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# A REVISION OF FOUR SPECIES OF OLETHREUTINAE DESCRIBED FROM SPAIN (LEPIDOPTERA : TORTRICIDAE)

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**Resumé. – Révision de quatre espèces d'Olethreutinae décrites d'Espagne (Lepidoptera : Tortricidae).** – On présente une révision de quatre especes d'Olethreutinae décrites de la faune espagnole dont la taxonomie a été jusqu'à présent incorrecte. On propose cinq nouvelles synonymies et une nouvelle combinaison. On présente la description de la fernelle d'*Endothenia pauperculana* Staudinger inconnue jusqu'à présent. On propose trois nouvelles synonymies pour cette espèce trouvée rnaintenant des Iles Canaries, Péninsule Ibérique, Cerdagne et Monaco. Nous confirrnons les espèces *Phiaris predotai* Hartig et *Eucosma albarracina* Hartig et on décrit poiir la première fois leur génitalia. On propose deux nouvelles synonyrnies pour *Cydia strigulatana* Kennel et on clarifie son identification taxonomique.

**Abstract.** – Four species of Olethreutinae, described from Spain and whose taxonomy has hitherto been confused, are revised. Five new synonymies and one new combination are proposed. The fernale of *Endothenia pauperculana* Staudinger is described for the first time. Three new synonymies are proposed for this species recorded now from Canary Islands. Iberian Peninsula, Sardinia and Monaco. ***Phiaris predotai*** Hartig and *Eucosma albarracina* Hartig are confirmed as good species; their genitalia are described for the first time. Two new synonyrnies are proposed for *Cydia strigulatana* Kennel whose taxonomic identity is clarifyed.

From the entomological point of view, the Iberian Peninsula is considered one of the most interesting areas in the Palearctic, situated as it is so close to northern Africa and cut off from the rest of Europe by the Pyrenees. Sorne endemic elements of the microlepidopteran fauna are a result of this unusual position. Many of these have been described from single specimens, soinetirnes repeatedly as different species, and the correct identities of some of them remain obscure. The aim of this paper is to clarify the taxonomy of four species of Tortricidae described from Spain (including Canary Islands) although two of them also occur in France. Special eniphasis is laid on characters either not considered in the original descriptions or erroneously interproted in subsequent publications.

Part of the material studied in this paper (in the BAUV) was collected by the authors, the rest was from the following instituitions:

| | |
|---|---|
| B.M.N.H. | The Natural History Museurn, London. |
| I.S.E.Z. | Instytut Systematyki i Ewolucji Zwiertat, Krakow. |
| N.H.M.W. | Naturhistorisches Museum Wien, Viena. |
| Z.M.H.U. | Zoologisches Museurn, Hurnboldt Universitat, Berlin. |

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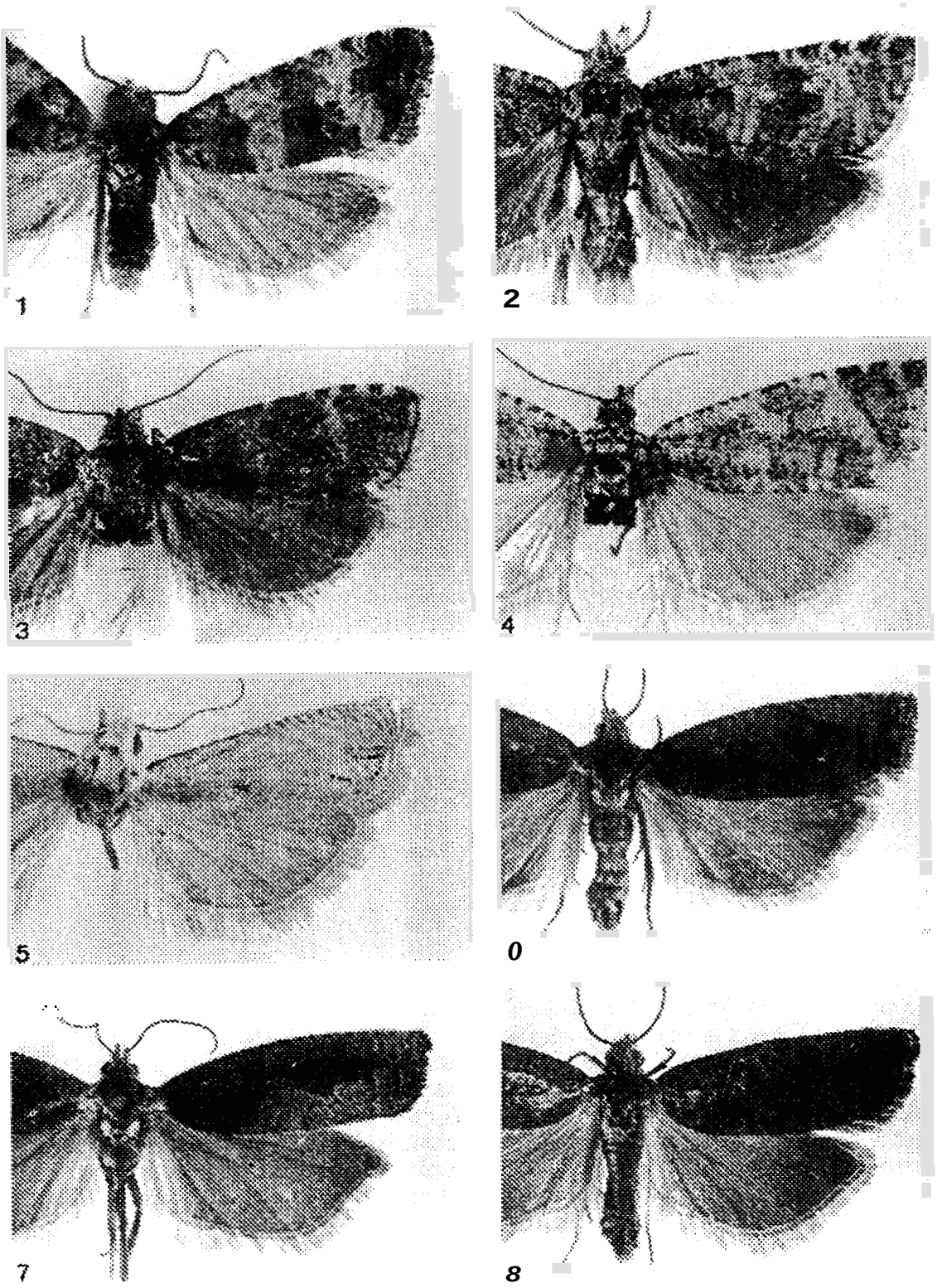



Fig. 1 to 8, wing patterns. – 1, *Endothenia pauperculana* (paralectotype male of *Polychrosis schmidti*). – 2, *Phiaris predotai* (Spain : Teruel, Albarracín, 1 male). – 3, *Phiaris scoriana* (Poland : Tatry, Dolina Mietusia, 1 male). – 4, *Phiaris stibiana* (Poland : Pieniny Upszar, 1 male). – 5, *Eucosma albarracina* (holotype). – 6, *Cydia strigulatana* (Spain : Soria, Lubia, 1200m, male). – 7, *C. strigulatana* (Portugal : Algarve, Alportel, female). – 8, *C. strigulatana* (Spain : Soria, Lubia, 1200 m, male).

U.R.I.Z. Università di Roma. Istituto di Zoologia, Roma.
M.N.C.N. Museo Nacional de Ciencias Naturales, Madrid.
M.N.H.N. Muséum National d'Histoire Naturelle, Paris.
B.A.U.V. Departamento de Biologia Animal, Universidad de Valencia.

