

# Review of *Megaherpystis* Diakonoff, 1969 (Lepidoptera, Tortricidae) with description of 23 new species

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In this study, African species of *Megaherpystis* Diakonoff, 1969 are reviewed. The following new species are described *Megaherpystis kigogoensis* sp. n., *M. browni* sp. n., *M. uhuru* sp. n., *M. hackeri* sp. n., *M. gielisi* sp. n., *M. yale* sp. n., *M. bengtssoni* sp. n., *M. berggreni* sp. n., *M. nussi* sp. n., *M. endrestoli* sp. n., *M. howelli* sp. n., *M. subclavifera* sp. n., *M. kuehnei* sp. n., *M. obscura* sp. n., *M. heckfordi* sp. n., *M. kingstoni* sp. n., *M. kosteri* sp. n., *M. hanseni* sp. n., *M. trapezana* sp. n., *M. akiteae* sp. n., *M. baleensis* sp. n., *M. parviuncus* sp. n. and *M. kovtunovichi* sp. n. *Cosmetra podocarpivora* Razowski & Brown, 2012 is synonymized with *Eucosma cremastropis* Meyrick, 1930 **syn. n.** and transferred to *Megaherpystis* **comb. n.** The following two species currently in *Argyroploce* Hübner, 1825 are transferred to *Megaherpystis*; *M. clavifera* (Meyrick, 1920) **comb. n.** and *M. nimbose* (Meyrick, 1920) **comb. n.** The following two species currently in *Cosmetra* Diakonoff, 1977 are transferred to *Megaherpystis*; *M. thalameuta* (Meyrick, 1918) **comb. n.** and *M. brunnescens* Razowski, 2014 **comb. n.** The following two species currently in *Epinotia* Hübner, 1825 are transferred to *Megaherpystis*; *M. anepenthes* (Razowski & Trematerra, 2010) **comb. n.** and *M. latiloba* (Razowski & Trematerra, 2010) **comb. n.** The following three species currently in *Sycacantha* Diakonoff, 1959 are transferred to *Megaherpystis*; *M. orphnogenes* (Meyrick, 1939) **comb. n.**, *M. regionalis* (Meyrick, 1934) **comb. n.** and *M. penthrana* (Bradley, 1965) **comb. n.**

Key words: Lepidoptera, Tortricidae, *Megaherpystis*, new species, Africa.

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## Introduction

The taxonomy at the generic level of the African Tortricidae species dealt with in the present review has been confused. Species described by Edward Meyrick were placed in the Holarctic genus *Eucosma* Hübner, 1823 (Meyrick 1918, 1927, 1930, 1937). Recently members of this group have been assigned to three different genera described by Diakonoff, viz. *Sycacantha* Diakonoff, 1959 (type species from Asia), *Megaherpystis* Diakonoff, 1969 (type species from Seychelles Isl.) and *Cosmetra* Diakonoff, 1977 (type species from Réunion Isl.). The

presence of male abdominal hair pencils in both *Sycacantha* and *Megaherpystis* (Figure 1), as well as other morphological similarities, are arguments for a close relationship between the two. However, *Sycacantha* was placed in Olethreutini (Brown 2005, Horak 2006), whereas *Megaherpystis* was placed in Eucosmini (Diakonoff 1989, Brown 2005, Razowski et al. 2018). The distribution of morphological characters in this group challenges the present understanding of the boundaries of the tribes Eucosmini and Olethreutini. Molecular studies should be conducted to refine the classification of the subfamily Olethreutinae. The purpose of the present work is to establish stable

generic placement for described species, and to provide descriptions of new species.

## Material and methods

The author collected Tortricidae in Tanzania in 1991–1993, and on subsequent visits, to Malawi in 2004, Tanzania in 2005, Uganda 2007 and 2014, Kenya 2008 and 2010. In 2006 Lars Ove Hansen and Karsten Sund from the Natural History Museum in Oslo (NHMO) collected in Kenya and in 2007 Anders Endrestøl and Ole Jørgen Lønnve, also from NHMO, collected in Ethiopia. Material from natural history museums having collections of African Microlepidoptera, were borrowed and studied by the author. In addition, material from the private collections of Knud Larsen and David J. L. Agassiz were included. The institutions and persons with their acronyms are listed below.

Specimens were captured at night by means of light. They were kept alive in glass tubes until next morning and then killed with ammonia vapor or ethyl acetate. After a few minutes they were pinned on micro pins in plastic boxes with bottom layer of plastazote or expanded polyethylene, and the wings were spread on the surface of the bottom layer. In this position they were dried and packed.

After maceration with KOH male and female genitalia were dissected under a stereoscopic microscope and embedded in euparal on glass slides. Photos of the genitalia were taken using a Leica DFC 420 digital camera. Images were photographed using Microptics photographic system. The digital images were edited with Adobe Photoshop CS3–CC. The terminology of genitalia and morphological structures follows Horak (2006), the terminology of wing pattern elements follows Razowski (2003).

In the lists of material examined, specimen labels are cited in a standardized form rather than verbatim.

Abbreviations. DA = David J.L. Agassiz, Weston-super-Mare (United Kingdom); KL = Knud Larsen, Copenhagen (Denmark); MFNB = Museum für Naturkunde Berlin (Germany); MNHN = Muséum National d'Histoire Naturelle,

Paris (France); MNVD = Museum für Naturkunde und Vorgeschichte Dessau (Germany); NHMO = Natural History Museum, University of Oslo (Norway); NHMUK = Natural History Museum, London (United Kingdom); RMCA = Royal Museum for Central Africa (Belgium); USNM = United States National Museum, Washington (USA)

## Taxonomy

*Megaherpystis* Diakonoff, 1969

Type species: *Megaherpystis eusema* Diakonoff, 1969: 97.

### Systematic position of *Megaherpystis*

*Megaherpystis* was proposed for *M. eusema* described from a single male collected on the Seychelles Isl. (Diakonoff 1969). Diakonoff (1989) subsequently added a Madagascan species, *M. agmatophora* Diakonoff, 1989. In the 1989 paper he stated that the African *Eucosma nereidopa* Meyrick, 1927 also should be placed in *Megaherpystis*. However, Diakonoff's view was not followed by subsequent workers. Razowski et al. (2010) transferred *Eucosma nereidopa* Meyrick, 1927 to *Sycacantha*. This was based on the presence of similar male abdominal hair pencils (Figure 1) in *E. nereidopa* and in the otherwise Asian members of *Sycacantha*. Razowski & Brown (2012) provisionally placed *E. nereidopa* and two new species in *Cosmetra* Diakonoff, 1977. Both *Cosmetra* and *E. nereidopa* and its allies have modified and strongly sclerotized socii in the male genitalia. Razowski & Brown (2012) stated that it was likely that a new genus would be required for the three species and that the female genitalia excluded placement of the African species in *Sycacantha*. However, as can be seen from Horak's (2006) treatment of *Sycacantha*, there is little in the female genitalia that excludes placement of the African *E. nereidopa* and allies in *Sycacantha*. Females of *Sycacantha* may be with one or two signa, ranging from depressed patches of sclerotised granulation to curved horns (Horak 2006). The latter type is similar to

those found in the African group, and indicates placement in Eucosmini. Signa of the granulated type would indicate placement in Olethreutini. Members of *Sycacantha* have the hindwing veins  $M_3$  and  $Cu_1$  connate, whereas in *E. nereidopa* and allies the two veins are stalked. This character can serve to separate the two genera *Sycacantha* and *Megaherpystis*. Aarvik (2016) revised *Cosmetra*, pointing out that *E. nereidopa* and allies are taxonomically distant from that genus and should be transferred to *Megaherpystis*. Razowski et al. (2018) transferred a number of species from *Cosmetra* to *Megaherpystis*. They placed the genus in Eucosmini, and this view is followed here. This placement is supported by the venation:  $M_3$  and  $Cu_1$  in the hindwing are stalked. This implies that the presence of tibial hair pencils in males is interpreted as a basal character in the subfamily Olethreutinae and not an apomorphy of the tribe Olethreutini. In most genera in Eucosmini this trait has been lost.

### Diagnosis

Most *Megaherpystis* species cannot be recognized by forewing pattern alone. However, there is a core group with pale ground colour and a dark pattern consisting of the costal part of the median fascia, sometimes confluent with a tornal blotch, and a sub-basal fascia often confluent with the basal fascia. In this group the ground colour often is pale green. Another group is dark and dull with only weak indication of fasciae. There are transitions to these two basic patterns. Males of the conspicuously marked group also have secondary sexual organ in the form of a scale tuft on the hind tibia. In *Megaherpystis* the forewings have all veins separate; chorda and M-stem are developed. In the hindwing  $M_3$  and  $Cu_1$  are stalked. The base of the male abdomen has lateral tufts of long hair scales. In the male genitalia the socii are strongly sclerotised and attached to a subrectangular plate which in turn is attached to the upper part of the tegumen. The slender cornuti inside the vesica are shed during copulation. In the female genitalia the sterigma has two posterior processes, ductus bursae is sclerotised in the posterior part, and the corpus bursae is armed with two curved signa with broad bases. Razowski et al. (2018)

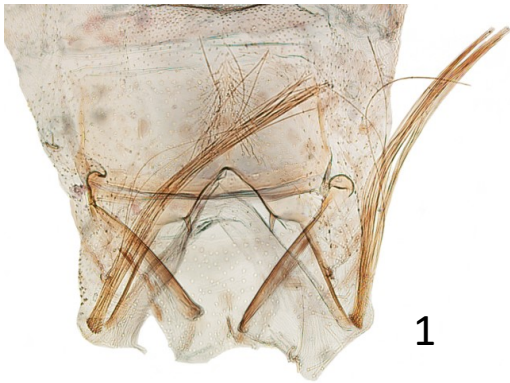
transferred *Eucosma calliarma* (Meyrick, 1913) to *Megaherpystis*. This species lacks the male abdominal hair pencils which is otherwise present in members of the genus. As the genitalia of this species show great similarity with species of *Megaherpystis*, it is retained here. Together with a new species from Tanzania, closely related to *calliarma*, it is placed in a separate group, viz. the *Megaherpystis calliarma*-group. Species combining pale ground colour and dark pattern with hind tibial scale tuft in males, are placed in the *Megaherpystis nereidopa*-group. The species with dark forewings and no tibial scale tufts are placed in the *Megaherpystis clavifera*-group. *Megaherpystis thalameuta* (Meyrick, 1918) and *M. taitana* (Razowski & Brown, 2012) appear to be rather isolated. As in the *M. nereidopa*-group males possess tibial scale tufts, but the wing pattern is different and the modified socii in the male genitalia are more elaborate and different from the ones found in the *M. nereidopa*-group. Males of the two species in the *Megaherpystis calliarma*-group lack both abdominal and tibial hair pencils. The species groups proposed in the present paper are neither based on cladistic analysis nor molecular data, but are suggested mainly for practical reasons. Still it is believed that they to some extent reflect real relationships. Two recently described species from Ethiopia *Megaherpystis subae* Razowski & Trematerra, 2018 and *M. oromiae* Razowski & Trematerra, 2018 (Razowski et al. 2018) deviate in the male genitalia from typical *Megaherpystis* by lacking the uncus or the uncus lobes. It is not known whether the abdominal hair pencils are present in these two species. They are treated as *incertae sedis* at the end of the systematic treatment. Razowski & Wojtusiak (2012) transferred *Phaecasiophora basicornis* Walsingham, 1891 to *Sycacantha* Diakonoff, 1959. However, when several African tortricids were transferred to *Megaherpystis* by Razowski et al. (2018), *S. basicornis* was not. This species was described from Gambia based on a single male (Walsingham 1891). The holotype has not been dissected, but Razowski & Wojtusiak (2012) illustrated the male genitalia of a specimen from Nigeria which they considered conspecific with the type from Gambia. Judging

from the genitalia (Razowski & Wojtusiak 2012, figure 1) the Nigerian male does not belong in *Megaherpystis*.

Ecologically *Megaherpystis* is linked with forest habitats, and also to high altitude. Therefore, the many isolated mountains and mountain ranges in East Africa have led to great diversity within the genus. Very few species are widespread. Specimens from different localities are externally similar, but on closer inspection turn out to be specifically separate. Thus, discovery of additional undescribed species can be expected.

***Megaherpystis nereidopa* species-group**

Species in this group have forewings with pale ground colour and dark pattern, often with a green tinge. Males have hind tibial scale tufts. The socii are less elaborate than in the members of the *M. thalameuta* species-group.



**FIGURE 1.** Posterior part of male abdomen of *Megaherpystis nereidopa* (Meyrick) showing hair pencils.

***Megaherpystis kigogoensis* sp. n.**

(Figures 6, 45, 77)

**Type material.** Holotype ♂, TANZANIA: Iringa Reg., Mufindi Distr., Kigogo Forest, 1900 m, 23–25.XI.2005, leg. L. Aarvik, M. Fibiger, A. Kingston, genitalia slide L. Aarvik 2775 (NHMO).

Paratype ♀, same data as holotype, genitalia slide L. Aarvik 2774 (NHMO).

**Diagnosis.** Externally characteristic by the predominately grey forewing, with light areas along dorsum and in apical third. The male valva is long and slender, lightly arched, with only slight concavity at the neck which is armed with a group of strong spines reaching beyond dorsal margin. The valva of *M. yale* sp. n. is of similar shape, but with more deeply excavated neck and shorter spines. In the female genitalia the deeply emarginated posterior margin of sternum 7 is diagnostic.

**Description.** Male (Figure 6). Head: White, mixed with light brown. Antenna brownish grey, minutely ciliate, scape white. Labial palpus ca. 1.8 times diameter of eye, white, lightly suffused with grey, tip of second segment and third segment dark grey. Thorax: White, laterally dark grey, tegulae white, mixed with brown. Fore- and mid-legs greyish brown, ringed yellowish white; hind-leg with tarsi white, lightly suffused with grey; tibia with scale tuft which externally is greyish brown, internally has a dark grey layer, overlaid by shorter yellowish white scale tuft, resulting in dark ventral edge. Wingspan 18 mm. Forewing ground colour white with some ochreous suffusion; basal two thirds predominately brownish grey, along dorsum dark patches present only at base, at two fifths and three fifths; narrow transverse strigulae in apical third; dark apical spot; cilia white,

**Key to species-groups of *Megaherpystis* Diakonoff, 1969 based on males**

- 1. Abdominal hair pencils present ..... 2
- Abdominal hair pencils absent ..... *M. calliarma* species-group
- 2. Hind tibia with hair pencil ..... 3
- Hind tibia without hair pencil ..... *M. clavifera* species-group
- 3. Socii sub-rectangular, distal edge broad, convex ..... *M. thalameuta* species-group
- Socii shaped otherwise ..... *M. nereidopa* species-group

grey at apex and a patch at lower part of termen. Hindwing light grey.

Genitalia (Figure 45): Uncus lobes laterally rounded, angled proximally, forming u-shaped indentation; socii basally broad, in apical half finger-like; valva only slightly concave ventrally, cucullus evenly rounded, narrowing apically; base of cucullus with group of strong spines reaching beyond dorsal margin, a few short spines along ventral margin of cucullus.

Female. Externally essentially as male. Legs yellowish white, hind tibia lacking scale tuft.

Genitalia (Figure 77). Posterior edge of sternum 7 deeply emarginate, forming a pocket round cup-shaped sterigma; ductus bursae with sclerite and slightly widened in posterior part, coiled and again widened before entering corpus bursae; corpus bursae with two curved signa of slightly dissimilar size.

**Distribution.** Tanzania.

**Etymology.** Named after the locality, Kigogo Forest in Tanzania.

### *Megaherpystis cremastropis* (Meyrick, 1930),

**comb. n.** (Figures 7, 46, 78)

*Eucosma cremastropis* Meyrick, 1930: 599; Clarke 1958: 376, pl. 177, figures 3, 3a, 3b; *Cosmetra podocarpivora* Razowski & Brown, 2012: 10, figures 6, 20, 39; Brown et al. 2014: 258; Razowski 2014: 522, figures 13, 28, **syn. n.**; *Megaherpystis podocarpivora*, Razowski et al. 2018: 96.

**Material examined.** KENYA: Paratypes of *Cosmetra podocarpivora* Razowski & Brown; 1♂ Mt. Kenya Forest, r. f. *Podocarpus latifolius*, 24.I.2002, leg. R.S. Copeland, genitalia slide USNM 124,467 (USNM); 1♀ same data, 0°12.37' S 37°29.84' E, 2448 m., 9.IV.1982 (USNM); 1♀ Itieni Forest 0°14.05' N 37°52.58' E, 2500 m., reared from fruit *Podocarpus latifolius*, 25.V.2004, leg. R.S. Copeland, genitalia slide USNM 124,503 (USNM). KENYA: 1♀ Central Province: Naro Moru, 37M BV 7864 8327, 1950 m., 1–5.XII.2008, leg. L. Aarvik, D. Agassiz & A. Kingston, genitalia slide NHMO 2596 (NHMO); 1♀ 3–6.XI.2013, leg. D. Agassiz, S. Beavan, R. Heckford, K. Larsen & M. Ngugi (KL).

**Distribution.** Kenya and Rep. S. Africa (imported in seeds of *Podocarpus* from South Africa to Uganda).

**Remarks.** Meyrick (1930) described the species from a male and a female from “Kampala, Uganda, bred August from seeds of *Podocarpus* (Coniferae) imported from S. Africa (Hancock)”. The female lectotype was figured by Clarke (1958). Comparison of additional specimens and published figures led to the new synonymy. Externally characteristic by the triangular, black edged light area in the apical part of the forewing. The valva in the male genitalia (Razowski & Brown 2012, figure 20) is of the same general shape as in *M. hackeri* sp. n. (Figure 50), but with much shorter spines at the neck. In the female genitalia (Figure 78) the strongly sclerotized posterior margin of the sterigma is characteristic.

