Fore-wing 17 mm. This species is translucent white with a blackish costa, not densely scaled, wholly impinging on the cell in the basal half, less so in the distal half. The triangular projection at the end of the cell is modest. The apex is very broadly blackish, tapering to a millimetre at the tornus. The hind-wing margin is relatively broad and the black end-cell spot is well developed.

Male genitalia: The tegumen is massive, with two large and strongly chitinized 'sub-unci', both bifid, and deeply sculptured. The two fused 'special processes' are also massive, each bearing an extra projection. These appear not to be fused. The 'saccus' is small in relation to the other structures, and with two almost symmetrical ventral lobes. The penis is very straight, only being asymmetrically curved at the distal end.

DIAGNOSIS

This is a typical member of the genus. None of the typical members of the genus can be identified with certainty except through the genitalia.

ETYMOLOGY

The species is dedicated to Dick Vane-Wright of the Natural History Museum, London in appreciation of the help and inspiration we have received during more years than any of us really care to remember.

REMARKS

This species is one of the 'run-of-the-mill' members of the genus, none of which can be identified with complete certainty except by examination of the genitalia. It was found through the random inclusion of a promising *Ornipholidotos*, from an unusual locality in each batch of genitalia being processed for other reasons. You make an "advance guess, based on morphology; quite often you are right, sometimes you are wrong, and occasionally you come across something new. It adds vicarious pleasure to the tedious process of genitalia preparation. This is a new one discovered this way.

ABRI now holds the largest collection of *Ornipholidotos* in the world, and we hope that a full review of the genus will be done over the next few years, including the description of the remaining new species, and others that will be revealed. Only about four of the species so far described have not been found in the ABRI collection, though they may well be there.

The unknown female of *Mimeresia moyambina* (Lipteninae)

Mimeresia moyambina was described from Sierra Leone by Bethune-Baker (1904) and has hardly been collected since (there are three from Cote d'Ivoire in the National Museums of Kenya, Nairobi). Peter Walwanda, on a mission for ABRI, collected two males and two females on the Atewa Range near Kibi in Ghana. The underside of both sexes is similar to the common *M. libentina* (Hewitson, 1866). Both sexes differ in two respects: 1) the fore-wing apical margin is orange, while it is black and white in *M. libentina*; 2) the hind-wing margin is diffusely grey with white speckling and some orange scaling, where in *M. libentina* it is a dark band with fairly well-defined off-white spots.

The male is distinctive, with a very large orange fore-wing patch (a third of the wing surface), placed very distally, extending from the inner margin to vein 5, and very differently situated than the redder fore-wing spot in *M. libentina*. But the hindwing is wholly black, the costal half of the wing bearing a greasy androconial patch, like in *M. libentina*.

The female was unknown till caught at Kibi. The underside features have already been summarized, since they concur with the male. The upperside is very similar to *M. libentina*, but differs on the fore-wing in having a slightly larger extent of orange, less red in tone. There is a black end-cell spot, but no basal dark shading. As might be expected in a species where the male has a black hindwing, the dark costa is wider than in *M. libentina*.

The species is incredibly scarce. Kibi is one of the most exploited localities in West Africa, but no-one else seems to have found it there, and it should also be found in Liberia and Cote d'Ivoire.

Three new species of *Eresiomera*

Genus *Eresiomera* Clench, 1965

Type species: *Liptena isca* (Hewitson) by original designation

The genus *Eresiomera* Clench, 1965 was erected for the small round-winged members of the genus *Pseuderesia* Butler, 1874. Though Stempffer (1967) argued for their continued inclusion in *Pseuderesia*, we agree with Clench (Fox *et al.* 1965) on morphological, genitalic, and behavioural grounds. In West Africa *E. bicolor* (Grose-Smith & Kirby, 1890) is tolerably common, and in much of the equatorial area the same applies to *E. isca* (Hewitson, 1873). However, most members of the genus are scarce or very scarce, though a long-time resident may pick up a series over time on an ant-tree where a species is located. The most extreme example, perhaps, is that of *E. comesi* (Stempffer, 1969), of which about a dozen specimens are known. All were caught on the same tree in Gambari Forest near Ibadan in Nigeria over many years. In 1971 the tree was cut down and the butterfly has not been seen since. In the ABRI collection there are three species which will be described below, as well as one described as *E. kiellandi* Larsen in the supplement to Keilland's (1990) book on Tanzanian butterflies

(Congdon & Collins, 1998). About forty specimens of this distinctive butterfly were collected on the same ant-tree!

***Eresiomera phillipi* sp. n.** Plate 1 C 1

TYPE MATERIAL

Male holotype: Central African Republic, Boulia, (near Bangui) xi.1995 (African Butterfly Research Institute) (genitalia preparation SCC 349).

DESCRIPTION Adult

Male: Fore-wing 13 mm. This small species can be summed up very simply as being like *E. rutilo* (Druce, 1910), but with a narrower hind-wing margin. The forewing is wholly jet black. The hind-wing is the usual orange red of the genus with a sharply defined black margin that is only about half to two-thirds the width of that of *E. rutilo*. The dark markings on the abdominal fold are also less extensive. The fore-wing underside is less intensive black than the upperside. There is a well defined pearly-grey margin of 1.5 mm at the apex, decreasing in width towards the tornus. There is grey speckling also on the discal area and especially in the cell. Space 1a is whitish. The hind-wing has the same ground-colour as the fore-wing, and there is a pearly-grey margin and faint grey speckling on the discal area. There is a full line of relatively large red discal spots, not touching each other, as well as three basal red spots. In typical *E. rutilo* the red hind-wing patterning is much less and space 1a is only slightly lighter than rest of the wing.

Male genitalia: The male genitalia can immediately be recognized by having the longest, narrow uncus branches of any member of the genus; these structures are very short in *E. rutilo* (see Stempffer, 1961), which we also examined. The valves are similar to those of *E. rutilo*, though the little thorn at the distal end is less developed. Though a small species, the figure of the genitalia, show them to be proportionally smaller than in the *E. isca*-group.

ETYMOLOGY

The species is dedicated to Phillip Ackery of the Natural History Museum, London in appreciation of the help and inspiration we have received.

REMARKS

Given the morphological and genital differences, we have no hesitation at all in describing the species on the basis of a single male; male members of the genus are very stable in both respects. There is a male from Ouesso, Congo (T. H. E. Jackson) in the Natural History Museum, London which appears to be this species. It has been dissected by Stempffer, but the slide is not traceable. It carries a label *?phaeochiton* (Grünberg, 1910) in Stempffer's hand, and is referred to by D'Abrera (1980) as probably that. However, Grünberg emphasized that the

inner edge of the black hind-wing markings was irregular, like one figured by Berger (1981), while in *E. phillipi* it is very regular even on the abdominal fold. However, the type is lost, and it is probably best to use the name in Berger's sense (the type is lost and no genitalia preparation was made, so *phaeochiton* could also be considered a *nomen dubium*).

