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The Genera of *Tortricidae* (*Lepidoptera*). Part I: Palaearctic *Chlidanotinae* and *Tortricinae*

[with 769 figs.]

Rodzaje *Tortricidae* (*Lepidoptera*). Część I: Palearktyczne *Chlidanotinae* i *Tortricinae*

Abstract: "The genera of Tortricidae" will be published in several parts dealing with particular faunas. The present part constitutes of some general data and the revision of the Palaearctic genera. The last part of this series will contain a proposal of a systematic arrangement of the genera of the whole world fauna. The system of the family-level taxa is still far of definite thus in this paper a compilation of some former systems is used.

INTRODUCTION

The revisions of the genera of *Tortiricidae* have been undertaken at the occasions of the studies of some regional faunas and the most important recent works were those by DIAKONOFF (1939) on the Indo-Malayan and Papuan fauna and by OBRAZTSOV, started in 1954 and concerning the Palaearctic Region.

The aim of the present paper is to provide the commented redescriptions of all hitherto known generic-level taxa of the particular regions or subregions. The last part of this series will contain a proposal of an systematic arrangement of the genera of the entire world fauna, with eventual corrections and supplements.

The number of already known genera is rather high as 1135 taxa have been described till 1976, of which about 860 were treated as valid in my catalogue (RAZOWSKI, 1977b). Since then numerous further genera have been described, thus the present series will contain the data on over 1200 ones. Several taxa described in *Tortricidae* area referable to other families and for those see the above mentioned catalogue.

The degree of reexamination of the taxa is unequal because of a lack of sufficient material for study. Often some important characters could not be checked as the organs were already fixed in the slides. Sometimes the original descriptions are too superficial and in those cases some problems could not be solved in course of this study.

I tried to assess the importance of the particular characters and select at least the autapomorphies but in many cases even single ones were not found. In many cases I refrained to synonymize the taxa on the basis of the available material. Those questions require further study.

The references are restricted to the most important ones. The misspellings are omitted from the synonymy except for some very important cases or are recorded without original citations as those are to be found in the mentioned catalogue.

Acknowledgments. My sincere thanks are due to Dr. J. D. BRADLEY, London, Dr. A. DIAKONOFF, Leiden, Dr. A. KAWABE, Tokyo, Prof. Dr. J. A. POWELL, Berkeley and Dr. T. YASUDA, Osaka.

MORPHOLOGY

The morphology and terminology have been discussed in many papers on *Tortricidae*. Thus only most important characters are illustrated below and the terminology is provided. The pattern elements of the forewings are illustrated

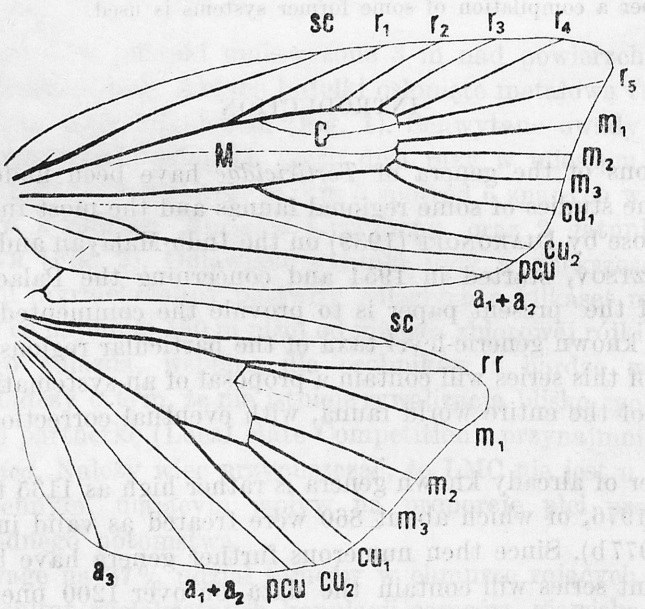
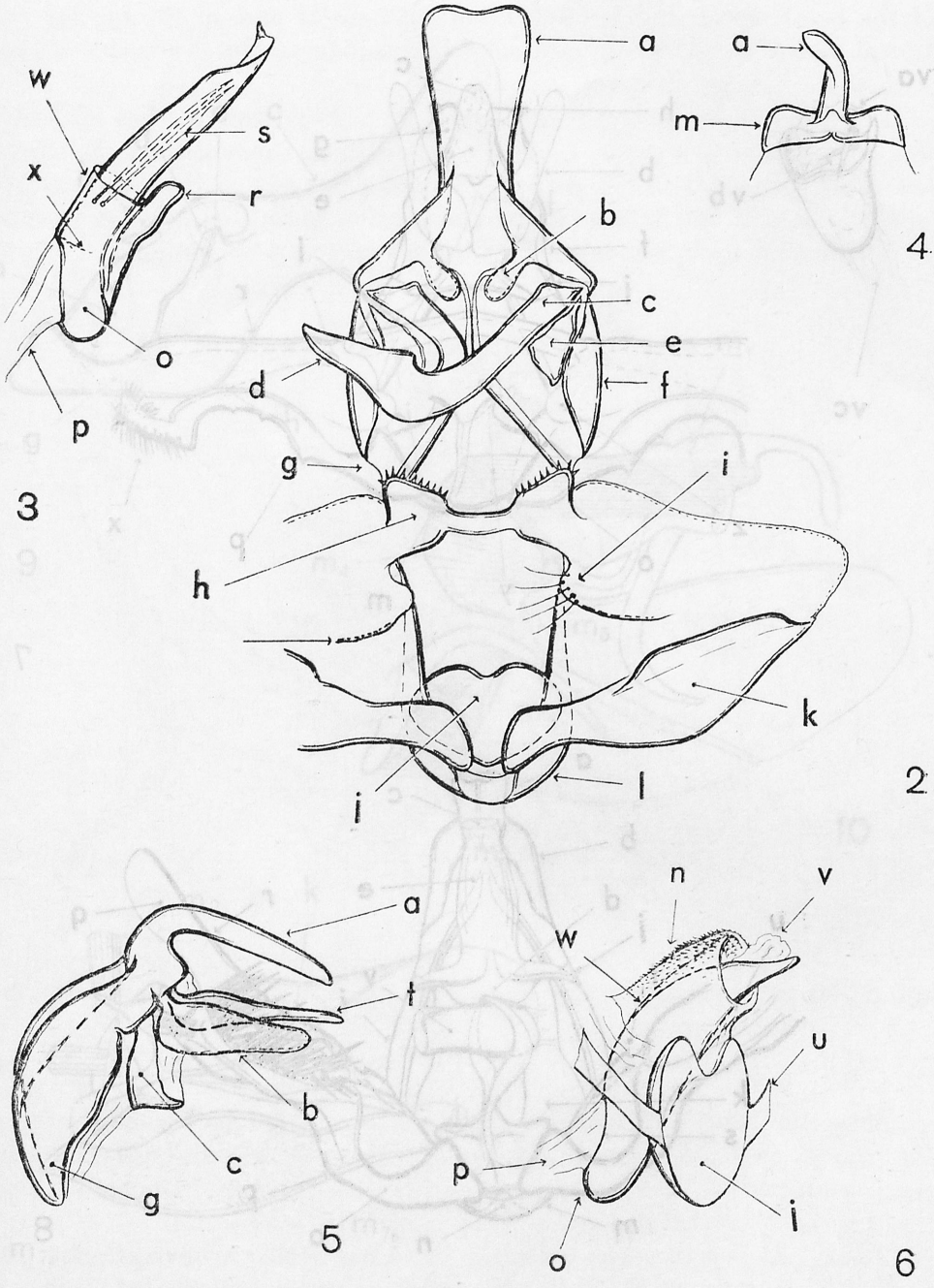
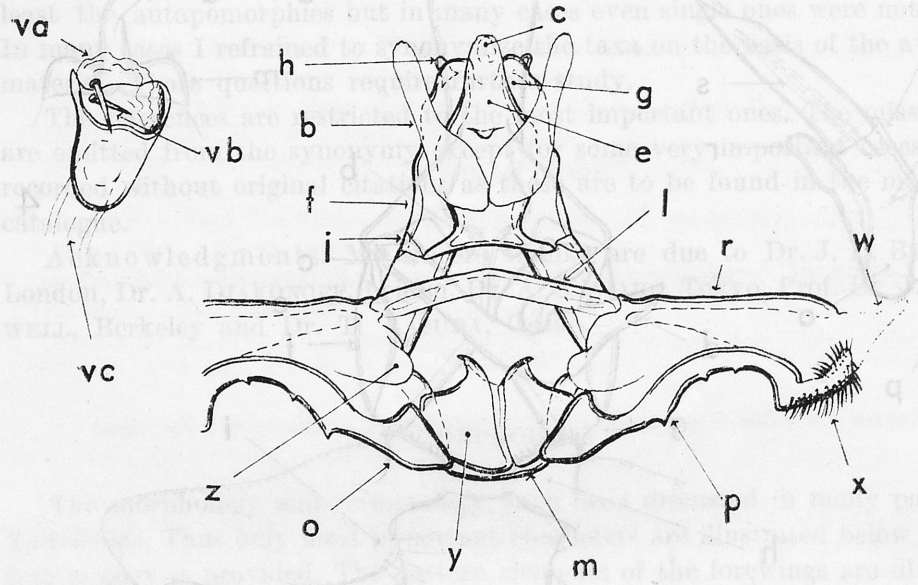


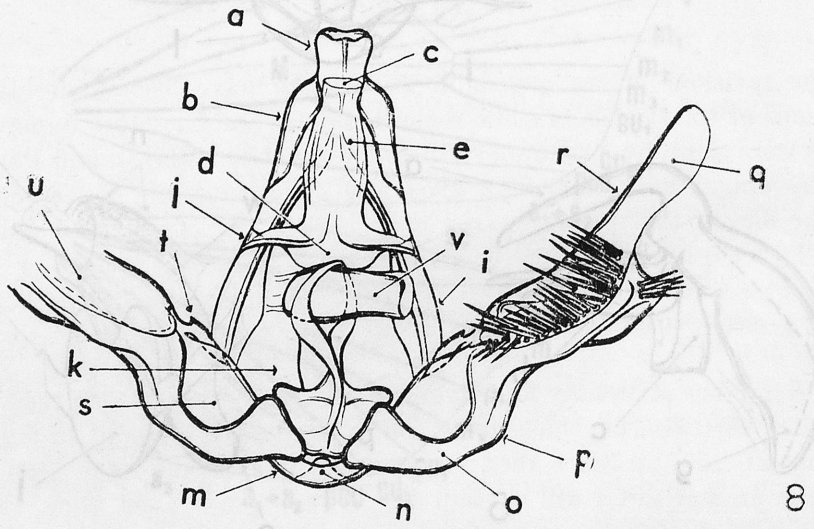
Fig. 1. Venation of a tortricid moth; C — chorda, M — median stem

and discussed by DANILEVSKIJ & KUZNETSOV (1968), KUZNETSOV (1978) and RAZOWSKI (1981a and 1983). However, the pattern of *Chlidanotinae* is not yet analysed. The *Cochylini* show a tendency to atrophy of some parts of the typical *Torticinae* pattern elements. Their dorsal blotch is formed of distal portion

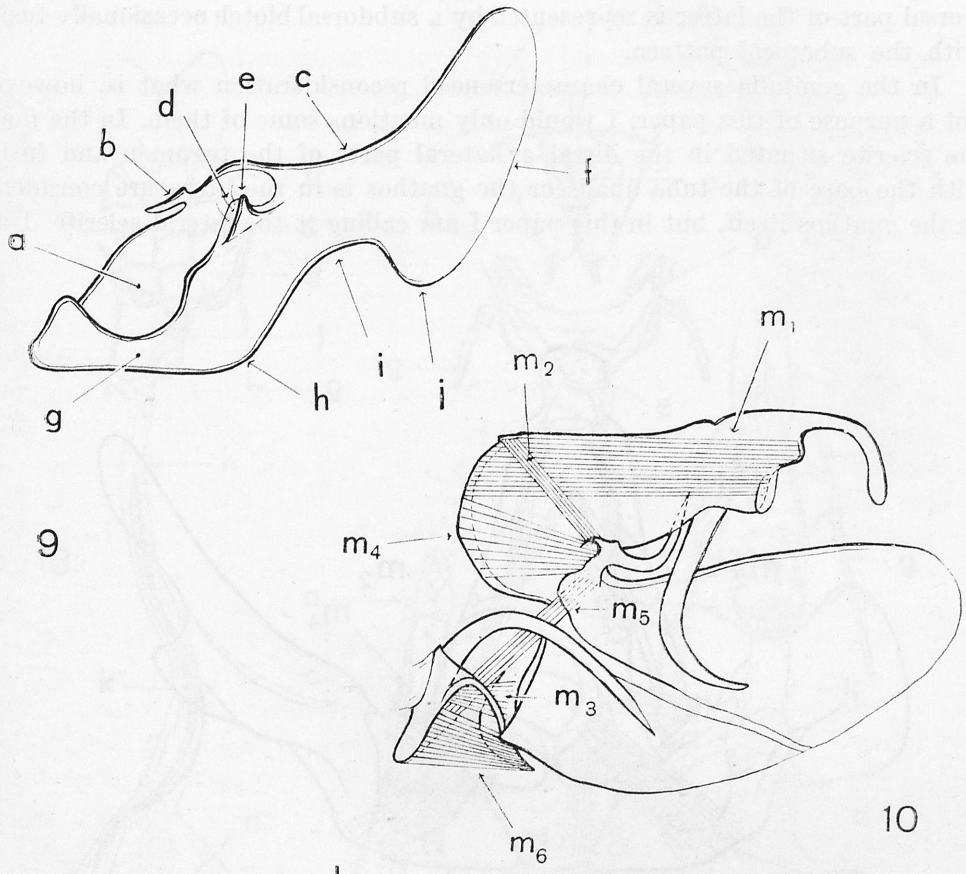


Figs 2—6. Male genitalia: 2, 3 — *Archipini*; 4 — top of tegumen with uncus of *Cnephasiini*: 5 — tegumen of *Chlidanotini*; 6 — aedeagus complex of *Polyorthini*; a — uncus, b — socius, c — gnathos, d — terminal plate of gnathos, e — lateral sclerite, f — tegumen, g — pedunculus, h — transtilla, i — pulvinus, j — juxta, k — sacculus, l — vinculum, m — base of uncus, n — vallum penis, o — coecum penis, p — ductus ejaculatorius, r — caulis, s — cornutus, t — hamus, u — linking sclerite of juxta, v — vesica, w — manica, x — zone





Figs 7—8. Male genitalia: 7 — *Tortricini*; 8 — *Olethreutini*; a — uncus, b — socius, c — anus, d — henion, e — tuba analis, f — tegumen, g — apical lobe of tegumen, h — dorsal process, i — peduneulus, j — lateral sclerite, k — olethreutoid, l — transtilla, m — vinculum, n — saccus, o — sacculus, p — angle of sacculus, r — costa, s — basal cavity, t — processus basalis, u — longitudinal fold, v — aedeagus, w — brachiola, x — spined termination, y — juxta, z — pulvinus, va — vesica, vb — cornutus, vc — ductus ejaculatorius



Figs 9—11. Male genitalia: 9 — valva of *Eucosmini*, 10 — musculature of *Archipini*, 11 — musculature of valva of *Polyorthini*; a — basal cavity, b — processus basalis, c — costa, d — pulvinus, e — horn, f — cucullus, g — sacculus, h — angle of sacculus, i — ventral incisure of sacculus, j — ventral corner of cucullus, k — outer split of valva; explanations to muscles in text

of the basal blotch and is often fused with costal part of the median fascia. Dorsal part of the latter is represented by a subdorsal blotch occasionally fusing with the subapical pattern.

In the genitalia several characters need reconsideration what is, however, not a purpose of this paper. I would only mentions some of them. In the male, the sclerite situated in the distal or lateral parts of the tegumen and fusing with the base of the tuba analis or the gnathos is in the literature considered as the gnathos itself, but in this paper I am calling it the lateral sclerite. I am

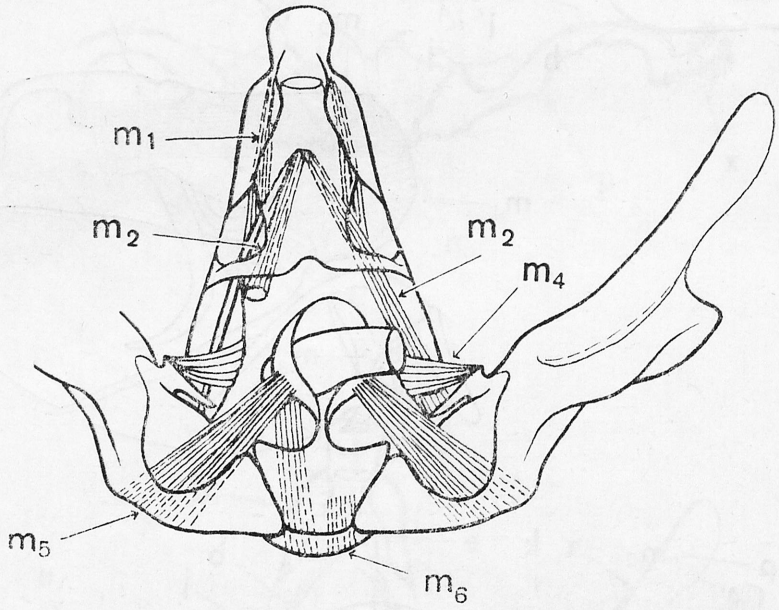
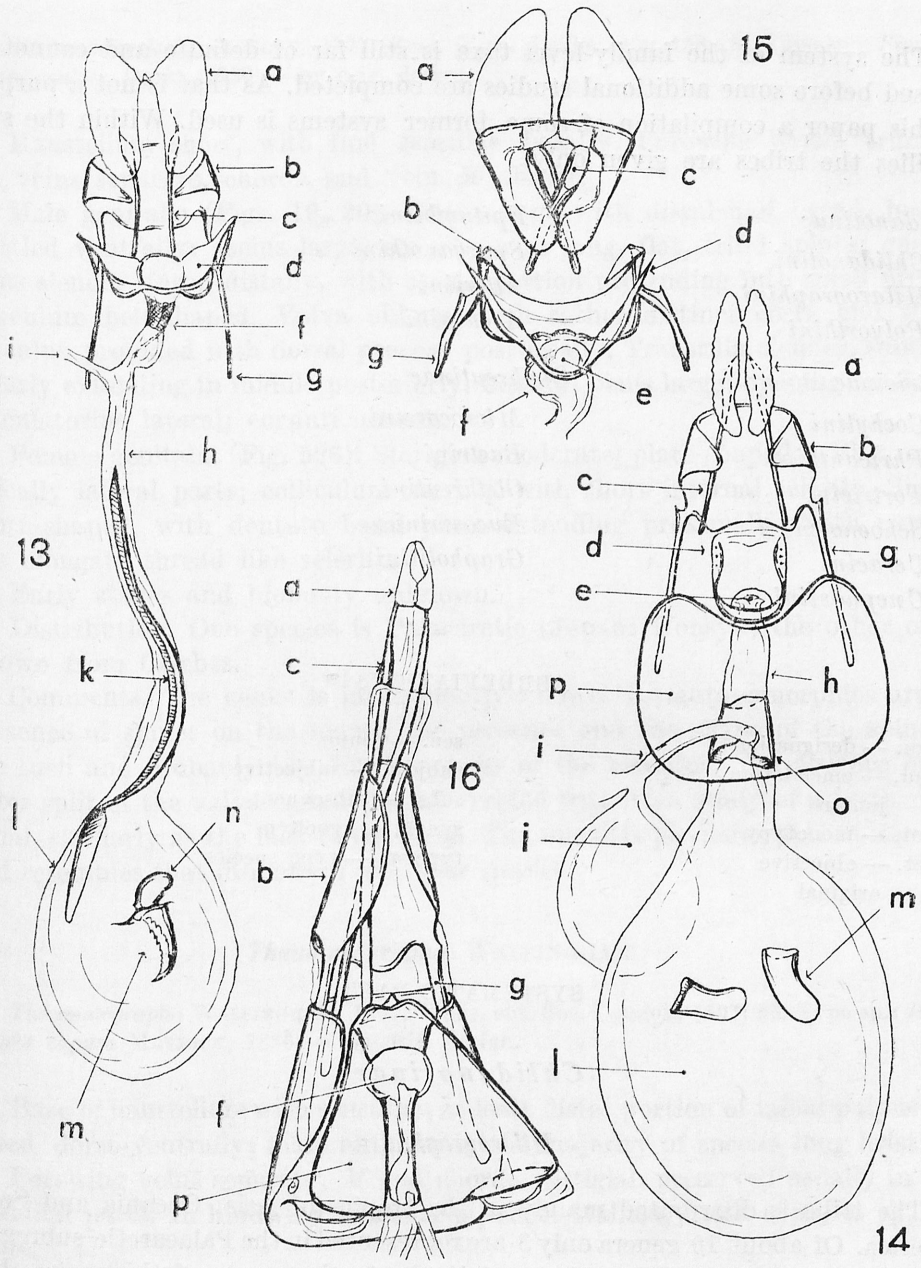


Fig. 12. Musculature of male genitalia of *Olethreutinae*; explanations to muscles in text

adopting the term colliculum, more frequently used than its older synonym, the antrum. For a sclerotized ring occurring in the ductus bursae I am using the term cingulum. It is common in *Olethreutinae* and my be homologous with the sclerite of ductus bursae in some *Tortricinae*.

The muscles of the male genitalia are characterised in several publications, e. g. in RAZOWSKI, 1976. Their abbreviations are as follows: m_1 — depressor of uncus, m_2 — tergal extensor of valva, m_3 — sternal extensor of valva, m_4 — tergal flexor of valva, m_5 — protractor of aedeagus, m_6 — retractor of aedeagus, m_7 — inner flexor of valva, m_{10} — depressor of tuba analis.

As concerns the larval characters I am following the terminology used by SWATSCHEK (1958) but in some cases that by MACKAY (1959) may be used.



Figs. 13—16. Female genitalia: 13 — *Archipini*, 14 — *Eucosmini*, 15 — floricomous ovipositor of *Cnephasiini*, 16 — telescopical ovipositor of *Eucosmini*; a — labium, b — eighth tergite, c — apophysis posterior, d — sterigma, e — anus, f — colliculum, g — apophysis anterior, h — ductus bursae, i — ductus seminalis, j — receptaculum seminis, k — cestum, l — corpus bursae, m — signum, n — capitulum, o — cingulum, p — subgenital sternite

SYSTEM

The system of the family-level taxa is still far of definite and cannot be revised before some additional studies are completed. As that is not a purpose of this paper a compilation of some former systems is used. Within the subfamilies the tribes are given only.

Chlidanotinae
- *Chlidanotini*
- *Hilarographini*
- *Polyorthini*

Tortricinae
- *Cochylini*
- *Phricanthini*
- *Tortricini*
- *Schoenotenini*
- *Ceracini*
- *Cnephasiini*
- *Epitymbiini*
- *Sparganothini*
- *Atteriini*
- *Archipini*

Olethreutinae
- *Microcorsini*
- *Bactrini*
- *Olethreutini*
- *Eucosmini*
- *Grapholitini*

ABBREVIATIONS

design. — designation
emend. — emendation
jun. — junior
monot. — monotypy
object. — objective
orig. — original
sen. — senior
subject. — subjective
subs. — subsequent
synon. — synonym
type-sp. — type species

SYSTEMATIC PART

Chlidanotinae

Hilarographini

The tribe is distributed mainly in the tropics of Asia, Oceania and South America. Of about 10 genera only 3 are represented in the Palaearctic subregion. Thus the phylogeny will be discussed in the further parts of this series. DIAKONOFF (1977) treated *Mictocommosis* as one of the most primitive genera characterized with absence of the outer split of the valva. The problem of three very closely correlated genera, viz., Ethiopian *Idiothauma* WALSINGHAM, New World *Hilarographa* ZELLER and *Thaumatographa* WALSINGHAM distributed in this and the Oriental region is discussed by DIAKONOFF (1977) and some of his conclusions are cited on p. 150.

Mictocommosis DIAKONOFF

Mictocommosis DIAKONOFF, 1977, Zool. Verh. Leiden, nr. 158: 8. Type-sp.: *Simaethis nigromaculata* ISSIKI, 1930 — by orig. design.

Haustellum short, with fine sensillae basally. Forewing broad, truncate. All veins separate, chorda and vein *M* absent.

Male genitalia (Figs. 19, 20): Uncus large with distal half broad, heavily bristled ventrally; socius large, covered with long, flat, trifid spines; gnathos arms slender, fused distally, with apical portion protruding into small process. Vinculum belt-shaped. Valva oblong, with rather distinct costa and strong sacculus provided with dorsal process postbasally. Transtilla slender, subtriangularly extending in middle posteriorly. Coecum penis large; opening for ductus ejaculatorius lateral; cornuti absent.

Female genitalia (Fig. 526): Sterigma moderate, plate-shaped, with tapering apically lateral parts; colliculum marked with short internal sclerite. Signum thorn-shaped, with dentate basal plate extending proximally, with more or less elongate thread like sclerite.

Early stages and bionomy unknown.

Distribution. One species is Palaearctic (Japan: Honsyu) the other one is known from Celebes.

Comments. The genus is insufficiently known. Its autapomorphies are the presence of spines on the uncus, the presence and the shape of the spines of the socii and probably the dorsal process of the sacculus. The absence of the outer split of the valva cannot be interpreted without a study of a further material, similarly as the lack of the hami. The uncus is plesiomorphic in its shape and resembles that in many *Tortricinae* species.

Thaumatographa WALSINGHAM

Thaumatographa WALSINGHAM, 1897, Trans. ent. Soc. London, **1897**: 58. Type-sp.: *Hilarographa zapyra* MEYRICK, 1886 — by orig. design.

Base of haustellum with sensillae; at least distal portion of labial palpus flattened dorso-ventrally; male antenna in the majority of species long bristled.

Forewing veins separate; *M* and chorda vestigial, preserved usually in their terminal parts. In hindwing veins *rr*-m_1 short stalked, stalk of m_3 — cu_1 very short.

Male genitalia (Figs 21, 22): Uncus curved ventrad, usually slender, distinctly sclerotized; socius more or less strongly extending, long, subsclerotic, broad, or sclerotized and sharp apically; hamus long, slender, strongly sclerotized, or absent. Vinculum simple; saccus small or not developed. Valva elongate, often ovate in shape, with costa more delicate than sacculus or weakly sclerotized. Outer split of valva variably developed, often very long, in some species, however,

absent. Aedeagus simple; coecum penis short, forming slight angle with distal part of aedeagus. cornutus in form of a folded plate; vallum more or less distinctly sclerotized, occasionally long, embracing almost entire distal part of aedeagus. Coremata hidden in the outer split of valva, variably developed, preserved in various stages even with the closely related species.

Female genitalia (Figs 527—530): Sterigma cup-shaped, with posterior and lateral portions often weakly sclerotized, or represented by a scobinate mebrane; colliculum often in form of a broadening of distal part of ductus bursae provided with weak sclerite. Ductus bursae membranous, usually very long; ductus seminalis anterior, extending usually from base of ductus bursae; accessory bursa from corpus bursae; signum of chlidanotine shape, formed by long concentric spines forming a bunch near base of ductus bursae of the accessory bursa.

Early stages. Chaetotaxy described by DIAKONOFF & ARITA (1981). The larva of *T. eremnotorna* DIAK. & ARITA (the only known to data) characterizes mainly with absence of third prestigmal seta of group L of the prothorax. Other characters common with *Tortricinae*. DIAKONOFF & ARITA illustrate also the pupa of that species.

Bionomy. Larvae bore in cambium of trunk of *Pinus* (*Pinaceae*) but were also bred from inflorescences of *Ixora* (*Rubiaceae*) and shoots of *Ardisia* (*Myrsinaceae*).

Distribution. In this genus belong several species distributed mainly in the Oriental and Australian regions, chiefly in New Guinea (the type species is also N. Guinean). A few species are known of eastern part of the Palaearctic subregion.

Comments. *Thaumatographa* is very close to *Hilarographa* and after DIAKONOFF (1977) the former differ from it mainly in having labial palpus flattened dorso-ventrally at least in its distal part, and finely, roughly scaled. Uncus is curved and strongly sclerotized especially in basal portion; the socius is thick, heavily sclerotized, pointed apically or long and subsclerotic, often uniformly broad throughout. There are also some minor differences in the pattern, but the most important character, supposedly an autapomorphy, is the shape of the labial palpus.

Charitographa DIAKONOFF

Charitographa DIAKONOFF, 1979, Zool. Meded. Leiden, nr. 54 (21): 291. Type-sp.: *Hilarographa micadonis* STRINGER, 1930 — by orig. design.

Externally very similar to *Thaumatographa*.

Male genitalia (Fig. 23) as in preceding genus but aedeagus is short.

Female genitalia (Figs 531, 532): Corpus bursae and anterior part of ductus bursae broad, continuously clothed inside with asteroid-shaped sclerites. Signum absent.

Early stages and bionomy unknown.

Distribution. Japan: Honsyu.

Comments. The genus is insufficiently known. The inner layer of the asteroidal sclerites of bursa copulatrix is the only supposed autapomorphy. A decision on its systematic status must await further study on the importance of the structures in bursa copulatrix.

Polyorthini

This tropical, distributed mainly in the Neotropical, Oriental and Australian regions, tribe is represented in the Palaearctic subregion by three genera and innumerous species.

The systematic arrangements of the genera were proposed by DIAKONOFF (1974) and then by me (RAZOWSKI, 1981b). As the musculature of the male genitalia is insufficiently known some systematic problems cannot be solved. The genera with well developed internal musculature of valva are treated as most primitive. Gradual atrophy of those muscles could, however, follow independently in some groups of species. Their presence probably caused more dorsal attachment of muscle 5 in the valva than in other *Tortricidae* (all of them but *Chlidanotinae* lost earlier the muscle 7). Most probably one of branches of muscle 5 moved under costa of valva from its outer wall to the inner. Such distinct subdivision into two branches is found in *Chlidanotini* (RAZOWSKI, 1981d). In more advanced tribes of *Chlidanotinae*, e. a. in *Hilarographini* and *Polyorthini* the outer branch became weak or completely disappeared. In *Chephasitis* the inner branch is secondarily atrophied whilst the outer branch is still present. Thus that genus is treated as more primitive than two remaining Palaearctic genera which have also more advanced form of the valva, specialized gnathos with completely separate arms and distinct link between the valva and the juxta.

Cnephasitis RAZOWSKI

Cnephasitis RAZOWSKI, 1965, Polskie Pismo ent., 35: 213. Type-sp.: *Peronea dryadarcha* MEYRICK, 1912- by orign. design.

Forewing elongate-ovate with all veins separate from one another; chorda well developed, *M* almost completely atrophied. In hindwing *rr*-m_1 and m_1-cu_3 short stalked.

Male genitalia (Figs 24, 25): Uncus slender; gnathos with terminal plate; socius broad, drooping; saccus broad. Valva elongate, with strong costa and variably developed split. In the type species it reaches to beyond middle of valva while in *C. apodicta apodicta* DIAK. to 2/3 of left the valva being complete in right valva. Coremata, however, wanting. Transtilla ill-defined, membranous medially, fused with large, minutely spined manica. Juxta without distinctly

sclerotized link to valva. Aedeagus bifid; distal prong large; thorn like sclerite is situated most probably in vesica. Musculature: m_4 inserting partially on transtilla and partially on lateral area of anellus: m_5 fixed on outer portion of the basal part of valva; m_2 to basal part of transtilla; internal muscles of valva weak, with ventral branch being much smaller than the dorsal.

Female genitalia (Figs 553, 534): Sterigma rather weakly sclerotized or with a median sclerotization (*dryadarcha*); colliculum large with internal sclerite, in *apodicta* with anterior sac; ductus seminalis posterior; corpus bursae elongate, ductus bursae weakly differentiated; signum a dentate concavity accompanied with sclerotized granules or areas at ductus bursae.

Early stages and bionomy unknown.

Distribution. Originally described from Oriental region (2 species); in this subregion represented by the subspecies of Burman *C. apodicta* DIAK.

Comments. Systematic position of this genus is discussed on p. 151.

Olindia GUENÉE

Olindia GUENÉE, 1845, Annls Soc. ent. Fr., (2) **3**: 178. Type-sp.: [*Tortrix*] *ulmana* HÜBNER, [1823] = *Pyralis schumacherana* FABRICIUS, 1787 — design. by monot.

Anisotaenia STEPHENS, 1852, List Spec. Br. Animals Colln Br. Mus., **10**: 45; object. jun. synon of *Olindia* (cf. RAZOWSKI, 1977).

Venation: in forewing all veins separate; chorda short; in hindwing m_3 - cu_1 from one point of median cell.

Male genitalia (Figs 26—28): Uncus flattened dorso-ventrally, incised distally; gnathos terminated in horizontally folded plate; socius drooping; saccus developed, small. Valva elongate, with large outer fold and simple sacculus; upper part of costal surface strongly sclerotized as far as to beyond middle lenght of costa, connected with oblique fold extending to beyond sacculus and terminating in short spine. Transtilla armed with spined sublateral processes directed distally; juxta elongate, linked with valva; manica finely setose, broad; aedeagus with pair of apical tips. Musculature (Fig. 12): m_2 from ventral rib of tegumen to plate-shaped, horizontal basal process of valva; m_4 from base of pedunculus to base of process of transtilla; m_5 inserting distally on anellus; m_7 well developed.

Female genitalia (Figs 536, 537): Sterigma with scobinate, large lateral parts and deeply concave median portion; antevaginal part slender, strenghtened by thick margin; colliculum sclerite small; ductus seminalis dorso-posterior; ductus bursae well differentiated from the bursa; signum absent.

Early stages. Chaetotaxy described by SWATSCHEK (1958).

Bionomy: Single generation yearly; larva oligophagous on various shrubs.

Distribution: western part of this subregion. The genus is monotypical.

Comments. The supposed autapomorphies are the shape of the terminal plate of the gnathos, shape of the uncus and processes of transtilla and position

of the basal process of valva. *Olindia* shows the following probable synapomorphies with *Isotrias*: separation of the arms of gnathos; concave costal sclerite of inner wall of valva, oblique split of that area and its terminal spine.

Isotrias MEYRICK

Isotrias MEYRICK, 1895, Handbook Br. Lepid.: 542. Type sp.: *Isotrias hybridana*: MEYRICK, 1895 = *Tortrix rectifasciana* HAWORTH, [1811] — by monot.

Venation as in *Olindia* but chorda longer and median stem rather well developed; *rr*—m_1 more approximate to one another at base.

Male genitalia (Figs 29—32): Uncus slender, with dorsal grove extending from base; arm of gnathos strongly expanding terminally; socius slender, drooping; saccus present. Valva as in *Olindia* but inner surface of sacculus linked with edge of oblique sclerite postmedially and provided with group of apically dentate spines; juxta linked with valva; transtilla broad, tapering medially plate provided with pair of sublateral, funnel-shaped processes directed proximally (apodemes of muscle 2). Aedeagus simple, weakly sclerotized in distal part.

