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Three new western palearctic species belonging to E u r y s a FIEBER, 1866 s.str. (Homoptera Auchenorrhyncha Fulgoromorpha Delphacidae)

with

15 figures

by

REINHARD REMANE and MANFRED ASCHE

Key words:

Homoptera, Auchenorrhyncha, Fulgoromorpha, Delphacidae, Eurysa, E.libira, E.baetica, E.estrela, Western Palearctic Region: Iraq, Lebanon, Spain, Portugal, taxonomy, zoogeography

Abstract:

Three new species out of the monophylum around Eurysa lineata (= Eurysa FIEB., 1866 s.str.) are described: E.libira n.sp. from Iraq and Lebanon, E.baetica n.sp. from Southeastern Spain (Sierra Nevada, Sierra Harana), and E.estrela n.sp. from Central Portugal (Serra d'Estrela). By this Eurysa s.str. now contains 12 species, of which 5 are found on the Iberian Peninsula, 4 of them endemic for this region. The Iberian Peninsula thus is the area of highest species density of Eurysa s.str..

As shown in previous publications (REMANE & ASCHE, 1983; DROSOPOULOS & ASCHE, 1984) within the rather heterogeneous genus

Eurysa FIEBER, 1866 there exists a monophylum including the type-species E.lineata (PERRIS, 1857), which is characterized by a very distinct and peculiar structure of the ♂-genitalia, especially of the aedeagus. This character is regarded to be a special synapomorphy for the members of this group. A few years ago represented only by the type-species it was recently shown that many more species do belong into this monophylum (a group around Metropis forficula HORVATH, 1908 - see REMANE & ASCHE, 1983; ASCHE, DROSOPOULOS, HOCH, 1983 - and a new taxon near Eurysa lineata (PERRIS) from Crete - see DROSOPOULOS & ASCHE, 1984).

Three additional species of this group are described herewith.

1. Eurysa libira nov.spec. (figs. 1-5)

Length: ♂ brachypterous: 2,5-2,6 mm

In general aspects (size, proportions, general patterns of colouration) very similar to E.lineata (PERRIS), but dark markings more expanded and intense: the specimens look more or less blackish.

Profound differences to E.lineata (PERRIS) and to all other taxa of the group of which males are already described are to be found in the structures of the ♂-genitalia.

Genital segment (figs. 1a-b, 2a-c) in caudal view slightly broader than high, laterocaudal margin broadly rounded without special structures like spines etc.; diaphragm (figs. 1a-b) like in the other taxa of the group situated below the middle of the caudal area of the genital segment; very near to the dorsal margin of the insertion-hole of the styles instructed with a caudad directed distally obtuse ridge (fig. 2b).

Styles (fig 3, fig. 5a) long and slender, distal and acute, tip with a rather long medioventrally recurring process.

Analtube (figs. 4a-b, fig. 5a) with two widely separated caudo-

lateral inserting toothlike appendages curved slightly mediocephalad. No lateroventral hook-like appendages corresponding to those of E.lineata (PERRIS) and E.duffelsi DROSOPOULOS & ASCHE present. Aedeagus (fig. 5a-b) of the general shape of this group; phallotrema (see arrow in fig. 5a) rather basal at the distal part; distal part about the same relative length like in E.lineata (PERRIS), distal spine not present; left lateral spine compress, relatively broad, inserted near the base of the distal part; right lateral spine inserting under the left margin of the phallotrema, similar to that of E.lineata (PERRIS), but with a triangular median hook.

Females: unknown.

Holotype ♂ brachypterous: Northern Iraq, Zagros mountains, Sarsang, 1200-1800 m, 19.6.1958, R.Remane leg., in coll. Remane, Marburg.

Paratype ♂ brachypterous: Lebanon, Mazraat Kfar, Zebiane (el Qanater), 1600 m, low plants, 25.6.86, H.Abdul-Nour leg., in coll. Asche Marburg.

Biology:

Foodplant unknown, but certainly Gramineae.

Geographic distribution:

So far known from mountain-areas of Northern Iraq and Lebanon.

Remarks:

DLABOLA (1965) described a "subspecies" of E.lineata (PERRIS) from Syria (W Damaskus) and Jordania after 3♀♀ only: E.lineata syriaca DL., which is distinguished from lineata by its bigger size and by differences in colouration. No males of syriaca have been recorded so far, the taxonomic position thus being uncertain except for the fact that it is a member of Eurysa s.str. and probably even of the E.lineata (PERRIS)-group. Although we cannot completely exclude the possibility that the species described

here as E.libira n.sp. represents in fact the ♂♂ of E.lineata syriaca DL., we thought it more accurate regarding to zoogeographical consequences to describe it as a new species than perhaps to add ♂♂ to ♀♀ to which they don't belong. We think our decision to be backed by differences in size and colouration which exceeds the amount of sexual dimorphism so far known from taxa of the E.lineata (PERRIS)-group.

2. Eurysa baetica nov.spec. (figs. 6-10)

Length: ♂♂ brachypterous: 2,1-2,3 mm
♀♀ brachypterous: 2,9-3,0 mm

In general aspect distinctly smaller than E.lineata (PERRIS), colouration and genitalia rather different, too. The specimens (both sexes) are greyish-white coloured with dark markings rather inconspicuous. Only brachypterous specimens have been found so far: tegmina distally rounded and reaching till the 6th abdominal tergite.

Body in ♂♂ about 2,3 times, in ♀♀ about 3 times as long as head wide.

Head: vertex distinctly longer than in E.lineata, width of head incl. eyes to median length of vertex about 3,6:1 (in lineata 5,4:1); uniformly greyish-stramineous without dark markings except for the dark postclypeus; vertex and frons rather smooth without median carina (which is present on post- and anteclypeus). Pronotum uniformly milky white, carinae rather weak like in lineata; mesonotum greyish stramineous, only side corners blackish, only in some ♂-specimens also base more or less blackish suffused.

Tegmina (incl. veins) uniformly transparent greyish. Abdominal tergites greyish stramineous in females bearing a row of black spots near the lateral margin; in males dark markings normally

more expanded, sometimes covering nearly all of the 3rd and 4th tergite and larger part of the lateral portion of the tergites 5-8. Paratergites normally blackish brown.

♂-genital segment blackish brown, venter and two spots on dorsal side near the analtube light.

Analtube whitish except for the median part of its base. Analstyle dark. Sides of meso- and metanotum and the bases of coxae more or less black; legs stramineous; sternites indistinctly suffused with dark; in female genitalia: valvifer VIII light, lateral gonapophyses stramineous, tergite IX light stramineous, distally black, analstyle dark.

♂-genitalia: genital segment (figs. 6a-b, 7a-c) in caudal view almost circular, slightly broader than high. Diaphragm laterodorsal of styles with an excavated strongly chitinized and dark pigmented area; median phragma-bridge rather narrow, its dorsal side obtusely v-shaped, devoid of special structures.

Styles (figs. 8, 10a) double s-curved with acute laterally directed tip. Analtube (figs. 9a-b, 10a) short, rather weakly chitinized, with long rather filiform lateral appendages, no basal hook-like appendages present.