## *Endothenia pauperculana* (Staudinger, 1859)
(fig. 1,9& 10)

*Penthina pauperculana* Staudinger, 1859, *Ent. Z. Stettin.* **20** : 230; Staudinger & Wocke, 1871 : 261 *(Steganoptycha);* Spuler, 1910 : 275 *(Epinotia);* Kennel. 1916 : 486-7, pl. 19, fig. 24 *(Semasia);* **Razowski,** 1971a : 527, fig. 157 *(Endothenia).* Lectotype (designated by Razowski, 1971 : 527) : male, "Chiclana, m., Origin." G.S.No.: 11692 (ZMHU) [not examined].

*Grapholitha nougatana* Chrétien, 1898, *Naturaliste* : 178; Rebel, 1910: 319 *(Grapholitha);* Spuler, 1910: 291 *(Laspeyresia);* Kennel, 1921: 660. pl. 24, figs. 8-9 *(Laspeyresia);* Agenjo, 1955: no page number *(Endothenia);* Razowski, 1961 : 678 *(Endothenia).* Holotype: male, «Type», G.S. No.: 3795 (MNHN) [not examined]. **Syn.n.**

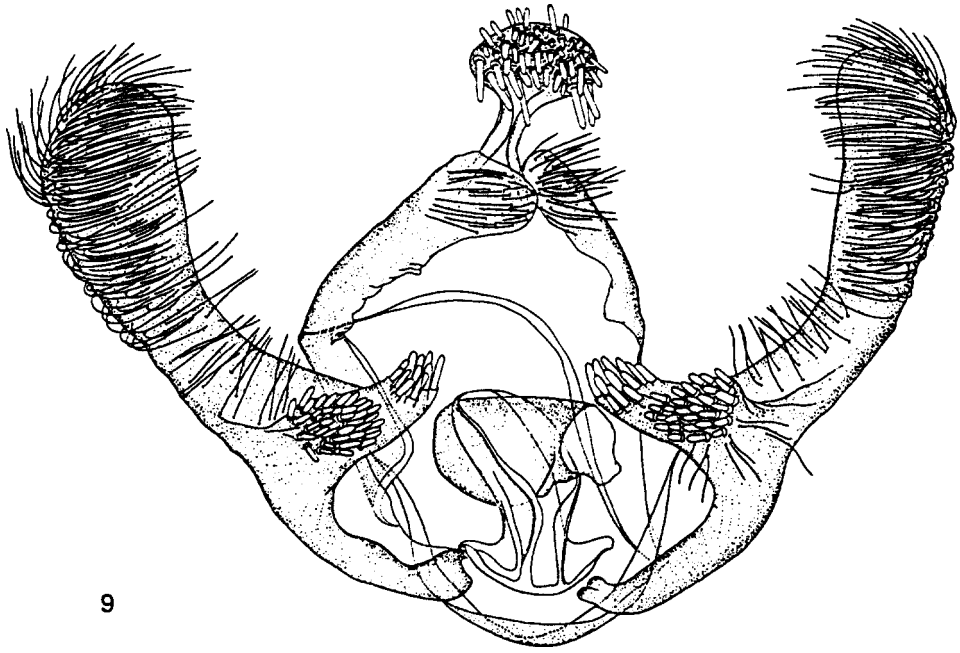
*Eucelis marrubiana* Walsingham, 1907, *Proc. Z. Soc. London* : 1007, pl. 53, fig. 4; Rebel, 1910: 339 (synonymised with *G. nougatana);* Kennel. 1921 : 725 *(Laspeyresia).* Lectotype (here designated): female, "Guimar, Tenerife, 14-III-[1907], on *Marrubium vulgare,* ex. 21-III-1907. Walsingham, 99051", G.S. No.: 5174 (BMNH) [exaniined]. Paralectotype: niale. sanie data except ex 24-III-1907, Walsingham 99052 [exaniined] (abdomen lost). **Syn.n.**

*Polychrosis schmidti* Rebel. 1936. *Z. öst. Ent. Ver.,* **21** : 22. pl. 2, fig. 1; Obraztsov, 1953: 90 *(Lobesia (Lobesia)).* Lectotype (here designated): niale, "Chiclana, 1912-IV-V, Hispania. Korb" (BMNH) [examined]. Paralectotypes: 3 males. 1 female, same data (BMNH) [exaniined]: 1 male, same data (ISEZ) [exaniined]; niale, "Sardinien, Cagliari, 15 Juni 1933, Bytinski-Salz" (NHMW) [not exaniined]. **Syn.n.**

**Ríale.** – Smaller than other species of the genus. Forewing length 4.5 – **5.5** mm. Head and body greyish brown. Forewing pattern (fig. 1) very distinct from other *Endothenia* species. The ground colour in this species is very characteristic: pale, almost white, with basal, median and terminal fasciae brown. The basal and median **fasciae** fused costally in some specimens. Genitalia typical for the genus (fig. 9). easily distinpuished by the dilation of the cucullus, the globular uncus and the rounded socii. The process of the sacculus bears two groups of spine-like setae.

**Female.** – Forewing length 5 – 5.5 mm. Colour and wing pattern similar to the male. Distinguishing species of *Endothenia* on the basis of the feniale genitalia is usually rather difficult: the feniale genitalia of this species (fig. 10) are described here for the first time, as follows. Sterigma simple, subtriangular, fornied by a prominent lateral sclerotization: no complicated postvaginal structure: colliculum short. Bursa copulatrix granular: ductus bursae lonp and only slightly dilated laterally: the origin of the ductus seminalis is situated one third of the length of the ductus bursae froni the ostium bursae: corpus bursae with a moderately sclerotized ventral pocket. The genitalia of this species are extremely similar to those of *E. gentianeana* (Hbn.), *E. marginana* (Hw.) and *E. ustulana* (Hw.).

**Reniarks.** – This species has been recorded from the south of France, Monaco, the Iberian Peninsula and the Canary Isiands. According to Danilevski & Kuznetsov (1968) it also occurs in Switzerland. There are probably two generations a year. Walsingham [1908] collected material froni *Marrubium vulgare,* a very widespread plant. This, together with the extended altitudinal range of the material studied here, suggest that the species has a wider clistribution and is probabiy circiiinmediterranean. The type specimen of *Grapholitha nougatana* is not founcl at present in the MNHN (perhaps lost), the genitalia of this species has never been published. The synonymy of this species is concluded through the paper by Rebel (1910) who stablished *Eucelis marrubiana* as a junior synonym.



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Other **material** examined. – SPAIN (**peninsula**) : Málaga [province]. Málaga. 1 male. 2-V-1901. *Walsingham* (BMNH): 2 niales. sanie data escept : 29-IV-1901: Soria. Calatañazor. 2 males. 30-VI-1992 (BAUV): Teruel. Albarracín. 1.200 ni. 3 males. VII-1984 (BAUV): 1 niale, sanie data except : 24 3.7V 1985: 4 males. same data except : VII 1985: 2 males. same data except : 27-V-1990: 1 male. same data escept : 27-VI-1990: Teruel. Bronchales. 1.600m. 1 rnale, 1 3-VII-84 (BAUV): Valencia. Benagéber. 750 ni. 3 males. VII-1984 (BAUV): 2 males. sanie data except : VI-1985: Valencia. Calles. 400 ni. 1 niale. 9-11-VII-1984 (BAUV): 6 niales. sanie data except : vi-1985: Valencia. La Yesa, 1400 m. 1 male. 3s-VI-1990 (BAUV): Valencia. Porta-Coeli. 425 m, 1 male. 16-VII-1985 (BAUV): Valencia. Titaguas. 820 rn, 1 niale. 12 14-VII-1984. – SPAIN (Canary Islands) : Tenerife. Guimar. 1 niale. 4-III-1907, *Walsingham* (BMNH); 1 niale. sanie data except : 9-III-1907: 1 niale. 1 female. sanie data except : 14-III-1907; 1 mâle. same data except : 19-111-1907: 2 males. sanie data except : 23-III-1907: 1 niale. 1 female. sanie data except : 25-III-1907. – MONACO : Montecarlo. 1 niale, 1-VI-1S99, *Walsingham* (BMNH).

