

## *Cochylini* (Lepidoptera: Tortricidae) of the Ethiopian Region

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Abstract. Ethiopian *Cochylini* are represented by 4 genera and 25 species. Two genera and 10 species are described as new. Some data on *Tortricidae* of the Ethiopian Region are provided.

Key words: *Tortricidae*, *Cochylini*, Ethiopian Region, new taxa.

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### I. INTRODUCTION

Our knowledge of the *Tortricidae* fauna of the Ethiopian Region is still far from adequate. From so large a territory only 250 species have been recorded to date. By comparison, 1606 species are known from the Palaearctic Region, in the Nearctic Region there are 1215, in the Neotropical Region 1275, in the Oriental Region 953 and in the Australian Region 1384 species (HEPPNER 1991).

Only 97 species of *Tortricinae*, 9 *Chlidanotinae* species and 144 *Olethreutinae* species are known from the Ethiopian Region. Until now, the bulk of the material studied was collected more than half a century ago. One of the most recent larger publications is the work by DIAKONOFF (1960), dealing with Madagascan *Tortricinae*, followed by some smaller papers by the same author. The majority of species were described more than 50 years ago by WALSINGHAM or MEYRICK, and in recent years only the tribe *Tortricini* was studied by me (RAZOWSKI, 1981). Thus the majority of species of this family require revision, as they are known only from the original descriptions which were based merely on external characters. In the future most species will certainly be transferred to different genera. Very many species are known only from type-localities or limited areas and thus we have no clear idea of their geographical distribution. There are practically no data available on their biologies.

Of the ten constituent tribes of the *Tortricinae*, only three are known from this Region. Apart from *Cochylini*, discussed separately below, there occur only *Tortricini* represented by 21 species and *Archipini* with their 61 species. It is interesting to note that members of neither *Sparganothini* nor *Euliini* have been found to date, even though their presence here might be expected.

*Tortricini* are represented mainly by primitive genera, although, there are a few species of the most advanced genus *Acleris* HÜBNER.

In the *Archipini* the majority of species belong to the advanced genera (a group with atrophied costa of the valva and with a capitate signum) among which is the genus *Pandemis* HÜBNER known to date from the Holarctic and Oriental Regions.

## II. SYSTEMATIC PART

### *Cochylini*

In the Ethiopian Region this tribe is represented by 25 species, of which 10 are described as new in this paper. They belong to four genera, two of which (*Trachybyrsis* and *Actihema*) are endemic. The remaining two genera are widely distributed. *Eugnosta* HÜBNER occurs through the Palaearctic Region and in the New World, whereas *Eupoecilia* STEPHENS is known from the Palaearctic, Oriental and Australian Regions. The systematic position of *Trachybyrsis* is unclear, but the remaining three genera are closely related to one another and should be all regarded as rather primitive. Six very little known or unexamined species are listed alphabetically at the end of this paper as 'unplaced species' pending further studies.

#### *Eugnosta* HÜBNER, [1825]

*Eugnosta* HÜBNER, 1825], Verz. bekannter Schmett.: 394. Type-species: [*Tortrix*] *lathoniana* HÜBNER, [1800], by subsequent designation (FERNALD, 1908, Genera *Tortricidae*: 18).

A redescription of this genus and its synonymy were given by RAZOWSKI (1987), the diagnosis being based mainly on Palaearctic representatives. Recently the New World *Carolella* BUSCK, 1939 was included in *Eugnosta* but this has not changed its diagnosis much (some variation of the external characters realised). The Ethiopian species resemble one of the New World representatives in having no silver blotches of the forewing ground-colour. The genus was known from the Holarctic, Neotropical and Oriental Regions; now 14 Ethiopian species are also included.

#### *Eugnosta umbraculata* (MEYRICK, 1918) comb. n.

*Euxanthis umbraculata* MEYRICK, 1918, Ann. Transvaal Mus., 6: 8. Type locality: South Africa: Middleburg, Transvaal.

Alar expanse 16 - 19 mm. Labial palpus about 3 times as long as than largest diameter of eye, yellowish, with indistinct ochreous suffusion before middle of median segment laterally; remaining parts of head and thorax concolorous, but front more cream, flagellum of antenna mixed brownish and tegula marked ochreous. Forewing slightly expanding terminally in male, hardly so in female. Apex short, rounded; termen somewhat oblique, slightly convex. Ground-colour yellowish cream, more or less suffused brown; transverse

strigulation rather diffuse, brown or yellowish brown; distal third of wing brownish with darker venal suffusions and traces of ground-colour among them. Discal spot more or less distinct. Median fascia almost vertical to wing edges, rather diffuse, often with darker longitudinal markings. Fringes slightly darker than ground colour, mixed brownish terminally, with submedian line marked with brown spots followed by paler, diffuse spots at termen. Hindwing brownish, paler basally; fringes yellowish with brown median line.

**V a r i a t i o n .** Forewing colour more or less dark, usually with yellow-brown pattern (in unique male browner on white-cream ground-colour). Suffusions of veins usually preserved.

**M a l e g e n i t a l i a** (Figs 1, 2): Socius long, slender; valva broad with sacculus long, slightly convex; median part of transtilla large, tapering terminad, weakly convex apically. Aedeagus rather uniformly broad throughout; coecum penis slightly sclerotized, ca one-third of total length; terminal part short, slender; cornuti: numerous small and medium-sized non-capitate spines. Juxta simple, small.

**F e m a l e g e n i t a l i a** (Fig. 25): Apophyses long; lateral lobes of sterigma rather weakly sclerotized except for dorso-basal portions; colliculum broad, membranous, with weak sclerotization near ostium; posterior portion of ductus bursae longitudinally plicate, basal portion broad; corpus bursae elongate, with small group of minute spines situated mainly ventro-laterally; ductus seminalis originating near middle of corpus bursae, ductus of accessory bursa extending posteriorly to it, both ventral.

**B i o l o g y :** No data except for collection dates of five specimens: October, December and February.

**D i s t r i b u t i o n :** Republic of South Africa. Examined specimens are from Transvaal: Middelburg, Minastone, Cape Town and New Hanover.

**C o m m e n t s .** **D i a g n o s i s :** Brownish fasciae along veins on distal portion of forewing; ground colour yellowish, diffusely spotted brownish; labial palpus yellowish; socius half length of costa of valva, aedeagus almost twice as long as the latter, without capitate cornuti.

CLARKE (1963) designated as lectotype the specimen deposited in the collection of the Natural History Museum, London, and mentioned that the other specimen was lost. This second specimen is, however, located in the Transvaal Museum. The above description of the female genitalia is based on the latter specimen.

### *Eugnosta chaliasma* sp.n.

Alar expanse ca 18 mm. Head, thorax and ground-colour of forewing yellowish cream; tegula mixed ferruginous. Forewing not expanding terminally; apex rounded; termen short, weakly oblique, somewhat convex. Basal third of wing and terminal area suffused ferruginous, costa rust-brown, termen slightly paler; darker shades along some veins; median fascia diffuse, rust brown, narrowing medially; slight ferruginous suffusion along postcubital vein except towards end; discal dot absent. Fringes brown, concolorous with ground-colour in anal area. Hindwing brownish; fringes brownish cream with weak, darker lines.

**F e m a l e g e n i t a l i a** (Fig. 26) as in preceding species but apophyses posteriores shorter; ductus bursae much shorter, with plicate area restricted to its most anterior part;

colliculum membranous, longer than in *umbraculata*; ostium bursae broad, with weakly sclerotized edges. Group of spines present in submedian part of corpus bursae; ductus seminalis and accessory bursa originating beyond middle of corpus bursae, dorsally.

**H o l o t y p e**, female: "Congo Belge, P.N.U. Lusinga (1760 m), 10.IV.1947, Mis. G. F. de WITTE; 241a"; Genitalia slide: 6788. **P a r a t y p e s**, 2 females with identical data. All specimens in the Natural History Museum, London.

**C o m m e n t s**. **D i a g n o s i s**: Ground colour of forewing without brownish spots; at most traces of venal markings present in posterior area, fringes in median part uniformly brownish; corpus bursae with submedian group of spines.

Closely related to the preceding species but easily distinguished by uniform forewing ground-colour. Genital differences as in the description.

#### *Eugnosta uganoa* sp.n.

Alar expanse 13 - 14 mm. Labial palpus ca 2, grey cream, lateral parts of head concolorous, upper part of head and palpus cream, flagellum with brown and cream scales. Thorax cream; tegula ferruginous towards base. Forewing as in *chalasma*; ground-colour yellowish cream, basal area suffused brownish, terminal area darker in apical portion, more ochreous proximally, pale towards tornus. Median fascia concave in middle distally, brownish, tinged grey; black dot present at end of median cell. Refractive, diffuse markings in median and distal parts of wing. Fringes dark, brown-grey, except for cream tornal area, basal line blackish. Hindwing pale brownish; fringes cream with pale brownish basal line.