Aedeagus (figs. 10a-c): recurrent distal part nearly as long as basal part, in lateral view slender and acute; phallotrema situated on the dorsal side after 2/5 length from the basis of the distal part (see fig. 10c). One straight tooth-like appendage near the dorsal end of the basal part at its right side (not on left side as in lineata). Laterobasad at the right side of the phallotrema near the base of the distal part a slightly twisted spine arising from a broad base (see fig. 10b). No separate 3rd spine as in lineata is present.

♀-genitalia: no genital-scale present, only a rather small oval atrium-plate.

Holotype ♂ brachypterous: SE-Spain, Prov. Granada, Sierra Nevada, southern slopes, N supra Laroles, ca 1800 m, 4.5.1981, R.Remane leg., in coll. Remane, Marburg.

Numerous Paratypes from same place and date, 1700-1900 m (19 ♂♂ 36♀♀) and from 6.5.81 (8 ♂♂ 11♀♀) as well as from Sierra Nevada, southern side, Mecina Bombaron, 5.5.81 (3 ♂♂ 1♀), from Sierra Nevada, northern slopes, Veleta-street, 1100 m, 21.6.63 (1 ♂), from Sierra Harana, Puerto de la Mora, N Huetor-Santillan, 1380 m, 6.5.81 (9 ♂♂ 23 ♀♀), all Remane leg., in coll. Remane, Marburg.

Biology:
In tussocks of a non-identified thin-leaved grass; apparently getting adult in April-May, nymphs hibernating?

Geographic distribution:
So far known only from the Cordillera Baetica: Sierra Nevada and Sierra Harana; up to now in altitudes between 1100 and 1900 m.

3. Eurysa estrela nov.spec. (figs. 11-15)
Length: ♂♂ brachypterous: 1,9-2,0 mm
♂ macropterous: 2,8 mm
♀♀ brachypterous: 2,6-2,7 mm

A small, slender species with distinct sexual dimorphism of the colouration in the brachypterous form, and with colour dimorphism between the brachyperous and macropterous form; ♂♂ resembling Delphacinus mesomelas (BOH.). Body in ♂♂ about 3 times, in ♀♀ about 3,5 times as long as the width of the head. Vertex rather long and subangularly protruding: width of the head in ♂♂ only 3,1 times, in ♀♀ 2,7 times the median length of the vertex. Transition from vertex to frons in lateral view angularly rounded, carinae on vertex and frons distinct (including a transverse carina separating vertex from frons). Tegmina abbreviated, reaching to about the 4th tergite only, distally truncate.

Colouration in brachypterous males: head, thorax, tegmina and legs light stramineous, abdomen and genital segment almost uniformly fuscous, dorsum medially slightly more light, analstyle stramineous. Macropterous males and some of the brachypterous females more infuscated: ♂ : mesonotum, sides and undersides of thorax fuscous, pronotum behind the eyes slightly infuscated; veins of the transparent, marking-less wings distally slightly infuscated; analstyle dark; - ♀: generally infuscated suffused with brownish, dark markings by this less distinct.

In the majority of brachypterous ♀♀ the body is light stramineous (like in brachypterous ♂♂); tergites 3-8 bearing a black spot on each side near its lateral margin; ovipositor-sheath brownish; sternites diffusely infuscated.

♂-genitalia: Genital segment (figs. 11a-b, 12a-c) in relation to abdomen rather big, in caudal view nearly circular. Phragma-bridge with a two-lobed median process (fig. 12a). Styles (figs. 13, 15a) at base slightly diverging, distally converging, distal part enlarged and tip directed mesad, with an almost right-angled corner at its outer margin. Analstyle (figs. 14a-b, 15a) with strong and rather straight ventrocephalad directed lateral appendages; no basal hook-like structures.

Aedeagus (figs. 15a-b): distal part almost as long as the basal part, with a long ventral spine arising from the ventral side of the distal part, this spine bearing a small tooth on the right side near its end; phallotrema situated near the base of the distal part slightly shifted to the left side.

♀-genitalia: genital-scale bifurcate, as a whole triangular with a long v-shaped incision.

Holotype ♂ brachypterous: Portugal, Serra d.'Estrela, s supra Manteigas, around Paso de Inferno, 800-1050 m, 10.9.76, R.Remane leg., in coll. Remane, Marburg.

Paratypes (numerous ♂♂ and ♀♀) from same locality and date, Remane and Asche leg., in coll. Remane and Asche, Marburg.

Biology:
Found so far in tussocks of a Festuca-like Gramineae on the northern slopes of a mountain forest. Obviously a "winter-species": nymphs (4th and 5th instars) in dormancy until the beginning of autumn-rains in September or maybe later. Many nymphs found in August 1978, 1979 and 1983.

Geographic distribution:
known so far only from the type-locality; maybe confined to the western part of the central Iberian mountain range.

The monophylum Eurysa FIEBER s.str. is now represented by 12 species which are until now restricted to the Western Palearctic Region: only E.lineata (PERRIS) is recorded from Mongolia by DLABOLA 1970, a record, which in our opinion needs confirmation. The highest species density of this group seems to exist on the Iberian Peninsula, where five out of the twelve species have been found, four of them apparently endemic to this region. These five Iberian species (E.lineata (PERRIS) of the lineata-group, E.forguja REMANE & ASCHE and E.foribera REMANE & ASCHE of the forficula-group, and the two new ones E.baetica n.sp. and E.estrela n.sp., both of them rather distinct from each other as well as from both of the aforementioned groups) seem to indicate the survival of a rather old stock of taxa of this monophylum on the Iberian Peninsula.

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Figures

All figures have been made after specimens of which the abdomen was mazerated in 10% KOH. The genitalia were transferred into glycerin, resp. Glycerin-Gelatine.

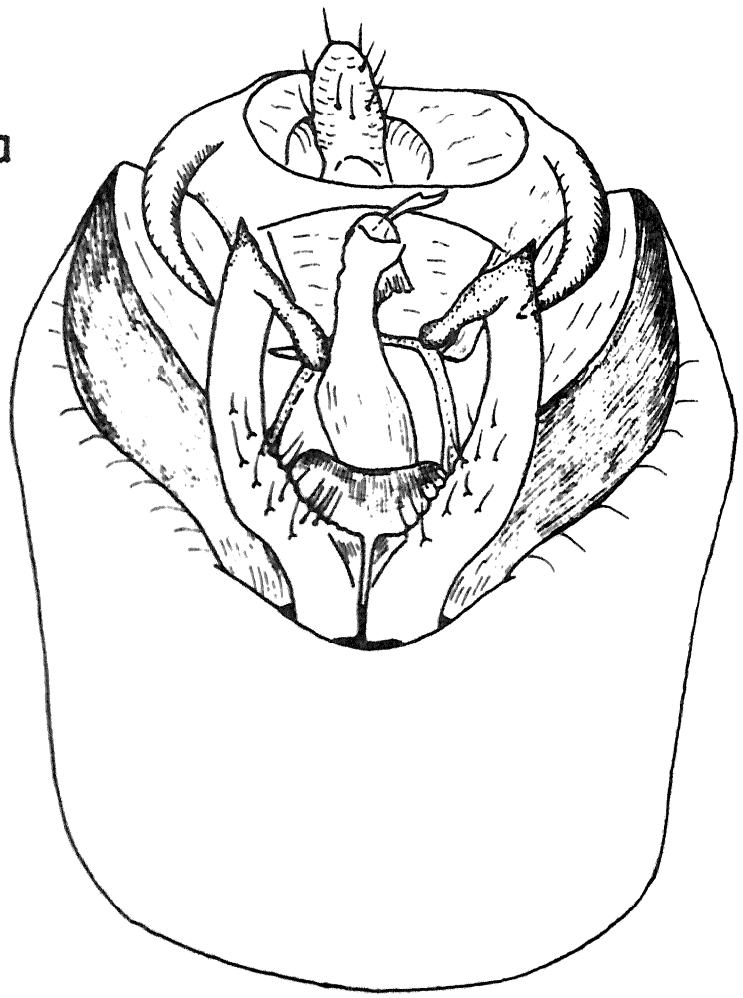
Figs. 1-5: Eurysa libira n.sp. (paratype ♂, Lebanon)

