

# Zeller's types of African *Tortricidae* and *Glyphipterygidae* in the Stockholm Museum.

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Through the kindness of Dr. R. Malaise, of the Stockholm Museum, I was able to study the types of the few species of the African *Tortricidae* and *Glyphipterygidae* described by P. C. Zeller in his well-known paper "Lepidoptera microptera quae J. A. Wahlberg in Caffrorum terra collegit", which appeared as a separate paper in 1852; it was also published in Kongl. Vetenskaps-Akademiens Handlingar for the year 1852, which appeared in 1854.

Some of these species, with regard to their identity, caused controversy, as, e.g., *Bactra stagnicolana* and *Choreutis australis*, but never were they satisfactorily re-examined. Now that the characters of the genitalia in the two sexes are generally acknowledged as indispensable for the study of taxonomy, a reinvestigation of Zeller's types became even more desirable.

In the present paper the six species described by Zeller as "Tortrices" are treated, with the exception of *Earias smaragdinana*, which does not belong to the *Microlepidoptera*. Five of these species are *Olethreutinae*, while *Choreutis australis* is a *Glyphipterygid*.

The paper forms, in a way, a continuation of a survey of Zeller's types of the *Tineoidea* by Mr. P. E. L. Viette, of the Paris Museum, recently published in Arkiv för Zoologi, vol. 8, pp. 531-539, figs. 1-12, 14. IX. 1955.

## *Eccopsis wahlbergiana*

(Text figs. 1-2, plate figs. 1-2)  
Lep. micropt., p. 80.

Lectotype, hereby selected, is the male syntype; abdomen missing; a printed label "Cap. B. Spei"; a hand-written label, in black ink "R.", and another "*Eccopsis Wahlbergiana* ♂"; red label with a printed "105" and below this written in ink "56".

The red label apparently is Zeller's type label, and 56 means the year, 1856. I designate this specimen as lectotype, in spite of the missing abdomen, because the female syntype does not possess such a red label.

*Entomol. Ts. Arg.* 78. Suppl., 1957

The lectotype may be redescribed as follows.

19 mm (plate fig. 1). Head light tawny-ochreous, upper portion of face pale pinkish-ferruginous, lower portion of face whitish. Antenna ochreous, moderately suffused with lilac-brown along its apical third. Palpus pale ochreous on basal half, on apical half slightly suffused with light tawny. Legs pale ochreous, tarsi slightly infuscated, except narrow pale rings around articulations of segments, hairs on upper side of posterior tibia whitish.

Fore wing broad, strongly dilated, broadest at  $\frac{3}{4}$ , costa gently convex anteriorly, distinctly concave in middle, angularly projecting at  $\frac{3}{4}$ , obliquely truncate and tolerably straight thence to apex; apex obtuse-angular, termen gently convex, little oblique. Pale ochreous, markings olive-brownish, fuscous, and dark brown. Costal edge with numerous deep brown elongate marks, irregularly alternating with minute transverse strigulae, narrowly spaced; basal patch reduced to a couple of olive-tawny irregular patches; above cell and in fold, preceded by irregular, dark brown irroration (fig. 1, right wing); outer edge of basal patch angulate on fold, there hardly reaching  $\frac{1}{3}$  of wing length; less than the median third of costa occupied by a conspicuous olive-brown semi-circular patch; a still more conspicuous blackish dot on end of cell just above middle of wing; an ill-defined olive-brownish suffusion from that dot to posterior half of dorsum, gradually dilated downward (fig. 1, left wing); interrupted, somewhat undulate transverse fascia of minute fuscous strigulation extending from below costa to dorsum before tornus, being not quite adjacent to the preceding markings (fig. 1, right wing); an oblique, spindle-shaped fuscous streak from below  $\frac{2}{3}$  of costa to middle of termen; less than posterior fourth of costa suffused with olive-brown; a series of short vertical brown strigulae, ending on termen (right wing). Cilia pale tawny with basal half deeper tawny, except the narrow pale ochreous basal line, cilia in tornus pale ochreous.