**M a l e g e n i t a l i a** (Figs 3, 4). Socius small, broad basally, terminal third very slender; valva rather short; sacculus rather weakly sclerotized except for basal portion and large, dorso-terminal, triangular plate; central part of transtilla stout, rounded apically; juxta small, with somewhat elongate dorsal portion; aedeagus thick, with broad coecum penis and proportionally short distal (beyond caulis) part; numerous small spines in vesica, the largest, situated distally, forming a cluster; no capitate cornuti present.

**F e m a l e g e n i t a l i a** (Fig. 27) similar to those in the two preceding species. Apophyses long, slender; colliculum ill-defined, slightly broader than adjacent part of ductus bursae, indistinctly sclerotised subterminally; ductus bursae plicate just beyond corpus bursae; group of distinct spines in median portion of the latter; ductus of accessory bursa postmedian, originating dorsally.

**H o l o t y p e**, male: "Ugano, 15 - 17000 m, Tanganyika-Terr. Matengo-Hochland, WSW v. Songea, 11 - 20.XII.35, ZERNÝ", Genitalia slide Nr. 10860. **P a r a t y p e**, female, identical label, genitalia on slide 10861. Both specimens in the collection of the Naturhistorisches Museum, Wien.

**C o m m e n t s**. **D i a g n o s i s**: Terminal part of sacculus armed with triangular plate; group of spines in median portion of corpus bursae.

#### *Eugnosta heteroclita* sp.n.

Alar expanse 14 mm. Labial palpus ca 2, ferruginous, paler basally; lateral parts of head brownish white, front whitish, antenna and vertex brownish; thorax brown. Forewing

slender, rather uniformly broad throughout, with costa straight to before apex, apex very short, rounded, termen strongly oblique, tolerably straight. Ground-colour pearl-white, tinged cream on distal third of wing; base of wing and basal half of costa brownish cinnamon, the latter indistinctly spotted. Median fascia broad, slightly oblique, rust-brown edged with black-grey, with costal part small, grey, with some black scales. Yellowish area with some black-grey scales in dorsal half of wing; two similarly coloured spots at costa; discal dot black; diffuse, pale ochreous-cream blotch beyond it in tornal area; posterior and apical areas of wing more ferruginous with grey and blackish groups of scales and slender spaces of glossy pearl colour. Fringes (strongly damaged) brownish ochreous; remnants of median line darker. Hindwing brownish grey; fringes whiter with median line concolorous with middle of wing.

**F e m a l e g e n i t a l i a** (Fig. 28): Papilla analis rather short, with posterior part fairly broad; apophyses moderately long; sterigma large, composed of strong membrane, with broad, rather well sclerotized lateral lobes; ostium bursae small; colliculum very short, tapering towards slender, distal portion of ductus bursae; median part of the latter strongly enlarged, with sclerotized strips; anterior portion of ductus composed of thick membrane, densely plicate. Ductus seminalis subdorsal, originating in anterior part of ductus bursae; ductus of accessory bursa thick, extending from postmedian part of ductus bursae, also subdorsally, but on opposite side. Corpus bursae with many small scattered spines, mainly in anterior half.

**H o l o t y p e**, female: "Kleinhond, Cape, IV. 1942, DICKSON", genitalia slide Nr. 20948, in the collection of the Transvaal Museum.

**C o m m e n t s . D i a g n o s i s**: Forewing slender with strongly oblique (ca 60°) termen; ductus bursae strongly tapering towards colliculum.

**M a l e** unknown. Coloration distinct, especially that of the median fascia.

### *Eugnosta feriata* (MEYRICK, 1913) comb.n.

*Pharmacis feriata* MEYRICK, 1913, Ann. Transvaal Mus., 3: 270. Type locality: South Africa: Transvaal: Barberton.

Alar expanse 15 mm. Labial palpus ca 2, whitish grey, antenna paler, remainings parts of head and thorax whitish. Forewing not expanding terminally, apex acute, termen distinctly oblique, straight. Ground colour glossy white; pattern indistinct, pale ochreous cream, in form of basal suffusion, submedian and median fasciae connected in middle of wing, postmedian fascia situated at bases of median veins and a row of diffuse spots along termen; discal spot black; fringes white. Hindwing very pale brownish white; fringes white with traces of median line concolorous with wing.

**C o m m e n t s . D i a g n o s i s**: Forewing apex acute, termen straight, distinctly oblique; transverse, pale ochreous cream fasciae on white ground colour.

The genitalia slide of the type is missing. The type bears the following label: "Barberton, 2 Dec. 1910, A.J.T. Janse", "G. 4710; 5928". Deposited in the collection of the Transvaal Museum.

*Eugnosta stigmatica* (MEYRICK, 1909) comb. n.

*Pharmacis stigmatica* MEYRICK, 1909, Ann. S. Afr. Mus., 5: 369. Type locality: South Africa: Cape Colony: George and Cape Town.

Alar expanse 12 - 14 mm. Labial palpus ca 2, whitish, more or less distinctly tinged ochreous laterally, remaining parts of head and thorax whitish. Forewing weakly expanding posteriorly in male, uniformly broad throughout in female; apex very short, rounded; termen weakly oblique, almost straight. Ground colour whitish or cream, more or less strongly suffused brownish yellow, with more or less distinct browner spots especially in distal part of wing, where ground colour may form glossy spots; basal half of costa usually concolorous with suffusions, or darker. Pattern brownish, variable in shade, often with grey or yellow admixture, in form of median fascia interrupted subcostally, curved, convex towards base subdorsally; termen hardly darker than ground colour of median area of wing or slightly suffused with brownish; discal spot blackish, absent in a few specimens. Fringes brownish grey or grey, with ternal part of basal line occasionally blackish. Hindwing pale, brownish grey, rather transparent basally; fringes whitish with weak admixtures of brownish or grey.

Male genitalia (Figs 5,6): Socius slender, slightly tapering terminad; sacculus simple, rather weakly sclerotized except for basal portion. Central part of transtilla fairly broad, somewhat tapering terminally; juxta small, simple. Aedeagus rather small and uniformly broad throughout, with slender coecum penis; vesica with numerous small spines.

Female genitalia (Fig. 29): Papilla analis slender; apophyses fairly long; lateral parts of sterigma broad, anterior portion cup-shaped, distal portion expanded, composed of strong membrane; colliculum short, plicate, in form of slight broadening of distal portion of ductus bursae; ductus bursae rather slender, also folded; corpus bursae without any spines, completely transparent; base of ductus of accessory bursa just at base of ductus bursae, inserted ventro-laterally; ductus seminalis originating from base of the former, dorsally.

Distribution. South Africa only: Natal: Pinetown, Weenen, Estcourt, Harkloof, Umbilo; Cape Town, Saasveld, Aliwal North, Port Elizabeth, Transvaal: Umkommas.

Comments. Diagnosis: Median fascia slender, slightly curved, brownish, ground colour much paler, termen brown to grey; aedeagus short, with small spines in vesica; cup-shaped part of sterigma membranous, ductus seminalis from base of ductus of the accessory bursa.

Variable in colour. Probably a common species. Externally reminiscent of some Palaearctic *Cochylidia* species.

*Eugnosta misella* sp.n.

Alar expanse 11 mm. Labial palpus 2.5, cream, mixed ferruginous to middle, laterally; remaining parts of head white cream, flagellum of antenna brownish; thorax brownish cream, with darker tegula. Forewing as in *stigmatica* Ground colour pale brownish cream, markings in terminal part of wing diffuse, brownish to yellowish brown (near tornus), basal half of costa brownish, median fascia browner, curved; discal spot black-brown, minute. Fringes grey, basal line weak, blackish, ternal area cream. Hindwing brownish cream; fringes much paler.

**Female genitalia** (Fig. 30): Apophyses posteriores long; anterior, cup-shaped part of sterigma short, somewhat tapering towards very strongly reduced ductus bursae; corpus bursae partially minutely spined, mainly ventrally; accessory bursa originating at base of ductus bursae, ductus seminalis extending just before it, also dorsally.

**Holotype**, female: "Woodb. Vill., 11.12.1909, C. J. SWIESTRA" [RSA]; genitalia slide Nr. 20952, in the collection of the Transvaal Museum.

**Comments. Diagnosis:** cup-shaped part of sterigma membranous, weakly tapering anteriorly; ductus bursae extremely short.

Externally almost identical with *E. stigmatica* but with distinct female genitalia. Male unknown.

### *Eugnosta matengana* sp. n.

Alar expanse ca 13 mm. Labial palpus less than 3, cinnamon, lateral parts of head, upper parts of palpi and head cream. Thorax cream, tinged grey, brownish grey anteriorly. Forewing slightly expanding terminally, with costa almost straight except for median, slightly concave portion; apex short, rounded; termen oblique, straight. Ground-colour cream, somewhat tinged ochreous grey in median area of cell, delicately strigulated grey or brownish; median fascia yellowish brown on dorsal half and at costa, grey along edges, interrupted subcostally; basal third and subapical parts of costa spotted grey-brown; distal third of wing suffused, marked with yellowish brown blotches and a group of blackish scales between end of median area of cell and middle of termen. Fringes brownish grey, with weak median line and postmedian lines and blackish, broad basal line. Hindwing brownish, fringes paler with diffuse, brownish lines. Forewing ground colour of paratype greyer, without ochreous hue, costal suffusion divided into spots.