Fig. 1: ♂-genitalia

a: ventrocaudal view

b: left lateral view

1 a



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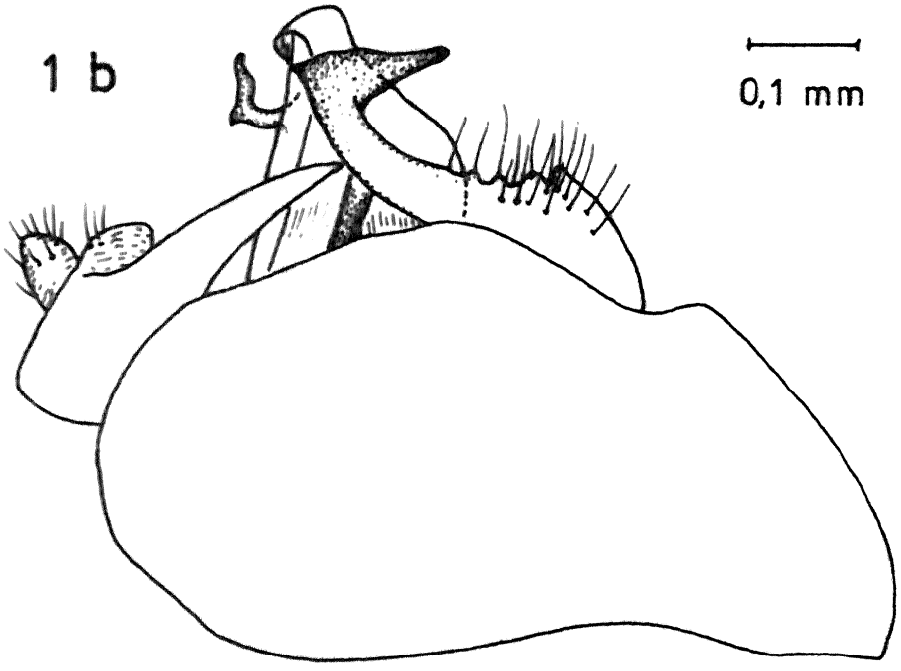

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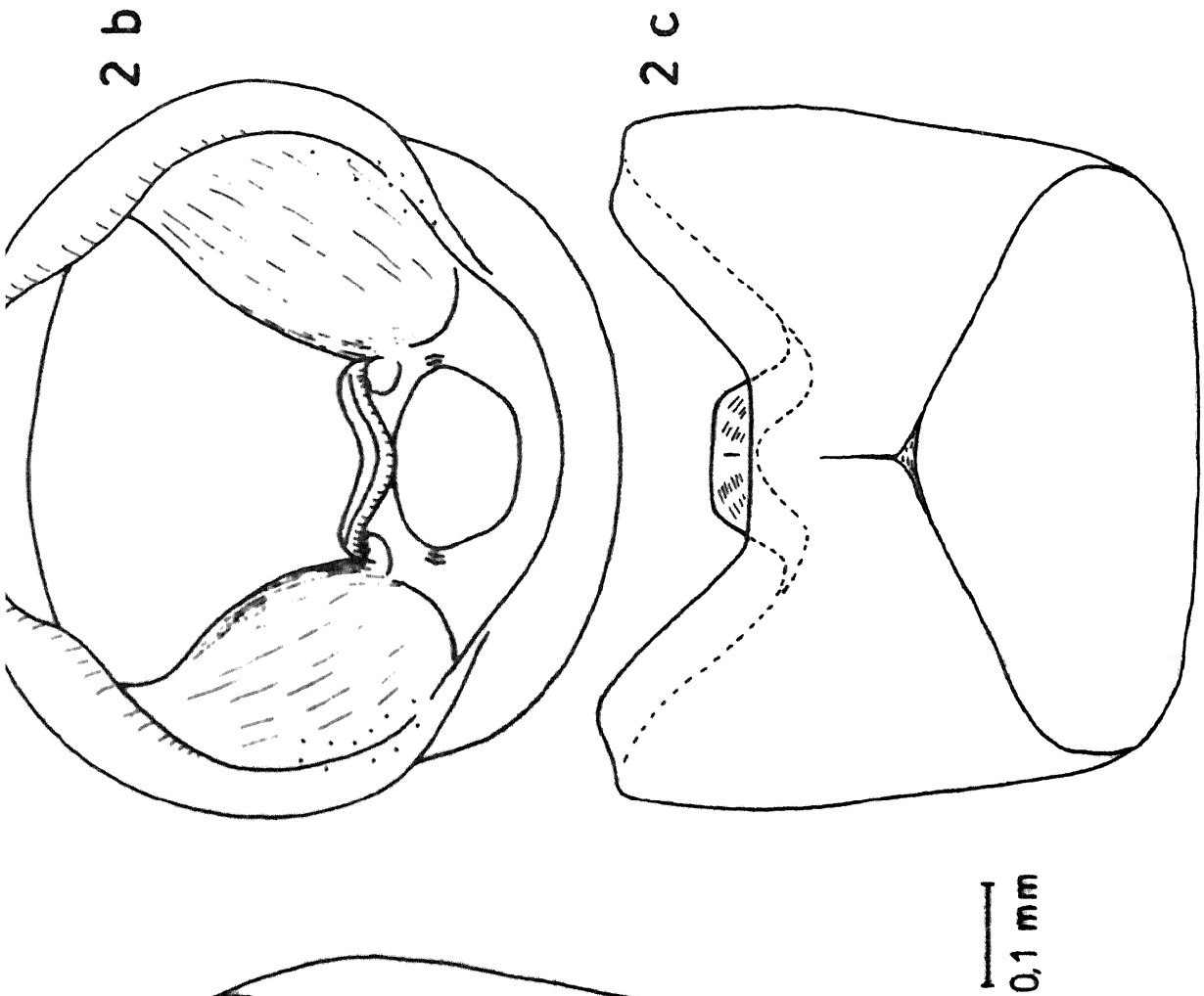
Eurysa libira n.sp. (cont.)