Hind wing fuscous tinged warm fulvous-brown, towards apex becoming darker fulvous-brown, with a faint coppery gloss. Cilia pale fuscous, with a bright silvery gloss in certain lights.

The above redescription was closely compared with a fresh specimen of the same species from Madagascar, which showed that the type specimen retained its natural colours almost completely, in spite of being about one hundred years old.

The female syntype is from "the basin of the rivers Limpopo and Garies", which actually means South Africa. The identity of this very distinct and common species does not offer any problems; also it seems to be beyond any doubt that the sexes belong together. The following is a redescription of the female syntype (paralectotype).

19 mm (plate fig. 2). Head, thorax, and legs exactly similar to those in the male, as far as the colouring is concerned. Fore wing a trifle less dilated, costa less concave in middle, the angular prominence a trifle

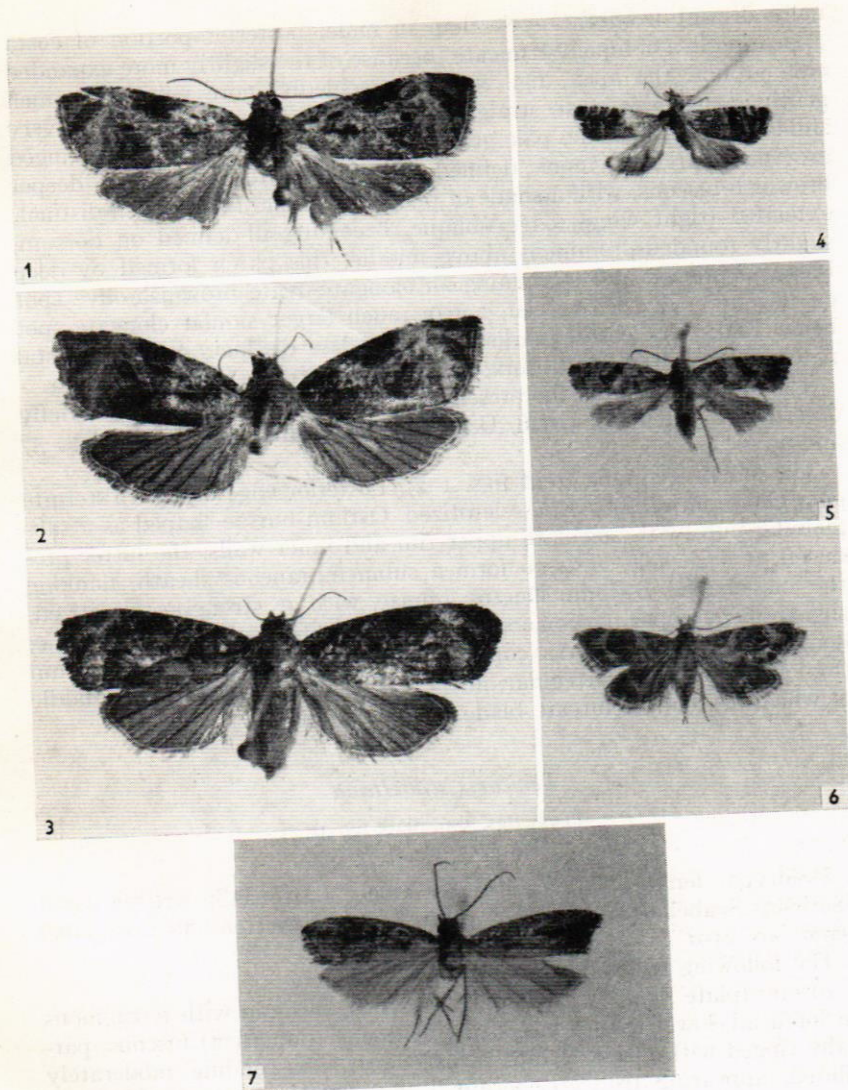


Fig. 1. *Eccopsis wahlbergiana* Z., lectotype (male syntype). Fig. 2, the same, female syntype. Fig. 3, *Sericoris scabellana* Z., holotype, female. Fig. 4, *Grapholitha spissana* Z., holotype, female (before restoration). Fig. 5, *Syndemis saburrana* Z., holotype, female. Fig. 6, *Choreutis australis* Z., holotype, female. Fig. 7, *Bactra stagnicolana* Z., holotype, male. (Magnified 3.3 ×). Phot. Leiden Museum.