Female genitalia (Figs 537—543): Sterigma with shallow, cup-shaped anterior portion; colliculum provided with small sclerite, surrounded by anterior portion of sterigma; ductus bursae long with ductus seminalis posterior, protected by irregular cingulum; signum a slender, longitudinal sclerite folding invardly in the corpus several times.

Early stages: no data.

Bionomy. Single generation yearly, in the south probably 2 generations. Larvae polyphagous on cotyledonous plants.

Distribution: Western part of Palaearctic region. Probably 6 species belong in this genus.

Comments. The autapomorphies of *Isotrias* are the presence of dorsal grove of uncus, apical broadening of gnathos arm; apodemes on the transtilla; trasformed setae of sacculus, link between it and the oblique sclerite and the shape of the sterigma. Synapomorphies are mentioned with *Olindia*. The species belonging in this genus show slight external and genital differences.

Tortricinae

Cochylini

Cochylini are distributed in all zoogeographical regions (RAZOWSKI, 1982) and are most abundant in the Palaearctic subregion and Neotropical region having in each ca 300 described species. The fauna of the Nearctic subregion is probably also reach, but still insufficiently known. In the Australian region

this tribe is represented by 5 species only, in the Oriental region about 40 species are found and in the Ethiopian about 20 species.

The system and phylogeny of *Cochylini* are still not clear. The present system is based on that proposed for the Palaearctic fauna (RAZOWSKI 1970). The particular genera show low numbers of synapomorphies. Three genera are probably polyphyletic (*Stenodes*, *Aethes* and *Cochylis*) and the status of some other genera seems unclear. I could not find any autapomorphies of some well known genera as *Phtheochroa*, *Stenodes* or *Phalonidia* but they show some similarities to one another. One can distinguish some groups of genera, viz., that of *Stenodes*, *Agapeta*, *Aethes* and *Cochylis*.

Phtheochroa STEPHENS

Phtheochroa STEPHENS, 1829, Syst. Cat. Br. Insects, **2**: 191. Type-sp.: [*Tortrix*] *rugosana* HÜBNER, [1799] — by monot.

Trachysmia GUENÉE, 1845, Annls Soc. ent. Fr., (2) **3**: 164. Type-sp.: *Sericoris duponcheliana* COSTA, 1847 = *Sericoris duponchelana* DUPONCHEL, 1843 — by subs. design. (DESMAREST, 1857, [in] CHENU, Encycl. Hist. nat.: 223); **synon. nov.**

Hysterosia STEPHENS, 1852, Syst. Cat. Br. Insects, **2**: 85. Type-sp.: *Tortix inopiana* HAWORTH, [1811] — by most.; **synon. nov.**

Idiographis LEDERER, 1859, Wien. ent. Mschr., **3**: 242. Type-sp.: *Tortrix centrana* HERRICH-SCHAFFER, 1851 = *Tortrix inopiana* HAWORTH, [1811] — by monot.; **synon. nov.**

Propira DURRANT, 1914 [in:] WALSINGHAM, Biologia cent. am. *Lepidopt. Heterocer,,* **4**: 297. Type-sp.: *Tortrix schreibersiana* FRÖLICH, 1828 — by orig. design.; **synon. nov.**

Arce JOANNIS, 1919, Annls Soc. ent. Fr., **88**: 18. Type-sp.: *Cochylis sulphurana* GUENÉE, 1845 = *Cochylis frigidana* GUENÉE, 1845 — by monot.; **synon. nov.**

Durrantia RAZOWSKI, 1960, Polskie Pismo ent., **30**: 290. Type-sp.: *Hysterophora rocharva* OBRAZTSOV, 1943 = *Hysterosia decipiens* WALSINGHAM, 1900 — by monot.; established as a subgenus of *Hysterosia*; **synon. nov.**

Venation: In forewing all veins separate, median stem atrophied, chorda vestigial, extending from beyond r_1 or wanting, *pcu* atrophied; in hindwing rr—m_1 separate, m_3—cu_1 separate, from one point or short stalked. Sexual dimorphism in some species expressed in pattern and shape of forewing which in female is slenderer than in male; costal fold in several species well developed, but in the majority wanting. In numerous species refractive pattern developed.

Male genitalia (Figs 33—49): Uncus strong, with elongate distal part, often with well developed triangular sclerite; uncus species specific, situated apically or dorso-apically on the tegumen, varying from very short to long, often expanding or bifurcate apically; socius broad, drooping, with inner edge membranously connected with base of uncus or well sclerotized. Tegumen broadly fused with vinculum; the latter strong, continuous. Valva usually slender, often with well developed sacculus. Transtilla with central part broad, dentate dorso-apically, or with thin median process; juxta fairly small, often with dorso-median pro-

minence or with paired lateral processes. Aedeagus often with elongate ventro-terminal portion and broad, large coecum penis; caulis short, broad, fusing with dorsal portion of the juxta; cornutus capitate, small to very strong; usually one or two cornuti in vesica, in few species, however, wanting; in several species small, plate-shaped, folded sclerite in wall of vesica present.

Female genitalia (Figs. 544—550): Sterigma variable in shape, usually with well developed antevaginal portion forming with the dorsal wall a shallow cup, distal part of postvaginal plate well sclerotized, connecting laterally the apophyses; ductus bursae broad, membranous or with more strongly sclerotized areas; corpus bursae with various sclerites forming folds and concavities; often sack-shaped structures (as in *inopiana*) present; spines mainly on the membranous parts of corpus bursae, if developed; accessory bursa either dorsal or ventral, more or less laterally; ductus seminalis usually on same side as the former.

Early stages. Chaetotaxy is described by SWATSCHEK (1958) on basis of 7 species.

Bionomy. The species occur in 1 or 2 generations yearly; hibernate the larvae or pupae. Larvae in seeds, roots or stems of various dicotyledonous plants, several species utilizing deciduous trees.

Distribution: Holarctic and Neotropical regions; the majority of species are known of Palaearctic subregion.

Comments. I could not find any autapomorphic character in this genus. It shows several plesiomorphies as the fully developed, strong vinculum, strong uncus, broad, droopind socius and simple tegumen (in comparison with the remaining genera of this tribe). Other characters are mainly of convergent importance; those are the presence of strong cornutus, processes of the juxta and vallum penis, the shape of the central part of the transtilla, the positions of the accessory bursa and the ductus seminalis, the shapes of the sclerites of the bursa copulatrix etc. The genus was commonly known under the name *Hysterosia*; then LERAUT (1979) discovered an earlier designation of the type-species of *Trachysmia* GUENÉE than that by FERNALD (1908) who designated *Tortix rigana* SODOFFSKY, 1829, viz. by DESMAREST, 1857. That was *Seriocris duponcheliana* COSTA, 1847. Thus *Trachysmia* replaced *Hysterosia*. Now, after having examined large Neotropical material, I decided to sink *Trachysmia* = *Hysterosia* with another well known *Cochylini* genus, viz., *Phtheochroa*. *Tortrix rugosana*, the type-species of *Phtheochroa* hardly differs from the type-species of the remaining taxa listed above in the synonymy of the genus. The only characters separating it from *Trachysmia* was the membranous connection between the uncus and the soccii, but some other species show similar structure, however, the membrane is somewhat shorter. SWATSCHEK (1958) subdivided this genus into three subgenera: *Hysterosia* s. str., *Propira* and *Phtheochroa* mentioning that the latter differs in a presence of the seta VI on the 9th abdominal segment. That character could disappear in other species, however. On the other hand, a comparatively low number of the species of this genus were

examined, and the larval characters does not seem of greater importance in *Tortricidae*. About 60 species known to date; in the Palaearctic subregion 42 species noticed; only one species is Holarctic in distribution.

Hysterophora Obraztsov

Hysterophora Obraztsov, 1944, Dt. ent. Z. Iris, **57**: 67. Type-sp.: *Tortrix maculosana* Haworth, [1811] — design. yb monot.

Obraztsoviana Razowski, 1960, Polskie Pismo ent., **30**: 287 — nom. nov. for *Hysterophora* Obraztsov.

Venation: All veins separate, chorda, forewing *M* and *pcu* atrophied. Male forewing with slender costal fold.

Male genitalia (Figs 50—54) as in preceding genus but with numerous short cornuti in vesica and dorsal groove of central part of transtilla; the latter connected by thick membrane with basal portion of tuba analis.

Female genitalia (Fig. 551) as in preceding genus but with sack-shaped, sclerotized process of median part of bursa copulatrix. Ductus bursae distinctly sclerotized, probably fused with sclerites belonging to the corpus bursae; anterior part of the latter membranous. Antevaginal part of sterigma indifferentiated, represented by a membrane.

Early stages: No data on chaetotaxy.

Bionomy little known; one generation yearly, in the southern part of its area of distribution probably two generations occur; larvae live in seeds and lives of *Compositae*, *Butomaceae* etc.

Distribution: Western part of the subregion as far as to Near East, except the northern area.

Comments. The genus is monotypical. The differences to the preceding genus are slight; the supposed autapomorphy is the presence of the median groove of the dorsal part of the transtilla. The importance of the shape, size and number of the cornuti needs reconsideration. The female genitalia have not been reexamined for this paper.

Prohysterophora Razowski

Prohysterophora Razowski, 1961, Polskie Pismo ent., **31** (21): 302. Type-sp.: *Conchylis chionopa* Meyrick, 1891 — by orig. design.

Venation as in *Hysterophora*, but in hindwing m_3—cu_1 approached to one another at median cell; male forewing without costal fold.

Male genitalia (Figs 55, 56): Tegumen broad; uncus wanting; socius distinctly sclerotized, dentate; vinculum as in preceding genera; valva except anterior part slender; sacculus with free termination; central part of transtilla slender, dentate dorso-apically; juxta small; aedeagus typical of the group, open dorsally almost to vallum penis; caulis short; cornuti wanting.

Female genitalia (Fig. 552): Cup-shaped part of sterigma distinct, lateral arms well developed; spined median prominence posterior to ostium area, dorsally; elongate sclerite in bursa copulatrix.

Early stages and bionomy unknown; moth probably in two generations yearly as one can judge on the collection dates: I—IV.

Distribution: South-west part of the Palaearctic subregion; known only from Algeria and Tunesia.

Comments. The genus is monotypical. Its systematic position needs reconsideration (the present description is based on the former data — RAZOWSKI, 1970).

Stenodes GUENÉE

Stenodes GUENÉE, 1845, Annls Soc. ent. Fr., (2) **3**: 298. Type-sp.: *Cochylis elongana* FISCHER von RÖSLERSTAMM, 1839 — by monot.

Cochylimorpha RAZOWSKI, 1959, Polskie Pismo ent., **29** (22): 440. Type-sp.: *Cochylis favillaceana* STAUDINGER, 1859 = *Cochylis elongana* FISCHER von RÖSLERSTAMM, 1839 — by orig. design.

Substenodes RAZOWSKI, 1960, ibid., **30** (17): 298. Type-sp.: *Cochylis pontana* STAUDINGER, 1859 = *Cochylis cultana* LEDERER, 1855 — by orig. design. Established as a subgenus of *Stenodes* GUENÉE.

Parastenodes RAZOWSKI, 1960, ibid.: 298. Type-sp.: *Cochylis meridiana* STAUDINGER, 1859 — by orig. designation. Established as a subgenus of *Stenodes* GUENÉE.

Eustenodes RAZOWSKI, 1960, ibid.: 298. Type-sp.: *Euxanthis dorsimaculana* PREISSECKER, 1908 = *Argyrolepia perfusana* GUENÉE, 1845 — by orig. design. Established as a subgenus of *Stenodes* GUENÉE.

Bipenisia RAZOWSKI, 1960, ibid.: 300. Type-sp.: *Cochylis jucundana* TREITSCHKE, 1835 — by orig. design. Established as a subgenus of *Stenodes* GUENÉE.

Euxanthoides RAZOWSKI, 1960, ibid.: 303. Type-sp.: *Tortrix straminea* HAWORTH, [1811] — by orig. design.

Bleszynskiella RAZOWSKI, 1960, ibid.: 303. Type-sp.: *Tortrix alternana* STEPHENS, 1834 — by orig. design. Established as a subgenus of *Euxanthoides* RAZOWSKI.

Paraxanthoides RAZOWSKI, 1960, ibid.: 304. Type-sp.: *Cochylis chamomilana* HERRICH-SCHÄFFER, 1951 — by orig. design. Established as a subgenus of *Euxanthoides* RAZOWSKI.

Venation: In forewing all veins separate, traces of chorda extending from between bases $r_1 - r_2$ (*Stenodes elongana*) or far before base of r_1 (*Euxanthoides*); in hindwing veins $rr - m_1$ long stalked, $m_3 - cu_1$ stalked to middle, to 1/4, extending from one point of median cell or separate. Costal fold wanting; sexual dimorphism slight, in some species expressed in the shape of the forewing which in female is slenderer than in male.

Male genitalia (Figs 57—89): Tegumen more or less elongate, with variably developed strenghtening sclerites extending from proximal rib; uncus, or a prominence of the top part of tegumen often well developed; vinculum strong, complete or divided into two arms connected ventrally by means of a membrane; socius drooping or in form of a lateral fold, in some species minute. Valva usually elongate, with sacculus developed in form of ventral, simple sclerite or very broad; transtilla with central part dentate apically or dorso-apically;

juxta simple or large, complicate, with sack like terminal portion; aedeagus simple or bifid, with caulis small or very large; cornutus capitate; usually occurs one strong or two more delicate spines and occasionally a plate-shaped sclerite in vesica.

Female (Figs 553—566): Sterigma with usually ill-defined cup-shaped part and more or less strongly sclerotized dorsal, postvaginal plate; ostium broad; ductus bursae often well differentiated; corpus bursae in numerous species large, provided with various sclerites and minute spines entering also the ductus; ductus seminalis and accessory bursa variably situated, occasionally on opposite sides of bursa copulatrix, more or less anterior.

Early stages. The chaetotaxy of 3 species described by SWATSCHEK (1958) and of another one by KASY (1958).

Bionomy little known. The species occur usually in 2 generations yearly, in the south probably a third generation appears; hibernation in larval stage (a few data available). Larvae in seeds, stems and roots of *Compositae*, mainly on *Artemisia* species.

Distribution. Known to date of Palaearctic subregion and Oriental region only; some genitalically similar species of Ethiopian region and Nearctic subregion need reexamination. The majority of the species are known of arrid territories of Asia; a few ones are Oriental.

Comments. This genus consisting of about 70 species was subdivided into several groups named as the subgenera or genera (listed in the synonymy above) and then synonymized (RAZOWSKI, 1970). In that paper a diagram of the *Stenodes* groups of species is also given (p. 118). The present study confirms my previous point of view that the genus is poliphyletic, but the available material was too scarce to prove that hypothesis. The type-species of *Stenodes* s. str., *Substenodes* and *Parastenodes* are certainly congeneric and represent only the close groups of species. *Eustenodes*-group is represented by a single species characterized by lateral, slender socii fused with distal portion of the tegumen in to a subtriangular, slender tip; the cornutus is, however, similar to that in the *meridiana*-group. In *Euxanthoides* the trace of chorda extends anteriorly to base of vein r_1, the sacculus is broad and its walls are closely approached to one another or even coalescent, the tegumen is short and the caulis is large. In *Bleszynskiella* the vinculum is continuous, strongly sclerotized (a plesiomorphy) and the caulis is very large, almost entirely embracing the aedeagus, fused with distal part of the juxta. In some species the aedeagus is bifid and consists of a flattened right arm and tubular, opening posteriorly left branch. That characters seems, however, convergent as it also are found in *Bipenisia*. An autapomorphy of the latter can be a presence of numerous dents on one aedeagus arm. This group is closer to *Stenodes* than to *Euxanthoides*. *Paraxanthoides* shows some similarity with *Euxanthoides* s. str., especially in the structure of the sacculus, but differs in the shape of the aedeagus; its probable autapomorphy could be the presence of a minutely spined terminal process of the tegumen seemingly representing the uncus. This group of taxa

show some similarities, but unfortunately no synapomorphy is found. Thus I can characterize *Stenodes* as a genus more advanced than *Phtheochroa* and its allied, having more specialized structure of the tegumen, reduced uncus and usually separate arms of the vinculum.

Phalonidia Le Marchand

Phalonidia Le Marchand, 1933, Amat. Papill., **6**: 242. Type-sp.: *Cochylis affinitana* Douglas, 1846 — by orig. design.

Brevisociaria Obraztsov, 1943, Mitt. münch. ent. Ges., **33**:96, Type-sp.: *Cochylis gilvicomana* Zeller, 1847 — by orig. design.

Venation: In forewing all veins separate, chorda, *pcu* and *M* atrophied; in hindwing *rr*—m_1 stalked to middle or strongly approached to one another basally, remaining veins separate. Sexual dimorphism slight, males without costal fold.

Male genitalia (Figs 90—98): Distal part of tegumen forming with the socii a well differentiated complex; uncus atrophied or represented by small dorsal prominence before end of socii; the latter broad, usually fused with one another almost to their ends or connected membranously, directed distally; vinculum arms distinctly separate; valva slender; sacculus well developed; often with rounded termination; transtilla with slender central part terminating in a pair of dents; juxta small; aedeagus proportionally large, provided with elongate ventro-terminal process and well developed dorsal sclerite; coecum penis strong; caulis varying from small to very large, embracing postmedian part of aedeagus; cornutus strong, capitate, if present.

Female genitalia (Figs 567—570): Cup-shaped part of sterigma distinct, well sclerotized especially ventrally and laterally, distal part of sterigma usually short, scobinate, distinctly sclerotized posteriorly; ductus bursae usually long, membranous; corpus bursae with various prominences and sclerites, provided with spines; accessory bursa often extending from ductus bursae or its basal portion dorsally, ductus seminalis usually from corpus bursae on the same or opposite surface as the accessory bursa.

Early stages. Swatschek (1958) provides a diagnose based on 3 species of *Phalonidia* and 1 species of *Piercea*.

Bionomy. One or, more often, two generations a year; hibernation in larval stage. Larvae oligo- or polyphagous, mainly on *Compositae*.

Distribution: Holarctic and Neotropical regions.

Comments. This genus belongs in the *Saphenista* group discussed by me (Razowski, 1985) and compared with the *Cochylis* group. The two groups characterize with parallel, gradual differentiation of the distal part of the tegumen which *Platphalonidia* Razowski and *Spinipogon* Razowski are almost completely separate. The shape of the transtilla is different than in the preceding genera and is a probable synapomorphy of the genera of *Saphenista* group.

Piercea, previously synonymised with *Phalonidia* is now treated as a distinct genus, however, very closely related to it. About 30 species are known to this date.

Piercea Filipjev

Piercea Filipjev, 1940. Trudy zool. Inst., Leningr., **6**: 171. Type-sp.: *Tortrix permixtana* [Denis & Schiffermüller], 1775 — by orig. design.

Venation as in preceding genus; sexual dimorphism also similar; females usually much larger and paler than the males.

Male genitalia (Figs 99—103): Tegumen with long pedunculi and strong sclerite between their bases; distal portion of tegumen short, fused with socii; the latter extending distally, with well sclerotized fold dorsal between bases, provided with some minute apical spines and postbasal prominence dorsally; subscaphium distinctly sclerotized; valva very slender, with rather weak sacculus and postbasal convexity of costa; base of costa strongly extending dorsally; transtilla as in preceding genus but with rather asymmetrical termination of central part; juxta small, convex in middle dorsoposteriorly. Aedeagus slender, with long termination and coecum penis; caulis rather small; cornutus swung, capitate.

Female genitalia (Figs 571, 572): Cup-shaped part of sterigma well developed and sclerotized, often partially membranous; bursa copulatrix without stronger sclerites; ductus seminalis extending from a bulbous part of bursa copulatrix the edges of which are strenghtened by a wreath of spines; accessory bursa extending from ventro-lateral or ventral portion of ductus bursae.

Early stages: Swatschek (1958) describes chaetotaxy of *permixtana*.

Bionomy as in preceding genus.

Distribution. Known from Holarctic, Oriental and Australian regions; the majority of the species are Palaearctic in distribution. The areals of several species are very broad, as extending from Iberian Peninsula as far as to Japan.

Comments. The supposed autapomorphies of this genus are the sclerotized fold between the socii, the costal part of the valva strongly protruding at base dorsally and the arrangement of the teeth of the apical portion of the transtilla. The specific differences are rather slight; ca 15 species known to date.

Phtheochroides Obraztsov

Phtheochroides Obraztsov, 1943, Mitt. münch. ent. Ges., **33**: 94. Type-sp.: *Phalonia vulneratana*: Obraztsov, 1943 = *Phtheochroides clandestina* Razowski, 1968 — by orig. design.

Venation: In forewing all veins separate, r_4 to apex, m_3 approached at base to cu_1, chorda and M atrophied, *pcu* rudimentary; in hindwing $rr—m_1$ and $m_3—cu_1$ short stalked.

Male genitalia (Figs 104—108): Tegumen rather small, with distal part short, fused with socii; socius in distal portion extending posteriorly, posterior and partially lateral edge between socii well sclerotized; group of setae in posterior part of pedunculus, dorsally; vinculum not coalescent ventrally, fused laterally with valva; valva broad in basal portion, with slender posterior part; sacculus distinctly slerotized, more or less extending posteriorly; transtilla band-shaped, provided with small dorsal prominence; juxta short, with minute dorso-median process; caulis fused with juxta, large, extending dorsally in the distal portion; anellus forming a deep pocket; aedeagus long, open dorsally; cornutus capitate.

Female genitalia (Fig. 573): Sterigma broad, weakly sclerotized except for the surroundings of ostium; bursa copulatrix large, with variably folded sclerites and a group of spines, provided with large additional sack.

Early stages and bionomy unknown, probably two generations yearly.

Distribution. Known from Palaearctic subregion: Central and East Asia.

Comments. The genus was described as monotypical but then Japanese *Pharmacis apicana* WALSINGHAM was included in it (RAZOWSKI, 1970). That species, however, show some peculiar characters and its systematic position remains doubtful. The valva of *apicana* is armed with spines and the vesica with numerous non-capitate cornuti. *Phtheochroides* and three following genera form a distinct group, probably closer to the preceding group than to those of *Aethes* or *Cochylis*.

Agapeta HÜBNER

Agapeta Hübner, 1822, Syst.-alphab. Verz.: 58. Type-sp.: *Phalaena Tortrix zoegna* LINNAEUS, 1767 — by subs. design. (HÜBNER, [1825], Cat. Lepidopteren Colln FRANCK: 98). *Agapete* HÜBNER, [1825], op. cit.: 98 — incorrect subs. spelling.

Euxanthis HÜBNER, [1825], Verz. bekannter Schmett.: 391. Type-sp.: *Phalaena Tortrix hamana* LINNAEUS, 1758 — by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 16).

Xanthosetia STEPHENS, 1829, Syst. Cat. Br. Insects, 2: 192. Type-sp.: *Phalaena Tortix hamana* LINNAEUS, 1758 — by subs. design. (DUPONCHEL, 1834, Annls Soc. ent. Fr., 3: 447).

Similarly as in preceding genus wings broad, sexual dimorphism expressed mainly in size, male without costal fold. Venation: In forewing all veins separate, chorda weak, originating in middle distance between bases of two first radial veins and terminating at r_5; *pcu* rudimentary, *M* wanting; in hindwing $rr-m_1$ stalked to middle, m_3-cu_1 in basal sixth.

Male genitalia (Figs 109—114): Tegumen rather short, broad; uncus in form of a small apical prominence or process; socius broad or moderate; tuba analis with well developed ventral sclerite; vinculum fused with tegumen, in *zoegana* very strong, uniform ventrally, in the remaining species divided into lateral arms connected membranously. Valva beyond base slender, simple; sacculus strong, in *zoegana* with large, sharp end, in other species with stout termination; pulvinus small but present; in all species but *zoegana* strong

sclerite in dorso-basal part of inner surface of valva developed. Transtilla delicate in *zoegana* with small, spined central part in other species in form of doubly folded, short sclerite; juxta provided with dorsal process; caulis in *zoegana* haevily sclerotized, in other species partially membranous; aedeagus in *zoegana* bifid in remaining species simple; cornuti wanting; coecum penis always strong.

Female genitalia (Figs 574—576): Sterigma complicate, large, with strong postvaginal sclerites situated in a membrane extending from anterior edge of its cup-shaped part; bursa copulatrix with well differentiated ductus bursae forming in *zoegana* a small anterior sack, rarely provided with sclerites; ductus seminalis dorsal; accessory bursa extending from distal part of ductus bursae, dorsally.

Early stages. SWATSCHEK (1958) described chaetotaxy of *zoegana*.

Bionomy. Two generations yearly; hibernation in larval stage; the larvae are oligophagous and live on *Papilionaceae*.

Distribution. The genus is restricted to western part of the subregion and the areals of the particular species are rather small except for *hamana* which reaches Pamir Mts.

Comments. Four species are known to date. The type species of *Agapeta* differs in some characters from the remaining species which form a compact group. They characterize with short transtilla and the presence of very strong sclerite of the basal part of the disc consisting of small dorsal thorn and large, bifid ventral hook. The aedeagus in all of them is simple, provided with distinct terminal process. All the species characterize with yellow ground colour of the forewing and that character together with the shape of the pattern may prove a synapomorphy of *Agapeta* and the two following genera.

Ceratoxanthis RAZOWSKI

Ceratoxanthis RAZOWSKI, 1960, Polskie Pismo ent., **30**: 301. Type-sp.: *Conchylis argentomixtana* STAUDINGER, 1870 — by orig. design.

Externally very similar to *Agapeta*; venation also similar, but chorda, median stem and *pcu* in forewing wanting.

Male genitalia (Figs 115—119): Tegumen and uncus-shaped process as in *hamana* group in the preceding genus, shape of transtilla also very similar; socius broad, provided with some short apical setae; valva tapering terminally, broad, with strong dorso-basal process beneath which an ovate lobe armed with group of strong spines is present; vinculum not coalescent ventrally; sacculus without free termination; juxta with very large processes, armed with spines dorso-lateral; aedeagus simple; coecum penis short; caulis large, extending laterally, connected with lateral parts of juxta just at bases of lateral processes; cornutus small, capitate, if present.

Female genitalia (Fig. 577): Sterigma reduced to small tubular sclerite accompanied by a pair of dentate, lateral plates situated in thick membrane; corpus bursae with distinct sclerite.

Early stages and bionomy unknown.

Distribution. Known from most eastern part of Europe: Lower Volga, S. Ural Mts, from Caucasus, northern Syria and Kazakhstan.

Comments. The autapomorphies of this genus are the presence of spined processes of the basal portion of the valva (probably corresponding with the basal sclerites of *Agapeta*), the shapes of the aedeagus, caulis and lateral processes of the juxta. The female genitalia have not been reexamined for this paper. Two species known.

Fulvoclysia OBRAZTSOV

Fulvoclysia OBRAZTSOV, 1943, Z. wien. ent. Ges., **28**: 43. Type-sp.: *Fulvoclysia armeniaca* OBRAZTSOV, 1943 = *Conchylis pallorana* LEDERER, 1864 — by orig. design.

Externally similar to two preceding genera; venation as in *Ceratoxanthis* but hindwing $m_3 - cu_1$ extending from one point of median cell.

Male genitalia (Figs 120—124): Distal portion of tegumen tapering; socius slender, thin terminally; vinculum not coalescent ventrally, broadly fused with pedunculus; valva broad, tapering terminally, with costa more or less distinctly sclerotized and with strong dorso-basal process below which a sclerotized fold is present; row of strong spines across the valva beneath the fold or entire dorso-posterior area of disc spined; sacculus simple or provided with free termination; transtilla species specific in some species with slender, in other species with stout central part; exceptionally transtilla is completely different, e. g. in form of a transverse band; juxta provided with dorso-posterior process; aedeagus strongly extending ventro-terminally, open dorsally, coecum penis short or almost atrophied; caulis fusing with dorsal portion of juxta; cornuti thin, if developed.

Female genitalia (Figs 578, 579): Eighth tergite large, with partially sclerotized ventral surface; dorsal part of sterigma more or less strongly sclerotized especially posteriorly, connected with sclerites surrounding ostium bursae or additional sclerites situated laterally, often all ventral and lateral sclerites in strong membrane; bursa copulatrix membranous, provided with innumerous spines, rarely marked with small sclerites; ductus seminalis and accessory bursa ventral (in some species not reexamined).

Early stages and bionomy insufficiently known. There is probably one generation a year; larva of *F. fulvana* (FISCHER ROESLERSTAMM) feeds on *Scabiosa*, and hibernates.

Distribution: Western part of Palaearctic subregion reaching Iran in the east; that part of the distribution area of the genus is the most abundant in

species; *fulvana* is the most broadly distributed species — from Iberian Peninsula to Asia Minor.

Comments. The shape of the aedeagus is a supposed autapomorphy of *Fulvoclysia*; the remaining characters are inconstant or are of convergent importance. The presence of the spines on valva is common of all species but the spines are variably distributed. In *pallorana* group of species they are arranged in a fascia, in *F. arguta* RAZOWSKI apart of short row of spines all dorso-posterior area of valva is spined and in *fulvana* the spined area is indifferentiated, limited to dorsal third of valva. Similar spines are found also in *Phtheochroides apicana* (cf. p. 161). Eleven species are known to date.

Eugnosta HÜBNER

Eugnosta HÜBNER, [1825], Verz. bekannter Schmett.: 394. Type-sp.: [*Tortrix*] *lathoniana* HÜBNER, [1800] — by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 17).

Safra WALKER, 1863, List Specimens lepid. Insects Colln Br. Mus., **27**: 195. Type-sp.: *Safra metaphaeella* WALKER, 1863 = *Conchylis dives* BUTLER, 1878 — design. by monot.

Venation: In forewing all veins separate, trace of chorda extending from beyond base or r_1, median stem and *pcu* wanting; in hindwing *rr* stalked with m_1 to before middle and m_3 with cu_1 near base. Sexual dimorphism slight, females larger than males.

Male genitalia (Figs 125—131): Tegumen large, broad, with more or less distinct membranisation of medio-lateral portions and with rather weak preformed line between anterior and posterior portions; socius large, rod like, usually slender, more or less distinctly sclerotized laterally, scarcely hairy, exceptionally short; tuba analis often with stronger ventral sclerotization; vinculum broadly fused with tegumen, membranous ventrally or distinctly, divided into two arms; valva broad; simple; sacculus without free termination, often with well sclerotized, extending dorsal or subdorsal edge; transtilla with well developed, long, central part provided with apical teeth; juxta simple; aedeagus broad, often weakly sclerotized dorsally except for very strong coecum penis; caulis small, forming occasionally a distinct convexity at top part of juxta; cornuti strong, capitate spines and occasionally small plate; there are usually two spines, in a few species there is one spine-shaped cornutus or their number is higher (3 or 4).

Female genitalia (Figs 580—582): Sterigma large, with distinctly sclerotized posterior arms and cup-shaped part (developed usually in form of a ring); corpus bursae with various sclerites or (and) spines, occasionally with bulbous prominences; ductus seminalis usually ventro-lateral; accessory bursa dorsal (in *lathoniana*). In one species ovipositor, incl. labii heavily spined.

Early stages. Chaetotaxy unknown.

Bionomy. The species occur in one or two generations yearly; hibernation in larval stage; food plants practically unknown (*E. hydrargyrana pareyssiana* (DUPONCHEL) lives on *Jurinea*, *Compositae*).

Distribution: Holarctic region. Only one species is known of the Nearctic subregion, the remaining 14 species are Palaearctic.

Comments. Of three genera very close to *Eugnosta* at least two may prove congeneric with it. The New World *Carolella* BUSCK shows great similarity to *Eugnosta* except for the shape of the wings (nota bene variable!) and coloration. All known *Carolella* developed only one cornutus, the capitulum of which is extended in fairly large plate. Single cornutus is recorded in two *Eugnosta* species only, one of which is similarly patterned as the representatives of *Carolella*. The majority of *Eugnosta* characterize with white or silver colour of the ground forming various blotches in the forewing. *Commophila* is different in coloration and shows some slight genital differences to *Eugnosta*. The differences to *Prochlidonia* are larger if the shape of the caulis and the top part of the tegumen are of apomorphic importance. For the time being I am preserving all those genera as valid taxa.

Commophila HÜBNER

Commophila HÜBNER, [1825], Verz. bekannter Schmett.: 392. Type-sp.: [*Tortrix*] *aeneana* HÜBNER, [1800] — by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 16).

Venation as in preceding genus but in forewing chorda completely reduced and in hindwing veins m_3—cu_1 distinctly separate.

Male genitalia (Figs 132—134): Tegumen rather short, with minute apical prominence (remainder of uncus?); socius as in *Eugnosta*; vinculum arms slender; valva with rudimentary pulvinus; sacculus long, broadening terminally; transtilla delicate, with small central part; juxta well developed, concave, weakly convex dorso-posteriorly; aedeagus provided with ventro-terminal process slightly sclerotized in distal half; coecum penis long; caulis small, somewhat expanding laterally; cornutus single, with small capitulum.

Female genitalia (Fig. 583): Sterigma shorter than in *Eugnosta*, with strong posterior sclerites broadening submedially connected with emarginate anterior sclerite by a thick membrane; sclerites of bursa copulatrix posterior, weak; accessory bursa near base of ductus bursae, ventrally.

Early stages. Chaetotaxy described by SWATSCHEK (1958).

Bionomy. One generation yearly; hibernation in larval stage; larva oligophagous on *Compositae* (*Picris*, *Senecio*).

Distribution: Western and Central Europe.

Comments. The characters differing this monotypical genus from *Eugnosta* are probably of specific importance only. These are the shape of the central part of the transtilla, sacculus and aedeagus. The sclerite of the anterior edge of the tegumen is somewhat different, but the examined material is too short to decide on its importance.

Prochlidonia RAZOWSKI

Prochlidonia RAZOWSKI, 1960, Polskie Pismo ent., **30** (17): 309. Type-sp.: [*Tortrix*] *amiantana* HÜBNER, [1796—99] — by orig. design.

Venation: In forewing the trace of chorda as in *Eugnosta*, veins m_3—cu_1 extending normally from one point or very closely to one another; in hindwing rr—m_1 stalked to before middle, and m_3—cu_1 to 1/6.

Male genitalia (Figs 135—137): Top-part of tegumen small, fused with socii; socius short, extending distally; arm of vinculum strongly broadening ventrally; valva broad, with sacculus strongly sclerotized, angulate terminally; central part of transtilla stout, provided with several apical teeth; dorso-lateral parts of juxta strongly elongate; aedeagus slender with distinctly slerotized ventral part and moderate coecum penis; caulis very long; expanding at the end dorsally; two divided longitudinally (two fused pairs) cornuti in vesica of *amiantana*, in the second species cornuti are distinctly capitate, not subdivided.

