The Afrotropical Scythrididae

by

Bengt Å. BENGTSSON

Contents

Preface

A taxonomic work on entomology is at best a frozen picture of the current knowledge of the species of a particular group of insects, but at the same time it constitutes a step towards a better understanding of our world crowded by millions of animal species embracing countless small individual creatures. Many parts of the earth have not yet received due attention regarding insects, animals which have a much more important impact on our habitats than perhaps most people may think. Not only do various insects eat our growing crops and affect our decorative plants in our gardens, they also are vectors for more or less dangerous diseases. On the other hand they contribute to degradation of biological material, serve as pollinators, constitute food for humans and other animals, and maybe also give us opportunity to develop new medicines or other useful substances.

In order to understand the processes in nature one must know the different species as well as possible. If necessary measures must be taken to prevent serious damage to grain, fruit, or vegetables, one must comprehend the habits of living of every species of immediate interest, but most important is to know which species in fact is or are involved.

During the last century the landscape in most parts of the world has undergone a tremendous transformation due to growing population and increasing demands for a more “modern life” of which has followed a massive exploitation of land. Agriculture, roads, settlements, deforestation, recreational activities, use and misuse of water supplies, pollution of land, water, and air, etc. have implied serious consequences for the wild nature with its inhabitants. In historical time many areas have been destroyed by the ignorance of man. Unrestrained cutting of primeval forests, draining lakes and rivers or fields for cultivation or grazing, or flooding vast areas for water power are more large-scale activities, all of which probably have exterminated species that we never had a chance to discover. For this reason it is of great importance to learn as much as possible about all species, plants, animals, and fungi before more of them have disappeared.

During recent years another threat to biodiversity has towered aloft, global warming. This will perhaps not have a great effect on most of the species in Scythrididae since these moths usually prefer arid areas and may hopefully be able to migrate to adjacent suitable habitats. However, indirectly other long-term interference in connection to global warming may have an injurious effect on the micromoth fauna, e.g. increasing burning, overgrazing, increasing desert extension, and war.

This book aims to mirror the present knowledge of a small group of insects that may not be of a great concern vis-à-vis man, but still deserve to be noticed in our archives. It is the author’s wish that this work will demonstrate the great number of scythridid species that occur in an area much less known than for instance Europe, where exploration of the insect fauna has been going on for centuries. However, in future many more species will with certainty be discovered in the Afrotropical Region if entomologists still are able to visit various areas in the time to come.

Abstract

This work embraces all known taxa of the family Scythrididae in the Afrotropical Region. Seven genera are recognized from the area and 307 species are descried or re-described. Most species are illustrated in colour (imagines) and in black-and-white photographs (male and female genitalia). Among the 307 treated species 116 are previously described and 191 are new species.

The following synonymies are suggested:

Scythris ilyopa Meyrick, 1921 syn. nov. = *Apostibes halmyrodes* (Meyrick, 1921)
Eretmocera carteri Walsingham, 1889 syn. nov.= *E. fuscipennis* Zeller, 1852
Scythris obstans Meyrick, 1928 syn. nov. = *S. paulianella* Viette, 1956 syn. nov. = *Haploscythris chloraema* (Meyrick, 1887)
Scythris vulgata Meyrick, 1914 syn. nov. = *S. stagnosa* Meyrick, 1913
Scythris aphanatma Meyrick, 1933 syn. nov. = *S. badiella* Bengtsson, 2002 syn. nov. = *S. lamprochalca* Meyrick, 1931
Scythris homoxantha Meyrick, 1921 syn. nov. = *S. ochrantha* Meyrick, 1909
Scythris psamathota Meyrick, 1913 syn. nov. = *S. pelochyta* Meyrick, 1909
Scythris delodelta Meyrick, 1930 syn. nov. = *S. camelella* Walsingham, 1907
Scythris melanopleura Meyrick, 1914 syn. nov. = *S. erudita* Meyrick, 1914 syn. nov. = *S. meligastra* Meyrick, 1920 syn. nov. = *S. justifica* Meyrick, 1911.

The following new combinations (including their synonymies) are proposed:
Scythris canispersa Meyrick, 1913; *S. chloraema* Meyrick, 1887; *S, melanodora* Meyrick, 1912; and *S. sordidella* Bengtsson, 2002 are all transferred to the genus *Haploscythris*. *Scythris litholeuca* Meyrick, 1921 is transferred to *Paralogistis*, and *Catascythris kebirella* Amsel, 1935 is moved to *Scythris*.

Acknowledgements

This presentation would have been impossible to realize without many lepidopterists' tedious, and sometimes risky, efforts in the field, and also their generosity to let me examine their collected specimens. I owe a great debt to all those who have assisted me in various ways during the process of producing this work. First of all my sincere gratitude to **Wolfram Mey** (Zoologische Sammlungen am Museum für Naturkunde, Humboldt-Universität zu Berlin) who kindly brought me a large number of specimens from Namibia, South Africa and several other countries. Besides that he was one of those who triggered me to dig deeper into the scythridid fauna of this area when he asked me to examine material from Brandberg in northern Namibia. At this occasion I immediately realized how little we knew about the Afrotropical fauna of Scythrididae. I thank him for many valuable suggestions to improve the manuscript, as well.

I am deeply indebted to **David Agassiz** (Natural History Museum, London) who at an early stage sent a considerable number of undetermined scythridids to me, mainly from Kenyaand Tanzania, and later on provided colour photographs of larvae of a new species. He also kindly corrected the English in the manuscript. I also thank **Leif Aarvik** (Naturhistorisk Museum, Oslo) for offering me to examine scythridids from East Africa and giving important hints as to a new species. **Martin Krüger** (Transvaal Museum of South Africa, Pretoria) kindly helped me during a visit in 2008 when I examined types kept in the museum. He generously allowed me to borrow a large number of undetermined specimens of alleged scythridids for later investigation at home. **Ole Karsholt** (Zoologisk Museum, Copenhagen) is sincerely thanked for constantly providing interesting scythridid material from various parts of the world during the latest decades, also from the Afrotropical region. He also readily helped me with finding original descriptions difficult to access, and contributed with inspiring conversations during my visits to Copenhagen, as well.

I am indebted to **Hugo W. van der Wolf** (Neunen, The Netherlands) for handing over a number of nicely spread Afrotropical scythridid specimens that I could keep for my own reference collection. **Bernard Landry** (Muséum d'histoire naturelle de Genève) is heartily thanked for supplying interesting specimens mainly from Namibia. I owe a great gratitude to **Margie Cochrane** (South African Museum, Cape Town) for arranging a loan of abdomens of type specimens, in which course I also thank **Niels Peder Kristensen** (Zoologisk Museum, Copenhagen) who took an important role as an intermediary. **Kevin Tuck** (Natural History Museum, London) was very helpful when I paid visits to the museum in 2006 and 2007, on which occasions type material was examined. I thank **Jean-François Landry** (Agriculture and Agri-Food Canada, Ottowa) who kindly let me use his original drawings of *Paralogistis ochrura*, provided literature, and informed about species occurring in the current area.

Antti Aalto (Lohja-Jontomniemi, Finland), **Jurate De Prins** (Royal Museum for Central Africa, Tervuren), **Georg Derra** (Bamberg, Germany), **Sabine Gaal-Haszler** (Naturhistorisches Museum Wien), **Bert Gustafsson** (Naturhistoriska Riksmuseet, Stockholm), **Robert J. (Bob) Heckford** (Natural History Museum, London), **Lauri Kaila** (Zoological Museum, Helsinki), **Joël Minet** (Muséum National d'Histoire Naturell, Paris, France), **Kari Nupponen** (Esboo, Finland), **Rob Schouten** (Museon, Dept. of Natural History, Den Haag), and **Sergey Sinev** (The Zoological Museum, St. Petersburg) are all thanked for informing me on literature, labels of types, and/or letting me examine individual specimens. All others persons, not mentioned but not forgotten, who have assisted me in various ways during the work with this monograph, are heartily thanked.

Finally I owe great gratitude to Larsenska fonden (Entomologiska Sällskapet, Lund, Sweden) and Överbys fond (Entomologiska Föreningen, Stockholm) for financial assistance with visiting museums.

Introduction

The family Scythrididae embraces about 680 species assigned to about 30 genera (Nieukerken et al. 2011, with some updating of the species number and some uncertainty about the taxonomic rank of some species). They are distributed worldwide and even on isolated islands (e.g. the Archipelago of the Azores, Seychelles, Canary Islands, Sokotra, Bismarck Islands, and Hawaii) scythridids have been found. The scythridids typically are associated primarily with arid areas (steppe, savannah, semi-desert, etc.).

The species of Scythrididae are rather small moths having a wingspan of 6–30 mm with the most common value in the span 10–15 mm. In temperate and boreal regions the moths are mostly dark with brownish or greyish coloration, while in the tropic regions the scythridids frequently have pale forewings with beige or ivory ground colour. This is most certainly a result of adaptation to the parched environment and the climate in general; dark insects benefit from the fainter solar radiation in the northerly or southerly latitudes.

A typical scythridid has lanceolate wings with hindwing fringes longer than the largest width of the wing. In resting pose the moth seems elongated drop-shaped with round head and antennae directed backwards under the wings. A scythridid may easily be confused with micro-moth species in other families, especially with those in Blastobasidae, Momphidae, Coleophoridae, and Oecophoridae.

There are few if any characters yet discovered in Scythrididae, which unambiguously define the family. Most features can be found in other families but besides the general habitus, unfortunately shared by other families (see above), the veins R4 and R5 in the forewing rising from a common stem and running on each side of the apex, is a useful indication for a scythridid, though also this attribute is shared by species in some other families. For the rest of the venation no comprehensive study has been accomplished, but the few studies that have been made indicate that the venation has no distinguishing characteristic to classify the various species in tenable groups.

A more sophisticated character mentioned by Landry (1991) is the metathoracic furca which may be of special value, but so far a deeper analysis has not been published. Therefore Landry's comment on the phylogenetic position and monophyly of Scythrididae (comparing Cosmopterigidae, Gelechiidae, Scythrididae and Stathmopodidae) is still valid: "No cladistic hypothesis of relationships among these taxa has been proposed and at present, it is not possible to formulate a well supported hypothesis of sister-group of the Scythrididae".

The genitalia are often very complex. Hardly any family within Lepidoptera shows such a large variation in the genitalia with transformations, losses or merging of organs, ankylosis, extremely bizarre modifications, which sometimes makes it difficult or impossible to interpret the genitalia. In the male the eighth segment is strongly deviating from the anterior segments and may therefore provide important specific characters. In the female the genitalia exhibit few sclerotised parts that characterise the species. Most often the sterigma (sclerotised parts around the ostium) may define the species, and sometimes also the structure of segments 7 and 6 display sclerotisation that distinguish the species.

In this work all species from obtainable material are re-described or described as new species. In many cases only one single specimen has been available for description, but due to the unique construction of the genitalia very seldom doubt about the rank arises. Another typical trait in Scythrididae is the rare occurrence of sexual dimorphism, which facilitates the matching of males and females from different localities – within reasonable distance.

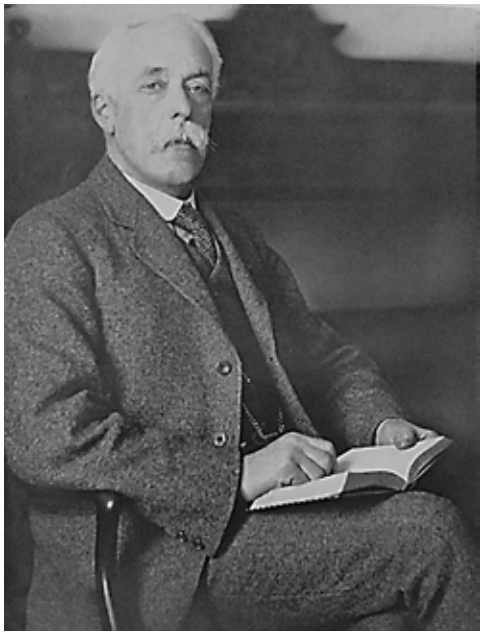
Previous treatments on Afrotropical Scythrididae

The Afrotropical (or Ethiopian) Region embraces in broad outline the African continent south of the Sahara and extends to the south part of the Arabian Peninsula. It also includes Madagascar and the adjacent islands in the Indian Ocean such as the Seychelles and the Comoro Islands, even if those islands in some contexts constitute a region of its own, the Malagassy (Madagascar) Subregion. The specific taxa treated in this work belong to the Afrotropical Region (see map), but some species extend their distribution area into the Palaearctic and/or Oriental Regions. There is a clear lepidopterological link between East Africa and the Arabian Peninsula and for this reason the southern and eastern part of the Arabian Peninsula is included in the Afrotropical Region.

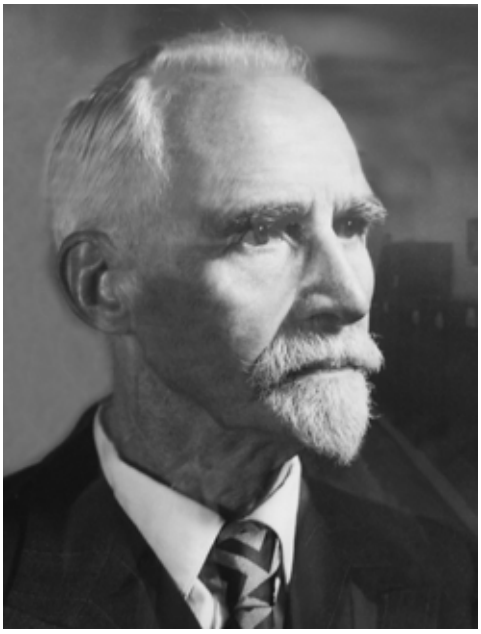
The first scythridid species descriptions from the Afrotropical Region were made by **Philipp Christoph Zeller** (1808–83). He described in 1852 the genus *Eretmocera* in which he included three species (*E. fuscipennis*, *E. laetissima*, and *E. scatospila*) that originated from South Africa. During the next half-century only scattered descriptions emerged until **Edward Meyrick** (1854–1938) devoted his entomological activities to exotic Microlepidoptera, in which connection he described a great many of the scythridids that have been known from the area to the present. Most of the species were published in his Exotic Microlepidoptera that emerged in five volumes between 1912 and 1936. Meyrick usually got material from collectors and museums, specimens of which he used for the enormous number of descriptions of new species. In the work "On the Types of South African Microlepidoptera described by the late Edward Meyrick..." by Janse (1968) the cooperation between Meyrick and the South African institutions was described and part of it is quoted here: "*Meyrick was not a "type maker" and rarely marked the specimens he described as types. As he once said, his notes together with keys and descriptions were sufficient for him to recognize any species he had dealt with before; his memory was phenomenal. In connection with the material he returned to me, he wrote in a letter of October, 1909: "With regard to types, you can regard the example returned to you as being the type in every instance" and in a letter of July, 1912 he wrote: "Wherever you have originally sent me two specimens of an insect which I have described as new, returning you one specimen and keeping the other myself, the specimen returned to you should always be regarded as the type"*.

The specimens he kept for his own collection was, according to Janse, surprisingly few bearing in mind the vast number of species he described. A complication that I did not understand immediately was the method of labelling the specimens, which are kept in BMNH. For instance, a label showing "1/1" was interpreted by me as if Meyrick only possessed one specimen of the species in question, and "1/2" subsequently was thought to

mean there were two specimens in his collection and that this particular specimen was number one of them. The first indication was confusing and could be apprehended as the type (i.e. the only known specimen).



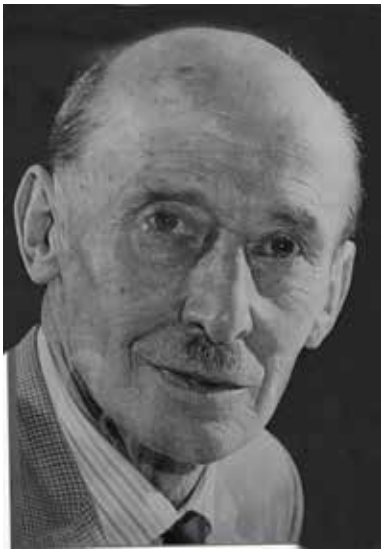
Edward Meyrick (1854–1938)



Antonie Johannes Theodorus Janse (1877–1970)

The material that was gathered in the museums in South Africa and elsewhere was collected by a great number of persons. One of the earliest collectors was **C. J. Swierstra** (1874–1952) who was the director of the Transvaal Museum during 1922–1946. Several of the specimens included in this work were collected by him.