Fig. 2: pygofer
a: ventral view
b: caudal view
c: dorsal view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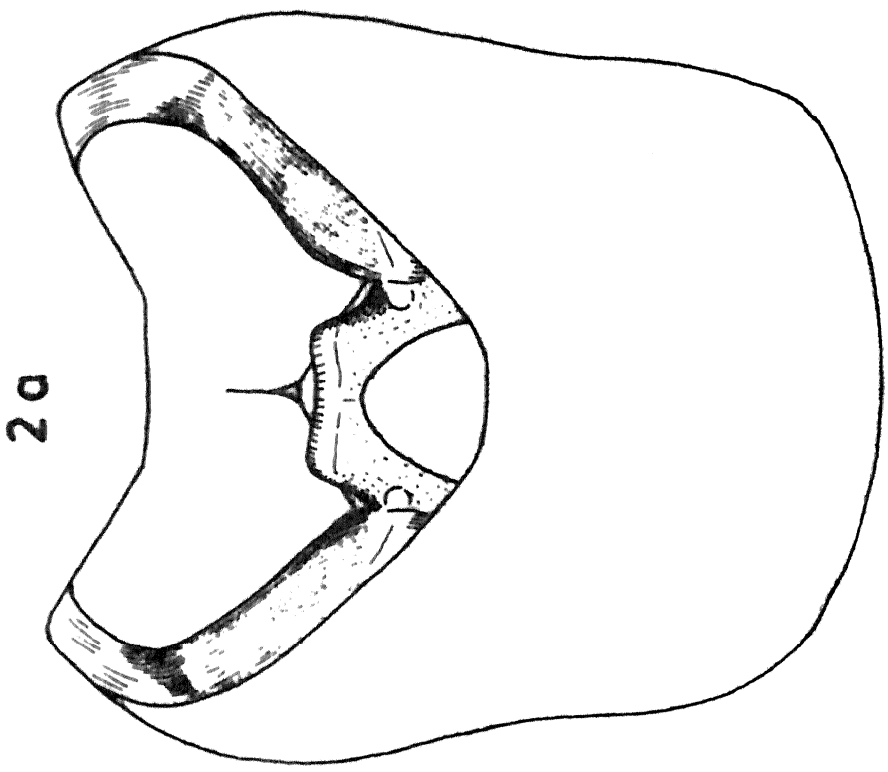

2 a

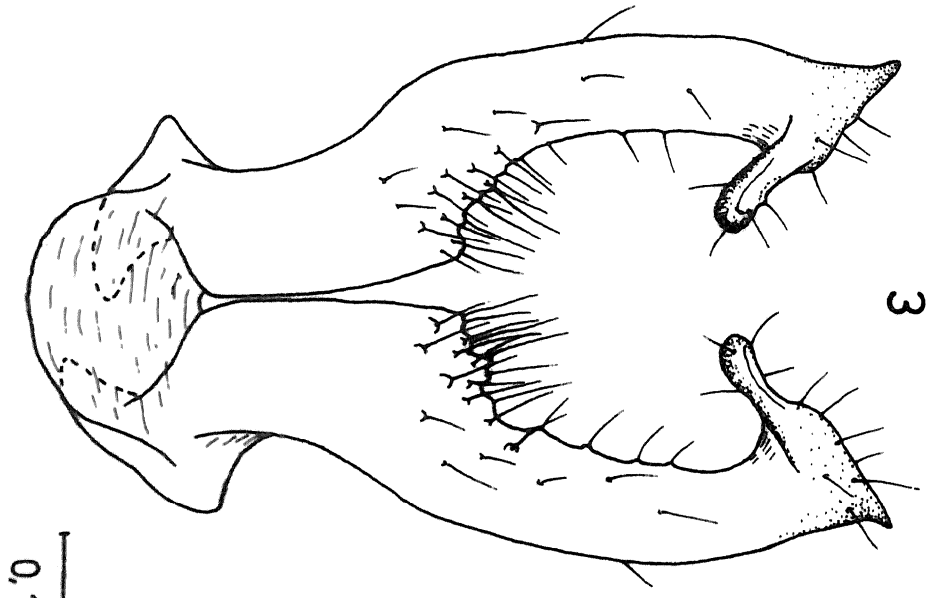
Eurysa libira n.sp. (cont.)

Fig. 3: genital styles, ventrocaudal view

Fig. 4: Analtube

a: caudal view

b: ventral view



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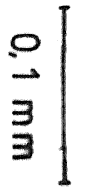

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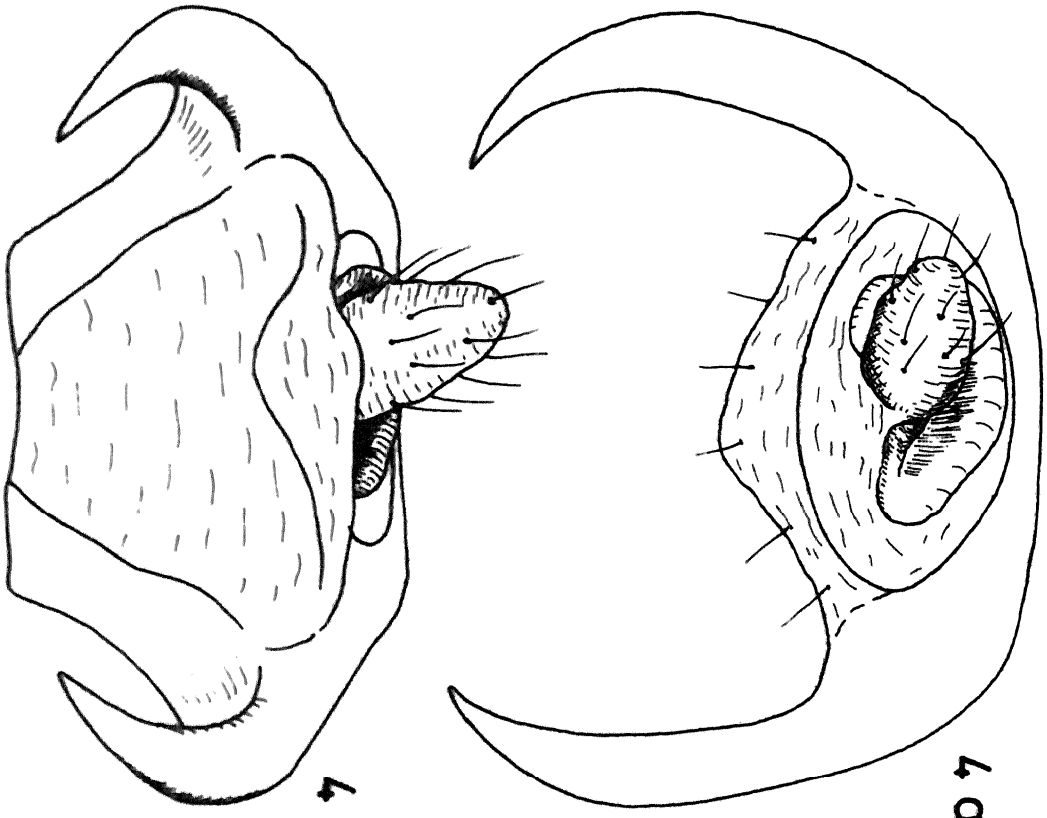


