

New data and species of Ethmiidae (Lepidoptera: Gelechioidea) from the Afrotropical Region

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Abstract: In Africa south of the Sahara 62 valid species of the family Ethmiidae are recognised to date. Four new species are described from localities in Ethiopia, Djibouti, Uganda, Namibia and South Africa: *Ethmia angensteini* **spec. nov.** (Ethiopia), *Ethmia hermannstaudei* **spec. nov.** (Namibia, RSA), *Ethmia kibalensis* **spec. nov.** (Uganda), and *Ethmia stadihana* **spec. nov.** (Djibouti). The moths of the new species and some of their close relatives are illustrated in colour. The male and female genitalia are depicted as line drawings and as photos. The systematic position of the new species is briefly discussed. New faunistic records of scarcely collected species are communicated from several African countries.

Key words: Taxonomy, faunistics, biogeography, Africa, new species descriptions.

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INTRODUCTION

The family Ethmiidae is represented in Africa south of the Sahara by the sole genus *Ethmia* Hübner, 1819. To date, 55 species are listed from the Afrotropical Region (Mey & Shovkoon, 2012, De Prins & De Prins, 2021). A further 10 species are known to occur in northern Africa from Morocco to Palestine (Sattler, 1967). In his revision of the Palearctic species of *Ethmia*, Sattler (1967) established species groups for a better handling of this large genus. He provided diagnoses, which are to some extent applicable to the African species. In the present article, these diagnoses are used in a first attempt to summarise the Afrotropical species into groups. Only one of the new species, *E. kibalensis* sp. nov. did not fit into any of Sattler's groups. A new group is established to accommodate this and related species.

In recent years new material of the family was collected during several excursions by the author and other collectors, and two species were identified as being undescribed. The study of additional material in the collection of the Museum für Naturkunde, Berlin (MfN) yielded a further two, undescribed species, and several new locality records of species whose ranges are imperfectly known. These new data and the descriptions of the new species are presented in the present article.

METHODS AND MATERIALS

The identification of species is based on comparisons with type material, which was studied during visits to all major museums in Europe and South Africa. The species exhibit conspicuous external characters like wing pattern and

arrangements of spots on thorax and abdomen. Also, the genitalia are quite distinctive and provide information on relationships among species. Genitalia preparations were made according to the procedure described in Sattler (1967: 24–26). The terminology of genital characters follows Sattler (1967) and Mey & Shovkoon (2014).

Abbreviations:

HNHM – Hungarian Natural History Museum, Budapest.

MfN – Museum für Naturkunde, Berlin.

DMNH – Ditsong Museum of Natural History, Pretoria.

RESULTS AND SPECIES DESCRIPTIONS

Genus *Ethmia* Hübner, 1819

urn:lsid:zoobank.org:act:3858017C-26E6-4902-B410-57ECD2C9CF85

Type species: *Phalaena pyrausta* Pallas, 1771

distigmatella- species group Sattler, 1967

Ethmia pericentrotata Meyrick, 1926

Material examined: 1 ♀, Namibia, Karibib, Otjipatera Mts., Etusis Lodge, 1086 m, 22°10.770'S; 15°44.221'E, 18–21.iii.2022, leg. W. Mey; 6 ♂ 2 ♀, Namibia, Etendeka Plateau, Palmwag Lodge, 26.ii.2008, leg. W. Mey (MfN).

Remarks: This species was described from Namibia, Owamboland. There are several specimens from different localities in RSA preserved in the DMNH, which indicates a wider distribution of the species in southern Africa.

dodecea- species group Sattler, 1967

***Ethmia angensteini* Mey & Keller sp. nov.** (Figs 1–6)

urn:lsid:zoobank.org:act:4D874723-8227-4FFF-94BD-080A4CD3B8C4

Holotype ♀, Ethiopia, Äthiopien/Addis-Abeba, 20.ix.1981 leg. P. Angenstein (MfN)

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Paratypes: 11 ♂ 18 ♀, Ethiopia, Harena Forest, 11.x.2013, 2307 m, 6°12.983'N; 39°43.570'E, leg. D. Wiersbowski, genitalia slide Mey 02/14 (MfN, coll. Shovkoon); 2 ♂ 1 ♀, same locality and data, 06°42'N; 39°43'E, leg. D. Stadie (MfN); 2 ♂ 1 ♀ South Ethiopia, Goba, 10–11.iv.2018, 3080m, leg. R. Keller (coll. Keller); 2 ♂ 2 ♀, Ethiopia, Bale Mountain Lodge, 11–12.iv.2018, 3080m, leg. R. Keller (coll. R. Keller); 1 ♀, same locality and data, leg. Moosburg, Beck, Dietl, Zuleger, Abdurahin, Merese, genitalia slide Mey 23/20 (MfN); 2 ♂, same locality, 11–12.iv.2018, 2240 m, leg. Moosburg, Beck, Dietl, Zuleger, Abdurahin, Merese, genitalia slide Mey 25/20 (MfN).



