

The Gelechiidae (Lepidoptera) of the Democratic Republic of the Congo

Authors: Bidzilya, Oleksiy V., and Rajaei, Hossein

Source: Revue suisse de Zoologie, 131(2): 487-510

Published By: Muséum d'histoire naturelle, Genève

URL: https://doi.org/10.35929/RSZ.0133

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

The Gelechiidae (Lepidoptera) of the Democratic Republic of the Congo

Oleksiy V. Bidzilya^{1,2*} & Hossein Rajaei²

- ¹ Institute for Evolutionary Ecology of the National Academy of Sciences of Ukraine, 37 Academician Lebediev str., 03143, Kyiv, Ukraine
- ² Staatliches Museum für Naturkunde Stuttgart, Rosenstein 1, D-70191 Stuttgart, Germany
- * Corresponding author: olexbid@gmail.com

Abstract: In the framework of a taxonomic revision of the Gelechiidae of the Democratic Republic of the Congo, an annotated checklist of 66 species is presented. Beside 24 new species records for this country, two new species are described: Athrips pallidifusca sp. nov. and Schizovalva nigromaculata sp. nov. Additionally, two new synonyms are proposed: Anarsia manjakatompo Viette, 1957 syn. nov. of A. gambiensis Strand, 1913, stat. nov.; Metzneria portieri Viette, 1948 syn. nov. of Metzneria sanguinea Meyrick, 1934. Three new combinations are suggested: Anarsia syndelta (Meyrick, 1921) comb. nov. from Telphusa; Mometa cunctatrix (Meyrick, 1931) comb. nov. and Mometa erebodoxa (Meyrick, 1927) comb. nov. from Platyedra. The male and female genitalia of Dactylethrella bryophilella (Walsingham, 1891), Anarsia gambiensis Strand, 1913, Mometa chlidanopa Meyrick, 1927 and Semophylax apicepuncta (Busck, 1911), as well as the male genitalia of Anarsia syndelta, Dichomeris eurynotus (Walsingham, 1897), Metzneria sanguinea Meyrick, 1934 and the female genitalia of Aspades armatovalva (Janse, 1963) are described and illustrated for the first time. Taxonomic notes, larval host plants and updated distribution data are given for several species. Anarsia gambiensis is recorded for the first time from Ethiopia, Tanzania and Malawi; Anarsia gravata Meyrick, 1911 from Tanzania and Malawi; Dichomeris eurynotus from Uganda; Aspades armatovalva (Janse, 1963) from Tanzania; Metzneria sanguinea from Uganda, Kenya and Yemen; Ephysteris leptocentra (Meyrick, 1912) from the Afrotropical region.

Keywords: Afrotropical region, new combinations, new records, new species, new synonyms.

INTRODUCTION

Our knowledge on the Gelechiidae of the Democratic Republic of the Congo (DR Congo) stems from research conducted by Edward Meyrick (1933, 1937, 1938) and Jean Ghesquière (1940a, b). These researchers described a total of three genera and 21 species, provided new records, and reviewed the host plants for some species. Their data were based on specimens collected from the Parc National Albert (currently part of Virunga National Park in North Kivu Province), Eala (5 km E of Mbandaka, Equateur Province) and various other localities in the old Katanga Province. Recently, Bidzilya & Rajaei (2024) revised the status of all new taxa described from DR Congo and Bidzilya *et al.* (2024) described two new species from the country.

Despite some progress in the study of the Gelechiidae of DR Congo, our knowledge of the country's fauna remains rather unsatisfactory, both taxonomically and

faunistically. Several genera remain unrevised, which significantly hampers biodiversity studies. This issue particularly affects genera such as *Dichomeris* Hübner, 1818, *Helcystogramma* Zeller, 1877, *Leuronoma* Meyrick, 1918, and *Stomopteryx* Heinemann, 1870, among others. Currently, 66 Gelechiidae species have been recorded from DR Congo, but this number appears incomplete given the region's vast diversity of landscapes. In addition to the material listed below, we examined numerous specimens that could not be identified at this time because they belong to unrevised genera. These specimens are not discussed here but are reserved for future studies.

This contribution aims to revise and summarize all available data on Gelechiidae from DR Congo, provide new country records, clarify the taxonomic status of certain taxa, and describe new species.

Manuscript accepted 28.08.2024 DOI: 10.35929/RSZ.0133

This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited (see https://creativecommons.org/licenses/by/4.0/).

MATERIAL AND METHODS

The study is based on material deposited in the following collections:

DA — Research collection of David Agassiz, London, UK (in due course to be deposited in NHMUK);

MfN — Museum für Naturkunde, Berlin, Germany;

MHNG — Muséum d'histoire naturelle de Genève, Geneva, Switzerland;

MNHN — Muséum national d'Histoire naturelle, Paris, France;

NHMO — Natural History Museum, University of Oslo, Norway:

NHMUK — Natural History Museum, London, U.K.;

RMCA — Royal Museum for Central Africa, Tervuren, Belgium;

SMNS — Staatliches Museum für Naturkunde Stuttgart, Germany.

Male and female genitalia were dissected and prepared following the standard methods outlined by Huemer & Karsholt (2010); OB refers to Oleksiy Bidzilya. Label data are quoted directly, with labels separated by a vertical bar "|".

The supra-generic classification of Gelechiidae adheres to the system proposed by Karsholt *et al.* (2013). Genera within subfamilies and tribes are arranged tentatively, based on similarities in genitalia characteristics. Species within each genus are listed alphabetically.

In species distributions, the term "South Africa" refers specifically to the Republic of South Africa; "Katanga" refers to the old Katanga Province of DR Congo (split into four provinces in 2015).

TAXONOMIC PART

Subfamily Anacampsinae Tribe Anacampsini Mesophleps geodes (Meyrick, 1929)

Bucolarcha geodes Meyrick, 1929: 515.

Material examined: 1 ♂, H[au]t Katanga, Kyala, 4.viii.1929 (J. Romieux) (MHNG).

Host plants: Acacia brevispica (Harms), A. catechu (L.) Willd., Oliv., A. farnesiana (Willd.), Albizia lebbeck (L.) Benth. (Leguminosae, Mimosoideae) (Robinson et al., 2001).

Distribution: South Africa, Malawi, DR Congo: Katanga Province (new record), Kenya, Pakistan, India (Li & Sattler, 2012).

Mesophleps kruegeri Bidzilya, 2021

Mesophleps kruegeri Bidzilya, 2021a: 497, 499, figs 1-10.

Material examined: 1 ♀, H[au]t Katanga, Kyala, 15.vii.1929 (J. Romieux) (gen. slide 524/23, OB);

1 ♀, H[au]t Katanga, Tshinkolobwe, 19.viii.1930 (J. Romieux) (MHNG).

Biology: The larvae were observed feeding on leaves of *Terminalia sericea* (Burch. ex DC.) (Combretaceae) in South Africa (Bidzilya, 2021a).

Distribution: South Africa, Namibia, DR Congo: Katanga Province (new record).

Remark: The assignment of this species to the genus *Mesophleps* Hübner, 1825, is provisional (Bidzilya, 2021a).

Mesophleps palpigera (Walsingham, 1891)

Gelechia palpigera Walsingham, 1891: 94, pl. 4, fig. 31.

Material examined: 1 \circlearrowleft , 1 \circlearrowleft [DR Congo] Musée du Congo, Eala, 5.xi.1936 (J. Ghesquière) (gen. slide $227/24\circlearrowleft$, 228/24 \circlearrowleft , OB) (RMCA).

Host plants: Bauhinia sp., Parkinsonia aculeata (L.) (Leguminosae, Caesalpinioideae), Acacia sp., Albizia ('Cathormion') altissimum (Hook. f.), A. lebbeck (L.) Benth. (Leguminosae, Mimosoideae), Cajanus cajan (L.) Millsp., Crotalaria retusa (L.), Lonchocarpus cyanescens (Schumach.) Benth., Millettia zechiana (Harms), Pericopsis ('Afrormosia') laxiflora (Benth.) Meeuwen, Tephrosia bracteolata (Guill. & Perrott) (Leguminosae, Papilionoideae) (Li & Sattler, 2012).

Distribution: DR Congo (Ghesquière, 1940b), Ivory Coast, Niger, Nigeria, Uganda, Kenya, Malawi, Mozambique, Madagascar, South Africa (Li & Sattler, 2012).

Stomopteryx achyrobathra (Meyrick, 1933)

Aristotelia achyrobathra Meyrick, 1933: 447-448.

Distribution: DR Congo: Katanga Province (Meyrick, 1933).

Remark: Aristotelia achyrobathra Meyrick was transferred to the genus Stomopteryx by Bidzilya & Rajaei (2024).

Tribe Chelariini *Hypatima formidolosa* (Meyrick, 1916)

Chelaria formidolosa Meyrick, 1916: 581.

Material examined: 2 ♂, Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, Dec. 1976-Feb. 1977 (F. Schäuffele) (gen. slide 431/23, OB) (SMNS).

Distribution: South Africa (Meyrick, 1916), DR Congo: Haut Ituri Province (new record).

Dactylethrella bryophilella (Walsingham, 1891) Fig. 1A-D

Nothris bryophilella Walsingham, 1891: 108-109; pl. 5, fig. 46.

Material examined: Holotype: ♂, Gambia, Bathurst, Carter 188, No. 298 | Nothris bryophilella Wlsgh., Tr. Ent. Soc. Lond., p. 108, pl. 5.46, Type ♂ (1891) | Walsingham Collection 1910-427 | Type, H.T (NHMUK). 1 ♂, 1 ♀ [DR Congo] Musée du Congo, Eala, 10, 24.vi.1935 (J. Ghesquière) (gen. slide 263/24♂, 264/24♀) (RMCA). 1 ♂, Kenya, Coast, Mwabungu, sea level, 21.viii.2000 (D. Agassiz) (DA).

Diagnosis: The species appears superficially indistinguishable from *D. candida* (Stainton, 1859) from India. A potential synonymy between these taxa should be confirmed through the study of the genitalia of *D. candida*, which have not yet been described. The male genitalia of *D. bryophilella* resemble those of *D. siccifolii* (Walsingham, 1881) from South Africa. However, in the latter species, the uncus is narrower and does not extend beyond the anterior margin of the tegumen, and the valvella is pointed rather than rounded in *D. bryophilella*. The female genitalia of *D. bryophilella* differ from those of *D. siccifolii* by the presence of a signum.

Description of male genitalia (Fig. 1C): Uncus three times longer than broad, subrectangular, with rounded apex; lateral lobes incurved, joining medially. Gnathos stout, strongly sclerotized, gradually curved, extending beyond anterior margin of tegumen. Tegumen trapezoidal, with posterior margin half as long as anterior margin. Cucullus parallel-sided in basal half, then distinctly widened and covered with long hairs; apex with incurved tip, extending to base of uncus. Sacculus reduced. Valvella short, hump shaped, covered with straight, slender setae. Vinculum twice as wide as long, with short V-shaped medial emargination on posterior margin. Juxta lobes short and hump shaped. Saccus broadly triangular at base, parallel-sided in distal half, with triangular apex extending beyond tip of pedunculus. Phallus distinctly swollen in basal third, then slender, with weakly expanded apex.

Description of female genitalia (Fig. 1D): Papillae anales broadly ovate and sparsely covered with short setae. Apophyses posteriores equal in length to papillae anales, weakly bent. Segment VIII three times as broad as long, evenly sclerotized, with unmodified sternum; posterior margin weakly concave, anterior margin slightly produced anteriorly. Ostium opening subovate and broader than long. Ductus bursae slender, gradually widening anteriorly, transitioning gradually into pear-shaped corpus bursae. Signum an invaginated irregular plate, located on left side of corpus bursae.

Host plant: *Tephrosia vogelii* (Hook. f.) (Fabaceae) (Ghesquière, 1940b).

Distribution: The Gambia (Walsingham, 1891), DR Congo (Ghesquière, 1940b), Kenya (new record).

Anarsia agricola Walsingham, 1891

Anarsia agricola Walsingham, 1891: 111-112; pl. 5, fig. 48.

Host plants: Larvae have been recorded feeding on *Vachellia xanthophloea* (Benth.) P.J.H. Hurter, *V. tortilis* (Forssk.) Galasso & Banfi and *Senegalia mellifera* (Benth.) Seigler & Ebinger in Kenya (Agassiz & Bidzilya, 2016), as well as in flower galls produced by the fungus *Aecidium* on *Vachellia karroo* (Hayne) Banfi & Galasso (Fabaceae) (Bidzilya, 2021a).

Distribution: South Africa, Namibia, Mozambique, Zimbabwe (Janse, 1949), Zambia, Tanzania (Bidzilya, 2007), Madagascar (Lees & Minet, 2022), Kenya (Meyrick, 1920), DR Congo (Ghesquière, 1940b), The Gambia (Walsingham, 1891).

Anarsia amalleuta Meyrick, 1913

Anarsia amalleuta Meyrick, 1913b: 288-289.

Material examined: 1 ♂, Musée du Congo, Elisabethville, iv.1952 (Ch. Seydel) (gen. slide 251/24, OB) (RMCA); 1 ♀ [DR Congo] Musée du Congo, Rutshuru, vi.1937, J. Ghesquière (gen. slide 247/24, OB) (RMCA); 1 ♂ [DR Congo] Musée du Congo, Rutshuru, v.1937 (J. Ghesquière) (RMCA).

Host plants: The larva was observed feeding on *Vachellia robusta* (Burch.) (Fabaceae) in South Africa (Staude *et al.*, 2020; Bidzilya, 2021a) and on *Vachellia tortilis* (Forssk.) Galasso & Banfi and *Vachellia gerrardii* (Benth.) in Kenya (Agassiz & Bidzilya, 2016).