## *Phiaris predotai* (Hartig, 1938), **comb.** n.
(fig. **2,** 11 & 14)

*Argyroploce predotai* Hartig. 1928. Z. *öst. Ent. Ver.*, **23** : 83. pl. 7, fig. 2. Vives. 1992 : 171. 266 (synonymised with *Sericoris stibiana* Gn.). Lectotype (here designated) : male. "Aragonia, **Albarracín,** 10-VIII-[19]33. Predota legit" (URIZ) [exainined]. Paralectotypes: male, "Sierra Alta (Aragón). 20-24.7., Predota legit"(URIZ); male. same data **escept:** "12-VII": female. "Sierra de Gredos. Hoyos de Esp.[ino]. Cast.[illa]. 1400 ni. 13.7.36. Col. H. Reisser. Viena" (URIZ) [examined].

Male. – Forewing length 5.5 – 9.0 mni. Head, body and wing ground colour dark brown to yellowish brown with variably scattered bright yellowish scales. Forewings with median transverse fascia and costal strigulae yellow to white. The three distal costal strigulae are not bifurcate. **A** small anal fold is present in the hindwings and there is a short hair tuft on the hind tibia.

This specics is closely related to *Phiaris scoriana* (Guenée. 1845) (fig. 3) and *Phiaris stibiana* (Guenée. 1845) (fig. 4). Colour and wing pattern are similar in these three species; the best diagnostic characters are in the genitalia. The valva in the niale of all three species has. at the base of the cucullus. **a** characteristic basal. lateral process bearing two groups of spines. This process is rounded to subrectangular **iri** *P. scoriana* (fig. 12) and *P. stibiana* (fig. 13) aiicl subtriangular in *P. predotai* (fig. 11). Thr distribution of the spines also differs between the three species : in **all** of theni the spines fall into two groups, onr approximately central. tlie other distal. In *P. predotai* the two groups are well separated with that in the centre of the process well developed. In *P. stibiana* both groups are similar and less well separated. In *P. scoriana* both groups are contiguous. There are also differences in ths sclerotization of the anal tube and the shape of the tegumen and uncus. Although colour and size varied in tlie material studied. intraspecific differences in the genitalia of these species are slight and restricted to tlie number and size of spines on the lateral process of the valva.

**Female.** – Forewing length 6.0 – 7.0 mm. Colour and pattern similar to the male. Genitalia very distinctive (fig. 14). with a large sterigma bearing two strongly sclerotized aiicl densely reticulate lateral processes: tlie colliculum is well developed and thc signum consists of a single spined plate. The female genitalia of *P. predotai* are easily distinguised from those of *P. scoriana* (fig. 15) and *P. stibiana* (fig. 16) which are rather similar to each other. In all three species the sterigma is expanded laterally but it differs in shape between species. The sculpturing of the sterigma is diagnostic : there is rio reticulation in *P. scoriana* or *P. stibiana;* in these species the sterigma is finely aciculate.

Fig. 9, male genitalia of *Endothenia pauperculana* (paralectotype of *Polychrosis schmidti).* Scale bars = 0.5mm.

Fig. 10, female genitalia of *Endothenia pauperculana* (Spain : Canary Islands, Tenerife, Guimar). Scale bars = 0.5mm.