### *Megaherpystis nereidopa* (Meyrick, 1927)

(Figures 1, 2, 8, 4, 79)

*Eucosma nereidopa* Meyrick, 1927: 333; Clarke 1958: 376, pl. 187, figures 1, 1a, 1b; *Eucosma phylloscia* Meyrick, 1937: 158; Clarke 1958: 376, pl. 187, figures 2, 2a, 2b (synonym of *nereidopa*); *Polychrosis hendrickxi* Ghesquière, 1940. (3)7(1): 98.; *Sycacantha nereidopa*, Razowski et al. 2010: 24, figures 37, 81, 107 (*Polychrosis hendrickxi* Ghesquière synonymised); *Cosmetra nereidopa*, Razowski & Brown 2012: 10; Brown et al. 2014: 357; *Megaherpystis nereidopa*, Diakonoff 1989: 435; Razowski et al. 2018: 96.

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO: Holotype of *Polychrosis hendrickxi* Ghesquière; Mulunga 15.VI.[19]38, Hendrickx, Baie de, caffer, Séchée (RMCA).

DEMOCRATIC REPUBLIC OF CONGO: 1♂ Nioka, 13.XI.1956, leg. De Wit (Decelle), *Coffea arabica*, genital prep. 98059 L. Aarvik; 1♀, same data (RMCA). KENYA: 1♀ Njukiini Forest 0°31.07' S 37°25.27' E, 1475 m., r.f. *Coffea eugenioides*, 5.XII.2001, leg. R.S. Copeland, ICIPE/USAID, genitalia slide USNM 128,816 (USNM); 1♀ Mount Elgon, 1°02.112' N 34°49.243', 2029 m., r.f. *Coffea arabica*, 29.I.2003, leg. R.S. Copeland, ICIPE/USAID (USNM); 1♂ Kakamega Forest ca. 0°13.14' N 34°53.76' E, r.f. fruit *Coffea eugenioides*, 23.XI.1999, leg. R.S. Copeland, ICIPE/USAID, genitalia slide USNM 128,815 (USNM); 1♂, same data, 9.XII.1999; 1♂, same data, genitalia slide USNM 124,432, USNM ENT 00676775; 2♂♂, same data, 15.XII.1999, genitalia slide L. Aarvik 2014.002 and 2014.004, USNM ENT 00676778; 1♀, same data, genitalia

slide USNM 124,431, USNM ENT 00676779 (USNM); 1♂, Kapretwa, Kitale, r.f. coffee beans, 13.III.1950, leg. T.H.E. Jackson, genitalia slide USNM 124,447; 1♀, same data, genitalia slide USNM 124,446 (USNM); 2♂♂, Rift Valley Province, Mount Elgon, Trans-Nzoia District, II–III.1950, leg. T.H.E. Jackson, genitalia slide L. Aarvik 2014.003; 5 specimens of unknown sex, with same data (USNM).

**Distribution.** Kenya, Uganda (Meyrick 1937) and DR Congo. Recorded as a pest on coffee in much of Africa, references in Brown et al. (2014).

**Remarks.** The types of the three nominal species involved were figured by Clarke (1958) and Razowski et al. (2010). Externally similar to other light, greenish congeners as *M. browni* sp. n. and *M. uhuru* sp. n. *M. nereidopa* tends to have more numerous small dark marks in the forewing (unfortunately the figured specimen is partly rubbed along dorsum). Males of *M. nereidopa* can be separated from the other species by its unicolorous cream-coloured tibial scale tuft (Figure 2). The male genitalia (Figure 47) resemble those of *M. browni* sp. n., *M. uhuru* sp. n. and *M. hackeri* sp. n., but differs by the relatively large and round uncus lobes. In the female the posterior margin of sternum 7 has a u-shaped emargination (Figure 79); ductus bursae is not coiled before entering the corpus bursae. The female genitalia of the three species *M. nereidopa*, *M. browni* sp. n. and *M. uhuru* sp. n. are not clearly separable.

***Megaherpystis browni* sp. n.** (Figures 3, 9, 48, 80)  
*Cosmetra* sp. 2, Brown et al. 2014: 358.

**Type material.** Holotype ♂, KENYA: Taita Hills, Mwacha indig. forest, 11.III.1999, leg. U. Dall'Asta, genitalia slide NHMO 3366 (NHMO). Paratypes, 2♂♂, KENYA: Taita Hills, Yale indig. Forest, 7.VIII.1999, leg. U. Dall'Asta, genitalia slide NHMO 3367 (NHMO); 1♀, Taita Hills, Mwachora Hill, 13.VII.1998, leg. U. Dall'Asta, genitalia slide NHMO 3368 (NHMO); 1♀, Taita Hills, Ngangao For. & Plant., 6.VII.1998, leg. U. Dall'Asta, (RMCA); 1♂, Taita Hills, Mbololo Forest Edge, 26.VI.1998, U. Dall'Asta, genitalia slide L. Aarvik 2011.011 (RMCA); 1♂, Coast Prov.: Taita Hills, Chawia forest, Chiesa 248, -3.47962, 38.34168, 1508 m., ex fruits *Vangueria*

*volkensii*, 9.VII.2012, leg. R. Copeland, genitalia slide USNM 143,427, USNM ENT 00808631 (USNM).

Not included in the type series: KENYA: 3♂♂, 3♀♀, E. Africa, Kikuyu Ibea, Escarpment 7500–8500 ft., IX–X.1900, leg. Doherty, genitalia slides BMNH ♂ 32557, ♀ 32558, ♂ 32560 (BMNH).

**Diagnosis.** One of several species having forewings with dark pattern on whitish background. It cannot be separated with certainty from *M. nereidopa* and *M. uhuru* sp. n. based on the forewing pattern, but it tends to be more greenish than *M. uhuru* sp. n. (*M. uhuru* sp. n. slightly more yellowish) and the pattern stands out more clearly than in *M. nereidopa* (the light background is less “clean” in *M. nereidopa*). Males can be separated from these two species by the darker brush of the hind tibia (Figure 3). *Megaherpystis berggreni* sp. n. from the same area differs by the contrasting black and white forewing without greenish or yellowish tinge. The male genitalia differ from those of *M. nereidopa* by smaller uncus lobes and shorter cucullus of the valva. They differ from those of *M. uhuru* sp. n. by the shorter and less rounded cucullus. In the female genitalia the ductus bursae has a coil before entering corpus bursae, and this is lacking in *M. nereidopa* and *M. uhuru* sp. n. However, this character can be affected during preparation of the slide.

**Description.** Male (Figure 9). Head: White. Antenna dark grey, serrate, scape white. Labial palpus ca. 2 times diameter of eye, white, suffused with grey and brown, third segment dark grey, with white tip. Thorax: White in middle, tegulae olive green. Fore- and mid-legs greyish brown, ringed yellowish white; hind-leg with tarsi light yellowish grey, ringed with brown; tibia with scale tuft which externally has light greyish scales overlying dark brown and fuscous scales, internally (Figure 3) the tuft is basally whitish, becoming brown in the middle with some white tipped scales, apically mixed with blackish and whitish scales.

Wingspan 14–16 mm. Forewing ground colour white with pale grey and pale olive suffusion; fasciae black, particularly in dorsal half partly filled with dark olive green; median fascia divided

in middle, basal and sub-basal fasciae connected in costal half; costal and terminal dots black, distinct; cilia olive, darker at middle of termen. Hindwing light grey.

Genitalia (Figure 48): Uncus lobes laterally angled, separated by small indentation; socii broad also in apical part; cucullus relatively short, broad and only slightly rounded apically; base of cucullus with group of strong spines just reaching beyond dorsal edge, a few short spines along ventral margin of cucullus.

Female. Externally essentially as male. Hind tibia lacking scale tuft.

Genitalia (Figure 80). Posterior edge of sternum 7 with broad u-shaped emargination; lamella postvaginalis strongly sclerotized, with lateral quadrangular sclerites; ductus bursae with sclerite in posterior part, membranous in anterior part, coiled and widened before entering corpus bursae; corpus bursae with two curved signa.

**Distribution.** Kenya. The type specimens are all from the Taita Hills, which form the northern end of the Eastern Arc mountain range.

**Biology.** Specimens were collected in forest. One paratype (coll. USNM) was bred from fruits of *Vangueria volkensii* Schum. (Rubiaceae) (Brown et al. 2014).

**Etymology.** Named after John Brown, Washington D.C., who made available one paratype and also numerous other species which are treated in the present work.

**Remarks.** The specimen bred from *Vangueria* was barcoded and has a barcode divergence of about 5% from the cluster of *M. nereidopa* (Brown et al. 2014).

### *Megaherpystis uhuru* sp. n.

(Figures 4, 10, 49, 81)

**Type material.** Holotype ♂, KENYA: Central Province: Mt. Kenya southern slope, Castle Forest Lodge, [UTM:] 37M CV 1188 5789, 2070 m., 5–7. XII.2008, leg. L. Aarvik & D. Agassiz, genitalia slide L. Aarvik 2864 (NHMO).

Paratypes, 1♀, locality as holotype, 5–7. XII.2010, genitalia slide NHMO 2389 (NHMO); 1♂, locality as holotype, 6. XII.2008 (DA); 1♀, locality as holotype, 20. XI.2009 (DA); 1♀,

locality as holotype, 5. XII.2010 (DA); 9♂♂ 9♀♀, locality as holotype, 22–29. X.2013, leg. D. Agassiz, S. Beavan, R. Heckford & K. Larsen, genitalia slide ♂ L. Aarvik 2018.008 (KL); 1♂, Rift Valley Prov., Turi, 8000 ft., 1. III.1999, leg. D.J.L. Agassiz, genitalia slide L. Aarvik 2018.009 (DA); 1♂, KENYA: Rift Valley Province: Gilgil [UTM:] 37M BV 0668 4636, 2110 m., 22–24. XI.2008, leg. L. Aarvik, D. Agassiz, A. Kingston, genitalia slide L. Aarvik 2834 (NHMO).

**Diagnosis.** Forewing pattern nearly identical to that of *M. browni* sp. n. However, it has a less greenish ground colour, having a more yellowish tinge. From *M. nereidopa* it differs also by less green ground colour. Males are separable by the brush of the hind tibia which has the internal surface overlaid with one layer of light hair-scales that conceals most of an inner layer of blackish brown scales. This gives an impression of a mainly light brush, with dark edge (Figure 4). Differences in the genitalia between *M. uhuru* sp. n. and *M. browni* sp. n. are explained under the diagnosis of the latter.

**Description.** Male (Figure 10). Head: White, scales on vertex basally brownish grey. Antenna dark grey, serrate, scape cream-coloured. Labial palpus ca. 2 times diameter of eye, white, suffused with grey and brown. Thorax: White with yellowish tinge in middle, darker in front and on sides, tegulae anteriorly brownish. Foreleg grey, ringed yellowish white; mid-leg greyish yellow, ringed with brown; hind-leg with tarsi light yellowish grey, ringed with brown; tibia with scale tuft which externally has light greyish scales overlying dark brown and fuscous scales; internally overlaid with one layer of light hair-scales that conceals most of an inner layer of blackish brown scales, giving an impression of a light brush, with dark edge (Figure 4). Wingspan 14–16 mm.

Forewing ground colour white with pale olive-ochreous suffusion; fasciae black, particularly in dorsal half partly filled with olive-brown; median fascia divided in middle, basal and sub-basal fasciae connected in costal half; costal and terminal dots black, distinct; cilia cream, darker at middle of termen and black at apex. Hindwing light grey.

Genitalia (Figure 49): Uncus lobes small, hardly separated; socii broad, almost triangular; cucullus relatively long, curved, evenly rounded apically; base of cucullus with group of strong spines reaching dorsal edge, a few short spines along ventral margin of cucullus.

Female. Externally essentially as male. Wingspan 14–18 mm. Hind tibia lacking scale tuft.

Genitalia (Figure 81). Posterior margin of sternum 7 with broad u-shaped emargination; lamella postvaginalis strongly sclerotized, with lateral quadrangular sclerites; ductus bursae with sclerite in posterior part, membranous in anterior part, only slightly widened before entering corpus bursae; corpus bursae with two curved signa.

**Distribution.** Kenya. Apart from one paratype from Gilgil, all type specimens come from Mt. Kenya.

**Biology.** Specimens were collected in forest at ca. 2000–2100 m. altitude.

**Etymology.** The word 'uhuru' in Swahili means independence, and is linked with the huge mountain, Mt. Kenya, which is a symbol of the independent nation Kenya.

*Megaherpystis hackeri* sp. n. (Figures 11, 50, 82)

**Type material.** Holotype ♂, TANZANIA: Iringa Reg., Mufindi Distr., Kigogo Forest 1900 m., 23–25.XI.2005, leg. L. Aarvik, M. Fibiger, A. Kingston, genitalia slide NHMO 3264 (NHMO).

Paratypes, 1♂, same data as holotype; 2♂♂, 1♀, locality as holotype, 26–28.XI.2004, leg. K. Larsen & T. Zandersen, genitalia slide ♂ L. Aarvik 2017.055, ♀ 2017.054 (KL).

**Diagnosis.** Forewing with dark pattern more blackish and distinct than in relatives. The black termen line is distinct in the middle. The male genitalia resemble those of *M. uhuru* sp. n., but differ by slightly shorter valva and larger uncus lobes. The female genitalia are very similar to those of *M. nereidopa* (Meyrick), *M. browni* sp. n. and *M. uhuru* sp. n., but has a shallower concavity of the posterior edge of sternum 7.

**Description.** Male (Figure 11). Head: White, tinged light ochreous. Antenna dark grey, serrate, scape white. Labial palpus ca. 2 times diameter

of eye, dark grey, second segment internally and above white, third segment with white tip. Thorax: White, tinged ochreous in middle; tegulae black in front, otherwise grey. Foreleg dark grey, ringed white; mid-leg ringed greyish brown and yellowish white; hind-leg with tarsi light yellowish grey; tibia with scale tuft which externally has yellowish white scales, partly overlying light grey scales; internally with one layer of light hair-scales that conceals most of an inner layer of grey scales. Wingspan 15–17 mm.

Forewing ground colour white with pale olive-ochreous suffusion; fasciae black, particularly in dorsal half partly filled with olive-brown; median fascia divided at two thirds from costa, basal and sub-basal fasciae connected in costal half; costal dots and terminal line black, distinct; cilia cream, darker at middle of termen and black at apex. Hindwing light grey.

Genitalia (Figure 50): Uncus lobes relatively large, forming incision; socii broad, apically with rounded projection; cucullus slightly curved, evenly rounded apically; base of cucullus with group of strong spines reaching dorsal edge, a single strong, but relatively short anal spine present, as well as a few rather indistinct spines along ventral margin of cucullus.

Female. Externally essentially as male. Hind tibia lacking scale tuft.

Genitalia (Figure 82). Posterior margin of sternum 7 with broad, relatively shallow emargination; lamella postvaginalis strongly sclerotized, with lateral quadrangular sclerites; ductus bursae with sclerite in posterior part, membranous in anterior part, widened and coiled before entering corpus bursae; corpus bursae with two curved signa.

**Distribution.** Tanzania, in the highlands of Iringa Region.

**Biology.** Specimens were collected in forest at ca. 1900 m. altitude.

**Etymology.** Named after Hermann Hacker, Bad Staffelstein, Germany, who has contributed enormously to the knowledge of African moths.

*Megaherpystis gielisi* sp. n. (Figures 12, 51)

**Type material.** Holotype ♂, KENYA: Mount Kenya, Chorogia, 1800 m., 00°14'S 37°35' E,



13–14.IV.2001, leg. U. Dall'Asta, genitalia slide NHMO 3369 (NHMO).

Paratypes, 2♂♂, same data as holotype, leg. J. & W. De Prins (NHMO); 1♂, Central P[rovince], Castle Forest Lodge, 6 km N. Kimunye, 0°22'43.53"S 37°18'32.29"E, 2075 m., 22–29.X.2013, leg. D. Agassiz, S. Beavan, R. Heckford & K. Larsen, genitalia slide L. Aarvik 2017.022 (KL).

**Diagnosis.** Differs from other species in the *Megahepystis nereidopa*-group by having the lighter parts of the forewing more heavily suffused with green. In the male genitalia the very long ventral spine is characteristic. *Megahepystis yale* sp. n. also has a long ventral spine, but has narrower socii and shorter cucullus than *M. gielisi* sp. n.

**Description.** Male (Figure 12). Head: Off white. Antenna dark grey, serrate, scape white. Labial palpus ca. 2 times diameter of eye, second segment whitish ochreous, above white, third segment off white with a few dark scales basally. Thorax: White, ochreous along edges and with pair of posterior black spots; tegulae black in front, otherwise ochreous. Foreleg dark brownish grey, tarsi ringed white; mid-leg brownish grey, with light rings; hind-leg pale yellowish white; tibial tuft yellowish white scales, with long light scales nearly concealing the shorter basal grey scales. Wingspan 17–18 mm.

Forewing ground colour white, heavily suffused with green; median fascia divided at two thirds from costa, basal and sub-basal fasciae connected in costal half; a light brownish grey patch present in apical/terminal part of wing; costal dots and terminal line distinct; cilia cream, light grey at middle of termen and black at apex and tornus. Hindwing grey.