Distribution: South Africa (Meyrick, 1913b), Zimbabwe (Janse, 1949), Kenya, Tanzania (Agassiz & Bidzilya, 2016), DR Congo: North Kivu and Katanga Provinces (new record).

Anarsia carbonaria Meyrick, 1913

Anarsia carbonaria Meyrick, 1913b: 299-300.

Material examined: 2 ♀, Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, Dec. 1976-Feb. 1977 (F. Schäuffele) (gen. slide 274/24, OB) (SMNS).

Host plant: Larvae were observed feeding on the leaves of *Vachellia xanthophloea* (Benth.) P.J.H. Hurter in Kenya (Agassiz & Bidzilya, 2016).

Distribution: South Africa (Meyrick, 1913b), Mozambique (Janse, 1949), Malawi, Uganda, Tanzania, Kenya (Agassiz & Bidzilya, 2016), DR Congo: Haut Ituri Province (new record).

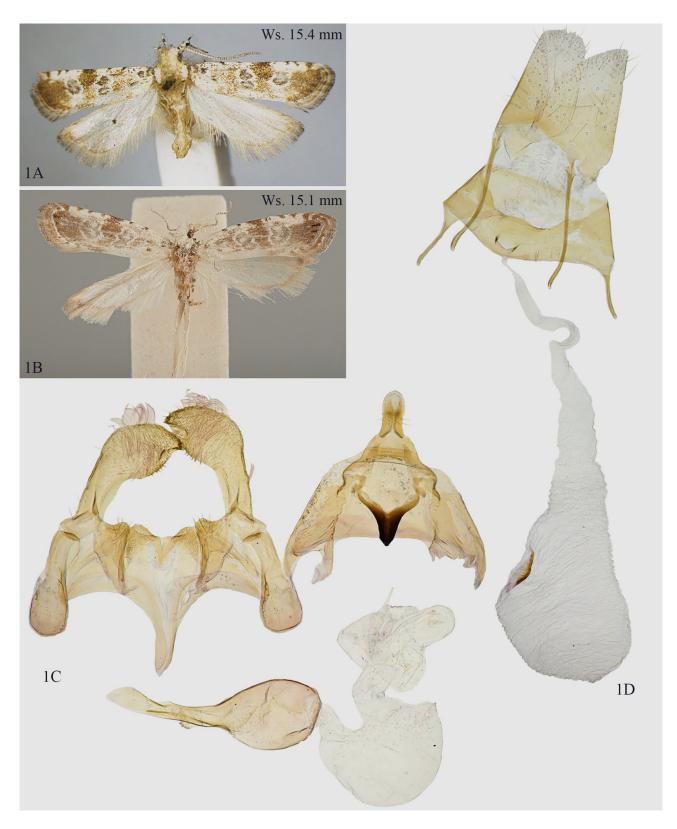


Fig. 1A-D. Morphological characters of *Dactylethrella bryophilella*. (A & B) Wing pattern. (A) Holotype, male (Gambia, Bathurst). (B) Male specimen (DR Congo; gen. slide 263/24, OB). (C) Male genitalia (DR Congo; gen. slide 263/24, OB). (D) Female genitalia (DR Congo; gen. slide 264/24, OB).

Anarsia gambiensis Strand, 1913, stat. nov. Fig. 2A-F

[Anarsia] agricola v. gambiensis Strand, 1913: 44. Hypatima manjakatompo Viette, 1957: 211-112. **Syn. nov.**

Material examined: Holotype of A. agricola v. gambiensis: 3, Bathurst, Gambia, Carter 188, No. 294 Anarsia agricola Wlsm., var. Wlsm. Tr. Ent. Soc., Type \mathcal{L} | Holotype \mathcal{L} , Anarsia agricola var. gambiensis Strd., teste K. Sattler, 1991 | Walsingham collection, 1910-427 | abdomen missing (NHMUK). Holotype of *H. manjakatompo*: ♀, Madagascar Central, Massif de l'Ankaratra, Manjakatompo | Forêt d'Ambahona, Alt. 1850 m, Chasse No 36, 22.x.1951. P. Viette Hypatima manjakatompo n. sp., Holotype ♀, P. Viette | Museum Paris, Mission P. Viette, Sept. 1951-Mars 1952 gen. slide ♀ No 240 (MNHN). 1 ♀, H[au]t Katanga, Tshinkolobwe, 18.ii.1930 (J. Romieux) (gen. slide 60/21, OB); 1 ♂, H[au]t Katanga, Tshinkolobwe, 26. ix.1930 (J. Romieux) (gen. slide 59/21, OB) (MHNG). 1 \circlearrowleft , Tanzania, Rukwa, Mpanga, Uvinza, 31 km S., 20.vii.1990 (A. Bjørnstad) (gen. slide NHMO 2358); 1 ♀, Tanzania, Morogoro, Kigurunyembe, 29.ii.1992 (L. Aarvik); 1 ♀, Tanzania, Iringa, Mufindi, Kigogo Forest, 23-25.xi.2005 (L. Aarvik, M. Fibiger, A. Kingston); 1 ex., Malawi, Central, Lilongwe, Dzalanyama, Forest Lodge, 15.ii.2004 (L. Aarvik) (NHMO). 1 3, Ethiopia, Bahar Dar, Juni/Juli 1969 (F. Schäuffele) (SMNS).

Description of male genitalia (Fig. 2E): Uncus subovate, approximately as long as wide, weakly constricted in middle and densely covered with short, strong setae. Gnathos slender and gradually curved. Tegumen nearly three times as long as uncus and weakly narrowed posteriorly. Left cucullus gently widened towards rounded apex, extending to tip of uncus, while right cucullus broadest in middle and gradually narrowing basally and apically. Basal process inflated at base, with pointed, weakly curved distal sclerite reaching halfway up right cucullus. Right sacculus rounded, and left sacculus short and digitate. Juxta processes slender and long, with apex weakly widened; right one slightly shorter than left. Phallus straight except for curved apex, weakly broadened in middle, and narrow at basal one-fourth.

Description of female genitalia (Fig. 2F): Papillae anales subovate, covered with strong setae at base and short setae distally. Apophyses posteriores thin, gradually bent, and 1.5 times as long as papillae anales. Segment VIII narrow, band shaped, evenly sclerotized, and unmodified. Ostium slender and crescent shaped. Apophyses anteriores thin, and roughly half as long as apophyses posteriores. Ductus bursae very delicate and gradually broadened towards elongate corpus bursae. Signum absent.

Distribution: DR Congo: Katanga Province (new

record), Tanzania (new record), Ethiopia (new record), Malawi (new record), Madagascar (Viette, 1957).

Remarks: Anarsia gambiensis was originally described as "[Anarsia] agricola v. gambiensis" based on a female holotype from Gambia: Senegambien, Bathurst (Strand, 1913). Since the holotype lacks the abdomen (Fig. 2A), we base the identity of the species on externally similar specimens from DR Congo and Tanzania (Fig. 2C-F). These specimens clearly differ from A. agricola in both external appearance and the genitalia of both sexes, leading to the conclusion that A. gambiensis should be considered a separate species. Hypatima manjakatompo (Fig. 2B), described on the basis of three females from Madagascar (Ambahona Forest) matches A. gambiensis in all details of external morphology and in the female genitalia. Therefore, we establish the following synonymy: Hypatima manjakatompo Viette, 1957 syn. nov. of A. gambiensis Strand, 1913.

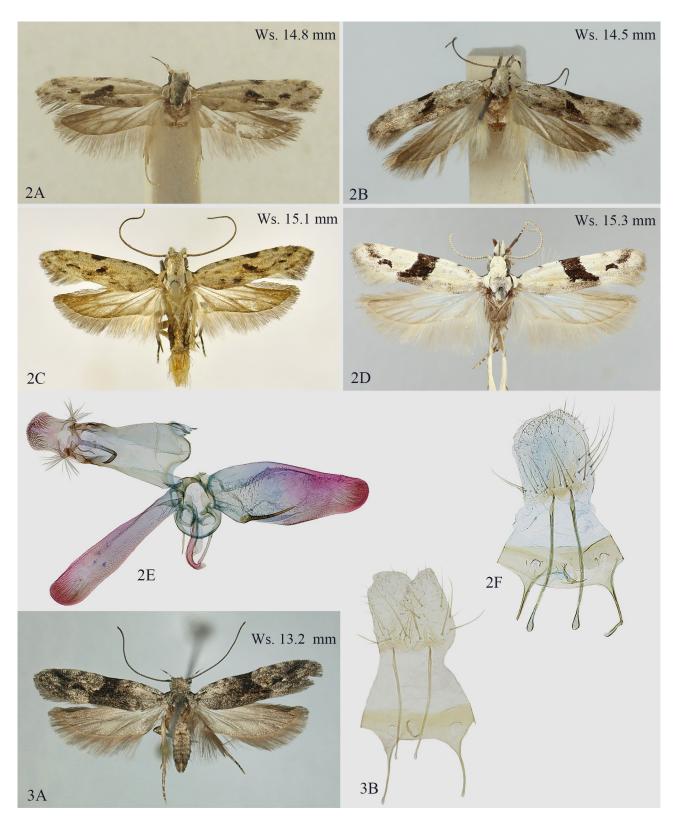
Anarsia gambiensis is characterized externally by white to pale or white mixed with grey forewing, featuring black elongate spots on two-thirds of costal margin and on two-thirds of the mid-width of the forewing (Fig. 2A-C). In some specimens, these spots merge to form elongate transverse fasciae (Fig. 2D). Such specimens closely resemble A. carbonaria Meyrick, 1913, but the forewing of A. carbonaria are much darker, being dark grev densely mixed with black (Fig. 3A). The male genitalia of A. gambiensis (Fig. 2E) are extremely similar to those of A. carbonaria; however, the distal pointed process of the right cucullus is straight and directed ventrally, whereas in A. gambiensis it is weakly curved and directed towards the apex of the cucullus. The female genitalia of A. gambiensis (Fig. 2F) are indistinguishable from those of A. carbonaria (Fig. 3B). While we could suggest to synonymize A. gambiensis and A. carbonaria, the external differences lead us to maintain these species separate.

Anarsia gravata Meyrick, 1911

Anarsia gravata Meyrick, 1911: 69.

Material examined: 1 ♂, Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, June-July 1977 (F. Schäuffele) (gen. slide 424/23, OB); 2 ♂, 1 ♀, same data but May 1977 (gen. slide 425/23♀, 267/24♂, OB); 1 ♀, same data but April, 1977 (gen. slide 268/24, OB); 1 ♀, same data but Oct-Nov. 1976 (SMNS). 1 ex., Tanzania, Rukwa, Mpanga, Uvinza, 33 km S., 13.x.1989 (A. Bjørnstad); 1 ex, same data as for preceding but 57 km S., 3.vii.1990 (A. Bjørnstad); 2 ex., Tanzania, Iringa, Mufindi, Sao Hill, 19-20.iii.1993 (L. Aarvik); 1 ex., Malawi, Central, Lilongwe, Dzalanyama, Forest Lodge, 15.ii.2004 (L. Aarvik) (NHMO).

Distribution: South Africa (Meyrick, 1911), DR Congo: Haut Ituri Province (new record), Tanzania (new record), Malawi (new record).



Figs 2, 3. (2A-F) Morphological characters of *Anarsia gambiensis*. (A-D) Wing pattern. (A) Holotype, female (Gambia, Bathurst). (B) Holotype female of *H. manjakatompo* (Madagascar; gen. slide 240, OB). (C) Male (Tanzania). (D) Male (DR Congo; gen. slide 59/21, OB). (E) Male genitalia (DR Congo; gen. slide 59/21, OB). (F) Female genitalia (DR Congo; gen. slide 60/21, OB). (3A, B) Morphological characters of *Anarsia carbonaria*. (A) Wing pattern, female (South Africa). (B) Female genitalia (DR Congo; gen. slide 274/24, OB).

Anarsia syndelta (Meyrick, 1921), comb. nov. Fig. 4A-C

Telphusa syndelta Meyrick, 1921: 69. *Nothris deltocrates* Meyrick, 1927: 352.

Description of male genitalia (Fig. 4B): Uncus subovate and densely covered with strong setae. Gnathos long, slender, and strongly curved in middle, with strongly sclerotized apex. Tegumen nearly parallelsided and twice as long as uncus. Left cucullus gently widened towards rounded apex, extending to tip of uncus, while right cucullus slightly broader than left, with straight ventral margin and weakly convex dorsal margin in middle; basal process inflated at base, with pointed, weakly curved distal sclerite reaching twothirds of left cucullus. Right sacculus rounded; left sacculus short and digitate. Juxta processes slender and long, with weakly widened apex; right process slightly shorter than left. Phallus straight except for curved apex, weakly broadened in middle, and with narrow basal quarter.

Description of female genitalia (Fig. 4C): Papillae anales subovate, covered with strong setae at base and short setae in distal part. Apophyses posteriores thin, gradually bent, and 1.5 times as long as papillae anales. Segment VIII very narrow, band shaped, evenly sclerotized, and unmodified. Ostium subrectangular and broader than long. Apophyses anteriores thin and about half as long as apophyses posteriores. Ductus bursae very delicate and gradually broadened towards elongate corpus bursae. Signum absent.