The *Eresiomera isca*-group

Just before his death, Stempffer (pers. comm.) wanted to study the *Eresiomera isca*-group of species, since he was convinced that it contained several distinct species. It appears that he took the entire holdings of the Natural History Museum, London on loan, since just one or two males are present in the main London collection to-day (possibly it is in some holding area and not re-incorporated). Because of this, D'Abrera (1980) illustrated a female *E. isca* as the male, but the male from western Nigeria figured as *E. ouesso* ?subsp is actually an *E. isca*. However, it represents an undescribed subspecies of *E. isca*, flying from the Niger west to Sierra Leone, and we include it as a paratype.

***Eresiomera isca occidentalis* ssp. n.**

TYPE MATERIAL

Male holotype: Ghana, Kibi, Atewa Range, xii.1997 (African Butterfly Research Institute).

Paratype: Male, Gambari Forest near Ibadan, Nigeria (illustrated by D'Abrera (1980) as *E. ouesso* ?subsp.) (Natural History Museum, London).

DESCRIPTION Adult

Male: Fore-wing 14 mm. The male differs consistently from the nominate subspecies in having the red spot on the inner margin of the fore-wing (spaces 1a and 1b only, sometimes as few scales in 2, about twice as large. The spot is the same size in spaces 1a and 1b, not having the triangular shape of the two new species that follow. It is also on balance slightly smaller than the nominate subspecies. The genitalia do not differ from the nominate.

DISTRIBUTION

The species is very scarce in West Africa, though it is fairly common in Cameroun.

***Eresiomera campbelli* sp. n.** Plate 1 C 2-3**TYPE MATERIAL**

Male holotype: Cameroun, Mt. Kamelon, ii.1995 (African Butterfly Research Institute) (genitalia preparation SCC 277).

Paratypes: 8 males (Ebogo, Maan, Nyong River, Cameroun); 1 male Ouesso, Congo; 2 males Kisangani, Zaire (SSC 348); 2 females Ebogo, Cameroun (one paratype will be deposited in the Natural History Museum, London).

DESCRIPTION

Male: Fore-wing 15 mm. The species is close to *E. isca*, but readily recognizable without dissection. The fore-wing is jet black with a small orange patch in the middle of the inner margin, taking up a third of space 1a, but penetrating 1b only narrowly; in *E. isca* the width is equally narrow in both interspaces. The hind-wing is mainly orange, with a well defined black margin that is distinctly broader than in *E. isca*. The black markings on the abdominal fold, on the other hand, are much narrower; on the middle part of the fold the black in *E. isca* is twice as wide. The undersides are very similar, but in the new species the triangular orange patch on the inner margin is distinctly smaller than in *E. isca*, the opposite of the situation in respect of the margin. This patch is at most connected to the costa by very fine red dots. The underside is generally darker, there are rarely red dots in the forewing cell, and the light scaling, especially on the hind-wing, is missing.

Male genitalia: The male genitalia differ considerably from those of *E. isca*. The vinculum and tegumen/uncus are more elongate, the two uncus branches are much longer, and the valves are squared off distally, rather as in *E. beni* (Stempffer, 1961), though the little point at the tip of the valve is barely indicated. The rather massive penis is decidedly S-shaped, differing from all others in the genus, except the anomalous *E. paradoxa* (Schultze, 1916).

Female: We have two females. They differ from *E. isca* in having a wider black fore-wing margin. On the hind-wing the broad margin tapers towards the tornus, and there is very little black on the abdominal fold.

ETYMOLOGY

The species is dedicated to Campbell R. Smith of the Natural History Museum, London in appreciation of the help and inspiration we have received.

***Eresiomera nancy* sp. n.** Plate 1 D 1**TYPE MATERIAL**

Male holotype: Cameroun, Ebogo, Nyong River, i.1996 (African Butterfly Research Institute).

Paratypes: 20 males and 9 females from various localities in Cameroun from the Nyong River to Congo, the Central African Republic (genitalia SCC 356), and Kisangani (Genitalia SCC 276) in Zaire. A paratype pair will be placed in the Natural History Museum, London, The rest ABRI).

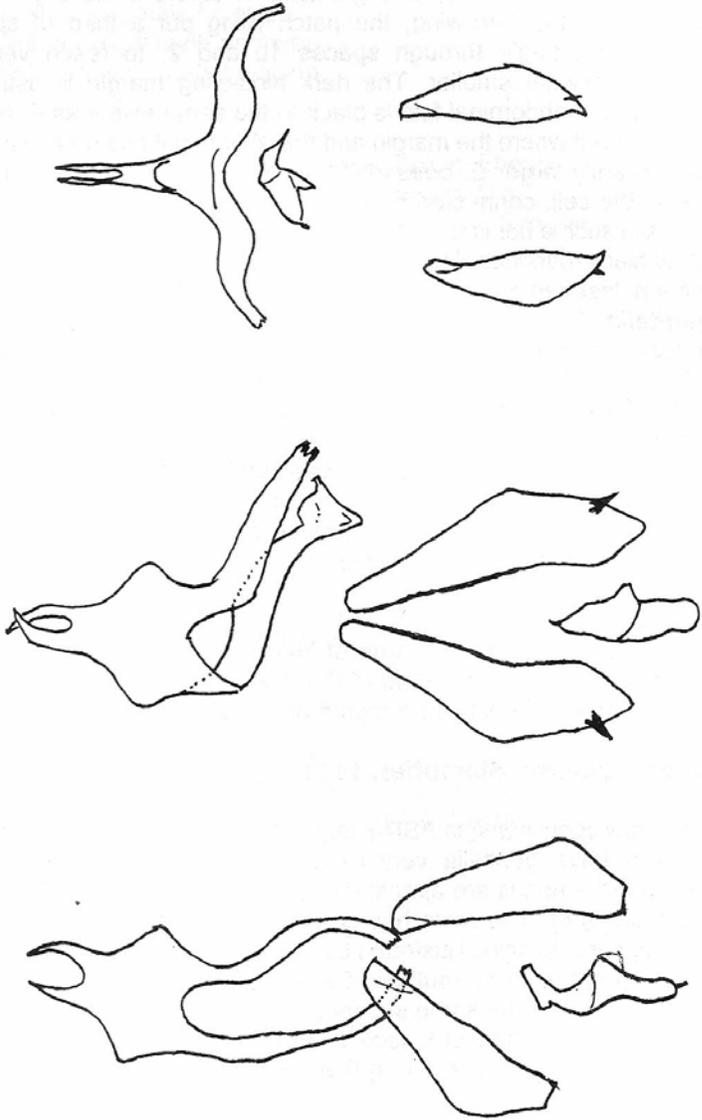


Figure 2:
Left: *Eresiomera campbelli*. Centre: *Eresiomera nancy*. Right: *Eresiomera philippi*

DESCRIPTION

Male: Fore-wing 15 mm. This is another species that is similar to *E. isca*, but clearly distinct in morphology and genitalia. It differs in having a much larger orange patch on the fore-wing, the patch filling out a third of space 1a and extending as a triangle through spaces 1b and 2, to reach vein 2, though sometimes somewhat smaller. The dark hind-wing margin is usually distinctly broader, while the abdominal fold is black to the same extent as *E. isca*, including an intrusion of red where the margin and the abdominal fold meet, which is absent in the significantly larger *E. ouesso* (Stempffer, 1962). There is usually a robust black bar in the cell, connected to the abdominal fold, but it may be smaller and free. In *E. isca* such a bar is usually absent, at most very fine, and never connected to the other black markings. The underside is like that of *E. isca*, usually with more pearly sheen, less red speckling, and less dusting with lighter scales.