C. J. Swierstra (1874–1952)



Georges Van Son (1898-1967)

The most prominent “African” lepidopterist and collector, active from the beginning of the 20th century, was **Antonie Johannes Theodorus Janse** (1877–1970). The majority of the specimens preserved in the museums in South Africa were collected by him. He spread the moths excellently, which has facilitated the identification of specimens. During his field trips in southern Africa he used primitive wagons or a vehicle enhanced by his own hand (“Schubkarre” in German), containing arrangements for cooking, sleeping and taking care of the collected insects. He wrote a diary embracing many notebooks, which are preserved in the TMSA. Janse visited many interesting places, which are now spoiled by urbanization or other exploitations and possibly some of the species he collected cannot be found today.

Primitive wagons or a vehicle enhanced by his own hand, used by A. J.T. Janse.

In the latter half of the 20th century some lepidopterists contributed a considerable number of scythridids, for instance **Georges Van Son** (1898-1967), **G. Hobohm** (1900–1991; mainly collecting in Namibia), **Sebastian Endrödy-Younga** (1934-1999), **Lajos Vári** (1916- 2011), and some others. **Martin Krüger**, curator at the TMSA allowed me to borrow a large number of undetermined scythridids collected by the persons mentioned above for my studies.

However, not until recent decades a larger number of specimens were accumulated, which have been the main basis for this monograph. Among all lepidopterists who have handed over a considerable number of recently collected specimens for my studies may be mentioned **David Agassiz** and **Leif Aarvik** (Kenya, Tanzania, etc.), **Wolfram Mey** (Namibia, South Africa, etc.), the late **Michael Fibiger** and **Hermann H. Hacker** (the Arabian Peninsula), **Bernard Landry** (Namibia), **Hugo van der Wolf** (Namibia and South Africa), **Ole Karsholt** (Namibia and South Africa).

A modern presentation of the lepidopteran fauna of the southwestern Africa was made by W. Mey (Mey 2011) in which work he described most aspects of collecting in that area. He also illustrated with colour photographs a large number of habitats with relevant species lists and abundance data of Lepidoptera.

In spite of a considerable stock of preserved material nobody devoted their studies to this group. Vári & Kroon (1986) released a catalogue, which embraced 57 species in 4 genera in Scythrididae. Of the listed species two do not belong to the Scythrididae, namely those in the genus *Oedematopoda* Zeller, 1852: *O. illucens* (Meyrick, 1914) and *O. princeps* (Zeller, 1852). The genus has been transferred to the family Oecophoridae.

The genus *Eretmocera* comprises many extremely glaringly coloured species. The first attempt to gather data on this fabulous genus was made by **Lord Walsingham** (Thomas de Grey, 6th Baron) (1889) and thereafter by E. Meyrick (1914). By studying the venation they assigned the known species to various genera. Since then nobody seems to have reviewed the species belonging to *Eretmocera.* The genus is included in this work but unfortunately the time has not allowed a deeper study.

A general survey of the descriptions of new species, arranged through the decades since the middle of the 19th centuary, can be seen in the diagram below. The two bars in the 1910’s and 1920’s are primarily a result of the achievement of Meyrick, and the bar associated with the first decade in the 21st century refers to works by Bengtsson (2002, 2004, 2005, and 2007).

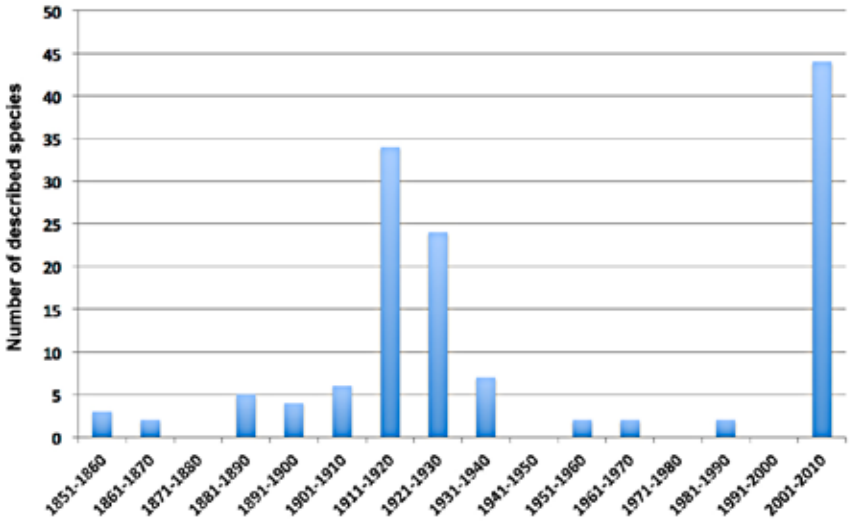


Diagram 1. A graphical outline of the publication dates of the described Afrotropical Scythrididae.

RSA, Karoo plain near Graaf-Reinet, Eastern Cape (photo: Wolfram MEY)

Material and methods

Specimens of Scythrididae were sent to me, handed over or borrowed from various museums and private collections during almost two decades. In 1996 material from Oman collected by **Bjarne Skule**, Denmark, was sent to me for determination from the Zoological Museum (ZMUC), Copenhagen (Bengtsson, 2002). During the following years further material was delivered by **Ole Karsholt** (ZMUC). In 2000 a large number of unspread scythridids collected in Yemen by the late **Michael Fibiger** and **Hermann H. Hacker** arrived, all specimens of which were later spread and examined by me. This resulted in the description of 39 new species and a review of the known species from the Arabian Peninsula.

At different occasions further material was sent to me in smaller portions but the offers from **David Agassiz** and **Wolfram Mey** to study specimens from Kenya(mainly Rift Valley) and Namibia (Brandberg) respectively inspired me to a broader treatment of the scythridids from the whole of the Afrotropical Region. Successively more specimens were put at my disposal by **Wolfram Mey**, **Leif Aarvik**, **Hugo van der Wolf**, **Berhard Landry**, and **Ole Karsholt**. In 2006 and 2007 I visited the Natural History Museum in London to examine type material, and in 2008 I visited the Transvaal Museum in Pretoria (TMSA) to study types and also to examine determined and undetermined material that was kept there. As two weeks there were not enough to examine all material kept in TMSA, then acting director and curator **Martin Krüger** allowed me to take with me 843 specimens that had been put in drawers as undetermined material. During that visit I also had the possibility to arrange for a loan of type specimens kept in the South African Museum in Cape Town. Altogether nearly 4000 specimens of Scythrididae were available for my studies of which the majority belonged to undescribed species.

Parts of the material were in some cases already roughly sorted by external characters by the collectors. Besides studying the external appearance, males could in many cases be determined by gently brushing off the anal tuft and under stereomicroscope discern the shape of valvae and/or other visible structures. This can very rarely be done with females, which often have only the ovipositor observable.

Specimens that could not be safely determined solely by the external appearance were successively dissected according to the standard method described by Robinson (1976) and Bengtsson (1997b). In short that means the following:The abdomen is removed by breaking it upwards. It is then macerated in hot 10 % potassium hydroxide for about 5 minutes while agitating the test tube. After rinsing the macerated abdomen from detritus the genitalia are separated from the abdominal segments at which occasion the structure of the genitalia and the eighth segment are especially scrutinized. All the remaining organs are dehydrated in ethyl alcohol, put in Euparal Essence, and finally embedded in Euparal on a slide.

A stereomicroscope Euromex DZ-160, 010/16 with 10X eyepieces was used for dissecting the genitalia. Most types were photographed before dissection of their genitalia. This is the reason why labels indicating type and slide number can be seen on only a few of the illustrations of imagines. Some photographs have been re-photographed from colour slides obtained from SAM, in which museum many types are kept. This procedure is indicated in the legend of the illustrations as also all other information that is considered relevant.

In effect all genitalia were photographed for subsequent comparison and evaluation. The first step was to take pictures with a Nikon Coolpix 4800 ED directly through the compound microscope eyepiece to produce a rapid printed out “database”. After having examined all material, a holotype specimen of each new species was selected and the genitalia were photographed with a Canon EOS 350D or Canon EOS 500D using a manual multilayer technique, which resulted in 10–40 pictures depending on the depth of the genitalia. A compound microscope Euromex EB No. 149508 with 50–400 times magnification together with an adapter for Canon EOS was used. The same technique was applied to produce images of the type specimen or a suitable voucher specimen, at which occasion a ring-shaped fluorescent tube with white light was utilized as illumination. The software Helicon Focus Version 4.2.8 (10871) stacked the images, which were thereafter manipulated with Adobe Photoshop CS4 Version 11.0.2.

An especially difficult task was to match males and females when found separately in different places at different times. Fortunately sexual dimorphism is rare in Scythrididae (cf. for instance Passerin d’Entréves & Roggero 2013), a circumstance that usually allows a satisfactorily safe matching. In connection with this various characters were used: head scaling, length, shape and coloration of labial palp, coloration and pattern in thorax and forewing, hindwing breadth and coloration, leg coloration and bristling, and finally the genitalia structure. Only in some cases there are small infraspecific dissimilarities in the shape, length, and coloration of the labial palp, as also in the coloration of the abdomens, but usually the appearance is comparatively uniform. Also the genitalia may vary infraspecifically but to a lesser extent.

The terminology of the different parts of the male and female genitalia follows Klots (1956) with the exception of aedeagus, for instance used in Bengtsson (2004 and 2007), that is here called phallus according to

Kristensen (2003: 103).

Widths of the forewing and the hindwing are measured at approximately one third from the base. When a species is roughly described in the diagnosis paragraph certain adjectives are used to describe the size. The following approximate measures for the wingspan are used: Very small < 7 mm, small 7–10 mm, medium-sized 11–15, rather large 15–18 mm, and large >18 mm.

A slide number followed by an "X" indicates that the preparation of the genitalia was made on an "external specimen", i.e. from borrowed specimens and not from my own collection.

Abbreviations

For the museum acronyms the Internet site http://hbs.bishopmuseum.org/codens/codens-inst.html ('Abbreviations for Insect and Spider Collections of the World' – 2011) was principally used.

BMNH – Natural History Museum, London, UK
BÅB – Bengt Å. Bengtsson, private collection
LNKD – Landessammlung für Naturkunde, Karlsruhe, Germany
mamsl – meters above mean sea level
MHNG – Muséum d'Histoire Naturelle, Geneva, Switzerland
MNHN – Muséum National d'Histoire Naturell, Paris, France
MZH – Finnish Museum of Natural History, Helsinki, Finland
MFN – Museum für Naturkunde, Berlin
NHMW – Naturhistorisches Museum, Vienna, Austria
NHRS – Naturhistoriska Riksmuseet, Stockholm, Sweden
NMK – National Museums of Kenya, Nairobi, Kenya
RJH – Robert J. Heckford, private collection
R.M. – Slide acronym at NHRS
RMCA – Musée Royal de l'Afrique Centrale, Tervuren, Belgium
SAM – South African Museum, Cape Town, South Africa
TMSA – Transvaal Museum, Pretoria, South Africa (now Ditsong National Museum of Natural History)
NHMO – Zoological Museum, Oslo, Norway
ZMUC – The Zoological Museum, Copenhagen, Denmark

RSA, Table Mountain near Constantia (photo: Wolfram Mey)

List of collecting sites (according to the labels)

Locality	Country	Coordinates
Abachaus [=Abachaub]	Namibia	19°50‘S 16°30‘E
Abuko Nature Reserve	Gambia	13°24‘N 16°39‘W
Ai-Ais, Fishriver Canyon	Namibia	28°06‘S 17°11‘E
Al Ain, Al Mukalla	Yemen	14°33‘N 49°08‘E
Al Ajban	UAE	24°36‘N 54°41‘E
Al Dalhan	Saudi Arabia	24°41‘N 46°38‘E
Alen	Equatorial Guinea	1.5°N 10.1°E
Algeria Forestry	South Africa	32°20′ S 19°05′E
Aliwal North	South Africa	33°55‘S 18°33‘E
Amanzitoti, [Kwazulu]-Natal	South Africa	30°03‘S 30°53‘E
Arumeru Distr., Usa River	Tanzania	3°23‘S 36°50‘E
Arumeru Distr.: Mt. Meru For. Res., 9 km NNE Olmotonyi	Tanzania	3°17‘S 36°40‘E
Asir Mountains	Saudi Arabia	19°18‘N 42°23‘E
Äthiopien, Tana-See, Bahir Dar	Ethiopia	11°36‘N 37°23‘E
Auas Mts, Krumhuk	Namibia	22°44‘S 17°07‘E
Auas Mts, Windhoek	Namibia	22°38‘S 17°05‘E
Az-Zahran, Dahran	Saudi Arabia	26°17‘N 50°07‘E
Bajil, Khamis Bani Sa‘d	Yemen	c. 15°09‘N 43°57‘E
Bakau, W. of Banjul	Gambia	13°27‘N 16°40‘W
Barberton	South Africa	25°47‘S 31°03E
Bathurst (now Banjul)	Gambia	13°27‘N 16°40‘W
Beaufort West, Western Cape.	South Africa	32°21‘S 22°35‘E
Behara	Madagascar	24°57’ S 46°23’E
Beit Bridge	Zimbabwe	22°10‘S 30°05‘E
Belmont	South Africa	27°29‘S 28°44‘E
Bethanien	Namibia	26°30‘S 17°10‘E
Bontebok NP, Western Cape, Swellendam	South Africa	34°09‘S 20°26‘E
Brakt, Richtersveld	South Africa	c. 29°S 17°E
Brandberg	Namibia	c. 21°10‘S 14°25‘E
Brukarros, Upper campsite	Namibia	c. 25°52‘S 17°48‘E
Bulawayo, Matopos Nat. Park	Zimbabwe	20°30‘S 28°32‘E
Bullspoort, Rehoboth Distr.	Namibia	24°08‘S 16°24‘E
Bushmanland, Klein Dobe	Namibia	c. 25°S 20°E
Cape Prov., Beaufort-West, Karoo NP [Western Cape]	South Africa	32°15‘S 22°17‘E
Cape Prov., Cradock Mountain, Zebra NP [Eastern Cape]	South Africa	32°11‘S 25°27‘E
Cape Province, Port Elisabeth [Eastern Cape]	South Africa	33°58‘S 25°36‘E
Cederberg, Algeria, Jamaka-Farm	Namibia	32°23‘S 19°03‘E
Central Pr., L. Naivasha, 6000 ft	Kenya	0°40‘S 36°23‘E
Central Region, Lilongwe District, Ntchisi Forest Reserve, 1560 m	Malawi	c. 13°56‘S 33°47‘E
Central, Escarpment between Limuru and Mai Mahiu, 1850m	Kenya	1°29‘S 36°36‘E