Genitalia (Figure 51): Uncus lobes narrow, forming deep incision; socii broad, tapered, basally with small process; cucullus parallel-sided in basal half, outer margin rounded in apical half; base of cucullus with group of strong spines exceeding dorsal margin, ventral spine very long.

Female. Not known.

**Distribution.** Kenya, where it has been found on Mt. Kenya in the central part of the country.

**Biology.** Specimens were collected in forest at ca. 1800–2100 m. altitude.

**Etymology.** Named after Cees Gielis, Lexmond, the Netherlands, in recognition of his contribution to the knowledge of African moths of the family Pterophoridae.

*Megahepystis yale* sp. n. (Figures 5, 13, 52)

**Type material.** Holotype ♂, KENYA: Taita Hills, Yale indig. Forest, 14.III.1999, leg. U. Dall'Asta, genitalia slide NHMO 3356 (NHMO). Paratypes, 2♂♂, same data as holotype (NHMO).

**Diagnosis.** Differs from relatives by smaller size and the presence of a large dark blotch in the middle of the forewing. The male genitalia are distinct by the short valva and the extremely long ventral spine.

**Description.** Male (Figure 13). Head: White. Antenna brownish grey, serrate, scape white. Labial palpus ca. 1.5 times diameter of eye, white, second segment with external light brown-grey suffusion except along terminal edge. Thorax: White, brown along edges which posteriorly become black spots; tegulae white, with ochreous tinge, black in front. Foreleg brownish grey, tarsi ringed white; mid-leg light yellowish brown, tarsus yellowish, first tarsal segment with dark suffusion; hind-leg pale yellowish white; hind tibia externally light brown, flecked with white, tibial tuft dorsally light grey, ventrally darker, brownish grey, tarsus yellowish white (Figure 5). Wingspan 12–13 mm.

Forewing ground colour white, suffused with light green; median fascia forming large costal blotch reaching nearly to costa, basal and sub-basal fasciae connected in costal half; terminal line present in middle of termen; cilia white, light grey in middle of termen. Hindwing grey.

Genitalia (Figure 52): Uncus lobes narrow, forming deep incision; socii relatively narrow, tapered; ventral margin of valva only shallowly concave, cucullus short, with group of strong spines exceeding dorsal margin, ventral spine extremely long.

Female. Not known.

**Distribution.** Kenya, where it has been found in the Taita Hills which form the northern extension of the Eastern Arc mountain range system.

**Biology.** Specimens were collected in forest.

**Etymology.** Named after the name of the locality

***Megahepystis bengtssoni* sp. n.**

(Figures 14, 53, 83)

**Type material.** Holotype ♂, KENYA: 7 km N Castle Forest Lodge, 6 km N. Kimunye, 0°19'42.74"S 37°18'57.47"E, 2440 m., 28.X.2013, leg. D. Agassiz & K. Larsen, genitalia slide L. Aarvik 2017.018 (KL).

Paratypes, 1♀, same data as holotype, genitalia slide L. Aarvik 2017.020 (KL); 1♂, 3♀♀, Castle Forest Lodge, 6 km N. Kimunye, 0°22'43.53"S 37°18'32.29"E, 2075 m., 22–29.X.2013, leg. D. Agassiz, S. Beavan, R. Heckford & K. Larsen, genitalia slide L. Aarvik ♀ 2017.019 (KL); 1♀, Aberdares Nat. Park, Ruhuruini Gate, 0°23'S 36°49'E, 2334 m., 2.IV.2000, leg. U. Dall'Asta, genitalia slide NHMO 3210 (NHMO); 1♀, Aberdares Nat. Park, Ruhuruini Gate, 0°23'S 36°52'E, 2126 m., 4.IV.2000, leg. U. Dall'Asta (NHMO); 1♀, Gatamaiyu Forest, 0°58'S 36°41'E, 2280 m., 4.IV.2003, leg. J. & W. De Prins (NHMO).

**Diagnosis.** Externally unmistakable by the unique forewing pattern containing a large, median costal blotch united with broad, oblique band from termen to dorsum. In the male genitalia the long neck of the valva and the strong anal spine on a large socket are diagnostic. In the female genitalia the strongly wrinkled and folded sternum 7 is characteristic.

**Description.** Male (Figure 14). Head: White, lightly tinged with pale brown. Antenna dark grey, serrate, scape white. Labial palpus ca. 2 times diameter of eye, white, second segment with external light brown-grey suffusion except along terminal edge. Thorax: White, blackish laterally, tegulae black. Foreleg dark grey, tarsus with two narrow, light rings; mid-leg femur light yellowish brown, tibia grey with light ring; tarsus light yellowish brown with grey rings; hind leg white, tibial tuft made up by pale brown scales with white tips. Wingspan 15–18 mm.

Forewing ground colour white, with slight ochreous suffusion; fasciae black; median fascia forming costal blotch united with broad, oblique band from termen to dorsum; basal and sub-basal

fasciae connected in costal half; terminal line interrupted below apex and at tornus; cilia white, darker at middle of termen and black at apex. Hindwing grey.

Genitalia (Figure 53): Uncus lobes small, forming v-shaped incision; socii relatively narrow, terminating in two short processes; neck of valva long, ventral margin nearly straight, with group of strong spines exceeding dorsal edge, cucullus short, with strong ventral spine on large socket, a few short spines along ventral margin of cucullus.

Female. Externally essentially as male. Hind tibia lacking scale tuft.

Genitalia (Figure 83). Posterior margin of sternum 7 strongly sclerotized, with u-shaped emargination, the posterior margin continues anteriorly as strongly sclerotized fold, dividing the sternum into a broad central part and two lateral sections, two oblique folds from ostium towards anterior margin, numerous small, irregular wrinkles in middle of sternite; lamella postvaginalis strongly sclerotized, with posterior u-shaped concavity; ductus bursae sclerotized in posterior half, coiled before entering corpus bursae; corpus bursae with two curved signa.

**Distribution.** Kenya, on Mt. Kenya and in the Aberdare Mts.

**Biology.** Specimens were collected in forest at 2070–2440 m. altitude.

**Etymology.** Named after Bengt Åke Bengtsson, Färjestaden, Sweden, in recognition of his contribution to the knowledge of African moths of the family Scythrididae; his work culminating in an impressive monograph of the family.

***Megahepystis berggrenii* sp. n.**

(Figures 15, 54, 84)

**Type material.** Holotype ♂, KENYA: Central Province: Mt. Kenya southern slope, Castle Forest Lodge, [UTM:] 37M CV 1188 5789, 2070 m., 5–7. XII.2008, leg. L. Aarvik & D. Agassiz, genitalia slide NHMO 2595 (NHMO).

Paratypes, 2♀♀, locality as holotype, 22–29.X.2013, leg. D. Agassiz, S. Beavan, R. Heckford & K. Larsen, genitalia slide L. Aarvik ♀ 2017.022 (KL).

**Diagnosis.** Forewing with black pattern contrasting with nearly pure white ground colour,

thus resembling *M. hackeri* sp. n. The latter has a more developed black terminal line. The plain cream coloured hind tibial tuft in the male is different from that of *M. hackeri* sp. n. In the male genitalia the long and slender valva is particularly characteristic. *Megahepystis thalameuta* (Meyrick) has a similar valva, but the socii and the uncus are totally different. In the female genitalia the structures surrounding the ostium are unique by the broadly sclerotized lateral parts and the dentate posterior margin.

**Description.** Male (Figure 15). Head: White scales on vertex basally pale ochreous. Antenna brownish grey, serrate, scape white. Labial palpus 1,8 times diameter of eye, second segment basally light brownish grey, darker in middle, terminally and on inner side white; third segment externally brownish grey, on inner side white. Thorax white, laterally with paired brownish black spots posteriorly and anteriorly; tegulae white, anteriorly black. Foreleg brownish grey, tarsus with light rings; mid-leg brownish grey, tibia and tarsus with light rings; hind leg with tibial tuft cream-coloured, tarsi with weak indication of dark rings.

Wingspan 14 mm. Forewing ground colour white with slight ochreous suffusion; fasciae black; median fascia divided at two thirds from costa; basal and sub-basal fasciae connected in costal half; some black marks present in apical/terminal area; cilia white, darker at middle of termen and black at apex. Hindwing grey.

Genitalia (Figure 54): Uncus lobes large, broad, forming tiny v-shaped incision; socii broad, external margin rounded, apically beak-shaped; valva long, ventral margin concave, with group of short spines, cucullus long, nearly parallel-sided, a few short spines along ventral margin of cucullus.

Female. Wingspan 17–18 mm. Otherwise essentially as male. Hind tibia lacking scale tuft.

Genitalia (Figure 84). Posterior margin of sternum 7 concave; ostium oval, sclerotized lateral margins broad, posterior margin – lamella postvaginalis – dentate, strongly sclerotized as well; ductus bursae with sclerite in posterior part, membranous in anterior part, widened and coiled before entering corpus bursae; corpus bursae with two curved signa.

**Distribution.** Only known from Mt. Kenya in central Kenya.

**Biology.** Specimens were collected in forest at 2070 m. altitude.

**Etymology.** Named after Kai Berggren, Kristiansand, Norway, a friend for many years who has contributed immensely to the knowledge of Norwegian Lepidoptera.

***Megahepystis nussi* sp. n.** (Figures 16, 55, 85)

**Type material.** Holotype ♂, MALAWI: Mulanje Mts., Chambe Hut, 1860 m., *Widdringtonia* forest, L[icht] F[ang], 20.X.1996, leg. W. Mey & M. Nuss, genitalia slide L. Aarvik 2010.012 (MFNB).

Paratypes, 4♂♂3♀♀, same data as holotype, genitalia slide ♀ L. Aarvik 2014.010 (MFNB).

**Diagnosis.** A typical member of the *Megahepystis nereidopa* species-group, and hardly separable externally from *M. uhuru* sp. n., *M. browni* sp. n. and *M. endrestoli* sp. n. The male differs from *M. nereidopa* by the partly dark tuft of the hind tibia. The male genitalia resemble those of *M. endrestoli* sp. n. most closely, but differ by the less constricted neck of the valva and longer cucullus; the socii are also distinctly different in the two species. The female genitalia differ strongly from other *Megahepystis* species by the broad triangular-shaped sterigma and the broad H-shaped sclerite posteriorly on sternum 7.

**Description.** Male (Figure 16). Head: Dirty white. Antenna brownish grey, serrate, scape white. Labial palpus 2 times diameter of eye, second segment grey, darker sub-terminally, terminally and on inner side white; third segment black, with white tip. Thorax white, edged with darker scales, tegulae anteriorly dark grey, posteriorly becoming whitish. Foreleg brownish grey, tarsus with light rings; mid-leg light yellowish brown, tibia with two broad dark rings, and tarsus with narrow dark rings; hind leg light yellowish brown, tibial tuft with external layer cream-coloured, internal layer brownish grey, tarsi with weak indication of dark rings.

Wingspan 15–16 mm. Forewing ground colour white with light olive-green suffusion; fasciae black, with patches of brownish grey; median fascia divided in middle, the two parts connected

with narrow “bridge”; basal and sub-basal fasciae connected in costal half; cilia white, light grey at middle of termen and black at apex. Hindwing grey.

Genitalia (Figure 55): Uncus lobes forming small u-shaped incision; socii basally broad, narrowing into slightly beak-shaped termination, external margin rounded, apically beak-shaped; valva long, ventral margin concave, neck long, base of cucullus ventrally with strong spines, cucullus rounded, a few short spines present along ventral margin.

Female. Externally essentially as male. Hind tibia lacking scale tuft.

Genitalia (Figure 85). Posterior margin of sternum 7 strongly sclerotized, with broad, curved emargination, sternite with broad H-shaped sclerite, the two anterior arms of the H, extended laterally with pointed termination; sterigma with large sub-triangular lateral parts; ductus bursae with sclerite in posterior part, membranous in anterior part, widened before entering corpus bursae; corpus bursae with two curved signa.

**Distribution.** Only known from Mt. Mulanje in southern Malawi.

**Biology.** Specimens were collected in forest at 1860 m. altitude.

**Etymology.** Named after Matthias Nuss, Dresden, Germany, who is one of the collectors of this new species.

#### *Megahepystis endrestoli* sp. n. (Figures 17, 56)

**Type material.** Holotype ♂, ETHIOPIA: Oromia Reg., Bale Mts. Nat. Park, Darwin Camp, 6°42.543'N 39°43.267'E, 2370 m., 9.X.2007, leg. O.J. Lønne & A. Endrestøl, genitalia slide NHMO 2594 (NHMO).

**Diagnosis.** Externally similar to other species of the *Megahepystis nereidopa* species-group, in particular *M. nussi* sp. n. The dark suffusion in the terminal part of the forewing appears to be heavier in *M. endrestoli* sp. n. than in the latter. The male genitalia differ from those of *M. nussi* sp. n. by e.g. the narrower neck and shorter cucullus of the valva. Differences from *M. agmatophora* Diakonoff, 1989 from the Comore Isl. and *M. eusema* Diakonoff, 1969 from the Seychelles Isl. are discussed under their respective treatments.

**Description.** Male (Figure 17). Head: Dirty white. Antenna brownish grey, serrate, scape white. Labial palpus 2 times diameter of eye, second segment grey, darker sub-terminally, terminally and on inner side white; third segment black, tip and inner side white. Thorax white, with some greyish suffusion, tegulae anteriorly dark grey, posteriorly becoming whitish. Foreleg brownish grey, tarsus with light rings; mid-leg light yellowish brown, tibia with two broad dark rings, and tarsus with one broad and one narrow dark ring; hind leg light yellowish brown, tibial tuft with external layer cream-coloured, internal layer brownish grey, tarsi with weak indication of dark rings.

Wingspan 14 mm. Forewing ground colour white with olive-green suffusion; fasciae brownish grey, with patches of blackish and olive, edges black; median fascia divided in middle, the two parts connected with narrow “bridge”; basal and sub-basal fasciae connected in costal half; patch of grey-brown suffusion in apical/terminal part of wing cilia white, light grey at middle of termen and black at apex. Hindwing grey.

Genitalia (Figure 56): Uncus lobes forming small u-shaped incision; socii broad, terminally forming pointed process, inner edge with triangular process; valva long, ventral margin of sacculus with long spines, neck long, gradually narrowing before cucullus, base of cucullus ventrally with strong spines, cucullus short, rather parallel-sided, rounded, a few strong spines present along ventral margin.

Female. Not known.

**Distribution.** Ethiopia.

**Etymology.** Named after Anders Endrestøl, Oslo, Norway, who is one of the two collectors of the new species.

#### *Megahepystis agmatophora* Diakonoff, 1989

*Megahepystis agmatophora* Diakonoff, 1989: 435, figures 8, 17, 35.

**Remarks.** This species was described after a single male from the Grande Comore Island. The presence of a hind tibial scale tuft and the characters of the male genitalia (Diakonoff 1989, figures 8, 17) show that it belongs in the *Megahepystis nereidopa* species-group. The

genitalia resemble closely those of *M. endrestoli* sp. n., differing by longer and straighter sacculus and broader cucullus. The external appearance is typical for this group; forewing with blackish pattern on a white background (Diakonoff 1989, figure 35).

### ***Megaherpystis eusema* Diakonoff, 1969**

*Megaherpystis eusema* Diakonoff, 1969: 97, figure 1, pl. 12, figure 40.

**Remarks.** This is the type species of *Megaherpystis* described from a single male from the Seychelles Island. It also has a tibial scale tuft, and the male genitalia (Diakonoff 1969, pl. 12, figure 40) place it in the proximity of *M. endrestoli* sp. n., *M. nussi* sp. n. and *M. agmatophora* Diakonoff. It has a long and narrow sacculus and short cucullus ventrally edged with spines. The spines appear to be more numerous than in the above mentioned species. According to the description it has a forewing maculation resembling the other species in this group; it also possesses a tibial tuft.

### ***Megaherpystis thalameuta* species-group**

As in the *Megaherpystis nereidopa* species-group the two species placed here have males with hind tibial scale tufts. They differ in the male genitalia by the large and elaborate socii.

### ***Megaherpystis thalameuta* (Meyrick, 1918), comb. n.**

(Figures 18, 19, 57, 86)

*Eucosma thalameuta* Meyrick, 1918: 49; Razowski & Krüger 2007: 129, figures 115, 238; *Cosmetra thalameuta*, Razowski & Trematerra 2012: 39, figures 8, 19; *Cosmetra* sp. 3, Brown et al. 2014: 358.

**Material examined.** REP. SOUTH AFRICA: Natal, Durban, 1♂ 1903, 1♀ 1904, genitalia slide BMNH ♂ 32553, ♀ 32554 (NHMUK); KENYA: 2♂♂1♀ Chyulu bred *Cussonia*, VII.1938, leg. van Son, genitalia slide USNM ♂ 143,422 (USNM); 2♀♀ Coast Prov.: Taita Hills, Mbololo forest, Chiesa 308, -3.33332, 38.44754, 1656 m., ex fruits *Drypetes gerardii*, 11.X.2012, leg. R. Copeland (USNM); 1 ex (abdomen and hindwings missing), same locality, Chiesa 307 -3.33125, 38.44849, 1681 m., ex fruits *Vepris fadenii*, 11.X.2012, leg.