more distant from the apex than in male, posterior portion of costa appearing less obliquely truncate (because of the slightly more expanded cilia around the apex, fig. 2); apex decidedly more pointed, termen gently concave, almost straight above. Colouring of fore wing very similar to that in male, pale ground colour a trifle darker, being tinged greyish, markings more defined, fuscous markings tinged deeper brownish-fuscous, with a shade of purplish or lilac. Basal patch distinct, extended (right wing), edge oblique, becoming ill-defined on dorsum, slightly rounded-prominent above middle; this patch formed by deep brown irroration and containing an elongate-ovate brownish-olive spot on its outer edge above cell, and a much larger similar elongate spot below fold; dark costal marks somewhat less distinct; semioval costal patch more shifted basad, mixed with deep purplish-fuscous on costa.

The male genitalia of the present species have been figured and briefly described by Heinrich (1926, U.S. Nat. Mus. Bull. 132, p. 129, figs. 57 and 397).

The female genitalia (text figs. 1-2). Posterior edge of eighth sternite emarginate in middle, little sclerotized. Ostium bursae shaped as a sub-globular cup, with aciculate upper rim and inner walls; the latter produced at each side so as to form a submembraneous sheath, flanking the cup-shaped ostium. Ductus bursae with a strongly sclerotized, slightly bent upper portion (colliculum + cestum), ending in an oblique, denticulate process. Bursa copulatrix moderate, pear-shaped. Signum (text fig. 2) single, an irregular, finely scobinate sclerite, from the middle of which descends a furcate blade. (Slide no. 2093.)

### *Sericoris scabellana*

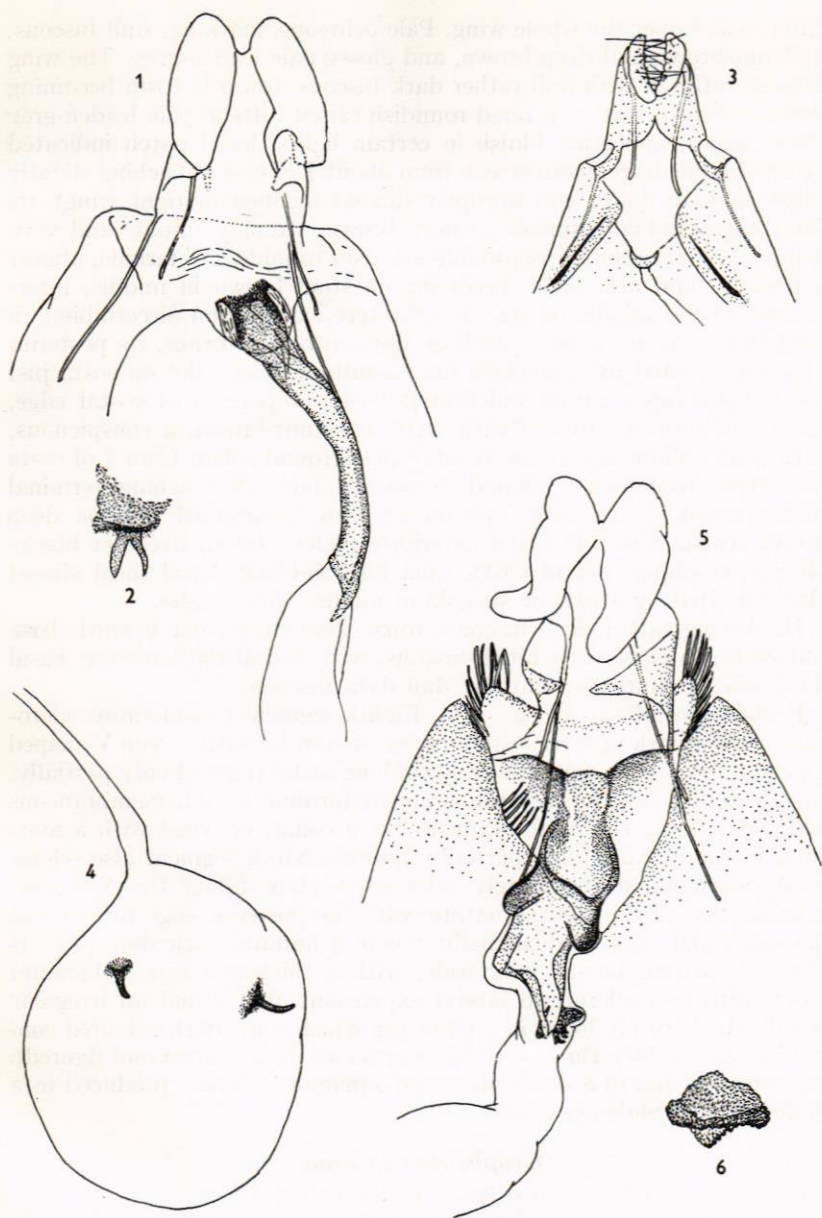
(Text figs. 5-6, plate fig. 3)  
Lep. micropt., p. 81.