Central, Naro Moru, 6500 ft	Kenya	0°10‘S 37°10‘E
Christiana	South Africa	27°56‘S 25°09‘E
Coast, Kilifi, s.l.	Kenya	3°38‘S 39°53‘E
Coast, Mwabungu, s.l.	Kenya	4°21‘S 39°32‘E
Coast, Voi, 2000 ft	Kenya	3°24‘S 38°33‘E
Coast, Watamu s.l.	Kenya	3°21‘S 40°10‘E
Colenso	South Africa	28°44‘S 29°49‘E
Cookhouse	South Africa	32°45‘S 25°49‘E
CP, Richtersveld, 4 km N Hellskloof [Northern Cape]	South Africa	28°17’S 16°59’E
CP, Richtersveld, Eksteenfontein [Northern Cape]	South Africa	28,82°S 17,26°E
Cradock, C.P. [Eastern Cape]	South Africa	See 29 above
Crocodile Bridge	South Africa	25°24‘S 31°54‘E
D.O. Afrika, Amani	Tanzania	5°06‘S 38°38‘E
Dhaid	UAE	25°17‘N 55°53‘E
Dimbokro	Ivory Coast	6°40´N 4°42´W
Donkerhoek, Gauteng	South Africa	25°48’S 28°24’E
Donkerhoek, Western Cape	South Africa	31°52’S 22°30’E
E Cape, Camdeboo, Graaff-Reinet Distr., Farm Paardekraal	South Africa	c. 32.3°S 24.5°E
E Caprivi: Katima Mulilo	Namibia	17°30‘S 24°16‘E
Eala	Congo	0°04´N 18°17´E
East Carprivi: Mudumu NP, Nakatwa	Namibia	18°10‘S 23°25‘E
East Usumbara, Mts.Amani, 1000 m	Tanzania	c. 5.0°S 38.5‘E
Eastern Cape, Camdeboo, Graaf-Reinet Dist., Farm Paardekraal	South Africa	32°13’S 24°30’E
Eastern Embu, 5000 ft	Kenya	c. 0.6°S 37.5‘E
Eastern, Tsavo Safari Camp, 2000 ft	Kenya	c. 3.0°S 38.5‘E
Erichsfelde (150 km N Windhoek)	Namibia	21°35’S 16°56’E
Erongo Mt., Farm Ameib	Namibia	21°47’S 15°38’E
Erongo, Eileen Farm campsite, 1310 m	Namibia	c. 21.3°S 15.4°E
Erongo, Kuduberg Farm, LF	Namibia	c. 21.3°S 15.4°E
Etendeka, Grootberg Pass, 1546 m	Namibia	c. 19.8°S 14.1°E
Etosha NP, Halali Camp st 3, 1232 m	Namibia	c. 19.0°S 16.3°E
Etosha Pan, Okaukujo camp	Namibia	c. 19°07‘S 15°33‘E
Etosha, Namutoni	Namibia	18°52’S 16°56’E
Farm Italy, Ladybrand Distr.	South Africa	c. 29.2°S 27.5°E
Fishriver, Gondwana Canyon Lodge	Namibia	c. 26.3°S 17.6°E
Fujeirah	UAE	25°07‘N 56°21‘E
Gabarone	Botswana	24.7°S 25.9°E
Gamsbg. campsite, Weener	Namibia	23.3°S 16.3°E
Ganab, 60 km NE Gobabeb	Namibia	23.3°S 14.8°E
Gauteng, Cullinan, premier Game Park	South Africa	25°40‘S 28°31‘E
Gauteng, Tswaing, Pretoria	South Africa	25°43’S 28°11’E
Gelapp Ost 3, Keetmannshoop	Namibia	26°34‘S 18°08‘E

Geluk C.P. [? 200 km S of Pretoria]	South Africa	? 27°20‘S 28°42‘E
Gemu Gofa, Arba Minch	Ethiopia	c. 8.1°S 39.1°E
Gilgil	Kenya	0º29´S 36º22´E
Gobabeb, SWA, Praetorius, Riverbed	Namibia	23°34‘S 15°03‘E
Gondwana Canyon Park	Namibia	27°38‘S 17°49‘E
Gossi	Mali	15°49‘S 1°18‘W
Grahamstown	South Africa	33°19‘S 26°32‘E
Great Spitzkoppe	Namibia	21°50‘S 15°12‘E
Grootfontein, Otavi	Namibia	19°38‘S 17°21‘E
Grootfontein: Etosha Pan	Namibia	18°40‘S 16°30‘E
Grünau dist., farm Noachabeb	Namibia	27°44‘S 18°22‘E
Gubi	Congo	3° 49‘N 30° 0‘E
Hadramaut, Tarim	Yemen	16°03‘N 49°E
Haenertsburg, Transvaal, cls	South Africa	23°56‘S 96°57‘E
Halali, Etosha Nat. Park	Namibia	19°02‘S 16°28‘E
Hankey, CP.	South Africa	33°50‘S 24°53‘E
Hawra, Wadi Hadramaut	Yemen	14°41‘N 49°08‘E
Hluhluwe	South Africa	28°01‘S 32°16‘E
Hoanib, Khowareb	Namibia	19°30‘S 13°14‘E
Hobatere Lodge, campsite	Namibia	19.3°S 14.4°E
Hopefontein [Hope Fountain]	Zimbabwe	20°11‘S 28°36‘E
Ht Katanga, Panda	Zaire	8.9°S 25.9°E
Ht Katanga, Sakania	Zaire	12.8°S 28.6°E
Ht Katanga, Tshinkolobwe	Zaire	11°02‘S 26°35‘E
Hudaydah, Bajil	Yemen	15°04‘N 43°17‘E
Huwailat	UAE	c. 25°48‘N 55°59‘E
Ibadan	Nigeria	7.4°N 3.9°E
Ingwavuma	South Africa	27°08‘S 32°00‘E
Iringa Reg., Iringa Distr.: Itefwe, Philip’s Farm	Tanzania	7°45‘S 35°42‘E
Isipingo [near Durban]	South Africa	30.0°S 30.9°E
Jadini	Kenya	4°11‘S 39°38‘E
Kalahari, Gemsbok NP	Botswana	25°26‘S 20°54‘E
Kaokov[eld], Joubertpass	Namibia	c. 18°18‘S 13°42‘E
Karibib, Ombujomenge Farm	Namibia	21°56‘S 15°51‘E
Karios 8 Lodge, Swartkopp[is]	Namibia	27°40‘S 17°49‘E
Karios, Gondwana Canyon Lodge	Namibia	? 27°39‘S 17°46‘E
Karoo National Park	South Africa	32º19‘S 22º30‘E
Kavango: Kaudom-Camp, lux	Namibia	c. 18°50‘S 18°50‘E
Kavango: Popa Falls	Namibia	18°07‘S 21°35‘E
Kibondo District, Malagarasi River, 1110 m	Tanzania	5°06‘S 30°49‘E
Kilaguni Lodge	Kenya	3°24‘S 37°43‘E
Kimberly	South Africa	28°45‘S 24°46‘E

Kimboala Eastcourt, Weenen Natal	South Africa	28°51‘S 30°05‘E
Kinyanga	Uganda	1°57‘N 31°44‘E
Klipplaat	South Africa	33.0°S 24.3°E
Knysna, CP., Sourflats	South Africa	34°02‘S 23°02‘E
Koiimasis, Tiras Berge	Namibia	25.9°S 16.3°E
Kolke Nasepberg	Namibia	27°38‘S 16°48‘E
Kotu Stream	Gambia	13°28‘N 16°42‘W
Kowyn’s Pass, Pilgrim’s Rest Distr.	South Africa	24°57‘S 30°52‘E
Kuboos (Richtersveld)	South Africa	28°27‘ S, 16°59‘ E
Lake Bogoria	Kenya	0°21‘N 36°04‘E
Lake Mentz	South Africa	33°10‘S 25°09‘E
Letaba Camp, K.N.P. Survey	South Africa	23°52‘S 30°16‘E
Loc. Jadini	Kenya	4°20›S 3934‘E
Louis Trichard [Limpopo]	South Africa	25°28‘S 30°59‘E
Lower Sabi [Mpumalanga]	South Africa	25°07‘S313°55‘E
Lundi, Rhod., Nuanetsi Dist.	Zimbabwe	c. 20°55‘S 30°48‘W
Lushoto Distr., Mazumbai For. Reserve	Tanzania	c. 4°48‘S 38°18‘E
Magude	Moçambique	25°02‘S 32°39‘E
Mahafiz	UAE	25.2°N 55.8°E
Makaban, Naqil, Man	Yemen	? c. 15.2°S 44.8°E
Malelane, K.N.P. Survey	South Africa	25°29‘S 31°31‘E
Marieps Mnt.	South Africa	24°35‘S 30°52‘E
Marydale	South Africa	29°25‘S 22°06‘E
Masvingo, Kyle Nat. Park	Zimbabwe	20°11‘S 31°01‘E
Matjiesfontein, C.P.	South Africa	33°13‘S 20°35‘E
Maulanje Mts, Likabula	Malawi	16°01‘S 35°32‘E
Maulanje Mts, Ruo River	Malawi	16.1°S 35.7°E
Mile 46, Rundu District	Namibia	c. 17.9°S 19.8‘E
Mkulumuzi Gorge,Tanga Region	Tanzania	5°04‘S 39°02‘E
Mkuzi Game Reserve	South Africa	27°39‘S 32°14‘E
Montagu	South Africa	33°47‘S 20°07‘E
Moorddrift	South Africa	24°17‘S 28°58‘E
Morogora Distr. & Town: Kihonda	Tanzania	1°41‘S 33°49‘E
Morogoro Distr.: Kimboza For. Res.	Tanzania	7°02‘S 37°47‘E
Morogoro Distr.: Kitulangalo For. Res.	Tanzania	3°22‘S 36°35‘E
Morogoro Distr. & Town: Kigurunyembe	Tanzania	6°49’S 37°38‘E
Moutons Puts, Gordonia Distr. [probably in Northern Cape Prov. at Road R355]	South Africa	c. 30°S 18.5°E
Mt. Erongo, Fram Mosich,	Namibia	21.41° S 15.47° E
Mt. Etjo, 30 km E Kalkrand	Namibia	23°59‘S 17°50‘E
Mt. Mulanje	Malawi	15°58’S 35°39’E
Mulanje Mts, Chambe Hut	Malawi	15°50’S 35°35’E
Mulanje Mts, Ruo River	Malawi	c. 16°S 36°E

N Region, 20 km SE Ibra	Oman	c. 22.5°N 58.7°E
N Region, Al Hail, 7 km E Seeb	Oman	c. 23.6°N 58.2°E
N Region, Jabal Shams, 19 km NW Al Hamra	Oman	c. 23.1°N 57.3°E
N Region, Wadi Al Khawd, 20km S Seeb	Oman	c. 23.6°N 58.3°E
N Region, Wadi Tanuf	Oman	c. 23.0°N 57.5°E
Nairobi	Kenya	c. 1.3°S 36.8°E
Naivasha	Kenya	0º45´S 36º24´E
Namaqua Coast, Gemsbok, Vlakte farm	South Africa	c. 30°S 17°E
Namib-Naukluft NP, campsite	Namibia	24.2°S 16.1°E
Namib, Wlotzkasbaken	Namibia	22°24‘S 14°27‘E
Namutoni, Etosha Nat. Park	Namibia	c. 18°50‘S 16°56‘E
Naro Moru	Kenya	0º10´S 37º01´E
Natal, Kimbolton, Estcourt, Weenen	South Africa	28°51‘S 30°05‘E
Natal, Uhmlanga Rocks	South Africa	29°43‘S 31°05‘E
Natal, Umfolozi Game Res.	South Africa	28°19’S 31°52’E
Naukluft	Namibia	24°12‘S 16°13‘E
Naukluft, Blässkranz Farm	Namibia	c. 24.3°S 16.3°E
Naukluft, Tsams-Ost	Namibia	c. 24.3°S 16.3°E
Ndumu Nat.	South Africa	26°55’S 32°16’E
near Hamatiyat	Saudi Arabia	26°37’N 46°43’E
Nkana, N. Rhod.	Zambia	12°50’S 28°12’E
Nkolentangan [Wele-Nzas prov.]	Equatorial Guinea	10°30‘ E 1°35‘ N
Nkwaleni, Natal, Asts	South Africa	28°45’S 31°29’E
Noachabeb	Namibia	27°26’ S 18°31’E
North Cape, Kamieskr., Sneekop	South Africa	c. 30°S 17.6’E
North Cape, Spoekrevier, Bethel klip	South Africa	c. 30°S 18’E
North West, Pilanesberg	South Africa	c. 25.2°S 27.1’E
Northern Cape, Spitskop Reserve, 13 km N Upington	South Africa	28.3°S 21.2°E
Northern Prov., Kruger NP, Shingwedzi, st. 8	South Africa	23°01’S 30°44’E
Northern Prov., Tshipise	South Africa	22.5°S 30.7°E
Northern Region, Wadi Tanuf	Oman	23°02’N 57°28’E
Northern Region,Jabal Shams,19km NW Al Hamra	Oman	23°14’N 57°15’E
Noupoort, CP	South Africa	31.2°S 25°E
Nubien, 2. Nilkatarakt, Ost-Ufer	Sudan	21°48‘N 31°22‘E
Nwanedzi K.N.P. Survey	South Africa	23°49‘S 31°25‘E
Nyandu Bush, K.N.P. Survey	South Africa	22°41‘S 31°23‘E
Nyanga Nat. Park	Zimbabwe	18°13‘S 32°44‘E
Nyika Plateau, S of Vitintiza Hill, Sambara River	Malawi	c. 10.8°S 33.7°E
Nyika Plateau, W of Chelinda Camp	Malawi	c. 10.6°S 33.8°E
Nylstroom	South Africa	22°42‘S 28°25‘E
OFS, Farm Abel 52, 4km E of Parys	South Africa	26°54’S 27°37’E
Okahandja	Namibia	21°59‘S 15°52‘E

Okahandja District, Erichsfelde [cattle ranch]	Namibia	c. 22°S 16°E
Okatjikona, Waterberg Nat. Park	Namibia	c. 20.5°S 17.2°E
Okaukoejo, Etosha Nat. Park	Namibia	19°11‘S 15°55‘E
Omatako Ranch, 80 km N Okahandja	Namibia	19°33‘S 18°50‘E
Omdraai, C.P., nr. Kakamas	South Africa	28.8°S 20.6°E
Ongvaiti Rivier, Outjo distr.	Namibia	20.1°S 16.1°E
Orange [River], Gamkap	Namibia	28.7°S 18.5°E
Oranjekrag H.F. Verwoerd Dam	South Africa	30°36‘S 25°29‘E
Organ Pipes, Damaraland, Kuene	Namibia	20.6°S 14.4°E
Otjikondo, W Outji, Holstein Farm	Namibia	?c. 20.1°S 16.1°E
Outjo	Namibia	c. 20.1°S 16.1°E
Outjo, Buschfeld Park Resort	Namibia	c. 20.1°S 16.1°E
P.K. le Roux Dam van der Kloof, C.P.	South Africa	29°47‘S 30°50‘E
Pafuri, K.N.P. [Kruger Natinal Park]	South Africa	22°27‘S 31°21‘E
Percy Fyfe Nat. Res., Potgietersrus Distr.	South Africa	24°03‘S 29°10‘E
Perinet Mountain Forest	Madagascar	19°00‘S 48°50‘E
Popa-Falls, Okawango River	Namibia	18°07‘S 21°35‘E
Popetekwe Bridge	Zimbabwe	20°06‘S 31°05‘E
Port Elisabeth	South Africa	33°58‘S 51°34‘E
Pretoria	South Africa	25°43‘S 28°11‘E
Pretoria, Willow Glen	South Africa	25°44‘S 28°08‘E
Pretorius Kop	South Africa	25°10‘S 31°15‘E
Prieska, C.P.	South Africa	29°40‘S 22°44‘E
Prov. Abyan, 50kmNE Aden, 7kmNE [NW?] Zinjibar, Wadi Bana	Yemen	13°12‘N 45°19‘E
Prov. Al Hudaydah, Jabel, Burra, 25kmSE Bajil	Yemen	14°56‘N 39°21‘E
Prov. Al Hudaydah,Tihama,10kmWSW Hays	Yemen	13°53‘N 43°23‘E
Prov. Al Mahwit, 5kmN Kamis Bani Sa‘d	Yemen	15°11‘N 43°58‘E
Prov. Hadramaul, 25 km NE Al Mukala, 20 km NW>	Yemen	14°37‘N 49°03‘E
Prov. Ibb, 5kmNE Al Qa‘jdah	Yemen	13°47‘N 44°10‘E
Prov. Sana‘a, 60 km SW Makaban, Naqil Manakhah	Yemen	15º04‘N 43º39‘E
Prov. Sana‘a, 6kmNW Suq Baw‘an	Yemen	c. 15°N 44°E
Prov. Sana‘a, Jabalan Nabai Shu‘ayb	Yemen	? 13°45‘N 43°48‘E
Prov. Shabwah, 5 km SE Mayfa‘ah	Yemen	14º12‘N 45º51‘E
Prov. Shabwah, Abdalla Garip Pl., 63 km NW Mukalla	Yemen	14º36‘N 49º07‘E
Prov.Ta‘izz,Wadi Warazan, 5 km NW Ar Rahidah	Yemen	13º24‘N 44º15‘E
Punda Milia, K.N.P: Survey	South Africa	22º41‘S 31º02‘E
Ramisi River	Kenya	4°32‘S 39°25‘E
Ras al Khaimah, shore dunes	UAE	25.8ºN 56ºE
Rehoboth	Namibia	23º20‘S 17º05‘E
Resolution, Albany Distr.	South Africa	33º10‘S 26º37‘E
Richtersveld, 4 km SSW Stinkfontein	South Africa	31º48‘S 20º32‘E
Richtersveld, Numees, Helskloof Gate	South Africa	28º11‘S 16º50‘E