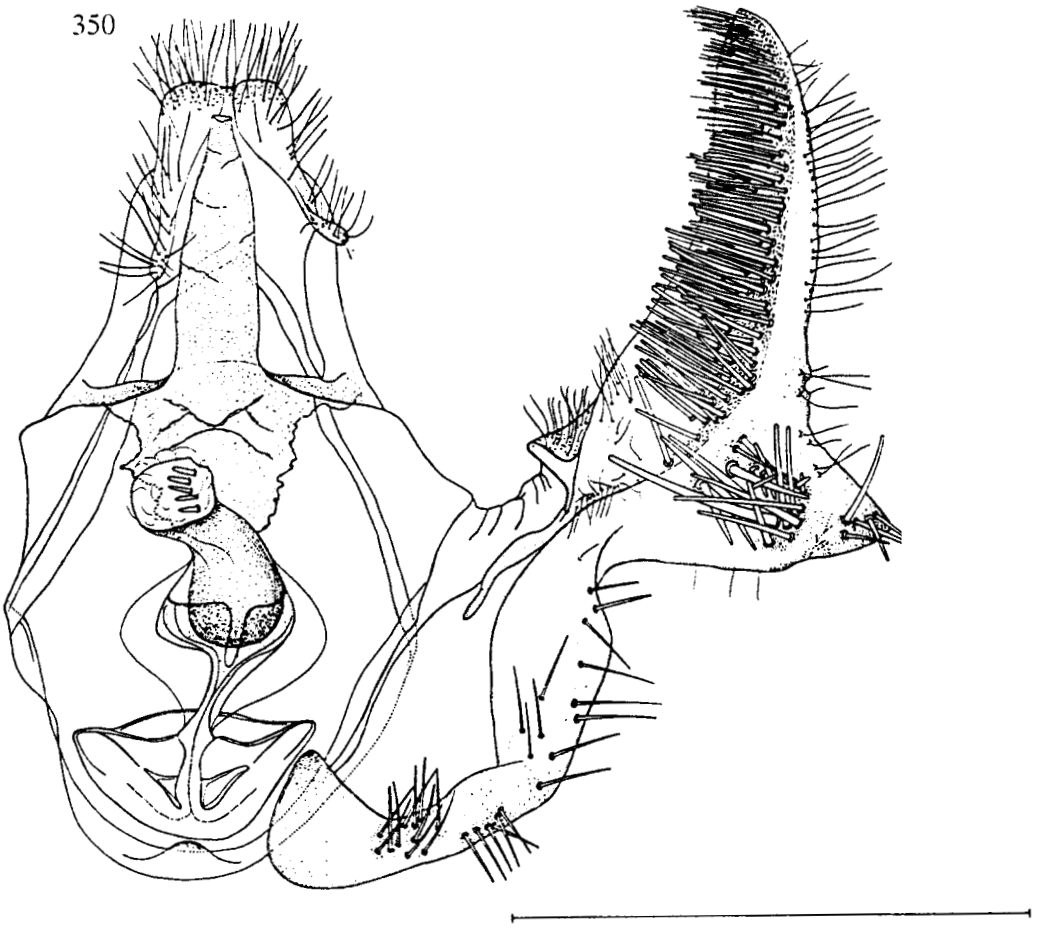

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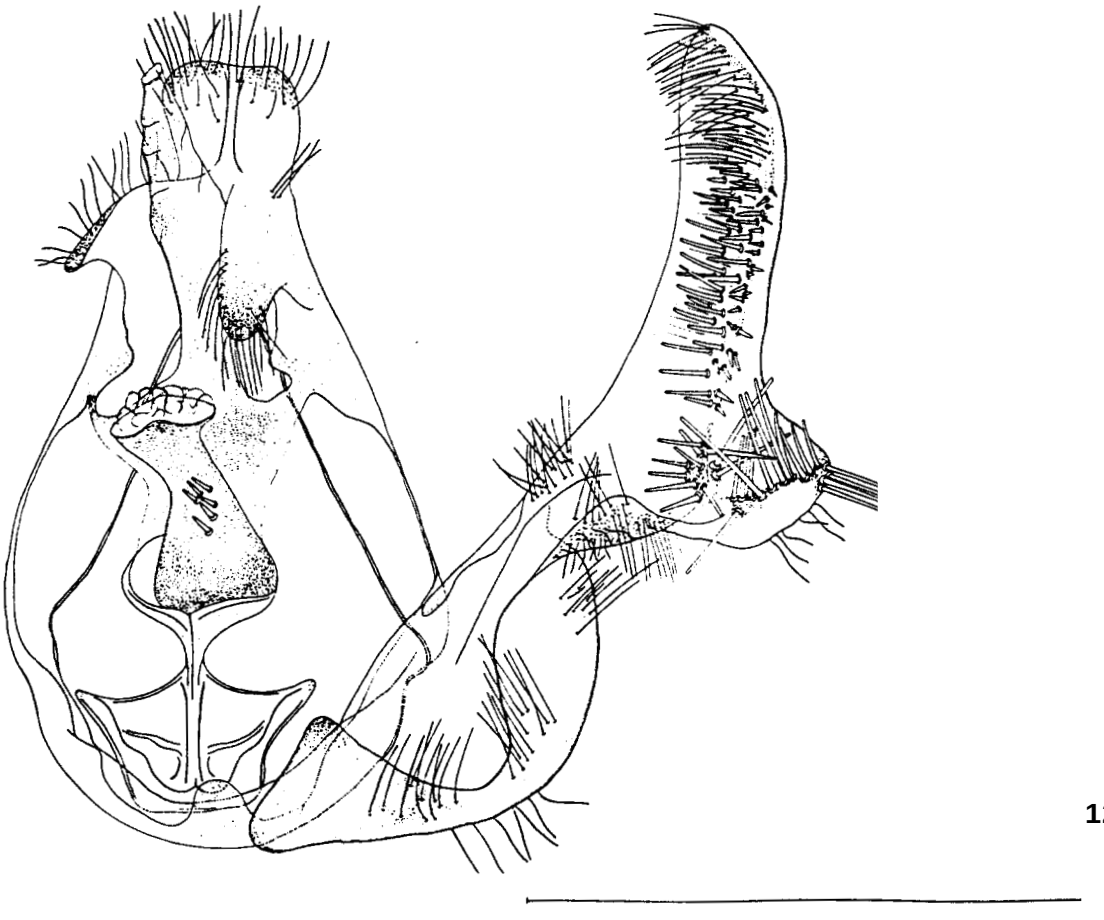
Fig. 11. male genitalia of *P. predotai* (lectotype). Scale bars = 1 mm.



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**Remarks.** – The wing pattern of this species is typical of the genus and has been correctly described in the past; the genitalia, however, have not previously been described. The museum material examined here was very often labelled "*palustrana* Zeller". The present species was compared with *palustrana* Zeller in the original description, but their resemblance is superficial. *P. scoriana* is widespread in northern and central Europe and *P. stibiana* is even more widely distributed in the Palaearctic (Kuznetsov, 1978) but neither species occurs in the Iberian Peninsula.

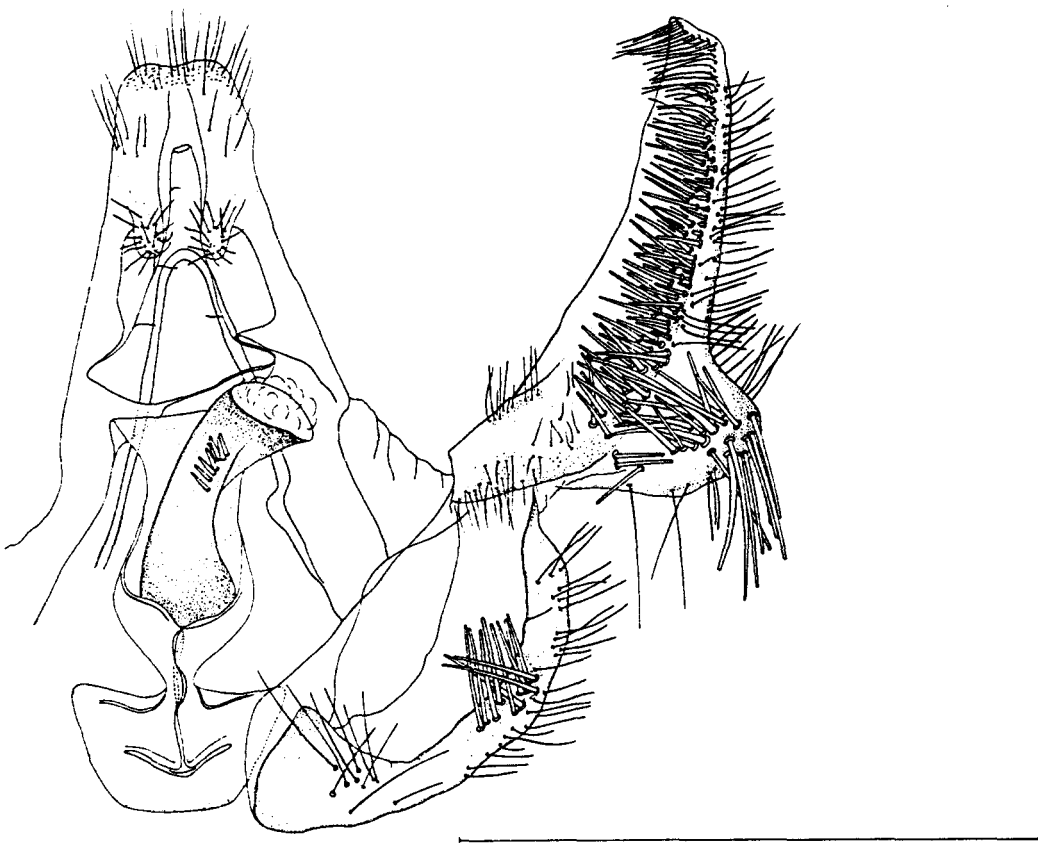
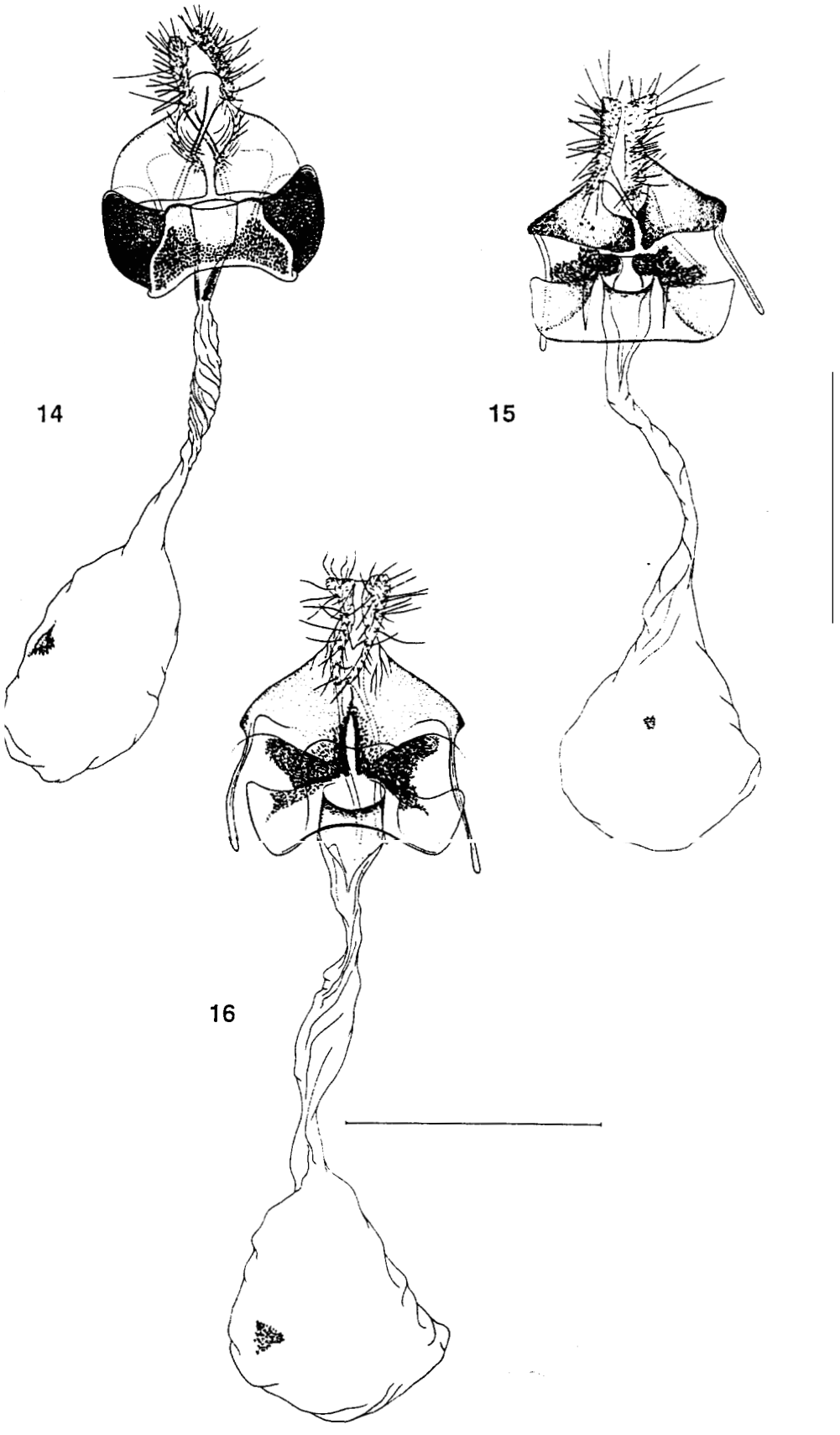