**Female genitalia** (Fig. 31). Papilla analis broad; apophyses long; sterigma weakly sclerotized, its lateral parts more distinctly so towards apophyses only; anterior part of sterigma broad, membranous; ductus bursae as long as sterigma; ductus of accessory bursa posterior, originating dorsally; ductus seminalis in posterior portion of corpus bursae, ventral; corpus bursae with ventro-lateral area of minute spines.

**Holotype**, female: "Ugano, 15 – 1700 m, Tanganyika-Terr. Matengo-Hochland, WSW v. Songea, 1-10.II.1936, ZERNÝ"; Genitalia slide Nr. 10866. **Paratype**, female, identical label, genitalia on slide 10863. Both specimens in the collection of the Naturhistorisches Museum, Wien.

**Comments. Diagnosis:** Forewing markings somewhat similar to *misella*, but subterminal, blackish marking present; sterigma weakly sclerotized.

### *Eugnosta xanthochroma* sp. n.

Alar expanse ca 15 mm. Labial palpus 2.5, yellow-ochreous laterally, paler posteriorly and dorsally, ferruginous ventrally; front yellowish to ochreous, remaining parts of head darker, tinged rust-brown laterally; thorax rust-yellow, base of tegula darker. Forewing somewhat expanding terminally, with costa rather straight, apex very short, rounded and termen straight, oblique. Ground-colour ochreous yellow, paler posteriorly, suffused with dark ochreous gold anteriorly; costa densely strigulated brown to middle; median fascia reduced to a diffuse submedian brown blotch consisting of numerous dots; similarly

coloured suffusion near tornus followed by weak marking in costal area; a curved, brownish line limiting terminal area; dark brown spots along costa. Refractive scales in small groups scattered on the ground-colour. Fringes brownish grey, divisions and submedian line brown. Hindwing brownish grey, densely strigulated brown; fringes pale grey.

**Male genitalia** (Figs 7,8): Socius long, slender; valva broad; sacculus simple, basal third broad. Central part of transtilla stout, somewhat shorter than socius, provided with subapical thorns; juxta simple, elongate. Aedeagus very broad, proportionally short, with short coecum penis; vesica with single capitate cornutus approximately as long as posterior part of aedeagus.

**Holotype**, male: "Kimbolton, Natal, Hutchinson, 1892, No. 513"; Genitalia slide Nr. 7152. Deposited in the collection of the Natural History Museum, London. **Paratypes**, 4 males labelled "Durban, Natal, Hutchinson, 1892" in same collection.

**Comments. Diagnosis:** Ground colour golden to ochreous yellow, pattern brown; aedeagus slightly longer than valva, with large cornutus.

This species was distinguished by E. MEYRICK but never described. I am thus preserving the name applied by MEYRICK.

The species shows some variation especially in the intensity of the ground-colour and the shape of the forewing pattern.

*Eugnosta assecula* (MEYRICK, 1909) comb. n.

*Pharmacis assecula* MEYRICK, 1909, Ann. Transvaal Mus., 2: 5, pl. 2, fig. 5. **Type locality:** South Africa: Pretoria.

Alar expanse 13 - 14 mm in male, 17 - 19 mm in female; labial palpus 2.5 and 3.5, respectively. Head white-cream, flagellum brownish. Thorax cream to dark yellow, often, especially in female, mixed with ochreous or brown, mainly on tegula and posteriorly. Forewing in male slightly expanding posteriorly, with termen oblique, straight, in female broadest medially. Ground-colour in male yellowish with paler areas, rows of refractive silver spots, and dark yellow suffusions. Pattern rust-brown in form of oblique median marking (representing dorsal portion of median fascia) almost reaching discal spots, a narrow, paler fascia extending from that point to tornus and slender terminal fascia. Costal portion of median fascia usually ill-defined, basal part of costa brown, subapical blotch and smaller costal spots much paler, usually ochreous brown, if developed. Fringes brownish or ochreous, basal line much darker, if not atrophied. Hindwing pale brownish cream; fringes dirty cream, remnants of lines brownish or ferruginous. **Variation:** In males some parts of the pattern, especially the median fascia, may be dark brown, with refractive spots; in females there may occasionally be ochreous suffusion on the ground colour.

**Male genitalia** (Figs 9,10): Socius small, slender, with broad base; distal half of valva slender; sacculus simple. Central part of transtilla broad, spined apically; juxta membranous in distal part, somewhat protruding dorsally. Aedeagus slender, with rather short ventro-terminal part; cornutus capitate, short, accompanied by numerous small thorns.

**Female genitalia** (Figs 32,33): Sterigma with rather slender, almost entirely membranous cup-shaped portion; very short, slender, membranous part of ductus bursae before sterigma separating it from very large, partially sclerotized anterior portion bearing



some thick spines; delicate spines in corpus bursae; ductus seminalis in postmedian part of the latter, dorsal, followed by ductus of accessory bursa.

**Distribution.** South Africa: Several specimens from Transvaal, Pretoria, Sunwich Port.

**Comments.** **Diagnosis:** Ground-colour of forewing yellow, pattern ferruginous; juxta slightly elongate, membranous dorsally, distal part of aedeagus short.

The type of this species is unknown to me. CLARKE (1955) supposed it was deposited in the Transvaal Museum, but Dr. KRÜGER has not located it. It is extremely similar to the two following species, especially *replicata*. Examination of further material of these two species is needed to clarify their status.

*Eugnosta replicata* (MEYRICK, 1913) comb. n.

*Pharmacis replicata* MEYRICK, 1913, Ann. Transvaal Mus., 3: 270. Type locality: South Africa: Transvaal: Haenertsburg.

Alar expanse 11 - 12 mm. Head, thorax and shape of forewing as in *assecula*. Ground colour whitish to yellow, occasionally with darker suffusions. Costa in basal portion brown, other costal markings pale, brownish or ochreous brown. Median fascia preserved as a subdorsal marking produced distally, fusing with the fascia extending to the tornus; a row of subterminal brownish spots sometimes present. Fringes grey, with weak, brown-grey median line. Hindwing brownish grey; fringes paler, more grey.

**Male genitalia** (Figs 11,12) as in *assecula* but socius smaller, ventro-terminal portion of aedeagus longer and dorsal part of juxta rather distinctly and uniformly sclerotized, strongly elongate.

**Distribution:** South Africa: Transvaal.

**Comments.** **Diagnosis:** Distal part of aedeagus and dorsal portion of juxta strongly elongate.

**Female** unknown, but presumably with genitalia very closely related to those of *assecula*. The male genitalia figured in this paper are of a specimen collected in the type locality contemporaneously with the type.

*Eugnosta vecorda* sp. n.

**External characters** as in *assecula*.

**Male genitalia** (Figs 13,14) as in *assecula* but juxta longer, with very long, rather well sclerotized dorso-lateral processes, aedeagus much longer, cornutus stout, with large basal plate bearing thorns, accompanied by minute thorn-like cornuti and proximal group of very thin spines.

**Female genitalia** (Fig. 34) similar to those in previous species but with narrower, fairly well sclerotized anterior part of sterigma; ductus bursae with inner distal sclerite and smaller median sclerite.

**H o l o t y p e**, male: "Pretoria, 3.XII.[19]15, A.J.T. JANSE", genitalia slide Nr. 7150; **p a r a t y p e**: female labelled "Pretoria, Transvaal, Janse, 28.II.[19]07", genitalia slide Nr. 7151; both specimens in the collection of the Natural History Museum, London.

**C o m m e n t s**. **D i a g n o s i s**: Juxta with long, dorso-lateral processes, base of cornutus with large, sclerotized plate; anterior portion of sterigma sclerotized, distal portion of ductus bursae with weak sclerite.

This species is very close both to *assecula* and *replicata* and forms with them a complex requiring further study based on a larger sample material.

*Eugnosta anxifera* sp. n.

Alar expanse ca 15 mm. Labial palpus 2, ochreous, with brownish scales; remaining parts of head brownish; thorax brown. Forewing expanding posteriorly, with costa slightly convex, apex very short and termen somewhat oblique, rather straight. Ground-colour brown-cream, suffused and densely strigulated brown. Base of wing somewhat darker than remaining parts of wing. Fringes browner than ground-colour. Hindwing brownish grey, paler basally; fringes brownish.

**F e m a l e g e n i t a l i a** (Fig. 35): Papilla analis long; lateral parts of sterigma expanding medially towards subtriangular median sclerite, membranously connected with apophyses anteriores; anterior part of sterigma slightly differentiated from posterior part of membranous ductus bursae; remaining 2/3 of the latter with sclerite. Many spines in corpus bursae.