Remarks: Telphusa syndelta and Nothris deltocrates were originally described based on females holotypes from Harare (Zimbabwe). We examined one male and two females from Kyle National Park (Zimbabwe), as well as a female form Katanga Province (DR Congo), which match in all details the holotype of *T. syndelta*. The genitalia of both sexes, along with the reduced third segment of the labial palpus in the male, clearly indicate the assignment of this species to the genus Anarsia Zeller, 1839. Within the genus, A. syndelta is clearly recognizable externally in its contrasting white forewing with a characteristic black toothed pattern along the dorsal margin (Fig. 4A). The male genitalia (Fig. 4B) resemble those of A. gambiensis and A. carbonaria, but in the latter two species, the uncus is as long as it is wide (compared to longer than wide in A. syndelta), the gnathos is gradually curved (compared to strongly curved in the middle in A. syndelta), and the needle-shaped basal process of the left cucullus extends to half the length of the cucullus (compared to three-quarters of its length in *A. syndelta*). The female genitalia of *A. syndelta* (Fig. 4C) differ from those of both *A. gambiensis* and *A. carbonaria* in having a subrectangular rather than a slender crescent-shaped ostium

Distribution: Zimbabwe (Meyrick, 1921), DR Congo: Katanga Province (new record).

Anarsia vectaria Meyrick, 1918

Anarsia vectaria Meyrick, 1918: 21.

Material examined: 1 ♂, Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, June-July 1977 (F. Schäuffele) (gen. slide 426/23, OB) (SMNS).

Distribution: South Africa (Meyrick, 1918), Mozambique (Janse, 1949), DR Congo: Haut Ituri Province (new record).

Subfamily Dichomeridinae *Brachmia cirrhopa* (Meyrick, 1938)

Proteodoxa cirrhopa Meyrick, 1938: 15-16.

Distribution: DR Congo (Meyrick, 1938).

Remark: *Proteodoxa cirrhopa* was transferred to the genus *Brachmia* Hübner, 1825 by Bidzilya & Rajaei (2024).

Brachmia infixa Meyrick, 1938

Brachmia infixa Meyrick, 1938: 17.

Distribution: DR Congo (Meyrick, 1938).

Remark: The holotype of *B. infixa* was examined, and the systematic position of this species was discussed by Bidzilya & Rajaei (2024).

Dichomeris acuminatus (Staudinger, 1876)

Mesophleps (?) acuminatus Staudinger in Kalchberg, 1876: 148-149.

Material examined: 1 ♂, Musée du Congo, Elisabethville, iv-v.1952 (Ch. Seydel) (gen. slide 252/24, OB) (RMCA); 2 ♂, Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, Aug.-Sept., June-July 1977 (F. Schäuffele) (gen. slide 277/24, 281/24 OB) (SMNS).

Host plants: Larvae are known to feed on various genera of Fabaceae (De Prins & De Prins, 2024).

Distribution: This species has a broad distribution extending across the Australian, Oriental, South and

Eastern Palaearctic and South Nearctic (USA: Florida) regions. In the Afrotropical region, it is known from South Africa (Janse, 1951), Namibia (Li *et al.*, 2013), Kenya (Meyrick, 1920), DR Congo: Haut Ituri and Katanga Provinces (new record), Seychelles (Bippus, 2016), Mauritius (Meyrick, 1930), Madagascar (Lopez-Vaamonde *et al.*, 2019) and Comoros (Ghesquière, 1940b).

Dichomeris agathopa Meyrick, 1921

Dichomeris agathopa Meyrick, 1921: 85.

Material examined: 1 ♂, H[au]t Katanga, Sakania, 22.i.1932 (J. Romieux) (gen. slide 51/21, OB); 1 ♂, H[au]t Katanga, Tshinkolobwe, 12.vi.1931 (J. Romieux) (MHNG).

Distribution: South Africa (Janse, 1950), Zimbabwe (Meyrick, 1921), DR Congo: Katanga Province (new record).

Dichomeris craspedotis (Meyrick, 1937)

Trichotaphe craspedotis Meyrick, 1937: 95.

Distribution: DR Congo: Equateur Province (Meyrick, 1937).

Remark: *Trichotaphe craspedotis* was transferred to the genus *Dichomeris* by Bidzilya & Rajaei (2024).

Dichomeris eurynotus (Walsingham, 1897) Fig. 5A, B

Pappophorus eurynotus Walsingham, 1897: 40-41, pl. 2, fig. 4.

Material examined: 1 ♂, H[au]t Katanga, Panda, 6.i.1930 (J. Romieux) (gen. slide 97/23, OB) (MHNG). 1 ex (abdomen missing), Nabaziza, Uganda, 26.i.1931 | Pappophorus eurynota Wals., 2/1, E. Meyrick det., Meyrick coll. (NHMUK).

Diagnosis: Dichomeris eurynotus is recognizable externally by its predominantly pale forewing with the costal margin distinctly convex at base (Fig. 5A). Dichomeris leontovitchi (Ghesquière, 1940) has the forewing similarly shaped, but the ground colour is greyish brown, and markings are different.

Description of male genitalia (Fig. 5B): Uncus as wide as long, parallel-sided up to two-thirds of its length, then narrowed towards rounded apex. Gnathos gradually curved, of even width, with strongly sclerotized apex extending nearly to anterior margin of tegumen. Culcitula triangular. Tegumen subrectangular, twice as long as broad, with two large, rounded posterolateral lobes curved inwards and short, broadly rounded anteromedial emargination. Cucullus gradually broadened from its base to rounded apex, extending

beyond tip of uncus. Valvella short and digitate. Sacculus reduced. Vinculum band shaped, broader than long. Process of anellus straight and pointed. Juxta processes straight and slightly narrower than process of anellus, reaching to three-quarters of its length. Phallus slightly longer than tegumen and uncus, nearly parallel-sided in middle, and weakly narrowed at base and apex. Vesica containing two slender cornuti with weakly widened claw-shaped apices, and one flat apical process extending beyond tip of phallus.

Distribution: Gabon, Sierra Leone (Walsingham, 1897), DR Congo: Katanga Province (new record), Uganda (new record).

Dichomeris leontovitchi (Ghesquière, 1940)

Cymotricha leontovitchi Ghesquière, 1940a: 105.

Distribution: DR Congo: Mongala Province.

Remark: *Cymotricha leontovitchi* was transferred to the genus *Dichomeris* by Bidzilya & Rajaei (2024).

Dichomeris loxonoma Meyrick, 1937

Dichomeris loxonoma Meyrick, 1937: 123.

Distribution: DR Congo: Equateur Province (Meyrick, 1937).

Dichomeris opalina (Ghesquière, 1940)

Prasodryas opalina Ghesquière, 1940a: 106.

Distribution: DR Congo: Equateur Province (Ghesquière, 1940a).

Remark: *Prasodryas opalina* was transferred to the genus *Dichomeris* by Bidzilya & Rajaei (2024).

Dichomeris pammiges (Ghesquière, 1940)

Gaesa pammiges Ghesquière, 1940a: 103-104.

Distribution: DR Congo: Equateur Province (Ghesquière, 1940a).

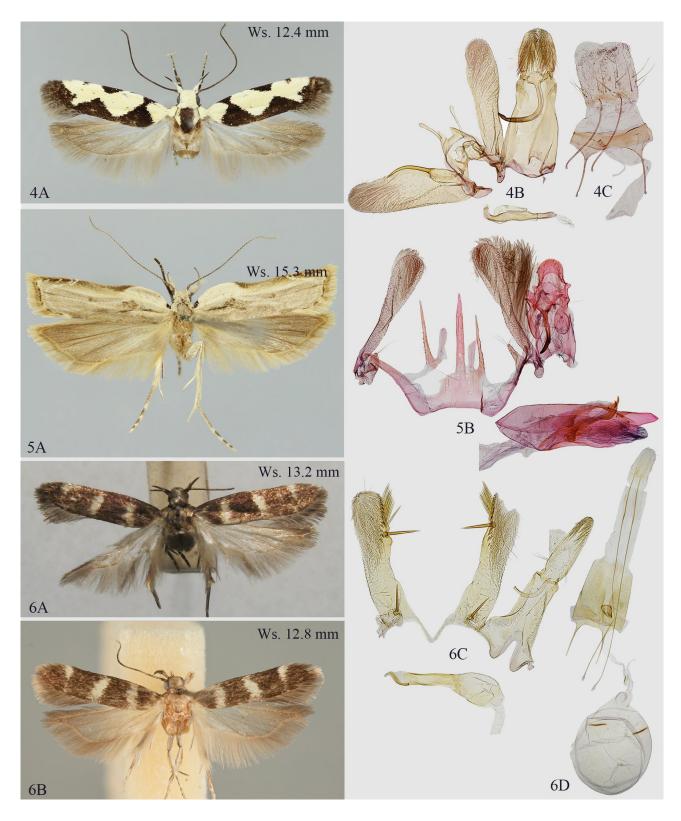
Remark: *Gaesa pammiges* was transferred to the genus *Dichomeris* by Bidzilya & Rajaei (2024).

Dichomeris phaeothina (Ghesquière, 1940)

Trichotaphe phaeothina Ghesquière, 1940a: 106-107.

Distribution: DR Congo: Equateur Province (Ghesquière, 1940a).

Remark: *Trichotaphe phaeothina* was transferred to the genus *Dichomeris* by Bidzilya & Rajaei (2024).



Figs 4-6. (Fig. 4A-C) Morphological characters of *Anarsia syndelta*. (A) Female (DR Congo; gen. slide 89/23, OB). (B) Male genitalia (Zimbabwe; gen. slide 166/24, OB). (C) Female genitalia (DR Congo; gen. slide 89/23, OB). (Fig. 5A, B) Morphological characters of *Dichomeris eurynotus*. (A) Wing pattern, male (DR Congo; gen. slide 97/23, OB). (B) Male genitalia (gen. slide 97/23, OB). (Fig. 6A-D) Morphological characters of *Aspades armatovalva*. (A) Wing pattern, holotype, male (Zimbabwe). (B) Wing pattern, male (DR Congo; gen. slide 507/23, OB). (C) Male genitalia (DR Congo; gen. slide 507/23, OB). (D) Female genitalia (Malawi; gen. slide 262/24, OB).

Dichomeris polygnampta (Meyrick, 1938)

Trichotaphe polygnampta Meyrick, 1938: 13, pl. 2, fig. 1.

Distribution: DR Congo (Meyrick, 1938).

Remark: *Trichotaphe polygnampta* was transferred to the genus *Dichomeris* by Bidzilya & Rajaei (2024).

Dichomeris schoutedeniella (Ghesquière, 1940)

Lecithocera schoutedeniella Ghesquière, 1940b: 59.

Distribution: Cameroon, Ivory Coast, Ghana (Pujol, 1961), DR Congo: Orientale Province (Ghesquière, 1940a).

Dichomeris symbolistis (Meyrick, 1938)

Adoxotricha symbolistis Meyrick, 1938: 15.

Distribution: DR Congo: North Kivu Province (Meyrick, 1938).

Remark: *Adoxotricha symbolistis* was transferred to the genus *Dichomeris* by Bidzilya & Rajaei (2024).

Helcystogramma convolvuli (Walsingham, 1908)

Trichotaphe convolvuli Walsingham, 1908: 944, pl. 51, fig. 16.

Distribution: Barbados, USA (Florida), Canary Islands, Madeira, India, Malaysia, Indonesia (De Prins & De Prins, 2024). In Afrotropical region this species is known from Zimbabwe, Madagascar (Janse, 1954), DR Congo, Uganda, Somalia (Ghesquière, 1940b), Cabo Verde (Báez & García, 2005), Comoros (Meyrick, 1918), Seychelles (Legrand, 1966), Mauritius (Meyrick, 1924), Réunion (Guillermet, 2012), Yemen (Amsel, 1961).

Helcystogramma digitatum (Meyrick, 1914)

Onebala digitata Meyrick, 1914: 200.

Material examined: 1 ♂, H[au]t Katanga, Panda, 27.v.1930 (Romieux) (MHNG).

Distribution: Malawi (Meyrick, 1914), DR Congo: Katanga Province (new record).

Helcystogramma hibisci (Stainton, 1859)

Gelechia hibisci Stainton, 1859: 117.

Material examined: 1 ♂, Musée du Congo, Kibati (1900), 1-20.i.1934, *leg.* G. F. de Witte | Congo belge, Kivu, Kibati, | 1900 m, 10/20.i.1934, G. F. de Witte, 160 | E. Meyrick det., 1937: *Onebala hibisci* Stain. (RMCA).

Host plant: Hibiscus sp. (Stainton, 1859).

Distribution: Australia, China, Indonesia, Sri Lanka. In the Afrotropics this species is known from DR Congo: North Kivu province (Ghesquière, 1940b).

Helcystogramma lamprostoma (Zeller, 1847)

Gelechia lamprostoma Zeller, 1847: 851-852.

Material examined: 1 ♂, H[au]t Katanga, Sakania, 25.ii.1931 (J. Romieux) (MHNG).

Host plants: The larva has been observed feeding on *Terminalia sericea* (Combretaceae) in South Africa (Staude *et al.*, 2020; Bidzilya, 2021a), and on *Convolvulus althaeoides* L. in the Canary Islands (Klimesch, 1984). Records from *Prosopis* sp. (Fabaceae) in Israel (Halperin & Sauter, 1992) and *Acacia tortilis* (Forssk.) Galasso & Banfi in Kenya (Agassiz & Bidzilya, 2016) require confirmation.

Distribution: This species is distributed across a wide range of regions, including Spain (and the Canary Islands), Portugal, France, Malta, Italy (Sicilia and Sardinia), North Africa, Turkey, Middle East, India, Myanmar, Indonesia, Cameroon, Cape Verde, DR Congo: Katanga Province (new record), Ethiopia, Nigeria, The Gambia, Kenya, Tanzania, Zimbabwe, Malawi, Namibia, South Africa (Walsingham, 1881, 1891; Janse, 1954; Karsholt & Riedl, 1996; Báez & García, 2005; Ponomarenko, 2009; Agassiz & Bidzilya, 2016; De Prins & De Prins, 2024).