Female genitalia (Fig. 584) similar to those in preceding genus but with smaller sclerites at ostium bursae; sclerites of bursa copulatrix weak or wanting.

Early stages: No data.

Bionomy. Two generations yearly.

Comments. The socii are similar to those in *Eugnosta arrecta* RAZOWSKI, however, differently connected with the tegumen; the transtilla and the aedeagus are also characteristic of this genus. The female genitalia resemble those in *Eugnosta* and *Commophila*. For other comments see p. 165. The female genitalia have not been reexamined for this paper.

Eupoecilia STEPHENS

Eupoecilia STEPHENS, 1828, Syst. Cat. Br. Insects, **2**: 190. Type-sp.: [*Tortrix*] *angustana* HÜBNER, [1796—99] — by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, **2**, Synopsis Genera Br. Insects: 109).

Clysia HÜBNER, [1825], Verz. bekannter Schmett.: 409. Type-sp.: [*Tinea*] *ambiguella* HÜBNER, [1796] — by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 18). Nom. praecoccup. by *Clysia* LEECH, 1817, in *Crustacea*.

Clysiana FLETCHER, 1941. Entomologist's Rec. J. Var., **52**: 17. Type-sp.: [*Tinea*] *ambiguella* HÜBNER, [1796] — hereditarius; replacement name for *Clysia* HÜBNER.

Arachniotes DIAKONOFF, 1952, Verh. K. ned. Akad. Wet. Afd. Nat., (2) **49** (1): 24. Type-sp.: *Arachniotes dactylota* DIAKONOFF, 1952 (Australian region) — by orig. design.

Venation species specific: In forewing all veins separate or r_4—r_5 stalked and m_3—cu_1 separate, approaching basally or extending from one point; in hindwing rr—m_1 stalked to about middle; m_3—cu_1 variably stalked (from 1/3 to 1/6). Sexual dimorphism slight.

Male genitalia (Figs 138—144): Distal part of tegumen rather slender, preformed transverse line situated posteriorly; uncus remainders extremely small but a weak subterminal prominence in middle of the end part of tegumen

may occur; socius slender, distinctly sclerotized in distal part in majority of species, provided with broad postbasal prominence from which a sclerotized fold extends anteriorly (in normal position the slender parts of socii are directed ventro-posteriorly, the broad portions parallely above them); vinculum arms distinctly separate from one another; valva rather slender; sacculus simple or with terminal spines or small free termination; pulvinus heavily hairy, extending proximally; transtilla with well developed (in some species very slender) central part armed with minute dents apically and broad lateral lobes; juxta small, simple, concave posteriorly; aedeagus large, with broad coecum penis, often with dorso-posterior lobes armed with spines or teeth; caulis small; cornuti numerous spines of various size, arranged in groups and often large, capitate spine.

Female genitalia (Fig. 585): Cup-shaped part of sterigma often represented by a narrow sclerite, posterior part more or less broad; ductus bursae broad, in some species with anterior portion swallen provided with spines; sclerites of bursa copulatrix in majority of species well developed, usually with longitudinal folds, accompanied by groups of spines; ductus of accessory bursa originating from lateral or dorso-lateral part of ductus bursae; ductus seminalis ventral, extending from corpus bursae.

Early stages. Chaetotaxy described by SWATSCHEK (1958) on basis of 4 European species.

Bionomy. In this subregion the species occur in two generations yearly, in the south that number is certainly higher. Hibernation in larval or pupal stages; the larvae utilize leaves, flowers and seeds of various plants belonging in several families; *ambiguella* is a serious pest of wine-shoot.

Distribution. The genus is known from Palaearctic, Oriental and Australian regions; the majority of species are Oriental; 7 species have been found in Palaearctic subregion of which 2 (*angustana* and *ambiguella*) are broadly spread from Western Europe to East Asia.

Comments. The supposed autapomorphy of this genus is the structure of the socius, and especially the presence of its dorsal lobe which occasionally is armed with minute spines or thorns. The posterior group of the cornuti forming a wreath may also prove an apomorphic character, however, it is wanting in some species. There are two groups of species, one correlated with *ambiguella*, the other with *E. kobeana* RAZOWSKI. In the latter the central part of the transtilla is situated on a dorsally protruding base. There are, however, some intermediate forms. For additional data see the monograph of this genus (RAZOWSKI, 1968).

Aethes BILLBERG

Aethes BILLBERG, 1820, Enumeratio Insect.: 90. Type-sp.: *Pyralis smeathmanniana* FABRICIUS, 1781 — by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 51).

Chlidonia HÜBNER, [1825], Verz. bekannter Schmett.: 393. Type-sp.: *Agapeta avellana*

HÜBNER, 1822 = [*Phalaena*] *hartmanniana* CLERCK, 1759 — by subs. design. (FERNALD, 1908, op. cit.: 17).

Phalonia HÜBNER, [1825], ibid.: 393. Type-sp.: *Tortrix tesserana* [DENIS & SCHIFFERMÜLLER], 1775 — by subs. design. (FERNALD, 1908, op. cit.: 17, 54).

Dapsilia HÜBNER, [1825], ibid.: 394. Type-sp.: [*Tortrix*] *rutilana* HÜBNER, [1817] — by subs. design. (FERNALD, 1908, op. cit.: 17).

Argyrolepia STEPHENS, 1829, Syst. Cat. Br. Insects, **2**: 190. Type-sp.: *Tortrix baumanniana* [DENIS & SCHIFFERMÜLLER], 1775 = [*Phalaena*] *hartmanniana* CLERCK, 1759 — by subs. design. (DUPONCHEL, 1834, Annals Soc. ent. Fr., **3**: 448; then for the second time CURTIS, 1837 designated [*Tortrix*] *lathoniana* HÜBNER for the type).

Lozopera STEPHENS, 1829, Syst. Cat. Br. Insects, **2**: 191. Type-sp.: *Pyralis francillana* FABRICIUS, 1794 — by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, **2**, Synopsis Genera Br. Insects: 109). *Loxoptera* WALSINGHAM, 1900, Ann. Mag. nat. Hist., (7) **6**: 444 — unjustified emendation of *Lozopera* STEPHENS.

Argyridia STEPHENS, 1852, List Specimens Br. Animals Br. Mus., **10**: 83. Type-sp.: [*Tinea*] *dipoltella* HÜBNER, [1813] = *Tortrix margaritana* HAWORTH, [1811] — design. by monot.

Coecaethes OBRAZTSOV, 1943, Mitt. münch. ent. Ges., **33**: 99. Type-sp.: *Lozopera mauritanica*: OBRAZTSOV, 1943 = *Aethes amseli pamirana* RAZOWSKI, 1967 — by orig. design. Established as a subgenus of *Lozopera* STEPHENS.

Cirriaetches RAZOWSKI, 1962, Acta zool. crac., **7**: 414. Type-sp.: *Lozopera mauritanica* WALSINGHAM, 1898 — by orig. design. Established as a subgenus of *Aethes* BILLBERG.

Shape of wings and pattern variable, often two parallel fascias across forewing; sexual dimorphism expressed only in size; seasonal dimorphism rare, rather slight. Venation: In forewing all veins separate or r_4—r_5 stalked, chorda, *M* and *pcu* atrophied; in hindwing *rr*—m_1 stalked, remaining veins run separately.

Male genitalia (Figs 145—164): Tegumen broad anteriorly, with distal part small, distinctly separate from the anterior part; socius very slender, situated at top of tegumen; vinculum usually expanding ventrally; membranously connected with pedunculus; tegumen linked with valva by a rod like sclerite extending from the anterior edge of the former; valva variable in shape, usually scarcely hairy; sacculus often with well developed free termination; transtilla provided with strong, central part and rather delicate lateral portions; juxta in majority of species simple, concave posteriorly; aedeagus often strong, with various posterior prominences or processes and large coecum penis; caulis moderate or with strongly enlarged lateral parts, occasionally very large, armed with teeth, embracing postmedian part of aedeagus; cornutus capitate, often strong, in several species numerous small spines or larger non-capitate cornuti in vesica.

Female genitalia (Figs 586—603): Sterigma simple, consisting of a cup-shaped part and posterior plate or with well developed antevaginal portion, provided with various prominences, processes and concavities; colliculum occasionally present, broad, usually without internal sclerites, in some species provided with ventral or lateral sack; ductus bursae variably long or ill-differentiated; bursa copulatrix armed with spines or (and) plate-shaped, folded sclerites; ductus seminalis in majority of species originating in ventral portion

of corpus bursae, but also lateral or dorsal; accessory bursa extending from parts of bursa copulatrix.

Early stages. SWATSCHEK (1958) described chaetotaxy of 13 species separating *Lozopera* from *Aethes*.

Bionomy. Two, more rarely one generation yearly; hibernation in larval stages; food plants are mainly the *Compositae*; larvae live in various parts of plants, often in stems and roots.

Distribution. The genus is known for Holarctic, Oriental and Neotropical regions; of over 100 known species ca. 60 are Palaearctic. Three species are Holarctic in distribution, several other ones are widely spread in Palaearctic subregion but the majority occurs in more limited areas, especially in central and western parts of the subregion in question.

Comments. There are two very closely related genera, *Aethes* and the New World *Aethesoides* RAZOWSKI characterized with the two following synapomorphies: the presence of thin socius and rod like process of the tegumen coupling it with the valva. *Aethesoides* is more specialized as one can judge on its separate dorsal portion of the valva similar to that in *Cochylidia*. Several groups of species can be distinguished within the discussed genus. The most primitive is seemingly that of *hartmanniana* described under the name *Chlidonia*. It characterizes with short distal part of the tegumen, large socii, not approaching basally and very slender ductus bursae. The type-species of *Dapsilia*, *Argyridia* and *Phalonia* do not show any characters of generic or subgeneric importance. *Lozopera* was for long time treated as a distinct genus thanks to its coloration (two oblique lines on yellow ground colour of the forewing). Its males characterize with lack of the cornuti, but that is a convergent character similarly as the presence of the more or less elaborate colliculum in the female genitalia. *Coecaethes* is very close to *Lozopera* as one can judge on the figs 159—164, 599—602. To *Cirriaethes* belong several species characterized with a presence of a row of spines situated in submedian area of the valva and a dentate or spined peripheries of the sterigma. The status of this group requires reconsideration. There are also two unnamed groups deserving some attention. To one of them belong a few species closely related to *Ae. cnicana* (WESTWOOD) in which the caulis is very large, armed with numerous teeth, the other (represented by *Ae. kindermanniana* (TREITSCHKE), characterize with dentate process of the aedeagus. The caulis in the latter resembles that in *cnicana*. SWATSCHEK (1958) realized that this genus is not compact and the differences among the larvae of his *Aethes* are distinct. Moreover, he distinguished *Lozopera* (4 species) as a valid genus. According to SWATSCHEK also *Chlidonia* is a separate genus rather close to *Aethes*.

Cochylidia OBRAZTSOV

Cochylidia OBRAZTSOV, 1956, Mitt. münch. ent. Ges., **46**: 14. Type-sp.: *Tortrix subroseana* HAWORTH [1811] — by orig. design.

Venation: In forewing all veins separate or $r_4 - r_5$ (exceptionally also $r_2 - r_3$) coalescent; in hindwing $rr - m_1$ stalked to middle, remaining veins separate. Sexual dimorphism very slight.

Male genitalia (Figs 165—176): Tegumen proportionally small, with terminal part not separate; socius small or very small; vinculum not coalescent ventrally, often weak, connected with tegumen by its wedge-shaped ventral process. Valva with broad, well sclerotized main part and slender, rod like costal portion; innumerous hair on valvae, small spines in top part of costal arm in almost all species. Transtilla with slender central part showing a tendency to atrophy in a few species; juxta fairly large. Aedeagus large, provided with distinct ventro-terminal process; caulis small or with extending lateral parts; cornuti: numerous strong but non-capitate spines and a dentate plate, exceptionally an indistinct capitulum of one cornutus occurs; coecum penis in majority of species very short, bilobed.

Female genitalia (Figs 604—609): Sterigma broad, partially hidden in membranous anterior concavity (or sack), with at least partially stronger sclerotized parts; ductus bursae forming an elaborate, more or less sclerotic structure fused with bottom of sterigma and in several species extending anteriorly; corpus bursae (or anterior part of bursa) usually membranous, delicately spined; accessory bursa consisting of long ductus and usually small corpus extends ventrally or dorsally from sclerotic part of ductus bursae; ductus seminalis situated rather variably, in majority of species extending from corpus bursae.

Early stages. SWATSCHEK (1958) described chaetotaxy of 3 European species.

Bionomy. One or two generations yearly; hibernation in larval stage; the larvae are oligophagous and utilise mainly the *Compositae*.

Distribution. *Cochylidia* occurs in Palaearctic subregion and Oriental region (one species in Nepal). The majority of species (9 known to this date) are Palaearctic (8) and are widely distributed, 2 ones may be called transpalaearctic.

Comments. *Cochylidia* is extremely similar to *Diceratura* and differs from it only by a single supposed autapomorphy, viz., the presence of minute setae or spines at the end of the costal arm of the valva. The two genera shows the following synapomorphies: the presence of the differentiated costal part of the valva and complicate posterior portion of the ductus bursae. *Diceratura* still preserved the uncus which in *Cochylidia* may be represented by indistinct prominence of the subterminal portion of the tegumen in some species. The degree of the differentiation of the costal part of the valva is more advanced in *Diceratura*. Within *Cochylidia* two groups of species can be distinguished: in the species close to *C. rupicola* (CURTIS) the costal part of the valva is broad, less specialized, the aedeagus is simple, with more plesiomorphic coecum penis than in the species close to *subroseana*.

Diceratura Djakonov

Diceratura Djakonov, 1923, Russk. ènt. Obozr., **23**: 155. Type-sp.: *Cochylis purpuratana* Herrich-Schäffer, 1851 = *Eupoecilia ostrinana* Guenée, 1845 — by orig. design.

Venation as in *Cochylidia*; all veins separate, variation not realized.

Male genitalia (Figs 177—182): Tegumen small, more or less distinctly producing in middle terminally to form an ill-defined uncus; socii fused with the latter or drooping, in all species small; vinculum slender, not coalescent ventrally; valva short, rounded or angulate posteriorly, with very slender costal part and well developed sacculus, often armed with prominences; central part of transtilla species specific, occasionally broad, provided with minute teeth dorso-posteriorly; juxta small, simple; aedeagus either slender, or short, usually with well developed distal process and fairly large coecum penis; caulis as in preceding genus; cornuti numerous, without capituli.

Female genitalia (Fig. 610) as in preceding genus but in several species with smaller posterior sclerites of the ductus bursae, or with almost completely membranous bursa copulatrix. In reexamined species accessory bursa originating from distal part of ductus bursae ventro-laterally and ductus seminalis extending dorsally from corpus bursae.

Early stages little known; chaetotaxy not studied.

Bionomy: Two generations a year; food-plants: *ostrinana* lives on *Dipsacus* (*Dipsacaceae*).

Distribution: Western and central parts of Palaearctic subregion, mainly in their southern belt, in Central Europe occurs only one species (*ostrinana*) the distribution of which is very wide as it reaches as far as to Sajan Mts, the distribution areas of other species are small and the main bulk of the species of this genus is known of Near East. Eighth species discovered to date.

Comments. This genus shows some specialized and plesiomorphic characters and is provisionally placed after *Cochylidia*. For comments see p. 170.

Cochylis Treitschke

Cochylis Treitschke, 1829, Schmett. Eur., **7**: 233. Type-sp.: [*Tortrix*] *rubellana* Hübner. [1823] = *Tortrix roseana* Haworth, [1811] — by subs. design. (Cuntis, 1834, Br. Ent., expl. pl. 491). *Conchylis* Sodoffsky, 1837, Bull. Soc. imp. Naturalistes Mosc., **6**: 93. Injustified emend. of *Cochylis* Treitschke.

Thyraylia Walsingham, 1897, Proc. zool. Soc. London, **1897**: 138. Type-sp.: *Conchylis bunteana* Robinson, 1869 — by orig. design. *Thyralia* Walsingham, 1914, Biologia cent.-am. Zool., *Lepid.-Heterocera*, **4**: 296 — injustified emend. of *Thyraylia* Walsingham.

Pontoturania Obraztsov, 1953, Mit. münch. ent. Ges., **33**: 97. Type-sp.: *Cochylis defessana* Mann, 1861 — by orig. design.

Acornutia Obraztsov, 1914, Dt. ent. Z. Iris, **57**: 68. Type-sp.: *Tortrix nana* Haworth, [1811] — by orig. design.

Cochylichroa Obraztsov & Swatschek, 1958 [in:] Swatschek, Abh. Larvalsyst. Insekten, **3**: 233. Type-sp.: *Eupoecilia atricapitana* Stephens, 1851 — by orig. design.

Longicornutia RAZOWSKI, 1960, Polskie Pismo ent., **30** (17): 314. Type-sp.: *Cochylis phaleratana* HERRICH-SCHÄFFER, 1851 = *Cochylis epilinana* DUPONCHEL, 1842 — by orig. design.

Neocochylis RAZOWSKI, 1960, ibid.: 316. Type-sp.: *Conchylis calavrytana* REBEL, 1906 = *Cochylis molliculana* ZELLER, 1847 — by orig. design. Established as a subgenus of *Cochylis* TREITSCHKE.

Paracochylis RAZOWSKI, 1960, ibid.: 316. Type-sp.: *Cochylis amoenana* KENNEL, 1899 — by orig. design. Established as a subgenus of *Cochylis* TREITSCHKE.

Brevicornutia RAZOWSKI, 1960, ibid.: 317. Type-sp.: *Cochylis pallidana* ZELLER, 1847 — by orig. design. Established as a subgenus of *Cochylis* TREITSCHKE.

Venation: All veins in forewing separate, chorda, *M* and *pcu* wanting; in hindwing only *rr*—m_1 stalked to middle. Sexual dimorphism indistinct, in some species the coloration in females is different than in males, there are also some differences in size and shape of wings.

Male genitalia (Figs 183—218, 221, 222): Tegumen short, broad, with distinctly differentiated distal part fused with very short socii, some delicate bristles or hairs on distal part, dorsally; uncus usually absent or strongly reduced, represented by a minute prominence of terminal part of tegumen; exceptionally uncus is well developed. Vinculum interrupted ventrally, with usually slender, occasionally very delicate lateral parts. Valva with slender dorsal part and broad base; sacculus with various prominences or processes, often provided with free termination; central part of transtilla slender, curved backwards, usually armed with terminal teeth, in two species not developed; juxta moderate or large, with dorsal edge convex, folded or provided with lateral prominences; aedeagus with distal part slender, more or less long and with well developed coecum penis; caulis small, or distinctly elongate, lateral parts of anellus completely fused with caulis often developing large distal processes; cornuti: numerous non-capitate spines and a spined plate, if present.

Female genitalia (Figs 611—624): Ovipositor normally developed or (in a few species) telescopical, very long; sterigma species specific, elaborate, consisting of rather small antevaginal and large, in major part sclerotic postvaginal portions; distal edge of the latter strongly sclerotized; anterior and lateral parts of sterigma membranous, forming large proximal sack; ductus bursae in some species ill-differentiated, provided with various sclerites; corpus bursae usually membranous, minutely spined throughout; in some species the parts of bursa copulatrix well differentiated, membranous; accessory bursa and ductus seminalis extending from various parts of bursa, dorsally, ventrally or laterally; in some species accessory bursa completely reduced.

Early stages. SWATSCHEK (1958) provided descriptions of the chaetotaxy and distinguished *Cochylichroa* as a distinct genus.

Bionomy. The species occur in one or two generations yearly; hibernation in larval stage; the larvae feed in various parts of plants, mainly on *Compositae*.

Distribution. This genus is known of Holarctic, Oriental and Neotropical regions. In Palaearctic subregion it is represented by 26 species, in the Nearctic and Neotropical by approximately similar numbers, but in the Oriental region

live only 2 species. One species only is Holarctic in distribution, other species are bound to western part of this subregion reaching even Daghestan but the majority have more limited distribution.

Comments. This genus is probably related to the preceding two genera but is more specialized in having distinctly differentiate distal part of the tegumen and usually vestigial socii; the synapomorphies of the three genera are probably the shape of the sterigma with its anterior, membranous sack and the distal portion of the ductus bursae (however, secondarily simplified in several species). The presence of the spined plate-shaped cornutus is also characteristing of this group. A parallel separation of the distal part of the tegumen and reduction of the socii is observed in the generic group *Saphenista* (cf. RAZOWSKI, 1985) and an especially similar stage of that complex is found in this genus and *Platphalonidia* RAZOWSKI of the New World. Several groups of species can be distinguished within *Cochylis*; some of them were described as distinct genera or subgenera, but in this paper all are treated as synonyms. However, their status requires reconsideration. *C. nana*, the type-species of *Acornutia* has well preserved uncus (thus it was occasionally compared with *Hysterosia* = *Phtheochroa*) and seems to be one of more primitive taxa of *Cochylis*. The distal part of its tegumen is rather weakly separate, the socii are drooping, the caulis is well developed, simple. On the other hand the accessory bursa is wanting and the ductus bursae is long. The Nearctic *C. bunteana* (ROBINSON), the type-species of *Thyraylia* is very close to *nana* and differs only in strong reduction of the uncus and the shape of the socii. Judging on the shape of the aedeagus and especially of its caulis one can suppose that they are close to *roseana*, the type-species of *Cochylis*. The females of *roseana* and its allied preserved, however, the accessory bursa. The type-species of *Longicornutia* (*epilinana*) shows great similarity to the preceding species in the shape of the valva but its probable autapomorphies are the presence of a very large bunch of dense spines in the vesica and a peculiar, partially sclerotized ventro-lateral sack of the distal portion of the ductus bursae. The group of *molliculana* (*Neocochylis*) characterize with long anterior part of the aedeagus and the presence of ear-shaped processed of anellus situated above the caulis; the cornuti are absent and the sack-shaped part of the sterigma is strongly enlarged. In *atricapitana* (*Cochylichroa*) the valva is armed with numeorus spines and the cornuti are present, the remaining characters are as mentioned for the preceding group, however, SWATSCHEK (1958) suggests that it distinctly differs in chaetotaxy and places it incorrectly between *Falseuncaria* and *Cochylidia*. In *pallidana* (*Brevicornutia*) the ventral part of the valva is strongly enlarged, the cornuti are represented by a spined plate and the distal portion of the ductus bursae is large. The type-species of *Pontoturania* and several close species characterize with broad median portion of the aedeagus, large cluster of the cornuti and distinct end part of the sacculus accompanied by various prominences of the caudal edge of the valva. The females of that group have strongly sclerotized, broad portion of the ductus bursae and very large sack-shaped part of the sterigma. The type-

species of *Paracochylis* (*apricana*) is rather similar to the representatives of the preceding group and its supposed autapomorphy is a hook-shaped central portion of the transtilla.

Aprepodoxa MEYRICK

Aprepodoxa MEYRICK, 1937 [in:] CARADJA & MEYRICK, Dt. ent. Z. Iris, **51**: 171 Type-sp.: *Aprepodoxa mimocharis* MEYRICK, 1937 — design. by monot.

Venation: In forewing all veins separate, r_5 reaching apex; chorda and median stem atrophied, *pcu* strongly reduced; in hindwing *rr* stalked with m_1 to beyond middle, m_3—cu_1 extending from one point.

Male genitalia (Figs 219, 220, after DIAKONOFF, 1974b): Distal part of tegumen small; socius strongly reduced; vinculum not coalescent ventrally; valva with slender dorso-posterior part and with ill-defined sacculus but armed with anterior, densely spined process of inner surface; transtilla with slender, spined dorsally central part; aedeagus of *Cochylis*-type, with distinct coecum penis and terminal process; cornuti numerous, non-capitate spines.

Female genitalia (Fig. 625): Sterigma a broad, densely scobinate plate fused dorsally with somewhat broadening terminal part of ductus bursae; the latter provided with very large ventrolateral (?) prominence; ductus bursae in major part distinctly sclerotized; corpus bursae membranous, minutely spined throughout; positions of accessory bursa and ductus seminalis unknown.

Early stages and bionomy unknown.

Distribution: Eastern part of Palaearctic subregion: China, prov. Nord Yunnan and Vietnam, prov. Tonkin in Oriental region. Two species known.

Comments. According to the illustration in DIAKONOFF'S work (1974b) *Aprepodoxa* is close to *Cochylis* and distinctly differs from it in having an autapomorphic structure of the basal part of the valva. The female genitalia have not been reexamined for this paper.

Cryptocochylis RAZOWSKI

Cryptocochylis RAZOWSKI, 1960, Polskie Pismo ent., **30** (17): 313. Type-sp.: *Conchylis conjunctana* MANN, 1864 — by orig. design.

Venation: In forewing all veins separate, r_5 to termen postapically; trace of chorda beyond base of first radial vein, *M* and *pcu* atrophied; in hindwing both *rr*—m_1 and m_3—cu_1 stalked to middle. Sexual dimorphism slight, female forewing somewhat slenderer and apex more pointed than in male.

Male genitalia (Figs 223—229): Tegumen very large, with top part short fused with small socii; vinculum not coalescent ventrally, consisting of rather short arms; valva subtriangular, with short but strong costa and long sacculus

terminating in long tip; large lobe at base of valva fused with lateral surface of transtilla; central part of the latter armed with two long, acute processes; juxta simple; aedeagus small, open dorsally, with moderate coecum penis and small lateral lobes above short caulis.

Female genitalia (Figs 626, 627): Sterigma rather weakly sclerotized except for postero-lateral arms, convex in middle posteriorly, provided with lateral shallow sacks anteriorly; colliculum ill-defined, cup-shaped; ductus bursae better sclerotized than corpus bursae, broad except terminal portion, with lateral ductus seminalis and broad accessory bursa characterized with indifferentiate ductus.

Early stages unknown; moth probably in two generations.

Bionomy. Unknown except for food plant, *Achillea*, *Compositae* in the roots of which lives the larva.

Distribution: The only species is known from Central and East Europe and Asia Minor.

Comments. The supposed autapomorphies of this genus are the shapes of the transtilla, its fusion with base of the valva and the structures of the latter and in the female probably also the form of the ductus bursae.

Falseuncaria Obraztsov & Swatschek

Falseuncaria Obraztsov & Swatschek, 1958 [in:] Swatschek, Larvalsyst. Insekten, 3: 232. Type-sp.: *Tortrix ruficiliana* Haworth, [1811] — by orig. design.

Venation: In forewing all veins separate, r_5 to apex; chorda, *M* and *pcu* reduced completely; in hindwing only $rr - m_1$ stalked. Sexual dimorphism indistinct.

Male genitalia (Figs 230—236): Uncus with strongly elongate distal part at the top of which various prominences may develope; socii fused into a single, very thin process situated at the top of tegumen; uncus atrophied or probably represented by a minute dorso-apical prominence of tegumen; pedunculi long, slender; tuba analis built of strong membrane, provided with curved ventral sclerite; valva folded along middle, well sclerotized except for distal part; sacculus with short free termination, occasionally accompanied by sclerotic prominences of caudal portion of valva; anterior parts of valva entirely fused with broad lateral parts of transtilla; the latter provided either with central process or with lateral prominences or plates; vinculum consisting of pair of slender arms. Aedeagus slender, with long coecum penis and distal process; caulis broad but short; juxta small, cornuti: a bunch of long, non-capitate spines and a long row of minute spines forming a separate structure.

Female genitalia (Fig. 628): Ovipositor fairly long; sterigma in form of large, more or less elaborate postvaginal plate and smaller antevaginal structures, both, at least in major part, hidden in a sack-shaped membrane (as in *Cochylis*); surroundings of ostium bursae sclerotic; ductus bursae well differentiated, slen-

der; corpus bursae membranous, minutely spined; accessory bursa wanting; ductus seminalis usually from terminal part of corpus bursae.

Early stages. Chaetotaxy described by SWATSCHEK (1958) on basis of two European species.

Bionomy. Two generations yearly; hibernation in larval stage; larvae feed in flowers or seeds of various plants belonging to *Compositae*, *Scrophulariaceae*, *Primulaceae* etc.

Distribution: Palaearctic subregion, in rather arrid areas from Iberian Peninsula to Mongolia. Of five known species two (*ruficiliana* and *degreyana*) are rather widely distributed as spread from Spain to Ala Tau, two are endemic in Mongolia and one in Caucasus.

Comments. The supposed autapomorphies of this genus are the strongly elongate distal part of tegumen with its apical structures incl. the fused socii, structure of the transtilla and probably shape of the sterigma. SWATSCHEK (1958) treated it as close to *Cochylichroa* (c. f. p. 173) and placed it near *Chlidonia* and *Stenodes*.

Tortricini

The fauna of this subregion constitutes of 7 genera of which 4 are endemic in it, two (*Paratorna*, *Spatalistis*) are shared with the Oriental region and one (*Acleris*) is distributed in all but the Australian regions.

Despite two revisions of the tribe were published (RAZOWSKI, 1966; 1984) there are still many systematic problems to solve. The position of *Pseudocroesia* is doubtful. I could not find any important synapomorphy with the remaining genera on the basis of the former study (no material for reexamination is available). It shows some specialized characters as a long, slender brachiola and presence of spines on the end of the process of the sacculus. The remaining bulk of genera characterizes with a group of spines situated at the end of the sacculus (typical spined termination) and short, usually broad brachiola. In *Paratorna* the spined termination is broad and shows a tendency to a subdivision and the aedeagus is provided with a dorso-terminal, heavily sclerotized rib (for other supposed autapomorphies of this and remaining genera see particular comments), whilst in the 5 remaining genera it is slender, usually small. *Paracroesia* shows some minor characters supposed as its autapomorphies as a setose end of the tuba analis and its belt-shaped ventral sclerite. In *Spatalistis*, *Tortrix*, *Aleimma* and *Acleris* the pulvinus is distinct being formed by the end part of the membranous longitudinal fold of the inner wall of the valva, the spined termination is small and in the vesica usually occurs a plate-shaped cornutus. *Spatalistis* characterizes with hairless distal portion of the disc of valva, slender postbasal or basal part of brachiola and stalked hindwing veins $m_3 - cu_1$. The remaining genera have short, subtriangular or semicircular brachiola, distinct incisure of the top part of the tegumen and specialized, not

drooping (with innumerous exceptions) socius. *Tortrix* and *Aleimma* form probably a distinct group but no synapomorphy is found. Their similarity is based mainly on some convergent characters as the floricomous ovipositor and their nail-head like bristles. The most advanced genus, *Acleris*, is characterized by strong apical lobes of the tegumen armed with the dorsal or lateral processes and a ventro-terminal process of the tuba analis.

Pseudocroesia Razowski

Pseudocroesia Razowski, 1966, World Fauna *Tortricini*: 145. Type sp.: *Pseudocroesia coronaria* Razowski, 1966 — by orig. design.

Male genitalia (Figs 237, 238). Distal part of tegumen fused with broad, short structure concave in middle posteriorly, most probably representing the uncus. Socius drooping; tuba analis well sclerotized ventrally, tapering apically, without ventral process; vinculum simple. Valva very short; sacculus broad, semicircular anteriorly, with slender distal half provided with subterminal spined process; costa of valva short, bristled terminally; brachiola very long, slender. Transtilla slender, arched. Aedeagus with large coecum penis; cornuti small, capitate spines.

Female genitalia, early stages and bionomy unknown.

Distribution: China, province Shansi.

Comments. The genus is monotypical. The type species is known of single specimen only. The systematic position of *Pseudocroesia* is unclear but probably it belongs in the group of the primitive genera. The spined process of the sacculus may functionally replace the spined termination but does not seem homologous with it. The disc of valva is provided with a small group of hairs situated rather medially but does not seem homologous with the pulvinus. For further remarks see p. 176.

Paratorna Meyrick

Paratorna Meyrick, 1907, J. Bombay nat. Hist. Soc., **17**: 980. Type-sp.: *P. dorcas* Meyrick, 1907 — design. by monot.

Forewing ovate, with veins m_3—cu_1 stalked to 1/4; in hindwing rr—m_1 approximate at base, m_3—cu_1 stalked to middle, extending from one point with m_2.

Male genitalia (Figs 239—242) with variably developed uncus being slightly concave terminally in *dorcas* or provided with pair of sublateral hooks in remaining species; socius thin, membranous or ill-defined; tuba analis membranous or weakly sclerotized; vinculum simple. Valva elongate with well developed costal portion and broadening distal part of costa; sacculus simple or with subterminal process; spined termination very large, more or less distinctly

subdivided (in *P. seriepuncta* FIL. three distinct lobes present), spined or (*P. cuprescens* FALK.) provided with pectinate setae. Brachiola large, broad, somewhat tapering basad. Transtilla arched, distinctly sclerotized. Aedeagus proportionately short, with small coecum penis and more distinctly sclerotized upper edge; cornuti: two capitate spines (in *cuprescens* only one). Musculature similar to that in *Tortrix* (cf. KUZNETSOV, 1977) but muscle 5 attaches to base of sacculus and muscle two to base of transtilla. Coremata in form of lateral bunches of scales situated at vinculum, the dorsal of which is much longer than the ventral.

Female genitalia (Fig 629—631): Posterior apophyses fused with basal plate; sterigma rather broad, with well developed postvaginal part and deep concavity protected by more or less extending margins on the bottom of which the ostium is situated; colliculum in form of a broadening strenghtened by internal sclerite, if present; ductus bursae usually membranous; ductus seminalis anterior; signum stellate.

Early stages and bionomy unknown; moth probably in single generation yearly in the temperate zone.

Distribution. Two species occur in the subregion in question, two other are Oriental in distribution (incl. the type species).

Comments. Apart of already mentioned (p. 176) supposed autapomorphies the genus characterizes with strongly expending distal part of the costa of the valva. The presence of the basal plate of the apophyses posteriores may prove convergent (some tropical genera need reexamination) similarly as the concavity in the ostial portion of the sterigma. Synapomorphies as suggested on p. 176.

Paracroesia YASUDA

Paracroesia YASUDA, 1972, Bull. Univ. Osaka Pref., (B) **24**: 88. Type-sp.: *Epagoge abievora* ISSIKI, 1961 — by orig. design.

Danilevskiana V. I. KUZNETSOV, 1973, Trudy vses. ent. Obsch., **56**: 151. Type-sp.: *D. pusilla* V. I. KUZNETSOV, 1973 = *Epagoge abievora* ISSIKI, 1961 — by orig. design.

Forewing of normal *Tortricinae* shape: venation; in the forewing veins r_4—r_5 stalked to middle similarly as the veins rr—m_1; in hindwing m_3—cu_1 from one point.

Male genitalia (Fig 243): Tegumen delicate; uncus atrophied; socius drooping, short, rounded, provided with a thin wart armed with long bristle; tuba analis broad, membranous except for median belt expanding apically and covered by minute spines; vinculum fairly broad. Valva short, with well developed costa and strong sacculus provided with distinct spined termination; hairs in median and posterior portions of disc; brachiola broad, weakly tapering basad. Transtilla well sclerotized, arched; aedeagus with large coecum penis; no cornuti in vesica found.