Figure 1 – *E. angensteini* sp. nov. Holotype female Addis Abeba

Description. Adult female (Fig. 1). Length of forewing 12–14 mm, wingspan 25–30 mm. Head white-grey, labial palpi ascending, white-grey, second and third segments with two black rings, terminal segment acute; antenna black. Proboscis long, basally scaled, apically lined laterally with small, elongate papillae. Thorax grey-white, patagia and tegulae with black spots basally; mesonotum with five black spots. Legs white, tibiae and tarsi with black rings. Forewings white-grey, with characteristic black pattern (Fig. 1), hindwings grey-brown, underside of wings uniformly dark brown, frenular bristles black. Male with corresponding wing pattern, hindwing with long, brown costal brush.

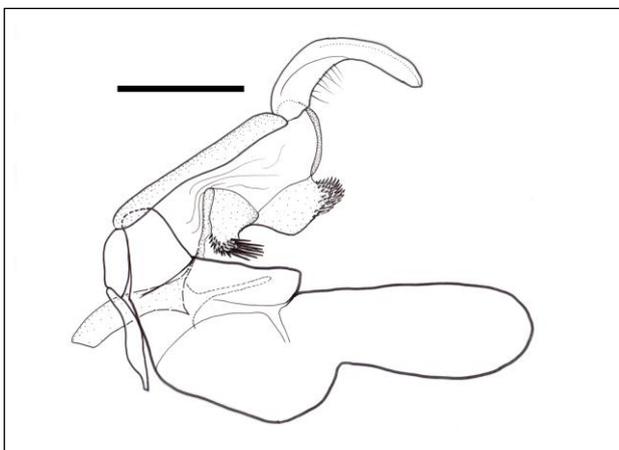


Figure 2 – *E. angensteini* male genitalia, lateral aspect

Male genitalia (Figs 2, 3a, 4–5): Tegumen straight, elongate. Uncus broad basally, bilobed apically. Caudal part of gnathos with thorns, oral part with two lobes

equipped with long, apical spines and short basal denticules. Vinculum short, as a thin half-ring. Labis short, triangular. Valva elongate, basal process on inner side thin, costa broad, cucullus claviform. Juxta short, anellus sclerotised, phallic apparatus with spiral base, manica bilobed at apex enclosing tubular phallic apparatus, vesica with bundle of spine-like cornuti.

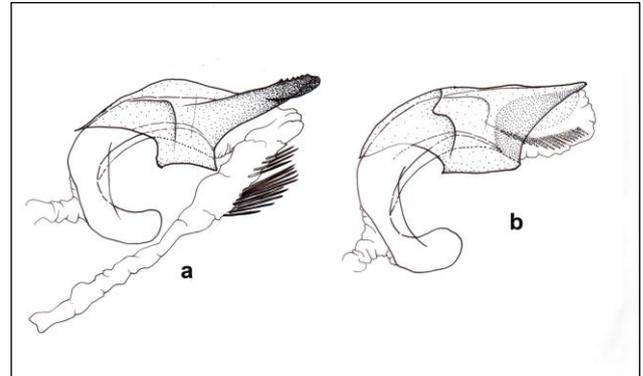


Figure 3 – Phallic apparatus, lateral aspect, of a: *Ethmia angensteini* sp. nov. b: *Ethmia iphicrates*



Figure 4 – *E. angensteini* male genitalia, caudal aspect, genitalia slide Mey 02/14.

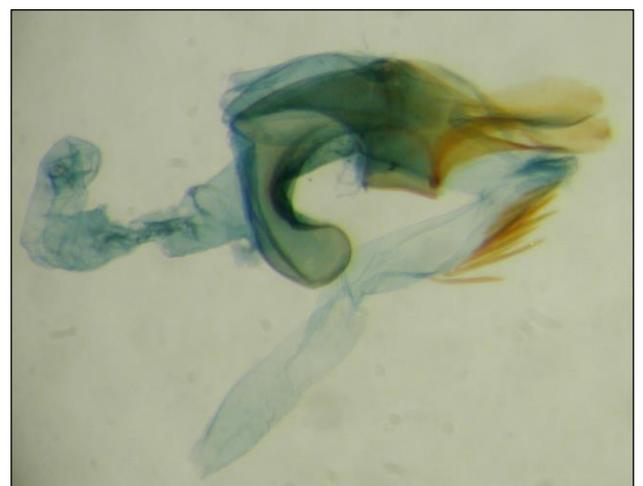


Figure 5 – *E. angensteini* phallic apparatus, lateral aspect, genitalia slide Mey 02/14.