Helcystogramma leucopla (Meyrick, 1938)

Brachmia leucopla Meyrick, 1938: 16.

Distribution: DR Congo: North Kivu Province (Meyrick, 1938).

Remark: *Brachmia leucopla* was transferred to the genus *Helcystogramma* by Bidzilya & Rajaei (2024).

Helcystogramma musicopa (Meyrick, 1908)

Brachmia musicopa Meyrick, 1908: 727.

Distribution: South Africa (Meyrick, 1908), DR Congo: North Kivu Province (Meyrick, 1938).

Remark: Brachmia musicopa was transferred to the genus Helcystogramma by Bidzilya & Rajaei (2024).

Helcystogramma neuroplecta (Meyrick, 1938)

Brachmia neuroplecta Meyrick, 1938: 17, pl. 2, fig. 3.

Distribution: DR Congo: North Kivu Province (Meyrick, 1938).

Remark: *Brachmia neuroplecta* was transferred to the genus *Helcystogramma* by Bidzilya & Rajaei (2024).

Helcystogramma synclepta (Meyrick, 1938)

Metaplatyntis synclepta Meyrick, 1938: 16.

Distribution: DR Congo: North Kivu Province (Meyrick, 1938).

Remark: *Metaplatyntis synclepta* was transferred to the genus *Helcystogramma* by Bidzilya & Rajaei (2024).

Helcystogramma verberata (Meyrick, 1911)

Brachmia verberata Meyrick, 1911: 68.

Distribution: South Africa (Meyrick, 1911), Kenya (Le Cerf, 1922), DR Congo: North Kivu Province (Meyrick, 1938).

Subfamily Apatetrinae Tribe Pexicopiini Aspades armatovalva (Janse, 1963) Fig. 6A-D

Aspasiodes armatovalva Janse, 1963: 245-246, pls 108, 127e, 134d.

Material examined: 1 ♂, H[au]t Katanga, Panda, 6.i.1930 (J. Romieux) (gen. slide 507/23, OB) (MHNG). 1 ♀, Malawi, Mulanje Mts, Likabula, 800 m, 19.xi.1996, Brachystegia forest (W. Mey & M. Nuss) (gen. slide 262/24, OB) (MfN). 2 ♂, 1 ♀, Tanzania, Morogoro, Morogoro Town, 16.xi.1992, 24.iv.1993 (L. Aarvik) (gen. slide NHMO 2371♂, 2372♀, OB); 2 ex, Tanzania, Morogoro, Kitulangalo Forest Res., 30.v.1993 (L. Aarvik) (NHMO).

Description of female genitalia (Fig. 6D): Papillae anales ovate and elongated. Apophyses posteriores thin and as long as combined length of ductus bursae and corpus bursae. Segment VIII subrectangular, slightly longer than broad, evenly sclerotized, and unmodified. Subgenital plates of tergum VIII separated by narrow, membranous area widened posteriorly. Ostium strongly sclerotized and rounded. Apophyses anteriores straight and half as long as segment VIII. Ductus bursae slender, with colliculum twice as long as broad and positioned near entrance of corpus bursae. Corpus bursae rounded and about as long as ductus bursae. Signum consisting of pair of short, narrow structures densely covered with pointed knobs.

Distribution: Zimbabwe (Janse, 1963), Tanzania (new record), DR Congo: Katanga Province (new record).

Remarks: Aspades armatovalva was described based on two males from Zimbabwe (Fig. 6A). The male genitalia can easily be recognized by the slender,

elongate uncus and tegumen, as well as the cucullus bearing strong setae at the base and along two-thirds of the ventral margin (Fig. 6C). The female genitalia of *A. armatovalva* (Fig. 6D) resemble those of *A. hutchinsonella* (Walsingham, 1891), but differ in having shorter apophyses anteriores that are shorter than sternum VIII (much longer in *A. hutchinsonella*) and a smaller, rounded signum rather than a weakly elongate one in *A. hutchinsonella*.

Mometa chlidanopa Meyrick, 1927 Fig. 7A-G

Mometa chlidanopa Meyrick, 1927: 351.

Material examined: Holotype ♂, Uganda, Mbarara, below Gayaza camp, 24.x.1925, e.l. bolls of Hibiscus, leg. G. L. R. Hancock (gen. slide 262) (NHMUK). 1 ♂, Uganda, Central, Mabira Forest, 3000 ft., 15.vii.2000 (D. Agassiz) (gen. slide 26/23, OB); 1 ♀, Uganda, Western, Budongo Forest, 3000 ft., 19.vii.2000 (D. Agassiz) (gen. slide 27/23, OB) (DA). 2 ♂, 2 ♀ [DR Congo] Musée du Congo, Rutshuru, viii.1937 (J. Ghesquière) (gen. slide 225/24♂, OB) (RMCA).

Description of male genitalia (Fig. 7D-F): Uncus 3.5 times as long as wide at base, weakly narrowed towards rounded apex, densely covered with strong setae in distal half. Gnathos strongly curved and pointed. Tegumen as long as uncus, gradually narrowed posteriorly, with triangular anteromedial emargination reaching one-third length of tegumen. Cucullus weakly widened towards rounded apex, extending to three-quarters length of uncus, densely haired and setose in distal half, with straight dorsal margin and weakly widened ventral margin in distal two-thirds, bearing 3-4 strong setae in middle. Valvella short and broad, covered with hairs. Vinculum slender and band shaped. Saccus short, subrectangular, and weakly narrowed anteriorly. Phallus weakly swollen at base, with distal part weakly bent before rounded apex, and dorsal margin bearing short subapical tooth; bulbus ejaculatorius slender, widened in anterior part, and about four times as long as phallus.

Description of female genitalia (Fig. 7G): Papillae anales slender, subovate, and elongate, covered at base with long setae. Apophyses posteriores straight and four times as long as papillae anales. Segment VIII subrectangular and as wide as long. Sternum VIII evenly sclerotized and unmodified. Ostium slender and elongate, edged laterally with folds that widen posteriorly and extend from middle of anterior margin to rounded sclerite in middle of posterior margin. Ductus bursae slender and weakly broadened in anterior part. Corpus bursae ovate, as long as ductus bursae. Signum consisting of a pair of short, narrow structures densely covered with pointed knobs.

Host plant: Hibiscus sp. (Malvaceae) (Meyrick, 1927).

Distribution: DR Congo: North Kivu Province (new record), Uganda (Meyrick, 1927).

Remarks: Mometa chlidanopa was described based on a male holotype from Mbarara (Uganda) (Fig. 7A). The male genitalia (Fig. 7D, E) differ from those of M. zemiodes Durrant, 1914 (the type species of the genus *Mometa*) in the narrow, elongated uncus, as opposed to the short, posteriorly widened uncus in M. zemiodes. Additionally, the cucullus of M. chlidanopa bears strong setae on its ventral margin, whereas it is unmodified in M. zemiodes. A somewhat similar elongate uncus and cucullus bearing strong setae are characteristic for Aspades armatovalva (Fig. 6C). However, in A. armatovalva there are additional strong setae at the base of the cucullus, and the phallus possesses a sigmoid apical sclerite, which is absent in M. chlidanopa. The female genitalia of M. chlidanopa (Fig. 7G) are very similar to those of M. zemiodes; however, the lateral folds near the ostium are longer in M. chlidanopa. Additionally, the corpus bursae of M. chlidanopa does not bear a membranous rounded projection posteriorly near the entrance of the ductus bursae, which is characteristic of M. zemiodes. Mometa chlidanopa is an externally variable species. The holotype (Fig. 7A) is black with clearly separated, contrasting pale spots. In contrast, specimens from DR Congo (Fig. 7B) and Uganda (Fig. 7C) are lighter, dark brown, with diffuse pale spots, and the medial spot nearly merges with the basal one.

Mometa cunctatrix (Meyrick, 1931), comb. nov.

Platyedra cunctatrix Meyrick, 1931: 61.

Host plants: *Hibiscus* sp. (Meyrick, 1931; Ghesquière, 1940b).

Distribution: Uganda (Meyrick, 1931), DR Congo: North Kivu Province (Ghesquière, 1940b).

Remarks: We examined the male genitalia of the holotype of *P. cunctatrix* deposited at NHMUK (genitalia slide BM 266). The genitalia do not match those of *Platyedra vinella* Zeller, 1847 (the type species of the genus *Platyedra* Meyrick, 1895). However, they generally correspond to the characteristics of the genus *Mometa* Durrant, 1914, particularly to those of *M. chlidanopa*.

Mometa erebodoxa (Meyrick, 1927), comb. nov.

Platyedra erebodoxa Meyrick, 1927: 351-352.

Host plants: *Hibiscus diversifolius* (Jacq.) (Meyrick, 1927), *Dombeya emarginata* (A. E. Bruce) (Meyrick, 1936).

Distribution: Uganda (Meyrick, 1937), DR Congo: Maniema and West Kasai Provinces (Ghesquière, 1940b).

Remarks: Platyedra erebodoxa was described based on two females (syntypes) reared from Hibiscus diversifolius in Kampala (Uganda). We examined the slide of the female genitalia of one syntype in NHMUK (gen. slide BM 264), which clearly indicates the assignment of the species to the genus Mometa. The status of the species should be confirmed through the study of additional material, including males.

Mometa zemiodes Durrant, 1914

Mometa zemiodes Durrant, 1914 5: 243.

Material examined: Holotype ♂, Nigeria S, Ibadan, Cotton seeds, 3.vii.1913, e.l. 21.vii.1913 (W.A. Lamborn) (gen. slide 261) (NHMUK). 1 ♂, Angola, Molenge (Cotoneo), leg. J. Vrydagh | Parasite du Cotonier (gen. slide 240/24♂, OB); ♀ [DR Congo] Musée du Congo, Kasai, xi.1921, J. Ghesquière | Parasite de Dialium lacourtianum (gen. slide 265/24, OB) (RMCA).

Host plants: Larvae found in seeds of *Gossypium* sp., *Thespesia danis* (Oliv.) (Malvaceae) and *Dialium lacourtianum* (De Wild.) (Fabaceae) (Ghesquière, 1940b).

Distribution: South Africa, Zimbabwe, Mozambique (Janse, 1960), Nigeria (Durrant, 1914), DR Congo, Angola, Somalia (Ghesquière, 1940b).

Pectinophora gossypiella (Saunders, 1844)

Depressaria gossypiella Saunders, 1844: 285.

Host plants: Gossypium spp., Hibiscus spp. and some other genera of Malvaceae (De Prins & De Prins, 2024).

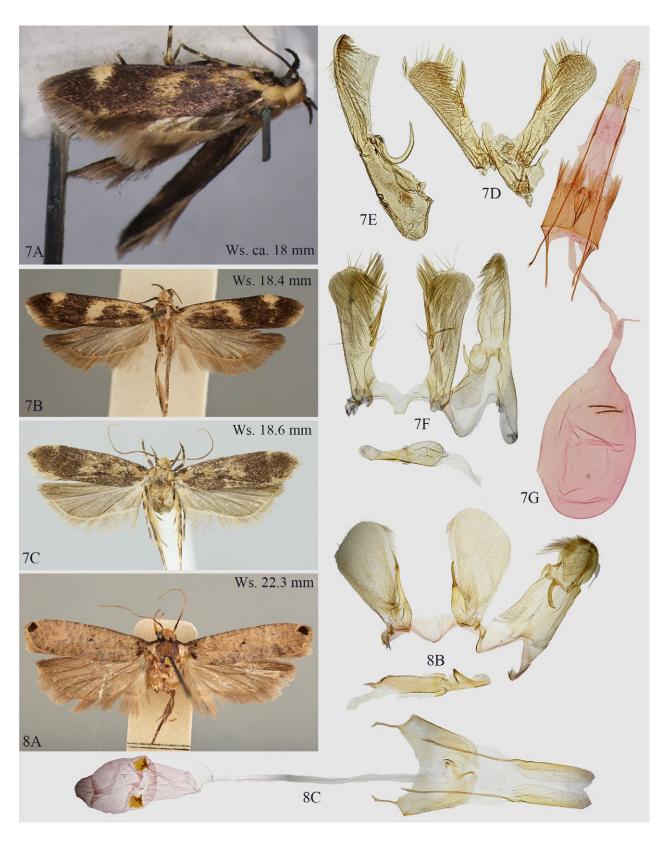
Distribution: Tropical and subtropical regions of the world (CABI, 2021). In the Afrotropics the species is broadly distributed from South Africa to Somalia (De Prins & De Prins, 2024); in DR Congo the species is known from North Kivu and Orientale Provinces (Ghesquière, 1940b).

Sitotroga cerealella (Olivier, 1789)

Alucita cerealella Olivier, 1789: 121.

Material examined: 1 ♂, Bambesa, iv. 1942 (J. Vrydagh) (gen. slide 203/24, OB); 1 ♂, Musée du Congo, Elisabethville, iii.1950 (Ch. Seydel) (RMCA).

Host plants: Zea mays (L.) (Poaceae), Vigna sp. (Fabaceae) (Ghesquière, 1940b), Oryza sativa (L.) (Poaceae) (Saraiva, 1939), Sorghum sp. (Poaceae) (Hargreaves, 1939).