Male genitalia: The uncus lobes are longer than in *E. isca*, and the tegumen is wide, reducing in width as it transforms into the vinculum. It looks very like *E. beni* (Stempffer, 1961). The valve is quite long, ending rather bluntly. On the outer edge of the valve there is a strong thorn well above the distal end, a feature that makes identification quite certain.

Female: We have a series of eight females which differ from the usual *E. isca* in having a smaller orange fore-wing patch, the outer edge of which is almost straight, instead of strongly S-shaped. There is much black dusting on the abdominal fold, in contrast to the female of *E. campbelli*.

ETYMOLOGY

The species is given the first name of Nancy Fee, the wife of T. B. Larsen, in appreciation for her understanding of the need for him to disappear occasionally into the West African forests for a month or more.

Eresiomera ?ouesso Stempffer, 1962 Plate 1 D 2

There are a few specimens (in ABRI), larger than the other members of the *E. isca* group, which have genitalia very close to *E. ouesso*, except that the small apophyses on the uncus are almost invisible and the tip of the valves less curved (genitalia sec 358). The male has considerably more orange on the hind-wing than the *E. ouesso* holotype illustrated by D'Abbrera (1980). We have this form from the Bangui area and from southern Cameroun, Congo, and the Central African Republic normally has the same subspecies.

It is worth mentioning that *E. isca*, *E. campbelli*, *E. nancy*, and *E. ?ouesso* were all found sympatrically on the Nyong River, Ebogo, Cameroun.

LEGENDS TO PLATE 1 (page 80)

A 1 *Ornipholidotos jax*, male holotype

A 2 *Ornipholidotos jax*, female paratype

A 3 *Ornipholidotos irwini*, male holotype

B 1 *Kakumia ferruginea*, male upperside, Cameroun, Ebogo

B 2 *Kakumia ferruginea*, male underside, Cameroun, Dja

B 3 *Kakumia ferruginea*, female upperside, Cameroun, Sangmeli.

C 1 *Eresiomera phillipi*, male holotype, upperside

C 2 *Eresiomera campbelli*, male holotype, upperside

C 3 *Eresiomera campbelli*, male paratype, underside, Cameroun

D 1 *Eresiomera nancy*, male holotype, upperside

D 2 *Eresiomera ?ouesso*, male upperside, Cameroun, Ebogo

D 3 *Diopetes ducarme*, male holotype, upperside

E 1 *lolaus djaloni*, male holotype, upperside

E 2 *lolaus djaloni*, female allotype, underside

E 3 *lolaus djaloni*, female allotype, upperside

F 1 *lolaus icipe*, male holotype, upperside

F 2 *lolaus icipe*, male paratype, underside, RCA, Bangui

F 3 *lolaus icipe*, female paratype, upperside, RCA, Bangui

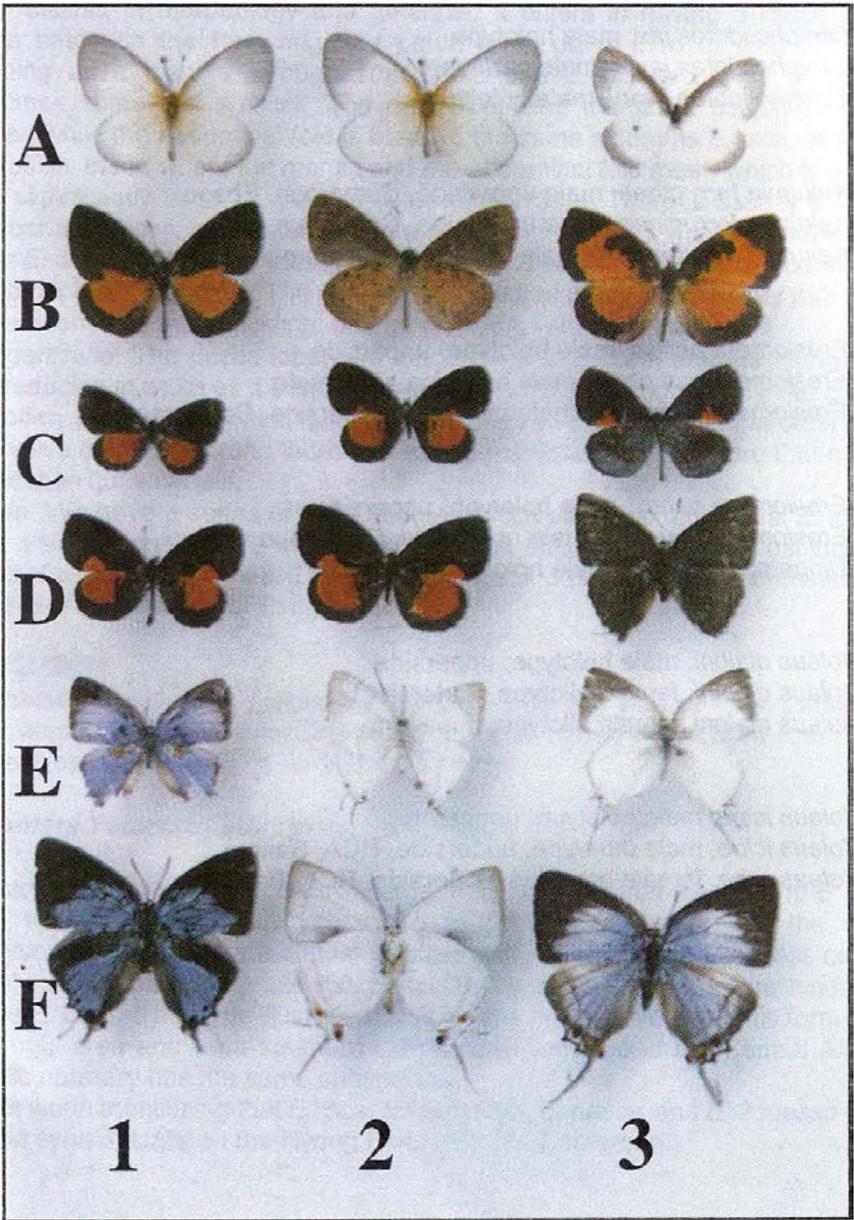


Plate 1

Three new species of Theclinae (*Iolaus* and *Diopetes*)

During the past few years a collector for ABRI has prospected the remaining gallery forests of the Fouta Djallon of Guinea, mainly in the Labe area to the west of the range. Many species have been recorded, including several not yet described. The most startling so far is probably *Pseudaletis malangi* Collins & Larsen, 1995. Among the material was a butterfly that we initially took to be *Iolaus* (*Iolaus*) *carina* Hewitson, 1873, a rare species from Gabon, which is superficially similar in both sexes. Since that species is only known from Gabon, and since the ecology of Gabon and the Fouta Djallon is very different, we decided to study the issue in more depth. Dissection of one of the males showed it to be a member of the subgenus *Epamera*.