Holotype, female, intact. Printed label "Caffraria"; written label "Sericoris Scabellana"; red label, printed "106", written "56". My label "Gen. No. 2101".

The following is a redescription of the holotype.

20 mm (plate fig. 3). Head greyish-fuscous, suffused with ferruginous on forehead, lower half of face black. Antenna (imperfect) fuscous, partially ringed with black. Palpus rather short, subascending, moderately dilated, appearing truncate, terminal segment being short, drooping, and appressed to apical edge of median segment, and but partially exposed; light tawny, suffused with deep brown except on lower edge; terminal segment deep brown. Thorax (partially mouldy) light brown, with an indication of a pale grey transverse antemedian stripe.

Fore wing elongate-ovate, costa gently curved throughout, more curved at base, apex broadly rounded, termen rounded above and beneath, straight in middle. With numerous round tufts of moderately



Figs. 1-6. Female genitalia. 1, *Eccopsis wahlbergiana* Z., syntype; 2, idem, signum; 3, *Grapholitha spissana* Z., holotype; 4, idem, bursa copulatrix with signa 5, *Sevicoris scabellana* Z., holotype; 6, idem, signum.

raised scales over the whole wing. Pale ochreous, markings dull fuscous, chestnut-brown and deep brown, and glossy pale leaden-grey. The wing densely suffused with dull rather dark fuscous, towards costa becoming chestnut-brown, with scattered roundish raised tufts of pale leaden-grey glossy scales, appearing bluish in certain lights; basal patch indicated by an oblique deep brown streak from about  $\frac{1}{3}$  of costa, reaching slightly below fold, its lower end abruptly dilated (rubbed in right wing), its outer edge gradually sinuate; a deep brown, strongly sinuate and very oblique fascia, running from middle of costa to middle of termen, almost horizontal, and ill-defined, becoming chestnut-brown in middle, interrupted beyond middle (in fig. only the terminal portion discernible); an erect-triangular dark grey patch on dorsum before tornus, its posterior edge accentuated by a blackish line; a suffused black dot on costa just above apex (apex rather indefinite); posterior portion of costal edge, apex, and termen suffused with warm chestnut-brown; a conspicuous, outwardly oblique transverse band of pale ground colour from  $\frac{3}{4}$  of costa to tornus, triangularly dilated downward but not reaching terminal edge, parted by terminal portion of above-mentioned oblique deep brown streak, which is edged anteriorly (below) by an irregular blackish line, reaching to  $\frac{3}{8}$  of costa. Cilia fuscous-black, basal third almost black, limited by a narrow strigula of minute white scales.