**H o l o t y p e**, female: "E.[ast] Cape Prov.[ince], Katherg., 4000 ft., Oct. 1932"; genitalia slide Nr. 7158 in the collection of the Natural History Museum, London.

**C o m m e n t s**. **D i a g n o s i s**: Forewing brownish, with darker strigulation; mid-part of postvaginal sterigma with subtriangular sclerite.

*Eugnosta trimeni* (FELDER & ROGENHOFER, 1874) comb. n.

*Conchylis trimeni* FELDER & ROGENHOFER, 1874, Reise Novara, pl. 137, figs 48, 51. Type-locality: South Africa: Cape Town: Wynberg. *Conchylis trimeni* f. *minor* FELDER & ROGENHOFER, 1874, *ibid.*, pl. 137, fig. 48.

Alar expanse 15 - 18 mm in male, 24 - 26 mm in female. Labial palpus ca 2, pale brownish or cream, whiter dorsally; remaining parts of head rather concolorous, vertex suffused brownish, antenna rather brown. Thorax brownish cream to brownish, brown medially (including tuft). Forewing weakly expanding posteriorly in male, rather uniformly straight in female; costa weakly convex basally, termen weakly oblique. Ground-colour whitish suffused and (often) strigulated brown, occasionally with dark brown scales at end of median cell. Base of wing brownish, costa often so suffused almost to apex, terminal area brown, forming a blotch with oblique proximal edge; median fascia atrophying subcostally or weakly developed in costal third. Refractive pattern weak. Fringes concolorous with suffusions. Hindwing brown-cream, strigulation brown, diffuse.

**Variation.** Ground-colour and pattern more or less dark, strigulation variably developed, pattern more or less complete, of variable intensity. One specimen with forewing brown-cream and with dense, brown strigulation.

**Male genitalia** (Figs 15,16): Tegumen short; socius fairly short, subapical, showing some variation in size and shape. Valva broad; sacculus strongly developed, with dorsal, plate-shaped termination. Median part of transtilla large, stout; dorsal portion of juxta strongly elongate, tapering apically. Aedeagus tapering apically, with long, ventral termination; coecum penis broad; caulis large; vesica with single, capitate corutus and plate-shaped, curved sclerite in vesica.

**Female genitalia** (Fig. 36): Ovipositor short; apophyses large; sterigma with well sclerotized postvaginal part and broad lateral lobes, with proximal part distinctly sclerotized, ring-shaped, tapering towards middle, ventrally. Colliculum poorly differentiated, with weakly sclerotized ring, from ventro-distal portion of which extends membranous sac; corpus bursae with postmedian sclerites and with spines in median and postmedian areas; ductus seminalis from submedian area, dorsally; ductus of accessory bursa originating on top of large, membranous ventral lobe.

**Distribution.** South Africa. Several specimens examined from Natal, Cape Province and Transvaal.

**Comments.** **Diagnosis:** Dorso-terminal part of sacculus plate-shaped; membranous sac present in middle of ventral surface of colliculum present.

Despite *trimeni* being the best known Ethiopian cochyline species, its systematic position is still unclear.

### *Actihema* gen. n.

**Type species:** *Hysterosia hemiacta* MEYRICK, 1920.

**Venation** as in *Eugnosta* HÜBNER. Male genitalia with socius rather similar to that in *Eugnosta*, but its top protruding dorsally as in *Eupoecilia* STEPHENS. Valva elongate; sacculus short, simple; juxta provided with very large, club-shaped process spined on distal part; aedeagus slender.

**Comments.** **Diagnosis:** The process of the juxta and its terminal spines are probable autapomorphies of this genus. The genus name is an anagram of the name of the type-species.

### *Actihema hemiacta* (MEYRICK, 1920) comb. n.

*Hysterosia hemiacta* MEYRICK, 1920, Voyage Allaud Jeannel, Insectes Lépidoptères, 2. Microlepid.: 45. **Type locality:** Kenya: Mt. Kenya.

Alar expanse ca 12 mm. Labial palpus longer than 2, whitish; remaining parts of head and thorax concolorous, flagellum of antenna ringed brown. Forewing somewhat expanding to middle, then rather uniformly broad, with costa angulated at middle, termen strongly oblique. Ground-colour white, suffusions yellow-cream; basal area, including

median fascia grey-brown, with paler and darker markings and irregular distal edge (the largest prominence at dorsum); paler fascia from dorsum, subterminally; median, weak, broad shade in middle of subterminal area and a weak line limiting apical area. Fringes grey. Hindwing with short apex, white-cream, darker at apex and periphery, provided with transverse brownish strigulation; fringes damaged, probably paler than wing, with weak median line.

**Male genitalia** (Figs 17,18): Basal half of socius broad, remainder slender with rounded apical prominence, marked with minute spines along inner edge of broad portion; arms of vinculum connected membraneously with each other; valva elongate, broadest near middle, with plicate area along median portion of disc; sacculus broad, without free termination. Central part of transtilla fairly broad; juxta short, with thick dorso-posterior process in distal third armed with minute spines. Aedeagus strongly angulated, very slender beyond angulation, with long coecum penis and large caulis.

**Lectotype**, male (here designated): "Mt. Kenia", genitalia slide Nr. 3752 in Muséum d' Histoire Naturelle, Paris. **Paralectotype**: "Mt. Kenia, Brit. E. Africa, A. J., 60000", I. [19]12, in collection of the Natural History Museum, London.

### *Eupoecilia* STEPHENS, 1828

*Eupoecilia* STEPHENS, 1828, Syst. Cat. Br. Insects, 2: 1900. Type-species: [*Tortrix angustana* HÜBNER, [1796-99], by subsequent designation (Westwood, 1840, *Introductio in mod. Classif. Insects*, 2, Index: 109).

A redescription of this genus and its synonymy were given by RAZOWSKI, 1987. Until now this genus has been known from several representatives distributed in the Palaearctic, Oriental (the majority) and Australian regions. Two species described below are currently known only from the Ethiopian Region.

### *Eupoecilia kruegeriana* sp. n.

Alar expanse 12 mm. Labial palpus over 2, pale ochreous, cream apically and dorsally, remaining parts of head ochreous-cream, antenna browner; thorax cream ochreous, much darker anteriorly. Forewing slender in basal portion, distinctly expanding posteriorly, with termen oblique, rather straight. Ground-colour cream-ochreous, with some diffuse, darker suffusions and blotches (subapical and subterminal); basal half of costa mixed brown. Median fascia almost perpendicular to dorsum, broad in costal half, indistinct medially, dark grey, marked with black lines forming a letter "V" opening costad, followed by a weak line towards dorsum; a rust-brown suffusion beyond median fascia, broadest in dorsal half of wing. A black dot at end of subapical blotch. Fringes concolorous with suffusions of wing, with black marking at apex, distally. Hindwing dark, brownish; fringes slightly paler.

**Female genitalia** (Fig. 37): Papilla analis broadest medially, with slender proximal portion; lateral parts of sterigma slender, cup-shaped part of sterigma well sclerotized, short; ductus bursae long, rather weakly sclerotized, densely plicate; ductus

of accessory bursa extending from mid-part of the latter, dorsally; corpus bursae densely spined; ductus seminalis originating near middle of corpus bursae dorsally.

**H o l o t y p e**, female: "Mariepskop, 24-25. I. 1956, L. VARI" [RSA], genitalia slide Nr. 20949, in the collection of the Transvaal Museum.

**C o m m e n t s**. **D i a g n o s i s**: Most of median fascia grey, marked black; cup-shaped part of sterigma narrowing towards middle, ventrally.

### *Eupoecilia aburica* sp. n.

Alar expanse ca 9 mm. Labial palpus 1.5, pale ochreous, with orange scales; remaining parts of head and thorax ochreous-cream. Forewing not expanding posteriorly; costa slightly curved outwards; apex very short; termen fairly oblique, rather straight. Ground-colour yellowish, diffusely suffused orange yellow or ochreous-yellow. Costa with dark brown scales at base, less so in median portion. Median fascia diffuse, ferruginous-brown, rather perpendicular to wing edges, reaching mid-costa. Fringes (strongly damaged) probably concolorous with ground-colour. Hindwing pale brownish grey.

**F e m a l e g e n i t a l i a** (Fig. 38) as in preceding species but anterior portion of sterigma more slender, concave in middle of posterior edge ventrally, ductus bursae shorter; densely plicate, rather weakly sclerotized; numerous spines in corpus bursae and anterior portion of ductus bursae; ductus of accessory bursa extending from dorsal part of ductus bursae, postmedially.

**H o l o t y p e**, female: "Aburi, Gold Coast, 1912-1913, W. H. PATTERSON", genitalia slide Nr. 7207 in the collection of the Natural History Museum, London.

### *Trachybyrsis* MEYRICK, 1927

*Trachybyrsis* MEYRICK, 1927, Exotic Microlepid., 3: 368. Type-species: *Trachybyrsis euglypta* MEYRICK, 1927, designated by monotypy.