Figs 7, 8. (Fig. 7A-G) Morphological characters of *Mometa chlidanopa*. (A-C) Wing pattern. (A) Holotype, male (Uganda; gen. slide 262). (B) Male (DR Congo; gen. slide 225/24, OB). (C) Female (Uganda; gen. slide 27/23, OB). (D-E) Male genitalia, holotype (gen. slide 262). (D) Valvae and phallus, ventral view. (E) Uncus and tegumen, lateral view. (F) Male genitalia (DR Congo; gen. slide 225/24, OB). (G) Female genitalia (Uganda; gen. slide 27/23, OB). (Fig. 8A-C) Morphological characters of *Semophylax apicepuncta*. (A) Wing pattern, female (DR Congo, gen. slide 217/24, OB). (B) Male genitalia (DR Congo; gen. slide 216/24, OB). (C) Female genitalia (DR Congo; gen. slide 217/24, OB).

Distribution: Tropical and subtropical regions of the world. In the Afrotropics, the species is known from South Africa (Meyrick, 1909), Mozambique (Saraiva, 1939), Tanzania, DR Congo (Ghesquière, 1940b), Uganda (Hargreaves, 1939), Mauritius (Meyrick, 1930), Réunion (Guillermet, 2012).

Sitotroga psacasta (Meyrick, 1908)

Paltodora psacasta Meyrick, 1908: 723-724.

Material examined: 1 ♂, H[au]t Katanga, Tshin-kolobwe, 12.xii.1930 (J. Romieux) (gen. slide 103/22, OB) (MHNG).

Distribution: South Africa (Meyrick, 1908), Namibia, Zimbabwe (Janse, 1958), Réunion (Bippus, 2020), DR Congo: Katanga Province (new record), Mediterranean region of Europe (Karsholt & Riedl, 1996).

Semophylax apicepuncta (Busck, 1911) Fig. 8A-C

Psoricoptera apicepuncta Busck, 1911: 206, pl. 9, fig. 35. *Anisoplaca praesignis* Meyrick, 1913a: 175.

Material examined: 2 \circlearrowleft , 1 \circlearrowleft [DR Congo] Musée du Congo, Eala, 5.xi.1936 (J. Ghesquière) (gen. slide $216/24\circlearrowleft$, $217/24\circlearrowleft$, OB) (RMCA).

Description of male genitalia (Fig. 8B): Uncus subovate, slightly longer than broad and densely covered with hairs. Gnathos short and weakly curved. Tegumen nearly parallel-sided, more than twice as long as broad, with triangular anteromedial emargination reaching one-third length of tegumen. Cucullus strongly widened from base to apex, densely covered with short hairs, and slightly extending beyond tip of uncus. Sacculi asymmetrical: left sacculus inflated in basal two-thirds with distal pointed sclerite one-third length of sacculus, reaching halfway along cucullus. Right sacculus inflated in basal one-quarter, then gradually narrowed, with distal sclerite about one-fifth of length of sacculus, reaching two-thirds length of cucullus. Vinculum narrow and band shaped. Saccus short and broadly triangular. Phallus as long as cucullus, very narrow at base, then parallel-sided for two-thirds of its length, and weakly narrowed in apical one-third, with triangular process on dorsal margin.

Description of female genitalia (Fig. 8C): Papillae anales slender and elongate. Apophyses posteriores straight and slightly longer than papillae anales. Sternum VIII trapezoidal, slightly broader than long at base; weakly sclerotized, and unmodified. Ostial sclerite elongate, narrow, and sigmoidal. Apophyses anteriores one-third length of sternum VIII, thin, straight, with apical one-fourth incurved. Antrum membranous and

slightly broader than adjacent part of ductus bursae. Ductus bursae long, slender, and nearly of even width. Corpus bursae with ovate comparatively broad anterior section, and elongate, weakly narrowed posterior section. Signa as pair of subrhomboidal plates with weaker sclerotized anterior part, strongly sclerotized posterior part, and pointed apex.

Host plants: Ficus mucuso (Welw. ex Ficalho) (Moraceae), Solanum aculeatissimum (Jacq.) (Solanaceae), Ceiba thonningii (A. Chev.) (Malvaceae) (Ghesquière, 1940b).

Distribution: Neotropics: Costa Rica, Guyana, Panama (Busck, 1911), Peru (Meyrick, 1913a). In the Afrotropical region, this species is known only from the DR Congo: Bas Congo, Equateur, Orientale Provinces (Ghesquière, 1940b).

Remarks: Psoricoptera apicepuncta, the type species of the genus Semophylax Meyrick, 1932, was described from an unspecified number of specimens from Costa Rica, Guyana and Panama. Specimens from the DR Congo match externally in all details the male holotype of P. apicepuncta from Tuis, Turrialba Province of Costa Rica, which is deposited in the National Museum of Natural History (Washington, DC, USA). Anisoplaca praesignis Meyrick, 1913 was described from Peru based on a single female (Meyrick, 1913a). The name is considered a junior synonym of A. apicepuncta due to the similar wing pattern of the type specimens (Clarke, 1969). However, A. praesignis has distinct labial palpus characteristics, described as: "with scales of second joint brushlike beneath, not tufted, terminal joint considerably thickened with scales" (Meyrick, 1913a), contrasting with the smooth, unmodified palpus in S. apicepuncta. Based on the photograph of the female genitalia slide of the holotype of A. praesignis (Clarke, 1969), it differs from the female from DR Congo in having a shorter S-curved ostial sclerite and straight apophyses anteriores that are almost as long as sternum VIII (apically incurved and one-third the length of sternum VIII in S. apicepuncta). Given these differences, the status of Anisoplaca praesignis requires revision.

Currently, the genus *Semophylax* comprises *S. apicepuncta* from the Neotropical and Afrotropical regions and four species: *S. verecunda* (M. Omelko, 1988), *S. crassiuscula* M. Omelko & N. Omelko, 2018, *S. margaritae* M. Omelko & N. Omelko, 2019 and *S. decipens* M. Omelko & N. Omelko, 2019 from Laos, Vietnam, and Malaysia. The assignment of the latter three species to *Semophylax* is dubious due to considerable differences in the genitalia of both sexes (Omelko & Omelko, 2018, 2019) between these species and *S. apicepuncta*. *Semophylax apicepuncta* is very similar externally and in male genitalia to *S. verecunda* from Vietnam, as seen from the drawings of the male holotype and its genitalia in the original description of

the latter species (Omelko, 1988). However, the female of *S. verecunda*, illustrated based on a specimen from Laos (Omelko & Omelko, 2018), differs from specimens from Congo in having a darker forewing shaded with violet at the base, longer apophyses anteriores, and a shorter ductus bursae. Additional material is required to clarify whether *S. verecunda* is conspecific with *S. apicepuncta* or represents a separate, externally rather variable species.

Semophylax (as Aenigma Omelko, 1988) was placed into the subfamily Anacampsinae (Omelko, 1988; Omelko & Omelko, 2018, 2019). This placement is inconsistent with characteristics such as the sternum II with reduced venulae and distinct free apodemes, the large spatulate uncus, the long and strongly curved hookshaped gnathos, the broad cucullus fused basally with the tegumen and densely covered with hairs, the free phallus with a moderately inflated base and apical modifications (hook, sclerotization), and the paired plate-shaped signum. These characters are diagnostic for the tribe Pexicopiini of the subfamily Apatetrinae (Ponomarenko, 2005; Sohn et al., 2019; Gregersen & Karsholt, 2022). Within the tribe, Semophylax is distinct in the sacculus distally asymmetrical, pointed, and strongly sclerotized in the male genitalia and the ostial sclerite S-shaped in the female genitalia. The first character suggests a possible relationship of Semophylax to Platyedra, but in the latter genus, the sacculus is symmetrical, evenly sclerotized, and incurved distally.

Subfamily Thiotrichinae *Polyhymno eurydoxa* Meyrick, 1909

Polyhymno eurydoxa Meyrick, 1909: 15-16; pl. 5, fig. 6.

Host plant: In South Africa the larvae were found feeding on *Elephantorrhiza elephantina* (Burch.) Skeels (Mimosaceae) (Bidzilya, 2021a).

Material examined: 1 ♂, H[au]t Katanga, Tshinkolobwe, 22.viii.1931 (J. Romieux) (gen. slide 91/23, OB) (MHNG).

Distribution: South Africa (Meyrick, 1909), Namibia (Bidzilya, 2007), Zimbabwe (Janse, 1950), DR Congo: Katanga Province (new record).

Subfamily Anomologinae Metzneria sanguinea Meyrick, 1934 Fig. 9A-C

Metzneria sanguinea Meyrick, 1934: 512-513. *Metzneria portieri* Viette, 1948: 51-53, figs 1-5. **Syn. nov.**

 as for holotype, P. Viette gen. No 446, ♀ (MNHN). 1 ♂, 1 ♀, Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, Dec. 1976-Feb. 1977 (F. Schäuffele) (gen. slide 376/23♀, OB); 1 ♂, 1 ♀, same data but Oct.-Nov.1976 (F. Schäuffele) (gen. slide 375/23♂, OB); 1 ♀, same data but April 1977 (SMNS). 1 ♂, Uganda, Western, Murchison Falls N.P., Sambiya Lodge, 2500 ft., 22.vii.2000 (D. Agassiz) (DA). 1 ♂, 2 ♀, Yemen Arab Republic, Prov. Ibb, 1650 m, 6.v.1998, Vadi Malhama, Village Malhama, 20 km non Ibb, (Bischop, Bittermann, Fibiger, Hacker, Peks, Schreier) (gen. slide 6440♂, G. Derra) (ZSM).

Description of male genitalia (Fig. 9C): Uncus twice as broad as long, with deep and broad triangular emargination on posterior margin. Tegumen subrectangular, twice as broad as long, with broad emargination on anterior margin extending to one-third length of tegumen. Cucullus elongate, gradually broadening distally, with long, incurved tip at apex. Sacculus digitate, about twice as long as broad. Vinculum narrow and band shaped. Saccus broad, triangular, extending far beyond tip of pedunculus. Phallus nearly parallel-sided in middle, weakly narrowed at base and in apical four-fifths, with an elongated, rounded apex; ventral margin densely covered with minute spines before apex, and vesica containing 2-4 slender needle-shaped cornuti.

Remarks: Metzneria sanguinea was described on the basis of a female holotype from Gabiro (Rwanda). The holotype was recently examined and illustrated (Bidzilya & Rajaei, 2024). Metzneria portieri Viette, 1948 was described from two females from Ethiopia, Abyssinia, Lalobeli. The holotype of M. portieri matches both externally and in genitalia characters the holotype of M. sanguinea. Hence, the following synonymy is proposed: Metzneria portieri Viette, 1948 syn. nov. of Metzneria sanguinea Meyrick, 1934. The species clearly differs externally from other Afrotropical species of the genus by its large size (wingspan 20-22 mm) and yellow forewings with light brown veins (Fig. 9A,B). The species most closely resembles the Palaearctic M. aprilella (Herrich-Schäffer, 1854) in forewing pattern and male genitalia. However, the latter species has a more extensive yellowish-brown suffusion between the veins. The male genitalia of M. aprilella differ from those of M. sanguinea by the narrower sacculus distally and less pointed saccus apically. Both species are indistinguishable in the female genitalia, except for the colliculum, which is slightly narrower in M. sanguinea. This species and the variable M. aprilella likely represent an unrevised species complex (Bidzilya et al., 2019).

Distribution: DR Congo: Haut Ituri Province (new record), Rwanda (Meyrick, 1934), Uganda (new record), Ethiopia (Viette, 1948), Yemen (new record).

Leuronoma allomima (Meyrick, 1938)

Gelechia allomima Meyrick, 1938: 12-13.

Distribution: DR Congo: North Kivu Province (Meyrick, 1938).

Remark: The systematic position of this species was recently discussed by Bidzilya & Rajaei (2024).

Trichembola oreia Ghesquière, 1940

Trichembola oreia Ghesquière, 1940a: 102.

Distribution: DR Congo: North Kivu Province (Ghesquière, 1940a).

Remark: The systematic position of this species was recently discussed by Bidzilya & Rajaei (2024).

Trichembola palinata Ghesquière, 1940

Trichembola palinata Ghesquière, 1940a: 103.

Distribution: DR Congo: North Kivu Province (Ghesquière, 1940a).

Remark: The systematic position of this species was recently discussed by Bidzilya & Rajaei (2024).

Subfamily Gelechiinae Tribe Gelechiini Athrips pallidifusca sp. nov. Fig. 10A-D

Material examined: Holotype: ♂, H[au]t Katanga, Midingi, 5.vii.1930 (J. Romieux) (gen. slide 504/23, OB) (MHNG). Paratype: 1 ♀, H[au]t Katanga, Kyala (Lukwebe), 21.viii.1929 (J. Romieux) (gen. slide 88/23, OB) (MHNG).

Diagnosis: The new species is characterized externally by a uniformly pale-brown forewing with indistinct brown markings. It somewhat resembles A. brunneosparsa (Janse, 1958), but the latter species has a pale forewing with distinct dark contrasting markings, while the new species' forewing is nearly uniformly pale brown with small black points in the cell. The male genitalia can be distinguished by their asymmetrical sacculi. In Athrips asymmetrica Bidzilya, Aarvik & Agassiz, 2023, the sacculi are asymmetrical also, but in this species the uncus is much narrower and longer, and the cucullus bears a medial process. The female genitalia resemble those of A. macrosignella Bidzilya, Aarvik & Agassiz, 2023, in the shape and structure of sternum VIII, but differ in the signum, which is larger and differently shaped in the latter species.

Etymology: The specific name is derived from the Latin words "pallida" – pale, and "fuscus" – brown, referring to the pale brown forewing characteristic of the new species.