R. Copeland (USNM); 1♀ Rift Valley Province: Gilgil, 37M BV 0688 4636, 2110 m., 27.XI.2010, leg. L. Aarvik & T. Gilligan (NHMO); 3♂♂ Central Province: Naro Moru, 37M BV 7864 8327, 1950 m., 1–5.XII.2008, leg. L. Aarvik, D. Agassiz, A. Kingston, genitalia slide L. Aarvik 2869 (NHMO); 7♂♂ 3–6.XI.2013, leg. D. Agassiz, S. Beavan, R. Heckford, K. Larsen & M. Ngugi (KL); RWANDA: 1♂ Nyungwe NP, 11 km N Uwinka 2°25'S 29°09'E, 1800 m., 3.VIII.2008, leg. J. & W. De Prins, genitalia slide L. Aarvik 2015.020 (RMCA); TANZANIA: 1♀ Tanga Reg., Lushoto Distr.: Mazumbai Forest Reserve, 30.XI. –7.XII.1995, leg. Frontier, genitalia slide L. Aarvik 2013.040 (ZMUC); 1♂ 18–19.I.1985, 1♂2♀♀ 7–8.II.1985, leg. L. Peregovits (KL); 2♂♂, 10♀♀ Iringa: Kigogo Forest 18 km S. Kibau, 1880 m., 26–28.XI.2004, leg. K. Larsen & T. Zandersen (KL); UGANDA: 1♂ Kabale Distr.: Ruhija, 2330 m., 01°03,088' S 29°46,073' E, 4–7. XI.2007, leg. L. Aarvik & M. Fibiger, genitalia slide NHMO 2591 (NHMO);

**Biology.** Specimens were collected in forest. In Kenya bred from fruits of *Drypetes gerardii* (Putranjivaceae), *Vepris fadenii* (Rutaceae) (Brown et al. 2014) and *Cussonia* (Araliaceae).

**Distribution.** Rep. South Africa, Kenya, Tanzania and Uganda.

**Remarks.** The holotype from Eastern Cape, S. Africa was figured by Razowski & Krüger (2007). The species is externally characteristic by dark head and thorax, and light forewing with median fascia reduced to an oblique and narrow blackish band from costa to middle of wing (Figures 18, 19). The male hind tibia possesses a pale beige scale pencil. The male genitalia (Figure 57) have a narrow valva, large and elaborate socii, and thin, curved uncus lobes. They differ strongly from other representatives of the genus. The female genitalia (Figure 86) have a uniquely shaped sterigma with two paired posteriorly directed processes; the proximal pair being short and pointed.

### ***Megaherpystis taitana* (Razowski & Brown, 2012) (Figures 20, 58, 87)**

*Cosmetra taitana* Razowski & Brown, 2012: 11, figures 7, 21; *Megaherpystis taitana*, Razowski et al. 2018: 96.

**Material examined.** KENYA: 3♂♂2♀♀

Coast Prov. Taita Hills. Ngangao forest CHIESA no. 121, -3.35330. 38.33761, 1830 m., ex fruits *Plectranthus* ? sp., 2.III.2012, leg. R. Copeland, genitalia slides L. Aarvik ♂ 2014.005, ♀ 2014.006 (USNM); 1♂1♀, same locality, CHIESA no. 265, -3.37112. 38.34035, 1801 m., ex fruits *Crossandra tridentata*, 11.VII.2012, leg. R. Copeland, genitalia slide USNM ♀ 143,458 (USNM); 2♂♂ Coast Prov. Taita Hills. Sagala forest CHIESA no. 193, -3.50755. 38.59417, 1499 m., ex fruits *Justicia* ? sp., 12.VI.2012, leg. R. Copeland, genitalia slide USNM 142,910 (USNM); 1♂ Coast Prov. Taita Hills. Mbololo forest CHIESA no. 289, -3.32475. 38.45222, 1725 m., ex fruits *Crossandra tridentata*, 24.VIII.2012, leg. R. Copeland, genitalia slide USNM 143,429 (USNM).

**Biology.** Specimens were bred from fruits. Confirmed host plants are *Crossandra tridentata* and *Acanthopale pubescens* (both Acanthaceae) (Brown et al. 2014).

**Distribution.** Taita Hills, Kenya.

**Remarks.** *Megahepystis taitana* is a rather small species, wingspan ca. 12 mm. It differs from *M. thalameuta* as well as the members of the *Megahepystis nereidopa* and *M. calliarma* species-groups, by lacking whitish forewing ground colour. From the *M. clavifera* species-group it differs by the greenish tinged forewing and by the presence in males of a hind tibial tuft containing long white scales.

### *Megahepystis clavifera* species-group

Species in this group have dark forewings, usually with indistinct pattern. The male hind tibia lacks scale pencil.

### *Megahepystis clavifera* (Meyrick, 1920),

**comb. n.** (Figures 21, 59, 88)

*Argyroploce clavifera* Meyrick, 1920: 65.

**Material examined.** Lectotype ♂ of *Argyroploce clavifera* Meyrick; [KENYA] TYPE \Afrique orient. anglaise, Voi, Alluaud & Jeannel, Mars 1911 - 600 m - St. 60 \Argyroploce clavifera Meyr., type \LECTOTYPE *Argyroploce clavifera* Meyrick (male), Genital prep. 99023 L. Aarvik (MNHN). 1♀, KENYA: Western, Kericho 7000 ft., 24.V.2000, leg. D.J.L. Agassiz, genitalia slide

L. Aarvik 2009.013 (DA).

**Remarks.** Meyrick (1920) described *M. clavifera* from two specimens from Voi, Kenya. The male lectotype is shown on Figure 21. It is a rather large species, wingspan 23-25 mm. It differs from the other similarly sized species in the *Megahepystis clavifera* species-group by the presence of a distinct discal spot in the forewing (Figure 21). This spot is also present in *M. latiloba* (Razowski & Trematerra, 2010) comb. n. from Ethiopia and in *M. howelli* sp. n. from Tanzania, but the latter two species are smaller; wingspan 18 and 15 mm. respectively. *Megahepystis penthrana* (Bradley, 1965) comb. n. from Uganda is larger, wingspan 29-34 mm., has a different forewing pattern and a mottled hindwing, compare figures by Bradley (1965) and Razowski & Trematerra (2010). In the male genitalia (Figure 59) resembling *M. howelli* sp. n. (Figure 60), differing by the slenderer uncus lobes. The female from Kericho is allocated to this species based on external similarity, and the placement needs confirmation when additional material becomes available. The two localities in Kenya are distant from each other; Kericho is in the south-west and Voi is in the south-east.

### *Megahepystis howelli* sp. n. (Figures 22, 60)

**Type material.** Holotype ♂, TANZANIA: Arumeru Distr.: Usa River, 1170 m., 23.VII.1991, leg. L. Aarvik, genitalia slide NHMO 2866 (NHMO).

Paratype, 1♂, same locality as holotype, 6.IX.1991, genitalia slide L. Aarvik 2835 (NHMO).

**Diagnosis.** The forewing pattern is essentially the same as in *M. clavifera* and *M. latiloba*, but *M. howelli* sp. n. can be separated by smaller size, wingspan 15 mm. In the male genitalia (Figure 64) it differs from *M. latiloba* by the broader patch of spines ventrally at the base of cucullus, the longer valva and the shorter uncus lobes. From *M. clavifera* differing by shorter and broader uncus lobes.

**Description.** Male (Figure 22). Head: Greyish brown. Antenna light brown, serrate. Labial palpus 2 times diameter of eye; second segment greyish brown, inner side lighter, except margin; third

segment short, nearly concealed by scale brush of second segment. Thorax including tegulae greyish brown, anteriorly whitish. Fore- and mid-leg brownish grey, with light rings; hind leg cream.

Wingspan 15 mm. Forewing ground colour cream, light parts of wing sprinkled with light brown; basal and sub-basal fasciae merged, external margin angulate near dorsum; median fascia divided in large costal and small dorsal part, costal part merged with triangular pre-terminal dark patch, a longitudinal blackish band inside the merged patch is interrupted in middle by whitish discal spot; terminal line dark brown; cilia brownish grey, with light bases forming light line. Hindwing grey, cilia whitish, with grey cilia line.

Genitalia (Figure 60): Uncus lobes rounded, forming rounded incision; socii broad, terminally with small process; valva long, ventral margin of sacculus rather straight, cucullus evenly curved, ventral edge basally with patch of strong spines, a few strong spines present along ventral margin.

Female. Not known.

**Distribution.** Tanzania.

**Etymology.** Named after Prof. Kim Howell, Dar es Salaam, Tanzania, who helped in many ways during the author's stay in Tanzania in 1991–1993.

### *Megahepystis subclavifera* sp. n.

(Figures 23, 61)

**Type material.** Holotype ♂, UGANDA: Kabarole Distr.: Ruwenzori Mts., Nyakalengija, 0°20.994'N 30°01.820'E, 1700 m., 10–11. XI.2007, leg. L. Aarvik & M. Fibiger, genitalia slide NHMO 3036 (NHMO).

**Diagnosis.** The forewing pattern is most similar to that found in *M. clavifera* (Meyrick), *M. latiloba* (Razowski & Trematerra) and *M. howelli* sp. n., but a light discal spot is lacking in the longitudinal black band in the terminal half of the wing. The male genitalia (Figure 61) differ from those of the similar species by the nearly straight valva.

**Description.** Male (Figure 23). Head: Face pale greyish brown, neck tufts dirty white. Antenna brown, serrate. Labial palpus 2 times diameter of eye, pale greyish brown, third segment

short, nearly concealed by scale brush of second segment. Thorax greasy, but tegulae pale greyish brown. Fore- and mid-leg brownish grey, with light rings; hind leg pale ochreous.

Wingspan 15 mm. Forewing ground colour white, sprinkled with light grey and light brown; basal and sub-basal fasciae merged, blackish brown; median fascia indistinct, indicated as dark patch in tornal area; a longitudinal black band in the terminal half of the wing connected with triangular pre-terminal dark patch; black terminal line distinct in middle of termen; cilia light grey, with light bases and dark grey cilia line. Hindwing grey, cilia light grey with darker line.

Genitalia (Figure 61): Uncus lobes slender, rounded, forming rounded incision; socii rounded, gradually narrowing; valva straight, ventral concavity hardly demarcated cucullus nearly parallel-sided, ventral edge basally with patch of spines, a few strong spines present along ventral margin, termination of cucullus slightly produced dorsally.

Female. Not known.

**Biology.** The specimen was captured in farmland just adjacent to the forest of the foothills of the Ruwenzori Mts.

**Distribution.** Uganda.

**Etymology.** The name is an indication of its closeness to *M. clavifera* (Meyrick), one of the species of *Megahepystis* described by the early workers.

### *Megahepystis kuehnei* sp. n. (Figures 24, 62)

**Type material.** Holotype ♂, KENYA: Kakamega Forest, 0°20'N 34°52'E, 1575 m., 1.IV.2003, leg. J. & W. De Prins, genitalia slide L. Aarvik 2015.028 (KL).

**Diagnosis.** The forewing pattern is similar to that of *M. nimbose* (Meyrick), *M. obscura* sp. n., *M. heckfordi* sp. n. and *M. kingstoni* sp. n., but *M. kuehnei* sp. n. is smaller, wingspan 14 mm. In the male genitalia (Figure 62) the valva is long and strongly narrowed terminally. In this respect it resembles *M. nimbose* (Meyrick), which has the valva slightly less narrowed terminally and longer uncus lobes. Moreover *M. nimbose* is a much larger species.

**Description.** Male (Figure 24). Head: Greyish

brown. Antenna light brown, serrate. Labial palpus 2 times diameter of eye; second segment greyish brown, third segment short, nearly concealed by scale brush of second segment. Thorax including tegulae greyish brown, anteriorly whitish. Fore- and mid-leg brownish grey, with one light rings; hind leg cream, tarsi with slight brownish grey suffusion.

Wingspan 14 mm. Forewing ground colour cream, light parts of wing sprinkled with light brown; basal and sub-basal fasciae merged; median fascia forming dark blotch in middle of wing, not reaching dorsum; pre-terminal dark patch touching median blotch; no discal spot; black terminal line indicated as short streaks; cilia grey, with light bases forming light line. Hindwing dark grey, cilia whitish, with grey cilia line.

Genitalia (Figure 62): Uncus lobes club-shaped, forming narrow incision; socii basally broad, with slender terminal part; valva long, ventral margin of sacculus concave, cucullus evenly curved, narrowed terminally, ventral lobe basally with patch of strong spines, a few strong spines present along ventral margin.

Female. Not known.

**Biology.** The specimen was collected in forest.

**Distribution.** Kenya.

**Etymology.** The species name acknowledges the important research Lars Kühne has made on the Lepidoptera fauna of Kakamega Forest, the type locality of the present species.

***Megaherpystis nimbosa* (Meyrick, 1920), comb. n.** (Figures 25, 63)

*Argyroploce nimbosa* Meyrick, 1920: 64.

**Material examined.** Lectotype ♂ of *Argyroploce nimbosa* Meyrick; [KENYA]: TYPE \ Afrique or. anglaise, Monts Aberdare, de Nyéré a Naivasha, Alluaud & Jeannel \ Mt. Kinangop Vers' Est, Forêts inférieures, 2200–2400 m, Févr. 1912, St. 53 \ *Argyroploce nimbosa* Meyr., type \ LECTOTYPE *Argyroploce nimbosa* Meyrick (male), Genital prep. 99021 L. Aarvik (MNHN). 1♂, KENYA: Rift Valley Prov., Turi 8000 ft., 4.XI.1998, leg. D.J.L. Agassiz, genitalia slide L. Aarvik 2009.012 (DA); 1♂, Rift Valley Prov., Mt. Elgon Nat. Park, Chorlim Gate, Rongai camp, 01°01'51.7"N 34°46'40.8"E, 2206 m., 17–21. XI.2006, leg. L.O. Hansen & K. Sund, genitalia slide NHMO 2773 (NHMO).

**Remarks.** Meyrick (1920) described *M. nimbosa* from two specimens from Kinangop, Aberdare Mts. in Kenya. Meyrick (1920) stated the specimens to be from “lower forests, alt.

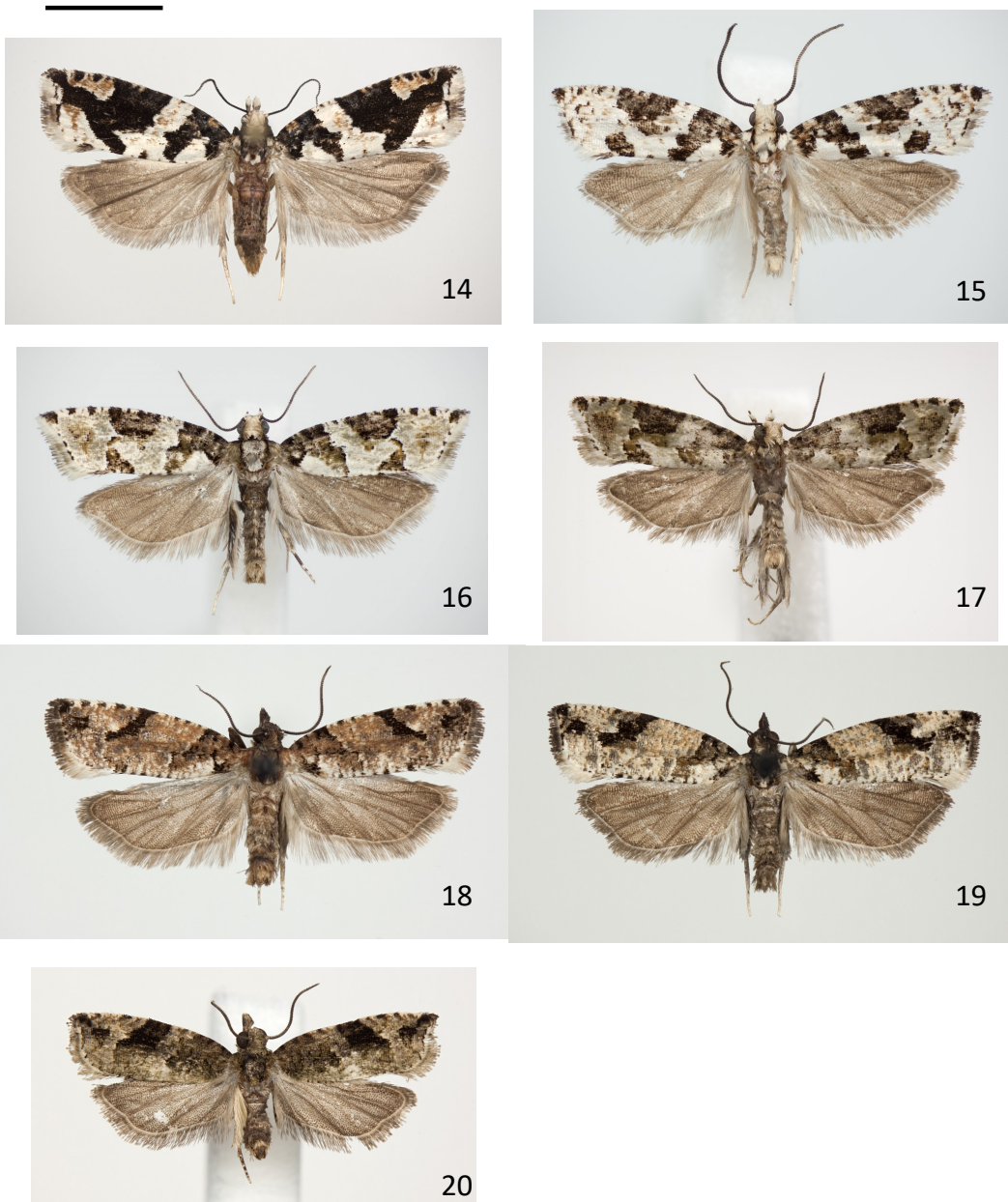


**FIGURES 2–5.** Hindlegs of male *Megaherpystis* Diakonoff, 1969. 2. *M. nereidopa* (Meyrick, 1927). 3. *M. browni* sp. n. 4. *M. uhuru* sp. n. 5. *M. yale* sp. n.