CLARKE (1963) illustrated the venation and the female genitalia of the type-species of *Trachybyrsis* and BRADLEY (1965) described the male genitalia of a very closely related new species (*hypsitropha*). MEYRICK placed in this genus another of his species, *chionochlaena*, which, however, is not congeneric (see list of unplaced species). The characteristics of the genus, based on the genitalia, are as follows.

**M a l e g e n i t a l i a**: Tegumen short; socii apical, situated in a membrane; vinculum arms coalescent ventrally. Valva broad with rather distinct pulvinus; sacculus strong, without free termination. Aedeagus simple; two capitate cornuti in vesica.

**F e m a l e g e n i t a l i a**: Ovipositor short; apophyses moderate. Postvaginal part of sterigma well sclerotized, with concave median part and broad lateral plates; ostium bursae in short, funnel-like sclerite; bursa copulatrix entirely membranous; ductus bursae broad; ductus of accessory bursa probably originating dorsally.

**B i o l o g y** little known; see *euglypta*.

**D i s t r i b u t i o n**: Rwanda.

**Comments.** No apomorphy is recognised except for the structure of the sterigma. The genus is very little known and its systematic position remains obscure. The shape of its tegumen and socii remind one of those in *Cochylis* TREITSCHKE, 1829, but these characters may be of convergent importance. Representatives of *Trachybyrsis* show great similarity in their forewing patterns and shapes of the valva and aedeagus; they differ mainly in the shape of the transtilla.

*Trachybyrsis euglypta* MEYRICK, 1927

*Trachybyrsis euglypta* MEYRICK, 1927, Exotic Microlepid., 3: 368. Type-locality: Rwanda: Niansa.

CLARKE (1963) illustrated the type specimen. BRADLEY (1965) recorded males from the Ruwenzori Range, but although he mentioned their genitalia he did not describe them. He found some small external differences between his specimens and the type but I accept that they are conspecific.

**Male genitalia** (Figs 19,20): Socius rather small; median part of transtilla large, stout, armed with apical spines. Terminal third of aedeagus distinctly curved ventrally. Other characters as described for the genus.

**Female genitalia** (figured by CLARKE, 1963) as described for the genus (Fig. 39).

**Biology.** BRADLEY notes that this species was collected at altitudes between 6,000 and 12,000 feet; this vertical distribution includes rain forest and ericaceous and alpine belts.

**Distribution.** Rwanda.

**Comments.** **Diagnosis:** Median part of transtilla long, aedeagus downcurved distally.

*Trachybyrsis hypsitropha* BRADLEY, 1965

*Trachybyrsis hypsitropha* BRADLEY, 1965, Ruwenzori Expedition, 2(12): 83, figs 1, 63. Type-locality: Ruwenzori: Kimemba Camp.

BRADLEY supported his description with photographs of the wings and male genitalia. Redescription of the genitalia (Figs 21,22): Valva broader than in preceding species, with deep subcostal fold and broader distal part of sacculus; median part of transtilla short, bilobed, densely spined; cornuti larger than in *T. euglypta*. The female is unknown.

**Distribution:** Ruwenzori Range only.

**Comments.** **Diagnosis:** Socius large, median part of transtilla strongly reduced, marked by two groups of apical spines; aedeagus less curved distally.

Externally *hypsitropha* differs from *euglypta* in having more olive-grey coloration. *T. euglypta* is more ochreous or ochreous-green, with a well developed triangular blotch near middle of costa.

## Unplaced species

*Trachybyrsis chionochnaena* MEYRICK, 1932, Trans. ent. Soc. London, **80**: 110.  
Type-locality: Abyssinia: Mt. Chillálo.

Known from a single male, illustrated by CLARKE (1963). Certainly this species is not congeneric with *euglypta*, the type-species of *Trachybyrsis*. The genitalia were not re-examined for this paper.

*Euxanthis exoterica* MEYRICK, 1924, Ark. Zool., **16**(11): 2. Type-locality: 'Birunga': Karissimbi. Not examined.

*Euxanthis heliochrosta* MEYRICK, 1928, Exotic Microlepid., **3**: 437. Type-locality: Belgian Congo: Lake Mokoto District: N.W. Kivu.

Known from single female, illustrated by CLARKE (1963). The redescription of the female genitalia (Fig. 40) is as follows: Papilla analis broad, apophyses short; sterigma membranous, major parts minutely spined, with some hairs forming two groups beyond ostium bursae; colliculum rather weakly sclerotized, short; ductus bursae with numerous weakly sclerotized folds and large membranous lateral lobe; corpus bursae membranous except for median part in which occurs an irregular sclerite protecting edges of ventral concavity; ductus of accessory bursa extending from posterior portion of concavity; position of insertion of ductus seminalis not located.

*Euxanthis limenias* MEYRICK, 1928, Exotic Microlepid., **3**: 437. Type-locality: Belgian Congo: Virunga Mts., Lake Kivu.

CLARKE (1963) illustrated the holotype (male) of this species and BRADLEY (1965) recorded two further males from the Ruwenzori Range (Mahoma River); in these latter specimens the two longer cornuti are strongly curved.

Description of the genitalia of holotype (Figs 23,24): Tegumen short, concave between socii apically; socius short, drooping, rounded; vinculum arms large, expanding ventrally, not coalescent ventrally. Valva slender; sacculus fairly broad, without free termination. Dorsal surface of transtilla spined, median part short; juxta simple. Aedeagus long, almost straight, with long, slightly curved ventral process; three unequal long cornuti in vesica.

*Phalonia illota* MEYRICK, 1914, Bull. Mus. Paris., : 121. Type-locality: no data. Illustrated by LE CERF (1922, Voyage B. Rothsild Etiop.: 476, pl. 1, fig. 4 – unknown to me).

The type, with abdomen missing, labelled 'Type' is preserved in the collection of the Muséum National d'Histoire Naturelle, Paris.

*Phtheochroa percnoptila* MEYRICK, 1933, Exotic Microlepid., **4**: 446. Type-locality: Belgian Congo: NE Kivu.

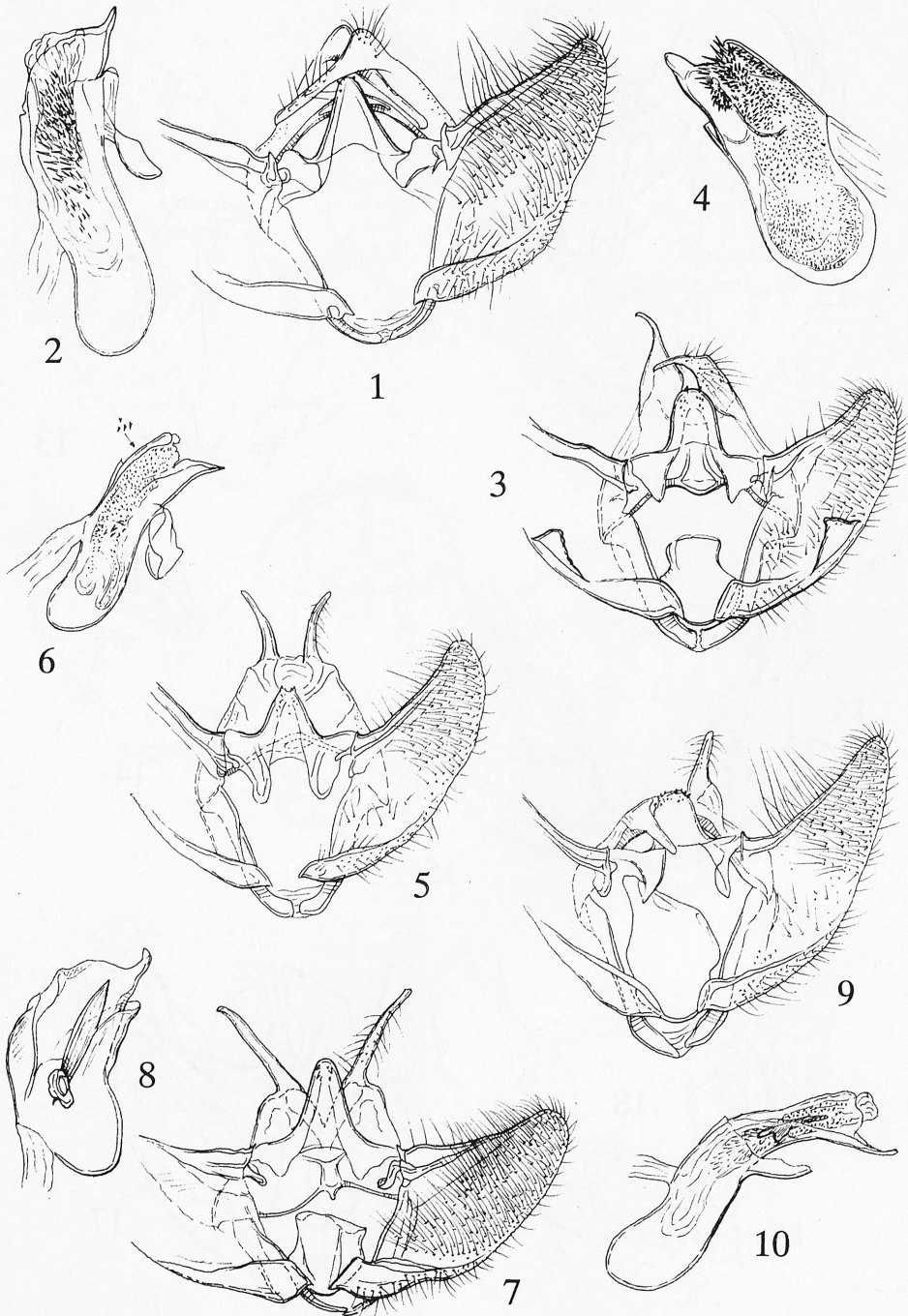
The type, not re-examined, is probably in the Tervuren Museum, Belgium.