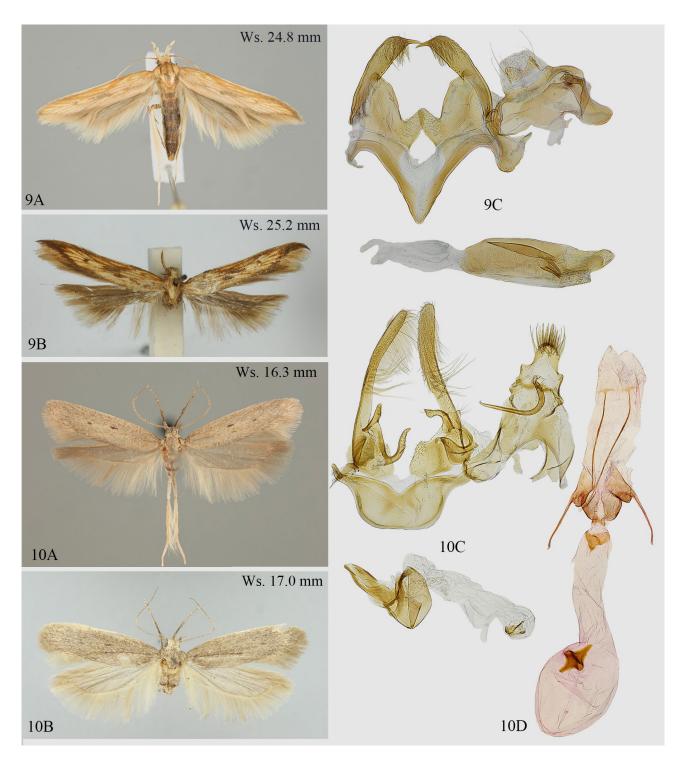
Description: (Figs 10A, B). Wingspan 16.3-17.0 mm. Head greyish brown. Labial palpus light brown mottled with grey scales, particularly on upper and inner surfaces; segment 3 slightly shorter and slenderer than segment 2. Antennal scape and flagellum pale brown. Thorax, tegulae, and forewing uniformly pale brown, with forewing featuring fold mottled with brown, narrow brown streak in middle of cell and at apex of cell, and apex shaded with brown. Fringes greyish brown. Hindwing and fringes light grey.

Male genitalia (Fig. 10C). Uncus as broad as long at base, rounded apically, and densely covered with strong setae posteriorly. Gnathos curved in basal one-third, with straight and slender distal part, ending in upcurved tip. Tegumen gradually narrowing posteriorly, with broadly rounded anteromedial emargination. Cucullus of even width with rounded apex extending beyond tip of uncus setae. Sacculi about one-fifth as long and half as wide as cucullus; left sacculus straight, right sacculus strongly bent in middle, with triangular membranous lobe at base, apex weakly inflated and with pointed tip. Transtilla lobes slightly longer and about as wide as sacculus. Vinculum twice as broad as long, with deep medial emargination on posterior margin and very short, humpshaped vincular process. Saccus twice as broad as long and broadly rounded. Phallus distinctly swollen at base, distal part almost parallel-sided, ventral margin weakly narrowed before rounded apex. Bulbus ejaculatorius about 1.5 times as long as phallus, anterior part with irregular sclerite.

Female genitalia (Fig. 10D). Papilla anales subtriangular, sparsely covered with setae. Apophyses posteriores thin, weakly bent, and twice longer than apophyses anteriores. Segment VIII subrhomboidal, tegumen evenly sclerotized, unmodified, sternum with subrectangular subgenital plates covered with foam-like sculpturing on anterior side. Anterior margin of sternum rounded, strongly projecting anteriorly, and densely covered with microspines. Apophyses anteriores twice as long as sternum VIII. Ostium slender, subovate and elongate. Ductus bursae wide, with slender band-shaped posterior sclerotization, and narrowed anteriorly. Corpus bursae egg shaped and half as long as ductus bursae. Signum subrhomboid, with posterior process slightly longer than anterior process, and medial ridge slender and strongly constricted in middle.

Biology: The host plant is unknown. Adults have been collected in July and August.

Distribution: DR Congo: Katanga Province.



Figs 9, 10. (Fig. 9A-C) Morphological characters of *Metzneria sanguinea*. (A) Female (DR Congo). (B) Holotype of *M. portieri*, female (Ethiopia; gen. slide 444). (C) Male genitalia (DR Congo; gen. slide 375/23, OB). (Fig. 10A-D). Morphological characters of *Athrips pallidifusca* sp. nov. (A & B) Habitus. (A) Holotype, male (gen. slide 504/23, OB). (B) Paratype, female (gen. slide 26/23, OB). (C) Male genitalia (gen. slide 504/23, OB). (D) Female genitalia (gen. slide 26/23, OB).

Armatophallus exoenota (Meyrick, 1918)

Gelechia exoenota Meyrick, 1918: 52.

Material examined: 1 \circlearrowleft , Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, Dec. 1976-Feb. 1977 (F. Schäuffele); 1 \backsim , same data but May 1977 (all SMNS).

Host plant: The larvae have been recorded feeding on *Senegalia affra* (Thunb.) P.J.H. Hurter & Mabb. (Fabaceae) in South Africa (Bidzilya, 2021a).

Distribution: South Africa (Meyrick, 1918), Namibia (Bidzilya, 2007), Zimbabwe (Meyrick, 1921), DR Congo: Haut Ituri Province (Meyrick, 1936 as *Gelechia ochrocorys* Meyrick, 1936), The Gambia, Cameroon, Uganda, Tanzania, Kenya, Ethiopia (Bidzilya, 2015).

Schisovalva nigromaculata sp. nov. Fig. 11A-D

Material examined: Holotype: ♂, Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, March 1977 (F. Schäuffele) (gen. slide 270/24) (SMNS).

Paratypes: $1 \circlearrowleft , 1 \circlearrowleft ,$ same data as for holotype (gen. slide $271/14 \circlearrowleft ,$ OB); $2 \circlearrowleft ,$ Dem. Rep. Congo, Prov. Haut Ituri, Nioka, $2^{\circ}06^{\circ}N$, $30^{\circ}36^{\circ}E$, 1700-1800 m, Februar 1977 (F. Schäuffele) (SMNS). $1 \circlearrowleft ,$ H[au]t Katanga, Tshinkolobwe, 29.ix.1930 (J. Romieux) (gen. slide 44/21, OB) (MHNG).

Diagnosis: The new species is recognizable by its white forewings with a black base and two large black spots in the cell. *Schizovalva catharodes* (Meyrick, 1920) has a similar forewing pattern, but the distal black spot is placed close to the dorsal margin, whereas in *S. nigromaculata* sp. nov. it is located on the costal margin. The male genitalia differ from those of *S. catharodes* in having an apically notched uncus (blunt in *S. catharodes*), and a sacculus that is shorter than the cucullus (the sacculus is equal in length to the cucullus in *S. catharodes*).

Etymology: The specific name is derived from the Latin words "nigrum" – meaning black, and "macula" – meaning spot, referring to the distinct black markings that are characteristic of this new species.

Description: (Figs 11A, B). Wingspan 13.0-14.5 mm.

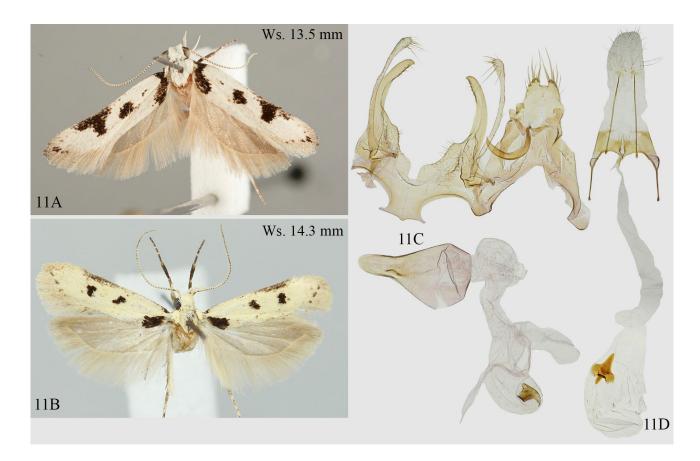


Fig. 11A-D. Morphological characters of *Schisovalva nigromaculata* **sp. nov.** (A & B) Habitus. (A) Male, holotype (DR Congo; gen. slide 270/24, OB). (B) Male, paratype (DR Congo; gen. slide 44/21, OB). (C) Male genitalia, holotype (DR Congo; gen. slide 270/24, OB). (D) Female genitalia, paratype (DR Congo; gen. slide 271/24, OB).

Head white. Labial palpus upcurved and white, with segment 2 brown on basal one-third to one-half on outer side. Antennal scape brown; flagellum white, narrowly ringed with brown, densely ciliated beneath in males. Thorax and tegulae white, with tegulae brown at base. Forewing white with black at base, a black rounded spot at one-third of length along midline, and a larger black subtriangular spot at two-thirds of the costal margin sometimes divided into costal stripe and spot along midline. Apex and termen spotted with blackish brown. Fringes white mottled with brown. Hindwing and its fringes greyish brown.

Male genitalia (Fig. 11C). Uncus slightly longer than broad, gently narrowing distally, with short medial emargination on posterior margin. Gnathos sickle shaped, evenly curved, and of even width except narrow base. Tegumen as broad as long at base, weakly narrowing posteriorly, with large triangular anteromedial emargination extending to half length of tegumen. Cucullus very slender, with widened rounded apex slightly extending beyond uncus. Sacculus 2.5-3 times as broad as and four-fifths as long as cucullus, weakly bent, with basal half slightly broader than distal half, and apex with short incurved tip. Vinculum twice as broad as long, with short, hump-shaped lateral processes and narrow U-shaped posteromedial emargination at basal one-third, broadly rounded in posterior two-thirds. Saccus about as long as wide, with slightly protruding anterior corners. Phallus strongly swollen in basal three-fourths, narrow and parallel-sided distally, with short narrow elongate sclerite on three-fourths of its length and triangular rounded apex. Bulbus ejaculatorius twice as long as phallus, with stout horn-shaped sclerite in anterior part. Female genitalia (Fig. 11D). Papillae anales ovate and sparsely covered with setae. Apophyses posteriores straight and 2.5 times as long as apophyses anteriores. Sternum VIII about 2.5 times as wide as long, with tergum weakly sclerotized except for postero-lateral elongate sclerite. Sternum VIII evenly sclerotized and unmodified, with narrow, elongate, subrhomboidal antrum. Apophyses anteriores thin, about 1.5 times as long as segment VIII, and basally divided into ventral process extending along anterior margin of sternum and dorsal process directed to anterior margin of tergum. Ductus bursae narrow posteriorly, gradually widening anteriorly, coiled before gradual transition to egg-shaped corpus bursae, with colliculum twice as long as broad. Signum an elongate transverse plate densely covered with small triangular sclerites, featuring long finely serrated posterior process and short process half as long as posterior process.

Biology: The host plant is unknown. Adults have been collected in November, February, and March at altitudes of 1700-1800 m.

Distribution: DR Congo: Ituri and Katanga Provinces.

Tricerophora objecta (Meyrick, 1921)

Telphusa objecta Meyrick, 1921: 70.

Material examined: 1 ♂, H[au]t Katanga, Tshin-kolobwe, 22.viii.1931 (J. Romieux) (gen. slide 103/18, OB) (MHNG).

Distribution: Zimbabwe (Meyrick, 1921), DR Congo: Katanga Province (Bidzilya & Mey, 2018).

Photodotis modulatrix (Meyrick, 1938)

Aristotelia modulatrix Meyrick, 1938: 11-12.

Distribution: DR Congo: North Kivu (Meyrick, 1938; Ghesquière, 1940b).

Remark: The systematic position of this species was recently discussed by Bidzilya & Rajaei (2024).

Stegasta sattleri Bidzilya & Mey, 2011

Stegasta sattleri Bidzilya & Mey, in Mey, 2011: 202-203, pl. 1, 6, figs 6, 32; pl. 32, fig. 4.

Host plants: The larvae have been recorded feeding on Cassia fistula (L.), Chamaecrista mimosoides (L.) Greene, Mimosa pudica var. pudica (L.), Senna sp. (Fabaceae), Jasminum sp. (Oleaceae) in Seychelles islands (Gerlach & Matyot, 2006), on Cassia sp. in Madagascar (Paulian & Viette, 1956) and on Chamaecrista mimosoides (Fabaceae) in South Africa (Bidzilya, 2021a).

Distribution: Broadly distributed in the Afrotropical region from South Africa to Eritrea (De Prins & De Prins, 2024). In DR Congo the species is known from North Kivu Province (Meyrick, 1938).

Remark: All records of *S. variana* Meyrick, 1904 from the Afrotropical region should be attributed to *S. sattleri*.

Tribe Gnorimoschemini Scrobipalpa aptatella (Walker, 1864)

Gelechia aptatella Walker, 1864: 29: 636.

Host plants: Larvae have been recorded feeding on *Nicotiana tabacum* (L.) and *Solanum melongena* (L.) (Solanaceae) in South Africa (Janse, 1951; Prinsloo & Uys, 2015).

Distribution: The species is found in the southern parts of the Palaearctic region (unconfirmed records from Bulgaria), northern Africa, the Middle East, Arabian Peninsula and China), as well as the Oriental (India, Sri-Lanka, Malaysia, Indonesia) and the Australian region (Australia, New Zealand, Samoa). It is broadly distributed in the Afrotropics, ranging from South Africa to Cape Verde and Ethiopia (Bidzilya, 2021b). In DR

Congo the species is known from Orientale Province (Ghesquière, 1940b).