Hind wing rather deep fuscous-bronze, becoming paler towards base and costa. Cilia glossy whitish-fuscous, with a dull dark fuscous basal third, cilia around apex entirely dull dark fuscous.

Female genitalia (text figs. 5-6). Eighth segment considerably sclerotized, rather dark brown, posterior edge of sternite with a deep V-shaped emargination with a marginal fringe of long scales (figured only partially, on the right side); dorsally this segment forming a high membraneous fold surrounding the ninth segment like a collar, crowned with a marginal fringe of scales (only partially figured). Ninth segment also sclerotized. Sterigma, a moderately sclerotized plate filling the V-shaped emargination of the eighth sternite, with the posterior edge rounded at the sides, and impressed medially, where a minutely aciculate plate is situated. Ostium bursae very wide, with a thickened rim. Colliculum short, with two sclerotized lateral expansions above, and an irregular distal extremity produced in a point (on which some dark coloured concretions are visible). Bursa copulatrix spacious, pear-shaped (not figured). Signum (text fig. 6) a denticulate and squamose sclerite, produced in a shallow cone. (Slide no. 2101).

### *Grapholitha spissana*

(Text figs. 3-4, plate fig. 4)

Lep. micropt., p. 82.

Holotype, female, in tolerable condition, but with the head, prothorax and anterior legs pasted to the mesothorax upside down! (cf. photo-  
*Entomol. Ts. Arg.* 78. Suppl., 1957

graph). (After the photograph was taken, this part appeared to be loosened; it was removed and repasted in the natural position). Printed label "Caffraria", written label "Grapholitha Spissana", red label with printed "107" and written "56". My label "Gen. No. 2102". From Natal.

Here follows the redescription of the holotype.

9 mm (plate fig. 4). Head white, finely irrorated with dark fuscous, face white. Antenna dark fuscous, finely and sharply ringed with white. Palpus porrect, median segment dilated towards apex, roughish along apex and below, apical segment moderate, top obliquely rounded; median segment white with a few dark fuscous points, terminal segment minutely and regularly irrorated with dark fuscous. Thorax dark fuscous, finely sprinkled with whitish. Abdomen blackish, venter pale.

Fore wing dilated, subtruncate, costa straight anteriorly, slightly bent and oblique before apex, so as to form a moderate projection beyond  $\frac{1}{2}$ , apex moderately rounded, termen straight, little oblique above, rounded beneath. Fuscous-black, with fine regular whitish transverse strigulation, strigulae only slightly sinuate; markings formed by shining, slightly raised transverse bands and patches, silvery on costa, becoming leaden-lilac below costa; silvery markings arranged as follows: an elongate small spot on base below costa; a confluent pair of rounded patches in a vertical series at about  $\frac{1}{3}$  of wing, not reaching costa and dorsum (these markings rubbed in left wing); a slightly outwards-oblique transverse antemedian fascia, narrow on costa, abruptly but moderately dilated above fold, even more dilated below fold; an irregular, somewhat more oblique second transverse fascia from  $\frac{2}{3}$  of costa to dorsum just before tornus; costal half of interspace between these transverse fasciae suffused with dull blackish, and containing a silvery dot on costa towards first fascia; two large silvery comma-shaped marks on posterior portion of costa, and a leaden, vertical mark below the second of these. Cilia fuscous-grey with strong leaden-lilac and reddish-coppery shine.

Hind wing rather dark fuscous, with faint bronze reflections, paler towards base and costa; cilia fuscous with a silvery gloss, base with a suffused, dull fuscous fascia.