Female genitalia (Fig. 632): Sterigma developed as a postvaginal plate with tapering apically lateral arms; ostium bursae protected with very short, sclerotized ring; colliculum not developed; signum in form of deeply concave plate devoid any spines.

Larva described by YASUDA (1972) characterizes with seta SD_2 occurring on abdominal segments 1—7.

Bionomy. Single generation yearly; food plant: *Abies* MILL.

Distribution. USSR: Primorskij Kraj; Japan: Honshu and Kiushu.

Comments. The systematic position of this genus is rather doubtful. The supposed autapomorphies are the presence of the basal wart of the socius and the longitudinal, setose median sclerite of the tuba analis. The convace, signum is to be found in some other *Tortricini* genera, e. g. in *Aleimma*. The genus is monotypical.

Spatalistis MEYRICK

Spatalistis MEYRICK, 1907, J. Bombay nat. Hist. Soc., **17**: 978. Type-sp.: *S. rhopica* MEYRICK, 1907 — by orig. design.

Forewing usually with short, acute apex; venation: both in forewing and hindwing veins $m_3 - cu_1$ stalked and m_2 approximated to their stem.

Male genitalia (Figs 244—247): Uncus broad basally, with more or less elongate median portion, in some species strongly shortened; socius drooping, strong, more or less elongate, with usually short, hairless base. Valva elongate, with costa reaching almost to its end, hairless dorso-terminally, sacculus long, sinute medially, occasionally marked with terminal process; spined termination rather small; brachiola thin at base, usually slender, in some species extending from basal broadening. Transtilla slender, well sclerotized. Tuba analis simple, often weakly sclerotized, or provided with median structures ventrally. Spine like and occasionally plate-shaped cornuti in vesica. Coremata, lateral bunches of long scales near vinculum.

Female genitalia (Figs 633,634): Proximal corners of sterigma more or less elongate, usually forming deep pockets; colliculum short, provided with internal sclerites, if present, or only ostium is surrounded by a ring-shaped sclerite. Postmedian portion of ductus bursae often broadened; signum stellate or in form of a row of spines arranged transversely, or absent.

Early stages. The chaetotaxy of European *S. bifasciana* (HÜBN.) is described by SWATSCHEK (1958).

Bionomy. The larvae live in spun leaves or in fruits (e. g. *Vaccinium*, *Cornus*, *Coryllus*) utilizing the members of 4 plant families. In our subregion occurs single generation yearly; hibernation in larval stage.

Distribution. Of 15 known species the majority are Oriental in distribution, one is bound with transition zone to the Australian Region (Southern Celebes) and 3 are Palaearctic (European is *bifasciana*).

Comments. The supposed autapomorphies are recorded on p. 176, the remaining characters are either plesiomorphic or convergent. Two indistinctly separable groups are distinguished. That of *bifasciana* (incl. its vicariant *S. egesta* RAZ. of East Asia) characterize with spinose ventral sclerite of the tuba analis, rather broad brachiola and the transverse signum.

Tortrix LINNAEUS

Tortrix LINNAEUS, 1758, Systema Nat., edit. 10: 530. Type-sp.: *Phalaena Tortrix viridana* LINNAEUS, 1758 — by subs. design. (CURTIS, 1839, Br. Ent., expl. pl. 763).

Heterognomon LEDERER, 1859, Wien. ent. Mschr. 3: 242, 247. Type-sp.: as above, by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 37).

Venation: all veins separate, in forewing r_5 terminates in termen, chorda rather hardly preserved, median stem atrophied.

Male genitalia (Figs 248, 249): Apical lobes of tegumen small; tuba analis simple, short, membranous distally; socius large, elongate, drooping. Valva large, with well developed, slender costa; sacculus broad, weakly concave ventrally, with short, rounded spined termination; brachiola short, subtriangular, rounded apically. Transtilla membranous, partially better sclerotized at sides. Aedeagus with well developed coecum penis; several short, capitate cornuti in vesica. Coremata absent; areas of scent scales on sides of pedunculus normally developed. Musculature: muscle 1 weak, muscle 2 from base of pedunculus to processus basalis of valva; m_5 terminating rather deep in the valva, dorsally.

Female genitalia (Fig. 635) with floricomous ovipositor; anterior portions of papilla analis short, rounded, remaining part very broad, convex dorsally; nail-head like bristles with fairly small terminations grouped in a transverse fascia. Eighth tergite very short, broad; sterigma short, with convex anterior parts and folding lateral portions; apophyses anteriores short, thick. Ostium bursae in very narrow protecting sclerite; ductus bursae long, membranous; signum stellate.

Early stages. Chaetotaxy known in *viridana* only (SWATSCHEK, 1958).

Bionomy. Single generation yearly; hibernation in egg stage; young larve live as monophags on oaks, last stages are polyphagous. *T. viridana* is very important economically.

Distribution. Endemic in Palaearctic subregion; two vicariant species known; *viridana* occurs in western part of the region and *T. sinapina* (BUTL.) in East Asia.

Comments. The supposed autapomorphies of *Tortrix* are short nail-head like bristles, their transverse arrangement, presence of small ventral lobes in middle part of labii just before belt of bristles and the membranous transtilla.

Aleimma HÜBNER

Aleimma HÜBNER, [1825], Verz. bekannter Schmett.: 391. Type-sp.: *Phalaena Tortrix loeflingiana* LINNAEUS, 1758 — by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, 2: Synopsis Genera Br. Insects: 109).

Dictyopteryx STEPHENS, 1829, Syst. Cat. Br. Insects, 2: 189. Type-sp.: *Phalaena Tortrix loeflingiana* LINNAEUS, 1758 — by subs. design. (WESTWOOD, 1840, ibid.).

Alimma AGASSIZ, 1846, Nomencl. Zool., Index: 14, incorrect subs. spelling of *Aleimma* HÜBNER.

Venation as in *Tortrix*, but chorda atrophied.

Male genitalia (Figs 250, 251) as in *Tortrix* but with weaker apical lobes of tegumen; socius subsquare, with submedian base situated rather laterally; area of scent scales of pedunculus ill-defined. Valva somewhat expanding terminally with thin row of spines forming the spined termination; brachiola vestigial, situated externally. Transtilla slender, band-shaped; aedeagus as in *Tortrix*; no cornuti in vesica.

Female genitalia (Fig. 636): Ovipositor telescopical; anterior parts of papillae analaes elongate, gradually expanding posteriorly, distal parts deeply concave, more elongate than in *Tortrix*; nail-head like bristles on large, elongate area beginning in distal part of basal portion of papilla. Eighth tergite normally developed. Sterigma provided with broad, short proximal corners; colliculum, a very short, sclerotized ring protecting ostium bursae; signum, a deeply invaginate sclerite.

Early stages. SWATSCHEK (1958) provides diagnosis based on chaetotaxy which hardly differs from that of *Tortrix*.

Bionomy. Single generation yearly; hibernation in egg stage; food plant is oak.

Distribution: Western part of the subregion. The genus is monotypical.

Comments. The supposed apomorphies of this genus are a rudimentary, external brachiola, very slender, long spined termination and probably broad area of nail-head like hairs on the labium. Similar surface occurs also in *Acleris* (*A. semipurpurana* (KEARF.)).

Acleris HÜBNER

Acleris HÜBNER, [1825], Verz. bekannter Schmett.: 384. Type-sp.: [*Tortrix*] *aspersana* HÜBNER, [1817] — by subs. design. (FERNALD, 1908; Genera *Tortricidae*: 12).

Peronea CURTIS, 1824, Br. Ent., expl. pl. 16. Type-sp.: *Phalaena Tortrix cristalana* DONOVAN, 1794 = *Tortrix cristana* [DENIS & SCHIFFERMÜLLER, 1775 — by orig. design.; praeoccupied by *Peronea* RAFINESQUE, 1815, *Mollusca* (emend. of *Peronaea* POLI).

Lopas HÜBNER, [1825], Verz. bekannter Schmett.: 384. Type-sp.: *Pyralis desfontainana* FABRICIUS, 1794 = *Tortix cristana* [DENIS & SCHIFFERMÜLLER], 1775—by subs. design. (WESTWOOD, 1840 Introd. mod. Classif. Insects, 2, Synopsis Genera Br. Insects: 108).

Rhacodia HÜBNER, [1825], ibid.: 384. Type-sp.: *Pyralis emargana* FABRICIUS, 1775—by subs. design. (WESTWOOD, op. cit.).

Eclectis HÜBNER, ibid.: 385. Type-sp.: *Phalaena Tortrix hastiana* LINNAEUS, 1758—by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 13).

Teleia HÜBNER, [1825], ibid.: 385. Type-sp.: [*Tortrix*] *abietana* HÜBNER, [1822], — by subs. design. (FERNALD, op. cit.: 13).

Oxigrapha HÜBNER, [1825], ibid.: 386. Type-sp.: *Phalaena Tortrix literana* LINNAEUS, 1758—by subs. design. (WESTWOOD, 1840, op. cit., 109). *Oxygrapha* WILKINSON, 1859, Br. Tortrices: 160, unjustified emend. of *Oxigrapha*.

Amelia HÜBNER, [1825], ibid.: 390. Type-sp.: *Tortrix rhombana* [DENIS & SCHIFFERMÜLLER], 1775—by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 15).

Croesia HÜBNER, [1825], ibid.: 392. Type-sp.: *Phalaena Tortrix bergmanniana* LINNAEUS, 1775—by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, 2, Synopsis Genera Br. Insects: 109). Subs. design. by FERNALD, 1908, Genera *Tortricidae*: 16 — *Phalaena Tortrix holmiana* LINNAEUS, 1758 — **synon. nov.**

Leptogramma STEPHENS, 1829, Syst. Cat. Br. Insects, **2**: 187. Type-sp.: *Phalaena Tortrix literana* LINNAEUS, 1758—by subs. design. (CURTIS, 1833, Br. Ent., **10**, expl. pl. 440).

Glyphisia STEPHENS, 1829, ibid.: 188, Type-sp.: *Pyralis emargana* FABRICIUS, 1777—design. by monot.

Argyrotoza STEPHENS, 1829, ibid.: 189. Type-sp.: *Phalaena Tortrix bergmanniana* LINNAEUS, 1758—by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, 2; Synopsis Genera Br. Insects; 109).*Argyrotosa* CURTIS, Appendix 2nd Ross' Voyage: 75, incorrect subs. spelling of *Argyrotoza* STEPHENS. *Argyrotoxa* AGASSIZ, 1864. Nomencl. Zool. Ind. Univ.: 33—incorrect subs. spelling of *Argyrotoza* STEPHENS.

Cheimatophila STEPHENS, 1829, ibid.: 189. Type-sp.: *Tortrix castaneana* HAWORTH [1811] = *Phalaena Tortrix schalleriana* LINNAEUS, 1761—design. by monot.

Teras TREITSCHKE, 1829, Schmett. Eur., **7**: 233. Type-sp.: [*Tortrix*] *effractana* HÜBNER, [1796—99] = *Pyralis emargana* FABRICIUS, 1775—by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, 2; Synopsis Genera Br. Insects: 109).

Paramesia STEPHENS, 1829, ibid.: 187. Type-sp.: *Tortrix gnomana* HAWORTH [1811] = *Acleris tripunctana* HÜBNER, [1796—99]—by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, 2; Synopsis Genera Br. Insect: 108). First revident (FERNALD, 1908, Genera *Tortricidae*: 24) sunk *Paramesia* as a synonym of *Acleris*, then OBRAZTSOV, 1954 : 206 accepted [*Phalaena*] *gnomana* CLERK, 1759 as the type species of *Paramesia*, however, it was not a British species (see above).

Phloiophila DUPONCHEL, 1834, Hist. nat. Lépid. Papillons Fr., **9**: 19. Type-sp.: [*Tortrix*] *irrorana* HÜBNER, [1796—99] = *Phalaena Tortrix literana* LINNAEUS, 1758—by orig. design.

Glyphiptera DUPONCHEL, 1835, ibid., **9**: 126. Type-sp.: [*Tortrix*] *irrorana* [HÜBNER, [1796—99] = *Phalaena Tortrix literana* LINNAEUS, 1758—replacement name for *Phloiophila* DUPONCHEL.

Phylacophora FILIPJEV, 1931, Ann. Mus. zool. Acad. Sci. URSS, **31** (1930): 502, 503, 508. Type-sp.: *Acleris schalleriana* HÜBNER, [1825] = *Tortrix latifasciana* HAWORTH, [1811]—by orig. design.

Ergasia ISSIKI & STRINGER, 1939, Stylops, **1** : 135. Type-sp.: *Tortrix indignana* CHRISTOPH, 1881—by orig. design. — **synon. nov.**

Forewing often with sharp apex, rarely elongate-ovate; all veins separate, in forewing r_5 to costa, apex or termen postapically. In numerous species groups

of erect scales in forewing, mainly at the pattern edges, in some species distinct costal scales extending almost vertically. Pattern oryptic, often with refractive elements.

Male genitalia (Figs 252—282): Distal lobes of tegumen more or less elongate, provided with lateral or dorsal processes; median part incised. Socius variably developed, drooping or with median or anterior base, often extending beyond tegumen. Tuba analis with strongly sclerotized ventral surface and often with subterminal process or hook. Valva with well developed, long costa and strong sacculus more or less incised medially; brachiola subtriangular or rounded apically, broad at base; spined termination variable in shape. Transtilla slender, occasionally somewhat expanding in middle posteriorly. Aedeagus species specific, usually with well developed coecum penis; cornuti capitate spines and plate-shaped sclerites. Musculature: m_1 is well developed, m_2 attached to processus basalis of valva and m_5 entering in ventral portion of valva. Lateral coremata in *A. dealbata* (YASUDA) only.

Female genitalia (Figs 637—649). Papilla analis of normal *Tortricinae* shape, exceptionally telescopical (*A. indignana*-group) or floricomous (*A. semipurpurana* (KEARF.), in *A. foliana* (WALSM.) transformed setae in mid-part of labii observed). Sterigma with distinct anterior corners atrophying in several species; colliculum absent, or in form of tubular sclerite completely fused with sterigma, or typically developed. Position of ductus seminalis variable; signum stellate or elongate spined plate in several species completely atrophied.

Early stages described by MACKAY (1962) and SWATSCHEK (1968) under *Acleris* and *Croesia*.

Bionomy. In this region the majority of the species occur in 2 generations, some however, are univoltine. The larvae live on representatives of 109 plant families. Hibernation mainly in the imaginal stage.

Distribution: All regions but Australian; the majority of the species are known of Palaearctic subregion.

Comments. The representatives of *Acleris* are highly polymorphous, and some species are extremely variable (cf. RAZOWSKI, 1984). Seasonal dimorphism occurs in several species.

The supposed autapomorphies of *Acleris* are listed on p. 176. The infrageneric system is still insufficiently studied and the status of several, rather well defined groups is unclear. They have been treated either as distinct genera or subgenera or groups of species only. *Phylacophora* was erected on basis of the long caudal lobe of the socius. Another character of this group is short, broad aedeagus. Similar socius is observed also in several other *Acleris* species, e. g. with *A. sparsana* (DEN. & SCHIFF.) but this is not correlated with the shape of the aedeagus. The latter is also variable to some degree even within the discussed group (it is rather long in *A. albiscapulana* (CHR.)). In *Rhacodia* the socii are also long and erect and the aedeagus is fairly broad but the shapes of the sterigma and the end of the sacculus are different than in the preceding group. The genus was described

on the basis of the shape of the forewing, and especially of the scales extending from its costa. Their absence in median portion of it makes an impression of a distinct concavity. So arranged scales are, however, found in some other species (e. g. in *A. quadridentana* (WALSM.)) not very closely related with *A. emargana* (F.) the type species of *Rhacodia*. Thus also this genus is treated as a group of species only. *Eclectis* shows no differences with *Acleris* as their type species, *A. aspersana* (HÜBN.) and *A. hastiana* (L.) are very closely related to one another. *A. cristana* ([DEN. & SCHIFF.]), the type species of *Lopas* is also a very close species. *Teleia* is rather close to *Phylacophora* but its females are more specialized having an additional submedian lobe of the proximal portion of the sterigma, and the dorsal process of the distal lobe of the tegumen. *Oxigrapha*, with its type species *A. literana* (L.), slightly remind *Rhacodia* in the shape of the end of the sacculus and the costal scales of the forewing similarly as *A. rhombana* ([DEN. & SCHIFF.]) the type species of *Amelia*. *Cheimatophila* (type species *A. schalleriana* (L.)) resembles to some degree *Phylacophora* but its socius has no anterior portion at all and the aedeagus is long. Apart of those named groups there are many other species or groups of species distinct by some characters, e. g *A. fimbriana* (THUNB. & BECKL.), but they neither deserve separation in distinct subgenera. In this paper I am sinking as synonyms two genera discussed below. To *Croesia* belonged over 20 species and the position of the forewing vein r_5 which reached apex or termen was treated as the most important separating character. In *A. elegans* OKU that vein reaches costa whilst in *bergmanniana*, the type species of *Croesia*, which is extremely similar and close to it the vein r_5 terminates in termen. The position of this vein is rather variable in the genus in question. There are no larger differences between the type species of *Acleris* and *Croesia*. Neither the larval characters show any generic difference between them at least judging on the diagnosis by SWATSCHEK (1958) who writes that in *Acleris* the group VII consits of 2 bristles on the 8th abdominal segment and of 1 in *Croesia*, but in the diagnosis of *bergmanniana* he mentions that there are 2 bristles on that segment. Further character of *Acleris* was the occurrence of the bristles I and III on the separate warts on the 9th abdominal segment (pointing, however, that there is some variation as the warts can be closely approached to one another). Then he describes similar arrangement of the setae with *A. forskaleana* (L.) the species placed in *Croesia*. After SWATCHEK the hooks of the prolegs are arranged in *Acleris* in two rows whilst in *Croesia* there is only one row, laterally. Based on this character he placed *holmiana* (L.) in the genus *Acleris*, despite is shows several characters similar to those of the type species of *Croesia*. On the other hand the above mentioned character may be a result of a reduction. The species included in *Croesia* hibernated as the larvae, but that character is probably inconstant in *Acleris* as some *Phylacophora* hibernate as the pupae. The genus *Ergasia* was erected on the basis of the shape of the sacculus in the male and the telescopical ovipositor in the female. But similar shape of the sacculus is found in other species, e. g. in *A. aurichalcana* (BREM.) and the mentioned form of the

ovipositor is convergent. The structure of the sterigma and colliculum vary within the group of the species close to *indignana*, the type species of *Ergasia*. No one autapomorphic character of *Ergasia* was found.

Ceracini

Three of four genera of this Oriental tribe are residents of the Palaearctic subregion. The group is very compact and the division into the genera is difficult. *Cerace* shows the most primitive venation, with well preserved median stem of both pairs of wings (*M* is even bifurcate in the hindwing), but apomorphies are not found. The differences in the male genitalia are slight and should be reconsidered on larger material. The shape of the aedeagus and valva might be of some importance. The signum being similar in all the genera (reduced only in *Bathypluta* DIAKONOFF) represent various stages of evolution. In *Eurydoxa* and *Pentacitrotus* the signum is developed as a concave dentate plate and is situated more anteriorly than in *Cerace*. In *Pentacitrotus* it seems more simple than in *Eurydoxa* but that is treated as a secondary reduction as the remaining characters are more specialized, common with *Cerace*. In the latter the signum is developed in form of a large, folded plate and is situated at the base of the ductus bursae. The shape of the colliculum and a weakly sclerotized dorsal part of aedeagus speak of a higher specialization of *Cerace*. This character is shared by *Pentacitrotus* and *Bathypluta*.

Eurydoxa FILIPJEV

Eurydoxa FILIPJEV, 1930, Dokl. Akad. Nauk SSSR (A): 373. Type-sp.: *Eurydoxa advena* FILIPJEV, 1930—design. by monot.

Ceraceopsis MATSMUMURA, 1931, 6000 Ill. Insects Japan Empire: 1068. Type-sp.: *Ceraceopsis sapporensis* MATSUMURA, 1931—design. by monot.

Antenna in male ciliate, in female pubescent. Venation somewhat variable; in forewing all veins separate, chorda from between bases of r_1—r_2 (just beyond r_1 or postmedially), *M* not preserved; in hindwing rr—m_1 and m_3—cu_1 approached to one another at median cell, or the latter extend from one point; median stem distinct.

Male genitalia (Figs 283, 284): Uncus and socius strong, arm of gnathos slender, terminal plate pointed, fairly large. Valva broad, not tapering distally, with well developed costa and sacculus. Transtilla band-shaped; juxta typical of subfamily, simple. Aedeagus slender, in distal part well sclerotized dorsally; cornuti short, noncapitate, if present.

Female genitalia (Fig. 650): Sterigma short often with distinct posterior fold from edges of which extend its lateral parts; colliculum large, weakly sclerotized or provided with inner sclerite; signum somewhat concave, dentate plate situated in postmedian or posterior part of corpus bursae.

Early stages. DIAKONOFF (1964) provided description of chaetotaxy of *advena*; the pupa of this species is described by YASUDA (1978). DIAKONOFF (1970) points out an important character of larva, viz., separation of pinaculum of seta *SD2* on abdominal segments 1—8.

Bionomy (after YASUDA, 1975). Single generation yearly; young larvae feed in needles and soon spun them forming hibernacula. Next spring they tye tips of needles to form a nest. Food plants are some conifers as *Picea* and *Abies*.

Distribution. Eastern part of Palaearctic subregion and Western Oriental region.

Comments. The probable autapomorphies of *Eurydoxa* are the structure of the distal part of the a deagus and a separation of the pinacula of seta *SD2*. The presence of the free termination of the sacculus seems be constant for the genus. Other remarks on p. 185. Of 5 known species 3 are Palaearctic in distribution and 2 Oriental.

Pentacitrotus BUTLER

Pentacitrotus BUTLER, 1881, Ill. Type Specimens *Lepid. Heterocera* Colln Br. Mus., **5**: 35. Type-sp.: *Pentacitrotus vulneratus*, BUTLER, 1881—by orig. design.

Antenna as in preceding genus. Venation also somewhat variable; in forewing all veins run separately, *M* and *pcu* wanting, chorda extending from beyond mid-distance between bases of $r_1 - r_2$, atrophying distally; in hindwing $rr - m_1$ approximate basally, $m_3 - cu_1$ originating in one point or stalked.

Male genitalia (Figs 285, 286): Uncus and gnathos as in *Eurydoxa*, socius also strong. Valva tapering distally, with fully developed costa; hairs, bristles and rather delicate spines on disc; sacculus without free termination; aedeagus broad, stout, weakly sclerotized dorsally; cornuti wanting.

Female genitalia (Fig. 651): Sterigma with small antevaginal portion and distinct funnel like concavities situated beyond roof-shaped sclerite of dorsal plate; colliculum small, partially sclerotized; signum in form of a partially concave plate provided with lateral ribs.

Early stages and bionomy unknown.

Distribution: Northern part of the Oriental region from Taiwan to Nepal; one species is known of China (Chang-Yang).

Comments. The supposed autapomorphy is the shape of the valva which is tapering posteriorly and the sclerotization of the edges of the concavities of the sterigma. The structures of the aedeagus and colliculum are probable synapomorphies of this genus and *Cerace*. Three species known to date.

Cerace WALKER

Cerace WALKER, 1863, List Specimens lepid. Insects Coll. Br. Mus., **28**: 422. Type-sp.: *Cerace stipatana* WALKER, 1863—by subs. design. (MEYRICK, 1910, Proc. Linn. Soc. N. S. W., **35**: 221).

Antenna fasciculate-ciliate in male, pubescent in female. Sex dimorphism expressed also in size, shape of wings and coloration. Forewing apex rounded or notched at the end of vein r_5. Venation: All veins separate; in forewing median stem well preserved, fused with radial stem postbasally, chorda mid-distance between bases of two first radial veins, terminating at r_4, bifurcation of anal veins very long reaching mid-length of the wing; in hindwing *M* bifurcate terminally.

Male genitalia (Figs 287—290) as in *Eurydoxa* but aedeagus broad, stout, weakly sclerotized and somewhat depressed in dorsal incisure; hairy area of valva large, often on delicate fold of membrane forming cucullus like broadening of disc; transtilla a simple, transverse sclerite.

Female genitalia (Figs 652—654): Distal portion of sterigma with weak concavities and large proximal part deeply incised ventrally and fused with swung colliculum; the latter distinctly sclerotized except for broad anterior portion from which extends dorsal ductus seminalis; signum at base of ductus bursae, in form of rather large ovate sclerite folded transversely along middle and opening distally.

Early stages. DIAKONOFF (1970) realized that the larva of *Cerace* differs from that of *Eurydoxa* in having seta *SD2* on abdominal segments 1—8 situated on joined pinacula with *SD1* and that pinacula are distinctly elevated and sclerotized.

Bionomy (after YASUDA, 1975): Two generations yearly. Hibernation in larval stage; food plants are the deciduous trees (e. g. *Acer*, *Punica* for *C. xanthocosma* DIAKONOFF).

Distribution. Oriental region, from Borneo to Nepal and eastern part of Palaearctic subregion (China, Japan and Ussuri territory in USSR).

Comments. The probable autapomorphies are the shape of the anterior part of the sterigma and its distinct incisure and joined pinacula of the setae *SD1* and *SD2* in the larval abdominal segments 1—8. In *Bathypluta* the anterior part of the sterigma is shorter and the colliculum, however fused with it, distinctly expressed; the absence of signum in that genus is seemingly of a secondary importance and the structure of the aedeagus is a synapomorphy with the genus in question and *Pentacitrotus* as far as I can judge of the illustrations in the revision of the tribe by DIAKONOFF (1950). Several species known to date.

Cnephasiini

The *Cnephasiini* was given various status (cf. RAZOWSKI, 1976). In the last period OBRAZTSOV (1955) treated it as a tribe and then I included it (RAZOWSKI, 1976) in *Archipina* on basis of the musculature of the male genitalia. The diagnosis of *Cnephasiini* was so enigmatic (cf. RAZOWSKI, 1983) that the genera of various tribes have been located in it. Despite in the above mentioned paper I treated *Cnephasiini* as a group of genera only its first probable aut-

apomorphy, viz., the presence of the minute spines of the uncus was mentioned. Now I am including in *Cnephasiini* 15 genera of which only one is Nearctic and the other are Palaearctic in distribution.

The systematic arrangement of the genera is far of definite. That used in this paper is to some degree intuitional and partially based on the system suggested in Polish *Lepidoptera* (RAZOWSKI, 1981a). No sufficient synapomorphies are found to date; many characters are inconstant and variably distributed in the tribe, as for instance the shapes of the uncus, gnathos or colliculum. The gnathos shows a tendency to atrophy and is completely absent in two genera. Its terminal plate is completely reduced in the majority of *Eana* species. The transtilla is in many genera weakly sclerotized, minutely spined, convex and producing distally. Its median part is more or less strongly differentiated. In the outer surface of the valva often occurs a sclerotized pocked situated postbasally and its presence is not correlated with the other characters. Neither it can be regarded as an autapomorphy of the tribe as a similar structure is found in the *Archipini* genus *Scotyophyes* (cf. p. 219).

Of the system proposed by OBRAZTSOV (1955) two genera, *Olindia* and *Isotrias*, are transferable to *Polyorthini* (RAZOWSKI, 1979c). *Palpocrinia* to *Eucosmini* (OBRAZTSOV, 1968) and *Eulia* to *Euliae*, a subtribe now placed in *Archipini*. To that tribe I am also transferring *Synochoneura* characterized with funnel-shaped signum and different than in *Cnephasiini* structure of the uncus. Of that system only *Propiromorpha* is traditionally retained, despite it was placed in it on basis of the spined signum and slender uncus. Both characters are, convergent, however, the signum seems very close to that in the representatives of this tribe. The uncus is not spined and the ovipositor is not specialized. *Xerocnephasia* characterizes with broad, little specialized base of the uncus and the labii of normal *Tortricinae* shape. All the remaining genera but 2 species of *Cnephasia* characterize with floricomous ovipositor and the eighth tergite highly specialized. Their sterigma is usually plate-shaped, concave near the ostium (exception: *Neosphaleroptera*). The sclerite surrounding the ostium extends proximally to various degrees and is treated as a part of the sterigma what is supported by its development in some *Eana* species. The colliculum is situated anteriorly to that sclerite and is often distinctly separable (*Cnephasia communana* (H.-S.), *Eana derivana* (LAH.)) or completely fused. Broad, membranous colliculum is found in *Doloploca* and some *Oxypteron* and in a little altered form also in *Euledereria*. Those genera seem closely related to one another. *Amphicoecia* and *Oporopsamma* are very similar to the genera of that group as some characters in the male genitalia show but their females lack the colliculum. The following group may prove artificial (*Epicnephasia*, *Exapate*, *Kawabeia* and *Tortricodes*). The venation is in all of them similar (in the hindwing $m_2 - m_3$ are stalked or m_3 is absent) and the veins in the forewing are shortened. The sterigma is broad, plate-shaped and the remainders of the bulbous colliculum are preserved (in *Epicnephasia* the female genitalia remain unknown). The position

of *Eana* is also doubtful. The shape of the sacculus is similar to that in the preceding genera as the angulation of its ventral edge shows, but its distal part is simplified. The uncus in *Eana* is hort, with large basal lobes (similar to that in *Doloploca*) but in some species it is more simple, with oblique lobes. The sterigma is usually slender and the colliculum in the majority of the species is atrophied. *Cnephasia* is the largest genus of this tribe, characterized with a presence of the setose end of the sacculus. The angulation of the ventral edge of the sacculus is atrophied and the shape of the whole valva is probably secondarily simplified. *Archicnephasia* is seemingly an off-shoot of *Cnephasia*. The European *Cnephasiini* were revided by me in 1959, the Palaearctic in 1965.

Propiromorpha Obraztsov

Propiromorpha Obraztsov, 1955, Tijdschr. Ent., **98**: 156. Type-sp.: *Penthina rhodophana* Herrich-Schäffer, 1851 — by orig. design.

Venation: In forewing all veins separate, m_3 approaching cu_1 at base, r_5 to termen postapically; chorda weak; in hindwing $rr-m_1$ stalked to middle; m_3-cu_1 very close to one another at median cell or from one point.

Male genitalia (Fig. 291) with rather broad tegumen and slender, distinctly sclerotized, smooth uncus situated subapically; socius elongate, fairly slender; gnathos simple; vinculum slender, simple. Valva weakly tapering postmedially; sacculus slender with free termination; costa well developed. Transtilla a broad, transverse band, folded dorso-proximally, spined dorsally; juxta plate-shaped; aedeagus simple; caulis short; cornuti wanting.

Female genitalia (Figs 655, 656). Papilla analis not specialized; sterigma fairly broad, with lateral parts tapering terminally and plate shaped sclerite protecting ostium area ventrally; colliculum in to which that sclerite enters to before middle in form of membranous broadening; ductus seminalis ventral, anterior; signum long, dentate.

Early stages: No data.

Bionomy: Single generation yearly; larva in seeds of *Clematis*.

Distributed throughout the subregion from Iberian Peninsula to China except for its northern and most southern parts.

Comments. The genus is monotypical. Its probable autapomorphies are broad, spined transtilla, the upturned, strong base of the costal portion of the valva and subdorsally situated uncus.

Xerocnephasia Leraut

Xerocnephasia Leraut 1979, Alexanor, **10** (8): 340. Type-sp.: *Tortrix rigana* Sodoffsky, 1829—by orig. design.

Venation. In forewing all veins run separately, chorda extending just beyond base of r_1; in hindwing $rr-m_1$ long stalked.

Male genitalia (Figs 292—294): Basal lobes of uncus broad, short; uncus slender, in some specimens minutely scarcely spined; socius large; gnathos terminating in large, wedge-shaped plate; vinculum slender; valva broad to ventral angulation of sacculus; aedeagus slender, with 3 large apodemes of its muscles; central part of transtilla distinct, spined.

Female genitalia (Figs 657—659): Papilla analis slender, not specialized; anterior part of sterigma cup-shaped, posterior broad, with distinct submedian pit; colliculum long; ductus seminalis dorsolateral, antemedian; signum consisting or several spines arranged in a row. Subgenital sternite (Fig. 659) provided with peculiar scent organs in form of two lateral and single posterior pits.

Early stages. Chaetotaxy described by SWATSCHEK (1958).

Distribution: Transpalaearctic.

Comments. The genus is monotypical. Its supposed autapomorphies are the presence of the posterior pit in the female subgenital sternite and the shape of the colliculum. The genus was known under the name *Trachysmia* GUENÉE but the designation of its type-species was incorrect (FERNALD, 1908, Genera *Tortricidae*: 30—secondary designation). First designation was by DESMAREST (1857) and *Sericoris duponchelana* DUPONCHEL, 1843 was selected for the type-species. Thus *Trachysmia* replaced *Hysterosia* in the *Cochylini* (cf. p. 155) and for *rigana* the new name *Xerocnephasia* was proposed by LERAUT.

Neosphaleroptera RÉAL

Neosphaleroptera RÉAL, 1953, Bull. mens. Soc. Linn. Lyon, **22**: 56. Type-sp.: [*Tortrix*] *nubilana* HÜBNER, [1796—99]—by orig. design.

Venation: All veins separate; chorda rather weakly developed.

Male genitalia (Figs 295—297): Uncus strong, minutely spined except for basal lobes which resemble those in the two preceding genera; gnathos primitive; vinculum simple, slender. Valva fairly broad, with non-angulate sacculus provided with subterminal process of ventral edge; transtilla band-shaped with small median prominence; juxta broad with short anellus lobes; aedeagus with distinct caulis and small apodeme at top of coecum penis.

Female genitalia (Figs 660, 661): Ovipositor floricomous; eighth tergite specialized; sterigma cup-shaped, with distinct antevaginal part and proximal prominences; small ventral sclerite fused with sterigma may represent a structure of colliculum; ductus seminalis subdorsal, situated medially on very short ductus bursae; signum reduced to indistinct group of spines.

Early stages: Chaetotaxy described by SWATSCHEK (1958).

Bionomy. One generation yearly; larva in spun leaves of deciduous trees and bushes, mainly on *Crataegus*; hibernation in larval stage.

Distribution: Western part of the subregion except for its south.

Comments. Monotypical genus. The probable autapomorphy is the shape of the sterigma. SWATSCHEK (1958) supposes that this genus is closest to *Cnephasia*. The sexual dimorphism is pronounced in the shape of the forewing and coloration.

Amphicoecia RAZOWSKI

Amphicoecia RAZOWSKI 1975, Acta zool. crac., **20** (3): 110. Type-sp.: *Torticodes adamana* KENNEL, 1919—by orig. design.

Venation: All veins but hindwing m_2 present; $rr-m_1$ separate.