Fig. 13. male genitalia of *Phiaris stibiana* (Poland : Pieniny Upszar, 1 male). Scale bars = 1 mm.

Vives (1992) suggested that *P. predotai* was a synonym of *P. stibiana* but this is not supported by the present study. The esistence of a different species of *Phiaris* in the Iberian Peninsula is both biogeographically aiid taxonomically consistent with our knowledge of the group.

**Other material examined.** – SPAIN : Cuenca. 1 male. 1892 (ISEZ): Cuenca. 1 male, 1593 (ISEZ): Avila. Sierra de Credos. Garganta de las Pozas. 1800 m. 1 male and 1 female, 10-VII-1970, *Sattler* & *Kirby* (BMNH): 1 iiiale. same data except :9-VII-1970 (BMNH); Granada, Sierra Nevada. Collado del Lobo. north side. 2300 ni. 1 male, 15-VII-1969. *Sattler* (BMNH); Granada, Sierra Nevada. Veleta. 2100 ni. 2 males. 12-VII-1980. *Derra*: Soria. Calatañazor. Cuesta de Temeroso, 1.100m. 5 males. 2-VII-1992 (BAUV); Teruel. Albarracín. 1 male. 1590. *Seebold* (ISEZ): 1 male, no locality data (NHMW).

**Material of *Phiaris scoriana* examined.** – AUSTRIA : Austria, Alps, 1 rnale, 1885 (ISEZ). – POLAND : Tatry. Dolina Mietusia, 1 male, 11-VII-19-32. *Lewandowski* (ISEZ); Tatry, Maty Giewont, 1400 m. 5 niales, 21-VII-1949, *Lewandowski* (ISEZ): 1 male, same data except: 13-VII-1949; Tatry, Swinica, 1300 m. 1 female, 27-VI-1950. *Bleszynski* (ISEZ); 2 males, same data except : 27-VI-1953; 1 niale, same data escept : 24-VI-1951; 1 niale, same data except : 23-VI-1950; Tatry, Koscieliska, 1 niale, 28-VI-1946, *Bleszynski* (ISEZ). – SWITZERLAND : Engadin, 5 males, *Christoph* (BMNH); Niffelberg, Zerrnatt, 2800 m, 1 **niale,** 22-VII-1935, *Amsel* (ISEZ); Pontresina. Grisons, VII-1911; Zermatt, 7 males, *Frey* (BMNH).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**Material of *Phiaris stibiana* esamined.** – AUSTRIA : Hinterstoder, 31-V-1936. *Klimesch* (ISEZ). – FRASCE: Digne. Basses-Alpes. 1 male. 27-V/8-VI-1946. *Fischer* (ISEZ); Col de Chaudun. Alpec. 1711 m, 1 male, *Fischer* (ISEZ): hlont Louis. east Pyrenees. 1 niale. 2 females. 11-VII-1900. *Walsingham* (BMNH): Thues-les-Bains. eact Pyrenees. 3 males. 19-VI-1900, *Walsingham* (BMNH); 1 niale. sanie data except : 23-VI-1900; 1 male. same data except : 27-VI-1900. – POLASD : Pieniny, Upszar, 1 feniale. 19-VI-1957. *Toll* (ISEZ): 1 male, same data except : 27-VI-1957; 1 feniale, same data except : 11-VI-1957; Pieniny Kroscienko. 4 males. 2/8-VI-1959. *Szmyt* (ISEZ); **5** niales, same data except : 14/20-VI-1958; Pieniny, Czorstyn, 1 male, 30-V-1945, *Toll* (ISEZ): **3** males, same data except : 25-V-1949: 1 niale. same data except : 3-V-1948; 1 male, same data except : 26-V-1949: 1 niale, same data except : 23-V-1949: 1 male. 1 female. same data except : 30-V-1948: 1 male. saiiie data except : 5-VI-1957: 1 male, sanie data except : 13-VI-1957; 1 male, same data except : 21-VI-1957; 1 female. same data except : 25-V-1948; 1 feniale, same data except : 29-V-1949. – TURKEY: Shar Devesy, Haleb. 10 males. 1 female, 14-VI-1890. *Leech* (BMNH): 17 niales. 9 females. same data except : 15-VI-1890; 17 niales, 2 females, same data except : 17-VI-1590; 5 males. saiiie data except : 18-VI-1S90.

## *Eucosma albarracina* Hartig, 1941
(fig. 5 & 17)

*Eucosma albarracina* Hartig. 1941, *Mitt. München Ent. Ges.*, 31 : 156, pl. 6, fig. 5. Holotype : male, "Aragonia. Albarracín. 29-VIII-33, Predota", *G.S.* no. 601, (URIZ) [esaniined].

**Male.** – Forewing : length 8.0 mni, with a costal fold. Wing pattern typical for the genus (fig. 5). Ground colour pale. yellowish brown. The presence of a dorsal spot, formed by a small group of dark scales, and a basal. longitudinal whitish line near the costa. are particularly conspicuous. Genitalia (fig. 17) similar to *E. fervidana* (Zeller. 1847) (fig. 18) but differing in the neck of the valva, which is narrower in *E. albarracina*, and in the apex of the sacculus. which is rounded in *E. fervidana* and alinost forms a right-angle in *E. albarracina*. The outer margin of the cucullus is scarcely spined in *E. albarracina*.

Female. – Unknown.