Richtersveld, Yellow Dunes bei Brandkaros	South Africa	28º30‘S 16º40‘E
Richterveld, Stinkfontein	South Africa	28,49°S 17,13°E
Rift Valley, 30 km N Rumuruti	Kenya	0º26‘N 36º41‘E
Rift Valley, Gilgil	Kenya	0º29‘S 36º19‘E
Rift Valley, L. Baringo	Kenya	0.6ºN 36.0ºE
Rift Valley, L. Bogoria	Kenya	0°36‘N 69°38‘E
Rift Valley, L. Naivasha	Kenya	0°29‘S 36°19‘E
Rift Valley, Lake Naivasha Park	Kenya	0.8ºS 36.4ºE
Rift Valley, Lake Nakuru Park	Kenya	0.3ºS 36.1ºE
Rift Valley, Marich Pass	Kenya	1.5ºN 35.4ºE
Rift Valley, Marigat	Kenya	0.5ºN 36.0ºE
Rift Valley, Mpala Res.	Kenya	c. 0.1ºN 36.5ºE
Rift Valley, Prov. Molo	Kenya	0.3ºN 35.7ºE
Rift Valley, Samburu	Kenya	3.8ºS 39.3ºE
Rift Valley, Soysambu Est.	Kenya	0.8ºN, 35.1ºE
Rift Valley, Turi	Kenya	0.3ºS 35.8ºE
Rochdale 700, Soutpansberg Distr.	South Africa	22º52‘N 29º38‘E
Rooisand, Gamsberg Pass	Namibia	23º14‘S 16º15‘E
RSA, Cederberg, Algeria, Jamaka-Farm	South Africa	32º23‘S 19º03‘E
RSA, Karoo Nat. Park	South Africa	32°19’S 22°30’E
RSA, Limpopo, Nylstroom Farm ”Sericea”	South Africa	24°43’S 28°39’E
RSA, North Cape, Aygrabies Falls NP	South Africa	28°28’S 20°11’E
RSA, North Cape, Kalahari, Gemsb. NP	South Africa	25°29’S 20°38’E
RSA, North Cape, Molopo Lodge	South Africa	? 25°53’S 23°58’E
RSA, Richtersveld, Koeroegabvlakte	South Africa	28°16’S 17°03’E
RSA, Transvaal, Bundu Inn	South Africa	25°25’S 28°03’E
RSA, West Cape, Karoo NP	South Africa	32.3°S 22.2°E
Rundu, Okavango River	Namibia	17°55’S 19°43’E
Rustenburg Natuureservaat	South Africa	25°40’S 27°15’E
S Kibungo, Akagera River, Ibanda Makera	Rwanda	1°12’S 30°38’E
Samburu	Kenya	3°47’S 39°17’E
Sana‘a, Sana‘a	Yemen	c. 15.4°N 4.2°E
Santiago, Tarafal	Cape Verde	c. 15.1°N 23.6°W
Satara, K.N.P. Survey	South Africa	24°23’S 31°47’E
Sawmills	Zimbabwe	19°35´S 28°03´E
Schmidtsdrif, C.P.	South Africa	28°42’S 24°03’E
Sesriem, an C 27	Namibia	24°29‘S 15°48‘E
Sesriem, Namib-Naukluf NP	Namibia	c. 25°S 15°E
Seweweekspoort [=Seven Weeks Poort]	South Africa	33°22’S 21°25’E
Sharjah Desert Park	UAE	c. 25.3°N 55.5°E
Sharta, W. Halfa distr.	Sudan	c. 14.0°N 32.3°E
Shingwedzi	South Africa	23°01’S 30°44’E

Sinkat	Sudan	c. 18.8°N 36.8°E
Skukuza, K.N.P. Survey	South Africa	25°00'S 31°35'E
Smithfield, Orange Free State	South Africa	30º05´S 26º30´E
Socotra, Adho Dimellus	Yemen	12°33'N 54°03'E
Soebotsfontein [Northern Cape)	South Africa	30°07' S 17°35'E
Sokotra, Hadibu plains	Yemen	12°20'N 54°02'E
Somanga	Tanzania	23°01'S 30°44'E
Sossusvlei Lodge st 1	Namibia	24°44'S 15°19'E
Southern Region, Mwanza Distr.: Mpatamanga W	Malawi	15°43'S 34°44'E
Soutpansberg	South Africa	22º52'N 29º38'E
Soysambu Est.	Kenya	0º24´S 36º14´E
Springbok	South Africa	29°40'S 17°53'E
Stormsriviermond Coast Nat. Park	South Africa	34°02'S 23°54'E
Tai'zz, Ta'izz	Yemen	13°34'N 44°01'E
Tanga, Pangami	Tanzania	5°26'S 38°58'E
Tanrangire Nat. Park: Tar. Tented Camp	Tanzania	c. 4.2°S 36.2°E
Thabazimbi, Tvl.	South Africa	24°35'S 27°24'E
Three Sisters	South Africa	24º37´S 30º47´E
Tiefen-Bach, Okahandja, LF	Namibia	21°59'S 16°55'E
Tihama, 3 km N Bayt at Faqih	Yemen	c. 14.5°W 43.3°E
Tiras Mts	Namibia	26°02'S 16°16'E
Tiwi Beaches	Kenya	4°14'S 39°36'E
Transvaal, Meyerton, Suikerbosrand nr Kareekloof	South Africa	26°30'S 28°15'E
Transvaal, Nelspruit	South Africa	25°28'S 30°59'E
Transvaal, Sabi Sands	South Africa	24°47'S 31°30'E
Tsauchab, 68 km S Solitaire Oerwald, 1080 m	Namibia	24°14'S 16°20'E
Tsondab Vlei	Namibia	23°53'S 15°54E
Tsumeb	Namibia	19°15'S 17°43E
Umhlanga Rocks Nat.	South Africa	29°43'S 31°05'E
Umkomaas	South Africa	31°12'S 30°49'E
Umtali [Mutale]	Zimbabwe	18°58'S 32°40'E
Valencia Farm, Rehoboth Distr., S W A	Namibia	23°10'S 16°28'E
Van Niekerk Hotel nr. Gwaai Bridge	Zimbabwe	18°38'S 27°07'E
Van Zylrus, Gordonia Distr.	South Africa	28°43'S 17°18'E
Varianto, Otavi Mountains	Namibia	19°18'S 17°40'E
Verwoerd Dam [now Garieb Dam], Oranjekrag, O.F.S.	South Africa	c. 30.7°S 25.7°E
Vict. Falls Road, 38 m. fr. Bulawayo	Zimbabwe	19°37'S 28°23'E
Victoria Falls Camp	Zimbabwe	17°55'S 25°52'E
Vioolsdrif	South Africa	28°50'S 17°38'E
W Africa, Bathurst [=Banjul]	Gambia	13°27'N 16°35'W
W Cape, Beaufort West, Karoo N.P. Camp	South Africa	32°21'S 22°35'E
W Cape, Kango Mt Resort, 23kmN Oudtshoorn	Namibia	13°27'N 16°40'W

W Cape, Kango Mt Resort, 23kmN Oudtshoorn	South Africa	33°25'S 22°17'E
W-Tsavo, Kilaguni Lodge	Kenya	2.9°S 38.05°E
Wad Medani	Sudan	14°24'N 33°31'E
Wadi Al Ejeili	UAE	c. 24°00'N 54° E
Wadi Daw'an, Al Huraydah	Yemen	c. 14°49'N 43°06'E
Wadi Hadramaut	Yemen	c. 14°46'N 49°07'E
Wadi Maidag [=Maydar Bu Awanah?]	UAE	c. 22°59'N 54°14'E
Wankie [now Hwange]	Zimbabwe	18°20'S 26°25'E
Watamu, Watamu Beach	Kenya	3°22'S 40°01'E
Waterberg NP	Namibia	20.5°N 17.2°E
Waterberg, Onjoka	Namibia	20°25' S 17°21'E
Waterberg, Touristencamp	Namibia	20°31' S 17°14'E
Waterford	South Africa	33°05' S 25°01'E
Waterval Boven	South Africa	25°39' S 30°20'E
Weenen	South Africa	28°51' S 30°04'E
West Cape, Cederberg Mts, Algeria [Western Cape]	South Africa	32°23' S 19°03'E
West Cape, Rocherpan N.R. [Western Cape]	South Africa	32°37' S 18°18'E
Western Cape, Beaufort West, Karoo N.P. Camp	South Africa	32°21' S 22°35'E
Western Cape, Kango Mountain Resort, 2 3km N Oudtshoorn	South Africa	33°25' S 22°17'E
Western, Budongo Forest, 3000 ft	Uganda	1°55' N 31°43'E
Western, Murchison Falls N.P., Sambiya Lodge	Uganda	c. 2.6°N 31.7°E
Willowmore	South Africa	33°18' S 23°29'E
Windhoek, Edda Farm	Namibia	22.35°S 17.02°N
Windhoek, Farm Otjisewa	Namibia	22°20' S 18°50'E
Worcester (Western Cape)	South Africa	33°39' S 19°27'E
Woodbush Village	South Africa	c. 23°47' S 30°00'E
Wylie's Poort [=Wyllie's Poort]	South Africa	22°53' S 29°56'E
Zanzibar	Tanzania	6°10'S 39°12'E
Zastron O.F.S., Farm Maghaleen	South Africa	30°22' S 27°08'E
Zoutpan, Pta	South Africa	29°35' S 24°23'E
Zylsrus, Gordonia Distr.	South Africa	26°53' S 22°03'E

Systematic aspects of the family Scythrididae

The Scythrididae have since long been subject to an erratic position in the taxonomic system and classification. From having been regarded as a family in Yponomeutoidea it eventually was assigned to Gelechioidea (Common 1970). The reason for the unstable position of the family is the many varying traits that are shared by many other familial taxa in Lepidoptera. Adult moths of Scythrididae are easily confused with species e.g. of Coleophoridae, Oecophoridae, Momphidae or Blastobasiidae. Even species of Gelechiidae may resemble those in Scythrididae in cases where the gelechiid hindwings are folded and consequently appear lanceolate.

Some authors regard the family to be a subfamily of Xyloryctidae (e.g. Hodges 1999; Kemal & Koçak 2006), mainly due to some larval characters. One important character in Xyloryctidae (Xyloryctinae) that does not agree with Scythrididae is that R4 and R5, admittedly both on common stem, both reach the costa (Zimmermann 1978). In Scythrididae R5 extends to the termen. In Scythrididae pecten is present on scapus but not in Xyloryctidae. Perhaps therefore and also because Hodges (1999) himself regards his systematic proposal tentative, most lepidopterists are of the opinion that Scythrididae shall remain at the family level. This view is also applied here.

In his thesis Landry (1991) treated 39 Nearctic species of Scythrididae (discussing some others, too) and found seven characters that support monophyly of the family: 1) extremely narrow and thin-walled ductus bursae [autapomorphic]; 2) broad ductus seminalis anastomosed with vestibulum of oviduct [autapomorphic]; 3) lack of signum on the corpus bursae [apomorphic]; 4) shape of the apophysis of the metathoracic furca [possibly apomorphic]; 5) presence of two subapical spurs on tarsomeres 1–4 [possibly apomorphic]; 6) ankylosed aedeagus [phallus] in male genitalia [plesiomorphic?]; and 7) veins R4 and R5 of the forewing extended from a common stalk, with R4 extended to costa and R5 to termen [apomorphic].

The species in the family Scythrididae show an extremely large variety of more or less bizarre characters in their genitalia, especially in the males. It has so far been impossible to produce a phylogeny that trustworthily reflects the subfamiliar systematics on a global basis. Bengtsson (1984, 1997b) proposed a phylogenetic system for the West Palaearctic species, which was based on the structure of the male genitalia, assuming the most “primitive” species being those with a genitalia ground plan exhibiting all structures still present and “unaltered” compared to the majority of the families in Gelechioidea. New genera are not proposed in this work, as there could easily be more than one hundred of them, if the common approach on differences between genera would be used. Most of the plausible genera would be monotypic and only cause confusion. Unfortunately many species are impossible to combine with any other species and those are listed alphabetically in *Scythris* (below) under the heading “Species incertae cedis”.

Landry (1991) refrained from extensive evaluating of the genera known at that time, as they were too poorly defined. However, during the recent years a few new genera have been erected, and possibly more genera will in the future be included in family Scythrididae when the world fauna of micromoths has been further analysed. At present the following 28 genera are assigned to the family:

Apostibes Walsingham, 1907
    Coleophorides Amsel, 1935
Areniscythris Powell, 1976
Arotrura Walsingham, 1888
Bactrianoscythris Passerin d’Entrèves & Roggero, 2009
Colonita Landry, 1991
Commodes Landry, 1991
Enolmis Godart, 1845
    Bryophaga Ragonot, 1875
Episcythris Amsel, 1939
Eretmocera Zeller, 1852
Erigethes Walsingham, 1907
Falkovitshella Passerin d’Entrèves & Roggero, 2007
Haploscythris Viette, 1956
Homothamnis Meyrick, 1921
Hyalinixys Landry, 1991
Landryia Koçak & Kemal, 2006
    Asymmetrura Landry, 1991
Leuroscelis Turner, 1927
Mapsidius Walsingham, 1907

Meniscotus Landry, 1991
Mimiella Landry, 1991
Mixodetis Meyrick, 1902
Necrothalassina Amsel, 1935
Neoscythris Landry, 1991
Oncoxystus Landry, 1991
Paralogistis Meyrick, 1913
Parascythris Hannemann, 1960
Rhamphura Landry, 1988
Scythris Hübner, [1825]
    Galanthia Hübner, [1825]
    Butalis Treitschke, 1833
    Copida Sodoffsky, 1837
    Catascythris Amsel, 1935 **syn. nov.**
    Rubioia Agenjo, 1962
Serangites Landry, 1991

Tentative systematic list

The genera are listed alphabetically and accordingly dealt with in that order. The species-groups under *Scythris* are arranged in a tentative systematic order based on the structure of the male genitalia but the species included in each species-group are treated alphabetically. Species with an asterix (*) are provisionally placed in the current group but may be relocated in the future when more data become available.