Male genitalia (Figs 298, 299): Uncus delicate with setose, oblique basal lobes and fairly short median, slender rod; pedunculus long; gnathos very slender with minute terminal plate; socius well developed; vinculum strong but simple. Valva long with outer pocket-shaped concavity near base and strong sacculus concave ventrally. Basal lobes of end of coecum penis large.

Female genitalia (Figs 662, 663): Sterigma fairly broad; ostium bursae anterior; colliculum weak, provided with internal sclerite; ductus seminalis dorsal; signum absent. Scent organ in form of a pair of large lateral concavities of anterior portion of subgenital sternite.

Early stages: No data.

Bionomy. One generation yearly.

Distribution: Central Siberia.

Comments. Originally I included in this genus 3 species but 2 of them need reexamination. The probable autapomorphy of this genus is the presence of minute spines on the distal portion of the sacculus and the synapomorphy of *Amphicoecia* and *Oporopsamma* is seemingly the concave postmedian part of the sacculus. In *Oporopsamma* the gnathos is completely reduced and the coecum penis is normally developed, however, its lateral apodemes resemble the lobes of that part of genitalia in the genus in question.

Oporopsamma GOZMÁNY

Oporopsamma GOZMÁNY, 1954. Annls hist.-nat. Mus. natn. hung. (n. ser.) **5**: 274. Type-sp.: *Cnephasia wertheimsteini* REBEL, 1913—by orig. design.

Venation as in preceding genus; sexual dimorphism slight, expressed mainly in the shape of the forewing.

Male genitalia (Figs 300—302) as in preceding genus but gnathos wanting, distal part of sacculus without minute spines and coecum penis well developed, armed with complicate set of apodemes of muscles 5 and 6.

Female genitalia (Fig. 644): Sterigma with slender lateral parts and distinct proximal cup; signum wanting; ductus seminalis subdorsal.

Early stages: No data.

Bionomy: Single generation yearly; food-plant: *Chondrilla*.

Distribution: From Central Europe (Czechoslovakia, Hungary) to Azerbaydzhan.

Comments. Occasionally *Oporopsamma* was treated as a synonym of *Oxypteron* on basis of the absence of the gnathos but differs from it in having outer pocket-shaped sclerite of the valva and grooved sacculus. Besides this, *Oxypteron* developed a peculiar cornutus and a bulbous colliculum. The genus is treated as monotypical. The differences to the preceding genus (cf. above) are slight and the two genera could be synonymous despite the presence of the weak gnathos in *Amphicoecia*.

Euledereria Fernald

Euledereria Fernald, 1908. Genera *Tortricidae*: 59, 68. Type-sp.: *Tortrix alpicolana* Frölich, 1828—by orig. design.

Eulederia Fernald, 1908, ibid.: 31 — incorrect spelling replaced by *Euledereria*.

Venation: In forewing all veins separate, in hindwing $rr-m_1$ and m_3-cu_1 from one point or very short stalked; chorda and median stem in forewing wanting; *pcu* rudimentary. Sexual dimorphism distinctly expressed in the form of the wings, is in female very slender, acute and hindwing in very strongly reduced. The female venation is also reduced and in the hindwing $rr-m$ are stalked to beyond middle, close to m_2 at median cell; m_3-cu_1 very short, stalked to middle; cu_2 very short; anal veins rudimentary.

Male genitalia (Figs 303, 304): Tegumen delicate, with very long pedunculi; uncus as in preceding genus; gnathos delicate with broad, subsquare median portion; vinculum strong, simple. Valva broad basally, with delicate costa and strong sacculus terminating in a pair of finger-like processes; no outer cup-shaped sclerite in basal area. Transtilla membranous with double distal convexity; juxta large with attached median sclerite connecting very strong caulis. Aedeagus long, terminating in slender process.

Female genitalia (Fig. 665): Lateral postvaginal parts of sterigma broad; ostium bursae at the end of long, tubular sclerite which most probably represents fused parts of the sterigma and colliculum; the latter extends proximally in a membranous sack provided with median sclerite ventrally. Ductus seminalis from dorsal part of colliculum at base of ductus bursae. Signum wanting. Subgenital sternite fused with anterior edge of ostium sclerite, extending in distal part laterally.

Early stages: No data.

Bionomy: One generation yearly; bound with high mountains.

Distribution: Pyrenees and Alps.

Comments. The supposed autapomorphies are the median broadening of the gnathos, the tubular sclerite of the sterigma fused with the colliculum and seemingly the shape and connecting point of the caulis with the juxta. The shape of the subgenital sternite in the female seems be also unique in *Cnephasiini*.

The distal postion of the sacculus is somewhat concave what could be homologous with that structure in the two preceding genera. The genus contains one described species at least 2 other very close ones. Occasionally *alpicolana* was placed in *Sphaleroptera* GUENÉE, the subjective junior synonym of *Cnephasia* CURTIS as MEYRICK (1913) mistakenly mentioned it as the type-species of the former.

Doloploca HÜBNER

Doloploca HÜBNER, [1825], Verz. bekannter Schmett.: 387. Type-sp.: *Tortrix punctulana* [DENIS & SCHIFFERMÜLLER], 1775—by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 14).

Venation: All veins run separately; chorda from before base of r_1, median stem well developed; in hindwing veins m_3—cu_1 very close to one another at the median cell. Sexual dimorphism mainly in the shape of antenna which in male is more strongly ciliated than in female.

Male genitalia (Figs 305, 306): Uncus slender, with distinct, extending posteriorly lateral parts or lobes; gnathos delicate, with weak, wedge-shaped terminal plate; pedunculi long; vinculum as in preceding genus. Basal part of valva broad, terminal portion slender, median part swung; outer cup-shaped sclerite developed; termination of sacculus bilobe, both processes situated longitudinally. Juxta with produced dorsal corners; transtilla provided with large distinctly sclerotized median part and minutely spined, broad opposite surface. Aedeagus with terminal or lateral process or dent.

Female genitalia (Fig. 666): Lateral parts of sterigma slender, sharp apically; ostium bursae broad; colliculum bulbous, without sclerites; ductus bursae short; signum spined, usually drop-shaped. Subgenital sternite (Fig. 667) deeply incised in middle posteriorly, with pair of large, lateral sacks situated in membrane just beyond stigma.

Early stages: Chaetotaxy described by SWATSCHEK (1958) who points out that *Doloploca* is very close to *Exapate*.

Bionomy. One generation yearly; hibernation probably in pupal stage. Larvae polyphagous on deciduous trees and shrubs, e. g. *Berberis*, *Lonicera*, *Ligustrum*.

Distribution: Almost whole subregion; of 5 species one is distributed in Central and South Europe, the remaining ones in Asia.

Comments. The probable autapomorphies are the erect basal lobes of the uncus and the shape of the transtilla with its large median part and spined area. The shape of the sacculus processes and their arrangement is almost identical as in preceding genus.

Oxypteron STAUDINGER

Oxypteron STAUDINGER, 1871, Berl. ent. Z., **14** (1870): 276. Type-sp.: *Oxypteron impar* STAUDINGER, 1871—design. by monot.

Gynoxypteron SPEISER, 1902, Berl. ent. Z., **47**: 142. Type-sp.: *Oxypteron impar* STAUDINGER, 1871 (hereditarius). Unjustified replacement name for *Oxypteron* STAUDINGER treated as homonymous with *Oxypterum* LEACH, 1817.

Psammozesta GOZMÀNY, 1954, Annls hist. nat. Mus. natn. hung. (n. ser.), **5**: 274. Type-sp.: *Oxypteron Psammozesta neogena* GOZMANY, 1954 = *Tortricodes polita* WALSINGHAM, 1907—by orig. design.

Venation: In forewing all veins separate; r_5 to apex; chorda well developed, extending far from before base of r_1; median stem atrophied; in hindwing veins $rr—m_1$ from one point of median cell; m_2 far from cu_1; m_3 absent (or fused with cu_1). Sexual dimorphism distinctly expressed in the shape of the forewing in the type species, in other species less strongly expressed. Female of *impar* is narrow winged, with forewing shorter than in male.

Male genitalia (Figs 307—312): Unucs delicate, with oblique basal lobes; socius delicate, showing a tendency to atrophy; gnathos wanting; tuba analis in type-species well visible; vinculum rather strong, simple. Valva with variably developed sacculus which in the type-species is simple, indistinctly angulate postbasally, with sharp free end, and in other species some prominences or processes may occur in median or terminal portions; costa simple or with distal broadening or dent. Transtilla weakly sclerotized or membranous; juxta provided with subdorsal prominence directed distally or with elongate dorsal corners. Aedeagus with one or two cornuti in vesica, broad caulis and strong coecum penis.

Female genitalia (Figs 668—670): Sterigma with short lateral parts; ostium bursae often protected with sclerite; colliculum bulbous, with weak sclerite or entirely membranous, if developed; in type-species ductus bursae in major part well sclerotized, in *O. schawerdai* (REBEL) only submedian part of ductus bursae is strongly sclerotized. Signum absent.

Early stages: No data on chaetotaxy.

Bionomy: Probably one generation yearly.

Distribution: Southern belt of western part of the subregion, from Iberian Peninsula to Central Asia.

Comments. The probable autapomorphy is the presence of the cornutus developed in form of a horn like sclerite or a spined plate. The colliculum is identical with that in *Doloploca* or is probably secondarily reduced; the transtilla resembles that in *Oporopsamma*; the outer cup-shaped concavity of the base of the valva is wanting. About ten species described.

Epicnephasia DANILEVSKY

Epicnephasia DANILEVSKY, 1963, Russk. ènt. Obozr., **42**: 170. Type-species: *Epicnephasia mongolica* DANILEVSKY, 1963—by orig. design.

Venation: In forewing all veins run separately but $m_2—m_3$ very short stalked (a teratological case?); in hindwing $rr—m_1$ on a very short stalk, the stalk of $m_1—m_2$

twice longer. Sexual dimorphism very strong; the female is micropterigous, similar to that in *Exapate*.

Male genitalia (Figs 313, 314): Uncus broad, spined, with oblique basal lobes; postmedian parts of gnathos broad, terminal plate sharp. Valva slender; sacculus with weak postbasal angle, without free termination. Transtilla provided with broad, minutely spined central part directed distally; aedeagus simple.

Female genitalia not examined.

Bionomy and early stages unknown.

Distribution: Mongolia.

Comments. The systematic position of this genus is unclear; the probable autapomorphies are the postbasal broadenings of the gnathos arms and the shape of the uncus.

Exapate HÜBNER

Exapate HÜBNER, [1825], Verz. bekannter Schmett.: 387. Type-sp.: *Phalaena Tinea gelatella* LINNAEUS, 1761 = [*Phalaena*] *congelatella* CLERK, 1759—design. by monot.

Scinipher FRÖLICH, 1828. Enumeratio Tortr. Würtemb.: 12. Type-sp.: [*Tortrix*] *gelatana* HÜBNER, [1819] = [*Phalaena*] *congelatella* CLENCK, 1759—by orig. design. *Sciniphes* [sic]! FRÖLICH, ibid.: 103—unjustified subs. spelling.

Cheimaphasia CURTIS, 1833, Entomologist's Mag., 1: 190. Type-sp.: *Phalaena Tinea gelatella* LINNAEUS, 1761 = [*Phalaena*] *congelatella* CLERCK, 1759—design. by monot.

Cheimonophila DUPONCHEL, 1838, Annls Soc. ent. Fr., 7: 131. Type-sp.: as for *Cheimaphasia*—design. by monot.

Enyphantes FERLAND, 1908, Genera *Tortricidae*: 3, 14. Type-sp.: *Phalaena congelatella* CLERCK, 1759—by orig. design. *Enyphantes* HÜBNER, 1806, Tentamen: 2 — invalid. A praeoccupied name by *Enyphantes* HÜBNER, 1882, Syst.-aplhab. Verz.: 67.

Bristles of antenna long, in male grouped mainly in posterior parts of joints; haustellum slender, short; long scales on labial palpus ventrally, similarly as in preceding genus. Venation: In male forewing all veins run separately and chorda is weakly developed extending from middle of distance between bases of r_1—r_2, in hindwing rr—m_1 from one point, remaining veins separately. In female forewing chorda wanting, three or four radial veins preserved, r_5 to termen, or only r_4 and r_5 developed, median veins and cu_1 very short, second cubital vein absent, anal vein not bifurcate.

Male genitalia (Figs 315, 316): Uncus on distinct neck, short, not spined, with broad basal lobes armed with minute spines; socius delicate; gnathos strong, with distal parts of arms covered with spines and with elongate terminal plate. Valva slender; ventral angle of sacculus small. Transtilla with delicate, spined median part; juxta provided with long dorso-lateral processes; aedeagus small, with long coecum penis and distinct, bifurcate caulis.

Female genitalia (Fig. 671): Sterigma plate-shaped, in distal portion membranous; colliculum delicate, rather strongly sclerotized; ductus seminalis posterior; signum wanting.

Early stages. SWATSCHEK (1958) provides description of chaetotaxy and shows some similarities with *Doloploca*.

Bionomy. Single generation yearly; hibernation in stage of egg, however, occasionally hibernate also the pupae. Larva is polyphagous and was found to feed on several deciduous trees and bushes (e. g. *Malus*, *Vaccinium*).

Distribution. Known from western part of the subregion as far as to Kazakhstan (*congelatella*), one species is endemic in Alps.

Comments. The supposed autapomorphies are the shape of the uncus and presence of its base connecting it with the tegumen and spined arms of the gnathos. The shape of the coecum penis requires further study. Its distal portion originates probably of true coecum and its apodemes. Two species known to date. Female micropterous.

Kawabeia OBRAZTSOV

Kawabeia OBRAZTSOV, 1965 (IV), Tijdschr. Ent., **108**: 29. Type-sp.: *Cheimatophila ignavana* CHRISTOPH, 1881—by orig. design.

Kawabea RAZOWSKI, 1965 (VI), Acta zool. crac., **10** (3): 293. Type-sp.: *Cheimatophila ignavana* CHRISTOPH, 1881—by orig. design.

Habitus as in *Tortricodes*. Venation: In forewing all veins separate; chorda from before middle distance between bases of r_1—r_2; trace of median stem very slight, posterior; in hindwing *rr* stalked with m_1 to 1/4; m_3 wanting.

Male genitalia (Figs 317—319): Uncus strong, with slender, basal lobes, both delicately spined; socius broad; gnathos arm strong with terminal plate delicate, tapering posteriorly. Valva broad basally, slender or very slender terminally; sacculus simple or with hooked termination. Transtilla more or less strongly sclerotized, with large median part, not spined; juxta fused with caulis. Aedeagus with dorsal main portion delicate, accompanied with broad ventral pocket-shaped sclerite.

Female genitalia (Fig. 672) strongly sclerotized, with strong apophyses and large sterigma membranous around small ostium and with distinct ventral fold directed dorsally; ductus seminalis subventral; signum typical of tribe, if present.

Bionomy: One generation a year. Early stages unknown.

Distribution: Eastern part of the Subregion from Central Siberia to Japan.

Comments. The probable autapomorphies of this genus are the presence of ventral part of the aedeagus and the dorsal emargination of the proximal edge of the sterigma. Besides the sclerotization of the sterigma the fusion of the caulis and juxta may prove a synapomorphy with the following genus. Three species known to date.

Tortricodes Guenée

Tortricodes Guenée, 1845, Annls Soc. ent. Fr., (2) 3: 305. Type-sp.: [*Tortrix*] *hyemana* Hübner, [1819] = *Tinea alternella* [Denis & Schiffermüller], 1775—by subs. design. (Walsingham, 1907, Entomologist's Mag., 43: 193).

Oporinia Hübner, [1825], Verz. bekannter Schmett.: 387. Type-sp.: *Tinea tortricella* [Denis & Schiffermüller], 1775 = *Tinea alternella* [Denis & Schiffermüller]. 1775—by subs. design. (Westwood 1840. Introd. mod. Classif. 2. Synopsis Genera Br. Insects: 111)

Antenna not uniformly ciliated; haustellum strongly reduced. Venation: In forewing all veins separate; chorda ill-defined; postcubital vein atrophied in median portion; in hindwing veins rr—m_3 short stalked; m_1 wanting.

Male genitalia (Figs 320—322): Uncus strong, spined, with small basal lobes devoid any spines; socius well developed; gnathos strong, with wedge-shaped terminal plate; vinculum strong. Valva broad anteriorly, with strongly expanding dorsal portion of basal part of costa; sacculus heavily sclerotized, with subdorsal fold medially; cup-shaped sclerite in basal corner of valva; transtilla membranous with slender sclerotized rods fused with costa; juxta fused with caulis; aedeagus with slender introminent part armed with pair of thin processes situated laterally; apodemes of muscles large; coecum penis slender.

Female genitalia (Fig. 673) similarly as male genitalia strongly sclerotized; sterigma semicircular with membranous ostium area; colliculum distinctly sclerotized, curved; ductus seminalis subdorsal; signum weak.

Early stages. Chaetotaxy of larva described by Swatschek (1958) who realized that *Tortricodes* has an isolated systematic position in the tribe.

Bionomy. One generation yearly; hibernation in pupal stage. Larva in spun leaves of various deciduous trees, and shrubs.

Distribution: Europe.

Comments. Two species belong in this genus, however, one requires reexamination. The supposed autapomorphies are the shape of the transtilla, aedeagus and colliculum.

Eana Billberg

Eana Billberg, 1820, Enumeratio Insectorum: 90. Type-sp.: *Tortrix penziana* Thunberg & Bœklin, 1791—by subs. design. (Fernald, 1908, Genera *Tortricidae*: 51).

Nephodesme Hübner, [1825], Verz. bekannter Schmett.: 390. Type-sp.: *Tortrix penziana* Thunberg & Becklin, 1791—by subs. design. (Fernald, 1908, ibid.: 15, 53). *Nephodesma* Stephens, 1834, Ill. Br. Ent., *Haustellata*, 4: 127—incorrect subs. spelling of *Nephodesme*.

Venation: all veins separately or in hindwing m_3—cu_1 from one point of median cell; chorda weak, opposite to base r_1.

Male genitalia: Basal lobes of uncus broad, more or less upturned laterally, exceptionally oblique; socius well developed, usually weakly sclerotized; gnathos delicate, without terminal plate, exceptionally with rudimentary termination

or hooked. Valva long; costa slender; sacculus with smooth free termination and well expressed postbasal angle; no cup-shaped sclerite of outer surface. Transtilla strongly broadening and extending distally in middle, provided with minute spines, but with weak lateral parts; juxta fairly large, often distinctly concave in middle of distal edge. Aedeagus simple, often with well developed dorso-terminal portion or its apical remainders.

Female genitalia: Sterigma rather short, with elongate, often sharp lateral parts and short cup-shaped proximal portion; colliculum often developed; signum a slender dentate plate.

The genus is divided into 3 subgenera characterized as follows.

Subgenus 1: *Eutrachia* HÜBNER

Eutrachia HÜBNER, [1822], Syst.-alphab. Verz.: 58, 77. Type-sp.: *Tortrix magnana* ZINCKEN, 1821 = [*Phalaena*] *argentana* CLERCK, 1759—by subs. design.

Ablabia HÜBNER, [1825], Verz. bekannter Schmett.: 383. Type-sp.: *Tortrix quadripunctana* HAWORTH, [1811] = *Phalaena osseana* SCOPOLI, 1763—by subs. design. (WESTWOOD, Introd. mod. Classif. Insects, **2**, Synopsis Genera Br. Insects: 108).

Argyroptiera DUPONCHEL, 1834, Hist. nat. Lepid. Papillons Fr., **9**: 24. Type-sp.: *Phalaena argentana* CLARKE, 1759—by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 28).

Male genitalia (Figs 326—332). Basal lobes of uncus oblique, gradually expanding anteriorly, without lateral prominences; distal part of vesica sclerotized, armed with dent.

Female genitalia (Figs 675, 676): Sterigma without cup-shaped portion; colliculum elongate, somewhat stronger sclerotized than ductus bursae; ductus seminalis from dorsal portion of colliculum.

Early stages. SWATSCHEK (1958) describes chaetotaxy of the type-species noticing that the genus is well defined.

Bionomy. Eggs. deposited in groups and covered with excretion hardening to the air and with scales of female abdomen. Young larva of *argentana* builts a silken hibernaculum and starts eat in spring. Polyphags, often feeding on grasses on the roots of which they build silken galleries.

Distribution: Holarctic Region; some species are widely distributed in the region, other are endemic in smaller territories.

Comments. Five species known to date. The supposed autapomorphies are the shape of the anterior part of the sterigma and the presence of the sclerite of the vesica. The membranisation of the median part of the gnathos may prove convergent.

Subgenus 2: *Subeana* OBRAZTSOV

Subeana OBRAZTSOV, 1962, J. Lepidopterist's Soc., **16** (3): 177. Type-sp.: *Sciaphila canescana* GUENÉE, 1845—by orig. design., established as subgenus of *Eana* BILLBERG.

Male genitalia (Figs 333, 334): Lobes of uncus steep; gnathos terminating in a hook; lateral parts of transtilla broad; terminal part of vesica sclerotized dorsally.

Female genitalia (Fig. 677): Lateral parts of sterigma slender, tapering apiccaly, anterior portion funnel-shaped, sclerotized; ductus seminalis extending from a broadening at base of ductus bursae.

Early stages and bionomy unknown. Probably one generation a year at least in Central Europe.

Distribution: Central and partially southern Europe.

Comments. The supposed autapomorphies are the hook-shaped termination of the gnathos and trapezoidal shape of the transtilla. Other characters are shared with the following subgenus. Three species described to date.

Subgenus 3: ***Eana*** BILLBERG, s. str.

Male genitalia (Figs 324, 325): Lateral parts of basal lobes of uncus more or less broadening or up-turned; terminal part of gnathos uniformly broad or slightly broadening, exceptionally with a very small plate; central part of transtilla strong, minutely spined; vesica usually with delicate sclerite, or completely membranous.

Female genitalia (Fig. 672): Lateral parts of sterigma slender, often shortened; dorsal portion more or less concave dorsally or simple as in preceding subgenus; colliculum in majority of species ill-defined or absent and then distal part of ductus bursae directly fuses with funnel-shaped, sclerotized part of sterigma. In majority of species ductus bursae bent subterminally; ductus seminalis as in preceding subgenus.

Early stages: No published data.

Bionomy. One generation yearly; larvae polyphagous feeding on various parts of plants.

Distribution: Palaearctic subregion only.

Comments. The only probable autapomorphy is the shape of the basal lobes of the unucs. In this subgenus belong the majority of the species of *Eana* (ca. 30) showing slight external differences. The genital differences are in some cases also indistinct and some species need reexamination. The synapomorphy of *Subeana* and *Eana* is the position of the ductus seminalis and most probably the presence of the sclerotized funnel like part of sterigma.

Archicnephasia RAZOWSKI

Archicnephasia RAZOWSKI, 1983, Nota lepid., **6** (4): 232. Type-sp.: *Archicnephasia hartigi* RAZOWSKI, 1983—by orig. design.

Venation: In forewing all veins separate; in hindwing $rr-m_1$ stalked to 1/3 and m_3-cu_1 to middle.

Male genitalia (Figs 335—337): Uncus slender, long, spined except for delicate basal lobes; socius slender; terminal plate of gnathos subtriangular, tapering terminally; subscaphium well sclerotized. Valva broad with long costa and short terminal portion; sacculus large, provided with spined termination grooved postmedially; cup-shaped sclerite at base of valva subcostally. Juxta concave medially; transtilla well sclerotized, doubly curved. Caulis strenghtened with ventral and dorsal extentions of lateral edges.

Female genitalia, early stages and bionomy unknown.

Distribution: Italy (known of the type locality only).

Comments. The supposed autapomorphies of this genus are the grooved sacculus, doubly curved transtilla, stout spined terminal part of the sacculus and strenghtening extensions of the lateral edges of the caulis. The genus is monotypical.

Cnephasia CURTIS

Cnephasia CURTIS, 1826, Br. Ent., 3, expl. pl. 100. Type-sp. *Tortrix logiana* HAWORTH, [1811] = *Olethreutes pasiuana* HÜBNER, [1822]—by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 4).

Dolophora STEPHENS, 1834, Ill. Br. Ent., *Haustellata*, **4**: 127. Type-sp.: *Tortrix longana* HAWORTH, [1811]—by monot. Objective junior synon. of *Sphaleroptera* GUENÉE, probably an incorrect subsequent spelling of *Doloploca* HÜBNER, corrected in the errata of same work for *Dolophoca* (STEPHENS, 1835, ibid.: 2).

Sciaphila TREITSCHKE, 1829, Schmett Eur., **7**: 233. Type-sp.: *Sciaphila wahlbomiana*: TREITSCHKE, 1829 — *Sciaphila alticolana* HERRICH-SCHÄFFER, 1851—by subs. design. (DUPONCHEL, 1834, Annls Soc. ent. Fr., **3**: 447).

Sphaleroptera GUENÉE, 1845, Annls Soc. ent. Fr., **3** (2): 167. Type-sp.: *Tortrix longana* HAWORTH, [1811] — by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 30). Cf. note on *Sphaleroptera*, p. 193.

Hypostephanuntia RÉAL, 1951, Bull. mens. Soc. Linn. Lyon, **20**: 229. Type-sp.: *Cnephasia ecullyana* RÉAL, 1951—by origin. design. Established as a subgenus of *Cnephasia* CURTIS.

Anoplocnephasia RÉAL, 1953. Bull. mens. Soc. Linn. Lyon, **22**: 51. Type-sp.: *Sciaphila sedana* CONSTANT, 1884—by orig. design. Established as a subgenus of *Cnephasia* CURTIS.

Brachycnephasia RÉAL, 1953, ibid.: 57. Type-sp.: *Tortrix longana* HAWORTH, [1811]—by orig. design. Established as a subgenus of *Cnephasia* CURTIS, object. jun. synon. of *Sphaleroptera* GUENÉE.

Venation: All veins run separately, but in hindwing $rr-m_1$ and m_3-cu_1 may originate in one point or, exceptionally the former pair of vein is stalked to 1/3 (*Cnephasiella*). Chorda is preserved to various degrees, usually is vestigial, originating just beyond base of r_1.

Male genitalia (Figs 338—351): Uncus usually long, minutely spined, with delicate basal lobes, or with their oblique, broadening anterior portions; socius small; gnatos terminating in a plate; vinculum somewhat broadening subventrally. Valva slender, with long costa; sacculus more or less long, in some cases variable specifically (e. g. *C. interjectana* (HAW.)), provided with densely spined or, exceptionally, squamose free termination. Transtilla membranous, convex

in middle distally, seldom setose ventrally, with more or less distinct median sclerite in form of transverse band; juxta delicate, usually strongly incised dorsally. Aedeagus variable in shape, simple or with dents, often with well preserved dorso-posterior sclerite.

Female (Figs 678—682): Papilla analis of floricomous type except for two species in which ovipositor is telescopical; sterigma more or less broad semicircular plate or with better expressed lateral parts which in some species are slender; anterior portion occasionally sclerotized, in form of a short tube; colliculum often present, broader than ductus bursae, in many species strenghtened with internal sclerite; ductus seminalis usually ventro-anterior. Signum species specific, seldom wanting.

Early stages. Chaetotaxy described by SWATSCHEK (1958) on basis of two well determined species and by MACKAY (1962) on basis of 3 species. They form a rather compact group, and the differences between the representatives of the subgenera are small.

Bionomy. In Europe one generation yearly; no exact informations from other, more southern territories. Hibernation in larval stage; larvae polyphagous.

Distribution. The majority of species are known of western half of this subregion, and only one species is recorded from Far East; two species were probably artificially introduced to Nearctic Subregion, two ones are Oriental.

Comments. The supposed autapomorphy is the presence of the spined termination of the sacculus which is different than in the preceding genus. However, in several species sacculus is simple, without spined end. Two subgenera are distinguished.

Subgenus 1: *Cnephasiella* ADAMCZEWSKI

Cnephasiella ADAMCZEWSKI, 1936, Annls zool. Warsz., **11**: 268. Type-sp.: *Sciaphila incertana* TREITSCHKE, 1835—by orig. design. *Cnephasianella* BENANDER, 1950, Svensk Insektfauna, **10**: 46—incorrect subs. spelling of *Cnephasiella*.

Venation: Veins $rr-m_1$ in hindwing stalked to 1/3.

Male genitalia (Figs 338, 339) as in nominate subgenus but uncus without spines and terminal part of gnathos broad, minutely spined.

Female genitalia (Fig. 678) with telescopical ovipositor and long, weak sclerite in distal half of ductus bursae.

Early stages. Chaetotaxy of larva described both by SWATSCHEK (1958) and MACKAY (1962). SWATSCHEK supposes that the separation of *Cnephasiella* in a distinct genus is justifiable.

Bionomy: As described for the genus.

Distribution: Western part of the subregion: Europe and Near East.

Comments. This monotypical subgenus was established as a genus on basis of venation and telescopical ovipositor. The latter is rather directly bound with the way of the deposition of the eggs thus the only character which can be treated as an autapomorphy is the shape of the gnathos.

Subgenus 2: ***Cnephasia*** CURTIS s. str.

Venation as described for the genus, except case of stalked hindwing veins as in *Cnephasiella*.

Male genitalia (Figs 340—351): Uncus minutely spined with basal lobes; slender or expanding anteriorly terminal plate of gnathos often expanding posteriorly; socius moderate or small. Valva long, with well developed costa; sacculus provided with spined termination or represented only by stronger sclerotization of ventral edge of valva. Caulis moderate, in some species very small in other ones large.

Female genitalia (Figs 679—682): In one species ovipositor telescopical, in remaining ones floricomous. Signum atrophying in several species.

Early stages as mentioned in description of the genus.

Bionomy. Hibernation in larval stage; larvae polyphagous, occasionally mining in first instars.

Comments. RÉAL (1953) distinguished three subgenera of which *Anoplocnephasia* shows rather large differences to the type species of *Cnephasia*. The atrophy of free termination of the sacculus does not seem the most important distinguishing character as that can be observed also in some other species not belonging in this group. In all species closely related to *sedana* the caulis is very small, the aedeagus armed with subterminal dents and the terminal plate of the gnathos is not expanding distally. In that group the median part of the transtilla is very broad, distinctly expanding posteriorly and the uncus is less specialized than in *pasiuana*-group. Similar uncus is found in some other species of *Cnephasia*, also in *ecullyana*, the type-species on RÉAL'S *Hypostephanuntia* which does not show any more important character justifying a separation of that group of species into a distinct subgenus. In *Brachycnephasia* the uncus and the caulis are strong and the sterigma is a little different than in the remaining cnephasias. Its colliculum is also stronger, provided with distinct internal sclerite. Among all those groups (perhaps with exception of the group of *sedana*) one can find the intermediate forms.

Sparganothini

In this tribe belongs single Palaearctic genus only. *Sparganothini* are abundantly represented in the New World, especially in the Neotropical Region, but scarcely so in the Oriental and Australian regions. The tribe and its Palaearctic species were characterized by me (RAZOWSKI, 1975). It was often subdivided into two groups, of which *Atterini* are treated here as a separate tribe. KUZNETSOV & STEKONIKOV (1977) described *Euliae* as a primitive subtribe of the *Cochylini*, and I transferred (RAZOWSKI, 1981a) it to *Sparganothini*. The two interpretations do not seem correct, thus the best solution is to put the genera of *Euliae* (*Eulia*, *Pseudargyrotoza*) among the primitive *Archipini* for the time being and to treat them as the genera incertae sedis.

Sparganothis (HÜBNER, [1825])

Sparganothis HÜBNER, [1825], Verz. bekannter Schenett.: 386. Type-sp.: [*Tortrix*] *luteolana* HÜBNER, [1796—99] = *Phalaena Tortrix pilleriana* [DENIS & SCHIFFERMÜLLER], 1775—by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 14). For emendations see RAZOWSKI, 1977: 283).

Oenophthira DUPONCHEL, 1845, Cat. method. Lepid. Eur.: 288. Type-sp.: as above—by monot. *Oenophthera* MEYRICK, 1913 [in:] WYTSMAN, Genera Ins.: 56 — incorrect subs. spelling of *Oenophthira*.

Oenectra GUENÉE, 1845, Ann. Soc. ent. Fr, (2) **3**: 142. Typ-sp.: as above, by monotypy. *Aenectra* DOUBLEDAY, 1850, Syn. List Br. Lepid.: 21 — incorrect subs. spelling of *Oenectra*.

Begunna WALKER, 1863, List Spec. lepid. Ins. Colln Br. Mus., **27**: 189. Type-sp.: *Begunna xanthoides* WALKER, 1863—design. by monot., originally described in *Crambinae* (*Pyralidae*).

Leptoris CLEMENS, 1865, Proc. ent. Soc. Philad., **5**: 139. Type-sp.: *Leptoris breviornatana* CLEMENS, 1865—design. by monot.

Cenopis ZELLER, 1875, Verh. zool.-botan. Ges. Wien, **25**: 239. Type-sp.: *Tortrix pettitana* ROBINSON, 1869—by subs. design. (OBRAZTSOV, 1955, Tijdschr. Ent., **97**: 195).

Enoditis MEYRICK, 1912, Exot. Microlepid., **1**: 2. Type-sp.: *Dichelia praecana* KENNEL, 1900—by orig. design.

Antenna simple or delicately serrate, in male distinctly ciliate; ocellus weak or absent; labial palpus long, often 5 times longer than diameter of eye. Cubital pecten in hindwing present. Venation: in forewing r_4—r_5 and rr—m_1 in hindwing stalked. Wing expansion 17—25 mm. Sexual dimorphism expressed in size, shape of wings (forewing in male broader than in female), pattern and coloration.

Male genitalia (Figs 352, 353): Lateral portion of pedunculus near middle weakly sclerotized; uncus thin, distinctly sclerotized, curved downwards, scarcely hairy, with slender basal lobes. Arms of gnathos not coalesent terminally, each more or less distinctly expanding apically, provided with bristles or delicate spines. Anterior portion of arm fused with socius along distal or median edge. Socius erect, with pocket-shaped apical portions, broadly connected with tegumen. Below the apical lobes the socii are fused along middle to one another and to distal membrane the posterior part of which extends into tuba analis. The socii are covered with dense, usually long scales, practically not hairy. Vinculum strong, without saccus. Valva broad, weakly sclerotized, with semimembranous edge extending above costa, tapering and membranous distally; sacculus simple, or with weak prominences; pulvinus subtriangular, with top near ventral edge of transtilla. The latter distinctly sclerotized, with single or paired, spined central prominence. Juxta delicate. Aedeagus simple; coecum penis moderate or small; opening for ductus ejaculatorius lateral; cornuti deciduous attached to vesica by lateral sockets. Musculature: muscle one reaching basal lobe of uncus, m_2 to processus basalis, m_4 to central part of transtilla, submedially; m_5 subdivided into large median and small dorsal branches, the latter terminating near costa of valva. Mensis dorsalis well developed.