Female genitalia (text figs. 3-4). The eighth sternite delicately sclerotized, shaped as a median weak plate with a triangular incision of the posterior edge, ending in a small crescentic sclerite, being the ostium bursae; this median sclerite is flanked by triangular oblique plates, each with a sclerotized narrow fold, parallel to the caudal edge of the plate. The ninth segment forming a rather long, narrowed cone, moderately sclerotized; bases of anapophyses dilated and curved. Ductus bursae rather long, narrow, weak. Bursa copulatrix subovoid (text fig. 4). Signa, two rather slender, not quite equal hooks, with minutely denticulate surface, each on a small, weak basal sclerite. (Slide no. 2102.)

*Syndemis saburrana*

(Text figs. 8-9, plate fig. 5)

Lep. micropt., p. 3.

Holotype, female, printed label "Caffraria", written label "Syndemis Saburrana". Red label, printed "108", written "56".

The holotype may be redescribed in the following manner.

10 mm (plate fig. 5). Head pale ochreous, between antennae two small, loose tufts, brownish. Antenna pale grey ringed with brownish. Palpus porrected, with median segment rather straight, gradually dilated towards apex; brownish, apical edge and terminal segment greyish-white. Thorax pale fuscous. Legs grey.

Fore wing sublanceolate, rather narrow, costa gently curved throughout, apex rather rounded, termen distinctly concave below apex, obliquely rounded beneath, oblique. Whitish, slightly suffused with grey, and partially with fulvous. Markings grey and deep fuscous. Basal patch to  $\frac{1}{3}$ , greyish, with two transverse darker grey strigulae; its edge rather gradually rounded and serrate, deep fuscous; a rather oblique deep fuscous transverse fascia from about middle of costa, reaching  $\frac{3}{4}$  across wing, gently dilated downwards, both edges slightly undulate; lower extremity of this fascia with a moderate hook directed distad; a rather broad band of pale ground colour between basal patch and transverse fascia, containing three dark dots on costa and a greyish median shade towards dorsum; posterior half of costa with four rather large subtriangular fuscous dots alternating with minute costal strigulae, each edged by two white marks; the ultimate costal dot just before apex, partially encircling a pinkish apical spot, and extended downwards, so as to form a somewhat irregular terminal fuscous fascia, almost connected with small dark marks on dorsum just before tornus. Cilia greyish-fuscous, irrorated with paler (tips of scales being pale grey). Cilia around apex darker fuscous, with a pinkish basal third.

Hind wing pale yellowish-fuscous, paler at base, cilia whitish-fuscous. Veins 3 and 4 stalked, 5 closely approximated at base, veins 6 and 7 very closely approximated along their basal third.

Female genitalia (text fig. 8-9). Posterior edge of eighth segment slender, deeply and gradually emarginated. Sterigma flower-shaped, moderately sclerotized, with a crescentic upper edge and thickened lateral rims. Colliculum short, sclerotized, with a series of longitudinal, irregular and sinuous folds. Ductus bursae rather wide. Bursa copulatrix pear-shaped. Signa, two slightly unequal horns, with a rounded basal sclerite, in one with irregularly scalloped edge. (Slide no. 2103.)



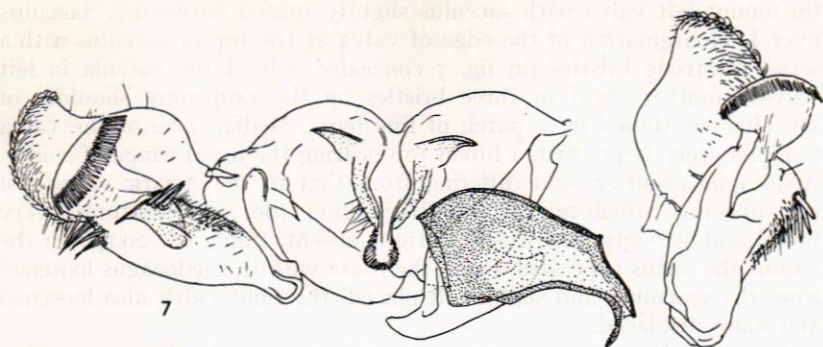


Fig. 7. Male genitalia of *Bactra stagnicolana* Z., holotype.