Apostibes Walsingham, 1907
1. *deckerti* **spec. nov.**
2. *dharhani* Passerin d'Entrèves & Roggero, 2003
3. *halmyrodes* (Meyrick, 1921)
    ilyopa (Meyrick, 1921) **syn. nov.**
4. *samburensis* **spec. nov.**

Bactrianoscythris Passerin d'Entrèves & Roggero, 2009
5. *lorella* **spec. nov.**

Enolmis Duponchel, 1845
6. *arabica* Passerin d'Entréves, 1986
    jemenensis Bengtsson, 2002
7. *saudita* Passerin d'Entréves, 1986

Eretmocera Zeller, 1852
8. *agassizi* **spec. nov.**
9. *alenica* Strand, 1913
10. *arabica* Amsel, 1961
11. *basistrigata* Walsingham, 1889
12. *benitonis* Strand, 1913
13. *bradleyi* Amsel, 1961
14. *contermina* Meyrick, 1926
15. *dorsistrigata* Walsingham, 1889
16. *florifera* Meyrick, 1909
17. *fuscipennis* Zeller, 1852
    lunifera Zeller, 1852
    derogatella Walker, 1864
    inclusella Walker, 1864
    carteri Walsingham, 1889 **syn. nov.**
    miniata Walsingham, 1889
18. *haemogastra* Meyrick, 1936
19. *homalocrossa* Meyrick, 1930

20. *jemensis* Rebel, 1930
21. *katangensis* **spec. nov.**
22. *kochi* **spec. nov.**
23. *laetissima* Zeller, 1852
    divisella (Walker, 1864)
24. *letabensis* **spec. nov.**
25. *levicornella* Rebel, 1917
26. *lyneborgi* **spec. nov.**
27. *malelanesis* **spec. nov.**
28. *meyi* **spec. nov.**
29. *monophaea* Meyrick, 1921
30. *pachypennis* Strand, 1913
31. *scatospila* Zeller, 1852
32. *shoabensis* Rebel, 1907
33. *syleuta* Meyrick, 1926
34. *tiwiensis* **spec. nov.**
35. *typhonica* Meyrick, 1917

Haploscythris Viette, 1956

36. **albifuscella* **spec. nov.**
37. *brachiohirsutella* **spec. nov.**
38. *brachiotruncella* **spec. nov.**
39. *brunneopicta* **spec. nov.**
40. *canispersa* Meyrick, 1913 **comb. nov.**
41. *chloraema* Meyrick, 1887 **comb. nov.**
    obstans Meyrick, 1928 **syn. nov., comb. nov.**
    paulianella Viette, 1956 **syn. nov., comb. nov.**
42. **coffeella* **spec. nov.**
43. *eberti* **spec. nov.**
44. *haackei* **spec. nov.**
45. *indecorella* **spec. nov.**
46. *kuboosensis* **spec. nov.**
47. *melanodora* Meyrick, 1912 **comb. nov.**
48. *ochrosuffusella* **spec. nov.**
49. *pugilella* **spec. nov.**
50. *quadrivalvella* **spec. nov.**
51. *richtersveldensis* **spec. nov.**
52. *scoblei* **spec. nov.**
53. **sordidella* Bengtsson, 2002 **comb. nov.**
54. *streyi* **spec. nov.**
55. **valvaecrinitus* **spec. nov.**
56. *vansoni* **spec. nov.**
57. *vredendalensis* **spec. nov.**
58. *vulturoides* **spec. nov.**
59. *youngai* **spec. nov.**

Paralogistis Meyrick, 1913

60. *litholeuca* (Meyrick, 1921) **comb. nov.**
61. *ochrura* Meyrick, 1913
62. *raesaeneni* **spec. nov.**
63. *symmocidoides* **spec. nov.**
64. *willyi* **spec. nov.**

Scythris Hübner, 1825

The ***kebirella* species-group**

65. **alainensis* **spec. nov.**

66. *cretiflua* Meyrick, 1913
67. *fonticola* Meyrick, 1921
68. **hanseni* **spec. nov.**
69. **hermanusensis* **spec. nov.**
70. *kebirella* (Amsel, 1935) **comb. nov.**
71. **ochrea* Walsingham, 1896
72. **piriformis* **spec. nov.**
73. **pterosaurella* Bengtsson, 2002
74. *serinusoides* **spec. nov.**
75. *sciochalca* Meyrick, 1928
76. *shingwedziensis* **spec. nov.**

The ***stagnosa* species-group**
77. *galeatella* Bengtsson, 2002
78. *stagnosa* Meyrick, 1913
    vulgata Meyrick, 1914 **syn. nov.**
79. *subgaleatella* Bengtsson, 2002
80. *turiensis* **spec. nov.**

The ***gaboronensis* species-group**
81. *gaboronensis* **spec. nov.**
82. *nyikensis* **spec. nov**.
83. *schouteni* **spec. nov.**
84. **stoltzei* **spec. nov.**

The ***calciflua* species-group**
85. *brachyplecta* Meyrick, 1928
86. *calciflua* Meyrick, 1921
87. **eburiplicella* **spec. nov.**
88. *etoshensis* **spec. nov.**
89. **farrata* Meyrick, 1913
90. **helskloofensis* **spec. nov.**
91. **jamakensis* **spec. nov.**
92. **malawica* **spec. nov.**
93. *meyi* **spec. nov.**
94. **nylsvleyensis* **spec. nov.**
95. *scholzi* **spec. nov.**
96. *vogelfederbergensis* Mey, 2011

The ***nigrispersa* species-group**
97. *eburnipterella* **spec. nov.**
98. **hirudoformis* **spec. nov.**
99. *nigrispersa* Meyrick, 1918
100. **rivigera* Meyrick, 1911
    fluctuosa Meyrick, 1914 **syn. nov.**
    tenebrella Bengtsson, 2002 **syn. nov.**

The ***lamprochalca* species-group**
101. *lamprochalca* Meyrick, 1931
    aphanatma Meyrick, 1933 **syn. nov.**
    badiella Bengtsson, 2002 **syn. nov.**
102. *basimaculella* **spec. nov.**
103. *jurateae* **spec. nov.**
104. *lushotensis* **spec. nov.**
105. *niniae* **spec. nov.**

The ***ochrantha* species-group**
106. *distactica* Meyrick, 1921

107. *fissurella* Bengtsson, 2002
108. *ochrantha* Meyrick, 1909
homoxantha Meyrick, 1921 **syn. nov.**
109. *pollicella* Bengtsson, 2002

The ***exsoluta* species-group**
110. *exsoluta* Meyrick, 1920
111. *griseella* **spec. nov.**
112. *subgriseella* **spec. nov.**
113. *unciclavella* **spec. nov.**
114. *valvaerimella* **spec. nov.**

The ***valvaearcella* species-group**
115. *cooperi* **spec. nov.**
116. *dicksoni* **spec. nov.**
117. *durbanensis* **spec. nov.**
118. *krooni* **spec. nov.**
119. *nussi* **spec. nov.**
120. *strydomi* **spec. nov.**
121. *valvaearcella* Bengtsson, 2002

The ***aerariella* species-group**
122. *albogrammella* Bengtsson, 2002
123. **matopensis* **spec. nov.**
124. *neurogramma* Walsingham, 1900
125. *reflectella* Bengtsson, 2002

The ***anaecapitella* species-group**
126. *anaecapitella* **spec. nov.**
127. **aquaria* Meyrick, 1913
128. *brevimanubriella* **spec. nov.**
129. *kruegeri* **spec. nov.**
130. *paarlensis* **spec. nov.**
131. *snymani* **spec. nov.**
132. *wolframi* **spec. nov.**
133. *zimbabwensis* **spec. nov.**

The ***roseola* species-group**
134. *aarviki* **spec. nov.**
135. *agassizi* **spec. nov.**
136. **albocanella* Bengtsson, 2002
137. *alhamrae* Bengtsson, 2002
138. *baringensis* **spec. nov.**
139. *bernardi* **spec. nov.**
140. *budongensis* **spec. nov.**
141. *ceratella* Bengtsson, 2002
142. **clarki* **spec. nov.**
143. *clemens* Meyrick, 1921
144. *cucullella* Bengtsson, 2002
145. *curvipilella* Bengtsson, 2002
146. *dimensa* Meyrick, 1920
147. *gilgilensis* **spec. nov.**
148. **jansei* **spec. nov.**
149. *kingstoni* **spec. nov.**
150. *lahaivora* **spec. nov.**
151. *marginifuscella* **spec. nov.**
152. *messinensis* **spec. nov.**
153. *munroi* **spec. nov.**

154. *pravitella* **spec. nov.**
155. *roseola* Meyrick, 1912
156. *sinuosella* Bengtsson, 2002
157. *strabella* Bengtsson, 2002
158. *subcurvipilella* **spec. nov.**
159. **subroseola* **spec. nov.**
160. **tephrella* Bengtsson, 2005
161. *varii* **spec. nov.**

The ***pelochyta* species-group**
162. *abachausensis* **spec. nov.**
163. *autochlorella* Paulian & Viette, 1956
164. *bicuspidella* Bengtsson, 2002
165. *bispinella* Bengtsson, 2002
166. *cricetinaeformis* **spec. nov.**
167. *davidi* **spec. nov.**
168. *eloquens* Meyrick, 1921
169. *nguliae* **spec. nov.**
170. *pelochyta* Meyrick, 1909
psamathota Meyrick, 1913 **syn. nov.**

The ***abyanensis* species-group**
171. *abyanensis* Bengtsson, 2002
172. **albonigrella* **spec. nov.**
173. *basilicella* Bengtsson, 2002
174. *beccella* Bengtsson, 2002
175. *bisincusella* **spec. nov.**
176. *capnofasciae* Bengtsson, 2002
177. **glaphyropa* Meyrick, 1914
178. **kavangensis* **spec. nov.**
179. **patiens* Meyrick, 1921
180. **potgieteri* **spec. nov.**
181. *sericiella* **spec. nov.**
182. *taizzae* Bengtsson, 2002

The ***accumulata* species-group**
183. *accumulata* Meyrick, 1914
184. *magnipedella* **spec. nov.**
185. *waterbergensis* **spec. nov.**

The ***aratrella* species-group**
186. *aratrella* **spec. nov.**
187. *eburnella* **spec. nov.**
188. **pulveratella* **spec. nov.**

The ***concurrens* species-group**
189. *albiangulella* Bengtsson, 2002
190. *amplexella* Bengtsson, 2002
191. *atroparvella* **spec. nov.**
192. *cinisella* Bengtsson, 2002
193. *concurrens* Meyrick, 1921
194. **coriella* **spec. nov.**
195. *elachistoides* Bengtsson, 2002
196. *enigmella* **spec. nov.**
197. *falciformis* **spec. nov.**
198. *geminella* **spec. nov.**
199. *iterella* Bengtsson, 2002
200. *nigropterella* Bengtsson, 2002

201. *sanae* Bengtsson, 2002
202. *scyphella* Bengtsson, 2002
203. *subconcurrens* **spec. nov.**
204. *subnigropterella* **spec. nov.**
205. *thikensis* **spec. nov.**
206. *ugandica* **spec. nov.**

The ***fibigeri* species-group**
207. *brandbergensis* **spec. nov.**
208. *fibigeri* Bengtsson, 2002
209. *jemenensis* Bengtsson, 2002
210. *popensis* **spec. nov.**
211. *simplicella* **spec. nov.**
212. *thoracifaciella* **spec. nov.**

Isolated species (species that cannot be grouped together with other species)
213. *albipunctella* **spec. nov.**
214. *anthracodelta* Meyrick, 1912
215. *apicispinella* **spec. nov.**
216. *asinella* **spec. nov.**
217. *aulaeella* **spec. nov.**
218. *balantiella* **spec. nov.**
219. *bicalamella* **spec. nov.**
220. *bipunctella* **spec. nov.**
221. *bisacculella* **spec. nov.**
222. *bitterfonteinica* **spec. nov.**
223. *bjoernstadi* **spec. nov.**
224. *bontebokensis* **spec. nov.**
225. *bosicornella* **spec. nov.**
226. *bromiella* **spec. nov.**
227. *brunneostriella* **spec. nov.**
228. *camelella* Walsingham, 1907
    delodelta Meyrick, 1930 **syn. nov.**
229. *canella* Bengtsson, 2002
230. *capilliverticella* **spec. nov.**
231. *catuliformis* **spec. nov.**
232. *cederbergensis* **spec. nov.**
233. *claudioculella* **spec. nov.**
234. *cometa* Meyrick, 1909
235. *conimarginella* **spec. nov.**
236. *coniobliquella* **spec. nov.**
237. *consimilella* Bengtsson, 2002
238. *cottrelli* **spec. nov.**
239. *cuneatella* Bengtsson, 2002
240. *denticolor* Walsingham, 1903
241. *dorsifuscella* **spec. nov.**
242. *ellipsiella* **spec. nov.**
243. *ethiopica* **spec. nov.**
244. *faeculenta* Meyrick, 1912
245. *flavoterminella* **spec. nov.**
246. *fumarolella* **spec. nov.**
247. *gielisi* **spec. nov.**
248. *heniaeguttella* **spec. nov.**
249. *humeriformis* **spec. nov.**
250. *hydronoma* Meyrick, 1930
251. *indigoferivora* Bengtsson, 2002
252. *invisa* Meyrick, 1920
253. *jacobseni* **spec. nov.**

254. *justifica* Meyrick, 1911
melanopleura Meyrick, 1914 **syn. nov.**
erudita Meyrick, 1914 **syn. nov.**
meligastra Meyrick, 1920 **syn. nov.**
255. *kalaharii* **spec. nov.**
256. *kalkrandensis* **spec. nov.**
257. *kihondensis* **spec. nov.**
258. *kilifiensis* **spec. nov.**
259. *lactanea* Meyrick, 1913
260. *lactifuscella* **spec. nov.**
261. *latebrosa* Meyrick, 1913
262. *leifi* **spec. nov.**
263. *malelanensis* **spec. nov.**
264. *mesoplecta* Meyrick, 1921
265. *meyeri* **spec. nov.**
266. *mpalensis* **spec. nov.**
267. *mulanjensis* **spec. nov.**
268. *naivashensis* **spec. nov.**
269. *najaoides* **spec. nov.**
270. *naukluftensis* **spec. nov.**
271. *nigrogrammella* Bengtsson, 2002
272. *nyangensis* **spec. nov.**
273. *nylstroomensis* **spec. nov.**
274. *obnubilella* **spec. nov.**
275. *ochrocrusella* **spec. nov.**
276. *ochroplicella* **spec. nov.**
277. *octocornella* **spec. nov.**
278. *oculella* **spec. nov.**
279. *otaviensis* **spec. nov.**
280. *palmwagensis* **spec. nov.**
281. *paralogella* Bengtsson, 2002
282. *parenthesella* Bengtsson, 2002
283. *pectinicornis* Walsingham, 1900
284. *pelinaula* Meyrick, 1916
pangalactis Meyrick, 1933
285. *piriensis* **spec. nov.**
286. *praematura* Meyrick, 1937
287. *pretoriensis* **spec. nov.**
288. *quadrilobella* **spec. nov.**
289. *ridiculella* **spec. nov.**
290. *rumurutiensis* **spec. nov.**
291. *saccharissa* Meyrick, 1913
292. *satarensis* **spec. nov.**
293. *setaelongella* **spec. nov.**
294. *silfverbergi* **spec. nov.**
295. *skukuzensis* **spec. nov.**
296. *solutella* **spec. nov.**
297. *somangensis* **spec. nov.**
298. *sophronia* Meyrick, 1933
299. *subeburnea* (Walsingham, 1913)
300. *tubulella* **spec. nov.**
301. *ugabensis* **spec. nov.**
302. *umtaliensis* **spec. nov.**
303. *valgella* Bengtsson, 2002
304. *vanderwolfi* **spec. nov.**
305. *virgaeformis* **spec. nov.**
306. *wankiensis* **spec. nov.**
307. *worcesterensis* **spec. nov.**

Systematic review of species

Apostibes Walsingham, 1907

Entomologist's Monthly Magazine, Second Series – Vol. XVIII: 57–58.
Type species: *Apostibes griseolineata* Walsingham, 1907.

Coleophorides Amsel,1935 **syn. nov.**
Veröffentlichungen des Deutschen Kolonial- und Übersee-Museums Bremen. 1. Band; 2. Heft: 211.
Type species: *Coleophorides bahrlutella* Amsel, 1935.

Diagnosis: The original description of the genus is quoted: "Antennae (4/5) ♂ shortly biciliate; basal joint enlarged and thickly clothed, with a well-developed pecten. Ocelli absent. Haustellum moderate, scaled. Maxillary Palpi short. Labial Palpi slender, smooth; terminal joint erect, shorter than median. Head and Thorax smooth. Forewings lanceolate, evenly tapering to an acute apex: Neuration 11 veins, 7 [=R5] and 8 [R4] coincident, to costa; 6 [M1] and (7+8) stalked; the rest separate; 1 furcate at base. Hindwings (1/2) evenly attenuated to a somewhat less produced apex than in forewings: Neuration 8 veins, all separate; 5 [M2] straight, midway between 4 [M3] and 6 [M1]; discoidal angulated inward to media between 5 [M2] and 6 [M1], nearly obsolete between 6 [M1] and 7 [R5]. Abdomen smooth. Legs: hind tibiae hairy."

Walsingham seems to implicitly have expressed some doubt about his own erecting of this genus *Apostibes* according to his reasoning which is quoted here:

Allied to *Scythris* Hb., but differing in the veins of the hindwings being all separate, thus agreeing with the Australian species which Meyrick refers to *Scythris*.

It is possible that *Scythris* may present such variation of neuration within the same species, but until this has been ascertained it seems better to eliminate species that can be separated by structure rather than to extend generic definiton to include species which differ from type. The genera belonging to Elachistid group of the Hyponomeutidae are in a plastic condition, and one of the difficulties is appreciating what the variation really means is, that such descriptions as "4 and 5 sometimes stalked or coincident" (Meyr. HB. Br. Lp., 685) do not inform us whether this variation occurs in the same species, or whether different species included in the genus differ in these respects. If the former, the generic description must obviously be extended, if the latter, the variation is, if not actually generic, tending to become so. It is really important that the actual nature of such variation should be exactly indicated in each case."