Female genitalia (Fig. 6): Papillae anales long, fused basally, apophyses posteriors as long as papillae anales. Segment VIII without apophyses, sterigma with rectangular lamella antevaginalis and pair of small sclerites

as lamella postvaginalis. Ostium bursae membranous, antrum weakly sclerotised. Ductus bursae long, lamellate, somewhat coiled. Bursa copulatrix spherical and with appendix bursae. Signum large, with large and small teeth on inner side.

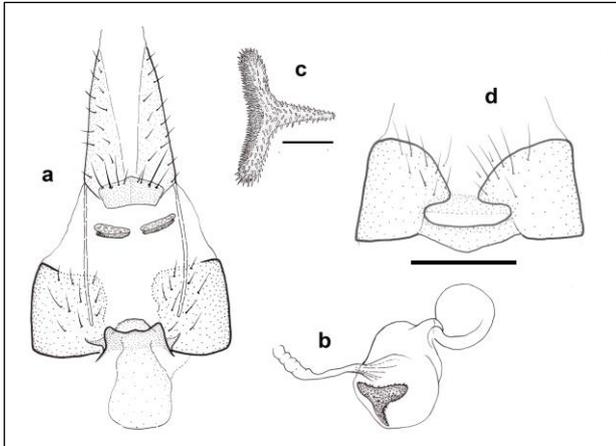


Figure 6 – *E. angensteini* female genitalia a: segment VIII and oviscapt, ventral aspect, b: bursa copulatrix, c: signum, magnified (scale: 0.05 mm); d: *E. iphocrates*, segment VIII, ventral (scale: 0.5 mm)

Etymology: Named in memory of Dr. Peter Angenstein, the first collector of this species. He was a German entomologist (01.iv.1938–23.9.2000) from Magdeburg, who worked in Ethiopia as phytopathologist in a cooperation project between Ethiopia and the DDR. He collected Lepidoptera in his spare time, mainly around Addis Abeba from 1980–1982. His collection, including Ethiopian material, is deposited in the MfN, Berlin.

Remarks: According to external characters the new species is very similar to *E. iphocrates* Meyrick, 1922. The new species differs by the grey ground colour of the forewings in contrast to the white ground colour of *E. iphocrates* (Fig.7). In the male genitalia both species differ in the structure of the gnathos and in the apex of the manica (Figs 8–9). In the female genitalia, the new species has a distinct lamella antevaginalis, whereas in *E. iphocrates* the ostium is surrounded by the flat venter of segment VIII (Fig. 6d). In Ethiopia both species occur sympatrically.

Ethmia iphocrates Meyrick, 1922

Material examined (Figs 7–9): 1 ♂ 1 ♀, Ethiopia, Addis-Abeba, 27–28.viii.1981, genitalia slide Mey 01/14, leg. P. Angenstein; 1 ♂, Ethiopia, Harena Forest, 11.x.2013, 2307 m, 6°12.983'N; 39°43.570'E, leg. D. Stadie, genitalia in glycerine vial; 1 ♂ 2 ♀, same locality, leg. D. Wiersbowski; 1 ♀, Ethiopia, Bale Mountain Lodge, 11–12.iv.2018, 3080m, leg. Moosburg, Beck, Dietl, Zuleger, Abdurahin, Merese, genitalia slide Mey 25/20; 1 ♀, Ethiopia, Oromia, 6.5 km NE Shebe, 2125 m, 07°32.02'N; 36°33.58'E, 29.x.2010; 1 ♂, Kenya, Mt. Kenya, Chogoria Forest Station, 06.x.2001, 1650 m, leg. L. Kühne; 5 ♂ 7 ♀, Kenya, Kakamega Forest, primary forest, 1600 m, 0°21.34'N 34°59.31'E, light trap 1, 04–27.ii.2004, leg. F. Namu, (all in MfN).

Remarks: This is the first record of the species from Ethiopia (cf. Tujuba et al. 2019). The distinguishing

characters to the preceding species are depicted in Figs 3, 6, 7–9.



Figure 7 – *E. iphocrates* Meyrick, 1922, male, Addis Abeba, 27–28.viii.1981.



Figure 8 – *E. iphocrates* Meyrick, 1922, male genitalia, caudal aspect, genitalia slide Mey 01/14.