Female genitalia (Fig 683): Sterigma broad, with short lateral parts and broad, short proximal corners, occasionally weakly sclerotized anteriorly; its median part deeply concave, with distinct margins; ventral part of sterigma

short, weakly sclerotized. Colliculum indifferentiated or represented by small, semicircular sclerite (in *S. rubicundana* (H. -S.)) followed by submembranous broadening. Ductus bursae broad anteriorly, coiled; ductus seminalis postmedian or distal, situated dorsally. Signum small, concave plate, if present.

Early stages. SIERPIŃSKI (1962) described the egg and SWATSCHEK (1958) the larva.

Bionomy. Is known in case of *pilleriana*. Eggs are deposited in groups protected with excretion hardening to the air. One female deposits 175—400 eggs. Young larvae construct hibernacula and start feeding next spring. Larva lives as a polyphag on various plants, e. g. deciduous trees, conifers and is a serious pest of the vineshoot.

Distribution: Holarctic Region; one species is known of the whole region and of the Palaearctic species 2 are boreal and 2 endemic in Japan.

Comments. *Sparganothis* belongs in the group of genera specialized as the form of the gnathos shows. The fusion of the gnathos with the socius may prove a progressive character (it can, however, be supposed the process traditionally treated as gnathos is a specialized part of the socius only) similarly as the separation of the gnathos arms.

Archipini

This tribe is most probably polyphyletic and consits of several groups. I am including here *Euliae*, a subtribe described in *Cochylini* (cf. p. 202). Other groups require some further study and are only marked in this paper. The lower *Archipini* show some primitive characters, as a well developed costa of valva, plate-shaped signum often covered with dents or presence of the tergal extensors of the valvae. The majority of the *Archipini* lack that pair of muscles. In other ones the signum is much more specialized, funnel like. The higher *Archipini* characterize with presence of the capitulum, however, the signum may be occasionally simplified and the valval costa is wanting. That reduction caused several changes in the shapes of the disc and in the joint among valva, tegumen and vinculum.

Four genera mentioned in the literature as belonging in this tribe are excluded from this paper. *Homona* WALKER is probably an Oriental genus, however, it can occur in southern China. The Palaearctic species placed in that genus belong in *Choristoneura*, thus it will be treated in the part concerning the Oriental fauna. *Meritastis* MEYRICK redescribed by OBRAZTSOV (1954) was described originally for *M. umbrosa* MEYRICK which is an Australian species. OBRAZTSOV placed in *Meritastis* also Neotropical *M. voluta* MEYRICK and Chinese *M. phasmatica* MEYRICK. The latter requires a genital examination and on the present knowledge there is no support to retain it in the genus in question. Third of them is *Procrica* DIAKONOFF erected for Madagascan *P. semilutea* DIAKONOFF. Then DIAKONOFF described an Arabian species *ammina* in this genus, but it does not seem congeneric with *semilutea*. Last genus, *Drach-*

mobola MEYRICK, was recorded by YASUDA (1975) from Japan, but without any illustration. As I have not examined any Palaearctic specimen it will be discussed in the Oriental fauna.

Euliae

Originally 2 genera (*Eulia* and *Argyrotoza*) were included in this subtribe on basis of the presence of the complete set of valval extensors. Of them I am preserving in it only the type-genus.

Eulia HÜBNER

Eulia HÜBNER, [1825], Verz. bekannter Schmett.: 392. Type-sp.: *Phaleana Tortrix ministrana* LINNAEUS, 1758—design. by monot.

Lophoderus STEPHENS, 1829, Syst. Cat. Br. Insects, **2**: 184. Type-sp.: *Phalaena Tortix ministrana* LINNAEUS, 1758—by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, **2**, Synopsis Genera Br. Insects: 108).

Venation: In forewing all veins separate, r_5 to termen; chorda from before middle distance between first two radial veins; postcubital vein vestigial; in hindwing $rr-m_1$ on very small stalk, m_3-cu_1 from one point.

Male genitalia (Figs 354, 355): Tegumen long, with large ventral portions; uncus slender; socius broad; gnathos with large terminal plate; vinculum simple. Valva broad, with distinct costa; a split between dorsum of sacculus and disc that extends medially towards transtilla; transtilla armed with lateral processes. Aedeagus very slender; coecum penis slender, with distinct apodeme; caulis delicate.

Female genitalia (Figs 684, 685): Papilla analis of normal *Tortricinae* shape; eighth tergite broad, ventrally fused with sterigma; the latter a large, concave, scobinate plate with distinct antevaginal portion; ostium bursae small, situated in membranous portion of sterigma; colliculum slender, provided with inner sclerite; ductus seminalis ventral, extending from distal portion of corpus bursae; signum consisting of numerous spines covering more than half of corpus bursae.

Early stages. SWATSCHEK (1958) describes chaetotaxy and notices the genus is well defined.

Bionomy. Single generation yearly; hibernate the larvae that live polyphagously on deciduous trees and bushes.

Distribution: Holarctic region except for the southern territories.

Comments. The genus is monotypical. Its supposed autapomorphies are the presence of the inner valval split similar to that in *Olindia* and *Isotrias*, large proximal lobe of the disc of valva fused with the transtilla, long, lateral processes of the latter, the fusion of the sterigma with the ventral lobes of the eighth tergite and the structure of the signum.

The group of *Pseudargyrotoza*

I am separating *Pseudargyrotoza* originally placed in *Euliae* on basis of the symplesiomorphic presence of muscles m_2 and m_4. This is the ondly described Palaearctic genus.

Pseudargyrotoza OBRAZTSOV

Pseudargyrotoza OBRAZTSOV, 1954, Tijdschr. Ent., **97** (3): 22: Type-sp.: *Pyralis conwagana* FABRICIUS, 1775—by orig. design.

Venation: all veins separate; chorda distinct, from mid-distance between bases of two first radial veins.

Male genitalia (Figs 356—359): Uncus well developed, broadening medially; socius large, drooping; gnathos with slender termination. Costa of valva long; sacculus strong; pulvinus not developed. Transtilla with very broad central part and weak lateral portions. Aedeagus with dorsal apodeme of muscle 6 beyond opening for ductus ejaculatorius. Cornuti absent.

Female genitalia (Figs 686, 687): Sterigma broad, weakly sclerotized beyond ostium medially; colliculum strenghtened with median sclerite the anterior part of which is situated in broadened portion of the ductus; accessory bursa extending from that broadening, dorsally; ductus seminalis postmedian, dorsal; no signum in corpus bursae.

Early stages. SWATSCHEK (1958) describes chaetotaxy of larva suggesting that this genus is closer to *Cochylini* than to *Archipini*.

Bionomy. One generation yearly; hibernation probably in pupal stage. Food plants: Some deciduous plants, as *Berberis*, *Ligustrum* and *Fraxinus*.

Distribution. Transpalaearctic, known also from Nepal.

Comments. Supposed autapomorphies are: The shape of the large central part of transtilla and position of the accessory bursa. A few species known to date.

The group of genera with long costa of valva

In this group I am including some rather primitive genera characterized with well developed costa of valva. That group is probably polyphyletic but the problem cannot be solved on the present stage of our knowledge. One can provisionally distinguish two subgroups. In the first the cornuti are of fixed type and the signum is plate-shaped or deeply concave in the second the cornuti are deciduous (however, often non-deciduous cornuti may occur) and the signum is more specialized, funnel-shaped, with basal plate and capitulum like structures. The latter subgroup seem close to the *Archipini* with completely atrophied costa of valva. The position of several genera is doubtful and provisional.

Terthreutis was included by DIAKONOFF (1976) in the *Cnephasiini* probably on basis of its long, slender uncus and valva. The female resembles rather that of *Pseudargyrotoza*. Because of a new interpretation of the *Cnephasini Terthreutis* cannot be preserved in that tribe, thus I am placing it in *Archipini* for the time being. *Synochoneura* shows also some primitive characters and its systematic position seems also isolate. The remaining genera are more closely related to one another. The signum in *Gnorismoneura* and other genera is developed in a form of a deeply concave plate, but in *Batodes* characterizes with distinct basal lobes and may represent either a primitive stage of the capitate signum or its regressive form.

Terthreutis MEYRICK

Terthreutis MEYRICK, 1918, Exot. Microlepid., **2**: 170. Type-sp.: *Terthreutis sphaerocosma* MEYRICK, 1918—design. by monot.

Amniodes MEYRICK, 1938, Dt. ent. Z. Iris, **52**: 13. Type-sp.: *Amniodes xanthocycla* MEYRICK, 1938—design. by monot.

Venation: In forewing two last radial veins on a very short stalk or very close to one another at median cell; m_3 and cu_1 curved anteriorly; in hindwing $rr-m_1$ stalked to middle, stalk of m_3-cu_1 very short.

Male genitalia (Figs 360—363): Tegumen very strong, broad with median prominences apically; uncus slender, hook-shaped dorsal; socius slender, drooping; gnathos arms provided with lateral and subterminal prominences and large terminal plate; vinculum simple. Valva long, with long costa fused with broad, basal plates representing transtilla the median part of which is membranous; sacculus simple, slender; hairs on disc not reaching basal area. Juxta with distinguished dorsal portion; caulis very small; aedeagus simple, without cornuti.

Female genitalia (Fig. 688): Sterigma minutely spined throughout, with submedian folds; colliculum not developed; signum in form of agglomeration of minute, sharp granules in distal portion of scobinate corpus bursae (described on basis of ilustration in DIAKONOFF, 1976).

Early stages and bionomy: No data.

Distribution: South-east of this subregion and the Oriental region.

Comments. Of four known species one occurs in China (Yunnan). The supposed autapomorphies are the shapes of the transtilla and juxta and most probably the circular pattern of the forewing.

Synochoneura OBRAZTSOV

Synochoneura OBRAZTSOV, 1955, Tijdschr. Ent., **98** (3): 151 (1954, ibid., 97 (3): 220, 227 — not described). Type-sp.: *Eulia ochrichivis* MEYRICK, 1931—by orig. design.

Venation: In forewing all veins separate, r_5 to termen, chorda weak, extending from before base of r_1 to beyond base of r_5; in hindwing $rr-m_1$ stalked almost to middle, m_1-cu_1 from one point.

Male genitalia (Figs 364, 365): Uncus slender; tegumen slender, with small lobes near bases of gnathos arms; socius slender, drooping; gnathos arm broad basally, terminal plate species, specific; vinculum simple. Valva with large basal half, strongly narrowing near middle, with well developed costa and long, distinctly sclerotized sacculus provided with free termination in form of a rod or lobe; pulvinus very small, not extending medially but situated on valva. Transtilla with median process; juxta expanding in middle dorsally; aedeagus simple; vesica with sclerotized fold; cornuti absent.

Female genitalia (Fig. 689): Papilla analis connected with large lobes hidden in eighth tergite; membranous sack between lobes and dorso-posterior portion of tergite; anterior portion of sterigma cup-shaped extending into short antevaginal part and large, ear like, bilobed postvaginal portions fused with ventral lobes of eighth tergite, colliculum weak (in *S. tapaishani* (CARADJA)) or wanting; ductus seminalis posterior. Signum peculiar funnel like sclerite with basal emargination, in *tapaishani* minutely spined.

Early stages and bionomy unknown except dates of occurrence of moth; probably two or more generations yearly.

Bionomy: No data.

Distribution: China.

Comments. Two species belong in this genus. The supposed autapomorphies are the shapes of the pulvinus and the sterigma and the presence of the large lobes inside the eighth tergite. The form of the signum is of uncertain importance, but one can suppose it is plesiomorphic.

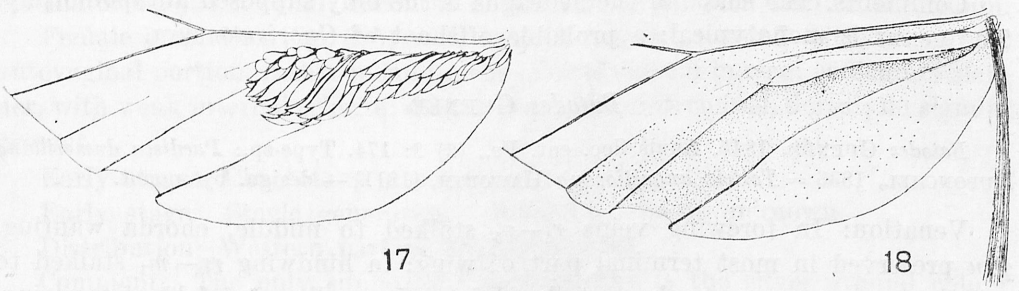
Gnorismoneura ISSIKI & STRINGER

Gnorismoneura ISSIKI & STRINGER, 1932, Stylops, **1** (6): 134. Type-sp.: *Gnorismoneura exulis* ISSIKI & STRINGER, 1932—by orig. design.

Antenna: In male ciliae longer than in female; in one species costal fold developed, in some other ones a specialized scent organ in the hindwing present (Figs 17, 18). It is formed in a pocket like fold of wing membrane between two first anal veins in which long, pencil like bunch of thin scales is located and covered by numerous broad scales. Venation: In forewing all veins separate except for two last radial veins which are stalked; in hindwing stalk of $rr-m_1$ variably long, m_3-cu_3 usually from one point.

Male genitalia (Figs 366—374): Uncus strong, bristled or scaled ventro-posteriorly; socius drooping; gnathos arm simple or provided with various prominences or processes, with plate-shaped termination; vinculum simple. Costa of valva long; sacculus usually simple, in some species armed with setae or processes; pulvinus weak, not expanding towards the middle, or absent.

Transtilla simple, or with median prominence or strong process; juxta simple or with dorsal lobes. Coecum penis well developed, armed with apical apodemes of muscles 5; both constant and deciduous cornuti in vesica present.



Figs 17, 18. Scent organ in hindwing of *Gnorisomoneura vallifica* (MEYRICK); fig. 18 with scales removed

Female genitalia (Figs 690, 691): Sterigma variable in shape, in some species plate-shaped, with more or less distinct proximal prominences and usually short lateral parts, in other with large cup like anterior portion; colliculum usually present and armed with internal sclerite; ductus seminalis posterior, extending from before colliculum or from it, dorsally; signum a concave plate or a funnel-shaped sclerite, with variable basal portion, or absent.

Early stages: No data on chaetotaxy.

Bionomy. One or two generations yearly; food plants are deciduous trees or bushes, some species, e. g. *G. mesotoma* (YASUDA) feed on dead lives.

Distribution. Restricted to East Asia; majority of species are exclusively Palaearctic, one is Oriental.

Comments. No autapomorphy is found and the genus requires further study. Three groups may be distinguished within the genus (cf. RAZOWSKI, 1977c). The shape of the signum is probably common for all known species (in *mesotoma* to be reexamined) but its importance remains unclear. Thirteen species known to date.

Egogepa RAZOWSKI

Egogepa RAZOWSKI, 1977, Bull. Acad. pol. Sci. Sér. biol., **25** (5): 323. Type-sp.: *Egogepa zosta* RAZOWSKI, 1977 — by orig. design.

Antenna and venation as in *Epagoge*, but forewing veins $m_3 - cu_1$ short stalked.

Male genitalia (Figs 375—377) as in preceding genus but with strongly reduced coecum penis and without brush of ventro-terminal part of uncus.

Female genitalia (Fig. 692) as in preceding genus, but sterigma with ill-

defined antevaginal portion, with well developed cup-shaped part; colliculum membranous, with dorsal ductus seminalis; signum wanting.

Early stages and bionomy unknown; probably two generations yearly.

Distribution: China: Prov. Chekiang.

Comments. The shape of the aedeagus is the only supposed autapomorphy. The genus is monotypical; a probable offshoot of *Gnorismoneura*.

Batodes Guenée

Batodes Guenée, 1845, Annls Soc. ent. Fr., (2) **3**: 174. Type-sp.: *Paedisca dumerillana* Duponchel, 1836 = *Tortrix angustiorana* Haworth, [1811] — design. by monot.

Venation: In forewing veins r_4—r_5 stalked to middle, chorda wanting, *pcu* preserved in most terminal part of wing; in hindwing rr—m_1 stalked to middle, m_3—cu_1 on very short stalk. Male with small costal fold of forewing.

Male genitalia (Figs 378, 379) as in two preceding genera; transtilla broad, folded medially; brachiola like, shallow pocket in outer portion of valva, externally; three very short, constant cornuti in vesica; coecum penis well developed.

Female genitalia (Figs 693, 694): Sterigma with well developed antevaginal portion and cup-shaped part; colliculum short, with internal sclerite; ductus seminalis subterminal, situated dorsally; signum dagger-shaped with well developed basal lobes.

Early stages. Swatschek (1958) describes chaetotaxy without any comment and placed it between *Capua* and *Ptycholoma*.

Bionomy. One generation yearly; larva polyphagous both on deciduous trees and conifers.

Distribution: Western part of the subregion as far as to Asia Minor, mainly in its southern territories.

Comments. The supposed autapomorphy of this genus is the median, vertically arranged fold of transtilla. The presence of the brachiola like pocket of the outer surface of the valva is probably of convergent importance as it is also found in *Geogepa*. Synonymization of this genus with *Ditula* Stephens was incorrect as based on the secondary designation of *angustiorana* as its type-species by Walsingham (1914). Basing on the original designation by Westwood in 1840 *Ditula* must be included in synonyms of *Olethreutinae* genus *Eudemis* Hübner (cf. Razowski, 1977a).

Aneuxanthis Le Marchand

Aneuxanthis Le Marchand, 1933, Amat. Papillons, **6**: 243. Type-sp.: [*Tortrix*] *locupletana* Hübner, 1819 — design. by monot.

Venation: In forewing r_4 stalked with r_5 to 1/3, chorda almost complete; in hindwing rr—m_1 separate, m_3—cu_1 short stalked.

Male genitalia (Figs 380—382) as in preceding genera; uncus with ventral rib along middle, hairy, without distinct brush; socius small, drooping; arm

of gnathos with strong terminal lobes and plate; vinculum simple. Valva without outer brachiola like pocket, similar to that in *Gnorismoneura*; transtilla also similar, somewhat protruding in middle terminally, with strong membrane dorsally. Aedeagus with well developed coecum penis and long split for ductus ejaculatorius; juxta small; cornutus of constant type, with distinct capitulum.

Female genitalia (Fig. 695) with large sterigma provided with very short antevaginal portion, rather membranous around ostium bursae; colliculum slender, with weak internal sclerite; ductus seminalis subterminal, dorsal; no signum present.

Early stages. Chaetotaxy not studied.

Early stages. Single generation yearly; food plant unknown.

Distribution: Western part of Mediterraneum.

Comments. The only supposed autapomorphy is the silver ground colour of the forewing. Genitalically close to four preceding genera. Monotypical.

Geogepa Razowski

Geogepa Razowski, 1977, Bull. Acad. pol. Sci. Sér. biol., **25** (5): 325. Type-sp.: *Geogepa zeuxidia* Razowski, 1977 — by orig. design.

Antenna ciliate; in male joints prominent laterally. Venation as in *Epagoge*.

Male genitalia (Figs 383, 384): Uncus species specific; socius drooping, variable in size; arm of gnathos simple. Valva with subterminal brachiola like prominence in one species. Aedeagus with strong coecum penis more or less distinctly curved and directed distally; one strong, capitate constant cornutus and numerous deciduous cornuti in vesica. Transtilla slender in middle, broadening and spined dorso-laterally.

Female genitalia (Figs. 696, 697): Sterigma with more or less distinct cup-shaped portion; colliculum short, usually provided with internal sclerite, or reduced; ductus bursae long, with median, often bilobe prominence; ductus seminalis posterior, situated dorsally; signum capitate, with small dagger-shaped portion.

Early stages: No data.

Bionomy. Two generation yearly at least in one species.

Distribution. The genus is Asiatic in distribution, the Palaearctic species are known from China (Chekiang) and Japan (Honsyu, Shikoku), the other are Oriental.

Comments. The supposed autapomorphies are the curved distally coecum penis and the swallen prominence of the ductus bursae. Four species known to this date.

Epagoge Hübner

Epagoge Hübner, [1825], Verz. bekannter Schmett.: 389. Type-sp.: *Pyralis grotiana* Fabricius, 1781 — by subs. design. (Walsingham, 1907, Fauna Hawaiiensis: 709).

Venation: In forewing veins r_4—r_5 stalked to middle, chorda vestigial, extending from before base of r_1; in hindwing rr—m_1 stalked to before middle, m_3—cu_1 from one point, near base of m_2. Sexual dimorphism expressed in size and shape of the wings.

Male genitalia (Figs 385, 386): Uncus large, rather slender, with subterminal brush; socius well developed; gnathos arm slender, terminal plate distinct. Costa of valva very short, remaining portion of its dorsal side rather weakly sclerotized; sacculus long. Transtilla band-shaped, with lateral groups of spines dorsally. Deciduous cornuti in vesica.

Female genitalia (Fig. 698): Sterigma simple, with very short antevaginal portion, concave and rather weakly sclerotized medially; colliculum represented only by weak sclerotization; signum small, consisting of some sclerotized granules.

Early stages: No data on chaetotaxy.

Bionomy. Single generation yearly; hibernation in larval stage; larvae polyphagous, mainly on deciduous trees and bushes.

Distribution: Western part of the subregion as far as to Asia Minor.

Comments. The only supposed autapomorphy is the shape of the dorsal region of the valva. Two species included, however, numerous ones have been described in this genus.

Ramapezia Razowski

Ramapezia Razowski, 1981, Monogr. Fauny Polski, **10**: 208. Type-sp.: [*Phalaena*] *gnomana* Clerck, 1759 — by orig. design.

Antenna in male dentate, with groups of setae at ends of prominences of the joints, in female simple. Venation as in *Epagoge* but in forewing r_4—r_5 langer stalked and in hindwing rr approached to m_1 at median cell and m_3—cu_1 extending from one point. Sexual dimorphism as in preceding genus.

Male genitalia (Figs 387—389): Uncus, socius and gnathos as in several preceding genera; valva with well developed costa and long sacculus; basal part of transtilla provided with broad convexity, marked with minute spines; coecum penis short; bunch of deciduous cornuti in vesica.

Female genitalia (Figs 699, 700): Sterigma with weak cup-shaped portion and narrow antevaginal part; colliculum small, with inner sclerite; ductus seminalis dorsal; signum dagger-shaped with large basal plate, resembling a funnel.

Early stages. After Swatschek (1958) who provides the description of chaetotaxy the genus is well defined. It is placed between *Lozotaenia* and *Paraclepsis* (*Periclepsis* in this paper).

Bionomy. Probably one generation yearly; hibernation in egg stage. Larvae polyphagous (e. g. on *Vaccinium* and *Iris*).

Distribution: Western part of Palaearctic subregion.

Comments. The presence of a swallen lateral part of transtilla is probably the only supposed autapomorphy of this monotypical genus. OBRAZTSOV (1955) and several further authors used for this genus the name *Paramesia* which is one of the synonyms of *Acleris* (cf. p. 182).

Periclepsis BRADLEY

Paraclepsis OBRAZTSOV, 1954, Tijdschr. Ent., **97** (3): 209. Type-sp.: *Tortrix cinctana* [DENIS & SCHIFFERMÜLLER], 1775 — by orig. design. Praeocc. by *Paraclepsis* HARDING, 1924 in *Vermes*.

Periclepsis BRADLEY, 1977, Entomologist's Gaz., **28**: 24 — replacement name for *Paraclepsis*.

Antenna simple, in male with double ciliation. Venation: In forewing all veins run reparately, chorda well developed, extending from beyond base of r_1 and terminating between r_3 and r_4; in hindwing rr— m_1 very close at median cell, m_3— cu_1 from one point or stalked. Sexual dimorphism small, females larger and paler than males.

Male genitalia (Figs 390—392): Uncus broad; socius small; arm of gnathos and terminal plate simple. Costa of valva fully developed; sacculus long. Transtilla a distinctly sclerotized rod with sack-shaped lateral sclerites armed with minute dents. Aedeagus with rather short coecum penis and large caulis; cornuti wanting.

Female genitalia (Fig. 701). Sterigma as in preceding genus; colliculum broader, membranous; ductus seminalis posterior, extending dorsally; signum missing.

Early stages: Chaetotaxy described by SWATSCHEK (1958) who realized large larval differences to all other related genera.

Bionomy. Two generations a year. Larvae in silken tubes on various shrubs as *Artemisia* or *Genista*.

Distribution. Western part of the subregion as far as to southern Siberia and Kazakhstan.

Comments. The sack-shaped protuberances of the transtilla are the probable autapomorphy of this genus. The genus is monotypical, however, three species were included in it by OBRAZTSOV (1955).

Philedone HÜBNER

Philedone HÜBNER, [1825], Verz. bekannter Schmett.: 389. Type-sp.: *Tortrix gerningana* [DENIS & SCHIFFERMÜLLER], 1775 — by subs. design. (WESTWOOD, 1840, Introd. mod. Classif. Insects, **2**, Synopsis Genera Br. Insects: 107).

Amphisa CURTIS, 1828, Br. Ent., **4**, expl. pl. 209. Type-sp.: *Archips pectinana* HÜBNER, 1822 = *Tortrix gerningana* [DENIS & SCHIFFERMÜLLER], 1775 — by orig. design. *Amphysa* GUENÉE, 1845, Annls Soc. ent. Fr., (2) **3**: 141 — nom. emend. of *Amphisa*.

Antenna in male comb like, with groups of setae situated at distal prominences of each joint, in female dentate. Venation: In forewing all veins but r_4— r_5

(which are stalked) separate; in hindwing $rr-m_1$ from one point of median cell, m_3-cu_1 from one point or separately. Sexual dimorphism expressed in shape of forewing being in female slenderer and more acute than in male.

Male genitalia (Figs 393, 394): Uncus strong with hairs and setae ventrally; socius small; gnathos slender. Costa of valva fully developed; sacculus as in preceding genus; brachiola-like fold in distal portion of membranous part of valva externally; transtilla with large, dentate central part resembling that in some *Cochylini*. Aedeagus broad, with large coecum penis and thin caulis; cornutus strong, capitate, non-deciduous.

Female genitalia (Figs 702, 703): Sterigma concave medially; colliculum very broad, membranous with indistinct median sclerite ventrally; ductus seminalis dorsal, extending just before colliculum. Two groups of minute granules replace the signum.

Early stages. SWATSCHEK (1958) provides description of chaetotaxy including in this genus *Philedonides* the larvae of which do not differ from those of this genus.

Bionomy. One generation yearly; larva polyphagous, in spun leaves or flowers of various shrubs and bushes (e. g. *Vaccinium*, *Plantago* and *Potentilla*).

Distribution transpalaearctic.

Comments. The probable autapomorphies are the shapes of the transtilla, aedeagus and colliculum. The genus is monotypical.

Terricula FALKOVITSH

Terricula FALKOVITSH, 1965, Ènt. Obozr., **44** (2): 418. Type-sp.: *Terricula noctis* FALKOVITSH, 1965 = *Ptycholoma violenta* KAWABE, 1964 — by orig. design.

Venation as in *Epagoge*, but forewing r_4-r_5 stalked to 2/3 and m_3-cu_1 originate in one point. There is no trace of chorda and median stem but *pcu* is fairly well developed.

Male genitalia (Figs 395, 396) with uncus, socii and gnathos similarly developed as in several preceding genera; valva broad, with broad sacculus and long costa. Transtilla with strong central part and lateral portions, extending ventro-proximally, minutely spined. Aedeagus with short coecum penis; cornuti wanting.

Female genitalia (Fig. 704): Sterigma concave in middle dorsally, with rather well developed cup-shaped portion fused with colliculum; sclerite of colliculum long; ductus seminalis dorsal, extending from anterior part of it; signum wanting.

Early stages unknown.

Bionomy. Probably two generations yearly; food plants are *Pilea* (*Urticaceae*) and *Ilex* (*Aquifoliaceae*).

Distribution: Japan (Honsyu, Shikoku, Kyusyu) and Ussuari Territory on the continent.

Comments. The supposed autapomorphy is the structure of the transtilla. The genus is monotypical.

Hastula Millière

Hastula Millière, 1857, Annls Soc. ent. Fr., (3) 3: 799. Type-sp.: *Hastula hyerana* Millière, 1857 — design by monot.

Male antenna with pair of long, long hairy processes on each joint of flagellum, in female simple. Venation: In forewing r_4—r_5 stalked to beyond middle, other veins separate, median stem and chorda wanting, *pcu* rudimentary, preserved at termen; in hindwing all veins separate, only m_3—cu_1 originating in one point.

Male genitalia (Figs 397—400): Tegumen very large; uncus large with weak brush consisting of bristles; arm of gnathos provided with distinct ventral process and strong, acute terminal plate; subscaphium short, but distinct. Valva proportionally to tegumen small, with well developed costa; inner costal sclerite extending proximally to form a concave, subtriangular apodeme from median part of which extends slender, ventrally folded transtilla; median part of transtilla partially membranous, minutely sculptured, basal part and upper part of costal sclerite fusing with elongate pulvinus; sacculus with median fold and slender distal portion. Aedeagus simple; caulis large; coecum penis short; cornutus of deciduous type.

Female genitalia (Fig. 705): Sterigma broad, with membranous antevaginal part extending laterally; colliculum membranous except for terminal part surrounding ostium bursae, swung; ductus seminalis dorsal; signum wanting.

Early stages. Swatschek (1958) described chaetotaxy of *H. joannisiana* (Ragonot).

Bionomy little known; probably one generation yearly; food plant of *joannisiana* is *Lavendula*.

Distribution. Western part of Palaearctic subregion (mediterranean area).

Comments. The autapomorphies of this genus are the shape and the position of the transtilla and fusion of the pulvinus and perhaps the structure of the gnathos. Two species included.

Pseudeulia Obraztsov

Pseudeulia Obraztsov, 1954, Tijdschr. Ent., 97 (3): 207. Type-sp.: [*Tortrix*] *asinana* Hübner, [1796—99] — by orig. design.

Venation: In forewing two last radial veins stalked to beyond middle, r_5 to termen; chorda and median stem wanting, *pcu* rudimentary, preserved in terminal part; in hindwing rr—m_1 extending from one point, m_2 close to m_3.

Male genitalia (Figs 401, 402): Uncus very strong; socius wanting; gnathos arm strong, terminal plate tapering apically; vinculum well sclerotized, broad, simple. Valva with strong costal sclerite extending to 1/3 of disc; sacculus strong, with dorso-terminal fold; distal part of valva membranous; pulvinus not developed. Transtilla provided with strong central part, but with broad lateral portions; juxta large. Aedeagus with small coecum penis; cornuti short, with weak capituli.

Female genitalia (Figs 706, 707): Eighth tergite rather short; sterigma with long lateral parts fusing with median sclerite and with short tubular portion. Colliculum more or less distinctly fused with sterigma, provided with sclerite; ductus seminalis from swung part of colliculum, dorsally; signum a rounded concave, very small plate.

Early stages: No data.

Bionomy: Insufficiently known; probably one generation a year.

Distribution: Palaearctic subregion, except for its northern parts.

Comments. The supposed autapomorphy is the shape of the transtilla. That character may prove, however, convergent, similarly as the presence of the weakly sclerotized portion of the valva and very broad sclerite of its costal portion. Three species are placed in this genus, but the status of two of them need reconsideration.

Capua Stephens

Capua Stephens, 1834, Ill. Br. Ent., *Haustellata*, 4: 171. Type-sp.: *Capua ochraceana* Stephens, 1834 = [*Tortrix*] *favillaceana* Hübner, [1817] — design. by monot.

Teratodes Guenée, 1845, Annls Soc. ent. Fr., (2) 3: 168. Type-sp.: *Tortrix vulgana* Frölich, 1828 = [*Tortrix*] *favillaceana* Hübner, [1817] — design. by monot., praeocc. by *Teratodes* Koch, 1838, in *Aves*.

Antenna ciliate, in male also dentate; male forewing with distinct costal fold. Venation: In forewing r_4—r_5 stalked to before middle; in hindwing rr—m_1 long stalked; m_3—cu_1 from one point.

Male genitalia (Figs 403, 404): Uncus slender or club-shaped; socius drooping, well developed; arm of gnathos and its terminal plate delicate, slender. Valva rather broad, weakly sclerotized, rounded terminally, with broad, variably long costa and bifurcate end part of sacculus. Transtilla band-shaped, folded dorsally; juxta producing dorsally; aedeagus with long coecum penis and dents in terminal portion; cornuti absent.

Female genitalia (Fig. 708): Sterigma cup-shaped, with ill-defined dorso--lateral parts, provided with ventro-anterior concavity in which a finger like process is situated; colliculum probably fused with anterior portion of sterigma; ductus seminalis posterior, situated dorsally; signum wanting.

Early stages. Swatschek (1958) provided description of chaetotaxy placing this genus between *Argyrotaenia* and *Batodes*.

Bionomy. Some better known species occur in one generation yearly, but in the Oriental region this number is probably higher.

Distribution: Oriental Region and entire Palaearctic subregion.

Comments. The supposed autapomorphies of *Capua* are the shapes of the aedeagus and presence of the finger like process in the concavity of the sterigma. The shapes of the juxta, end of sacculus and sterigma seem constant within the genus, but are probably of convergent importance. The variation of the length of the costa of valva is an interesting character showing the probable parallel tendencies of its atrophy within the group. In the revision of the genus I recorded (RAZOWSKI, 1978a) six species.

Philedonides OBRAZTSOV

Philedonides OBRAZTSOV, 1954, Tijdschr. Ent., **97** (3): 222. Type-sp.: *Tortrix prodromana* HÜBNER, 1816 = *Tortrix lunana* BORGSTRÖM, 1784 — by orig. design.

Antenna in male with bunches of bristles, in female ciliate. Venation almost as in preceding genus but chorda rather well developed and in hindwing m_3—cu_1 from one point or separately.

Male genitalia (Figs 405, 406) strongly sclerotized; uncus strong; socius wanting; gnathos arm with subterminal process; terminal plate a long rod-shaped sclerite extending from membranous area and fusion of arms; vinculum broad but simple. Valva with costa similarly developed as in *Pseudeulia*, with short inner costal sclerite and very large its outer portion; hairs not reaching basal third of disc; sacculus strong. Transtilla a simple transverse sclerite, arch-shaped. Aedeagus with well developed coecum penis and several short, capitate cornuti in vesica.

Female genitalia (Figs 709, 710): Sterigma concave medially, with well developed antevaginal portion, membranously connected with large colliculum provided with internal sclerite; anterior half of colliculum membranous; signum dagger like, broad basally.

Early stages. SWATSCHEK (1958) described chaetotaxy and realized no differences between *Philedonides* and *Philedone*.

Bionomy. Probably two generations a year; hibernation, at least partially, in pupal stage.

Distribution transpalaearctic; mainly western part of Europe.

Comments. The supposed autapomorphy is the structure of the terminal portion of the gnathos. The genus is represented by 4 species.