Acknowledgments. My sincere thanks are due to Dr. Martin KRÜGER, Head Curator, Lepidoptera Dept., Transvaal Museum, Dr. R. G. OBERPRIELER, National Collection of Insects, Pretoria; the Keeper of the Naturhistorisches Museum, Vienna for sending me the types and other valuable material for study. I am greatly indebted to my friend Mr. Kevin R. TUCK, the Natural History Museum, London, who not only provided the type material from that museum but also kindly corrected this English text.

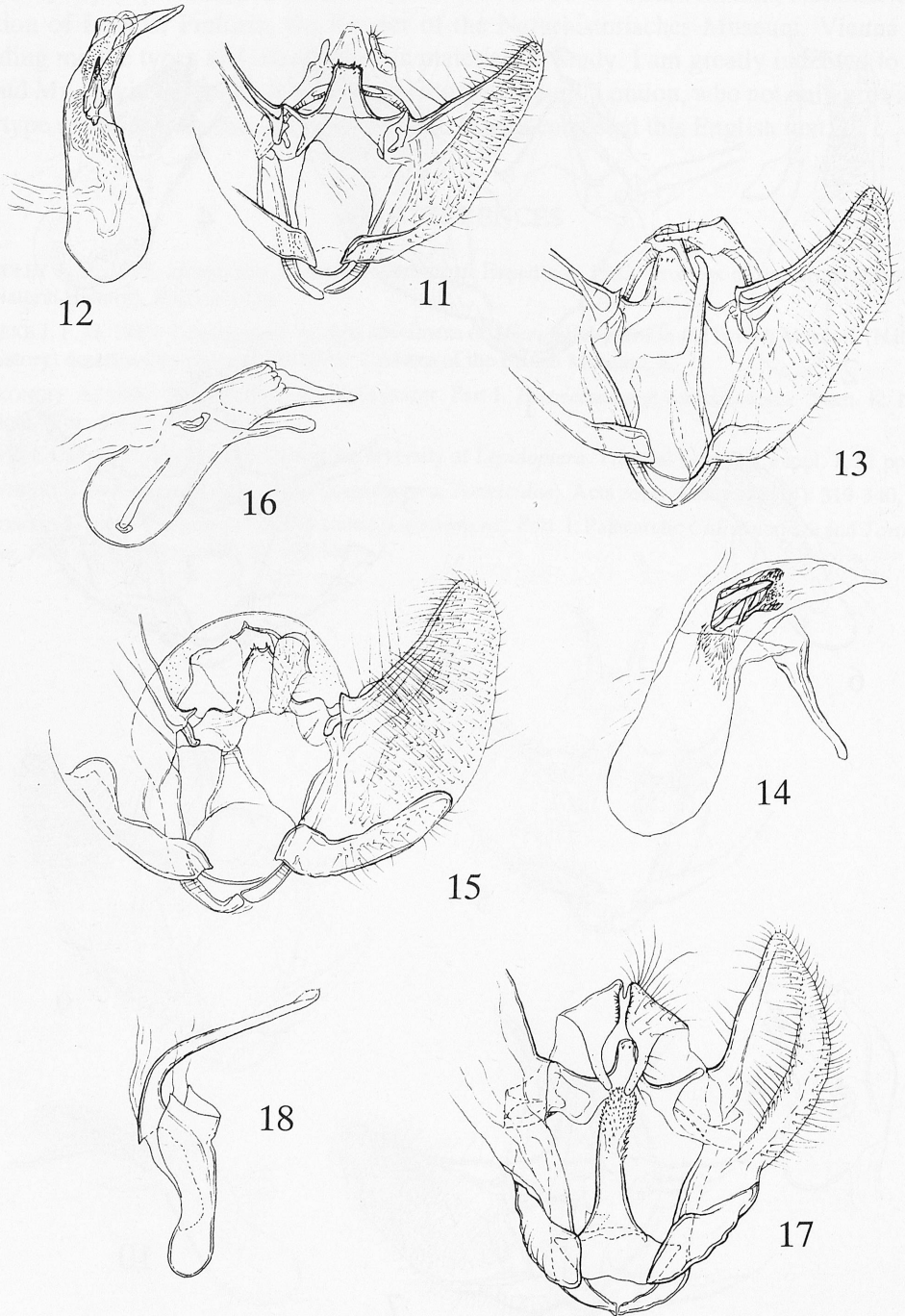
### III. REFERENCES

- BRADLEY J. D. 1965. *Microlepidoptera* [in] Ruwenzori Expedition 1952. Trustees of the British Museum (Natural History), 2(12): 81-148.
- CLARKE J. F. G. 1963. Catalogue of the type specimens of *Microlepidoptera* in the British Museum (Natural History) described by Edward MEYRICK. Trustees of the British Museum, 4.
- DIAKONOFF A. 1960. *Tortricidae* from Madagascar. Part I. *Tortricinae* and *Chlidanotinae*. Verh. K. Ned. Akad. Wet., 53(2): 1-109, 40 pls.
- HEPPNER J. B. 1991. Faunal regions and the diversity of *Lepidoptera*. Tropical Lepid., 2, suppl. 1, 81 pp.
- RAZOWSKI J. 1981. Nigerian *Tortricini* (*Lepidoptera*, *Tortricidae*). Acta zool. cracov., 25(14): 319-340.
- RAZOWSKI J. 1987. The genera of *Tortricidae* (*Lepidoptera*). Part. I: Palaeartic *Chlidanotinae* and *Tortricinae*. Acta zool. cracov., 30(11): 141-355.