Figure 9 – *E. iphocrates* Meyrick, 1922, phallic apparatus, lateral aspect, genitalia slide Mey 01/14.

Ethmia sabiella Felder & Rogenhofer, 1874

Material examined (Figs 10–11): 2 ♂, Tanzania, Iringa Province, Little Ruaha River campsite, 1562 m, S 7°47.897'E; 35°47.880', 07.v.2004, leg. P. Darge (coll. Shovkoon); 5 ♂, Zimbabwe, Masvingo, Kyle National

Park, 01–04.xii.1993, leg. W. Mey & K. Ebert (MfN); 1 ♀, Namibia, Caprivi, Mudumu National Park, Nakatwa, 08–13.iii.1992, leg. W. Mey; 1 ♀, Namibia, Tsumeb, Otavi Mts., Varianto Farm, 1550 m, 19°23.01'S; 17°43.57'E, 29.iii–01.iv.2003, leg. W. Mey; 3 ♂, Namibia, Otjiwarongo, Mt. Etjo, 1700 m, 21°15'S 16°50'E, 14.iii.2005, leg. W. Mey, genitalia slide Mey 85/11; 2 ♂, 1 ♀, Namibia, Otjiwarongo, Farm Abachaus, 20.iv.2013, leg. H. Hobohm; 2 ♂, 2 ♀, Namibia, 60 km N Gobabis, Sandveld, BIOTA observatory, 22–26.i.2007, leg. W. Mey (all in MfN); 1 ♂, Mozambique, Delagoa Bay, leg. R. Monteiro, genitalia slide Mey 86/11 (MfN); 2 ♂, RSA, “E. Transvaal/ White River/ A.T. Cooke S.V.” (MfN); 1 ♂, RSA, Pretoria, 30.ii.1978, leg. Endrödy, S. (HNHM); 3 ♂, 1 ♀, RSA, Mpumalanga, Meyerton, Suikerbosrand Nature Reserve, Kareekloof, 04–05.iii.1995, leg. H.W. van der Wolf (HNHM); 2 ♂, RSA, Western Cape, Beaufort West, Karoo National Park, 13–15.x.2005, leg. H.W. van der Wolf (HNHM); 1 ♂, 1 ♀, RSA, KwaZulu-Natal, Weenen G.R., 28°50'43"S; 29°59'13"E, 950 m, 01.xii.2011, leg. V.A. Anikin (coll. Shovkoon); 2 ♂, RSA, Limpopo, Soutpansberg, Ingwe Ranch, 14–15.xi.1999, leg. W. Mey (MfN); 4 ♂, RSA, Eastern Cape, Asante Sana game farm, Glen Haven, 1380 m, 03.iii.2014, leg. W. Mey (MfN).

Remarks: The forewings show the typical black and white pattern of the group (Fig. 10). The male genitalia exhibit a certain variation in the form of the caudal and oral parts of the gnathos, and also in the apex of the manica and anellus (Fig. 11).



Figure 10 – *E. sabiella* Felder & Rogenhofer, 1874, male, RSA, Asante Sana.

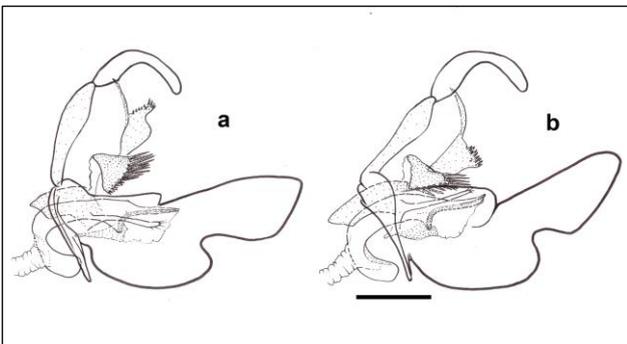


Figure 11 – *E. sabiella* male genitalia of lateral aspect, a: Mocambique, Delagoa Bay, b: Namibia, Mt. Etjo (scale: 0.5 mm).

Ethmia melanocrates Meyrick, 1923

Material examined: 5 ♂ 7 ♀, Kenya, Mt. Kenya, Chogoria Forest Station, 06.x.2001, 1650 m, leg. L. Kühne; 2 ♂, Kenya, Kakamega Forest, primary forest, 1600 m, 0°21.34'N; 34°59.31'E, light trap 1, 24.iii.2002, leg. L. Kühne (all in MfN).