***Iolaus* (*Epamera*) *djaloni* sp. n.** Plate 1 E 1-3

TYPE MATERIAL

Male holotype: Guinea, Fouta Djallon, Labe, x.1995 (African Butterfly Research Institute) (genitalia SCC 327).

Paratypes: Male same data; two females, same data xii.95 and xii.96 (African Butterfly Research Institute).

DESCRIPTION

Male: Fore-wing 17 mm. The frons is red. The ground-colour is a shining sky-blue, on the fore-wing with white scaling between the cell and the black margin in the upper part of space 2, and in 3 and 4. The costa seems to be brown, but both available males are in rather poor condition; since the females have a white costa it is possible that the basal half is blue. The main black apical patch stretches from beyond the cell narrowing gradually before just reaching the tornus. There is a very small lobe on the inner margin. The hind-wing is sky-blue with a one millimetre wide black tornal patch and a fine linear black margin. There are two small tornal spots in the interspaces between the three tails, which are not crowned with red, separated from the margin by a fine white line. There is a modest ochreous-brown androconial patch placed in a larger silvery area. Spaces 7 and 8 distal of the androconial patch are a lighter silvery blue. The underside is pure white with very limited markings, barely visible in the male. On the fore-wing they comprise an end-cell streak (not many *Epamera* have one, and it was instrumental in our thinking it an *Iolaus*), a postdiscal line not parallel with the margin and not reaching vein 2, and a submarginal line that is parallel to the margin. The hind-wing has a postdiscal line and a submarginal line, neither of which runs parallel to the margin. In both the males these markings are barely perceptible. There are two small black tornal spots, only just crowned with red. The male hair-pencil is black.

Male genitalia: The genitalia are identical with those of *Iolaus* (*Epamera*) *pollux* Aurivillius, 1895 and need not be figured.

Female: The female ground-colour is white. The bases of the fore-wing, spaces 1a and 1b, and the hind-wing cell are sparingly dusted with blue-grey scales. The apical patch starts from the costa, just avoiding penetration of the cell. The basal half of the costa is white. The hind-wing is white. There is the hint of a dark costal patch and a fine black margin. There are tiny black tornal spots, that on the tornal lobe crowned with a smidgen of red. The underside pattern is like the male, but the markings are chocolate rather than black.

REMARKS

The genitalia would make it viable to treat this species simply as a subspecies of *Iolaus (Epamera) pollux* (we even made a new preparation of *I. pollux* to see whether the solid subunci stood out as straight *in situ*). But we do not think this would be correct. *I. pollux* is a species of the true rainforest, extending to Côte d'Ivoire and Liberia in ssp. *oberthueri* Riley, 1929, even darker blue than the nominate. The morphological differences seem too great for conspecificity. Also, in the Labe area it flies with *Iolaus normani* (Larsen, 1986) and *Hypolycaena anara* Larsen, 1986 (stat. rev.) (described from Jos, Nigeria but more widely distributed from Adamawa in northeastern Nigeria to northeastern Guinea and the Fouta Djallon), both species with unusually white females and reduced underside markings. On morphological and ecological grounds we consider *I. djaloni* specifically distinct despite the genital similarities.

***Iolaus (Iolophilus) icipe* sp. n.** Plate 1 F 1-3

TYPE MATERIAL

Male holotype: Central African Republic, Yakoli (near Bangui), ii.1997 (African Butterfly Research Institute) (genitalia SCC 355).

Paratypes: Central African Republic: Male, Corniche, Bangui, i.95; female, Yakoli, vii.1996; Cameroun: Male, Mbalmayo, ii.1997 (African Butterfly Research Institute).

DESCRIPTION

Male: Fore-wing 23 mm. Frons white. Fore-wing less rounded than in *I. calisto*. The male ground-colour is a beautiful ultramarine with no hint of green. The fore-wing has the following black markings. The costa is narrowly black from the base till the middle of the cell, where the black begins to turn inwards. Just beyond the cell, the inner edge of the black apical and marginal area continues almost straight to the middle of space 1b where it is 2 mm wide. It then widens again to become 4 mm on the inner margin. The fore-wing is much more weakly lobed than in *I. calisto*. The hind-wing costa is very broadly black, the division between black and blue being the lower half of the cell and continuing almost straight to the narrow black margin. The androconial area is dark brown. There are small black tornal spots. The abdominal fold is dark brown. The fore-wing underside is white with a fine black postdiscal line, running almost parallel to the margin. The androconial

brushes are grey. The hind-wing is also with the same faint postdiscal line, as well as a submarginal one. There are two small ternal spots, one weakly surrounded by orange, the other by red with some violet metallic scales.

Male genitalia: The male genitalia are effectively identical with those of *I. calisto* (see Stempffer & Bennett 1958/59, and Stempffer 1967) and are therefore not figured.

Female: The fore-wing is less rounded than in *I. calisto*, which it otherwise resembles. The bases of the wings are light blue, becoming increasingly white towards the margin. The apical and marginal markings as in the male, though less regular, and wider at the tornus. The postdiscal line on the hind-wing is further from the margin than in *I. calisto*. There is orange on the ternal lobe and crowning the black spot next to it. The underside is white, slightly washed with brown at the apex. The black markings are consistent with the male, but slightly more strongly expressed, though still very fine. On the fore-wing there is a very faint line. The ternal spots are better developed, and more strongly surrounded by orange and red.

ETYMOLOGY

The species is named in honour of the International Centre for Insect Physiology and Ecology (ICIPE) in Nairobi with which the African Butterfly Research Institute shares many interests.

REMARKS

This large, blue *Iolaus* was placed originally as close to the green *I. calisto* (Westwood, 1851) a guess that was vindicated by its having practically identical genitalia. It can be distinguished from other large blue *Iolaus* within its range by the exceptionally wide black hind-wing costa, covering two-thirds of the cell, and more than a third of the entire wing surface. The essentially western *I. calisto* has also been collected in Cameroun and the Bangui area, so the two species are sympatric, and they are phenotypically very different.

Diopetes ducarme sp. n.

TYPE MATERIAL.

Holotype: Eastern Zarre, Mt. Atonza, 1.xi.1991 (African Butterfly Research Institute, ex coll. Ducarme) (genitalia SCC 351).

Paratypes: Two males, same data (coll. R. Ducarme).