**Remarks.** – The genus *Eucosma* Hübner iiicludes a large number of described species. The wing pattern and genitalia, especially of the females, are often scarcely distinguishable. Hartig (1941) considered that *E. albarracina* was related to *E. fulvana* (Stephens. 1834) and *E. expallidana* (Haworth, 1811). Obraztsov (1968a) thought it similar to *E. albidulana* (Herrich-Schäffer, 1851) and *E. albuneana* (Zeller, 1847), an opinion based on the wing pattern figured and carefully described by Hartig (1941). Neither Hartig nor Obraztsov examined the genitalia of this species. Despite having collected for several years in the type locality, the authors are unable to confirm the presence of this very rare species there today. It was nevertheless possible to study a specimen alniost identical to that collected by K. Predota. from the material in the BMNH collected by Sattler & Carter in southern Spain. Of the male genitalia of other species in the genus, those of *E. fervidana* Zeller. 1S47 are the most similar, but *E. albarracina* is without doubt a distinct species and may even be distinguished on the basis of wing pattern alone. In addition to the holotype. Hartig (1941) designated as paratype a rather worn male specinien of the very common *Eucosma conterminana* (Guenée. 1845) with the following data : "Aragonia, Albarracín. 1-7-VIII-1933, Predota" (IZUSR).

Fig. 14. female genitalia of *Phiaris predotai* (paralectotype). Scale bars = 1 mm.
**Fig.** 15. feniale genitalia of ***Phiaris scoriana*** (Poland : Tatry, Swinica), Scale bars = 1 mm.
Fig. 16, female genitalia of *Phiaris stibiana* (Poland : Pieniny Upszar). Scale bars = 1 mm.

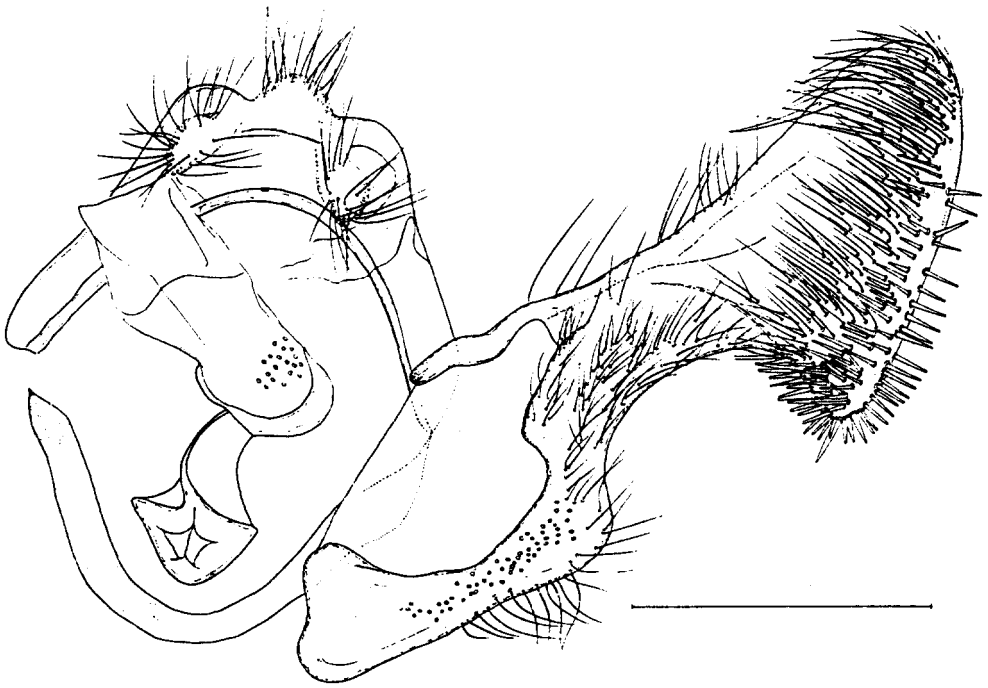

Fig. 17, male genitalia of *Eucosma albarracina* (holotype). Scale bars = 0,5 mm.

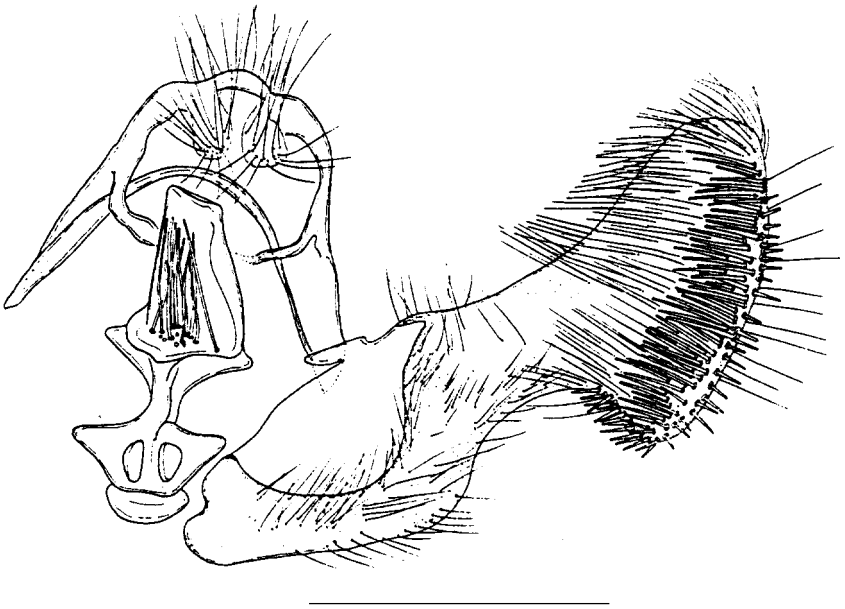

Fig. 18, male genitalia of *Eucosma fervidana* ("Wippach, 1854", G.S. 862/2598 (NHMW)). Scale bars = 0.5 mm.

**Other niaterial esamined.** – SPAIN : 1 male, Granada, Valle de Rio Fardes, W of Diezma, 1250 **ni,** 22-VI-1968, *Sattler* & *Carter* (BMNH).

**Material examined of *Eucosma fervidana.* – Type material** : 1 female, "Type, Syrac[use], 3 1 mai, Zeller coll., W[a]ls[ingha]m. coll.", ***G.S.*** No.: 1 1801 **(BMSH);** 1 iiiale, "Type, Syrac[use],

30 rnai. Zeller coll.. W[a]ls[ingha]m. coll.". G.S. No.: 1744. – **Additional material.** – ALGERIA : Constantine. 2 males. 1SS7. *Staudinger* (BMNH): Lamhère. 6 males. 5 females. VI-1885. *Bleuse* (BMNH). – CROATIA: Rijeka. 2 males. 1853 (NHMW). – ITALY : Sicily. Siracuse. 1 female (BMNH): Venezia Giulia. Vippaco. 1 male. 1854(NHMW): 2 females. no locality data (BMNH).

## *Cydia strigulatana* (Kennel. 1899)
(fig. 6, 7. S, 19 & 20)

*Grapholitha strigulatana* Kennel. 1S99. *Dt. ent. Z. Iris.* **12** :41. pl. 1. fig. 40.: Keiiiiel. 1916 :515. pl. 20. fig. 4 *(Semasia):* Obraztsov. 1968b :238. figs. 15. 22 *(Phanetoprepa):* Razowski. 1971b :553 *(Laspeyresia):* Vives. 1991 : 186*(Cydia (Collicularia)).* Holotype : niale. "Lusit[ania]. 5". ***G.S.*** no. :229 (a) (MNCN) [exaniined].

*Semasia demissana* Kennel, 1901, *Dt. ent. Z. Iris.* **13** : 268; Agenjo. 1955: no page niiniber *(Eucosma);* **Razowski.** 1971a :399. fig. 95 *(Laspeyresia);* Holotype : rnale. "Chiclana. m.80. 29-III". G.S. no.: 11544 (ZMHU) [examined]. syn. n.