Ethmia spyrathodes Meyrick, 1922

Material examined: 2 ♂, Kenya, Kakamega Forest, Byango Hill, 600 m, light trap 1, 14–17.x.2001, leg. L. Kühne; 5 ♂ 5 ♀, Uganda, Kibale National Park, Biological Field Station, 1500 m, 00°32.419'N; 30°21.772'E, 19–24.xi.2014, at the lights, leg. W. Mey, genitalia slide Mey 48/23 (MfN). (all in MfN).

Ethmia phricotypa Bradley, 1975

Material examined: 1 ♀, Uganda, Kibale National Park, Biological Field Station, 1500 m, 00°32.419'N; 30°21.772'E, 19–24.xi.2014, at the lights, leg. W. Mey, genitalia slide Mey 48/23 (MfN).

Ethmia oculigera (Möschler, 1884)

Material examined: 2 ♀, Ethiopia, Province Gamogofa, 10.5 km W Weyto, 650 m, 05°26.06'N; 36°35.33'E, 10.v.2008, leg. H. Hacker & H.-P. Schreier; 1 ♂, Ethiopia, Southern Province, W Bonga, 2050 m, 07°17.00'N 36°07.58'E, 01.xi.2010, leg. H. Hacker & H.-P. Schreier; 1 ♂, Djibouti, Goba Mts., Ditolou Valley, Wadi, 390 m, 11°47'N; 42°43'E, 17.ii.2015, leg. D. Stadie; 2 ♂, 2 ♀, Kenya, Kakamega Forest Nature Reserve, 1600 m, 0°21.34'N; 34°59.31'E, 15.ii.2002, light trap, leg. F. N. Namu; 1 ♂, Namibia, Windhoek, Safari Hotel, at the lights, 12.ii.2008, leg. W. Mey; 2 ♂, 1 ♀, Namibia, Gamsberg, Corona Farm and Lodge, 1180 m, 23°23.393'S; 016°09.620'E, 2 ♂, 2 ♀, RSA, Eastern Cape, Asante Sana game farm, light trap, 1050 m, 13.xi.2012, leg. W. Mey (all in MfN).

Ethmia tyrantes Meyrick, 1934

Material examined: 2 ♂, Angola, Benguela Province, road Catengu-Cubal, 827 m, 13°0'19.1"S; 13°48'13.6"E, leg. S. Naumann, E. Ott & H. Sulak (MfN).

wursteri-species group

Ethmia stadihana sp. nov. (Figs 12–16)

urn:lsid:zoobank.org:act:18F8D68F-2F05-4915-8B62-7A093E84B6EB

Holotype: ♂, Djibouti, Goba Mts., Ditolou Valley, Wadi, 390 m, 11°47'N; 42°43'E, 17.ii.2015, leg. D. Stadie, genitalia slide Mey 46/23 (MfN)

Paratypes: 1 ♂, 3 ♀, same data as holotype, female genitalia slide Mey 47/23 (MfN);

Description. Adult male (Fig. 12): Length of forewing 9.0–9.5 mm, wingspan 18–19 mm. Head pale yellow-grey, labial palpi ascending, yellow-grey, second segment with brown patch on outer side, basal segment with long scales on ventral side, terminal segment acute; antenna dark brown, with short cilia ventrally, much shorter in females, scaled dorsally in basal third. Proboscis long and broad, basally scaled. Thorax grey, tegulae and patagia without black spots; mesonotum with five black spots. Legs grey. Forewings grey, with characteristic position of three black spots, two in fold, one at end of cell (Fig. 12); wing margin

without spots; hindwings pale grey, without hair pencil, underside of wings uniformly pale brown, one (♂) or three (♀) brown frenular bristles. Abdomen light brown, without spots, tuft of scales on segment VIII yellow-grey.



Figure 12 – *E. stadihana* sp. nov., male paratype, Djibouti, Goba Mts.

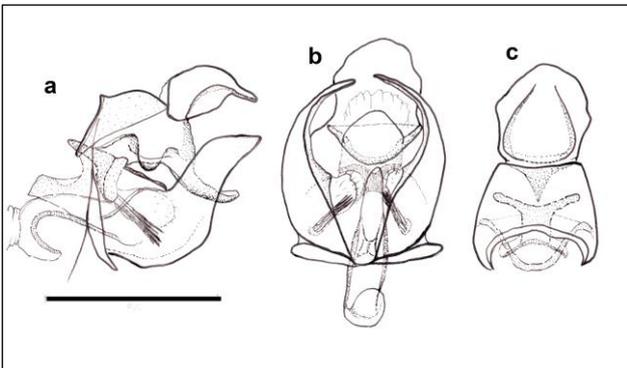


Figure 13 – *E. stadihana* sp. nov. male genitalia of lateral aspect, a: lateral, b: ventral, c: dorsal aspect (scale: 0.5 mm).