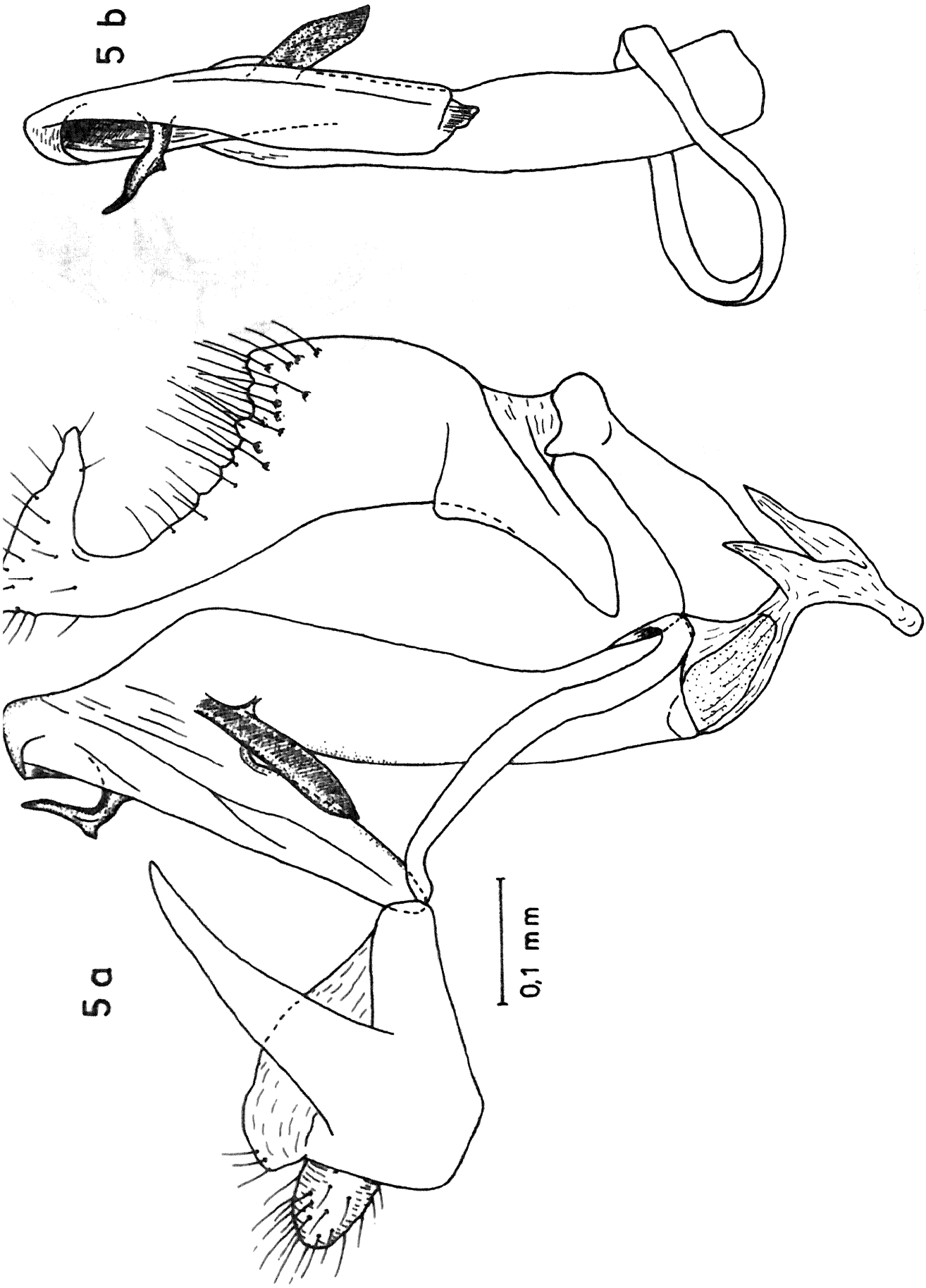
4 a

4 b

Eurysa libira n.sp. (cont.)

Fig. 5a: ♂-genitalia without pygofer in left laberal view

b: aedeagus, dorsocaudal view


5 b
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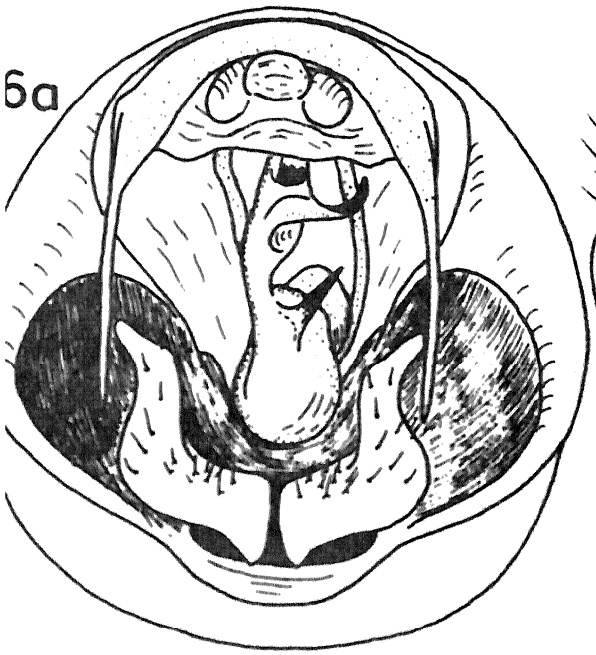
Figs. 6-10: Eurysa baetica n.sp.
(paratype ♂8 from type-locality, 4.5.1981)

Fig. 6: ♂-genitalia
a: ventrocaudal view
b: left lateral view

Fig. 7: pygofer
a: caudal view
b: ventral view
c: dorsal view



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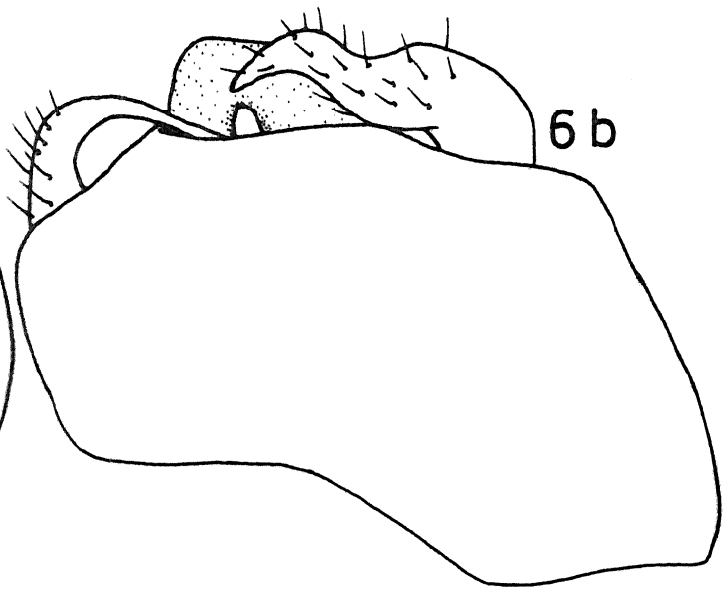