The establishing of the genus *Apostibes* may be justified also by other characters that were unknown to Walsingham. Landry (1991: 26) and later Passerin d'Entrèves & Roggero (2003: 347) noted the following possible synapomorphies: 1) partly sclerotised upper diaphragm with a median groove, 2) lateral collar-like swelling of the base of the gnathos, 3) tridentate apex of the distal arm of the gnathos, and 4) ductus spermathecae and spermatheca sclerotised. Moreover, the male and female genitalia show traits that might support the definition of the genus, namely the following five attributes: 1) anterior vinculum arms slender and extended below the attachment of tegumen; 2) juxta (or caulis?) extremely long and slender attached to the anterior extensions of valvae; 3) ninth segment in female abdomen densely covered by sharp teeth (apparently not so in *halmyrodes*); 4) papillae analis acute; and 5) sterigma skittle-shaped. The three latter characters seem to be shared with the females of *Scythris fissurella* Bengtsson, 1996 and *S. nivicolor* Meyrick, 1916, an enigmatic coincidence that is not yet fully understood. The female genitalia of *Scythris ochrantha* Meyrick also show some similarities that display a "middle-stage".

Genitalia examination of the type series clearly shows that *Coleophorides bahrlutella* Amsel belongs to *Apostibes*, although the vinculum is shorter than in other species. All other characters are basically the same (e.g. shape of valva, phallus, juxta, and sterigma). Therefore the genus *Coleophorides* must be considered a synonym of *Apostibes*. This was implicitly stated by Landry (1991) and Passerin d'Entrèves & Roggero (2003).

1. *Apostibes deckerti* spec. nov.

Holotype: ♂: Namibia, Tiras Mts, S26º02' E16º16', 13.12.2007, 1420 m, leg. J. Deckert (blue label); Gen. prep. no 1888X ♂ Apostibes *deckerti*, B Å Bengtsson (yellow); holotype Apostibes *deckerti*, ♂ Bengtsson (red); (MFN).

Paratypes: 1 ♂, same data as Holotype; (MFN); 2 ♂♂: Namibia, Tsauchab, 68 km S Solitaire, Oerwald, J. Deckert, 1080m, 15.xii.2007, genitalia slide BÅB 1894X, (MFN); 1 ♀: Namibia, campsite Namib-Naukunft NP, 8.3.2005, LF, leg.

W. Mey, genitalia slide BÅB 1853X, (MFN); 1 ♀: Namibia, Fishriver, Gondwana Canyon Village, 1.XII.2008, leg. Ebert, Mey & Kühne, (MFN); 7 ♀♀: Namibia, Erongo, Eileen Farm, campsite, 15.-16.3.2005, 1310 m, leg. W. Mey. Genitalia of one female on slide BÅB 1856X, (MFN and BÅB); 1 ♀: Namibia, Mt. Etjo, 30 km E Kalkrand, 14.3.2005, LF, leg. W. Mey. Genitalia on slide BÅB 1861X, (MFN); 1 ♀: Yemen, Prov. Al Hudaydah, Tihama, 10 km WSW Hays, 25.iv.1996, M. Fibiger & H. Hacker, genitalia slide BÅB 888X, (ZMUC).

Excluded from the type series: 1 ♀: Namibia, Fishriver, Gondwana Canyon Village, 1.XII.2008, leg. Ebert, Mey & Kühne, (MFN). 1 ♀: Kenya: Rift Valley, Lake Bogoria, 1000 m, 0°21'N, 36°04'E, 10.VIII.2007, leg. D.J.L. Agassiz, genitalia slide BÅB 1580X, (Agassiz).

Diagnosis: Cannot be safely separated from other species of *Apostibes*, nor from many *Scythris* species. Genitalia examination indispensable. Male of *A. deckerti* spec. nov. distinguished from *A. halmyrodes* Meyr. by sclerotised details on ventral side of uncus; in the last mentioned species uncus has several groups of pegs on sclerotised sockets, while in *A. deckerti* spec. nov. such sockets are absent and instead a pair of median teeth are present. Forewing in *A. sumburuensis* spec. nov. brownish with whitish longitudinal lines on veins.

Description (Fig. 1i): Wingspan 10–10.5 mm. Head, collar, tegula, thorax, forewing, abdomen, and legs bone-coloured without any markings; forewing occasionally with some dark scales. Labial palp bone-coloured, porrect; second segment as long as eye diameter, third segment slightly shorter.

Male genitalia (Fig. 1m-a,b,c): Uncus subrectangular; in middle two broad, sclerotised teeth, attached to anterior, wavy edge via two more or less well developed ridges, the whole sclerotised structure subtriangular. Gnathos basally a sclerotised, undulate and thin collar, from which a thin loop emerges and ends fused as a distal, weakly sclerotised arm with hooked tip and ventral membrane. Valvae very slender, typical in shape for species of the genus. Juxta very long and phallus extremely long, ratio phallus/juxta = 2.4–2.7. Sternum VIII an extended, elliptic plate with concave anterior margin. Tergum VIII a subrectangular plate with rounded posterolateral corners and shallow, anterior indentation.

Female genitalia (Fig. 1f): Sterigma skittle-shaped, anterior half distinctly tapered, tip not particularly extended (cf. *A. samburuensis* spec. nov.); ratio length/largest width in *deckerti* is 4.3–5.1.

Biology: Adults on the wing in August–April.

Distribution: Kenya, Namibia, and Yemen.

Ethymology: This species is dedicated to J. Deckert, Berlin who collected some of the specimens of the type series.

Comments: In Bengtsson (2002b: Figs 109 & 110) the female genitalia were already illustrated, although not assigned to a specific species. The genitalia agree completely with what is supposed to be the female of *A. deckerti* spec. nov. The two females under 'Excluded from the type series' above have slightly deviating genitalia or show other discrepancies and are therefore not included in the type series.

2. *Apostibes dharhani* Passerin d'Entrèves & Roggero, 2003

Italian Journal of Zoology, 70: 349.
Type locality: Saudi Arabia, Az-Zahran, Dhahran. Holotype in LNKD.

Diagnosis: External appearance agrees with several other species in *Apostibes* and *Scythris* but (according to the original description) the wingspan is larger than in most scythrodids.

Description (according to Passerin d'Entrèves & Roggero 2003): "Forewing length 15 mm. Head, thorax and abdomen whitish with light brown stripes. Ocelli absent. Antennae shorter than forewing; antennal scape with sparse pecten, whitish; pedicel brown, with cilia on ventral side. Labial palpus whitish, bent upwards. Forewings whitish with longitudinal light brown striae almost imperceptible, more or less following the veins. Hindwings white with metallic hue, fringe darker. Anal brush whitish, well-developed."

Male genitalia (Fig. 2m): Slightly emended copy of the illustration of Passerin d'Entrèves (2003: 349). It differs from other species in *Apostibes* by the following characters combined: 1) flat, subtrapezoid tergum VIII 2) short, broad valva only 4.5 as long as broad (broadest width), and 3) phallus virtually as long as valva.

Female genitalia: Unknown.

Biology: Flight period in April.

Distribution: Saudi Arabia (eastern part).

3. *Apostibes halmyrodes* (Meyrick, 1921) **comb. nov.**

Scythris halmyrodes Meyrick, 1921
Annals of the Transvaal Museum, 8: 116.
Type locality: Sawmills, Rhodesia [Zimbabwe]. Lectotype in TMSA.

Scythris ilyopa Meyrick, 1921 **syn. nov.**
Annals of the Transvaal Museum, 8: 116.
Type locality: Rhodesia, Victoria Falls. Holotype in TMSA.

Diagnosis: A medium-sized scythridid species (Fig. 3i) easy to confuse with a number of pale fuscous species. In male genitalia arrangement of pegs on uncus, shape of valvae and length ratio of phallus/juxta/valva decisive. In female genitalia shape of sterigma typical by its bottle-shaped appearance with a median slit.

The original description is quoted: "♂♀ 14–15 mm. Head and palp light grey. Thorax light grey, suffused with whitish posteriorly. Abdomen whitish-grey, in ♀ last two segments whitish and tinged with ochreous-yellow towards apex. Forewings elongate-lanceolate; light grey irregularly sprinkled with whitish, tending to indicate very obscure lines on veins; cilia grey-whitish. Hindwings 2/3; 4 and 5 [=M3 and M2] separate; grey; cilia grey-whitish, greyer towards base. Rhodesia, Sawmills, in February (Janse); four specimens."

Male genitalia (Fig. 3m-a,b,c): Uncus rectangular but posteriorly more or less rounded; ventral side with a cluster of pegs aggregating in two groups near middle on each side of a mid-line and scattered pegs in apical half; near base of uncus a transverse, diffuse, sclerotised margin. Gnathos a sclerotised, basal loop and a distal arm almost membranous. Valva claviform, long, attached to a vinculum converging anteriorly. Phallus extremely long and slender, pointed at tip, joined with a long juxta. Length ratio of phallus/juxta/valva = 1.00 / 0.41 (±0.03) / 0.75 (±0.03). Sternum VIII a semi-elliptic plate with parallel, lateral margins in anterior half, at base with pair of apodemes. Tergum VIII subtrapezoid with rounded corners and shallow medioposterior incurvation. Female genitalia (Fig. 3f): Ninth segment without acute needle-like teeth. Sterigma skittle-shaped, widest at base, internally two sclerotised ridges almost parallel to each other separated by a thin slit; antrum membranous, transversely wrinkled. Sternum VII subtrapezoid with round, posterior margin, notched medially. Segment VII without anterior, strongly sclerotised edge (present in *Scythris fissurella*).

Biology: Unknown. Flight period November–April.

Distribution: Malawi, Namibia, South Africa, and Zimbabwe.

Comments: The lectotype of *A. halmyrodes* bears the following labels: "Sawmills, Rhod. 2.2/18, A.J.T.Janse"; "23 21"; "*Scythris halmyrodes* M. ♂ Type No. 395" (on white cards).

In the TMSA a female paralectotype is preserved with the same data but caught on 4.2/18 [=4 February 1918]. Externally the specimen resembles the lectotype of *halmyrodes*, but the genitalia (slide TMSA 16081) show that the specimen does not belong to *Apostibes* (Fig. 3g). The identity is still unresolved.

By studying specimens (♂ n=36; ♀ n=12) from Malawi, Namibia, and South Africa the match of male and female has been clear, showing that *Scythris ilyopa* (description based on one female specimen) is a junior synonym of *A. halmyrodes*.

However, available material of *Apostibes* specimens may be still insufficient to unambiguously elucidate the whole set of males and females found in the Afrotropical region. In some cases there might occur specimens from more than one species in the same locality. A series of male and female specimens found in Malawi on the same date at the same opportunity (Aarvik leg.) are all judged to belong to *A. halmyrodes* and the appearance of the female genitalia is described above. The female genitalia are identical with those of *Scythris ilyopa.* However, two other types of females have been encountered in other places, viz. the paralectotype mentioned above, and also specimens that maybe are very closely related to *A. deckerti*. Doubtless the genus *Apostibes* is far from clarified, even if all known species from Asia have been elucidated by Passerin

d'Entrèves & Roggero (2003).

4. *Apostibes samburensis* spec. nov.

Holotype ♂: Kenya, [Rift Valley Prov. / Eastern Prov.], Samburu 3000 ft, 4.iv.2000, D.J.L.Agassiz (white); Gen.prep.no 1113X, *Apostibes samburensis*, B Å Bengtsson (yellow); holotype *Apostibes samburensis* Bengtsson ♂ (red). Genitalia on slide BÅB 1113X. (BMNH).

Diagnosis: Small, easily confused with some other ivory-coloured scythridid species with dark longitudinal lines. Differs from *Scythris albogrammella* by exhibiting a fine longitudinal line above the vein Rs and not a broad subcostal streak. *S. cuneatella* even smaller and with dark subcostal area. *S. neurogramma* with the same forewing markings but wingspan 12 mm.

Description (Fig. 4i): Wingspan 9.5 mm. Head ivory but crown pale fuscous. Scape ivory with a brownish spot dorsally, pecten ivory, and flagellum pale brownish. Labial palp ivory, drooping, short, second and third segment together as long as diameter of eye. Collar suffused whitish and brownish beige. Tegula brownish beige anteriorly, ivory posteriorly. Thorax ivory with two parallel brownish beige lines in middle. Forewing whitish on all veins, in between brownish, dorsum and termen whitish. Hindwing pale greyish, width c. 0.5 of forewing. Fringes in both wings pale beige. Foreleg brown dorsally, ivory ventrally. Midleg ivory, femur and tibia with brown line dorsally. Hindleg ivory, bristles on tibia with brownish base. Abdomen entirely dark ivory, anal tuft not straggled.

Male genitalia (Fig. 4m-a,b,c): Symmetrical. Uncus rectangular, extended, with pair of sclerotised spots in middle and basally two transverse, sclerotised bars. The anterior bar connected with gnathos exhibiting a basal loop and a weakly sclerotised distal, tapered arm at tip spearhead-shaped. Tegumen bowl-shaped. Valva long, slightly curved, narrowest near base, distal third almost evenly broad, tip round. Phallus long, arched, tapered and at tip obliquely truncate. Length ratio of phallus/juxta/valva = 1.00 / 0.37 (±0.02) / 0.96 (±0.02). Female genitalia: Unknown.

Biology: Unknown. The holotype was collected in April at c. 1000 mamsl.

Distribution: Only found at Samburu on the bank of the Ewaso Ng'iro River, at the border between Rift Valley Province and Eastern Province, Kenya.

Ethymology: The species-name refers to the collecting site of the holotype.

Bactrianoscythris Passerin d'Entrèves & Roggero, 2009

Zootaxa 2263: 1–20.
Type species: *Butalis satyrella* Staudinger, 1880

Diagnosis: The original description is almost literally quoted: Male and female of similar size, with cryptic coloration (head, thorax, abdomen and legs pale brown). Forewing brown or pale brown, with a lighter, longitudinal and irregular line. Hindwing very pale brown or whitish brown, glossy and translucent. Females darker than males. Uncus short and gnathos asymmetrical, with joining arms fused and leaf-like shaped. Phallus very long, bisinuate. Valvae symmetrical or only slightly asymmetrical, inwardly curved, slender. Vinculum long and narrow. S8 well-developed, thick, elongate, more or less narrowed in middle, always bifid at apex. T8 rectangular and membranous. Lamella antevaginalis oval, differently proportioned in each species, lamella postvaginalis with transverse thickening distally. Ductus bursae wrinkled, sometimes sclerotised. Segment VII and VI with a sclerotised, incomplete ring.

The description of the genus is somewhat plastic and species may fit that deviates slightly in some respect, as some of the characters mentioned above also can be observed in the large genus *Scythris*. Until recently *Bactrianoscythris* was restricted to Iran, Turkmenistan, and Afghanistan, but the genus is not surprisingly also represented in east Africa.

5. *Bactrianoscythris lorella* spec. nov.

Holotype ♂: Kenya, Nairobi, 6.–23.viii.1978, B. Skule (white); Holotypus *Bactrianoscythris lorella* Bgts. ♂ (red); Gen. prep. no 1589X ♂, *Bactrianoscythris lorella* Bgts., B Å Bengtsson (yellow). (ZMUC).

Paratypes: 2 ♀♀: same data as holotype, genitalia slide BÅB 1588X. (ZMUC).

Diagnosis: May be confused with *Scythris bromiella* spec. nov. with hardly no markings in forewing, with *S. najaoides* spec. nov. and *S. mpalensis* spec. nov., species with very indistinct, dark dorsal strigulae. All species with similar external appearance have quite different genitalia.

Description (Fig. 5i): Wingspan 15.5–16.5 mm. Head pale beige, in one female paratype whitish. Labial palp bent upwards, brownish ventrally, dorsally slightly paler; second segment 1.5 times as long as eye diameter and with whitish ring distally, third segment as long as eye diameter, whitish in terminal half. Antenna length c. 0.6 of forewing, fuscous. Collar pale beige, tegula and thorax grey. Forewing pale beige, mottled by densely scattered fuscous scales and scale tips; most prominent dark markings are an oblique strigula on dorsum extending just past fold, and a more indistinct strigula at two thirds. Hindwing rather pale grey, width c. 0.9 of forewing, costa near base slightly inflated. Fringes in both wings brownish beige. Legs fuscous, inner side paler. Abdomen in male dorsally grey (segment 1-2) and beige (3-7); ventral side pale beige. Abdomen in female dorsally beige-grey, ventrally beige.