Figure 14 – *E. stadihana* sp. nov. male genitalia, caudal aspect, genitalia slide Mey 46/23.

Male genitalia (Figs 13–15): Tegumen short and broad. Uncus a rounded plate with weak emarginations on lateral margins. Caudal part of gnathos plate-like, distally protruding and slightly upcurved, without thorns; oral part with two elongate lobes each with bundle of long, apical spines. Vinculum short, as a thin half-ring. Labis short, triangular, fused with transtilla. Valva elongate, basal process on inner side lobe-like, membranous, costa thin, cucullus elongate, bent dorso-mediad, apex acute. Juxta short, phallic apparatus with spiral base, manica tubular,

enclosing apical tubular phallic apparatus, vesica without cornuti.



Figure 15 – *E. stadihana* sp. nov. phallic apparatus, lateral, genitalia slide Mey 46/23.

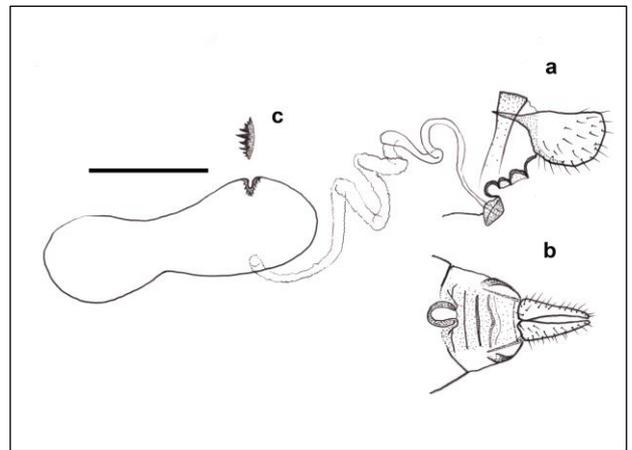


Figure 16 – *E. stadihana* sp. nov. female genitalia, a: lateral, b: ventral aspect, c: signum, lateral (scale: 0.35 mm).

Female genitalia (Fig. 16): Papillae anales long, close together basally, apophyses posteriores short, barely half the length of papillae anales. Segment VIII without apophyses, sterigma with circular lamella antevaginalis and three parallel concave sclerites as lamella postvaginalis. Ostium bursae membranous, antrum weakly sclerotised. Ductus bursae long and thin, coiled. Bursa copulatrix dumbbell-like, without appendix bursae. Signum large, with large and small teeth on inner side.

Remarks: Within the *wursteri* group, the new species resembles in the male genitalia *E. wursteri* Amsel, 1956 described from Jordan and *E. infelix* Meyrick, 1914 described from “Mesopotamia” (= Iraq). The latter species has many spines on the margins of the oral part of the gnathos, whereas these are reduced to an apical bundle in *E. stadihana* sp. nov. In the female genitalia, the papillae anales are not fused basally as in *E. wursteri*. Externally, the new species differs from other members of the group by the uniform grey colour of the forewings and by the absence of apical spots at the termen of forewings.

Etymology: The species is named in honour of Dirk Stadi (Eisleben) who collected the type series of the new species.

ditreta- species group

Ethmia hermannstaudei sp. nov. (Figs 17–18)

urn:lsid:zoobank.org:act:29A41C99-B0E8-4DE0-A13C-4CA100384EB4

Holotype: ♀, Namibia, Erongo, Great Spitzkoppe, 21°48.715'S; 15°10.404'E. 09.x.2007, leg. W. Mey (MfN)

Paratypes: 1 ♀, same data as holotype; 1 ♀, RSA, Numees, Richtersveld National Park, Hellskloof Gate, BIOTA Observatory Numees, 09–12.x.2007, leg. W. Mey (MfN);



Figure 17 – *E. hermannstaudei* female paratype, Namibia, Great Spitzkoppe.

Description. Adult female (Fig. 17): Length of forewing 8–8.5 mm, wingspan 15–16 mm. Head pale yellow-grey, labial palpi ascending, uniformly yellow-grey, basal segment with long scales on ventral side, terminal segment acute; antenna dark brown, sparsely scaled dorsally. Proboscis long and broad, basally scaled. Thorax grey, tegulae with a black spot basally; patagia and mesonotum without spots. Legs grey. Forewings grey, with characteristic position of black spots, one at base of A1, two in fold, two at end of cell (Fig. 17); base of costa black, wing margin without spots; hindwings pale grey, underside of wings uniformly pale brown, three brown frenalur bristles. Abdomen light brown, without spots, tuft of scales on segment VIII yellow-grey.