*Semasia seriana* Keiiiiel, 1901, *Dr. ent.* **Z. Iris. 13** :270: Agenjo, 1955: no page number *(Eucosma):* Obraztsov, 1967 : 76, pl. 10, fig. 1 *(Pelochrista (Pseudeucosma)):* Danilevsky & Kuznetsov, 1968 :523-4, fig. 384 *(Laspeyresia);* Razowski. 1971b : 553 (synonymised with G. *strigulatana);* Diakonoff, 1984 : 162-3, fig. **1-2** *(Cydia (Dicraniana)).* Lectotype (designated by Danilevsky & Kuznetsov, 1968): rnale. "Chiclana, m.80". G.S. no.: 4 (ZMHU) [exaniined]. Paralectotype: "8/4".

*Epiblema obesana* Kennel. 1901. *Dt. ent. Z. Iris.* **13** : 284; Agenjo. 195.7 : no page number *(Eucosma);* Razowski. 1971a :399 *(Laspeyresia.* syiionyiiiised with **5.***demissana);* Razowski. 1971b :553 (removed frorn synonymy with *S. demissana* and synonymised with G. *strigulatana).* Lectotype (designated by Razowski. 1971a) : male, "Chiclana. m.80. 19/4", G.S. no.: 1 1635(ZMHU) [examined].

*Epiblema escorialana* Schiiiidt. 1933. ***Bol.*** *SoL'. esp.* ***Hisr.*** *Nat.*, **27** :403-405. pl. 27. fig. 5. Agenjo. 1955 : no page number *(Epinotia);* Vives. 1992 :186. 267 *(escoraliana.* incorrect subsequent spelling: synonymised with G. *strigulatana).* Holotype :female. "Escorial (Prov. Madrid). v.1923. F. Escalera", ***G.S.*** no.: 57.139 (MNCN) [examined].

*Epiblema rebeli* Hartig. 1938. Z. *öst. Ent. Ver.* **23** :88-89. pl. 7. fig. 3. Agenjo. 1955 : no page number *(Epinotia);* Vives. 1992 :186. 267 (synonymised with *G. strigulatana* and incorrectly cited as having been described in 1939). Holotype : female. "Sierra Alta (Aragón). 12-7. Predota" (URIZ) [examined].

*Epiblema hartigi* D. Lucas. 1942. *Bull. Soc. ent. France.* **47** :125. Obraztsov. 1968b :238 *(Phanetoprepa):* Razowski. 1971b :553 (synonymised with G. *strigulatana).* Holotype : female. "Costeil les Pyren., 0Z". G.S. **no.**:3801 (MNHN) [examined].

*Phanetoprepa agenjoi* Obraztsov. 1968. *Journ. New York ent. Soc.*, **76** :237. figs. 1 1-14. 23. 24: Razowski, 1971b : 553 (synonymised with *S. demissana)* Holotype : male. "Cercedilla. prov. Madrid. Spain. 1481m. 10-VII-1957. Agenjo". G.S. **no.:** A9/694 (MNCN) [examined]. Paratype : female. "Estépar. Burgos. 810 m. 15-30-VI. Agenjo" G.S. no.: A13/55619 (MNCN) [examined]. **syn. n.**

**Male.** – Forewing length 7.5 – 9 mm. Head. body aiid wing ground colour dark grey to ochreous brown. with variably scattered dark brown. light green. black and silver scales. Numerous costal strigulae. Ocellus sometimes reduced: if well developed usually bearing 4 to 6 small spots of black scales. Groups of black scales may occur in some specimens and a dorsal patch is sometimes present. very often reduced or divided iiito two spots of variable size (fig. 6): a secondary postmedian patch may also occur. Dark scales may be grouped together on the costal half of the wing. forming a sinuous pattern (fig. 7). Although the wing pattern of this species is extremely variable. most specimens clo not possess any conspicuous markings (fig. 8). No cubital pecten or pockct was detected on the hindwings. No hair pencil was found on the iiietathoiacic tibia. The genitalia are highly characteristic: the strongly sclerotized aedeagus bears a very pi-oniinent ventral process which is moderately dentate ventrally (fig. 19 b). The valva is curved inwards laterally and constricted ventrally into a neck. with a small distal triangular process; the cucullus is wide. The appearance of the ventral edge of the valva may vary depending upon the differences iii pressure applied to the coverslip during preparation (fig. 19 a. c & d).

**Female.** – Forewing length 6 – 9.5 mm. Colour and pattern similar to that of the male. As in the male, the genitalia are very characteristic (fig. 20). The postvaginal plate of the sterigma is very well developed and variably sclerotized. The ostium is bilobed transversally and the colliculum is sclerotized, bearing a distal process. The bursa copulatrix is finely sculptured. The ductus bursae is short and curved; the ductus seminalis is thick. There are two signa.

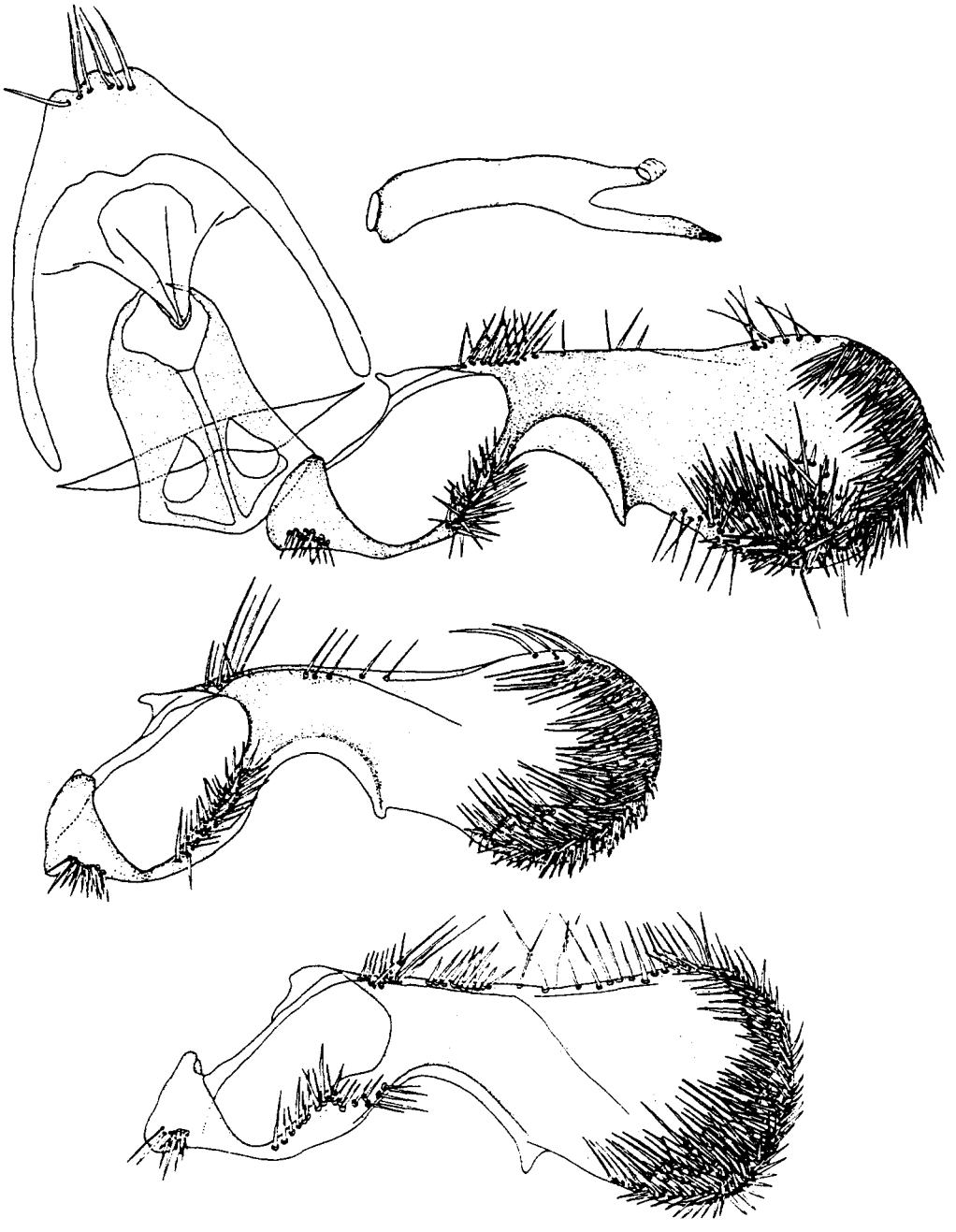

Fig. 19 a, b, c, d, male genitalia of *Cydia strigulatana* showing the effect of different degrees of pressure on the valva during preparation : a, slightly flattened (Spain : Teruel, Bronchales). – b, aedeagus of the same specimen. – c, moderately flattened (Spain : Teruel, Bronchales). – d, very flattened (Spain : Teruel, Bronchales). Scale bars = 1 mm.