DESCRIPTION

Male: Fore-wing: 21 mm. Both wings are evenly dark, dull brown. There are no dark ternal markings, and only a few hints of red on the ternal lobe. No other male

Diopetes is dull brown, and it is not fluorescent in the ultraviolet. The underside is lighter brown than the upperside. Most of spaces 1a and 1b on the fore-wing is offwhite. There is a fine white postdiscal line as well as a submarginal line. The area between the two is powdered with white scales, which stops before the submarginal, forming a narrow band of brown. The hind-wing also has a slightly irregular, narrow postdiscal band and a faint submarginal line. There is also white suffusion between these lines, but not as intense as on the fore-wing. There is a faint white marginal line not indicated on the fore-wing. There is a small black tomal spot, not crowned by red, and traces of another. The tomal lobe is black with a white edge. The underside is entirely typical of the genus, but the light shading between the postdiscal and submarginal lines is normally a female attribute.

Male genitalia: The male genitalia are like all others in the genus, with a vast tegumen and a long penis with a large cuneus at the distal end (as in Stempffer, 1967: 108). We do not feel the necessity to figure it since there are no specific characters.

ETYMOLOGY

Robert Ducarme is to be congratulated on collecting three fine males of a *Diopetes* that can be exhaustively described in just two words: Male brown! The new species is named in his honour. We are grateful to R. Ducarme for donating the holotype of *Diopetes ducarme* to the African Butterfly Research Institute and take pleasure in naming it after him.

REMARKS

Members of the genus *Diopetes* are among the most elusive butterflies in Africa. All known males are a sustained brilliant blue, except *D. kakumi* Larsen, 1994 which is irregularly greenish. A few are tolerably common, but most are known only from a handful of specimens, and several only from the types. There are also problems matching males with females since sexual dimorphism is great. Several of the species are very similar and have been confused in the literature.

Conclusion

The present paper again shows that intensive collecting and the in-depth study of individual genera continues to yield butterflies new to science in considerable numbers. That a butterfly as distinctive as *Diopetes ducarme* remained unknown till now is really quite remarkable. That the *Eresiomera isca*-group was not revised till now is equally remarkable. However, these points only serve to justify the role of the *African Butterfly Research Institute*: Stimulating collecting, preferably in locations where little collecting has been done, a rapid assessment of the material, and description of new taxa by its increasing number of collaborators.

Acknowledgements

This also constitutes paper no. 33 resulting from advance work on Larsen's book *Butterflies of West Africa - origins, natural history, diversity, and conservation*. The

project has received generous support from the Carlsberg Foundation and the Scientific Research Councils in Denmark. Access to the collections of the Natural History Museum, London, the Allyn Museum, Sarasota, the Carnegie Museum, Pittsburgh, the National Museums of Kenya, Nairobi, and the Royal Africa Museum in Tervuren, has been crucial to the development of the paper.

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DEFOLIATION BY THE LARGE EMERALD PEARL, *STEMORRHAGES SERICEA* (LEPIDOPTERA: PYRALIDAE).

By Denis Eckard

Kwa-Zulu Natal Nature Conservation Services, Eshowe, South Africa.

Abstract: The defoliation of *Tabernaemontana ventricosa* Hochst ex A. D. C. (APOCYNACEAE) by *Stemorrhages sericea* (Lepidoptera: Pyralidae) in the vicinity of Eshowe, South Africa is reported. A further host-plant *Voacanga thouarsii* Roemer & Schultes (APOCYNACEAE) for *S. sericea* is recorded. The habits of the larvae of *S. sericea* are described and some of the early stages are illustrated. *T. ventricosa* and *V. thouarsii* are also recorded as host-plants of the larvae of *Negera natalensis* (Felder, 1874) [Drepanidae].

INTRODUCTION

Stemorrhages sericea (Drury, 1773) (Lepidoptera: Pyralidae) has a wide distribution occurring in the wetter forests and woodlands in the eastern parts of Africa (H. S. Staude, pers. comm.). As far as could be established nothing has been previously published on the biology of *S. sericea*. The early stages of *Negera natalensis* (Felder, 1874) [Drepanidae] have been previously recorded on *Pavetta lanceolata* (RUBIACEAE) by N. J. S. Duke (unpublished).

During March 1996 reports were received of the total defoliation of forest toad trees, *Tabernaemontana ventricosa* Hochst ex A. D. C. (APOCYNACEAE) on a farm just west of Eshowe. These reports were investigated and this paper reports the results from this investigation.

MATERIALS AND METHODS

Many Forest Toad Trees were examined in the Dlinza Forest Nature Reserve (DFNR) in Eshowe, on private properties in Eshowe, on a farm just North of Eshowe, and in the Ngoye forest near Mtunzini.

Lepidoptera larvae found feeding on the trees were collected and reared in captivity.

RESULTS

In all the localities examined trees showed some degree of defoliation, varying from total to slight (fig.1).

It was observed that larvae of *S. sericea* (fig.2) would eat one side of the leaf consuming leaf blade and mesophyll and leaving only the other cuticle. The larvae at a later instar folded the leaf longitudinally and attached the edges together at intervals with strands of silk. Further feeding and pupation took place inside the folded leaf. A hatched adult specimen was obtained and identified as *Stemorrhages sericea* (Drury, 1773) [fig. 3]. Subsequently 4 adults, 66 pupae and pupal cases, from 10 sites in and around Eshowe were identified. Trees that were totally defoliated on a farm just west of Eshowe a few years ago seemed to have recovered. *S. sericea* was also found to use the wild frangipani tree *Voacanga*

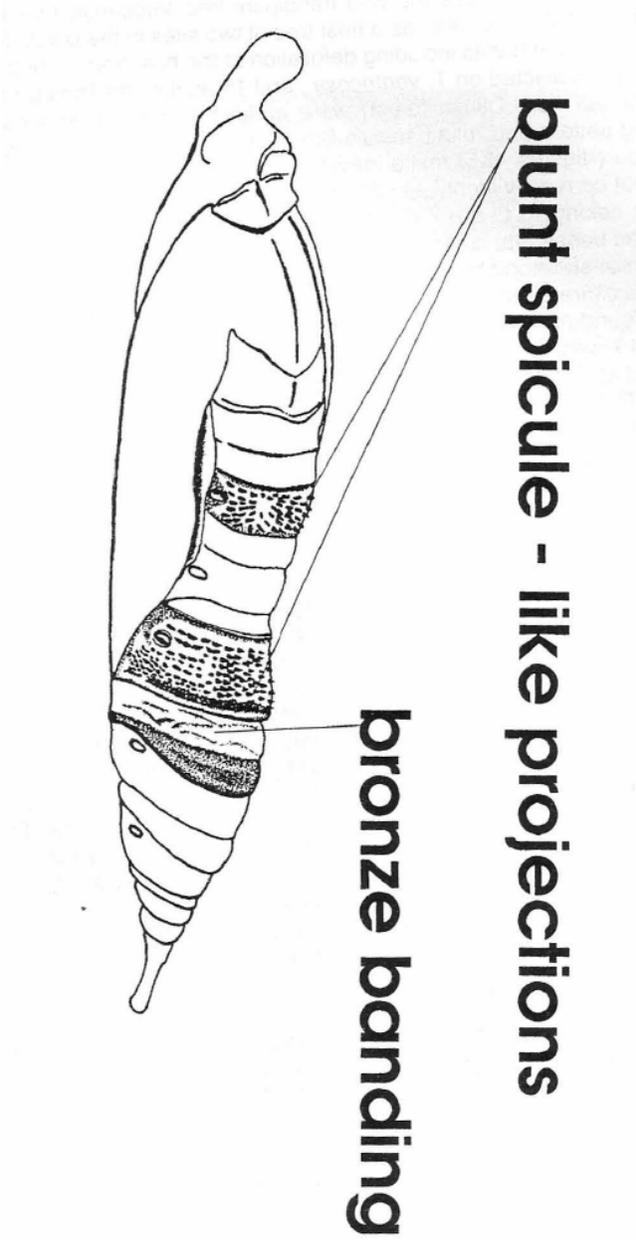


Figure 1 : Pupal case of *S. sericea* lateral view (del. Jan Wiltshire)