Leontochroma WALSINGHAM

Leontochroma WALSINGHAM, 1900, Ann. Mag. nat. Hist., (7) **5**: 466. Type-sp.: *Leontochroma aurantiacum* WALSINGHAM 1900 — by orig. design.

Venation: In forewing two last radial veins stalked to beyond middle, extending from end of chorda in distal part of median cell; chorda from mid-length of radial stem, occasionally atrophying; m_3—cu_1 very close to one another similarly as rr—m_1 in hindwing; m_3—cu_1 short stalked, a_1 except for basal third vestigial.

Male genitalia (Figs 407—411): Uncus very broad, heavily sclerotized, in some species expanding laterally; socius delicate or missing; gnathos simple or with prominences of lateral arm and large terminal plate. Valva similar to that in the preceding species, but pulvinus present, more or less extending; sacculus strong, with small prominences or concavities. Transtilla in type-species rather slender, plate-shaped, narrowing medially, in other species very broad, folding at bases. Aedeagus species specific, with distinct coecum penis and short caulis. Very thin cornuti, probably of a constant type present.

Female genitalia (Fig. 711): Sterigma a broad sclerite folding ventrad posteriorly, with ill-defined antevaginal portion; colliculum large, with internal sclerite and dorsal ductus seminalis; signum with large capitulum.

Early stages: No data.

Bionomy: Probably two or more generations yearly.

Distribution. Southern part of the subregion and Oriental region; type--species described from Sikkim.

Comments. No autapomorphy found. The type-species differs from the remaining species and the genus may be subdivided into two groups.

Ulodemis Meyrick

Ulodemis Meyrick, 1907, J. Bombay nat. Hist. Soc., **17**: 736. Type-sp.: *Ulodemis trigrapha* Meyrick, 1907 — design. by monot.

Venation: In forewing veins r_4—r_5 stalked to beyond middle, m_2 approached to m_3 at base, *pcu* curved, vestigial; in hindwing rr—m_1 strongly approached in basal third, m_3—cu_1 very close at median cell. Anal portion of male hindwing forming a fold protecting scent scales.

Male genitalia (Figs 412—414): Uncus very strong, with ventro-terminal brush; socius rather small; gnathos strong, provided with very large, pectinate terminal portion. Costal sclerite of valva strong, rather short, distal part of valva rounded, with numerous folds; sacculus simple. Transtilla not examined; juxta small; aedeagus with large caulis and coecum penis; cornutus long, of deciduous type.

Female genitalia (Fig. 712): Sterigma with well developed antevaginal portion, provided with groups of scales on postvaginal parts, situated sublaterally; colliculum with internal sclerite; ductus seminalis from colliculum, dorsally; small sack-shaped diverticle before colliculum; signum capitate.

Early stages unknown.

Bionomy. Probably at least two generations yearly; larvae mainly on deciduous trees; *trigrapha* has been bread from *Citrus*, *Linum* and *Thea*.

Distribution: Known mainly of the Oriental region; one species (*trigrapha*) occurs also in China.

Comments. This genus comprises 3 very closely related species. It shows the following supposed autapomorphies: Spinose end part of gnathos and the structure of the uncus. However *Ulodemis* characterizes with strong costal sclerite of the valva its cornutus is identical with that in the higher *Archipini* and the signum is also of the capitate type. The brush of the uncus occurs also in other genera of the *Archipini* with fully developed costa of valva, and that seems to be a convergent character, similarly as the presence of the scent scales in the sterigma found in several genera.

Scotiophyes Diakonoff

Scotiophyes Diakonoff, 1976, Zool. Verh. Leiden, **144**: 74. Type-sp.: *Adoxophyes faeculosa* Meyrick, 1928 — by orig. design.

Shape of wing, general appearance and sexual dimorphism as those in *Adoxophyes*; male with rudimentary or very large costal fold. Venation: In forewing two last radial veins stalked to middle, m_1 approximate to r_5, cu_1 extending from subterminal portion of median cell; in hindwing $rr-m_1$ short stalked, remaining veins separate; chorda and median stems atrophied, *pcu* vestigial. In *S. hemiptycta* Diakonoff two last radial veins of forewing stalked to 3/4 and their stem with m_1 to 1/5, stem of m_2-m_3 atrophying at median cell; in both species cu_1 extending from 7/8 of cubital arm of median cell.

Male genitalia (Figs 415—419): Uncus slender with oblique basal lobes and weak apical brush; arm of gnathos slender, terminal plate bifurcate; subscaphium well developed, in form of long plate; socius in type-species, small, pending (in illustrated specimen fused with gnathos, but this character should be reexamined) or consisting of parietal group of bristles and ovate main lobe at gnathos arm; lateral parts of pedunculus densely scaled, base tapering, dorsal. Valva with costa reaching to middle, followed by minutely plicate area extending from above sacculus, distal part membranous; sacculus strong, with dorsal lobe of outer surface; cup-shaped concavity in outer area of valva, near base similar to that in *Cnephasiini*. Transtilla broad, sinuate ventrally, attached to dorsal parts of juxta; deep concavity in anterior portion of sclerite of disc; juxta membranous dorsally, provided with median rib; aedeagus simple, with short coecum penis and vestigial caulis; in one species a group of short, non-capitate cornuti realized.

Female genitalia (Fig. 713): Sterigma in form of concave plate extending laterally into broad arms; ostium bursae large; colliculum membranous; median portion of ductus bursae coiled, provided with internal sclerite; signum thorn like, with asymmetrical basal plate.

Early stages and bionomy unknown.

Distribution: Western part of Palaearctic subregion (China: Likiang) and Oriental region.

Comments. This genus is characterized by the following autapomorphies: The presence of the cup-shaped concavity of the outer surface of the valva and the rod like sclerite strenghtening the pit-shaped structure of the basal portion of the valva, the shape and the attachment of the transtilla, the fusion of the transtilla and the juxta, the structure of the terminal plate of the gnathos and the shape of the socii. The systematic position of this genus is completely unclear.

Group of genera with atrophied costa of valva

In this group I am placing the genera with completely atrophied costa of valva. The importance of this character is insufficiently clear as some genera with partially atrophied costal sclerites show several common characters with this group. The deciduous cornuti and capitate signum appear already in some genera of the preceding group of *Archipini*. Thus the entire reduction of the costa may prove a final stage of an evolutionary trend originated already in one of the preceding subgroups.

The system of the genera cannot be sufficiently supported by the present knowledge, thus I am adopting that proposed by me (RAZOWSKI, 1981a) for the Polish fauna. Two genera recorded of this subregion are not included in the present paper. First of them, *Homona* WALKER, is probably exclusively Oriental as the Palaearctic Far East species included or described in it to date proved to belong in *Choristoneura*. The second genus, *Procrica* DIAKONOFF, is Ethiopian in distribution because *P. ammina* DIAKONOFF described from Saudi Arabia in it is not congeneric with its type-species.

Argyrotaenia STEPHENS

Argyrotaenia STEPHENS, 1852, List Specimens Br. Animals Br. Mus., **10**: 67. Type-sp.: *Tortrix politana* HAWORTH, [1811] = *Tortrix pulchellana* HAWORTH, [1811] — by subs. design. (FERNALD, 1908. Genera *Tortricidae*: 36).

Venation: In forewing all veins separate, chorda, median stem and median part of *pcu* atrophied; in hindwing *rr* strongly approached to m_1 basally; $m_1 - cu_3$ extending from one point of median cell. Sexual dimorphism: Male smaller and more contrasty in colour than female.

Male genitalia (Figs 420, 421): Uncus slender, often expanding terminally, usually with weak ventral hairy brush before end; socius extremely small or wanting; gnathos arm slender, terminal plate fairly large, pointed; vinculum with distal fold sclerotized only subventrally. Valva elongate-ovate, provided with weak sclerite and curved, longitudinal folds beneath middle of disc; pulvinus indistinct; sacculus slender, without free end; bunch of long scent scales

in basal portion of valva, usually dorsally. Transtilla plate-shaped, tapering medially; juxta small. Aedeagus slender with rather small caulis and well developed coecum penis; cornuti short, often broad.

Female genitalia (Figs 714, 715): Sterigma concave in middle dorsally, with distinctly sclerotized anterior edge and lateral arms tapering terminally; colliculum not broader than ductus bursae, strenghtened with internal sclerite; ductus seminalis postmedian; plate-shaped, folded sclerite in basal portion of ductus bursae; signum with large funnel-shaped part and variably developed capitulum.

Early stages. Chaetotaxy is described by SWATSCHEK (1958) and MACKAY (1962) who divided the Nearctic species into two groups.

Bionomy. Two generations yearly; larvae polyphagous (e. g. *pulchellana* on *Vaccinium*, *Senecio*, *Prunus*, *Picea* etc.).

Distribution. Of ca 20 known species one is distributed in our subregion, and the majority of them are Nearctic. The genus is also known of the Neotropical region.

Comments. The supposed autapomorphy of this genus is the presence of the sclerite of the ductus bursae. The specific differences are slight.

Archips HÜBNER

Archips HÜBNER, [1822], Syst. alphab. Verz.: 58. Type-sp.: *Phalaena Tortrix xylosteana* LINNAEUS, 1758 — by subs. design. (OBRAZTSOV, 1954, Tijdschr. Ent., **97** (3): 175).

Cacoecia HÜBNER, [1825], Verz. bekannter Schmett.: 388. Type-sp.: *Phalaena Tortrix xylosteana* LINNAEUS, 1758 — by subs. design., (FERNALD, 1908, Genera *Tortricidae*: 14).

Archiceps WEISS & DICKERSON, 1921, J. N. Y. ent. Soc., **29**: 142. Name mistakenly used instead of *Archips* HÜBNER.

Archippus FREEMAN, 1958, Can. Ent., **90**, Suppl., **7**: 15. Type-sp.: *Tortrix packardiana* FERNALD, 1886 — by orig. design.

Pararchips V. I. KUZNETSOV, 1970, Ènt. Obozr., **49** (2): 448. Type-sp.: *Ariola pulchra* BUTLER, 1879 — by orig. design.

Male antenna delicately dentate, in female simple. Sexual dimorphism shown also in the shape of the forewing which in male is more expanding terminally and more strongly incised beyond apex, in presence of costal fold in male and group of scent scales before apex of female hindwing, in size and coloration. Females are much larger than males and their pattern is more or less reduced. Venation: In forewing all veins separate, median stem vestigial, *pcu* atrophying in anterior half; in hindwing somewhat variable as $m_3 - cu_1$ separate, from one point or very short stalked. On tergites 2, 3 or, rarely, on 2—6 occur pairs of pits of unknown importance found also in the pupae. Exceptionally pair of pits on subgenital sternite or dense group of scales at end of female abdomen. Broad transverse area of scent scales at hind edge of subgenital sternite in female.

Male genitalia (Figs 422—427): Uncus usually slender, often club-shaped, in some species broad, exceptionally bifurcate; gnathos arm slender, terminal

plate elongate, sharp; socius very small or rudimentary; vinculum as in preceding genus. Valva ovate, with large dorsal part minutely folded radially, scaled and hairy; pulvinus distinct; sacculus species specific, with spined or smooth free termination, expanding beyond base ventrally. Transtilla band-shaped, folded upwards in middle anteriorly, broad laterally; juxta simple, rater small. Aedeagus simple or with process; caulis fairly large; coecum penis proportionally small; cornuti numerous, long spines; constant cornuti never found.

Female genitalia (Figs 716—719): Sterigma more or less elongate, usually with well developed cup-shaped portion fusing with colliculum, provided with submedian areas of scent scales; colliculum sclerite distinct, surrounded by broadened membrane forming anteriorly a small sack; ductus seminalis dorsal, from colliculum; ductus bursae long; cestum variably long, extending from beyond corpus bursae, exceptionally reduced; capitulum of signum and basal plates distinct. Subgenital sternite (Fig. 719) variably insiced in middle posteriorly, provided with specific prominences or folds.

Early stages. Chaetotaxy of European species provided by SWATSCHEK (1958) of Nearctic species by MACKAY (1962); pupa described by MOSHER (1916).

Bionomy is gathered by me (RAZOWSKI, 1977a) in the monograph of the genus: Hibernation either in egg stage or in third, rarely second instar larvae. The species hibernating in egg stage are probably constatly univoltine, other species occur in 2—3, exceptionally in more generations yearly. First instar larvae are oliphagous, the older larvae may live polyphagously. The host plants are chiefly deciduous trees and bushes, some species, however, utilise conifers.

Distribution. The genus is spread in Holarctic and Oriental regions; 49 species are Palaearctic, 16 Nearctic and 25 Oriental.

Comments. This genus characterizes with the following probable autapomorphies: The presence of the costal scent scales in female hindwing and structure of the subgenital sternite in female. *Archippus* was established on the basis of the uniformly broad uncus and strong median prominence of the sterigma but those characters are variably distributed within the genus, and rather species specific. *Pararchips* was erected for single species that characterizes with short costal fold in male forewing, longitudinal pattern and presence of a short stalk of veins $rr—m_1$. Those characters are neither of generic importance. The infrageneric system is discussed in my afore mentioned publication.

Dentisociaria V. I. KUZNETSOV

Dentisociaria V. I. KUZNETSOV, 1970, Ènt. Obozr., **49**: 449. Type-sp.: *Dentisociaria armata* V. I. KUZNETSOV, 1970 — by orig. design.

Venation: In forewing all veins separate; in hindwing $m_3—cu_1$ extending from one point of median cell, cu_2 from 2/3 of it. Male with rudimentary costal fold.

Male genitalia (Figs 428, 429): Uncus stout, without ventral brush but with dispersed hairs; gnathos arm as in preceding genus, terminal plate long, slender; socius distinctly sclerotized, dentate; distal fold of vinculum in major part weakly sclerotized. Valva similar to that in *Archips*, but sacculus strong, heavily sclerotized, without free termination. Transtilla, juxta and aedeagus as in *Archips*.

Female and early stages unknown.

Bionomy: Probably two generations yearly.

Distribution: Primorskij Kraj and Ussuri territory on the continent and northern part of Japan.

Comments. Originally this genus was compared with *Syndemis* but the shape of the disc of the valva and the transtilla speak of its closer relation to the preceding genus. The only autapomorphy is the shape and sclerotization of the socii. The genus is monotypical if the Japanese subspecies is conspecific with the continental population.

Choristoneura Lederer

Choristoneura Lederer, 1859, Wien. Ent. Mschr., **3**: 242. Type-sp.: [*Tortrix*] *diversana* Hübner, [1817] — design. by monot.

Cornicacoecia Obraztsov, 1954, Tijdschr. Ent., **97** (3): 172. Type-sp.: *Tortrix lafauryana* Ragonot, 1875 — by orig. design.

Hoshinoa Kawabe, 1965, Trans. lepid. Soc. Japan, **16**: 30. Type-sp.: *Archips longicellanus* Walsingham, 1900 — by orig. design.; **synon. n.**

Venation as in preceding genus; chorda usually wanting, median stem reduced to various degrees, in hindwing m_3— cu_1 more or less strongly approached to one another basally. Sexual dimorphism as in *Archips*, males often with costal fold; variation also similar.

Male genitalia (Figs 430—435): Uncus species specific, often club-shaped, in several species broad, rather short, with weak hair brush ventrally. Dorsal surface of uncus distinctly elevated above surface of its basal lobes; gnathos arm simple; socius large. Valva as in *Archips* or more subtriangular, with better differentiated dorso-proximal portion provided with bunch of long scent scales; distal part of valva forming ill-defined brachiola like lobe. Transtilla band shape, somewhat expanding dorsally or laterally; juxta simple; lobes of anellus often large. Aedeagus with caulis short or strongly elongate; coecum penis small; cornuti numerous long spines.

Female genitalia (Fig. 720) as in preceding genus but anterior portion of sterigma short or almost completely atrophied, rarely cup-shaped; postvaginal part in some species tapering beyond ostium anteriorly, then expanding into distinct lateral arms.

Early stages. Chaetotaxy examined by Swatschek (1958) in two Palaearctic species and by MacKay (1962) in several Nearctic ones.

Bionomy. The species occur in 1 or two generations yearly, but in the south that number probably increases. Hibernate eggs or larvae (in first instar in *Ch. murinana* (HÜBNER)). The hosts are mainly deciduous trees, but several species are bound with conifers. Those living on deciduous trees are often polyphagous (cf. YASUDA, 1975 who listed food plants of *Ch. magnanima* (DIAKONOFF), comb. n.).

Distribution: Holarctic and Oriental regions. In Palaearctic subregion over 20 species are discovered.

Comments. The autapomorphy of this genus, or group of genera, if *Meridemis* is distinct, is the structure of the dorsal part of the uncus. Other characters seem variable. *Cornicacoecia* was established on basis of the shape of the sacculus, but various, however shorter, processes are found in several other species, e. g. in *longicellana*, the type-sp. of *Hoshinoa*. It was described on basis of different shape of the costal fold in the male forewing which begins postbasally and short veins in distal part of that wing. There is also a character named by KAWABE as "hollowed head" which is not reexamined. Such concavity of front may be of specific importance only.

Meridemis DIAKONOFF

Meridemis DIAKONOFF, 1976, Zool. Verh. Leiden, **144**: 100. Type-sp.: *Meridemis furtiva* DIAKONOFF, 1976 — by orig. design.

Venation: In forewing r_4—r_5 stalked to beyond 1/3, remaining veins separate, m_3 much closer to m_2 than to cu_1. chorda, median stem and *pcu* wanting; in hindwing rr—m_1 stalked to 1/4, m_3—cu_1 from one point, *pcu* rudimentary (after original drawing).

Male genitalia (Figs 436, 437): Uncus club-shaped or uniformly broad throughout, with more or less distinct subterminal brush and elevated dorsal portion; socius large. Valva with rather well developed sclerite and folded area of the disc; dorso-anterior part of valva often well differentiated, prowided with longer scent scales; sacculus as long as valva or with minute free termination; transtilla with double or single prominence situated medially; coecum penis rather short; caulis large; cornuti long.

Female genitalia (Fig. 721): Median part of sterigma broad, concave dorsally with slender lateral portions, roof-shaped convexity above ostium bursae; colliculum short, with internal sclerite and ductus seminalis extending dorsally; cestum proximal; signum capitate, fully developed.

Early stages and bionomy: No data.

Distribution: South-eastern part of Palaearctic subregion (China), Western Oriental region and the transition zones between the two, chiefly Nepal.

Comments. Originally this genus was compared with *Homona* but all mentioned characters are most probably of convergent importance. The ele-

vated dorsal surface of the uncus touching end of the tegumen is very similar to that in *Choristoneura*. Further study is needed to decide about the relation between the two genera. Five species known to this data.

Tosirips Razowski

Tosirips Razowski, 1987, Nota lepid. (in print). Type-sp.: *Tortrix perpulchrana* Kennel, 1901 — by orig. design.

Venation and external habit as in *Ptycholomoides*; costal fold in male wanting.

Male genitalia (Figs 438, 439): Uncus broad, with ventral hairs; socius membranous, fairly long; apical plate of gnathos distinct; transtilla folded longitudinally, with lateral, expanding cup-shaped portions; valva expanding distally, with a plicate belt across middle; sacculus broad; aedeagus as in other genera of this group; cornuti deciduous.

Female genitalia (Figs 722, 723): Sterigma with slender lateral parts and concave median portion; colliculum distinct; ductus seminalis from its anterior portion, dorsally; ductus bursae and cestum long; signum absent.

Early stages unknown.

Bionomy. Probably single generation yearly; larva in lives of deciduous trees (e. g. on *Quercus*).

Distribution: Palaearctic subregion, from Central Europe to Japan.

Comments. This genus is very similar to *Ptycholomoides* but has less specialized terminal portion of the gnathos. Its transtilla is rather similar to that in *Archips* but its median part is not expanding proximally (or dorsally). The supposed autapomorphies of this genus are the shape of the lateral portions of the transtilla and long, weakly sclerotized socius. The elongate distal part of the valva is probably of convergent importance.

Ptycholomoides Obraztsov

Ptycholomoides Obraztsov, 1954, Tijdschr. Ent., 97 (3): 186. Type-sp.: *Coccyx aeriferana* Herrich-Schaeffer, 1851 — by orig. design.

Antenna as in other genera of this group; male forewing with well developed costal fold; besides this sexual dimorphism expressed in size and shape of forewing. Venation: In forewing all veins separate, chorda reaching last radial vein, in hindwing $m_3 - cu_1$ from one point.

Male genitalia (Figs 440, 441): Uncus broad with fairly well developed hairy brush; arm of gnathos broadening distally, termination in form of long, spined ventrally rod; socius small. Valva subtriangular, with subdorsal area of folds and distinct sclerite fused with base of transtilla; pulvinus ill-defined, represented

by group of long hairs situated below sclerite of disc; sacculus provided with posterior plate. Transtilla expanding laterally and weakly folded in dorsal portions of those broadenings. Aedeagus simple, with short coecum penis and slender caulis.

Female genitalia (Figs 724, 725): Papilla analis flattened laterally; sterigma broad and concave medially; colliculum sclerotized inside, forming minute sack anteriorly; ductus seminalis dorsal, situated just before colliculum; signum minute, of a simplified capitate type.

Early stages. Chaetotaxy described by SWATSCHEK (1958).

Bionomy. One generation yearly; no data on hibernation stage; larvae on *Larix*, but also found on *Betula*.

Distribution: Transpalaearctic, probably except for southern parts of the subregion.

Comments. The probable autapomorphy is the structure of the gnathos. The genus is monotypical.

Ptycholoma STEPHENS

Ptycholoma STEPHENS, 1829, Syst. Cat. Br. Insects, 2: 183. Type-sp.: *Phalaena Tortrix lecheana* LINNAEUS, 1758 — design. by monot.

Venation as in preceding genus, but in hindwing veins m_3—cu_1 originate separately, from one point of very short stalked. Sexual dimorphism as in *Ptycholomoides*.

Male genitalia (Figs 442, 443) as in preceding genus but gnathos simple, without spines. Valva in terminal part strongly elongate, with long area of folds of disc and small subbasal pulvinus; sacculus terminating in a thorn. Transtilla slender medially, with lateral portions broad dentate dorsally. Coecum penis rather short, with large sclerites of base of caulis; cornuti very short, deciduous.

Female genitalia (Figs 726, 727): Distal part of sterigma deeply concave transversely, median part also concave, anterior portion funnel-shaped, fused with colliculum; the latter provided with indistinct internal sclerite, extending anteriorly; ductus seminalis dorsal, from colliculum area; no cestum; signum with large basal plate and proportionally small dagger, capitulum wanting.

Early stages. Chaetotaxy described by SWATSCHEK (1958).

Bionomy. One or two (in Japan) generations yearly; hibernation in larval stage; larvae polyphagous on deciduous trees and conifers.

Distribution: Transpalaearctic; one species is bound with Near East (Asia Minor, Iran).

Comments. The supposed autapomorphies of this genus are the shape of the sterigma and the termination of the sacculus; the short cornuti are not found in the related genera either.

Lumaria DIAKONOFF

Lumaria DIAKONOFF, 1976, Zool. Verh. Leiden, **144**: 110. Type-sp.: *Capua minuta* WALSINGHAM, 1900 — by orig. design.

Venation (after original illustration): In forewing r_4—r_5 stalked to 1/3, chorda and median stem wanting; in hindwing rr—m_1 stalked anteriorly, m_3—cu_1 connate. Male without costal fold, sexual dimorphism expressed in the shape of forewing and size.

Male genitalia (Figs 444, 445): Uncus more or less distinctly expanding terminally, with ventral brush consisting of hairs; socius small or moderate; gnathos typical of the group in question, simple. Valva more or less tapering distally, with rather small sclerits and folded area of disc; sacculus species specific, in some species with dentate or spined dorsal portion; transtilla slender, with pair of basal broadenings. Aedeagus with moderate caulis and coecum penis.

Female genitalia (Fig. 728): Sterigma a broad concave plate with slender lateral parts; colliculum ill-defined; ductus seminalis probably subterminal; cestum weak, posterior, if present. In *L. rhytmologa* (MEYRICK) sterigma is tubular, with thin lateral parts and colliculum provided with internal sclerite. Signum in examined species wanting.

Early stages and bionomy unknown.

Distribution: South-eastern part of the Palaearctic subregion and Western Oriental region. Of about 10 known species 8 are recorded from China.

Comments. Originally this genus is compared with *Epagoge* group of genera and distinguished by the shape of dentate sacculus. The sacculus is in several species devoid any dents or spines and that character does not seem of generic importance. The elongate distal portion of the valva is found in some other genera.

Pandemis HÜBNER

Pandemis HÜBNER, [1825], Verz. bekanneter Schmett.: 388. Type-sp.: [*Tortrix*] *textana* HÜBNER, [1796—99] = *Pyralis corylana* FABRICIUS, 1794 — by subs. design. (Fernald, 1908, Genera *Tortricidae*: 15, 58).

Parapandemis OBRAZTSOV, 1954, Tijdschr. Ent., **97** (3): 166. Type-sp.: *Lozotaenia chondrillana* HERRICH-SCHAEFFER, 1860 — by orig. design.; **synon. n.**

Second joint of male antenna notched except for 2 Palaearctic species. Venation: All veins separate; chorda well developed or wanting, *pcu* distinct, in some species atrophying medially. Sexual dimorphism expressed in shape of forewing, size and pattern; costal fold developed only in two Asiatic species.

Male genitalia (Figs 446, 447, 454, 455): Uncus strong, often very broad, with variably developed hairy brush; gnathos arm short, simple; terminal plate in several species strong, connected with diaphragma by means of ventral sclerite; socius large. Valva short, rounded dorsally, minutely folded radially often on entire surface of disc, or only on peripheries; fold of disc distinct,

extending to base of transtilla; pulvinus rather weak, not extending anteriorly; large areas of scent scales present; sacculus simple, or with minute free termination. Transtilla strongly sclerotized, distinctly tapering medially. Aedeagus with well developed, but often slender coecum penis; caulis often connected with aedeagus body by weakly sclerotized sheet, with distinct apodemes of muscles; cornuti broadening postbasally. In *P. dumetana* (TREITSCHKE) outer wall of valva forms a large, membranous pocket extending dorsally.

Scent organs (Figs. 448—453) developed in numerous species. In basal portion of abdomen may develope large submedian sack on each side of longitudinal convexity of the second sternite filled with broad scales. Anteriorly to them a transverse row of short, thick scales is situated. So, fully developed organ is found in *P. ribeana* (HÜBNER) and its reduced stages are found in *P. phaiopteron* RAZOWSKI and in *corylana*. In subgenital segment (Figs 450, 452) occurs another organ developed in form of sublateral, ventral pockets retractible to the seventh abdominal segment in which long scent scales are situated. For additional data see descriptions in RAZOWSKI (1978b).

Female genitalia (Fig. 729): Sterigma variably developed, with more or less distinct cup-shaped portion and usually short lateral parts between which there is a dorsal concavity; colliculum membranously connected with sterigma, provided with semi-funnel like sclerite; ductus seminalis posterior, or extending from dorsal portion of colliculum; anterior part of ductus bursae often broad; signum with distinct capitulum and basal plates, accompanied by two elevated areas of sclerotized granules.

Early stages. Chaetotaxy described by SWATSCHEK (1958) for 4 European species and by MACKAY (1962) for a few Nearctic species.

Bionomy. One to 3 generations yearly; hibernation in larval stage, e. g. in *P. heparana* (DEN. & SCHIFF.) in first instar; larvae poliphagous, utilising chiefly deciduous trees.

Distribution: Holarctic; in Palaearctic subregion occur more than ten species. DIAKONOFF (1960) described several Ethiopian species in this genus but I had no opportunity to examine them.

Comments. The supposed autapomorphies of *Pendemis* are the presence of male scent organs developed both in basal and distal parts of the abdomen, the notched pedicellus of the antenna in some males, the structures of the transtilla and the termination of the gnathos and scobinate areas of the bursa copulatrix. KUZNETSOV (1978) treated *Parapandemis* as a subgenus of *Pandemis*, but I am recognizing the absence of the posterior abdominal scent organs as a secondary reduction. Other characters of its type-species, *chondrillana*, correspond with those in the main bulk of the *Pandemis* species.

Syndemis HÜBNER

Syndemis HÜBNER, [1825], Verz. bekannter Schmett.: 382. Type-sp.: [*Tortrix*] *musculana* HÜBNER, [1796—99] — by subs. design. (FERNALD, 1908, Genera *Tortricidae*: 11).

Venation: All veins separate but hindwing $rr-m_1$ stalked to middle; forewing *pcu* is rather weak except for its terminal portion. Sexual dimorphism expressed in size and coloration; males with small costal fold.

Male genitalia (Figs 456—458): Uncus slender, with rudimentary group of ventral hairs terminally; socius small; arm of gnathos simple. Valva ovate, with fairly small folded area of disc and small but well defined anterior sclerite fusing with transtilla; sacculus with posterior plate; pulvinus weak in form of longer hairs on delicate fold. Transtilla a simple transverse plate, weakly expanding laterally; aedeagus simple, with small coecum penis and slender caulis; cornuti long.

Female genitalia (Figs 730, 731) similar to that in *Archips* and some other related genera, concave medially, with short antevaginal portion, membranously connected with colliculum resembling that in preceding genus; ductus seminalis from just before colliculum, dorsally; cestum present; signum capitate.

Early stages: SWATSCHEK (1958) described chaetotaxy.

Bionomy: Single generation yearly; hibernation in larval stage; larvae polyphagous on dicolydonous plants.

Distribution: Holarctic region.

Comments. The genus is probably monotypical and its type-species developed two subspecies (if *S. afflictana* (WALKER) is not a distinct species). OBRAZTSOV (1954) supposed that this genus is close to *Archips* and SWATSCHEK (1958) placed it between *Cacoecimorpha* and *Parapandemis*. Autapomorphies not realized.

Lozotaenia STEPHENS

Lozotaenia STEPHENS, 1829, Syst. Cat. Br. Insects, **2**: 169. Type-sp.: *Pyralis forsterana* FABRICIUS, 1781 — by subs. design. (WESTWOOD, 1840, Introd. Mod. Classif, Insects, **2**, Synopsis Genera Br. Insects: 107).

Venation: All veins separate or in hindwing m_3-cu_1 originating in one point. Sexual dimorphism slight; male forewing without costal fold.

Male genitalia (Figs 459, 460) as in the preceding genus; median part of transtilla slender, lateral portions expanding posteriorly, spined.

Female genitalia (Figs 732, 733) essentially as in *Syndemis*.

Early stages. Chaetotaxy described by SWATSCHEK (1958) on basis of two species.

Bionomy. Probably univoltine; larva of *forsterana* polyphagous (e. g. *Vaccinium*, *Ribes*, *Picea*).

Distribution: Palaearctic.

Comments. I could not find any autapomorphies of this genus; almost all characters are of convergent importance, e. g. the postemedian, long plate like prominence of the dorsal portion of the sacculus, the sclerite of the disc of the valva fused with the base of the transtilla and the shape of the transtilla are shared with *Aphelia* and some other genera. A few species known to date.

Cacoecimorpha OBRAZTSOV

Cacoecimorpha OBRAZTSOV, 1954, Tijdschr. Ent., 97 (3): 182. Type-sp.: [*Tortrix*] *pronubana* HÜBNER, [1796—99] — by orig. design.

Venation: All veins separate except for hindwing m_3—cu_1 which extend from one point; in forewing chorda from mid-distance between bases of Sc—r_1, *pcu* preserved in terminal part of wing only; median stem atrophied.

Male genitalia (Figs 461—463): Uncus strong with weak hairy brush; gnathos arms and plate well developed; socius very small. Valva ovate with delicate dorsal part, small area of oblique folds and minute sclerite of disc; pulvinus producing, but small; sacculus large, with postmedian process. Transtilla heavily sclerotized, provided with postbasal, directed distally processes; juxta simple; aedeagus with completely atrophied coecum penis and minute caulis, anellus lobes attached laterally, large, distinctly sclerotized and hairy.

Female genitalia (Figs 734—736): Sterigma large, complicate, with ill-defined antevaginal plate and strong, concave anteriorly and postmedially lateral sclerites; ostium bursae small; colliculum short, provided with incomplete tubular sclerite; ductus seminalis from middle of colliculum, dorsally; cestum very long; signum a minute dagger extending from collar-shaped, elevated sclerite, medially.

Early stages. Description of chaetotaxy provided by SWATSCHEK (1958).

Bionomy. Two generations yearly; larva polyphagous, noticed on 120 plant species belonging in 20 families. First instar larvae are mining the leaves, older larvae roll them or spin.

Distribution. Known of western part of Palaearctic subregion, from Iberian Peninsula and British Islands to Asia Minor, and from North America.

Comments. The supposed autapomorphy of this genus is the presence of collar-shaped sclerite of aedeagus protecting the ductus ejaculatorius. The sclerotization of the anellus lobes is of secondary importance. SWATSCHEK (1958) supposes that this genus is strongly correlated with *Archips*. Monotypical.

Aphelia HÜBNER

Aphelia HÜBNER, [1825], Verz. bekannter Schmett.: 390. Type-sp.: *Pyralis viburniana* FABRICIUS, 1787 — by subs. design. (FERNALD, 1909, Genera *Tortricidae*: 15, 53).

Venation: In forewing all veins run separately, *pcu* usually well developed; in hindwing veins m_3—cu_1 may extend from one point.

Male genitalia with uncus well developed, provided with scarce ventral hairs; gnathos strong, in many species armed with various prominences or processes; socius small or very small. Basal sclerite of disc of valva variably developed, followed by oblique area of minute folds; pulvinus ill-defined or

absent; sacculus with postmedian fold or small free termination. Transtilla strong; juxta simple; aedeagus with rather small coecum penis and well developed caulis.

Female genitalia: Sterigma rather short, with distinct or atrophying antevaginal portion; caulis variable, prowided with internal sclerite and occasionally forming small anterior sack, membranously connected with sterigma or fused with it; ductus seminalis extending dorsally just from before colliculum or above its anterior sack; cestum in many species preserved; signum species specific, in majority of taxa with atrophied capitulum or strongly reduced.

Early stages. SWATSCHEK (1958) treats 3 Palaearctic species and MACKAY (1962) 2 Nearctic ones.

Bionomy. There is one generation a year; hibernation in egg or larval stage; larvae in spun leaves and flowers, polyphagous.

Distribution: Holarctic region.

Comments. The genus is still insufficiently known. It is divided into 3 subgenera redescribed as follows. Autapomorphies not found. For the revision of this genus see RAZOWSKI, 1981c.

Subgenus 1: ***Zelotherses*** LEDERER

Zelotherses LEDERER, 1859, Wien. Ent. Mschr., **3**: 123, 250. Type-sp.: *Cochylis albociliana* HERRICH-SCHAEFFER, 1851 — design. by monot.

Djakonovia OBRAZTSOV, 1942, Dt. ent. Z. Iris, **56**: 158. Type-sp.: *Tortrix euxina* DJAKONOV, 1929 — by orig. design.