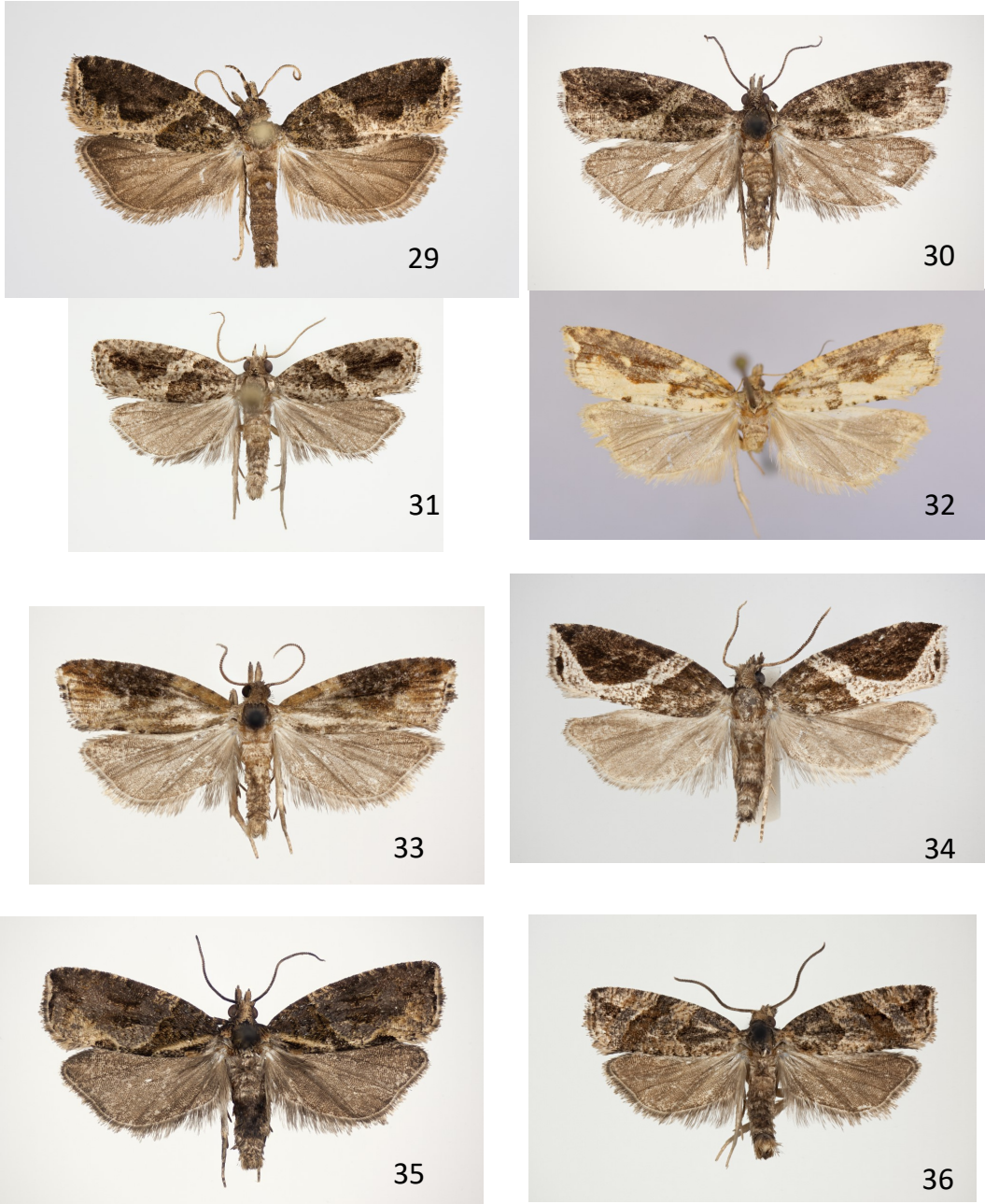
**FIGURES 6–13.** Adults of *Megaherpystis* Diakonoff, 1969. 6. *M. kigogoensis* sp. n. 7. *M. cremastropis* (Meyrick, 1930). 8. *M. nereidopa* (Meyrick, 1927). 9. *M. browni* sp. n. 10. *M. uhuru* sp. n. 11. *M. hackeri* sp. n. 12. *M. gielisi* sp. n. 13. *M. yale* sp. n. Scale 5mm.



**FIGURES 14–20.** Adults of *Megaherpystis* Diakonoff, 1969. **14.** *M. bengtssoni* sp. n. **15.** *M. berggreni* sp. n. **16.** *M. nussi* sp. n. **17.** *M. endrestoli* sp. n. **18.** *M. thalameuta* (Meyrick, 1918) from Kenya. **19.** *M. thalameuta* (Meyrick, 1918) from Uganda. **20.** *M. taitana* (Razowski & Brown, 2012). Scale 5mm.



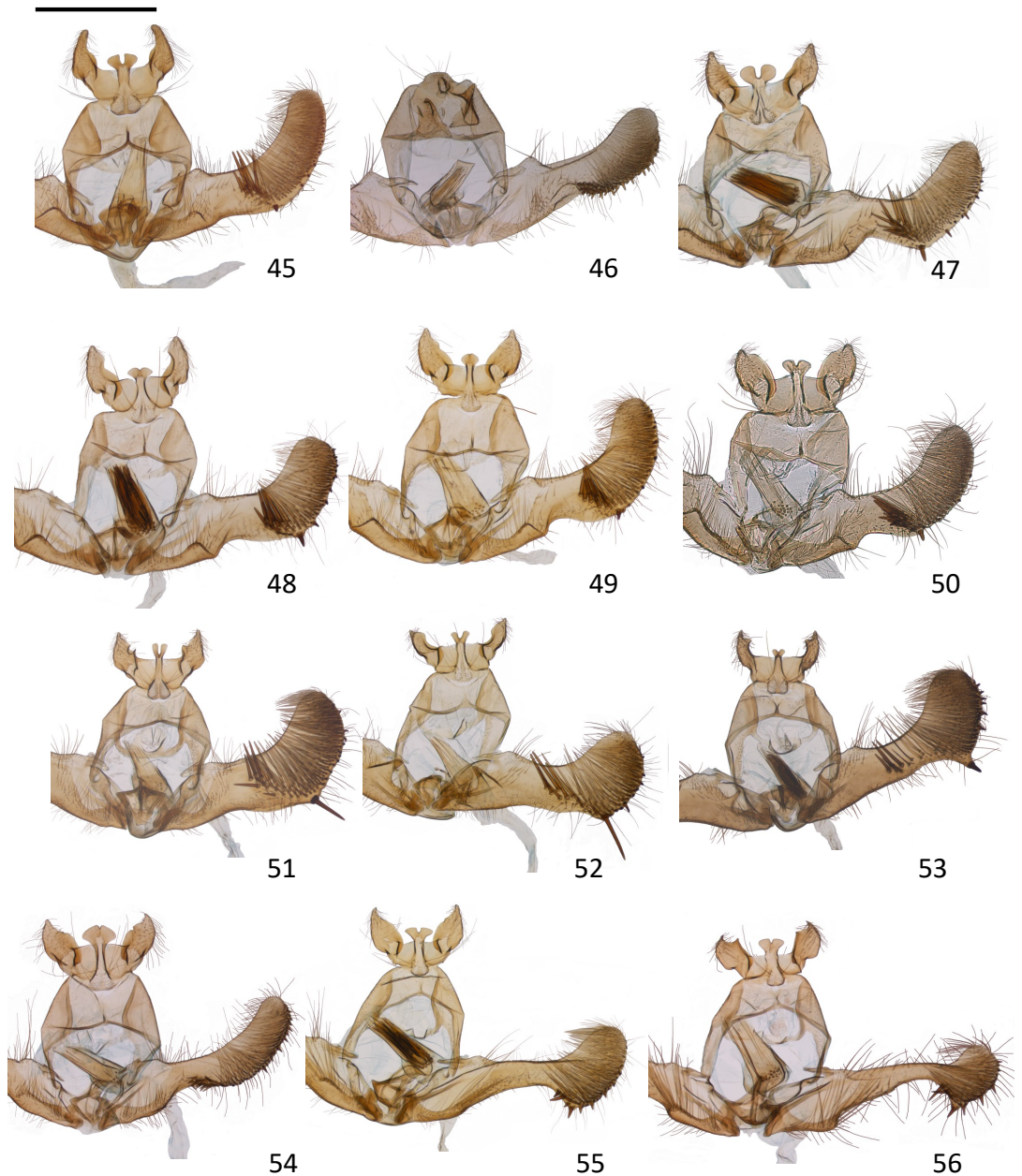
**FIGURES 21–28.** Adults of *Megaherpystis* Diakonoff, 1969. 21. *M. clavifera* (Meyrick, 1920) Lectotype. 22. *M. howelli* sp. n. 23. *M. subclavifera* sp. n. 24. *M. kuehnei* sp. n. 25. *M. nimbosa* (Meyrick, 1920). 26. *M. latiloba* (Razowski & Trematerra, 2010). 27. *M. obscura* sp. n. 28. *M. wofwasha* (Razowski & Trematerra, 2019) Holotype. Scale 5mm.



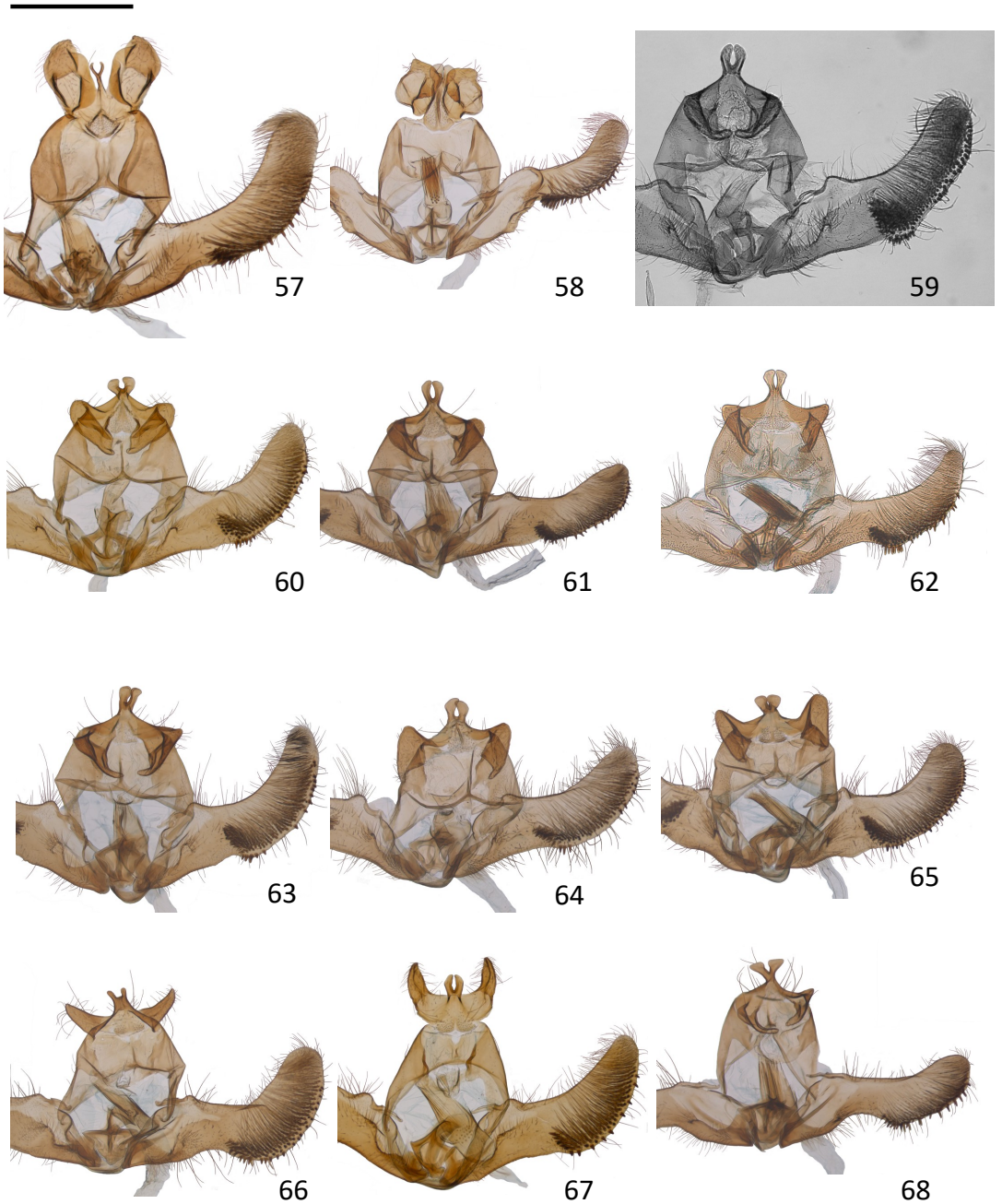
**FIGURES 29–36.** Adults of *Megaherpystis* Diakonoff, 1969. **29.** *M. heckfordi* sp. n. **30.** *M. kingstoni* sp. n. **31.** *M. kosteri* sp. n. **32.** *M. anepenthes* (Razowski & Trematerra, 2010). **33.** *M. hanseni* sp. n. **34.** *M. trapezana* sp. n. **35.** *M. akiteae* sp. n. **36.** *M. orphnogenes* (Meyrick, 1939). Scale 5mm.



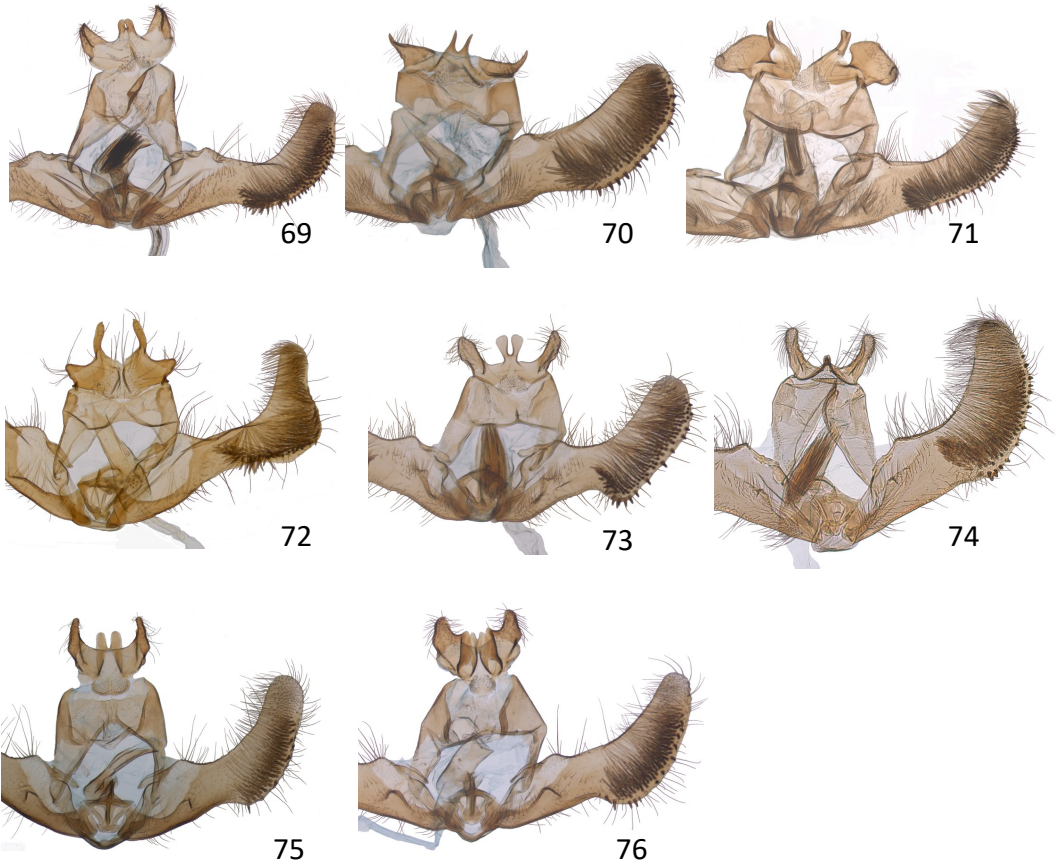
**FIGURES 37–44.** Adults of *Megaherpystis* Diakonoff, 1969. **37.** *M. valvalobata* Razowski & Trematerra, 2019. **38.** *M. baleensis* sp. n. **39.** *M. parviuncus* sp. n. **40.** *M. regionalis* (Meyrick, 1934) Lectotype. **41.** *M. calliarma* (Meyrick, 1909). **42.** *M. kovtunovichi* sp. n. **43.** *M. subae* Razowski & Trematerra, 2018 Holotype. **44.** *M. oromiae* Razowski & Trematerra, 2018. Scale 5mm.