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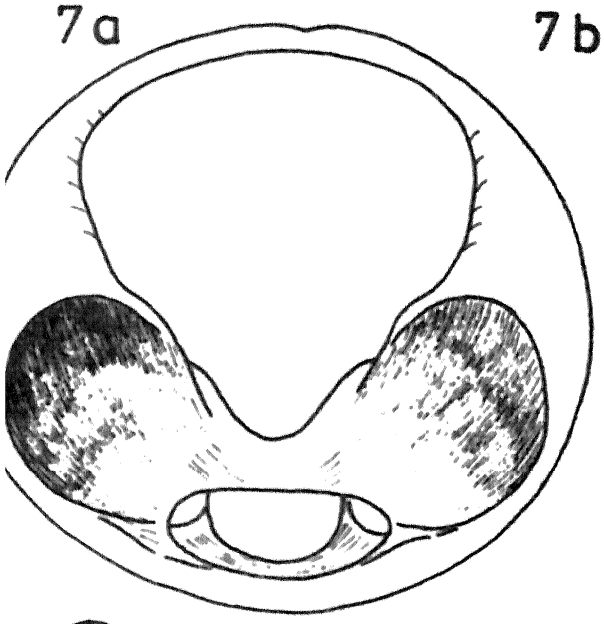

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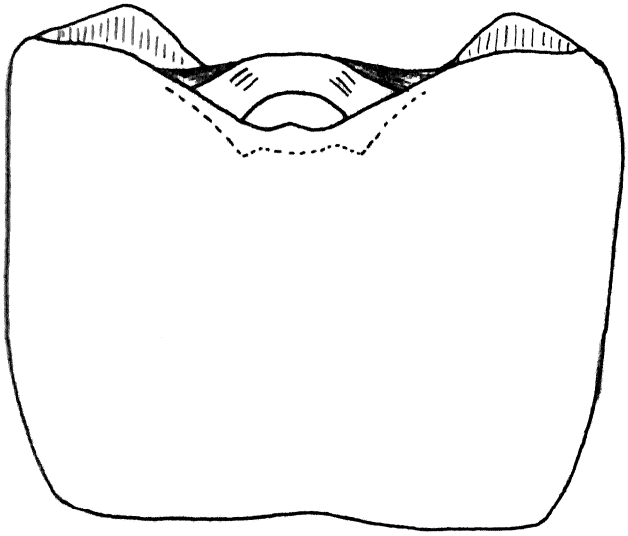

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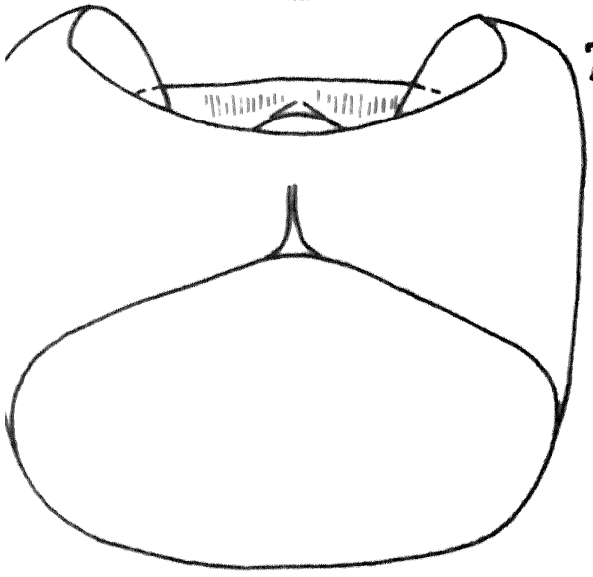


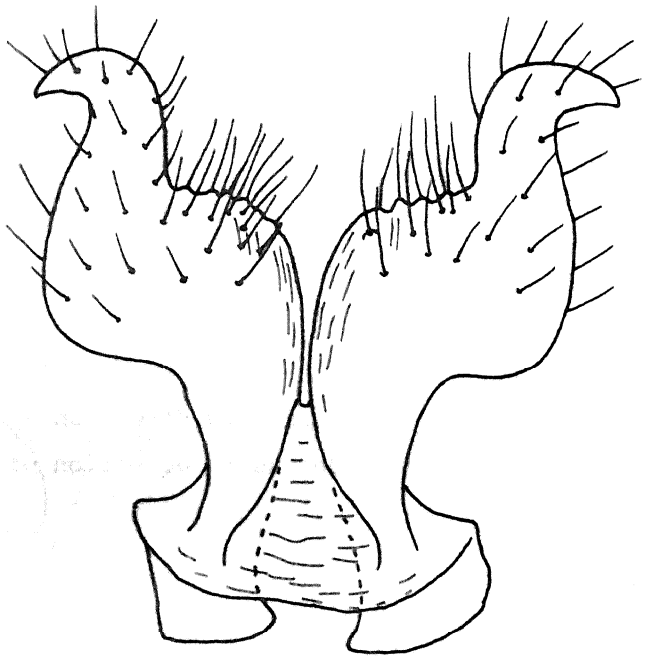
7c

Eurysa baetica n.sp. (cont.)

Fig. 8: genital styles, ventrocaudal view

Fig. 9: Analtube
a: caudal view
b: ventral view

8



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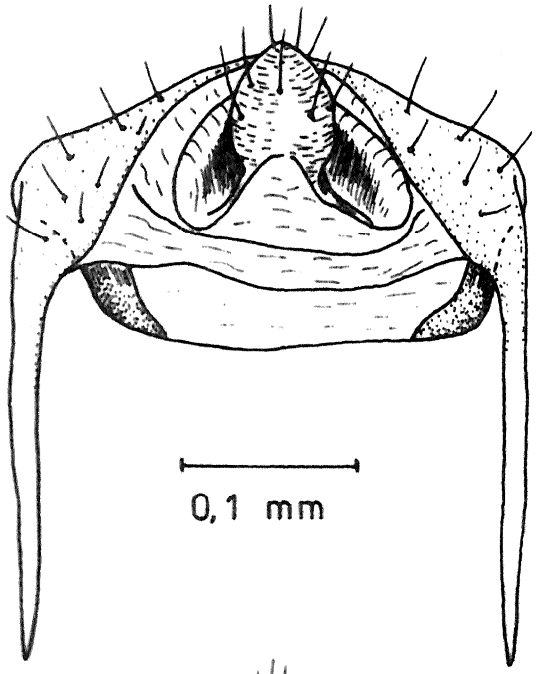