thouarsii Roemer & Schultes (APOCYNACEAE) as a host tree at two sites in the Dlinza forest, showing the same feeding habits including defoliation of the host tree. During 1997, 4 adults and 4 pupa collected on *T. ventricosa*, and 15 adults and 15 pupa collected on *V. thouarsii* (all from Dlinza forest) were all identified as *S. sericea*. A distinctive blanding pattern and blunt spicule-like projections on the abdominal segments of the pupa (figures 4 & 5) make identification of the pupae possible. Larval stages could not be readily identified because of their similarity to those of an unidentified species belonging to the *Parotis baldersalis* (Walker, 1859) (Pyrilidae) complex, unlike the pupae that could be easily distinguished from the *Parotis* sp.

Similar skeletonisation and folding of the leaf was observed on the Quinine tree, *Rauvofia caffra* Sonder (APOCYNACEAE) in Eshowe. Twelve adults emerged from pupae found on *R. caffra*. These trees were growing in the proximity of *S. sericea* invested *T. ventricosa* and *V. thouarsii* trees. In this case the moth responsible was identified as *Parotis* sp. near *P. baldersalis*. Pinhey, 1975 records *R. caffra* as a hostplant of *P. baldersalis*. All three tree species belong to the family APOCYNACEAE.

The larvae of *Negera natalensis* (Felder, 1874) [Drepanidae] were found feeding on all three tree species.

DISCUSSION

It appears that the observed type of defoliation of the forest toad and Wild Frangipani trees in the Eshowe area is solely attributable to the activities of the larvae of *S. sericea*. In 1997 only larvae but no pupae or pupal cases were found in typically folded leaves. In contrast numerous pupae were found in these leaves during 1996. It seems likely that that this reduction was due to the increase in parasitism that often results after populations show a marked increase in numbers, as the population of *S. sericea* had in 1996. This phenomenon seems to be a periodic seasonal event and in some years the larvae of these moths reach higher densities, with the result that their feeding habits become very conspicuous to observers. Considering the wide distribution of these two trees the moth could have an impact on a large part of Kwazulu-Natal. Conservators are therefore advised to take note of this phenomena each year from about March onwards. In this context it should be noted that monitoring of *S. sericea* is possible using pupal cases. However control measures are probably not required because the moth is an indigenous species and its populations seem to be effectively controlled by natural parasites. No permanent damage to any of the trees defoliated was recorded.

ACKNOWLEDGMENTS

I wish to thank, Hugh Chittenden for the photographs of *S. sericea*, Jan Wiltshire for the line drawing of the pupal case, Clive Quickelberge for identifications and comments and Hermann Staude for identifications and comments.

REFERENCE

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Plate 1, *Stemorrhages sericea*, a- larva, b- pupa, c- adult.

REGIONAL ROUNDUP

There has been recent excitement in Lepidoptera circles over the collection and breeding of moths! This is a most unusual occurrence from my point of view but one that is becoming more commonplace as we expand the horizon of amateur Lepidopterology. The accolades are justly earned for these are not ordinary moths, these are the famous cycad moths that Hermann Staude has been promoting for many years. Recently appeals have been made for information on the elusive Millar's Tiger (*Callioratis millari*) on TVs 50/50, a species about which Hermann has previously written articles in *Metamorphosis*. While not receiving much valuable information from the 50/50 appeal he did a fine job promoting Lepidoptera conservation. Hermann's efforts did finally succeed as it was rediscovered after seventy years and he collected larvae on the little known cycad *Stangeria eriopus*.

The excitement had hardly died down when Andy Mayer collected a moth on Long Hill at Queenstown (who would go to catch butterflies on Long Hill in April!!), which appears to be a new species of *Callioratis*. On being shown the moth Hermann and Alf Curle immediately set forth and managed to collect larvae. The next thing is that Steve Collins finds a specimen of *Callioratis apicisecta* in the collection of Michael Roberts, collected by Michael in the remote Matthews Range in northern Kenya, (this confirms earlier records Hermann found in the National Museums of Kenya) and Hermann launches an expedition with Steve Collins to visit the Mathews Mountain Range in an attempt to collect it. He collects larvae of this species as well and now has the larvae of three of these fabulous moths munching away on cycads. Well done to Hermann, and well done to all those who have taken an interest in these moths and helped Hermann to unravel some of our most enduring Lepidopterological mysteries. You can be sure that future editions of *Metamorphosis* will be inundated with interesting publications on the results of the past few month's endeavours.

Nolan Owen-Johnston has returned to South Africa from Malawi where he found *Acraea leucopyga* and *Cooksonia alicea* at Maiwale last summer. We hope Nolan will also soon put pen to paper and give us lists and stories of his adventures in Malawi.

Late last year I received frequent phone calls from a new member in Hazyview, Gary Rowan. Gary manages a lodge on the banks of the Sabie river and he would describe to me the scene below him where hundreds of butterflies were flitting about' the forest floor or through the canopy. As I was sitting in an office in Johannesburg you can imagine how jealous I was! I had assumed that there was an element of exaggeration due to his enthusiasm. This year I visited the lodge for a week-end in May and was stunned at how many butterflies were flying about. I recorded well over a hundred species in a very limited area of prime riverine forest. Included in this total was *Neptis goochi*, which is a new record for Mpumalanga. It was wonderful to see *P. parhassus* in numbers as well as *P. terea elgiva* literally in hundreds. It was good to experience a locality with such quantities of Lepidoptera. I think the moth collectors should also pay a visit to this

locality as the collecting is likely to be good. I thank Gary and Candice for their hospitality and intend returning again when the opportunity arises. I look forward to hearing from our members so please jot down anything interesting and fax it to me. My new fax number is (011) 434-1359.

Richard Stephen writes:

I camped on the thick grass at the campsite in the Chirinda forest at Mount Selinda for a few days, in April and May 1998. The night of 8-9 May was surprisingly warm, still and dry without the evening mists and temperature drop, I had experienced on previous visits at that time of the year. I rose in the dark before dawn just as the sky was changing from black to dark grey, and was surprised to see butterflies flying: black shapes, against the sky. These proved to be *Mylothris julei* which gave the appearance of having been up for some time if not all night. They were flying over a wide area over the campsite and there was no sign of them having been disturbed into light.