***Bactra stagnicolana***

(Text fig. 7, plate fig. 7)  
Lep. micropt., p. 84.

Holotype, male (right wing and dorsum of left wing rather rubbed, cilia of fore wing damaged). Printed label "Caffraria", written label "Bactra Stagnicolana", red label, printed "109", written "56". My label "Gen. No. 2094".

The following is a redescription of the holotype.

13 mm (plate fig. 7). Head, thorax pale ochreous, slightly suffused with grey. Antenna moderately thickened, ochreous-greyish, glossy. Palpus moderate, with a narrow base, triangularly dilated, and rather roughish towards apex, terminal segment moderate, slender, tolerably pointed, exposed. Abdomen and legs pale ochreous-greyish.

Fore wing moderately broad, dilated, broadest beyond  $\frac{2}{3}$ , costa gently curved at base and along posterior third, almost straight beyond base, apex rather pointed, termen gently convex, oblique. Whitish-ochreous, densely irrorated, and finely transversely strigulated with rather dark brown. Markings not distinct, except very oblique, fine transverse strigulae along costa, an ill-defined dark spot on end of cell (appearing elongate in right wing, but rounded in left), and a smaller similar spot before apex (fig. 7, left wing); a zigzag terminal strigula, emitting a vertical strigula from its middle, another one oblique, before angle (fig. 7, left wing). Cilia (damaged) rather dark fuscous, with a pale base.

Male genitalia (text fig. 7) are of the progressed *Chiloides* type, the subgenus to which the present species belongs. Tegumen short and broad. Uncus moderate, curved, with the usual fringe of spines (uncus pressed downward in mount). Socii rather long, minutely hairy. Vinculum very broad, juxta robust. Anellus moderate. Valva rather short and broad

(in mount left valva with sacculus slightly turned outwards). Sacculus over  $\frac{1}{2}$ , emargination of the edge of valva at the top of sacculus with a series of strong bristles (in fig. 7 concealed behind the valvula in left valva); another sheaf of three bristles on the projecting shoulder of sacculus, continued by a patch of fine hairs. Median lobe of the valva (valvula) very large, with a broad top bearing the usual fringe of spines. Aedoeagus peculiar, and differing from that in the Asiatic species of the subgenus (which might be allied judging from other features): very broad and strongly sclerotized. Cornuti absent. (Slide no. 2094). In the mount the uncus is pressed down, the juxta with the aedoeagus loosened from the vinculum and slightly displaced, the right valva also loosened and more displaced.

As might be expected, *stagnicolana* is a perfectly distinct species, and not at all a synonym of the Palearctic *lanceolana*, as Walsingham and other older authors thought.

### *Choreutis australis*

(Text figs. 10-11, plate fig. 6)  
Lep. micropt., p. 85.