Scrobipalpa ergasima (Meyrick, 1916)

Phthorimaea ergasima Meyrick, 1916: 568-569.

Host plants: Different species of the genus *Solanum* in South Africa and Benin (Bidzilya, 2021b), and *Hyoscyamus albus* (L.) (Solanaceae) in South Africa (Huemer & Karsholt, 2010).

Distribution: Southern Palaearctic from Canary Islands to Pakistan, China and Japan. Oriental region (India, Myanmar), Australia. In the Afrotropics it is broadly distributed from South Africa to Yemen (Povolný, 2002; Bidzilya, 2021b). In DR Congo the species is known from Orientale Province (Meyrick, 1938 as *Phthorimaea tristrigata* Meyrick, 1938).

Scrobipalpa incola (Meyrick, 1912)

Megacraspedus incola (Meyrick, 1912): 60-61.

Material examined: $1 \circlearrowleft$, Coll. Mus. Congo, Rwankwi, i.1948 (J.V. Leroy) (gen. 221/24, OB) (RMCA).

Host plants: *Solanum melongena* (L.), *S. trepidans* (C. H. Wright), *Datura* sp., *Solanum* sp. (Solanaceae) (Bidzilya, 2021b).

Distribution: South Africa (Meyrick, 1912), Zimbabwe (Janse, 1960), Namibia, Tanzania, Kenya (Bidzilya, 2021b), DR Congo: North Kivu Province (new record).

Scrobipalpa subroseata (Meyrick, 1932)

Phthorimaea subroseata Meyrick, 1932: 196.

Host plant: *Solanum anguivi* (Lam.) (Solanaceae) (Bidzilya, 2021b).

Distribution: Uganda (Meyrick, 1932), Kenya, Tanzania (Bidzilya, 2021b), DR Congo: North Kivu Province (Meyrick, 1938, as *Brachmia leucospora* Meyrick, 1938).

Scrobipalpa turiensis Bidzilya, 2021

Scrobipalpa turiensis Bidzilya, 2021b: 15-16, figs 15, 16, 98, 160.

Material examined: $1 \circlearrowleft 1 \circlearrowleft 1 \circlearrowleft 1 \hookrightarrow 1$, Musée du Congo, Nioka, vi.1938 (J. Ghesquière) (gen. slide $218/24\circlearrowleft 19/24\hookrightarrow 10$) (OB) (RMCA).

Records: Meyrick 1938; Ghesquière 1940b (as *Scrobipalpa concreta* (Meyrick, 1914), a misidentification).

Distribution: Kenya (Bidzilya, 2021b), DR Congo: Ituri Province (new record).

Phthorimaea operculella (Zeller, 1873)

Gelechia operculella Zeller, 1873: 262-263, fig. 17, pl. 3.

Material examined: 1 ♂, H[au]t Katanga, Panda, 18.v.1924 (Romieux) (MHNG).

Host plants: Different Solanaceae (Huemer & Karsholt, 2010; De Prins & De Prins, 2024). Records from other plant families need confirmation.

Distribution: Broadly distributed in the Afrotropics, ranging from South Africa to Cape Verde (De Prins & De Prins, 2024). In DR Congo the species is known from Katanga and Orientale Provinces (Ghesquière, 1940b).

Ephysteris leptocentra (Meyrick, 1912)

Aristotelia leptocentra Meyrick, 1912: 64

Material examined: 1 ♂, Musée du Congo, Mai ya Moto, (r. Rutsch) 950 m, 5.xi.1934, *leg*. G. F. de Witte, Parc Nat. Albert | E. Meyrick det., 1937: *Phthorimaea infirma* Meyr. (gen. slide 234/24, OB) (RMCA). South Africa: 4 ♀, RSA, KwaZulu-Natal, Bheki Gumbi Wildlife Reserve, S27°29.693′E31°52.357′, 7.ix.2008, 350 m (D. Young) (gen. slide 273/17, OB) (MfN). Namibia: ♂, Namibia, Etosha, Namutuoni, 7.xi.1999 (W. Mey) (gen. slide 71/08, OB) (MfN); 1 ♂, 1 ♀, Namibia, Etosha, Camp Halali, 11.viii.2007 (C. Wieser) (gen. slide 113/12♂, 120/12♀, OB) (SMNS). Mozambique: 1 ♀, Maputo, 8-20.ii.1997 (S. Bakke) (gen. slide NHMO 2346) (NHMO). Yemen: 1 ♂, Sana'a, sw Sanaa, Jabal-Aybau, 1.xi.1996 (H. Hacker) (gen. slide 266/07, OB) (MfN).

Distribution: Iran, Afghanistan, Pakistan, Sri Lanka, India, Burma (Povolný, 2002). South Africa (new record), Namibia (new record), Mozambique (new record), DR Congo: Orientale Province (new record), Yemen (new record).

Remarks: Records of *Gnorimoschema infirma* Meyrick, 1912 from Mai ya Moto (see above under Material examined) (Meyrick, 1938; Ghesquière, 1940b) refer to misidentifications of *E. leptocentra*.

Tribe Litini Pseudotelphusa calathaea (Meyrick, 1913)

Telphusa calathaea Meyrick, 1913: 286.

Material examined: 1 ♂, Dem. Rep. Congo, Prov. Haut Ituri, Nioka, 2°06'N, 30°36'E, 1700-1800 m, June-July1977 (F. Schäuffele) (gen. slide 427/23, OB) (SMNS).

Distribution: South Africa, Zimbabwe (Janse, 1958), DR Congo: Haut Ituri Province (new record).

Sergeya chuii Bidzilya, Mey & Rajaei, 2024

Sergeya chuii Bidzilya, Mey & Rajaei, 2024: 497, figs 7, 31.

Distribution: DR Congo: Equateur Province (Bidzilya *et al.*, 2024).

Sergeya lobata Bidzilya, Mey & Rajaei, 2024

Sergeya lobata Bidzilya, Mey & Rajaei, 2024: 502, figs 13-15, 37, 38, 45.

Distribution: South Africa, Uganda, Ethiopia, DR Congo: Katanga Province (Bidzilya *et al.*, 2024).

Incorrect and doubtful records for DR Congo

Brachmia inconspicua (Walsingham, 1891)

Records: Ghesquière, 1940b.

Remark: The male specimen from "Lulula, Kapanga, v.1933" in RMCA does not match the colour drawing of *Odites inconspicua* in the original description. It should most likely be referred to a species in the unrevised genus *Helcystogramma*.

Dichomeris famosa (Meyrick, 1914)

Records: Ghesquière, 1940b (as Cymotricha famosa).

Remark: The male from "Lulula, Kapanga, ii.1931" in RMCA differs from *D. famosa* and should be referred to another species of *Dichomeris*.

Dichomeris tephrodes (Meyrick, 1909)

Records: Ghesquière, 1940b (as *Ilingiotis famosa*).

Remark: The male from "Eala, ix.1936" in RMCA differs from *D. tephrodes*, and should be referred to another species of *Dichomeris*.

Dicranucha serialis (Meyrick, 1908)

Records: Ghesquière, 1940b (as Brachmia serialis).

Remarks: Brachmia serialis was originally described based on a female holotype from Pretoria, Gauteng Province, Republic of South Africa. Janse (1954) transferred this species to the genus Dicranucha Janse, 1954. We were not able to examine specimens identified as B. serialis from DR Congo. Since the identity of the species of Dicranucha is difficult to ascertain without studying the genitalia, and considering that the assignment of this genus to Gelechiidae is doubtful, we prefer not to include this species in the list of Gelechiidae from DR Congo.

ACKNOWLEDGEMENTS

Ole Karsholt and Bernard Landry brought to the authors' attention some poorly argued points, provided helpful suggestions, and improved the manuscript linguistically. We thank Stéphane Hanot and Dr Didier van den Spiegel (RMCA), as well as Jurate and Willy de Prins (Leefdaal, Belgium), Joël Minet and Jérôme Barbut (MNHN), who kindly assisted the first author during his research stay in RMCA and MNHN. The first author's visit to the MNHG was supported by the MNHG thanks to Bernard Landry. The first author also benefitted from the support of the Philipp Schwartz Initiative of the Alexander von Humboldt Foundation and the Ukrainian State Budget Program "Support for the Development of Priority Areas of Scientific Research" (Code: 6541230).

REFERENCES

- Agassiz D.J.L., Bidzilya O.V. 2016. Gelechiidae (Lepidoptera) bred from acacia in Kenya with description of eight new species. *Annals of the Ditsong National Museum of Natural History* 6: 116-145.
- Amsel H. G. 1961. Microlepidopteren aus SW-Arabien der Ausbeuten H. Scott und E. B. Britton, 1937/38. Beiträge zur naturkundlichen Forschung in Südwestdeutschland 20: 49-61.
- Báez M., García A. 2005. Lepidoptera (pp. 87-90). In: Arechavaleta M., Zurita N., Marrero M.C. & Martín J.L. (eds). Lista preliminar de especies silvestres de Cabo Verde (hongos, plantas y animales terrestres). Consejería de Medio Ambiente y Ordenación Territorial, Gobierno de Canarias. 155 pp.
- Bidzilya O.V. 2007. Gelechiidae (Lepidoptera: Gelechioidea). In: Mey W. (ed.). The Lepidoptera of the Brandberg Massif in Namibia. Part 2. Esperiana Memoir 4: 91-118, pls 5-8.
- Bidzilya O. 2015. *Armatophallus* gen. n., a new genus of gelechiid moths (Lepidoptera, Gelechiidae) from the Afrotropical and Oriental regions. *Zootaxa* 3981(3): 413-429.
- Bidzilya O. 2021a. New host-plants records of Afrotropical Gelechiidae (Lepidoptera), with description of three new species. *Zootaxa* 4952 (3): 495-522.
- Bidzilya O. 2021b. A review of the genus *Scrobipalpa Janse*, 1951 (Lepidoptera, Gelechiidae) in the Afrotropical region. *Zootaxa* 5070 (1): 1-83.
- Bidzilya O., Mey W. 2018. Review of the genus *Tricerophora* Janse, 1958 (Lepidoptera, Gelechiidae) with description of six new species. *Deutsche entomologische Zeitschrift* 65(1): 81-98
- Bidzilya O., Rajaei H. 2024. An illustrated and annotated catalogue of type specimens of Gelechiidae (Lepidoptera) in the Royal Museum for Central Africa (Tervuren, Belgium). *Zootaxa* 5496 (2): 191-213.
- Bidzilya O., Karsholt O., Kravchenko V., Šumpich J. 2019. An annotated checklist of Gelechiidae (Lepidoptera) of Israel with description of two new species. *Zootaxa* 4677 (1): 1-68
- Bidzilya O., Aarvik L., Agassiz, D. 2023. New species and new country distribution records of *Athrips* (Lepidoptera, Gelechiidae) from the Afrotropical region. *Zootaxa* 5343(5): 489-500.

- Bidzilya O., Mey W., Rajaei H. 2024. First record of the genus *Sergeya* Ponomarenko, 2008 (Lepidoptera, Gelechiidae) from the Afrotropical region, with description of nine new species. *Zootaxa* 5493 (5): 486-506.
- Bippus M. 2016. New or poorly known Microlepidoptera from the Mascarenes (Lepidoptera: Autostichidae, Bedellidae, Batrachedridae, Carposinidae, Epermeniidae, Gelechiidae, Tineidae, Tortricidae. Beiträge zur Entomologie 66(2): 347-370.
- Bippus M. 2020. Records of Lepidoptera from the Malagasy region with description of new species (Lepidoptera: Tortricidae, Noctuidae, Alucitidae, Choreutidae, Euteliidae, Gelechiidae, Blastobasidae, Pterophoridae, Tonzidae, Tineidae, Praydidae, Cosmopterigidae, Batrachedridae). *Phelsuma* 28: 60-100.
- Busck A. 1911. Descriptions of tineoid moths (Microlepidoptera) from South America. *Proceedings of the United States National Museum* 40: 205-234.
- CABI. 2021. *Pectinophora gossypiella* (pink bollworm). Available from: https://www.cabidigitallibrary.org/doi/10.1079/cabicompendium.39417 (accessed 24 August 2024).
- Clarke J.F.G. 1969. Gelechiidae (D-Z). Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) described by Edward Meyrick. Vol. 7. *Trustees of the British Museum (Natural History), London*, 531 pp.
- De Prins J., De Prins W. 2024. Afromoths, online database of Afrotropical moth species (Lepidoptera). World Wide Web electronic publication. Available from: http://www.afromoths.net (accessed 16 June 2024).
- Durrant J. H. 1914. A new cotton-seed moth (*Mometa zemiodes*) from West Africa. *Bulletin of Entomological Research* 5: 243
- Gerlach J., Matyot P. 2006. Lepidoptera of the Seychelles islands. Backhuys Publishers, Leiden - The Netherlands, 130 pp., 32 pls.
- Ghesquière J. 1940a. Quelques microlépidoptères Gelechiadae congolais. *Revue de Zoologie et Botanique Africaines* 34(1): 101-108.
- Ghesquière J. 1940b. Lépidoptères, Microlépidoptères. Catalogues raisonnés de la faune entomologique du Congo Belge. Annales du Musée Royal du Congo Belge. Series III. Vol. 7: 1-120.
- Gregersen K., Karsholt, O. 2022. The Gelechiidae of North-West Europe. *Norwegian Entomological Society, Oslo*, 939 pp.
- Guillermet C. 2012. Contribution à l'étude des Hétérocères de l'île de La Réunion: description de huit nouvelles espèces de Tortricidae, Carposinidae et Crambidae (Lepidoptera Heterocera). *L'Entomologiste* 68(6): 337-350.
- Halperin J., Sauter W. 1992. An annotated list with new records of Lepidoptera associated with forest and ornamental trees and shrubs in Israel. *Israel Journal of Entomology* 25-26: 105-147.
- Hargreaves H. 1939. Notes on some pests of maize and millets in Uganda. East African Agricultural Journal 5: 104-109.
- Heinemann H. 1870. Die Schmetterlinge Deutschlands und der Schweiz. 2. Abteilung Kleinschmetterlinge. 2. Die Motten und Federmotten, 1. Schwetschke & Sohn, Braunschweig, 388 pp.
- Herrich-Schäffer G.A.W. 1847-1855. Systematische Bearbeitung der Schmetterlinge von Europa. 5. Die Schaben und Federmotten. *Regensburg*, 394 pp.