As the light improved, still before sun up, butterflies started flying down to land in the bush grass and to a few small shrubs. One knee-high periwinkle bush was covered with *A. erinnys nyasae*. Before 06:00 numbers of lycaenids flew down to the grass, presumably to look for moisture, first sitting on the grass, then as the sun crept into the clearing, disappearing into the thick grass. Prominently were numbers of *Iolus lalos*, particularly females, *I. (E) sidus* and *I. (A) silarus silarus*. They were joined by numbers of *Hyalites esebria esebria* form *houetteironis*, *H. igola*, *Pseudacrea lucretia expansa*, numbers of the common lycaenids and a few agaristid moths. As the sun warmed the grass, they disappeared. By 07:00 the lycaenids had departed leaving the area to the Acraeas. They left for the forest half an hour later. No other morning during my short stay had I a similar result, although I was up early to check. I can only speculate that the conditions were unusually dry. I shall never forget that early morning with a good days collecting over before breakfast and catching *lalos* on the lawn.

GRAHAM HENNING

ANOTHER NEW *NEPTIS* FOR SOUTH AFRICA

By Ernest Pringle,
P O Box 59, Bedford 5780.

April found us at one of our favoured collecting areas, the Tembe elephant Reserve in Maputaland. I am certain that we had not yet tapped the full potential of this large tract of sand forest, and this trip proved me right. On our first day out, I was about to hang a trapnet up along the fringes of the bush in the northern areas of the Reserve, when a *Neptis* species unexpectedly settled with opened wings on the side of the trap, which I was still holding in my hand. I froze, unable to move for fear of disturbing the specimen, which I immediately realized was unusual. There was nothing to do but call for help; luckily this came quickly in the form of my wife, who managed to net the specimen. This turned out to be perfect female *Neptis jordani* Neave; it was the only specimen we saw in five days, although there were two other *Neptis* species, *N. goochii* Trimen and *N. saclava marpessa* Hopffer in good numbers. Coming on the heels of our discovery of *N. penningtoni* Van Son on the Soutpansberg during March, it makes it the Year of the *Neptis*. I noted several specimens of *N. penningtoni* that day in Venda; it therefore must be more plentiful there than *jordani* is in Tembe. In comparison with *penningtoni*, this specimen has a broader white discal band on the hind-wing, fewer white submarginal lines on the upperside, and the white marginal lines of the forewing distinctly obscured in areas 3 and 5. The outer edges of the white discal band of the hindwing are also distinctly truncate; in *penningtoni*, these are rounded.

A further interesting record was the discovery of *Euriphene achlys* (Hopffer) in a narrow belt of dense sand forest in the central area of this Reserve. It appeared to be restricted to a limited area of very tall, dense bush. We subsequently caught a further two specimens at Manguzi Forest; this seems to prove that the occurrence of the insect in this area is not a temporary phenomenon. It also shows how comparatively unexplored this area still is. Two other unusual insects were common at Tembe this year: *Charaxes protoctlea azota* (Hewitson) is the dominant *Charaxes* in certain patches of bush in the northern areas of the Reserve, and *Fresna nyassae* (Hewitson) is widespread in this area.

While collecting in Tembe, a most unusual thing happened to us. We left a trap up overnight in a patch of thick bush, and when we came to check it the next day, it was missing! I noticed signs of disturbance by an elephant where the trap had been, and soon located the bait dish in the bush below where it had been hanging. This was completely empty. There was no sign of the trap; all that could be seen was the string that had secured it to the branch. A short while later my wife found it some distance away. The most extraordinary thing about this was that the elephant had been able to extract the bait dish from the trapnet, and to consume its contents, without spilling a single drop. This is even more remarkable when one takes into account the fact that the trapnet swung freely, with only a two inch gap between net and base, and with the dish recessed into the hardboard base. Truly, these are amazing creatures.

LETTERS TO THE EDITOR

CALL FOR HELP

Butterflies of West Africa - origins, natural history, diversity, and conservation

I am beginning to finalize a book on the 1,400 species of butterflies found in West Africa, defined as all the countries between Senegal and Nigeria. Any interesting records would be welcome, but my data are especially poor with regard to Guinea, Mali, Burkina Faso, Benin, and Niger. Many common butterflies have never formally been recorded from these countries. Any interesting observations on behaviour, migration, host plants, etc. will be incorporated in the book with due acknowledgement. I shall be happy to identify material. My experience is that more than 90% of all West African butterflies can be identified from snapshots with six to ten specimens on each standard-size photograph.

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The Black Witch, *Ascalapha odorata* (Linnaeus) (Noctuidae) visits again: an example of long distance wind dispersal.

In response to the question of whether strong winds affect insect distribution, posed by Michael Roberts in Vol 8, I can report on the incredibly disparate distribution of the Black Witch, *Ascalapha odorata* (Linnaeus). Specimens of this large noctuid moth are irregularly recorded many thousands of kilometres from their nearest home range.

Ascalapha odorata is endemic to the region encompassing the southern United States of America, Central America and tropical South America, but stragglers have been recorded from Canada and the species has been introduced to Hawaii. Vagrants of the species have also been recorded on a number of occasions in the early and mid-1900's from Tristan da Cunha Island, which lies 2900 km west of Cape Town. In January 1993 a single male specimen was captured on Gough Island (40°20'S 10°0'W) by Willie Stranix, the leader of the South African Meteorological team stationed on the island. Gough Island is situated 352 km SSE of Tristan da Cunha. A further specimen was sighted on Tristan da Cunha in the same month. Both records occurred after strong westerly winds. Amazingly, having travelled at least 3500 km, the specimen is in remarkable condition with only a single gouge out of the right forewing margin and a small portion of the apex of the same wing missing. The specimen was kindly donated to the South African Museum by Mike Fraser, at the time an environmental inspector employed by the Tristan da Cunha government.

This may be the furthest from home base that the Black Witch has been recorded and constitutes an unusual locality record for the species, albeit a migratory straggler. The Black Witch is one of the largest noctuids with a wingspan of up to 15 cm. Our largest local noctuid, *Erebus macrops* (Linnaeus), has a wingspan of 12 cm. Nevertheless, it is by way of wind assistance, rather than migratory power, that the Black Witch succeeds in reaching these distant destinations.

Black Witch larva feed on the genera *Pithecellobium* Mart. (Mimosaceae) and *Cassia* Linnaeus (Caesalpiniaceae) and the species has become established in Hawaii. It is feasible that a viable population may establish itself on the African mainland, although the chances of a fecund female travelling all the way across the Atlantic Ocean and locating a suitable host plant after such an epic journey must be fairly remote.

Simon van Noort, Life Sciences Division
South African Museum, P.O. Box 61, Cape Town, South Africa.