**FIGURES 45–56.** Male genitalia of *Megahepystis* Diakonoff, 1969. **45.** *M. kigogoensis* sp. n. **46.** *M. cremastropis* (Meyrick, 1930). **47.** *M. nereidopa* (Meyrick, 1927). **48.** *M. browni* sp. n. **49.** *M. uhuru* sp. n. **50.** *M. hackeri* sp. n. **51.** *M. gielisi* sp. n. **52.** *M. yale* sp. n. **53.** *M. bengtssoni* sp. n. **54.** *M. berggreni* sp. n. **55.** *M. nussi* sp. n. **56.** *M. endrestoli* sp. n. Scale 1 mm.

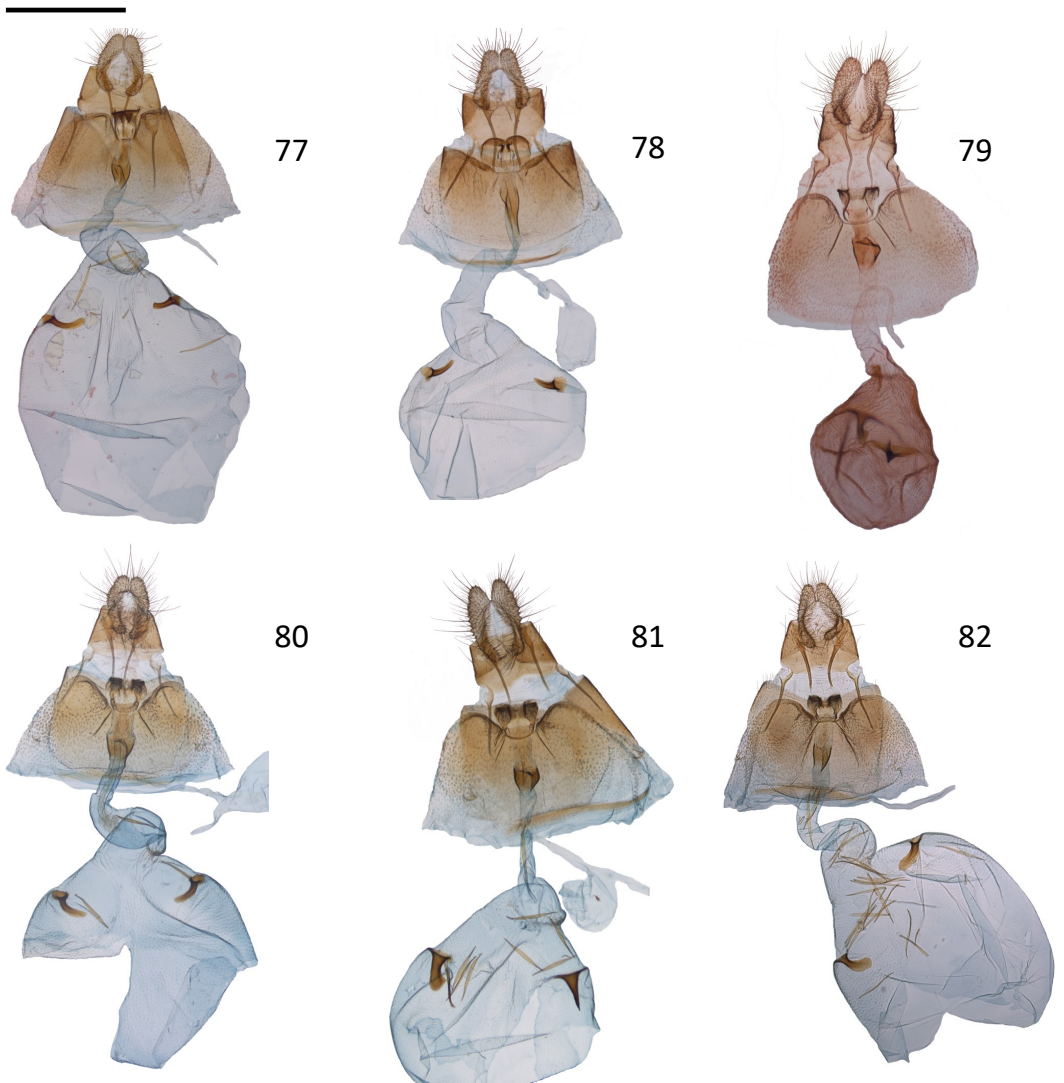


**FIGURES 57–68.** Male genitalia of *Megaherpystis* Diakonoff, 1969. **57.** *M. thalameuta* (Meyrick, 1918) **58.** *M. taitana* (Razowski & Brown, 2012). **59.** *M. clavifera* (Meyrick, 1920). **60.** *M. howelli* sp. n. **61.** *M. subclavifera* sp. n. **62.** *M. kuehnei* sp. n. **63.** *M. nimbose* (Meyrick, 1920). **64.** *M. latiloba* (Razowski & Trematerra, 2010). **65.** *M. obscura* sp. n. **66.** *M. heckfordi* sp. n. **67.** *M. kingstoni* sp. n. **68.** *M. kosteri* sp. n. Scale 1 mm.

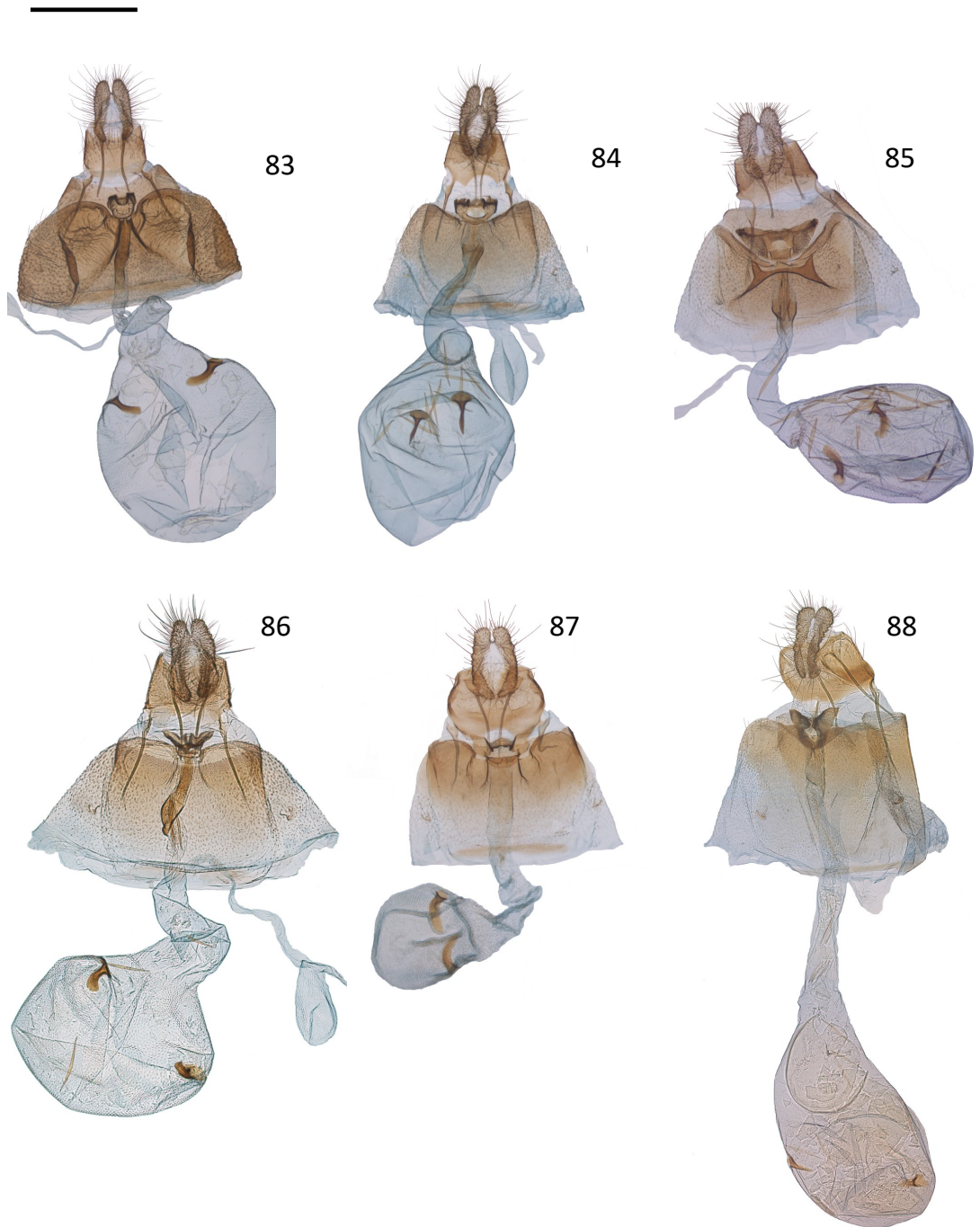


**FIGURES 69–76.** Male genitalia of *Megaherpystis* Diakonoff, 1969. **69.** *M. hanseni* sp. n. **70.** *M. trapezana* sp. n. **71.** *M. akiteae* sp. n. **72.** *M. orphnogenes* (Meyrick, 1939). **73.** *M. baleensis* sp. n. **74.** *M. parviuncus* sp. n. **75.** *M. calliarma* (Meyrick, 1909). **76.** *M. kovtunovichi* sp. n. Scale 1 mm.

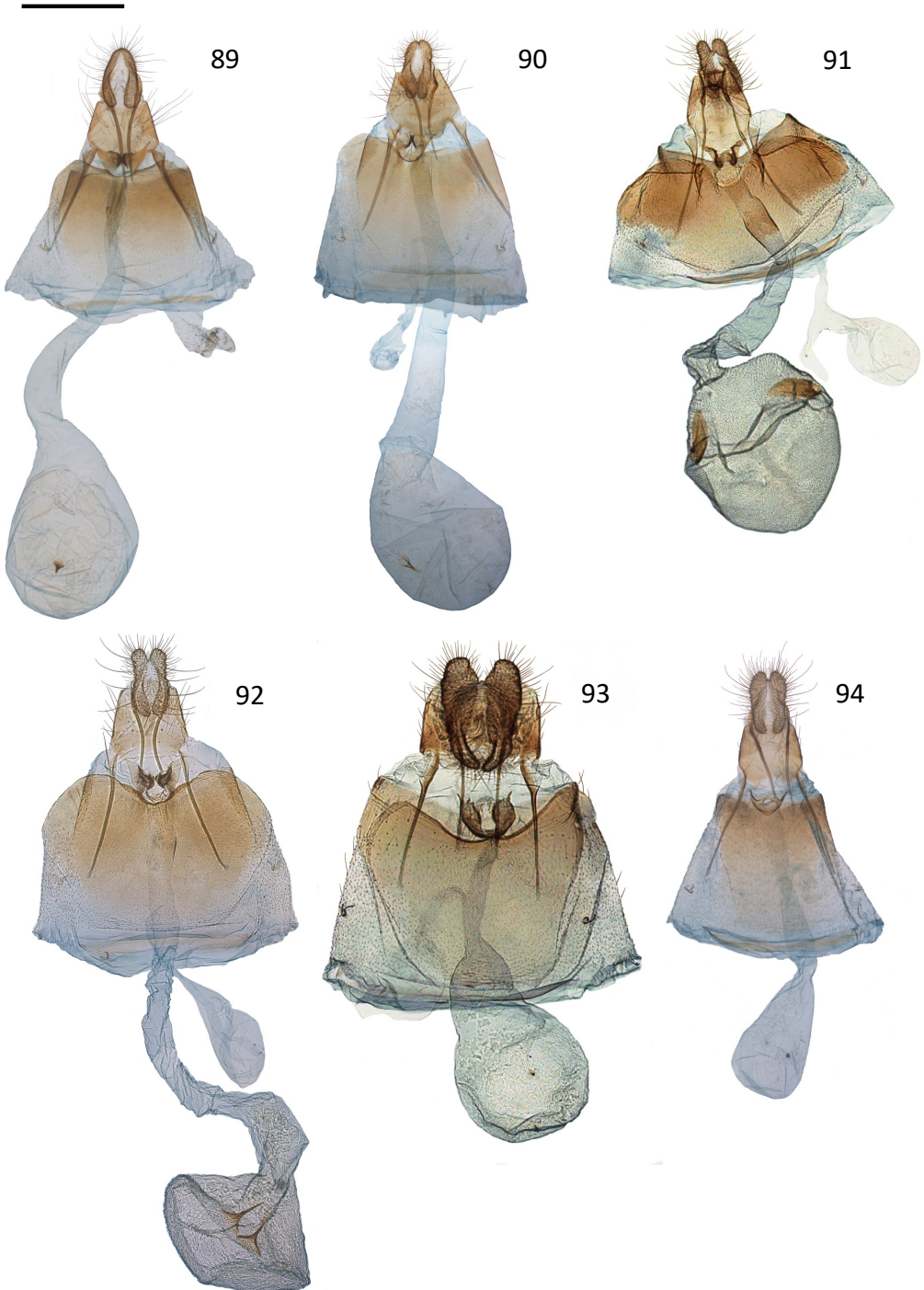




**FIGURES 77–82.** Female genitalia of *Megaherpystis* Diakonoff, 1969. **77.** *M. kigogoensis* sp. n. **78.** *M. cremastropis* (Meyrick, 1930). **79.** *M. nereidopa* (Meyrick, 1927). **80.** *M. browni* sp. n. **81.** *M. uhuru* sp. n. **82.** *M. hackeri* sp. n. Scale 1 mm.



**FIGURES 83–88.** Female genitalia of *Megahepystis* Diakonoff, 1969. **83.** *M. bengtssoni* sp. n. **84.** *M. berggreni* sp. n. **85.** *M. nussi* sp. n. **86.** *M. thalameuta* (Meyrick, 1918) **87.** *M. taitana* (Razowski & Brown, 2012). **88.** *M. clavifera* (Meyrick, 1920). Scale 1 mm.



**FIGURES 84–94.** Female genitalia of *Megaherpystis* Diakonoff, 1969. **89.** *M. heckfordi* sp. n. **90.** *M. kingstoni* sp. n. **91.** *M. orphnogenes* (Meyrick, 1939). **92.** *M. parviuncus* sp. n. **93.** *M. regionalis* (Meyrick, 1934). **94.** *M. kovtunovichi* sp. n. Scale 1 mm.

2200–2400 m.”. The two other specimens here identified as *M. nimbosa*, are from similar altitudes. It is a rather large species, wingspan 20–24 mm. The larger size helps to distinguish it from the similarly patterned *M. kuehnei* sp. n. and *M. obscura* sp. n. *Megahepystis heckfordi* sp. n. may reach the same size as *M. nimbosa*, and the two species can only safely be separated by check of the genitalia. The latter (Figure 63) has a longer valva and larger and broader uncus lobes. The female of *M. nimbosa* is unknown.

***Megahepystis latiloba* (Razowski & Trematerra, 2010), comb. n.** (Figure 26, 64)

*Epinotia latiloba* Razowski & Trematerra, 2010: 60, figures 25, 69.

**Material examined.** ETHIOPIA: 1♂, Oromia Reg., Bale Mts. Nat. Park, Darwin Camp, 6°42.543'N 39°43.267'E, 2370 m., 9.X.2007, leg. O.J. Lønne & A. Endrestøl, genitalia slide NHMO 3034 (NHMO).

**Remarks.** Both known specimens originate from high altitude in the Bale Mts. in central Ethiopia. Wingspan 18 mm. For differences from the externally similar *M. clavifera*, q.v. *Megahepystis howelli* sp. n. has a pre-tornal dark patch which is lacking in *M. latiloba*, and is smaller – wingspan 15 mm. – than *M. latiloba*. In the male genitalia (Figure 64) differing from *M. clavifera* and *M. howelli* sp. n. by the less extensive patch of spines ventrally at the base of cucullus. The female is not known.

***Megahepystis obscura* sp. n.** (Figures 27, 65)

**Type material.** Holotype ♂, UGANDA: 1♂ Masindi Distr.: Budongo Forest, 50 km W Masindi, 01°42.931'N 31°28.183'E, 1090 m., 14–16.XI.2007, leg. L. Aarvik & M. Fibiger, genitalia slide NHMO 3042 (NHMO).

**Diagnosis.** The forewing pattern, though weakly developed, is basically similar to that of *M. kuehnei* sp. n., *M. nimbosa* (Meyrick), *M. heckfordi* sp. n. and *M. kingstoni* sp. n. *Megahepystis nimbosa* and *M. heckfordi* sp. n. differ by their larger size. *Megahepystis kingstoni* sp. n. appears to be slightly larger and with lighter ground colour, but as the number of known specimens is so low, the extent of variation is not

known. *Megahepystis kuehnei* sp. n. is smaller, but again it is only known from the holotype, and the variation is unknown. The labial palpus is longer than in the other mentioned species. In the male genitalia (Figure 65) characteristic by the broad and rounded socii and broad and rounded uncus lobes.

**Description.** Male (Figure 27). Head: Greyish brown. Antenna light brown, serrate, scape blackish brown on upperside, whitish on underside. Labial palpus greyish brown, 2,8 times diameter of eye, third segment visible. Thorax including tegulae greyish brown, anteriorly whitish. Fore- and mid-leg brownish grey, with light rings; hind leg cream, tarsi with light brown rings.

Wingspan 16 mm. Forewing ground colour brown; pattern obscure, the only discernible elements are the weak costal strigulae, the mid part of the medial fascia and a black terminal line. Cilia dark grey, with light bases. Hindwing dark grey.

Genitalia (Figure 65): Uncus lobes broad, rounded; socii basally broad, sub-triangular, rounded terminally; valva lightly curved, ventral margin of sacculus medially weakly concave, cucullus of even width except terminally where it is rounded, ventral edge basally with patch of spines which reaches beyond middle of valva, ventral angle hardly demarcated.