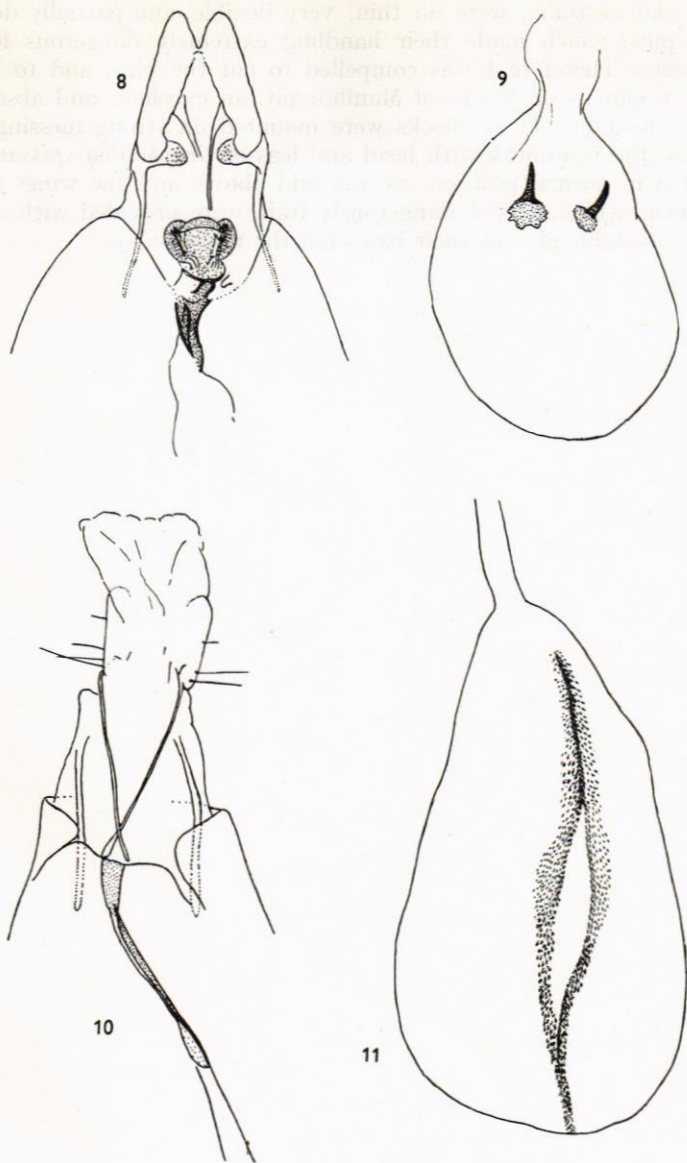
Holotype, female, printed label "Caffraria", written label "Choreutis australis Z.", red label, printed "110", and written "56". My label "Gen. No. 2104". In good condition.

11 mm (plate fig. 6). Entirely similar to *Choreutis pretiosana* Duponchel; compared with a female specimen of the latter species, labelled "Bilbao, Rössler" (from Spain), in the Leiden Museum (Coll. Snellen). This specimen must be approximately a contemporary of Zeller's type of *australis*.

Female genitalia (text figs. 10-11). The membranous median portion of the ovipositor projecting beyond the sclerotized lobi anales, as is usually the case in the genus. The posterior edge of the eighth sternite with a rather deep outwards-oblique incision on both sides of the ostium bursae. Ostium indefinite. Colliculum strongly sclerotized, in the middle folded longitudinally, slender, with lower extremity not folded and forming an elongate-oval sclerite. Ductus bursae slender, tapering. Bursa copulatrix big, pear-shaped. Signum laminate, a longitudinal band of fine squamose denticulations, with points directed distad (in figure downward). In the middle this band is separated lengthwise in two; whether this is natural or abnormal, I am unable to decide. (Slide no. 2104.)

The species is very near to *Choreutis pretiosana* Dup., and also to *C. bjerkandrella* Thunberg, 1784. The former species is generally regarded as a synonym of the latter. However, I am of opinion that *pretiosana*, *bjerkandrella* and *australis* are three distinct species.

Note. The types of the three following smaller species, *spissana*, *sabur-*  
*Entomol. Ts. Arg. 78. Suppl., 1957*



Figs. 8-11. Female genitalia. 8, *Syndemis saburrana* Z., holotype; 9, idem, bursa copulatrix with signa; 10, *Choreutis australis* Z., holotype; 11, idem, bursa copulatrix with signum.

*rana*, and *australis*, were on thin, very flexible, and partially decayed brass pins, which made their handling extremely dangerous for the specimens. Therefore I was compelled to cut the pins, and to mount these specimens on blocks of Manihot pit, an excellent and absolutely neutral medium. These blocks were mounted on strong messing pins. Besides, the prothorax with head and legs of *Grapholitha spissana* was repasted in normal position, as was said above, and the wings of this specimen, which looked dangerously frail, were provided with a trace of water-soluble glue at their bases (on the under side).

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