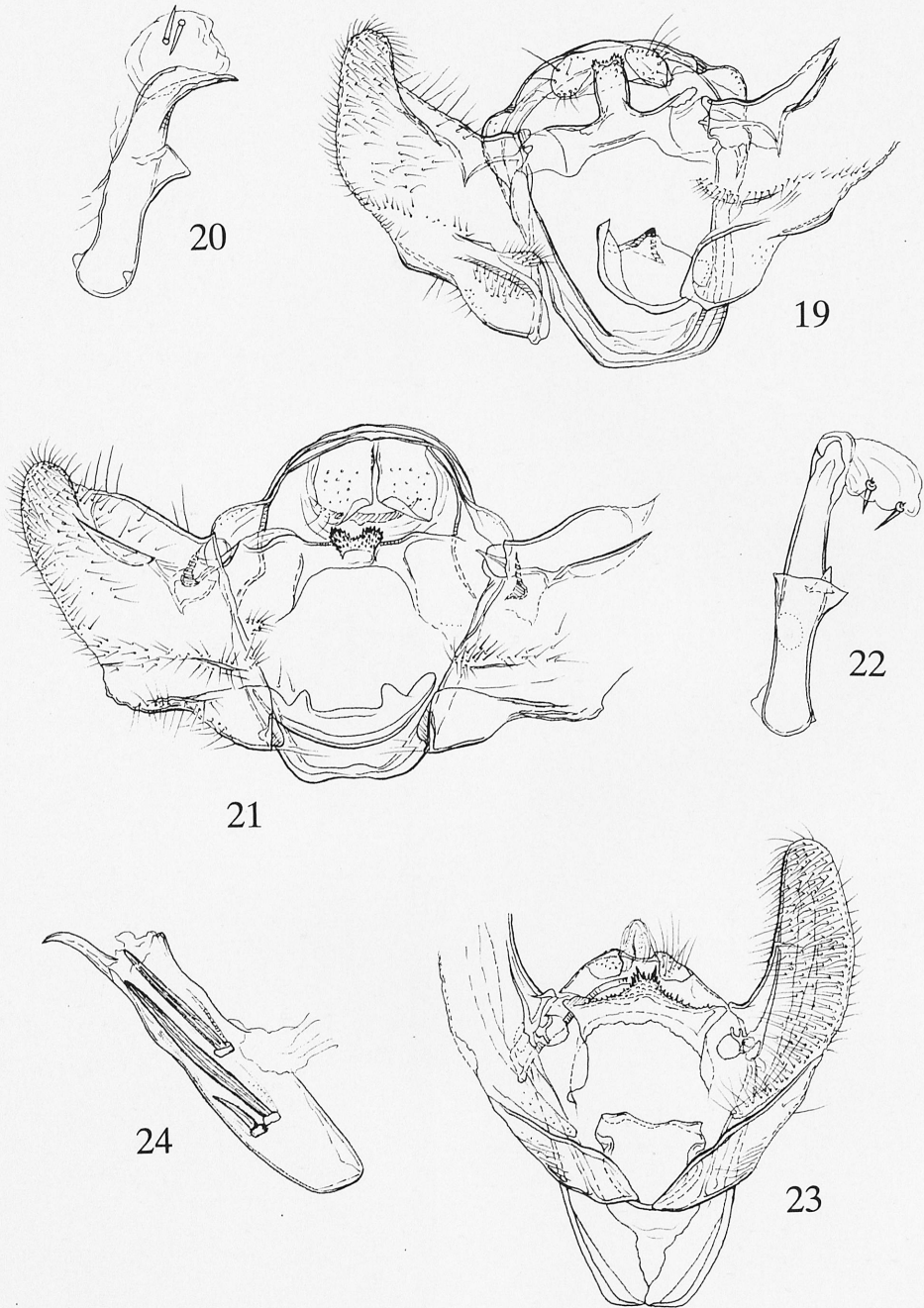




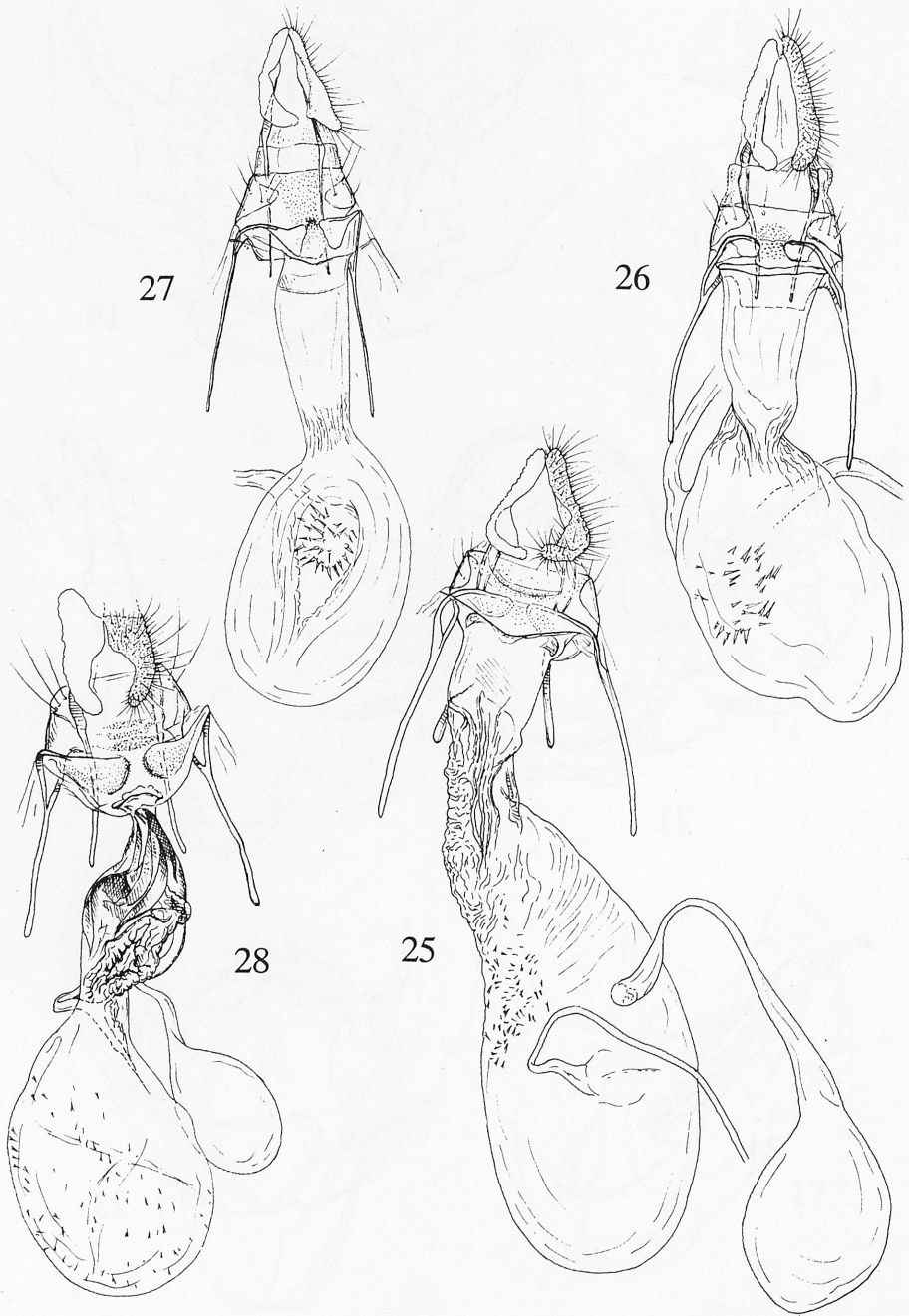
Figs 1-10. Male genitalia of *Eugnosta* HÜBNER: 1,2 - *E. umbraculata* (MEYRICK), Cape Town; 3,4 - *E. uganoa* sp.n., holotype; 5,6 - *E. sigmatica* (MEYRICK), Natal: Karkloof; 7,8 - *E. xanthochroma* sp.n., holotype; 9,10 - *E. assecula* (MEYRICK), Sunwiche Port



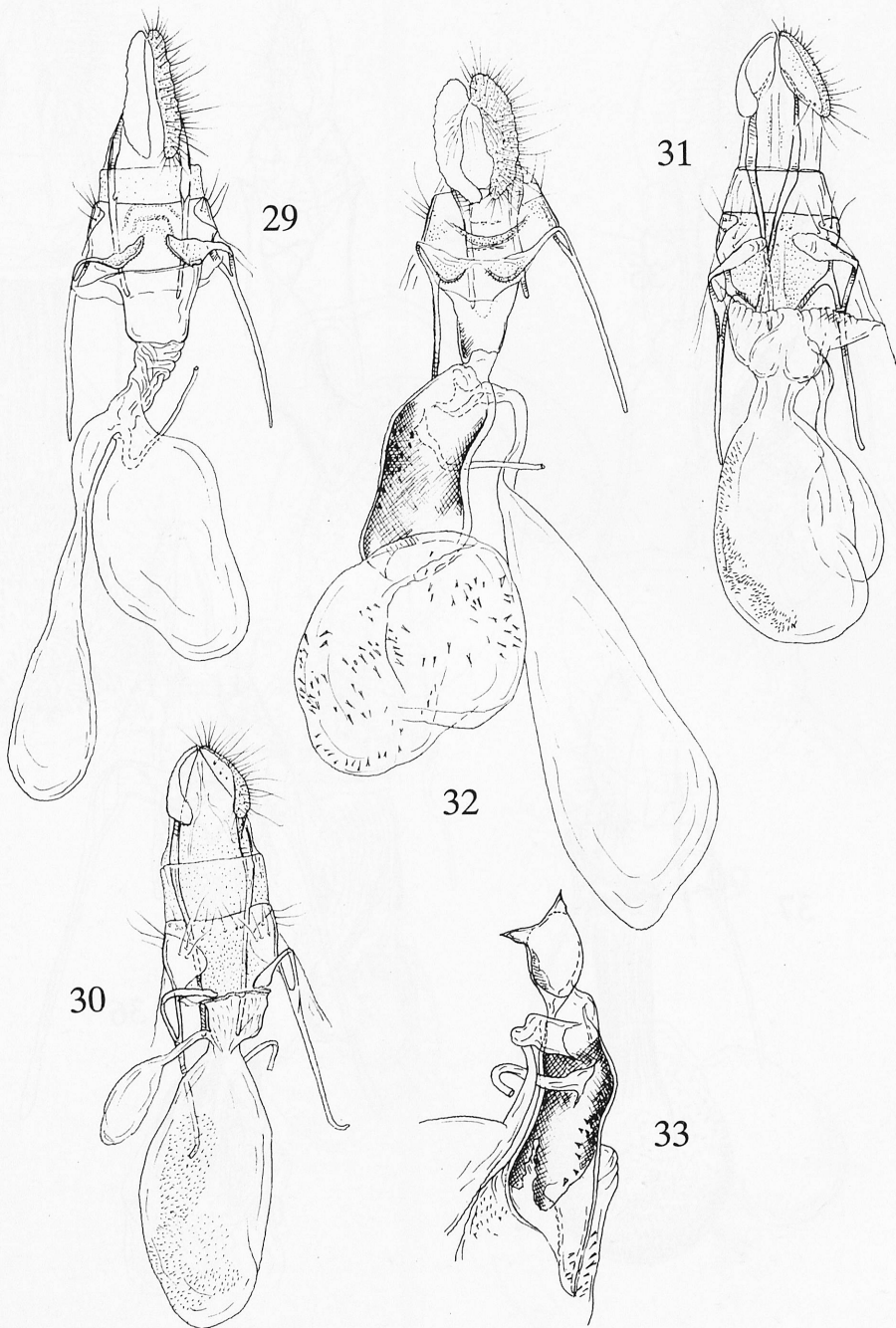
Figs 11-18. Male genitalia of *Eugnosta* HÜBNER and *Actihema* gen.n.: 11,12 – *E. replicata* (MEYRICK), Haenertsburg; 13,14 – *E. vecorda* sp.n., holotype; 15,16 – *Eugnosta trimeni* (FELDER & ROGENHOFER), East London; 17,18 – *A. hemiacta* (MEYRICK), lectotype