**Remarks.** – The variability of this species and the paucity of the material used in the original descriptions have resiilted in considerable confusion in the literature. Kennel (1899 & 1901) described this species four times. The type specinieiis of some of **the**

synonyms of this species came from the same locality and were distinguished solely on the bnsis of size and wing ground colour.

Especially remarkable is the pale colouration and small size of the type of *Semasia demissana* in which the wing length is 6 mm: the type of *Semasia seriana* (wing length 7 mm) was collected in the same locality and is simply a darker specimen. *Epiblema obesana*, *Epiblema rebeli* and *Epiblema hartigi* differ again in the wing pattern and the presence of black spots on the wings. Razowski (1971) figured the female genitalia of *Epiblema hartigi* and Danilevski & Kuznetsov (1968) figured for the first time the male

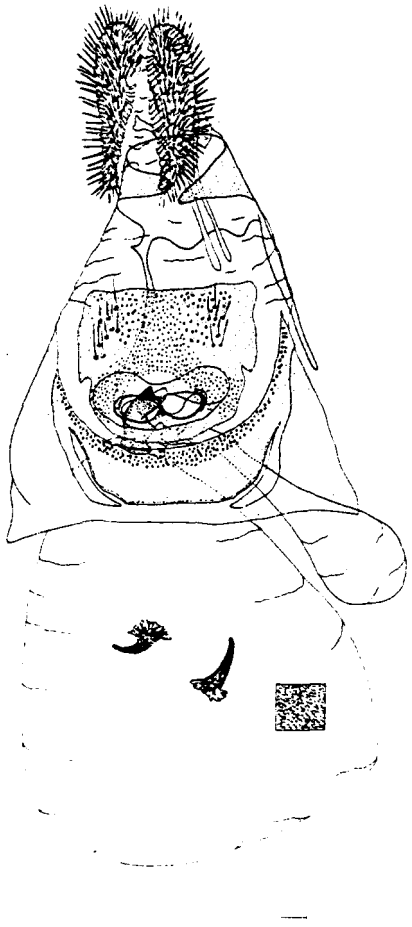

Fig. 20. female genitalia of *Cydia strigulatana* (Spain : Bronchales). Scale bars = 1 mm

genitalia of *Semasia seriana*. After studying a collection of Spanish material Obraztsov (1968b) erectecl the genus *Phanetoprepa* for *P. agenjoi*, *P. strigulatana* and *P. hartigi*. He did not check the type of *Grapholitha strigulatana*, originally cleposited in tlie Seebold coliection in the MNCN and now reviewed for the first time. For cornpnrison he used **two** females in the collection of the MNCN labelled as belonging to this species. The appearance of the male genitalia of *P. agenjoi* in Obraztsov's figure (Obraztsov, 1968b) is confusing because of their poor preparation aiid the resulting deformation of the aedeagus. The differences that he claimed existed between the female genitalia of *P. agenjoi* and *P. strigulatana* result simply from differing degrees of sclerotization of the sterigma. In the drawing published by Razowski (1989) the genitalia are upside down, and the dif-

ferences he gave (Razowski, 1971b) for differentiating *Laspeyresia strigulatana* and *Laspeyresia demissana* are due to artefacts in the preparations he examined : the degree to which the valva is curved inuards depends upon how niuch the genitalia have been flattened during preparation. Danilevski's & Kutzenov's (1968) drawing figures an overflattened preparation.

The biology of this species is unknown but it is probably bivoltine. It seems to be distributed in supra– and oromediterranean areas (where it may sometinies be fairly comnion) and should be considered as ibero-inoroccan, distributed as far as the Pyrenees. According to Obraztsov (1967 & 1968a) the species may also occiir in Albania and Asia Minor, although no material from these areas has been examined.

The correct systeinatic position of this species is uncertain. Obraztsov's (1968b) and Diakonoff's (1984) erection of the genus *Phanetoprepa* and the subgenus *Dicraniana* respectively reflect the difficulties encountered in placing it adequately. It is clear from this study, however, that this species belongs to *Cydia* s. str.

**Other material esamined.** – SPAIK : Spain, 1 feniale. 1895 *(Korb)* (ISEZ); Burgos, Estépar, 810 m, 1 female, 1/15-VI-1934, *Agenjo* (MNCN); 2 feniales, same data except : 15/30-VI-1933; Guadalajara, Villanueva de Alcorón, 1 male, 3 feniales. 18-VI-1993 (BAUV); Jaén. Jándula, 4 feinales, IV-1933, *Agenjo* (MNCN) (two of these four feinales were the only material of *C. strigulatana* examined by Obraztsov (Obraztsov. 1968b)); 1 female same data except : IV-1932; Madrid, Valdemanco, 1127 m, 4 males, 6-V-1978, *Agenjo* (MNCN): Madrid, Cercedilla, 1 female, 3.VII.1957. *Agenjo* (MNCN); 1 feniale, same data except : 4-VII-1957; 2 feinales, same data except : VII-1959; Soria. Calatañazor, 1015 ni. 1 male, 2 females, 30-VI-1992 (BAUV); Soria, Lubia. 1020 m, 5 feinales, 2s-VI-1992 (BAUV); Teruel, Albarracín, Valdevecar, 1200 m, **3** males, 1 female, VII-1984; 3 males, **5** females. same data except : VI-1985 (BAUV); Teruel, Albarracín, Fuente del Ojuelo. 1600 ni. **3** males. 10 females. 26-VI-1987 (BAUV): 2 males, 2 feinales, same data except : 16-VII-1987; Teriiel, Albarracín, Sierra **Alta.** 1800 ni. 8 feniales. 21-VII-19SS (BAUV); Teruel, Bronchales, 1600 m, 1 inale. 10 feinales. VI-1984 (BAUV): 12 males. 27 females, same data except : VII-1984; 1 male, same data except : VIII-1984; 4 males, 24 females, saine data except : VI-1985; 4 feniales. same data except : VII-1985; Teriiel. Guadalaviar, 1520 m, 1 female. 13/15-VII-1984 (BAUV). – FRANCE : East Pyrenees, Thiies-les-Bains. 3 females, 28-VI-1900. *Walsingham* (BMNH); 1 feniale. same data except : 30-VI-1900; East Pyrenees, Vernet-les-Bains. 1 female. 26-V-1S99, *Walsingham* (BMKH): 1 inale. 1 feniale. same data except : V-1924 *(Predota)* (NHMW). – MOROCCO : Tanger, 1 niale. 2-III-1902, *Walsingham* (BMNH); 1 niale, same data except : 7-III-1903: 1 niale. 1 feniale. same data excrpt : 22-III-1903. – PORTUGAL : Algarve, Lagoa da Nave. 1 feniale. 22-IV-1992, *Corley* (BAUV): Algarve. Alportel, 4 feniales, 19-IV-1992, *Corley* (BAUV).

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