Female. Not known.

**Biology.** The specimen was collected in forest.

**Distribution.** Uganda.

**Etymology.** The species name is an indication of the obscure forewing pattern.

***Megahepystis brunnescens* (Razowski, 2014), comb. n.**

*Cosmetra brunnescens* Razowski, 2014: 522, figure 14.

**Remarks.** This species was described from a single male collected on the eastern side of Mt. Cameroon in the SW part of Cameroon. The altitude is 1870 m. (Razowski 2014). The wingspan is 21 mm., and the forewing is described as brown, with dark brown suffusion and markings atrophied. The specimen is worn, and the description could fit nearly any worn specimen belonging to the *Megahepystis clavifera* species-

group. The male genitalia (Razowski 2014: 527, figure 14) resemble those of *M. obscura* sp. n., but differ by having longer uncus and terminally narrowed socii.

***Megahepystis wofwasha* Razowski & Trematerra, 2019** (Figure 28)

*Megahepystis wofwasha* Razowski & Trematerra, 2019: 11, figures 22, 47.

**Remarks.** *Megahepystis wofwasha* was described from material collected at high altitude in Amhara Region in Ethiopia (Razowski et al. 2019). The wingspan is 18 mm., and the species is externally recognizable by the conspicuous, broad terminal line running from below apex to below mid-termen. The male genitalia resemble those of other species in the *Megahepystis clavifera* species-group which have an extended patch of spines at the ventral edge of the valva, viz. *M. howelli* sp. n., *M. kuehnei* sp. n., *M. subclavifera* sp. n., *M. nimbosa* (Meyrick), and *M. obscura* sp. n. From these species *M. wofwasha* can be separated by either the more strongly convex ventral valval margin, or by the shape of the uncus lobes which are diverging and laterally pointed (Razowski et al. 2019, figure 47).

***Megahepystis heckfordi* sp. n.**

(Figures 29, 66, 89)

**Type material.** Holotype ♂, KENYA: Central Province: Mt. Kenya southern slope, Castle Forest Lodge, [UTM:] 37M CV 1188 5789, 2070 m., 5–7. XII.2008, leg. L. Aarvik & D. Agassiz, genitalia slide L. Aarvik 2896 (NHMO).

Paratypes, 5♂♂1♀, KENYA: Central P[rovince]: Castle Forest Lodge, 6 km N Kimunye 0° 22'43.53"S, 37° 18'32.29"E, 2075 m., 22–29.X.2013, leg. D. Agassiz, S. Beavan, R. Heckford & K. Larsen, genitalia slide L. Aarvik ♂ 2015.025, ♂ 2019.004 (KL); 1♂2♀♀, Central P[rovince]: Kamweti, 7 km N Castle Forest Lodge, 6 km N Kimunye 0° 19'42.74"S, 37° 18'57.47"E, 2440 m., 28.X.2013, leg. D. Agassiz & K. Larsen, genitalia slide L. Aarvik ♂ 2015.026, ♀ 2015.027 (KL).

**Diagnosis.** Externally similar to *M. kuehnei* sp. n., *M. nimbosa* (Meyrick), *M. obscura* sp. n. and *M. kingstoni* sp. n. It is of similar size as *M.*

*nimbosa*, which is also from Kenya. The male genitalia (Figure 66) is particularly characteristic by the small and narrow uncus lobes and the beak-shaped socii. Of the mentioned species only the females of *M. heckfordi* sp. n. and *M. kingstoni* sp. n. are known. The female genitalia of *M. heckfordi* sp. n. differ from those of *M. kingstoni* sp. n. by the wider sterigma forming two lateral triangular plates, each terminating in lateral pointed process. In *M. kingstoni* sp. n. the sterigma has a similar structure, but the lateral triangular plates are less wide and the pointed terminations are shorter.

**Description.** Male (Figure 29). Head: Greyish brown. Antenna light brown, ringed darker brown, serrate, scape dark brown on upper side, whitish on underside. Labial palpus greyish brown, 2.5 times diameter of eye, third segment visible. Thorax including tegulae greyish brown, with whitish tipped scales. Fore- and mid-leg brownish grey, with light rings; hind leg cream, tarsi with light brown rings.

Wingspan 15–19 mm. Forewing ground colour light grey, lighter parts of wing with brownish suffusion; basal and sub-basal fasciae merged, forming dark blackish brown basal blotch; median fascia forming dark blotch in middle of wing, not reaching dorsum, merged with pre-terminal dark patch; costal strigulae indistinct; a light line running from apex to middle of termen followed by black dots the mid part of the medial fascia and a black terminal line. Cilia light greyish brown, with grey cilia line. Hindwing dark brownish grey. Genitalia (Figure 66): Uncus lobes short, narrow; socii beak-shaped; valva angled, more so than relatives; ventral margin of sacculus concave, cucullus evenly curved ventrally where it is rounded, ventral edge basally with patch of spines.

Female. Wingspan 21–25 mm. Forewing pattern as in male.

Genitalia (Figure 89). Posterior margin of sternum 7 slightly concave; sterigma with lateral triangular plates, each terminating in lateral pointed process; ductus bursae long, widening gradually towards corpus bursae, with sclerite in posterior part; corpus bursae with one small signum.

**Biology.** The specimens were collected in forest on Mt. Kenya at 2070–2440 m. altitude.

**Distribution.** Kenya.

**Etymology.** The species is named after Robert J. Heckford, Plymouth, United Kingdom, who is one of the discoverers of this species and an eminent specialist on Microlepidoptera and their biology.

***Megahepystis kingstoni* sp. n.**

(Figures 30, 67, 90)

**Type material.** Holotype ♂, TANZANIA: Iringa Reg., Mufindi Distr., Kigogo Forest, 1900 m, 23–25.XI.2005, leg. L. Aarvik, M. Fibiger, A. Kingston, genitalia slide L. Aarvik 2836 (NHMO). Paratype, ♂, same data as holotype (NHMO); 1 ♀, locality as holotype, 26–28.XI.2004, K. Larsen & T. Zandersen, genitalia slide L. Aarvik 2016.003 (KL).

**Diagnosis.** The forewing pattern is essentially identical with that of *M. kuehnei* sp. n., *M. nimbosa* (Meyrick), *M. obscura* sp. n. and *M. heckfordi* sp. n. It is of similar size as *M. heckfordi* sp. n. The male genitalia (Figure 67) are most similar to those of *M. nimbosa*, but differs by having a slightly shorter valva and pointed uncus lobes. Of the mentioned species only the females of *M. heckfordi* sp. n. and *M. kingstoni* sp. n. are known. For differences in the female genitalia between these two species, see diagnosis of *M. heckfordi* sp. n.

**Description.** Male (Figure 30). Head: Greyish brown. Antenna light brown, ringed darker brown, serrate, scape light grey on upperside, whitish on underside. Labial palpus greyish brown, 2,5 times diameter of eye, third segment visible. Thorax including tegulae greyish brown, with light greyish tipped scales.

Fore- and mid-leg brownish grey, with light rings; hind leg cream, tarsi with light brown rings.

Wingspan 19–21 mm. Forewing ground colour light grey, lighter parts of wing with brownish suffusion; basal and sub-basal fasciae merged, forming dark blackish brown basal blotch; median fascia forming dark blotch in middle of wing, not reaching dorsum, merged with pre-terminal dark patch; costal strigulae indistinct; a light line running from apex to middle of termen followed by black dots. Cilia light greyish brown, with light bases, and with grey cilia line. Hindwing dark

brownish grey.

Genitalia (Figure 67): Uncus lobes slender, curved inwards, forming oval opening, tips pointed; socii beak-shaped, with longitudinal fissure; valva with ventral margin of sacculus lightly concave, cucullus evenly curved ventrally, terminally rather narrow, ventral edge basally with patch of spines which nearly reaches middle of valva.

Female. Wingspan 25 mm. Forewing pattern as in male.

Genitalia (Figure 90). Posterior margin of sternum 7 slightly concave; sterigma with lateral triangular plates, each terminating in short, lateral pointed process; ductus bursae long, widening gradually towards corpus bursae, with sclerite in posterior part; corpus bursae with two small signa of dissimilar size.

**Biology.** The specimen was collected in forest at about 1900 m. altitude.

**Distribution.** Tanzania.

**Etymology.** The species is named after Anthony Kingston, Patshull, United Kingdom, who is one of the collectors of this species, and always has contributed generously with material of African Tortricidae.

***Megahepystis kosteri* sp. n.** (Figures 31, 68)

**Type material.** Holotype ♂, TANZANIA: Morogoro Reg., Kilombero Distr., Udzungwa Mts. Nat. Park, Mang'ula, 550 m., 4–6. XII.2005, leg. L. Aarvik, M. Fibiger, A. Kingston, genitalia slide NHMO 3033 (NHMO).

**Diagnosis.** The forewing appears lighter and more variegated than other species in the group; in addition, it is distinctly smaller, wingspan 13 mm. In the male genitalia (Figure 68) the relatively deeply concave ventral margin of the sacculus and the terminally broad uncus lobes are characteristic.

**Description.** Male (Figure 31). Head: Light greyish brown. Antenna brownish ochreous, serrate, scape whitish on upperside, whitish on underside. Labial palpus pale brownish yellow, mottled brown, 2 times diameter of eye, third segment protruding, brown. Thorax including tegulae greyish brown, with whitish tipped scales. Legs yellowish, Fore- and mid-leg ringed with

brownish grey.

Wingspan 13 mm. Forewing ground colour yellowish white, lighter parts of wing with greyish brown suffusion; fasciae blackish brown; basal and sub-basal fasciae separate, basal one dissolved into flecks; sub-basal with irregular outer margin; median fascia not reaching dorsum, merged with pre-terminal dark patch; costal strigulae indistinct; dark terminal line interrupted below apex and above tornus. Cilia grey, with light bases. Hindwing grey.

Genitalia (Figure 68): Uncus lobes diverging, terminally broad; socii slender in terminal half, tips rounded; valva slender, ventral margin of sacculus concave, cucullus parallel-sided, ventral edge with row of spines, basally without well-defined spiny patch.

Female. Not known.

**Biology.** The specimen was collected in forest.

**Distribution.** Tanzania.

**Etymology.** The species is named after Sjaak Koster, Callantsoog, the Netherlands, who published an outstanding revision of the Afrotropical *Cosmopterix* species and is an expert on the world species of the family Cosmopterigidae.

***Megaherpystis anepenthes* (Razowski & Trematerra, 2010) comb. n.** (Figure 32)

*Epinotia anepenthes* Razowski & Trematerra, 2010: 60, figures 24, 67, 68.

**Remarks.** *Megaherpystis anepenthes* was described from ten males and a female collected at high altitude in Bale Mts. in Ethiopia (Razowski & Trematerra 2019). The wingspan is 20–27 mm. It is externally characteristic by cream ground colour and “pale ferruginous and brownish rust” markings (Razowski & Trematerra 2010), thus different from other species in the *Megaherpystis clavifera* species-group except *M. hanseni* sp. n. The male genitalia with a basally broad valva which is angled at the neck (Razowski & Trematerra 2010, figure 67). The female genitalia with large paired sterigmal sclerites, a broad ductus bursae and two small signa in corpus bursae (Razowski & Trematerra 2010, figure 68).

***Megaherpystis hanseni* sp. n.** (Figures 33, 69)

**Type material.** Holotype ♂, ETHIOPIA: Amhara Reg., 4 km. NEE Zege, Zege Peninsula, 11°41'32.5"N 37°19'54.1"E, 1860 m., 30.X.2007, leg. O.J. Lønnve & A. Endrestøl, genitalia slide NHMO 2867 (NHMO).

Paratype, 1♂, same data as holotype, genitalia slide L. Aarvik 2848 (NHMO).

**Diagnosis.** The ochreous-brown forewing ground colour combined with the dark sub-triangular costal blotch serve to distinguish the present species from most of its congeners. *Megaherpystis anepenthes* (Razowski & Trematerra) has similar forewing colours, but has a light dorsum. In the male genitalia (Figure 69) the slender valva, the strongly spined ventral part of the cucullus, and the short and rounded uncus lobes are characteristic.

**Description.** Male (Figure 33). Head: Brownish grey. Antenna light brown, serrate. Labial palpus ochreous, 2,8 times diameter of eye, third segment and tip of second segment grey, third segment nearly hidden by brush of second segment. Thorax ochreous-brown. Fore- and mid-legs brownish grey, with light rings; hind leg light pale yellowish, tarsi with dark rings.

Wingspan 17 mm. Forewing ground colour ochreous-brown, with grey irroration on costa and on veins; a dark grey sub-triangular blotch on costa and a small sub-tornal spot on dorsum, four small black dots on mid-termen; cilia grey. Hindwing brownish grey.

Genitalia (Figure 69): Uncus lobes small, converging, terminally rounded; socii beak-shaped, with longitudinal fissure; valva slender, ventral margin of sacculus basally straight, neck curved, cucullus strongly spined ventrally.

Female. Not known.

**Biology.** Not known.

**Distribution.** Ethiopia.

**Etymology.** The species is named after Lars Ove Hansen, Drammen, Norway, who is an entomologist colleague of the author and over the years has supported him in various projects; he also contributed to the knowledge of African Tortricidae by field work in in Kenya in 2006 and Ghana in 2011.

***Megahepypstis trapezana* sp. n.** (Figures 34, 70)

**Type material.** Holotype ♂, RWANDA: Nyungwe NP, Kamiranzovu Swamp, 2°29'S 29°08'E, 2000 m., 6.VIII.2008, leg. J. & W. De Prins, genitalia slide NHMO 2949 (NHMO).

Paratypes, 2♂♂, same data as holotype; 1♂, Nyungwe NP, 6 km S Pindura, 2°32'S 29°11'E, 1900 m., 31.vii.2008, leg. J. & W. De Prins (NHMO).

**Diagnosis.** The simple and contrasting forewing pattern is unique among *Megahepypstis* species. The male genitalia (Figure 70) are characteristic by the pointed uncus lobes and socii.

**Description.** Male (Figure 34). Head: Brownish grey. Antenna light brown, serrate. Labial palpus brownish grey, 2,5 times diameter of eye; third segment slightly protruding from second segment, black, with white tip. Thorax grey. Fore- and mid-legs brownish grey, with light rings; hind leg off white, tarsi with dark rings.

Wingspan 16 mm. Forewing ground colour white; basal and sub-basal fasciae merged, forming large basal blackish block; median fascia not reaching dorsum, extended to apex, forming large trapezoidal/sub-triangular costal blotch; light parts of wing with grey striae; terminal line extended and blackish in middle; cilia grey, basally white. Hindwing grey.

Genitalia (Figure 70): Uncus lobes pointed, forming u-shaped incision; socii triangular, with pointed termination; valva rather broad, ventral margin of neck slightly concave; cucullus slightly narrowed towards tip, ventral edge with row of spines, basally with well-defined spiny patch.

Female. Not known.

**Biology.** Collected in forest at 1900–2000 m. altitude.

**Distribution.** Rwanda.

**Etymology.** The species' name refers to the characteristic forewing pattern.

***Megahepypstis akiteae* sp. n.** (Figures 35, 71)

**Type material.** Holotype ♂, UGANDA: Kasese District: Kibale Nat. Park, [UTM:] 36N TF 0582 6208, 1500 m., 19–24.X.2014, leg. L. Aarvik & K. Larsen, genitalia slide NHMO 2745 (NHMO).

Paratypes, 3♂♂, same data as holotype (NHMO); 1♂, same locality as holotype, 20.X.2014, T. Karisch (MNVD).

**Diagnosis.** Externally recognizable by the oblique cream-coloured line running from the forewing base to one third of dorsum. In the male genitalia characteristic by the broad, rounded socii and the shape of the ventral margin of the valva which is nearly straight in its proximal two thirds.

**Description.** Male (Figure 35). Head: Greyish brown. Antenna brown, serrate. Labial palpus greyish brown, 2,2 times diameter of eye; third segment slightly protruding from second segment. Thorax grey, tegulae posteriorly light brown. Fore- and mid-legs brownish grey, with light rings; hind leg cream, tarsi with grey suffusion and light rings.

Wingspan 18–19 mm. Forewing ground colour cream; basal and sub-basal fasciae merged, dark brown with some blackish suffusion, penetrated by light line from mid-base to third of dorsum; Pre-tornal spot dark brown/blackish, edged with cream; median fascia indicated as dark shade on costa and in the middle; distal two thirds of wing otherwise heavily suffused with grey; light ground colour remains visible in tornal area; cream-coloured terminal line widened from apex to mid-termin, edged with black in this part. Cilia cream, with brownish grey cilia line. Hindwing dark brownish grey; cilia concolorous, with light bases.

Genitalia (Figure 71): Uncus lobes rod-like (seemingly widely separate in figure due to fracture of distal part of tegumen during preparation); socii broad and rounded; ventral margin of valva nearly straight in proximal two thirds, ventral margin of cucullus with row of spines, evenly curved in distal half, dorsal margin nearly straight.

Female. Not known.

**Biology.** The type series was collected in forest.

**Distribution.** Uganda.

**Etymology.** The species is named after Perpetra Akite, Kampala, Uganda, who was one of the organizers of the Afrotropical Lepidoptera Workshop in Kibale National Park in 2014.



***Megahepystis orphnogenes* (Meyrick, 1939), comb. n.** (Figures 36, 72, 91)*Eucosma orphnogenes* Meyrick, 1939: 49.*Sycacantha orphnogenes*, Razowski et al. 2010: 25, figures 38, 82, 108.