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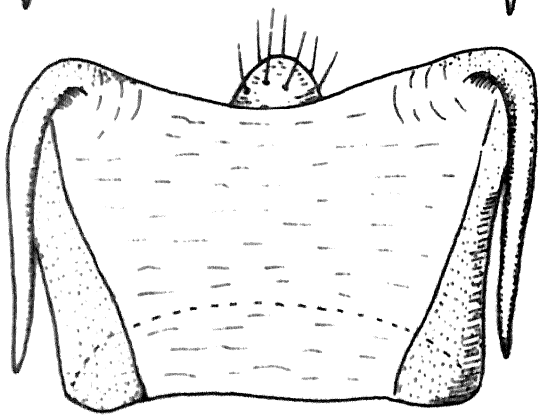
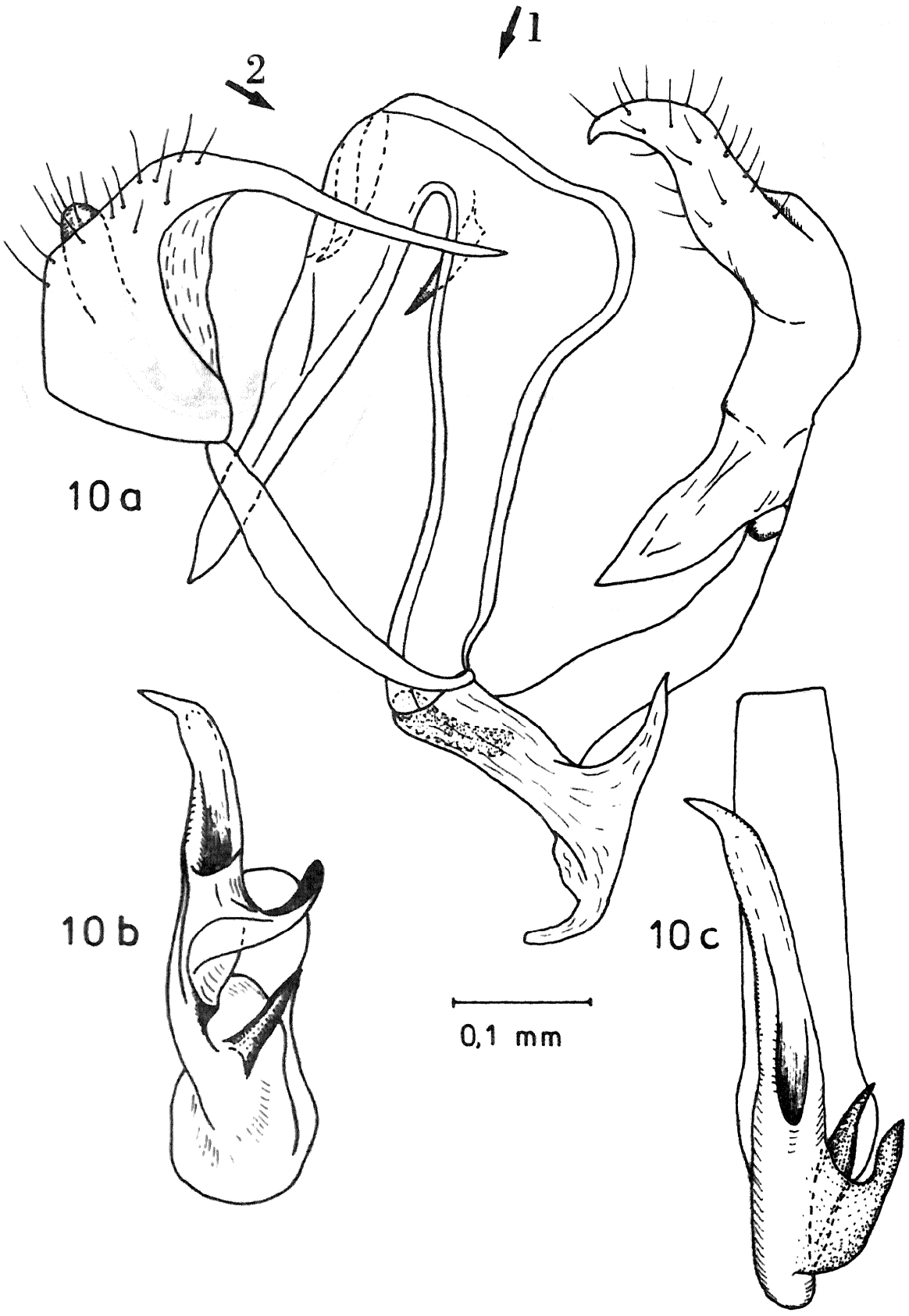


Eurysa baetica n.sp. (cont.)

Fig. 10a: ♂ genitalia without pygofer from left lateral
b: view at the aedeagus in direction of arrow 1 in fig. 10a
c: view at the aedeagus in direction of arrow 2 in fig. 10c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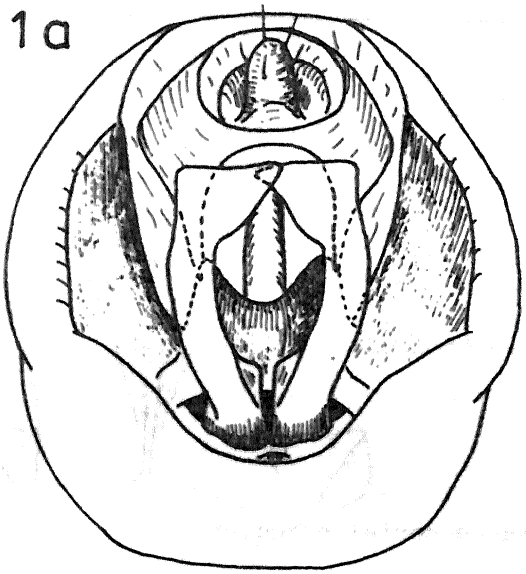
Figs. 11-15: Eurysa estrela n.sp.
(paratype ♂, from type-locality)

Fig. 11: ♂-genitalia
a: ventrocaudal view
b: left lateral view

Fig. 12: pygofer
a: caudal view
b: ventral view
c: dorsal view

11 a



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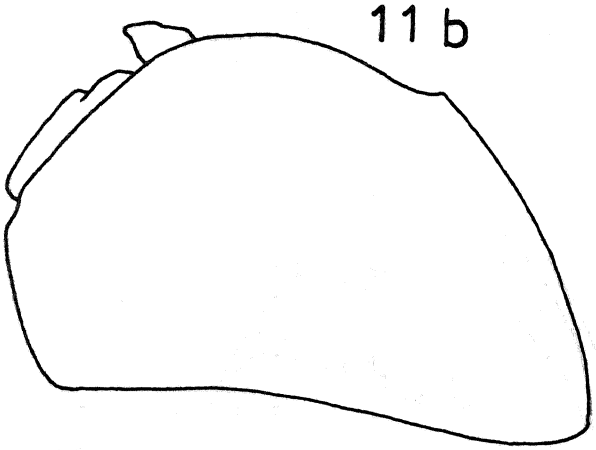