- Hübner J. 1818. Sammlung europäischer Schmetterlinge. VIII. Tineae Schaben, pl. 67, f. 445-450. *Augsburg*.
- Hübner J. 1825. Sammlung europäischer Schmetterlinge. VIII.
 Tineae Schaben, pl. 68, f. 451-456, pl. (69), f. (457-463).
 Augsburg.
- Huemer P., Karsholt O. 2010. Gelechiidae II (Gelechiinae: Gnorimoschemini). In: Huemer P., Karsholt O., Nuss M. (eds). Microlepidoptera of Europe. Vol. 6. Apollo Books, Stenstrup, 586 pp.
- Janse A.J.T. 1949. Gelechiidae. *The Moths of South Africa* 5(1): 1-60, pls 1-32.
- Janse A.J.T. 1950. Gelechiidae. *The Moths of South Africa* 5(2): 61-172, pls 33-88.
- Janse A.J.T. 1951. Gelechiidae. *The Moths of South Africa* 5(3): 173-300, pls 89-136.
- Janse A.J.T. 1954. Gelechiidae. *The Moths of South Africa* 5(4): 301-464, pls 137-202.
- Janse A.J.T. 1958. Gelechiidae. *The Moths of South Africa* 6(1): 1-144, pls 1-32.
- Janse A.J.T. 1960. Gelechiidae. *The Moths of South Africa* 6(2): 145-240, pls 33-129.
- Janse A.J.T. 1963. Gelechiidae. *The Moths of South Africa* 6(3): 241-284, pls 130-138.
- Kalchberg, A. von. 1876. Beiträge zur Lepidopteren-Fauna Sicilien's. *Stettiner Entomologische Zeitung* 37(4-6): 138-150.
- Karsholt O., Riedl T. 1996. Gelechiidae (pp. 103-113 + 118-122 + 310-312).
 In: Karsholt O., Razowski J. (eds). The Lepidoptera of Europe. A distributional checklist. *Apollo Books, Stenstrup*, 382 pp.
- Karsholt O., Mutanen M., Lee S., Kaila L. 2013. A molecular analysis of the Gelechiidae (Lepidoptera, Gelechioidea) with an interpretative grouping of its taxa. *Systematic Entomology* 38: 334-348.
- Klimesch J. 1984. Beiträge zur Kenntnis der Microlepidopteren-Fauna des kanarischen Archipels. 6. Beitrag: Gelechiidae. *Vieraea* 13(1-2): 145-182.
- Le Cerf F. 1922. Lépidoptères. Hétérocères (pp. 387-482, pls 40-43). In: Voyage de Mr. le Baron Maurice de Rothschild en Ethiopie et en Afrique orientale anglaise (1904-1905). *Imprimerie Nationale, Paris*, 482 pp.
- Lees D.C, Minet J. 2022. Lepidoptera, butterflies and moths: systematics and diversity (pp. 1141-1172). In: Goodman S.M. (ed.). The new natural history of Madagascar. *Princeton University Press, Princeton, New Jersey*, 2296 pp.
- Legrand H. 1966. Lépidoptères des îles Seychelles et d'Aldabra. Mémoires du Muséum d'Histoire Naturelle. Paris (N.S.) (A) 37: 1-210, pls 1-16.
- Li H., Sattler K. 2012. A taxonomic revision of the genus *Mesophleps* Hübner, 1825 (Lepidoptera: Gelechiidae). *Zootaxa* 3373(1): 1-82.
- Li H., Zhen H., Mey W. 2013. Notes on *Dichomeris* Hübner, 1818 from Southern Africa and Kenya, with description of seven new species (Lepidoptera, Gelechiidae, Dichomeridinae). *Zootaxa* 3608(7): 561-574.
- Lopez-Vaamonde C., Sire L., Rasmussen B., Rougerie R., Wieser C., Allaoui A.A., Minet J., deWaard J.R., Decaëns T., Lees D. C. 2019. DNA barcodes reveal deeply neglected diversity and numerous invasions of micromoths in Madagascar. *Genome* 62(3): 108-121.
- Mey W. 2011. Basic pattern of Lepidoptera diversity in southwestern Africa. *Esperiana Memoir* 6: 7-316.

- Meyrick E. 1895. A Handbook of British Lepidoptera. *Macmillan and Co., London*, 843 pp.
- Meyrick E. 1908. Descriptions of African Micro-Lepidoptera. *Proceedings of the Zoological Society of London* 47: 716-756.
- Meyrick E. 1909. Descriptions of Transvaal Micro-Lepidoptera. *Annals of the Transvaal Museum* 2(1): 1-28, pls 1-8.
- Meyrick E. 1911. Descriptions of South African Micro-Lepidoptera. *Annals of the Transvaal Museum* 3(1): 63-83.
- Meyrick E. 1912. New South African Microlepidoptera. *Annals of the South African Museum* 10(3): 53-74.
- Meyrick E. 1913a. Descriptions of South American Micro-Lepidoptera. Transactions of the Entomological Society of London 3(1): 170-200.
- Meyrick E. 1913b. Descriptions of South African Micro-Lepidoptera. *Annals of the Transvaal Museum* 3(4): 267-336.
- Meyrick E. 1914. Exotic Microlepidoptera 1(7): 193-224.
- Meyrick E. 1916. Exotic Microlepidoptera 1(16-20): 481-640.
- Meyrick E. 1918. Descriptions of South African Micro-Lepidoptera. *Annals of the Transvaal Museum* 6(2): 7-59.
- Meyrick E. 1920. Insectes Lépidoptères II. Microlepidoptera (pp. 33-120). In: Voyage de Ch. Alluaud et R. Jeannel en Afrique Orientale (1911-1912). Résultats Scientifiques. Librairie des Sciences Naturelles, L. Lhomme, Paris, 120 pp.
- Meyrick E. 1921. Descriptions of South African Micro-Lepidoptera. *Annals of the Transvaal Museum* 8(2): 49-148.
- Meyrick E. 1924. Micro-Lepidoptera of Rodriguez. *Transactions of the Entomological Society of London* 71(3-4): 544-557.
- Meyrick E. 1927. Exotic Microlepidoptera 3(11-12): 321-352.
- Meyrick, E. 1929. Exotic Microlepidoptera 3(16-17): 481-544.
- Meyrick E. 1930. Microlepidoptera of Mauritius. *Transactions* of the Royal Entomological Society of London 78(2): 309-323.
- Meyrick E. 1931. Exotic Microlepidoptera 4(2-4): 33-96.
- Meyrick E. 1932. Exotic Microlepidoptera 4(7-11): 193-352
- Meyrick E. 1933. Exotic Microlepidoptera 4(12-14): 385-448.
- Meyrick E. 1934. Exotic Microlepidoptera 4(15-17): 449-544.
- Meyrick E. 1936. Exotic Microlepidoptera 5(1-2): 33-64.
- Meyrick E. 1937. Exotic Microlepidoptera 5(3-5): 65-160.
- Meyrick E. 1938. Exploration du Parc National Albert. Pterophoridae, Tortricina et Tineina. *Institut des parcs Nationaux du Congo belge* 14: 3-28, pls 1-3.
- Olivier G.A. 1789. Encyclopédie méthodique. Histoire naturelle 4. Insectes. *Panckoucke, Paris*, i-ccclxxiij, 331 pp.
- Omelko M.M. 1988. Two new species and genera of Gelechiid moths of the subfamily Gelechiinae (Lepidoptera, Gelechiidae) from Vietnam. Trudy Zoologicheskogo Instituta AN SSSR 176: 129-133. [in Russian]
- Omelko M.M., Omelko N.V. 2018. A new genus and two new species of Gelechiid moths of the subfamily Anacampsinae (Lepidoptera, Gelechiidae) from Laos. *Zoologicheskii Zhurnal* 97(11): 1394-1399 [in Russian]
- Omelko M.M., Omelko N.V. 2019. Two new species of the Gelechiid moths genus *Semophylax* Meyrick, 1932 (Lepidoptera, Gelechiidae) found in Malaysia. *Amurian Zoological Journal* 11(1): 37-41.
- Paulian R., Viette P. 1956. Essai d'un catalogue biologique des Lépidoptères Hétérocères de Tananarive. Mémoires de l'Institut scientifique de Madagascar E(6): 141-281.
- Ponomarenko M.G. 2005. Gelechiid moths of the Palaearctics:

- functional morphology of the male genitalia, phylogeny and taxonomy (Lepidoptera, Gelechiidae). *Meetings in memory of N.A. Cholodkovsky* 58(1): 1-139. [in Russian].
- Ponomarenko M.G. 2009. Gelechiid moths of the subfamily Dichomeridinae (Lepidoptera: Gelechiidae) of the world. *Dal'nauka*, *Vladivostok*, 289 pp.
- Povolný D. 2002. Iconographis tribus Gnorimoschemini (Lepidoptera, Gelechiidae) regionis palaearcticae. František Slamka, Bratislava, 110 pp., 60 colour pls, 87 black and white pls.
- Prinsloo G.L., Uys V.M. 2015. Insects of cultivated plants and natural pastures in Southern Africa. *Entomological Society of Southern Africa, Hatfield*, xiv + 785 pp.
- Pujol R. 1961. Insectes peu connus nuisibles aux caféiers en Afrique tropicale. Café, Cacao, Thé 5: 241-251.
- Robinson G.S., Ackery P.R., Kitching I.J., Beccaloni G.W., Hernandez L.M. 2001. Hostplants of the moth and butterfly caterpillars of the Oriental Region. *The Natural History Museum and Southdene Sdn Bhd.*, Kuala Lumpur, 744 pp.
- Saraiva A.C. 1939. A preliminary list of the insect pests of crops and fruit trees in Portuguese East Africa. *Journal of the Entomological Society of Southern Africa* 2: 101-114.
- Saunders F.R.S. 1844. Description of a species of moth destructive to the cotton crops in India. *Transactions of the Entomological Society of London* 3: 284-285.
- Sohn J.-Ch., Ponomarenko M.G., Sakamaki Y. 2019. A new genus of Pexicopiini (Lepidoptera: Gelechiidae) for "Gelechia" acanthopis Meyrick, 1932, with review of functional morphology of male genitalia in allied genera. Zootaxa 4638(1): 125-135.
- Stainton H.T. 1859. Descriptions of twenty-five species of Indian Micro-Lepidoptera. *Transactions of the Entomological Society of London* 2(5), 3: 111-126.
- Staude H.S., Maclean M., Mecenero S., Pretorius R.J., Oberprieler R.G., Van Noort S., Sharp A., Sharp I., Balona J., Bradley S., Brink M., Morton A.S., Botha M.J., Collins S.C., Grobler Q., Edge D.A., Williams M.C., Sihvonen P. 2020. An overview of Lepidoptera-host-parasitoid associations for southern Africa, including an illustrated report on 2 370 African Lepidoptera-host and 119 parasitoid-Lepidoptera associations. *Metamorphosis* 31(3): 1-380.
- Strand E. 1913. Katalog der äthiopischen Tineina. Archiv für Naturgeschichte 79A(2): 38-115.
- Viette P. 1948. Une nouvelle espèce de *Metzneria* (Lep. Gelechiidae). *Bulletin de la Société entomologique de France* 53(3-4): 51-53.
- Viette P. 1957. Nouveaux Gelechiidae de Madagascar (Lepidoptera). Le Naturaliste malgache 8 (1956) (2): 209-224
- Walker F. 1864. List of the specimens of Lepidopterous Insects in the Collection of the British Museum, Part XXIX. Tineites, 29: 563-835.
- Walsingham T. de G. 1881. On the Tortricidae, Tineidae and Pterophoridae of South Africa. *Transactions of the Entomological Society of London* 1881(2): 219-288, pls 10-13.
- Walsingham T. de G. 1891. African Micro-Lepidoptera. Transactions of the Entomological Society of London 1891(1): 63-132.
- Walsingham T. de G. 1897. Western Equatorial African Micro-Lepidoptera. *Transactions of the Entomological Society of London* 1897(1): 33-67.
- Walsingham T. de G. 1908. Microlepidoptera of Tenerife. The

- Proceedings of the Zoological Society of London for the Year 1907: 911-1034 + pl. LI-LIII.
- Zeller P.C. 1839. Versuch einer naturgemässen Eintheilung der Schaben. *Isis von Oken* 1839(3): 167-220.
- Zeller P.C. 1847. Bemerkungen über die auf einer Reise nach Italien und Sicilien beobachteten Schmetterlingsarten. *Isis von Oken* 40(11): 801-859.
- Zeller P.C. 1873. Beitrag zur Kenntniss der nordamericanischen Nachtfalter, besonders der Microlepidopteren. Zweite Abtheilung. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft in Wien 23: 201-334, pl. III-IV.
- Zeller P.C. 1877. Exotische Microlepidopteren. *Horae Societatis Entomologicae Rossicae* 13: 3-493, pls 1-6.