Male genitalia (Fig. 5m-a,b): Uncus cup-shaped, bulging in middle and there with a pair of short sclerotised arches. Gnathos basally an irregular plate, distally thorn-shaped, sharply pointed. Valvae asymmetrical but their ground plan rather similar; left valva slightly sinuate, at base swollen, at tip even more so, in the middle an inwardly directed, membranous lobe. Right valva similar, but less sinuate, more swollen at base but less so at tip; inwardly directed lobe located more distal. Phallus rather long and thin, at base bottle-shaped, distal three fourths strongly sinuate, in middle with very strong bends. Sternum VIII composed by two different parts; 1) the dorsal portion, a “normal” part of segment VIII, subtrapezoid, extended laterally at base, asymmetrically bilobed posteriorly; 2) on the inside of Sternum VIII an additional, large, symmetrical structure, on each side comprised of a tapered, bent plate, and a membranous lobe inwards. Tergum VIII a broad, U-shaped plate with a dense cluster of short and stout bristles apically on each posterior prong.

Female genitalia (Fig. 5f): Distinct structures absent. Sterigma a faintly sclerotised, semicircular disc. Behind posterior margin of sternum VII a cup-shaped, almost membranous appendix.

Biology: Unknown. The type series was collected in August.

Distribution: Kenya(Nairobi).

Ethymology: The species-name refers to the undulating phallus, which appears as a whip in action (*lorum* = whip in Latin).

Comments: The genitalia morphology in both sexes show many of the traits defining the genus *Bactrianoscythris* (Passerin d’Entrèves & Roggero 2009) but the assignment is not fully unambiguous. The additional plates inside the sternum VIII in the male are absent in Palearctic species of *Bactrianoscythris.*

Enolmis Duponchel, 1845

In Godart, J.B. Histoire naturelle des Lépidoptères ou papillons de France. Nocturnes, Supplément 4: 534 pp., pls. 51-90. - Méquignon-Marvis, Paris.
Type species: *Yponomeuta acanthella* Godart, 1824.

Bryophaga Ragonot, 1875
Microlépidoptères nouveaux ou peu connus. Tineina. - IFauna of Saudi Arabia 8: 256.
Type locality: Saudi Arabia, Al Dalhan, near Ash Sharayi. Holotype in MFN.

Enolmis jemenensis Bengtsson, 2002 **syn. nov.**
Esperiana, Bd. 9: 62.
Type locality: Yemen, Prov. Hudaydah, Jabel, Burra. Holotype in ZMUC.

Diagnosis: Darker and smaller than all other known species in the genus *Enolmis*. Also male genitalia are decisive by wide, terminal dilatation of left valva and shape of sternum VIII. Female genitalia typical by asymmetrical plates on sternum VI.

Description (Fig. 6i): Wingspan 10–15 mm, female smaller than male. Forewing with alternating, broad fasciae, dark brownish in basal area, at 3/5 and in apical area, dirty beige fasciae at 2/5 and 4/5, last one with dark dot at cell end. Hindwing width c. 0.9 of forewing, pale fuscous.

Male genitalia (Fig. 6m-a,b): Asymmetrical and somewhat varying. Uncus a small, pointed tongue with small spines laterally. Gnathos very small, thorn-like. Left valva straight in basal two thirds, then bent and at angle with a dorsal flap that may vary in shape; at rounded tip a linear bunch of bristles. Right valva small, slender, slightly bent at middle and widened apically. Phallus slightly sinuate, about of same length as right valva. Sternum VIII horseshoe-shaped in basal half, distal half bent, broad and rounded; in middle of sternum VIII a small, lateral flap. Tergum VIII small, bell-shaped, concave anteriorly.

Female genitalia (Fig. 6f): Henia short, at tip with square sclerite exhibiting a pair of long bristles. Sternum VI posterolaterally with pair of unequally sized, round and sclerotised plates, a unique structure for the species.

Biology: Unknown. Flight period March–May.

Distribution: Saudi Arabia, Yemen.

Comments: The synonymy of *jemenensis* with *arabica* was confirmed by comparing both male and female specimens from Yemen (coll. MZH and ZMUC).

7. *Enolmis saudita* Passerin d'Entrèves, 1986

Enolmis desidella saudita P. d'E.; raised to species level by Bengtsson (2005: 101–110). Fauna of Saudi Arabia 8: 258–260.
Type locality: SW Arabia, Asir Mountains, 5 km S of Namas. Holotype in LNK.

Diagnosis: A large species (Fig. 7i) with broad median, brown fascia in forewing. Male genitalia typical by shape of left valva, distally widely and asymmetrically bifurcate.

The original description is quoted: "Wing-span of about 17 mm. General appearance is characteristic of the genus *Enolmis* with the creamy coloured background of anterior wings scattered with brown scales forming a basic irregular spot, an equally irregular median fascia and a post-median spot. Bright, cream-brown posterior wings. Brown head variegate with light colour. Brown thorax. Light brown anal tuft, very conspicuous. Pterostigma present."

Male genitalia (Fig. 7m-a,b): "Uncus subrectangular, spatula-shaped, carrying on its ventral surface two series of short thick cephalo-caudal thorns. Gnathos fused to tegumen. Valvae highly asymmetrical. In ventral view, the right, rod-shaped valva appears ventrally reclined at the level of its third distal. The left, well-developed valva, notched in the beak, carries a dorsal digitiform elongated process with a prominence inserted at its base which varies within the species; ventrally, on the psuedocucullus, there appears a tuft of long medially directed bristles. On both valvae, at the level of the clavus, long, ventrally curved bristles inserted. Phallus cylindrical in lateral view, pointed on distal beak, elongated slightly sinuous. 8th sternite sack-shaped, secondarily modified. The female is unknown."
Female genitalia: Unknown.

Biology: Unknown. Imagines have been collected in April–May.

Distribution: Saudi Arabia, Yemen.

Eretmocera Zeller, 1952

Lepididoptera Microptera quae J. A. Wahlberg in Caffrorum Terra collegit: 96.
Type specimen: *Eretmocera fuscipennis* Zeller, 1852.

Diagnosis: The genus *Eretmocera* embraces small, brilliant moths, usually with strong forewing coloration in blackish, red and/or yellow. The hindwings and abdomen are in general also brightly coloured in red or yellow. The legs are contrastingly chequered and remind of those in the clearwings (Sesiidae). Only a few

species are more modestly coloured in fuscous tinges but may in most cases still be identified as members of *Eretmocera* due to the coloration of the abdomen. A pair of cream spots are usually present on metanotum. Many species have antennae conspicuously thickened by black, erect scales in basal half or in middle third.

Landry (1991: 28) indicated the following possible synapomorphies: "the brilliant coloration of the abdomen, the base of the proximal arms of gnathos fused into a long tube, and the basally forked vinculum". To this may be added the pair of lateral pads on tergum VIII holding extremely long and slender scales. The species of *Eretmocera* are distributed in the tropical and subtropical regions.

There are a number of genera that are considered synonyms or possible synonyms to *Eretmocera*, but the full systematics of these genera is beyond the scope of this work. The species described below are arranged in alphabetic order.

8. *Eretmocera agassizi* spec. nov.

Holotype ♂: Kenya, Rift Valley, L. Bogoria, 3000ft, 19.ii.1999, D.J.L. Agassiz (white label); Gen. prep. no 1585X ♂ *Eretmocera agassizi*, B Å Bengtsson (yellow); holotype *Eretmocera agassizi* ♂ Bengtsson (red). – In coll. Agassiz/BMNH.

Paratypes (all in coll. Agassiz) 2 ♂♂: same data as holotype but one male 16.ii.1999.
1 ♂: Kenya: Rift Valley, Lake Bogoria 0º20'46'' N, 36º04' E, 15.xi.2006, D.J.L. Agassiz.

Diagnosis: Similar to *Eretmocera basistrigata* Walsingham and *E. arabica* Amsel but both those species have crimson hindwing, not fuscous. Male genitalia of *E. agassizi* characterized by broad uncus lobes, swollen gnathos, and broad and large saccus.

Description (Fig. 8i): Wingspan 11–13 mm. Head, thorax, and forewing with moderate gloss. Head dark olive brown, eye partly thinly surrounded by cream scales except at scape. Labial palp cream on first segment and dorsally on basal half of second, fuscous on remaining parts; second segment 1.0 and third 0.7 times as long as eye diameter; eye comparatively large for an *Eretmocera* species. Antenna dark fuscous, in middle thickened by moderately raised scales, length c. 0.8 of forewing. Collar and thorax dark olive brown, tegula olive brown with cream inner half. Forewing olive brown, in fold a cream streak extending to cream spot at tornus or ending just before that spot, at costa a cream spot beyond tornal spot. Metanotum with pair of cream spots. Hindwing fuscous, at base sparser scaled, width c. 0.7 of forewing. Fringes in both wings fuscous. Legs fuscous on outer surface, ventrally pale dirty cream. Abdomen (in male) crimson dorsally, first and second segment black, less extending on second, anal tuft blackish brown in middle; ventral side of abdomen pale ochreous.

Male genitalia (Fig. 8m-a,b): Uncus two broad lobes, tapered from middle to a blunt tip. Distal arm of gnathos gradually more swollen distally but tip thin, hooked, and sclerotised. Valva slightly bent, almost evenly broad but distally somewhat tapered to a blunt tip; setose at ventral margin from base to tip. Saccus large, with parabolic profile, wide at base. Sternum VIII subtrapezoid, outstretched, posteriorly and anteriorly indented, laterally shallowly incurved. Tergum VIII subtrapezoid, posteriorly with small notch, anteriorly deeply and widely indented. Segment VI and VII reinforced along anterior and posterior margins. On pleural membranes of segment VII and VIII two pairs of granulated pads.

Female genitalia: Unknown.

Biology: Unknown. Imagines have been collected in November and February.

Distribution: Kenya (Rift Valley).

Ethymology: This species is dedicated to David Agassiz, the collector of the type series.

9. *Eretmocera alenica* Strand, 1913

Archiv für Naturgeschichte, 78A: 72.
Type locality: W Africa [Equitorial Guinea: Alen, c. 1.5°N 10.1°E]. Lectotype in MFN.

Diagnosis (Plate 24, Fig. 9i): Unmistakable by bright yellowish tornal spot at tornus. Female genitalia typical by pair of sclerotised plates at ostium and deep incision on posterior margin of segment VIII.

The original description is quoted (translated): “Only one single specimen from Alen, 3.VIII.06. Forewing black, dorsally bronzy, along termen purplish, fringes black, at tornus a pale yellow, oval, oblique spot with a maximum diameter of 1 mm; opposite tornal spot a very faint, pale yellow costal spot. Ventrally a red streak, not reaching termen, with yellowish gloss, distally reddish-purlish; fringes as on dorsal side, blackish. Hindwing and its fringes in basal half dorsally and ventrally blood-red; apical half black with faint bronze shine. Thorax dorsally black with faint bronzy shine, posterior tip with some pale scales; tegula surrounded by indistinctly paler edging. Sides of thorax and also anterior and posterior part with yellow spot but these appear sometimes darker. Abdomen dorsobasally black, as to the rest red, ventrally black with three yellowish, transverse streaks. Extremities black, only labial palp basally yellow. – Approximately median third of antenna dorsally furnished with erect scale-crest, distally abruptly “cut off”, towards base of antenna gradually diminishing; erect scales darker than flagellum.

Wingspan 12 mm, wing length 6 mm, length of abdomen 5.5 mm.

One further specimen (from Alen, 16–30.IX.06) exhibits on ventral side of forewing a broader red streak which reaches termen.”

Male genitalia: Not studied.

Female genitalia (Plate 116, Fig. 9f): Near ostium a pair of closely located sclerotised, semicircular areas. Segment VIII extended posteriorly and with deep, posteromedian incision. Sclerotised transverse, straight bar edging segment VIII anteriorly especially well defined laterally.

Biology: Unknown.

Distribution: Equatorial Guinea.

10. *Eretmocera arabica* Amsel, 1961

Beiträge zur naturkundlichen Forschung in Südwestdeutschland, 20: 56.
Type locality: Yemen. Holotype in BMNH.

Diagnosis: Externally similar to *Eretmocera basistrigata* but male genitalia very different by tergum VIII lacking a central sclerite (cf. Figs 10m-b and 11m-b).

Description (Fig. 10i): Wingspan 12–14 mm. Head and thorax black. Tegula yellow except in costal part. Forewing blackish with yellow, basal streak in fold almost reaching middle of wing. At tornus an oval yellow spot and a smaller yellow spot at costa beyond tornal spot. Fringes blackish. Hindwing width c. 0.8 of forewing, red but apical sixth blackish. Coloration of fringes follows hindwing colours.

Male genitalia (Fig. 10m-a,b): Symmetrical. Uncus extended by short knob at tip. Gnathos large, two sclerotised, parallel prongs. Valva long and slender, evenly broad. Saccular extension of vinculum large, tongue-shaped. Sternum VIII subtrapezoid with pair of laterobasal flaps and shallow indentation posteriorly. Tergum VIII subtrapezoid with larger V-shaped indentation posteriorly.

Female genitalia: Unknown.

Biology: Unknown. Imagines have been collected in December–February.

Distribution: Yemen.

11. *Eretmocera basistrigata* Walsingham, 1889

Transactions of the Royal entomological Society of London, 1889: 32, pl. 5.
Type locality: Gambia, Bathurst (= Banjul).
Holotype in BMNH.

Diagnosis: External appearance similar to *Eretmocera arabica* but male genitalia different, for instance by presence of a median sclerite on tergum VIII.

Description (Fig. 11i): Wingspan 13–14 mm. Head and thorax blackish brown. Tegula yellow in inner half. Forewing blackish brown with a basal streak in fold reaching middle of wing. At tornus a large, oblique spot and beyond that a costal, much smaller spot, both yellow. Fringes blackish brown. Hindwing width 0.6 of forewing, red in basal three forth, then gradually darker, apical part blackish. Coloration of fringes follows colour of hindwing. Male abdomen dorsally red with black patches on tergum I and VII, ventrally usually unicoloured ochreous but sometimes with darker scales laterally on sternum II–IV. Abdomen in female similar to that in male but black spot on tergum VII absent and ventral side with large, black, lateral patches on sternum II–IV and on base of sternum VII.

Male genitalia (Fig. 11m-a,b): Symmetrical. Uncus a pair of large, digitate and setose lobes, curved in apical half. Gnathos very long reminding of a threatening cobra. Valva long and slender. Saccus very large, tongue-shaped. Male genitalia resembling those of *E. arabica* but uncus and gnathos different. Sternum VIII subtrapezoid, anteriorly and posteriorly with deep, U-shaped incurvations. Tergum VIII essentially V-shaped with pair of mediolateral “shoulders” and a median, conical sclerite.

Female genitalia (Fig. 11f): Sterigma ill-defined, a wide, bell-shaped plate, round posteriorly with a median fissure and two sclerotised rods on each side of fissure. Most significant on sterigma are bent, anteriolateral arms connected to apophyses anteriores. On segment VII two oval, pleural patches of scale sockets.

Biology: Larval host *Clerodendron* sp. (Passerin d’Entrèves & Roggera 2007). Flight period September–February.

Distribution: Gambia, Kenya, Namibia, and Cape Verde.

12. *Eretmocera benitonis* Strand, 1913

Archiv für Naturgeschichte, 78A: 72.
Type locality: W Africa [Equitorial Guinea: Alen, c. 1.5°N 10.1°E]. Holotype in MFN.

Diagnosis (Plate 24, Fig. 12i): Similar to certain forms of *Eretmocera fuscipennis* but black dorsal spot on terminal segments of abdomen absent. External appearance quite different from *E. katangensis* by dark hindwing but male genitalia seemingly identical; can probably only be separated by absence of slender extension on tergum VIII.

The original description is quoted (translated): “One single specimen from Alen, 7.VIII.06.
Closely related with *E. carteri* Walsh. [= *E. fuscipennis* Zll., authors comment] – Forewing dorsally black with blue-green sheen and irregularly and sparsely scattered with reddish, indistinct scales. Fringes black. Ventral side purplish, brown-black, towards base maybe paler. Hindwing dorsally and ventrally as ventral side of forewing or slightly lighter; fringes black. Abdomen dorsally at each end blue-black, otherwise red, ventrally orange-yellow. Extremities black, purplish shining, labial palp basally yellowish underneath. Thorax maybe with some yellowish scales. Scale-crest on antenna differ from former species [i.e. *E. alenica*, authors comment] by distal portion being gradually tapering and not ending abruptly, and thereby as high as proximal part.