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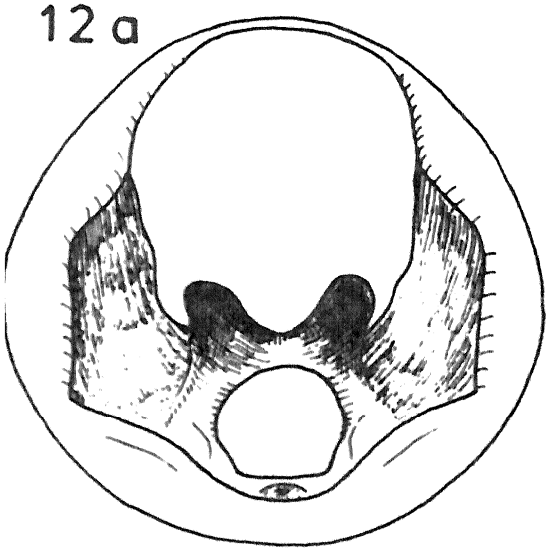

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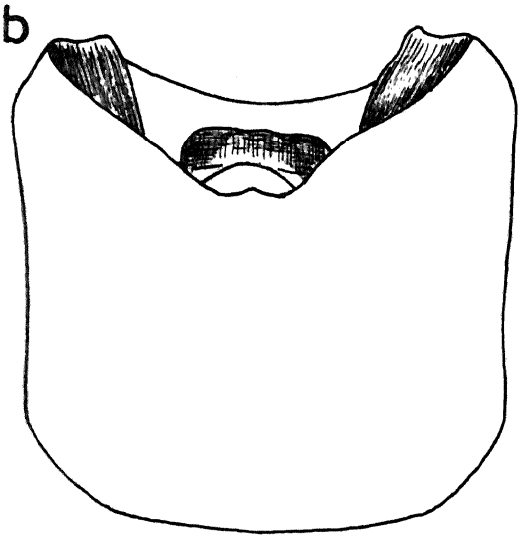

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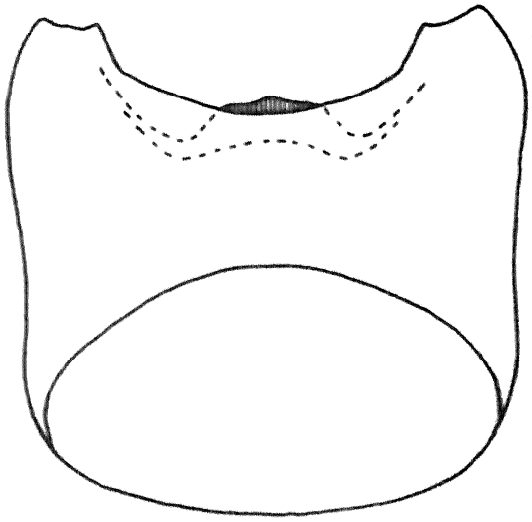

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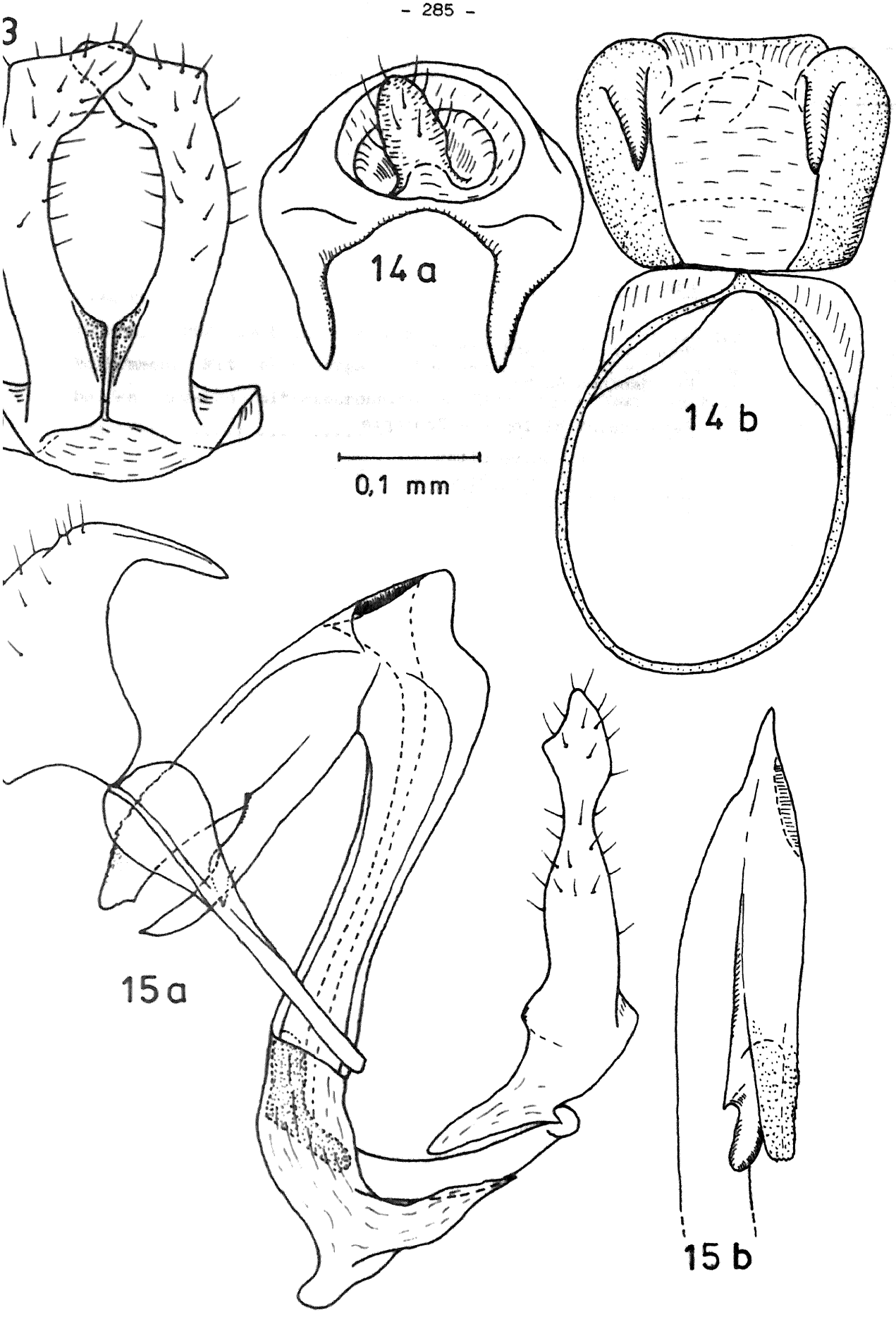
Eurysa estrela n.sp. (cont.)

Fig. 13: genital styles, from ventrocaudal

Fig. 14: Analtube
a: caudal view
b: ventral view, incl. suspensorial structures

Fig. 15a: ♂-genitalia without pygofer in left lateral view
b: distal part of the aedeagus in dorsocaudal view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14 a
14 b
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15 a
15 b

Adress of the authors:

Prof. Dr. Reinhard Remane

Dr. Manfred Asche

Fachbereich Biologie - Zoologie

der Philipps-Universität

Lahnberge, Postfach 1929

3550 MARBURG

West Germany