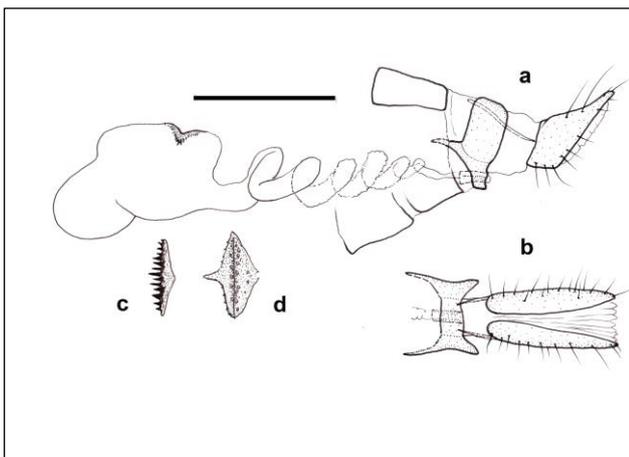


Figure 18 – *E. hermannstaudei* sp. nov., female genitalia, a: lateral, b: ventral aspect, c: signum, profile, d: signum, dorsal (scale: 0.35 mm)

Female genitalia (Fig. 18): Papillae anales broad, nearly triangular in lateral view, not fused basally, apophyses posteriors as long as papillae anales. Segment VIII with short apophyses, sterigma without distinct lamellae. Ostium bursae membranous, antrum weakly sclerotised.

Ductus bursae long, coiled. Bursa copulatrix elongate, appendix bursae absent. Signum large, with large and small teeth on inner side.

Remarks: In external appearance and size the new species is similar to *E. ditreta* Meyrick, 1920. The main differences are the arrangement and number of black spots on the forewings with five in *E. hermannstaudei* sp. nov. and only two in *E. ditreta*. The male is still undescribed. Judging from the two known localities, the new species seems to be an endemic of the Western Escarpment in Namibia.

Etymology: The new species is named in honour of Hermann Staude (Magaliesburg) in recognition of his tremendous efforts in the study and research on African Lepidoptera.

rhomboidella-species group

This group is here established to accommodate the new species *E. kibalensis* sp. nov. The architecture of the male genitalia differs clearly from those of the Palearctic species of all groups. Especially the reduced uncus, the undivided gnathos and the form of the valva are diagnostic for this species group, which doesn't seem to be a genuine African group of the genus. There is at least one Asian species, *E. octanoma* Meyrick, 1914, described from Taiwan, that belongs to the *E. rhomboidella* group too (Kun & Szabóku 2000).

Ethmia kibalensis sp. nov. (Figs 19–22)

urn:lsid:zoobank.org:act:3EED15BE-69FB-4F5C-9312-C6AB34941BA9

Holotype: ♂ (Fig. 19): Uganda, Kibale National Park, Biological Field Station, 1500 m, 00°32.419'N; 30°21.772'E, 19–24.xi.2014, at the lights, leg. W. Mey, genitalia slide Mey 48/23 (MfN).

Paratypes: 1 ♂, 1 ♀, same data as holotype; 1 ♂, Kenya, Kakamega Forest Nature Reserve, cultivation land, 1600 m, 0°21.28'N; 34°51.45'E, 18.xi.2001, light trap (4), leg. F. N. Namu (MfN).



Figure 19 – *E. kibalensis* sp. nov., male paratype, Uganda, Kibale NP.

Description. Adult male (Fig. 19): Length of forewing 14 mm, wingspan 29–30 mm. Head vestiture yellow, episternum of prothorax with patch of yellow hairs; labial palpi ascending, black, basal segment with long, bow scales on ventral side, terminal segment acute; antenna black, with short cilia ventrally, much shorter in females, scaled dorsally in basal third. Proboscis long, basally grey-scaled. Thorax grey, tegulae and patagia with black spots; mesonotum with four black spots. Legs brown. Forewings

grey, with characteristic position of six black spots, two in fold, two at base and end of cell, two at the base of subcosta (Fig. 19); wing margin without spots; hindwings pale grey, hair pencil present, yellowish; underside of wings uniformly pale brown, one (♂) or three (♀) brown frenular bristles. Abdomen light brown, becoming yellow towards tip on dorsal side, brown at ventral side, segments without spots; apical tuft of scales on segment VIII yellow.