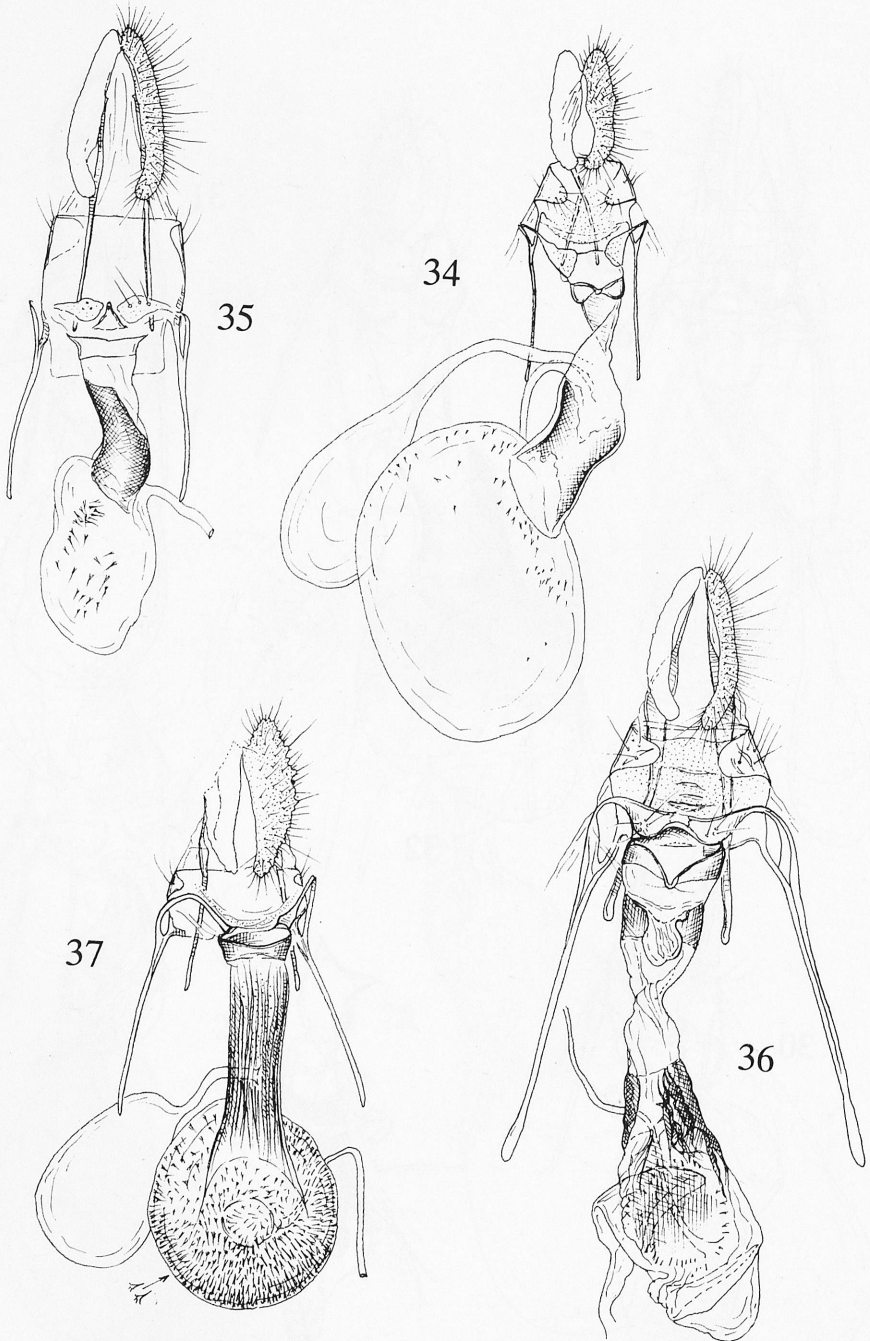
Figs 19-24. Male genitalia of *Trachybyrsis* MEYRICK and *Euxanthis* HÜBNER: 19,20 *T. euglypta* MEYRICK, paratype; 21,22 - *T. hypsitropha* BRADLEY, holotype; 23,24 - *Euxanthis limenias* MEYRICK, holotype



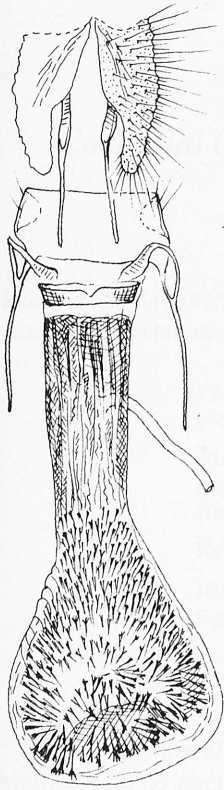
Figs 25-28. Female genitalia of *Eugnosta* HÜBNER: 25 – *E. umbraculata* (MEYRICK), lectoparatype; 26 – *E. chalasma* sp.n., holotype; 27 – *E. uganoa* sp.n., paratype; 28 – *E. heteroclita* sp.n., holotype



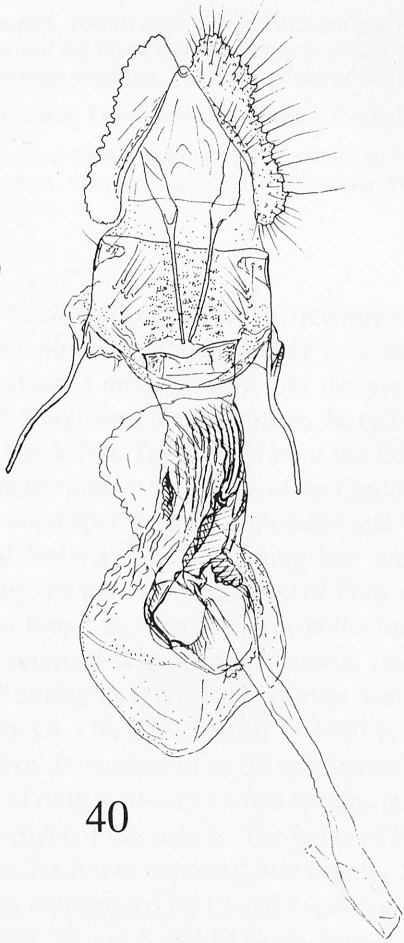
Figs 29-33. Female genitalia of *Eugnosta* HÜBNER: 29 – *E. stigmatica* (MEYRICK), New Hanover; 30 – *E. misella* sp.n., holotype; 31 – *E. matengana* sp.n, holotype; 32,33 – *E. assecula* (MEYRICK), Pretoria



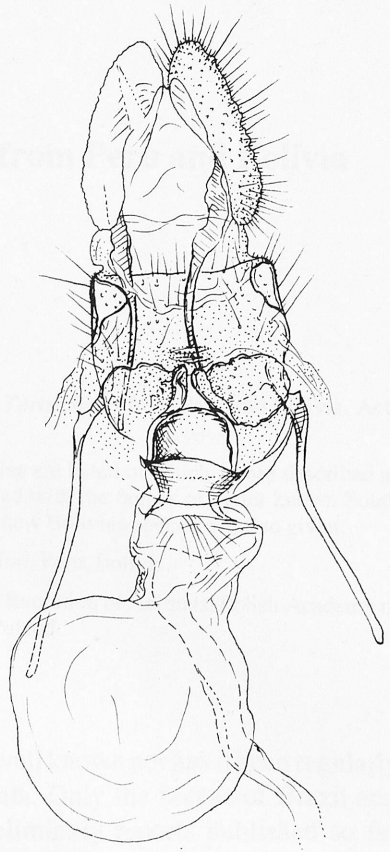
Figs 34-37. Female genitalia of *Eugnosta* HÜBNER and *Eupoecilia* STEPHENS: 34 - *E. vercorda* sp.n., paratype; 35 - *E. anxifera* sp. n., holotype; 36 - *E. trimeni* (FELDER & ROGENHOFER), East London; 37 - *Eupoecilia kruegeriana* sp.n., holotype



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Figs 38-40. Female genitalia: 38 – *Eupoecilia aburica* sp.n., holotype; 39 – *Trachybyrsis euglypta* MEYRICK, lectotype; 40 – *Euxanthis heliochrosta* MEYRICK, holotype