Wing length 5.3 mm, length of abdomen 5.5 mm.”

Male genitalia (Plate 116, Figs 12m-a,b): Uncus bifurcate, apically more sclerotised, ventral side with minute spiculae and a bump in middle. Gnathos with two processes, left one longest, at tip inflated and ending with a small projection, both processes in middle with minuscule pattern reminding of fish-scales. Valva long, knifeblade-shaped. Saccus spatular, almost as long as valva. Phallus tapered, length c. 0.6 of valva. Sternum VIII subtrapezoid, anteriorly and posteriorly indented. Tergum VIII subtrapezoid with round lateral corners.

Female genitalia: Unknown.

Biology: Unknown. The type specimen was collected in August.

Distribution: Equatorial Guinea.

13. *Eretmocera bradleyi* Amsel, 1961

Beiträge zur naturkundlichen Forschung in Südwestdeutschland, 20: 55.
Type locality: Yemen.
Holotype in BMNH.

Diagnosis: Similar to *Eretmocera fuscipennis* (that typically has unicoloured forewing) but forewing with two opposite, diffuse spots near apex, costal one beyond the one outside tornus, and hindwing entirely red except for the outermost tip.

Description (Fig. 13i): Wingspan c. 10 mm. Forewing dark brown with a diffuse, pale yellow costal spot at the beginning of costal fringe, and a similar dorsal spot obliquely below the costal one. Fringes dark fuscous but on middle of termen with reddish hue. Hindwing width 0.7–0.8 of forewing, pale red but at the extreme apex darker by some brownish scales. Fringes fuscous but reddish in basal half along inner half dorsum and costa.

Male genitalia (Fig. 13m-a,b): Uncus a long protrusion with sclerotised teeth in basal half. Gnathos large, basally fused with a sclerotised rod, distal arm with beak at tip. Valva long, spatular, almost evenly broad. Saccus more than half as long as valva, linguiform, with median reinforcement. Phallus as long as gnathos, slightly sinuate, tapered to a point. Sternum VIII a U-shaped plate with pair of lateral flaps where special scales are attached. Tergum VIII subtrapezoid, laterally with convex swelling, posteriorly and anteriorly with median incurvation.

Female genitalia: Unknown.

Biology: Unknown. The type specimen was collected in February.

Distribution: United Arab Emirates, Yemen.

14. *Eretmocera contermina* Meyrick, 1926

Annals of the South African Museum, 23: 337.
Type locality: S. W. Protect. [Namibia], Tsumeb. Holotype in SAM.

Diagnosis: *Eretmocera contermina* (Fig. 14i-m) and *E. monophaea* closely related to each other and difficult to separate by external appearance. Coloration of certain parts in both species slightly different but infraspecific variation complicates determination. Original description by Meyrick of *Eretmocera monophaea* nearly the same as for *E. contermina*, but labial palp in *monophaea* dark fuscous, paler portions in abdomen and forewing with rose-pink hue and not pure ochreous. Meyrick also stated a costal whitish spot being located at ¾ from base, and, finally, mentioned some whitish scales near apex. The genitalia distinguish the species even if the differences are small (see table below).

The original description is quoted: “Head and thorax dark grey. Palpi whitish. Antennae dark fuscous. Abdomen ochreous-yellowish, irregularly dark fuscous towards base of segments, anal tuft blackish, yellowish centrally towards apex and beneath. Forewings elongate-lanceolate; dark greyish-fuscous; an ochreous-white spot on costa at 4/5; fringes dark grey. Hindwings and fringes dark grey. S.W. Africa. – Tsumeb, December (R. W. Tucker); one specimen.”

The female (Fig. 14i-f) differs from the male by having more yellow scales on dorsal side of abdomen showing only few dark scales at the anterior part of each segment. The forewing is more distinctly marked with a white costal spot at ¾ from base and a pale beige spot at tornus; in basal 2/3 some irregular, slightly paler (greyish) diffuse patches of scales, also discernable in male but to a lesser extent. Wingspan 10-11 mm.

Male genitalia (Figs 14m-a,b): Symmetrical. Uncus two huge processes, widest near base, tapering distally, laterally with numerous stiff scales and bristles, most densely in middle half. Gnathos stout with upper edge sclerotised and below that a pouch-shaped membrane. Valva almost evenly broad, slightly curved outwards, ventrally with dense row of short bristles, apical portion tapering, tip round. Saccular extension of vinculum linguiform, almost as long as valva. Phallus rather short, tapered, pointed, bent near middle. Sternum VIII subtrapezoid with deep incurvation anteriorly and posteriorly. Tergum VIII U-shaped with extended apodemes anteriolaterally, each one with flap holding extremely long and thin scales. The differences between the male genitalia of *E. contermina* and *E. monophaea* (Fig. 29m) is shown in the table below.

Character / species	*E. contermina*	*E. monophaea*
Uncus prong	Almost as long as valva	Length 2/3 of valva
Vinculum	C. 0.8 as long as valva	Approx. half length of valva
Ratio maximum length/maximum breadth of S8	Ca 0.7	Ca 0.9
Ratio maximum length/maximum breadth of T8	Ca 0.4	Ca 0.5

Female genitalia (Fig. 14f): Sterigma almost semi-circular with pair of thin, lateral extensions directed anteriorly. On anterior margin of segment VIII a large, moustache-shaped sclerite. At posterior margin of segment VIII a pair of diffuse sclerites, also present in *E. monophaea*, but sterigma lacks circular sclerites that are present in *monophaea* (cf. Fig. 29f).

Biology: Unknown. Imagines have been collected in December (Holotype) and March.

Distribution: Namibia (Tsumeb and Okahandja), South Africa (Pretoria).

Comments: Only one female was available and is supposed to belong to *E. contermina*. Label data for this species read as follows: "Namibia, Omatako Ranch, 80 km N Okahandja, LF [=Lichtfang], 6.3.2003, leg. K. Vohland". Genitalia on slide BÅB 1915X, (MFN).

15. *Eretmocera dorsistrigata* Walsingham, 1889

Transactions of the Royal entomological Society of London, 1889: 29.
Type locality: Zanzibar. Holotype in BMNH.

Diagnosis: *Eretmocera dorsistrigata* (Fig. 15i) cannot be separated with certainty from *Eretmocera syleuta* , *E. dorsistrigata* , *E. miniata*, and a certain form of *E. fuscipennis* by external appearance.

Excerpt from the original description: Wingspan 15 mm. Head and thorax bronzy-brown. Forewing bronzy-brown, with a pale, oblique, dorsal patch at the basal third, reaching nearly to the middle of the wing, and two opposite on the outer third about equal in size, the first on costa, the second at the anal angle, all pale lemon-yellow; fringes fuscous. Under side bronzy brown, the extreme costal margin very pale ochreous, a line of orange scales extending from the middle of the base to the anal angle.

Hindwings golden brown, tending to pale yellowish on the upper part of the costal half, costal fringes pale yellow to beyond the middle; orange-yellow on the dorsal margin for the same distance, thence fuscous around the apex. Under side orange-yellow, thickly sprinkled with vermilion scales; fringes orange-yellow to beyond the base, thence fuscous.

Abdomen bright yellow at the base, near which is a deep purple bar, not reaching to the sides; below this bar the abdomen is orange, with a wide purplish fuscous band crossing the anal segment, which leaves the anal tuft pale ochreous. Under side whitish.

Male genitalia: Not examined.

Female genitalia: Unknown.

Biology: Unknown.

Distribution: [Tanzania] Zanzibar.

Comments: *E. dorsistrigata* might be a junior synonym to *E. fuscipennis*, which is recorded from W Africa with a yellow form, even if Walsingham (1889: 29) referred to *E. lunifera* [i.e. *fuscipennis*; author's comment] as a different species by stating: "This species is apparently allied to *lunifera*, Z., figured Trans. Ent. Soc. Lond., 1881, Pl. XIII., 41. It differs in the bronzy-brown colour of the anterior wings, in the larger oblique yellowish patch on the dorsal margin, further removed from the base, in the yellow base of the abdomen, followed by a dark band, and in the complete dark bar crossing the anal segments; whereas in *lunifera* the lateral fascicules of scales only are dark."

16. *Eretmocera florifera* Meyrick, 1909

Annals of the Transvaal Museum, 2: 21.
Type locality: Transvaal. Holotype in TMSA.

Diagnosis: Characteristic (Fig. 16i) by three yellow spots in forewing on blackish ground-colour, and the deep yellow hindwing, only leaving the apical fifth fuscous.

The original description is quoted: “Female, 12 mm. Head, palpi, and thorax dark bronzy-fuscous; palpi whitish towards base; thorax with a pale yellow spot on each side posteriorly. Antennae purple-blackish, median third with long rough projecting scales above. Abdomen bright deep yellow, with deep fuscous-purple dorsal spot extending over two basal segments, apical segment blackish except tip. Forewings lanceolate; purple-blackish; a moderate roundish pale ochreous-yellow spot in disk at 1/3; a small whitish yellow spot on tornus and one rather beyond it on costa; cilia purple-blackish. Hindwings bright deep yellow; a dark purplish-fuscous apical patch covering rather more than ¼, anterior edge with projections in disk and on termen; cilia deep yellow, round apical patch dark fuscous. Under-surface of all wings deep yellow with dark fuscous apical patches. Pretoria, in December; one specimen.”

Male genitalia (Fig. 16m-a,b): A specimen in BMNH determined as *E. florifera* has been dissected (slide BM 4062). The genitalia are not spread and thus difficult to interpret in detail. Uncus trough-shaped with strong edging. Gnathos with round basal loop and curved, evenly broad distal portion, tip round. From tegumen a long ventral structure is extending backwards; at tip it is square with distinct edges and most posterior a ventral flap. Valva long, virtually evenly broad. Phallus length c. 0.6 of valva almost straight, slightly tapered and at tip obliquely cut off. Saccus as long as phallus. Sternum VIII subtrapezoid, laterally concave and posteriorly with rather deep indentation. Tergum VIII oblong-semicircular with deep incurvation anteriorly.

Female genitalia: Not examined.

Biology: Unknown. Imagines in October and December.

Distribution: South Africa (Natal: Pretoria, Kimbolton, and Kimberly).

Comments: The holotype (a female) bears the following labels. “Pretoria, 21.12.08. II, A.J.T.Janse” (white); “41 68” (white); “*Eretmocera* florifera M. Type No. 229” (white).

17. *Eretmocera fuscipennis* Zeller, 1852

Lepidoptera Microptera quae J.A.Wahlberg in Caffrorum Terra collegit [Micr. Caffr.]: 97.
Type locality: [South Africa, E Cape region] Area between Limpopo River and Gariep [Orange] River.
Holotype in NHRS.

Eretmocera
: Synonymized by Meyrick 1917b: 62.
Lepidoptera Microptera quae J.A.Wahlberg in Caffrorum Terra collegit: 100.
Type locality: [South Africa] Natal.
Holotype in NHRS.

Exodomorpha derogatella Walker, 1864: Synonymized by Meyrick 1917b: 62.
List of Specimens of Lepidopterous Insects in the Collection of British Museum. Tineites (XXIX-XXX), and Supplement (XXXI): 834.
Type locality: [South Africa] Port Natal.
Holotype in BMNH (see Comments below).

Exodomorpha inclusella Walker, 1864: Synonymized by Walsingham (1881: 271).
List of Specimens of Lepidopterous Insects in the Collection of British Museum. Tineites (XXIX-XXX), and Supplement (XXXI). Part 29: 834.
Type locality: [South Africa] Port Natal.
Holotype in BMNH.

Eretmocera carteri Walsingham, 1889 **syn. nov.**
Transactions of the Royal entomological Society of London, 1889: 28.
Type locality: Gambien, Bathurst [= Gambia, Banjul].
Holotype in BMNH.

Eretmocera miniata Walsingham, 1889: Synonymized by Meyrick (1917b: 62).
Transactions of the Royal entomological Society of London, 1889: 30.
Type localityl: [Tanzania] Zanzibar.

Holotype in BMNH.

Diagnosis: A polymorphic species described several times. Zeller described two variants, var. *a* and var. *b* respectively, a red and a yellow form respectively. *E. fuscipennis* (Fig. 17i-a) most often has unicoloured, dark brownish forewing with moderate gloss, reddish or yellowish hindwing with fuscous scales intermingled in the apical ¾ in higher or smaller degree. Hence it resembles *E. homalocrossa* and *E. haemogastra*. *E. fuscipennis* also occurs in a form with no black scales on the terminal abdominal segments described as *E. carteri* (Fig. 17i-e). It may also be mixed up with *E. scatospila* but this species usually has a faint spot at tornus and another opposite one. The form described as *E. miniata* (Fig. 17i-f) has a distinct, oblique yellowish dash on mid dorsum and two small, yellowish opposite spots above tornus. This form may be easily confused with *E. scatospila*. From all other species *E. fuscipennis* may be distinguished by genitalia dissection.

Description (Fig. 17i-a, b, c, d, e, f,g): Wingspan 11–13 mm. Head, thorax, forewing and fringes dark brownish, underside of forewing dark brownish with purplish hue and a thin red or yellowish, curved streak from base to termen. Hindwing dorsally reddish or yellowish at base, apical 4/5 with increasing number of brownish or blackish brown scales, underside entirely carmine red or yellow, occasionally with some fuscous scales mixed in; fringes carmine red or yellow in basal half, fuscous in apical half. Abdomen carmine red or deep yellow dorsally, basal two segments and ultimate segment blackish; ventral side scarlet or yellowish brown. Antennae brownish black with median third thickened by raised blackish scales.

The morphs described as *E. lunifera* (Fig. 17i-b) and *E. miniata* (Fig. 17i-f,g) has distinct markings in forewing: a mid-dorsal, oblique, pale yellowish dash reaching beyond fold and a pair of opposite pale yellowish spots at level of tornus. Otherwise coloured as the nominate morph with unicoloured forewing.

Eretmocera carteri (Fig. 17i-e), with type locality in Bathurst [now Banjul], Gambia, differs from the nominate form by lacking the blackish, dorsal spot on posterior segment of abdomen.

Male genitalia (Fig. 17m-a,b,c): Symmetrical but complex. Tegumen a bell-shaped plate reinforced by a lyre-shaped sclerite. Socii (?) two short and broad processes with a patch of spines subapically. Phallus tapered, bent in middle and at base a triangular plate. Valva (?) digitate with spines and short bristles in apical part. Sternum VIII a long, subtrapezoid plate, posteriorly with deep, U-shaped groove. Tergum VIII triangular with round tip and long apodemes anteriolaterally.

Female genitalia (Fig. 17f): Sterigma square with increasing sclerotisation posteriorly and membranous in middle, at hind margin a pair of small lateral, round flaps and a large, median semi-circular extension.

Biology: Larval host *Clerodendron* sp. (Passerin d'Entrèves & Roggero 2007). Imagines found in almost every month of the year.

Distribution: Congo, Gambia, South Africa, Tanzania, and Zimbabwe.

Comments: The holotype of *fuscipennis* (Fig. 17m-a) bears the following labels: "Caffraria"; "*Eretmocera fuscipennis*"; "*Eretmocera fuscipennis* Zell., Lectotype ♂, P. Viette 3-1954"; Genitalia ♂, P. Viette, Prep. No 2867"; "B.M.Prep. 2:56 2792".

All synonyms (except *E. carteri*) are accounted for in Passerin d'Entrèves & Roggero (2007). After his description of *carteri*, Walsingham added: "One of my three specimens from Bathurst, collected by Mr. G. T. Carter, has the anal segments entirely carmine, without any black whatever. Walsingham selected a male as the type and in BMNH one specimen bears this label and devoid of black scales on the anal segments." In his monographic work, Walsingham (1889: 26) expressed the opinion that *derogatella* has yellow hindwing, *fuscipennis* and *carteri* red hindwing, the latter species with purple forewing but *fuscipennis* with brown forewing. Walsingham indicated that there were two specimens in the type series, one male and one female, but possibly one of them has disappeared, as a single specimen in BMNH has been designated "Type" with a round red-margined label. On the Internet (http://www.afromoths.net/species/show/3092) the type specimen of *E. derogatella* is a holotype. If the second type specimen is found the male will appropriately be a lectotype.

The description of the female and its genitalia refers to specimens in TMSA, which were erroneously determined as *E. sylepta*.