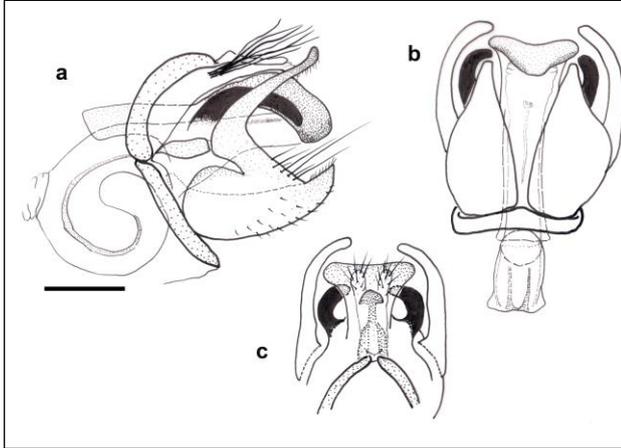


Figure 20 – *E. kibalensis* sp. nov., holotype, male genitalia, a: lateral, b: ventral, c: dorsal aspect (0.5 mm).

Male genitalia (Figs 20–22): Tegumen a half ring, apically seemingly interrupted in the middle, patch of long, somewhat twisted bristles in membrane close to apical margin of tegumen. Uncus strongly reduced, with a basal crest and pair of apical, flat, membranous lobes with short bristles on dorsal side. Gnathos undivided, plate-like, distally protruding, broadened laterally and slightly down-curved, thorns or spines absent; Vinculum short, as a thin half-ring. Labis long, black, curved closely along gnathos. Valva with broad and short costa, cucullus reduced to long, dorsal process bent dorso-mediad, apex rounded. Phallic apparatus with spiral base, anellus a sclerotized but ventrally open tube, enclosing manica and tubular phallic apparatus, with two lateral sclerites at apex; vesica without cornuti.



Figure 21 – *E. kibalensis* sp. nov., holotype, male genitalia, caudal aspect, genitalia slide Mey 48/23.



Figure 22 – *E. kibalensis* sp. nov., holotype, phallic apparatus, genitalia slide Mey 48/23

Female genitalia: Papillae anales large, forming a blade-like oviscap, with numerous bristles on lateral sides.

Etymology. The name refers to the Kibale National Park.

Remarks: According to the male genitalia, *E. kibalensis* sp. nov. is similar to *E. rhomboidella* Walsingham, 1897 and *E. aberdaresi* Mey & Shovkoon, 2014. The new species differs externally by the larger size and by the plain grey hindwings, which are yellow or partly yellow in the former species. In the male genitalia, the form of gnathos and valva, and the curved labis arms are distinguishing features of *E. kibalensis* sp. nov. to other members of the group.

CONCLUSIONS

In this article, the study of African species of Ethmiidae is continued following the published records and new species descriptions of Mey & Shovkoon (2014). New material from different localities in Africa was studied and compared with type material in order to establish the correct identity of the examined species. The fauna of Ethmiidae is still imperfectly known on the African continent. Even in well researched countries like South Africa and Namibia discoveries of undescribed species proved to be possible, with *E. hermannstaudei* sp. nov. as an example. The species was collected at two widely separated areas in the Western Escapment, the Great Spitzkoppe (Fig. 23) in Namibia and the Richtersveld in South Africa.

Arid and semiarid environments provide suitable habitats for many species which are adapted to dry conditions. But rainforests in lowlands or habitats at higher altitudes contain also indigenous species, which may prove to be regional endemics or endemics of mountain ranges like *E. stadihana* sp. nov. in the Goba Mts of Djibouti (Fig. 24). However, it isn't still not possible to ascertain the biogeographical status of most species. Many additional faunistic data are needed in order to delineate areas of distribution in the future.

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Figure 23 – View of the Great Spitzkoppe, Namibia, 2008 (photo: W. Mey).

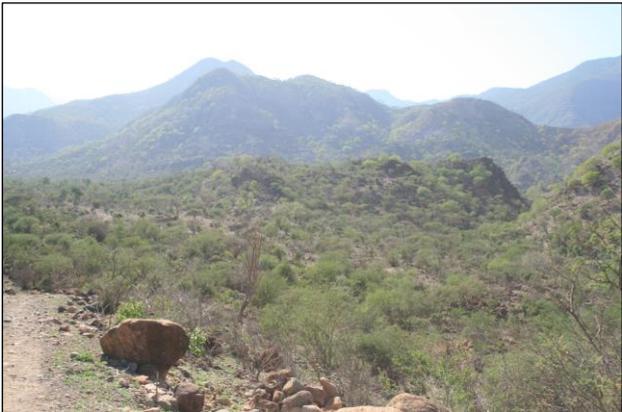


Figure 24 – Landscape in the Goba Mts., Djibouti (photo: D. Stadie)

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