Appeal for help

I was wondering if an appeal could be put in the next *Metamorphosis* for anyone who has done any collecting of moths or butterflies in Swaziland to let me know what has been positively identified from Swaziland. With Neville Duke's untimely death, it has been decided to proceed with the publishing of the check list of moths and butterflies of Swaziland. We have about 1,700 moths and 300 butterflies at this time.

If someone has done genitalia prep on any from SD (e.g. *Syntarucus*), it would also be appreciated.

Chuck Saunders
TWR Box 1652, Manzini, Swaziland
Email: csauder@twr.org

THE EARLY STAGES OF AFROTROPICAL LEPIDOPTERA

by Ivan Bampton & Colin Congdon

The following is a list of Afrotropical butterflies of which at least part of the life history has been recorded and photographed by Ivan Bampton and Colin Congdon. We thought that many of our readers will be interested to know about this tremendous work that they are doing in east Africa. We are trying to find a way to publish as many of these as possible. If you are interested in finding out more about their work they can be contacted at ABRI , P.O. Box 14308, Nairobi, Kenya.

ed.

ALPHABETICAL INDEX

<i>Abantis arctomarginata</i>	<i>Caenides dacela</i>
<i>Abantis venosa</i>	<i>Capys</i> sp. nr. <i>connexivus</i>
<i>Abisara neavei</i>	<i>Catopsilia florella</i>
<i>Acraea acuta</i>	<i>Charaxes ansorgei</i>
<i>Acraea baxteri</i>	<i>Charaxes baumannii</i>
<i>Acraea bergeriana</i>	<i>Charaxes berkeleyi</i>
<i>A/aena bicolora</i>	<i>Charaxes chintechi</i>
<i>Andronymus ceasar</i>	<i>Charaxes congdoni</i>
<i>Andronymus hero</i>	<i>Charaxes druceanus</i>
<i>Andronymus marina</i>	<i>Charaxes fionae</i>
<i>Anthene amarah</i>	<i>Charaxes fulvescens</i>
<i>Anthene rubrimaculata</i>	<i>Charaxes howarthi</i>
<i>Anthene uzungwae</i>	<i>Charaxes macclounii</i>
<i>Anthene nr uzungwae</i>	<i>Charaxes margaretae</i>
<i>Aphaeus orcas</i>	<i>Charaxes protoclea</i>
<i>Aphysoneura pigmentaria</i>	<i>Charaxes xiphareis</i>
<i>Aphniolaus pallene</i>	<i>Chloroselas azurea</i>
<i>Appias sylvia</i>	<i>Coeliades forestan</i>
<i>Argiolaus aequatorialis</i>	<i>Colotis evenina</i>
<i>Argiolaus crawshayi</i>	<i>Colotis subfasciatus</i>
<i>Argiolaus iturensis</i>	<i>Cymothoe amaniensis</i>
<i>Argiolaus lalos</i>	<i>Cymothoe aurivillii</i>
<i>Argiolaus maritimus</i>	<i>Cymothoe egesta</i>
<i>Argiolaus montana</i>	<i>Cymothoe herminia</i>
<i>Argiolaus ndolae</i>	<i>Cyrestis camillus</i>
<i>Argiolaus pamae</i>	<i>Epamera alienus</i>
<i>Argiolaus poecilaon</i>	<i>Epamera apatosa</i>
<i>Argiolaus silarus</i>	<i>Epamera australis</i>
<i>Argiolaus</i> sp. (coast)	<i>Epamera bakeri</i>
<i>Argiolaus</i> sp. (Nyika)	<i>Epamera</i> sp.
<i>Artirtopa erinnys</i>	<i>Epamera congdoni</i>
<i>Artirtopa milleri</i>	<i>Epamera diametra</i>
<i>Athysanota omata</i>	<i>Epamera dubiosa</i>
<i>Axiocerces amanga</i>	<i>Epamera fontaine</i>

<i>Axiocerces coalescens</i>	<i>Epamera frater</i>
<i>Axiocerces tjoane</i>	<i>Epamera alienus</i>
<i>Belenois calypso minor</i>	<i>Epamera hemicyanus</i>
<i>Belenois rubrosignata</i>	<i>Epamera jacksoni</i>
<i>Bematistes scalivittata</i>	<i>Epamera mermis</i>
<i>Bematistes mimosae</i>	<i>Epamera pelodorus</i>
<i>Bematistes neavei</i>	<i>Papilio thurau</i>
<i>Bematistes penningtoni</i>	<i>Papilio demodocus</i>
<i>Bematistes pollux</i>	<i>Papilio fulleborni</i>
<i>Bematistes sidus</i>	<i>Papilio ophidicephalus</i>
<i>Bematistes stenogrammica</i>	<i>Precis touhilimasa</i>
<i>Bematistes tajoraca</i>	<i>Pseudiolaus poultoni</i>
<i>Bematistes violaceae</i>	<i>Spindasis ella</i>
<i>Byblia anvatara crameri</i>	<i>Stugeta bowkeri</i>
<i>Epitola pinodes</i>	<i>Stugeta mimetica</i>
<i>Epitola crowleyi</i>	<i>Tanuetheira timon</i>
<i>Epitola miranda</i>	<i>Tuxentius ertli</i>
<i>Epitola viridana</i>	<i>Uranothauma crawshayi</i>
<i>Etesiolaus catori</i>	<i>Uranothauma heritsia</i>
<i>Euphaedra medon</i>	<i>Virachola jacksoni</i>
<i>Euphaedra spatiosa</i>	<i>Virachola lorisona</i>
<i>Eurema senegalensis</i>	<i>Virachola magdae</i>
<i>Euxanthe crossleyi</i>	<i>Virachola montana</i>
<i>Gretna carmen</i>	<i>Zophopetes dysmephila</i>
<i>Hypophytala vansomereni</i>	<i>Sophopetes nobilior</i>
<i>Iolaphilus jamesoni</i>	<i>Lipaphnaeus loxura</i>
<i>Iolaphilus trimeri</i>	
<i>Iolaus bolissus</i>	
<i>Lachnoptera iole</i>	
<i>Lycaena abboti</i>	
<i>Mimacraea eltringhami</i>	
<i>Mylothris agathina</i>	
<i>Mylothris asphodelus</i>	
<i>Neita orbipalus</i>	
<i>Neocoenyra fulleborni</i>	
<i>Neocoenyra petersi</i>	
<i>Neptidopsis ophione</i>	
<i>Neptis</i> sp.	
<i>Neptis laeta</i>	
<i>Neptis ochracea</i>	
<i>Neptis trigonophora</i>	

EDITORIAL POLICY

Manuscripts dealing with any aspect of the study of Afrotropical Lepidoptera will be considered.

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Figures must be boldly drawn in black waterproof ink, and arranged in clear and logical plates on stiff, white, preferably A4-sized board. All figures must be numbered in a common sequence in Arabic numerals, irrespective of whether they are line drawings, photographs, diagrams, graphs or maps. Magnifications should be indicated by scale bars on the figures.

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