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO: Lectotype ♂ of *Eucosma orphnogenes* Meyrick; Musée du Congo, Rutshuru, ix.1937, leg. J. Ghesquière, 5207, genitalia slide 98051 L. Aarvik; Paralectotype ♀, same data as lectotype; 1♀, same data as lectotype and paralectotype, but not part of the type series, genitalia slide L. Aarvik 98053 (RMCA). UGANDA: 2♂♂, Rakai Distr.: Sango Bay, Malamigambo Forest, 00° 55,796'S 31° 37,287'E, 1140 m., 1–2.XI.2007, leg. L. Aarvik & M. Fibiger, genitalia slide L. Aarvik 2837; 1♀, Bushenyi Distr.: Kalinzu Forest, 00° 23,342'S 30° 05,156'E, 1450 m., 7–8.XI.2007, leg. L. Aarvik & M. Fibiger; 1♂, Kabarole Distr.: Matiri Forest, 50 km E Fort Portal, 00° 36,300'S 30° 42,089'E, 1250 m., 12.XI.2007, leg. L. Aarvik & M. Fibiger; 1♂, Masindi Distr.: Budongo Forest, 50 km W Masindi, 01° 42.931'N 31° 28.183'E, 1090 m., 14–16.XI.2007, leg. L. Aarvik & M. Fibiger; 2♂♂, Kasese District: Kibale Nat. Park, [UTM:] 36N TF 0582 6208, 1500 m., 19–24.X.2014, leg. L. Aarvik & K. Larsen (NHMO).

**Remarks.** *Megahepystis orphnogenes* differs from the other dark species in the *Megahepystis clavifera* species-group by having a complete dark brown median fascia reaching from costa to dorsum (Figure 36). The wingspan is 14–19 mm. Females are larger than males. The male genitalia (Figure 72) are distinct by the broad socii which are fused with the long and slender uncus lobes, and also by the strongly angled and narrow cucullus. In the female genitalia (Figure 91) the ostium is deeply inserted into the posterior part of sternum 7, and the lateral sclerites of the sterigma appear to be twisted.

***Megahepystis valvalobata* Razowski & Trematerra, 2019** (Figure 37)*Megahepystis valvalobata* Razowski & Trematerra, 2019: 11, figures 23, 48.

**Remarks.** Described from 8 males from high

altitude in the Amhara Region in Ethiopia. It is a brownish species (Figure 37) of 15 mm. wingspan. The male genitalia (Razowski et al. 2019, figure 48) are distinct with narrow uncus lobes and broad and curved, nearly hooked valva.

***Megahepystis baleensis* sp. n.** (Figures 38, 73)

**Type material.** Holotype ♂, ETHIOPIA: Oromia Reg., 43 km. SW Goba, Bale Mts. Nat. Park, Darwin Camp, 6°42.543'N 39°43.267'E, 2370 m., 9.X.2007, leg. O.J. Lønnve & A. Endrestøl, genitalia slide NHMO 3035 (NHMO).

**Diagnosis.** Externally differing from other species in the *Megahepystis clavifera* species-group by the combination of whitish forewing ground colour with separate basal and sub-basal fasciae. In the male genitalia the ventrally angular and parallel-sided cucullus is characteristic.

**Description.** Male (Figure 38). Head: Light grey, neck tufts intermixed with white scales. Antenna brown, serrate. Second segment of labial palpus whitish with some light grey scaling, 2.8 times diameter of eye; third segment grey. Thorax including tegulae brownish grey. Fore- and mid-legs grey, with light rings; hind legs missing.

Wingspan 20 mm. Wings rubbed and description therefore incomplete. Forewing ground colour appears to be whitish; pattern greyish brown consisting of basal and sub-basal fasciae; median fascia forming costal blotch extending to middle of wing and small spot on dorsum; terminal fourth with ochreous suffusion and dark patch sub-terminally below costa; apex dark, with widened white terminal line below it; cilia grey with light bases. Hindwing pale grey.

Genitalia (Figure 73): Uncus lobes club-shaped; socii truncate, widened sub-terminally; neck of valva short, distinct; cucullus parallel-sided, ventral lobe angular, with row of spines reaching middle of valva, ventral edge with spines.

Female. Not known.

**Biology.** The type specimen was collected in forest.

**Distribution.** Ethiopia.

**Etymology.** The species is named after the locality, Bale Mts. National Park, where the single specimen was collected.

***Megaherpystis parviuncus* sp. n.**

(Figures 39, 74, 92)

**Type material.** Holotype ♂, KENYA: Aberdare Nat. Park, Campsite M3, 00°22'S 36°53'E, 1800 m., 12.IV.2001, leg. Dr. U. Dall'Asta, genitalia slide NHMO 3248 (NHMO). Paratypes, 1♂, KENYA: Rift Valley, Turi, 8000 ft., 27.i.1999, leg. D.J.L. Agassiz, genitalia slide L. Aarvik 2009.014; 1♀, same data, 9.VIII.1999, genitalia slide L. Aarvik 2009.015 (DA).

**Diagnosis.** Externally characteristic by the sharply angled outer margin of the sub-basal fascia in the forewing. *Megaherpystis howelli* sp. n. also has this margin sharply angled, but differs from *M. parviuncus* sp. n. by the presence of a distinct light discal spot. In the male genitalia differing from other *Megaherpystis* species by the tiny uncus. The female genitalia are distinct by the long ductus bursae and the large, wing-shaped lateral sclerites of the sterigma.

**Description.** Male (Figure 39). Head and thorax: Greyish brown, with light tipped scales. Antenna brown, serrate. Labial palpus greyish brown, 2 times diameter of eye; third segment slightly protruding from second segment. Fore- and mid-legs brownish grey, with light rings; hind leg cream, tibia with some grey suffusion and tarsi with indistinct grey spots.

Wingspan 19–20 mm. Forewing ground colour cream, light part with transverse brownish grey striae; basal and sub-basal fasciae merged, greyish brown, outwardly edged white, sharply angled above dorsum; median fascia brownish grey, reaching below middle of wing, merged with large apical dark patch; the latter outwardly edged by oblique white line connected with lower edge of median fascia; costal strigulae indistinct; narrow black terminal line present. Cilia grey, darker grey in middle and basally light. Hindwing light grey; cilia concolorous, with light bases.

Genitalia (Figure 74): Uncus lobes close together, small and narrow; socii truncate, terminally rounded; dorsal margin of sacculus straight, neck of valva short, only slightly curved before cucullus; cucullus rounded, narrowed from half before termination, base with patch of spines reaching beyond middle of valva, ventral edge with spines.

Female. As male except that labial palpus is 2,8 times diameter of eye.

Genitalia (Figure 92). Posterior margin of sternum 7 with broad u-shaped concavity; sterigma with large, lateral wing-shaped sclerites which are strongly sclerotized proximally; ductus bursae long, widened before entering corpus bursae, with sclerite in posterior part; corpus bursae relatively small, with two signa of similar size.

**Biology.** Nothing is known of the biology apart from that it was collected in the highlands of Kenya.

**Distribution.** Kenya.

**Etymology.** The species is named after the characteristic tiny uncus in the male genitalia.

***Megaherpystis penthrana* (Bradley, 1965),**

**comb. n.**

*Epinotia penthrana* Bradley, 1965: 96, figures 20, 103–06; Razowski & Trematerra 2010, figure 83; *Sycacantha penthrana*, Razowski et al. 2010: 33.

**Remarks.** Described by Bradley (1965) from a small series collected in Ruwenzori Mts., Uganda. It is the largest – wingspan 29–34 mm. – of known species of *Megaherpystis*. The forewing pattern resembles that of *M. clavifera* (Meyrick) and *M. howelli* sp. n. The genitalia of both sexes have similarities with those of *M. parviuncus* sp. n. The *M. penthrana* male, however, has the socii distinctly narrowed in apical half (Bradley 1965, figure 103). The sterigma in the female genitalia of *M. penthrana* (Bradley 1965, figure 105) appears nearly identical with that of *M. parviuncus* sp. n. The ductus bursae in *M. parviuncus* sp. n., however, is longer and slenderer than in *M. penthrana*.

***Megaherpystis regionalis* (Meyrick, 1934),**

**comb. n.** (Figures 40, 93)

*Eucosma regionalis* Meyrick, 1934: 527; *Sycacantha regionalis*, Razowski et al. 2010: 25, figures 39, 109.

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO: Lectotype ♀ of *Eucosma regionalis* Meyrick; Musée du Congo, Montagnes à l'O. W. de, Nyamukuki, 9.XI.1932, 2600 m., leg. L. Burgeon, genitalia slide 98054 L. Aarvik (RMCA).

**Remarks.** Meyrick (1934) described

*Eucosma regionalis* from two female specimens. The lectotype is preserved in RMCA, Tervuren, the other female is in NHMUK (Razowski et al. 2010). The two specimens are from different localities, the lectotype from 2600 m. and the paratype in London from 1200 m. Members of this group have rather similar wing pattern, and it might well be that the two specimens belong to different species. The figures presented here are of the lectotype.

Externally *M. regionalis* (Figure 40) resembles several species in the *Megaherpystis clavifera* species-group, and it can confidently be placed in it. The wingspan is 17–20 mm. The female genitalia (male unknown) do not show any close similarity to those of any other known female, but the wing pattern matches *M. parviuncus* rather well, and it is placed close to that species. The female genitalia (Figure 93) are characteristic by proportionally large papillae anales with slender anterior part, anteriorly rounded sterigma with oval lateral sclerites; ductus bursae short and entirely membranous; corpus bursae pyriform, small, with minute signum.

### *Megaherpystis calliarma* species-group

Razowski et al. (2018) transferred *Eucosma calliarma* Meyrick, 1909 to *Megaherpystis*, and this is followed here. In addition two apparently closely related species are placed in the group. Males of these three species lack tibial hair pencil. The abdominal hair-pencils otherwise present in members of *Megaherpystis* are also lacking (not checked in *M. mafikana*). Future research may result in removal from *Megaherpystis*. For the time being the three species are placed in a species group of their own.

### *Megaherpystis calliarma* (Meyrick, 1909)

(Figures 41, 75)

*Eucosma calliarma* Meyrick, 1909: 2: 8, pl. 3, figure 5; Razowski & Krüger 2007: 126, figures 101, 294; *Cosmetra calliarma*, Razowski 2015: 47, figures 29, 114; *Megaherpystis calliarma*, Razowski et al. 2018: 96.

**Material examined.** REPUBLIC OF SOUTH AFRICA: 1♂, Free State, 20 km S of Harrismith, Sterkfontein Dam N.R., 28°23'59"S 29°23'59"E, 1750 m., 11–12.I.2012, leg. V. Kovtunovich,

genitalia slide NHMO 3400 (NHMO).

**Remarks.** Meyrick (1909) described *Eucosma calliarma* from two South African specimens. The lectotype was figured by Razowski & Krüger (2007), and the identity of the figured specimen is based on this and the male genitalia figured by Razowski (2015). It is externally characteristic by the white head and the white forewing with brown and grey pattern. The wingspan of males is 14 mm., the female 16 mm. It resembles *M. kovtunovichi* sp. n. from Tanzania, but the latter is slightly larger and with more extensive dark markings in the forewing. In the male genitalia *M. calliarma* (Figure 75) has a slenderer cucullus and narrower socii.

### *Megaherpystis kovtunovichi* sp. n.

(Figures 42, 76, 94)

**Type material.** Holotype ♂, TANZANIA: Iringa Reg., Makete Distr.: Kitulo Plateau N, 2700 m., 29.XI.–1.XII.2005, leg. L. Aarvik, M. Fibiger, A. Kingston, genitalia slide NHMO 2864 (NHMO).

Paratype: ♀, TANZANIA: Iringa Reg., Mufindi Distr.: Sao Hill, 19–20.III.1993, leg. L. Aarvik, genitalia slide NHMO 2865 (NHMO).

**Diagnosis.** Externally similar to *Megaherpystis calliarma*, (the previous species), differing by more extensive dark pattern in the forewing and darker hindwing. In the male genitalia differing from *M. calliarma* by the evenly curved ventral margin of the cucullus and broader socii. The female genitalia are similar to those of *M. calliarma* as figured by (Razowski & Krüger 2007, figure 294), but differ by having smaller sterigma.

**Description.** Male (Figure 42). Head white, tufts on vertex with some greyish scales in middle; Antenna brown, serrate, scape white. Labial palpus white, 1,8 times diameter of eye, second segment outwardly with greyish brown suffusion; third segment slightly protruding from second segment, with grey suffusion above. Thorax white, with greyish suffusion which forms a dark band in middle; tegulae variegated with white, grey and black scales. Fore- and mid-legs cream, with fuscous rings; hind leg cream, tibia with some grey suffusion and tarsi with indistinct grey spots.

Wingspan 17 mm. Forewing ground colour white; basal and sub-basal fasciae merged, consisting of a mosaic of black, grey and brown scales, a few irregular transverse striae on dorsum; median fascia indicated as grey suffusion on costa and from middle to pre-tornal area; terminal area with grey and brownish suffusion, ocellus indicated by some black and white scales; a few black dots present on dorsum; cilia light grey, with white bases; hindwing dark brownish grey.

Genitalia (Figure 76): Socii and uncus fused forming a broad and complex sclerite with paired tubular structure in middle, the two terminal small and rounded projections in the middle are interpreted as lobes of the uncus; socii broad with rounded terminations; sacculus of valva straight, with distinct hump below basal excavation, cucullus long, gradually narrowed, ventral edge evenly curved, with spines; phallus broad.

Female. Wingspan 16 mm. Forewing pattern slightly different from male: Median fascia not interrupted and with additional black streaks in terminal part.

Genitalia (Figure 94). Posterior margin of sternum 7 concave, posteriorly and laterally wrinkled; sterigma boat-shaped with pointed lateral terminations; ductus bursae membranous, ductus seminalis enters in middle; corpus bursae pear-shaped, with two small signa, one of them hardly visible.

**Biology.** Nothing is known of the biology apart from that it was collected in the highlands of southern Tanzania.

**Distribution.** Tanzania.

**Etymology.** The species is named after Vasily Kovtunovich, Moscow, Russia, eminent researcher on African Pterophoridae who donated valuable specimens to the author; in particular the specimen of *Megahepystis calliarma* which made direct comparison with the present new species possible.

**Remarks.** The slight differences in wing pattern between the two specimens may be ascribed to individual variation rather than differences between male and female.

### ***Megahepystis mafikana* (Razowski, 2015)**

*Cosmetra mafikana* Razowski, 2015: 46, figures 28, 113;

*Megahepystis maficana*, Razowski et al. 2018: 96 (misspelling of species epithet)

**Remarks.** Described from a male collected in Lesotho in southern Africa. It is a slender winged species with wingspan 19,5 mm.; the forewings are brownish and indistinctly marked, the most obvious pattern element is a blackish patch at about three fifths from the base. Externally it does not resemble the two other species in this group. In the male genitalia the shape of the valva is similar to that of *M. kovtunovichi* sp. n.; it differs by the broader socii.

### ***Megahepystis incertae sedis.***

### ***Megahepystis accipitrina* (Meyrick, 1913)**

*Eucosma accipitrina* Meyrick, 1913. Ann. Transv. Mus. 3(4): 274; Razowski & Krüger 2007: 126, figures 98, 229, 230; *Megahepystis accipitrina*, Razowski et al. 2018: 96.

**Remarks.** *Megahepystis accipitrina* was described from a male from Barberton, South Africa. It has a wingspan of 15 mm. and lacks tibial hair pencil. A photo of the type was given by Razowski & Krüger (2007). These authors also give an illustration of the male genitalia. Judging from the facies of the specimen and the figure of the genitalia, the placement in *Megahepystis* seems doubtful. More material is needed to clarify the generic position of this species.

### ***Megahepystis subae* Razowski & Trematerra, 2018 (Figure 43)**

*Megahepystis subae* Razowski & Trematerra, 2018: 97, figures 15, 30.

**Remarks.** *Megahepystis subae* was described from two males from Oromia in Ethiopia (Razowski et al. 2018). A photo of the holotype is shown (Figure 43). The wingspan is 13–14 mm. The species is externally characteristic by the three dark longitudinal marks in the forewing, and resembles certain species in the *Megahepystis clavifera* species-group, viz. *M. howelli* sp. n. and *M. subclavifera* sp. n. The male genitalia (Razowski et al. 2018, figure 30) with long and slender valva and weak and slender socii do not resemble closely those of any other known species of *Megahepystis*. Whether *M. subae* has an uncus is unclear from the description as it is first stated:

“Uncus slender, broadening terminally, slightly concave apically”, and next: “*C. subae* is related to *C. accipitrina* (Meyrick, 1913) but without uncus which in the latter is well developed, helmet-shaped”.

***Megahepystis oromia* Razowski & Trematerra, 2018** (Figure 44)

*Megahepystis oromia* Razowski & Trematerra, 2018: 97, figures 16, 17, 31, 32.

**Remarks.** *Megahepystis oromia* (Fig 44) was also described from Oromia in Ethiopia (Razowski et al. 2018). The wingspan is 16 mm. The species shows some superficial similarity to *M. taitana* (Razowski & Brown) from Kenya, but is lacking the male tibial scale tuft. The male genitalia resemble those of *M. subae*, but the valva is broader; compare figure 31 and 32 in Razowski et al. (2018). The female genitalia resemble those of several *Megahepystis* species, perhaps most closely those of *M. orphnogenes* (Meyrick). They are distinct by the broad papillae anales and broad segment 8.

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