Tortricomorpha AMSEL, 1955, Beitr. naturk. Forsch. SüdwDtl., **14**: 124. Type-sp.: *Tortricomorpha shaqlawana* AMSEL, 1955 = *Tortrix ochreana* HÜBNER, [1796—99] — by orig. design.

Male genitalia (Figs 465—472) with uncus simple or bifurcate and gnathos. provided with more or less distinct (in 3 species very small) lateral or (and) ventral processes devoid spines or dents. Transtilla a transverse, plate-shaped, occasionally emarginate dorsally plate, in some species marked with minute spines or expanding in middle posteriorly.

Female genitalia (Figs 737—739): Antevaginal lamella of sterigma more or less distinct; colliculum membranously connected with sterigma; signum with large dagger like part and basal plates, occasionally with rudimentary capitulum.

Early stages. The larvae slightly differ from those of the following subgenus (cf. SWATSCHEK, 1958).

Bionomy as described for the genus.

Comments. Autapomorphies not realized; the majority of the characters are of convergent importance. *A. pallorana* (ROBINSON) placed by me (RAZOWSKI, 1981d) in this subgenus characterizes with dentate processes of the gnathos and is transferable to *Aphelia* s. str.

Subgenus 2: ***Aphelia*** s. str.

Male genitalia (Figs 473, 474) characterize with large, dentate prominences or processes of the gnathos arm and distinct terminal plate; transtilla broad, with small lateral parts and large median portion dentate distally and dorsally; sacculus with free termination.

Female genitalia (Fig. 740): Sterigma large, densely spined, with weak or atrophied antevaginal portion; strong, tubular sclerite anterior to sterigma represents most probably the colliculum; signum reduced to a concave, dentate plate.

Early stages discussed by SWATSCHEK (1958) and MACKAY (1962), however in the latter work three *Clepsis* species are included.

Bionomy. Single generation yearly; hibernation probably in the egg stage. Larvae feeding on dicotyledonous plants and conifers.

Distribution: Holarctic region, 4 species are Nearctic, 2 ones Palaearctic.

Comments. The shapes of the gnathos, sterigma and signum may be treated as aut apomorphies within the genus.

Subgenus 3: ***Sacaphelia*** RAZOWSKI

Sacaphelia RAZOWSKI, 1981, Acta zool. cracov., **25** (15): 368. Type-sp.: *Euxanthis disjuncta* FILIPJEV, 1924 — by orig. design.

Male genitalia (Figs 475—479): Processes of gnathos arms nacked, terminal plate large; sacculus with small free termination; transtilla with ventral fold and dentate posterior edge, provided with large, dentate basal sclerite fused with valva.

Female genitalia (Fig. 741): Sterigma reduced to small dorsal and lateral portions and large, tubular part embracing ostium bursae and membranously connecting with colliculum; the latter provided with large internal sclerite; signum with well developed capitulum.

No data on early stages and bionomy (moth probably in one generation yearly).

Distribution: Central Asia.

Comments. This subgenus shares some characters both with *Zelotherses* and *Aphelia* s. str. and its autapomorphy is the structure of the basal sclerite of the transtilla.

Dichelia GUENÉE

Dichelia GUENÉE, 1845, Annls Soc. ent. Fr., (2) **3**: 141. Type-sp.: *Tortrix histrionana* FRÖLICH, 1828 — by subs. design. (DESMAREST, 1857 [in] CHENU, Encycl. Hist. nat. (papillons nocturnes): 223).

Parasyndemis OBRAZTSOV, 1954, Tijdschr. Ent., **97** (3) 185. Type-sp.: *Tortrix historionana* FRÖLICH, 1828 — by orig. design.

Venation: All veins separate, or hindwing m_3—cu_1 originating in one point. Sexual dimorphism slight, males with slender costal fold.

Male genitalia (Figs 480—483): Uncus strong; distal part of gnathos arm extremely broad except for base; terminal plate in middle of broad sclerite; socius small. Sclerite of disc of valva large, subdorsal; pulvinus atrophied; sacculus without free termination but provided with submedian, hairy process of inner surface; transtilla band-shaped, folding along dorsally; juxta simple; aedeagus with terminal lobes, short, ventral coecum penis and caulis broadening terminally.

Female genitalia (Figs 742—744): Sterigma large, distinctly sclerotized, with well developed antevaginal portion; colliculum sclerotized internally, fused with anterior part of sterigma which is cup-shaped; cestum present; signum with atrophied capitulum.

Early stages. Chaetotaxy described by SWATSCHEK (1958).

Bionomy insufficiently known. Probably single generation yearly, at least on the major part of the area of its distribution; hibernation seemingly in egg stage.

Distribution: Western part of Palaearctic subregion.

Comments. The supposed autapomorphies of this genus are the shape of the gnathos and the presence of the submedian process of the sacculus. The designation of the type-species of *Dichelia* by DESMAREST was earlier to that by FERNALD thus *Dichelia* is not a junior synonym of *Epagoge* and OBRAZTSOV's *Parasyndemis* must be sunk as the synonym of the genus in question.

Homonopsis V. I. KUZNETSOV

Homonopsis V. I. KUZNETSOV, 1964, Ènt. Obozr., 43 (4): 873. Type-sp.: *Dichelia illolana* KENNEL, 1901 — by orig. design.

Venation: In forewing veins r_4—r_5 stalked to 2/3, r_5 to termen, remaining veins separate; trace of chorda beyond r_1, *pcu* rudimentary, median stem wanting; in hindwing rr—m_1 stalked to middle, m_3—cu_1 extending from one point.

Male genitalia (Figs 484—486) strongly altered; tegumen very large, extending proximally, with almost horizontally situated pedunculi; vinculum fairly broad, simple; uncus very broad, bilobed, provided with large brush consisting of long scales; gnathos weakly sclerotized, with delicate terminal plate; tuba analis broad. Valva with elongate, densely spined distal part and dorsal convexity; sacculus without free termination; sclerite of disc large but rather weak. Transtilla very broad, fusing with disc sclerite, almost vertical; juxta simple, small. Aedeagus with small coecum penis and caulis; cornuti not found.

Female genitalia (Figs 745, 746): Sterigma with strong, concave lateral lobes and convex, rounded antevaginal portion; colliculum broader than ductus bursae, sclerotized terminally; ductus seminalis in anterior portion of colliculum, sublaterally; signum with small basal plate, with atrophied capitulum.

Early stages unknown.

Bionomy. Probably two generations yearly. No data on hibernation. Larva is polyphagous, e. g. feeding on *Rosaceae*, *Ericaceae* and *Fagaceae*; list of hosts provided by YASUDA (1975).

Distribution: Eastern part of the Palaearctic subregion: Amur and Ussuri territories and Japan (Honsyu).

Comments. The systematic position of this genus is unclear; originally it was compared with *Homona*, but differs from it in numerous characters. I am placing it provisionally at the end of the group of genera with atrophied costa and well developed transtilla. Its supposed autapomorphies are the shape of the uncus and transtilla and spined distal portion of inner surface of the valva. Three species are known to this date.

Chiraps DIAKONOFF & RAZOWSKI

Chiraps DIAKONOFF & RAZOWSKI, 1971, Ent. Berichten, **31**: 36. Type-sp.: *Cacoecia alloica* DIAKONOFF, 1948 — by orig. design.

Venation: All veins separate except for hindwing m_3—cu_1 extending from one point; chorda and median stem not developed, *pcu* preserved in distal third of wing, in median part vestigial. Shape of wings recalling those in *Archips*.

Male genitalia (Figs 487, 488): Uncus in form of a pair of strong processes and short basal lobes; subapical brush of uncus consisting of group of scales or hairs on each arm, terminally; socius small or vestigial; vinculum similar to that in *Archips*. Valva ovate, membranous dorsally, with broad but indistinct sacculus and transverse fold situated just above middle; transtilla in form of lateral plates; pulvinus short, hardly extending. Aedeagus with short coecum penis and rather large caulis; cornuti a sheaf of deciduous long spines and single, capitate non-deciduous spine.

Female genitalia, early stages and bionomy unknown.

Distribution. Two species are Oriental, one is known of China.

Comments. A peculiar genus with highly specialized male genitalia, however, showing some characters common with *Archips*-group of genera as the structures of the gnathos, vinculum, aedeagus and valva. The supposed autapomorphies are the bifurcate uncus and the plate-shaped parts of the transtilla. One can thus suppose that a separation of the lateral portions of the transtilla appeared in *Archipini* independently at least twice.

Neocalyptis DIAKONOFF

Neocalyptis DIAKONOFF, 1941, Treubia, **18**: 407. Type-sp.: *Neocalyptis telutanda* DIAKONOFF, 1941 — by orig. design. Oriental.

Calala YASUDA, 1972, Bull. Univ. Osaka Pref., (B) **24**: 82. Type-sp.: *Argyrotaenia angustilineana* WALSINGHAM, 1900 — by orig. design. Established as a subgenus of *Argyrotaenia* STEPHENS; **synon. nov.**

Venation probably variable; in forewing all veins separate or (in *angustilineana*, cf. YASUDA, 1972) r_4—r_5 stalked similarly as hindwing veins rr—m_1. Sexual dimorphism slight, expressed in shape of the forewing; costal fold in male occasionally present.

Male genitalia (Figs 489, 490, 493, 494): Uncus well developed, slender or thick, rarely very broad, with ill-defined or absent hairy brush; gnathos simple, with terminal plate well developed, pointed and slender arm; vinculum broad with more or less pronounced ventro-lateral prominences. Valva broad, rounded with disc almost entirely radially plicate except for dorso-basal portion and the area above sacculus, transverse fold distinct; sacculus simple, reaching end of plicate part of valva; large, membranous pocket extending laterally from outer surface of valva, strenghtened by short sclerite extending from ventral portion of sacculus base; broad scent sclaes on valva in several species; transtilla in form of labides, with large, dentate terminal portions and small, hairy convexities representing an altered pulvinus; funnel-shaped sclerite often strong; labides connected with one another by means of rather strong membrane. Juxta small, simple. Aedeagus with rather well developed coecum penis and proportionally small caulis; cornuti large, deciduous.

Subgenital sclerites more or less specialized, sternites with scent scales (Figs 491, 492).

Female genitalia (Figs 747—751): Sterigma with broad median portion concave dorsally, and slender lateral parts; ostium broad; colliculum with one or two anterior prominences, sclerotized to various degrees; ductus seminalis from before colliculum, dorsally or subdorsally; no cestum in examined species; signum of capitate form, with fully developed capitulum.

Early stages: No data on chaetotaxy.

Bionomy. The species occurs probably in two generations yearly; food plants of majority of species unknown, but probably the larvae are polyphagous (as *N. inconditana* (KENNEL), comb. n.). Hibernation in larval stage.

Distribution: Central and eastern parts of Palaearctic subregion (one species known from Afghanistan, main bulk is representing the Manchurian element) and Oriental region.

Comments. This genus hardly differs from the following one and was described on basis of bifurcate uncus and more strongly extending ventro-lateral prominences of the vinculum. The two characterize with the following synapomorphies: Presence of large, membranous sack-shaped portion of the valva strenghtened by small rod like sclerite extending from basal portion of the sacculus, the shape of the labis and the structure of ventral portion of the vinculum. The scent organs in the two genera are also similar. Other characters, as a large funnel like pit of the base of the labis are directly depending on their function and structure. About ten species are known to date. I am synonymizing *Calala* with *Neocalyptis* finding no genital differences between them and treating the venation characters as of specific importance. The absence of the costal fold is in this genus as in other *Tortricidae* of limited value.

Diplocalyptis DIAKONOFF

Diplocalyptis DIAKONOFF, 1976, Zool. Verh. Leiden, **144**: 108. Type-sp.: *Diplocalyptis apona* DIAKONOFF, 1976 — by orig. design. Oriental.

Venation: In forewing all veins separate, in hindwing $rr-m_1$ and m_3-cu_1 stalked. Costal fold in males often large.

Male genitalia (Figs 495—497) as in *Neocalyptis* but uncus more or less distinctly bifurcate, slender or broadening basally, processes of vinculum large, often curved distally and labis provided with tapering distal process situated beneath spined part. Subgenital segment (Figs 498, 499) highly specialized with complicate sternal scent organ.

Female genitalia (Figs 752, 753) as in preceding genus, in examined species with sublateral sack of colliculum.

Early stages: No data.

Bionomy little known; probably two generations yearly at least in our subregion.

Distribution: As the preceding genus.

Comments. Several species described. The genus is very close to the predceding one and can prove its synonym. The available data are still insufficient to decide about synonymization, but one can suppose that the differences in the shape of the vinculum processes are species specific. The other characters can prove also insufficient, as the bifurcation of the uncus that appeared independently in several genera of the *Archipini* (cf. *Archips*, *Aphelia*). The presence of the inner prominence of the labis may prove of plesiomorphic importance.

Ancyroclepsis DIAKONOFF

Ancyroclepsis DIAKONOFF, 1976, Zool. Verh. Leiden, **144**: 94. Type-sp.: *Ancyroclepsis rhodoconia* DIAKONOFF, 1976 — by orig. design.

Shape of forewing and sexual dimorphism as in other related genera; male without costal fold. Venation: In forewing all veins separate, in hindwing m_3-cu_1 connate, approximate at base to m_2.

Male genitalia (Figs 500—502): Uncus strong, flattened, without brush; gnathos arm broad, short, termination large, convexely rounded, with very large dorsal process directed towards uncus; socius broad, with small, beak-shaped terminal part. Valva elongate, with median plicate area and anterior sclerite of disc; sacculus terminating in a spine, broad basally; labis elongate, dentate dorsally; aedeagus with coecum penis and caulis rather short.

Female genitalia (Fig. 754): Median portion of sterigma short, deeply concave dorsally, lateral parts slender; colliculum short, provided with incomplete sclerite open ventrally; ductus seminalis dorsal, extending from colliculum; cestum anterior, entering corpus bursae where very strongly expanding; signum well developed, capitate.

Early stages and bionomy unknown.

Distribution: Eastern part of Palaearctic subregion (China: Likiang) and Western Oriental region: Nepal.

Comments. The supposed autapomorphies of this genus are the shape of the socius and the presence of strong process and bulbous terminal portion of the gnathos. The genus is monotypical and was correctly described as very close to the *Clepsis*-group of genera.

Clepsis Guenée

Clepsis Guenée, 1845, Annls Soc. ent. Fr., (2) **3**: 168. Type-sp.: *Tortrix rusticana* Treitschke, 1830 = [*Tortrix*] *senecionana* Hübner, [1818—19] — by orig. design.

Smicrotes Clemens, 1860, Proc. Acad. nat. Sci. Philad., [**12**]: 355. Type-sp.: *Smicrotes peritana* Clemens, 1860 — by orig. design.

Siclobola Diakonoff, 1947, Mem. Inst. scient. Madagascar, (A) **4**: 25. Type-sp.: *Tortrix unifasciana* Duponchel, 1843 = [*Tortrix*] *consimilana* Hübner, [1814—17] — by orig. design.

Pseudamelia Obraztsov, 1954, Tijdschr. Ent., **97** (3): 196. Type-sp.: *Tortrix unicolorana*: Obraztsov, 1954 = *Tortrix rogana* Guenée, 1845 — by orig. design.

Mochlopyga Diakonoff, 1955, Veröff. zool. StSamml. München, **8**: 44. Type-sp.: *Tortrix humana* Meyrick, 1912 — by orig. design.

Forewing fully developed, or, in females of some species slender; sexual dimorphism expressed also in coloration and the females show a tendency to atrophy of pattern. Costal fold developed to various degrees, or wanting. Venation: All veins separate, their distances at median cell somewhat variable.

Male genitalia (Figs 503—514): Uncus varying from slender to very broad, flattened dorso-ventrally; tegumen in some species very broad, with proportionally delicate terminal parts of pedunculi; gnathos arm simple or with various prominences, often armed with numerous spines; terminal plate well developed. Valva shape species specific, with terminal portion often well differentiated, large sclerite of disc and variable plicate area, sacculus simple or with processes, usually tapering terminally, without free termination or with developed dorsal, postmedian plate; labis variable in shape, broadly fused with disc sclerite, expanding and spined dorsally, in many species forming a beak like prominence apically. Aedeagus usually simple, with coecum penis and caulis moderate; cornuti spiniform.

Subgenital segment with specialized sclerites; distal portion of sternite develops variable areas of scent scales, in many species (e. g. Neotropical) forming pair of plates.

Female genitalia (Figs 755—763): Sterigma with well developed dorsal concavity and usually slender lateral parts; antevaginal portion small or atrophying; colliculum membranous or with distinct internal sclerite, more or less distanced from anterior portion of sterigma; ductus seminalis from before colliculum or from its dorsal surface; cestum in several species well developed, in those with coiled ductus bursae also swung; signum of capitate type, but in many species more or less reduced.

Early stages. The diagnoses based on chaetotaxy is provided by SWATSCHEK (1958) and MACKAY (1962).

Bionomy. One to several generations yearly, in discussed subregion usually two ones; hibernation in larval stage. The larvae are oligophagous or poliphagous.

Distribution. The majority of the species occur in Palaearctic subregion, many species are known of the New World, two ones are endemic in Madeira and few species are Oriental in distribution. The Australian material is unknown to me.

Comments. The genus consists of numerous species forming several groups (cf. RAZOWSKI, 1979a, 1979b) characterized with strong sclerite of disc and spined dorsal or posterior edge of the labis. However, no autapomorphy was found. I synonymised (RAZOWSKI, 1979a) three taxa with that genus and explained there my decision. The type of *Pseudamelia* hardly differ from that of *Clepsis* and the spined prominences of the gnathos arm in the former appears convergently in this group of *Archipini* (cf. *Aphelia*) being a rather variable character within this genus. The type-species of *Siclobola* differs from the other species in having specialized setae of the valva but that is an inconstant character not correlated with other characters of the closely related species (cf. *C. neglectana* (HERRICH-SCHÄFFER)). In type-species of *Mochlopyga* the tegumen is very large and the uncus is very broad. Those characters occurs, however, in several other species of this genus. The species closely related to *C. peritana* (CLEMENS) the type of *Smicrotes* form a compact group but do not show any autapomorphy. Their uncus varies from slender, club-shaped to strongly expanding terminally and their labis is variably producing distally. In the species very similar in the male genitalia to one another occur the females both with simple or coiled ductus bursae. Moreover, there are some intermediate species among the type-species of the above mentioned taxa.

Epiphyas TURNER

Epiphyas TURNER, 1927, Pap. Proc. R. Soc. Tasm., **1926**: 125. Type-sp.: *Epiphyas eucyrta* TURNER, 1927 — by orig. design. Australian.

Austrotortrix BRADLEY, 1965, Bull. ent. Res., **47**: 101. Type-sp.: *Teras postivittana* WALKER, 1863 — by orig. design. (*Austerotortrix*: RAZOWSKI, 1977, Acta zool. crac., **22** (6): 219 — misspelling).

Venation as in preceding genus, however, variable to some degree: in forewing m_3 is either present or absent and in hindwing $m_3 - cu_1$ are coincident, or stalked or m_3 is wanting (cf. COMMON, 1961).

Male genitalia (Figs 515—517): Uncus uniformly broad throughout or expanding terminally, with ventral brush consisting of hairs; arm of gnathos simple; socius very small or vestigial. Valva with well developed distal, slender portion; labis with distinct terminal process (those processes may fuse as shown by COMMON, 1961 in case of *E. liadelpha* (MEYRICK) from Australia).

Female genitalia (Figs 764, 765): Median part of sterigma concave dorsally, lateral portions tapering terminally, occasionally with anterior prominences; colliculum armed with short internal sclerite; ductus seminalis posterior, dorsal; signum with variably developed capitulum.

Bionomy will be discussed in the volume on the Australian fauna. In England probably 2 generations yearly. Larva polyphagous.

Distribution: Australian region. Artifically introduced to England (*postvittana* only).

Comments. This genus is very close to *Clepsis* and shows great similarity to the Nearctic and Neotropical species of the *peritana*-group. Apart from the genital similarity the structure of the male abdominal scent organs in the two are identical (Fig. 517). COMMON (1961) records 31 Australian species belonging in this genus.

Lozotaeniodes OBRAZTSOV

Lozotaeniodes OBRAZTSOV, 1954, Tijdschr. Ent., **97** (3): 201. Type-sp.: *Tortrix cupressana* DUPONCHEL, 1836 — by orig. design.

Venation: In forewing all veins separate, chorda and median stem wanting, *pcu* atrophying except for basal and terminal portions; $rr-m_1$ and m_3-cu_1 touching one another at median cell.

Male genitalia (Figs 518—520) as in *Clepsis* but aedeagus with strong, cup-shaped prominence of ventral edge. Other characters: Uncus strong, gnathos arms simple; sclerite of disc of valva very large; labis well sclerotized, thick, dentate; distal part of sacculus densely spined.

Female genitalia (Fig. 766): Distal part of sterigma with posterior fold, tapering anteriorly, anterior portion large, cup-shaped, fused with colliculum; ductus seminalis from the anterior part of the latter, dorsally; signum wanting.

Early stages. SWATSCHEK (1958) discusses the chaetotaxy of *cupressanus* and compares the genus with *Lozotaenia*.

Bionomy little known. Larvae feed on conifers.

Distribution: Western part of Palaearctic subregion: Southern Europe and Asia Minor.

Comments. This genus is very closely related to *Clepsis* and its probable autapomorphy is the presence of the ventral convexity of the aedeagus characterized with a ventral invagination. Two very close species known to date.

Daemilus YASUDA

Daemilus YASUDA, 1972, Bull. Univ. Osaka Pref., (B) **24**: 81, Type-sp.: *Cacoecia fulva* FILIPJEV, 1962 — by orig. design.

Venation: In forewing all veins separate, r_5 to termen; chorda and median stem wanting, *pcu* preserved in terminal part of wing only; in hindwing $rr-m_1$

extending from one point, $m_3 - cu_1$ on very short stalk. Sexual dimorphism expressed in shape of wings (forewing in female longer than in male, with less extending apex); costal fold small.

Male genitalia (Figs 521, 522): Uncus strong, distinctly expanding terminally; gnathos arm slender, terminal plate long; socius atrophied; valva elongate,not tapering terminally, with large sclerite of disc extending basally to form a wedge--shaped labis; sacculus slender, with free termination; aedeagus, simple with moderate caulis and coecum penis.

Female genitalia (Fig. 767): Anterior part of sterigma cup-shaped; colliculum short, provided with internal sclerite; cestum wanting; capitulum of signum distinct.

Early stages and bionomy unknown. Larva of *D. fulvus* on feeds *Picris* (*Ericaceae*) and *Abies*.

Distribution: Eastern part of Palaearctic subregion (Siberia and Japan).

Comments. The supposed autapomorphy of this genus is the shape of the naked labis. In the drawing in YASUDA's work (1975) the two labides are coalescent medially. This character must be reexamined. This genus shows some similarity both with the genera of the *Archips*-group and the *Clepsis*-group. It is placed provisionally in the latter. Two species included.

Adoxophyes MEYRICK

Adoxophyes MEYRICK, 1881, Proc. Linn. Soc. N. S. W., 6: 429. Type-sp.: *Adoxophyes heteroidana* MEYRICK, 1881 — design. by monot. Australian.

Venation: In forewing $r_4 - r_5$ stalked to middle or 2/3; $m_2 - m_3$ in both wing pairs approximate basally; chorda and median stem wanting, *pcu* preserved only in terminal part of wing. Sexual dimorphism distinct, expressed in shape of forewing (in male it is more expanding terminally, with extending apex, and with well developed costal fold), size and pattern.

Male genitalia (Figs 523—525): Uncus expanding terminally; gnathos arm convex ventro-laterally; socius small; valva large, densely plicate radially, with rather delicate sclerite of disc, occasionally with elongate distal part; sacculus simple; labis dentate above, with terminal process and small prominence before it in some species. Aedeagus simple, with short coecum penis and minute caulis.

Female genitalia (Figs 768, 769): Sterigma delicate, with ill-defined anterior portion and tapering terminally lateral parts; colliculum small, provided with incomplete tubular sclerite; ductus seminalis extending before colliculum, dorsally. Signum in posterior part of corpus bursae, with atrophying capitulum and usually curved dagger.

Early stages. Diagnosis based on single European species is provided by SWATSCHEK (1958).

Bionomy. In Palaearctic subregion there are two generations yearly, in the south probably this number is higher; no exact data on the tropical species. Palaearctic species hibernate in larval stage (*A. orana* (FISCHER RÖSLERSTAMM) hibernates as second or third instar larva in a silken hibernaculum). Larvae polyphagous, utilising mainly deciduous trees.

Distribution: All regions probably except for Neotropical. In Palaearctic subregion occurs a few species only.

Comments. The species included in this genus show slight genital differences. Unfortunately I could not find any autapomorphy, despite the representatives of *Adoxophyes* are rather easily distinguished by the shapes of the valva and the labis.

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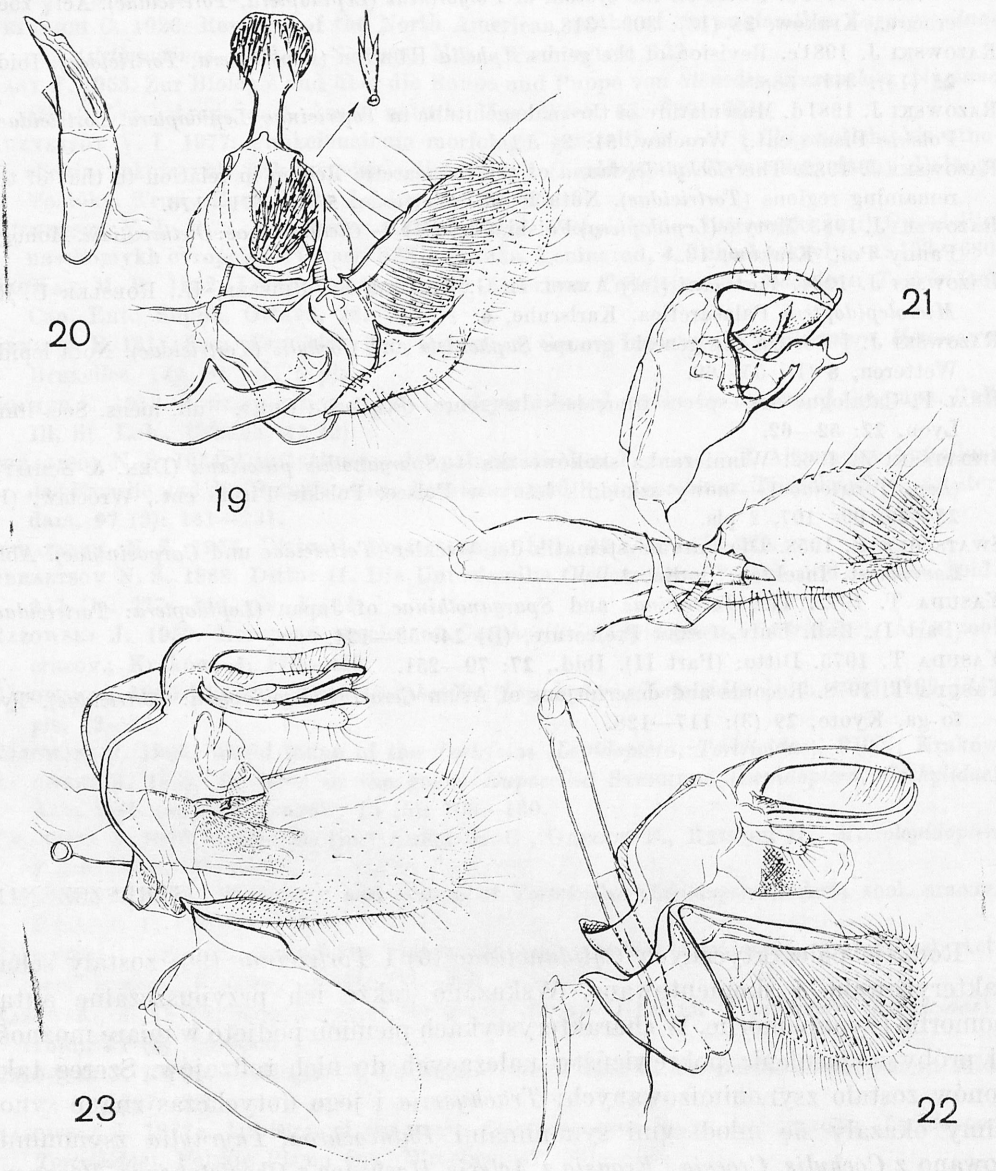
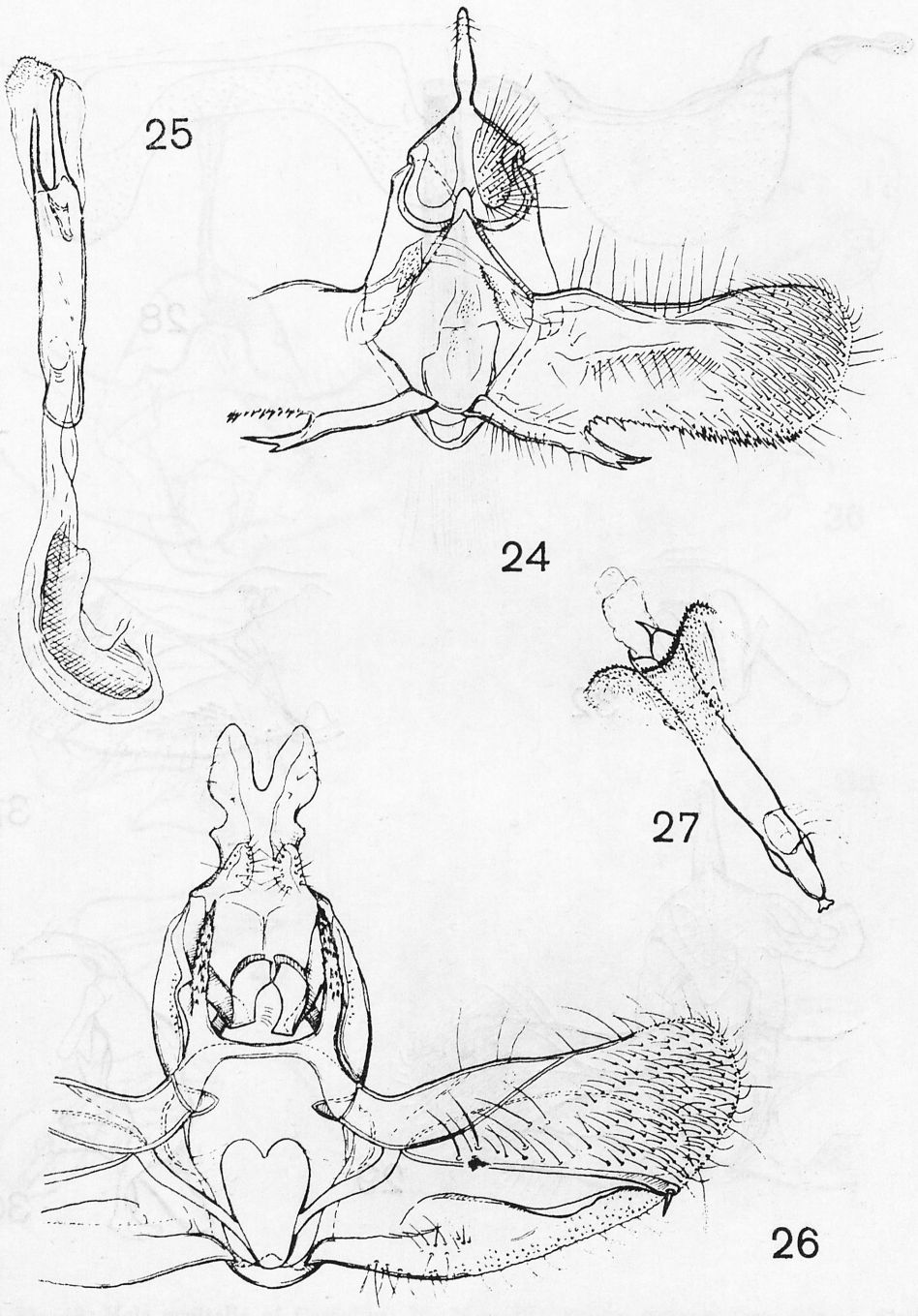
STRESZCZENIE

Rodzaje palearktycznych *Chlidanotinae* (6) i *Tortricinae* (90) zostały scharakteryzowane i skomentowane. Wskazano także ich przypuszczalne autapomorfie i synapomorfie. W charakterystykach plemion podjęto w miarę możności próby wyjaśnienia pokrewieństw należących do nich rodzajów. Szereg taksonów zostało zsynonimizowanych: *Trachysmia* i jego dotychczas znane synonimy okazały się młodszymi synonimami *Phtheochroa*, *Thyraylia* zsynonimizowano z *Cochylis*, *Croesia* i *Ergasia* z *Acleris*, *Hoshinoa* z *Choristoneura*, *Parapendemis* z *Pandemis* i *Calala* z *Neocalyptis*.

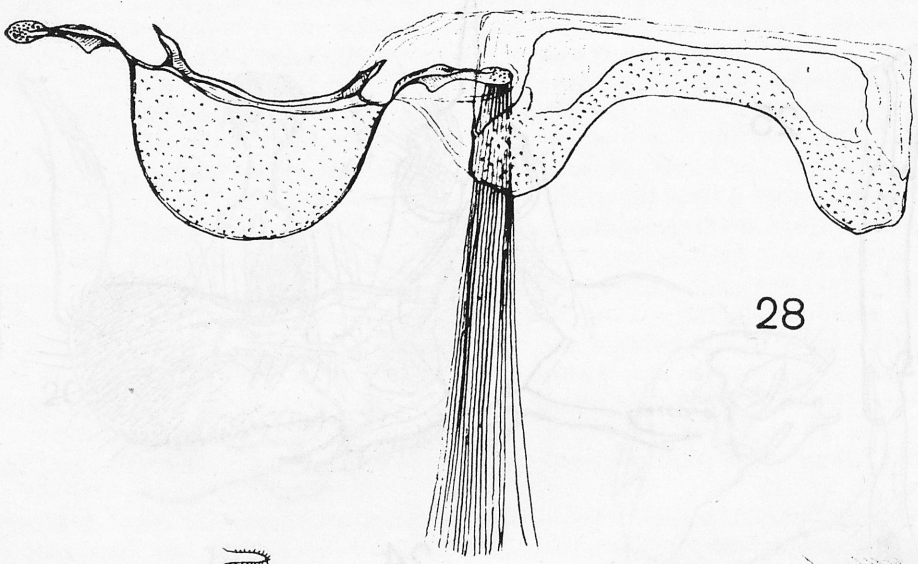
Redaktor pracy: prof. dr Adam Krzanowski

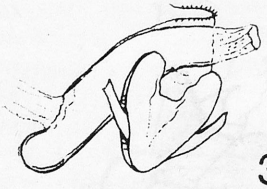


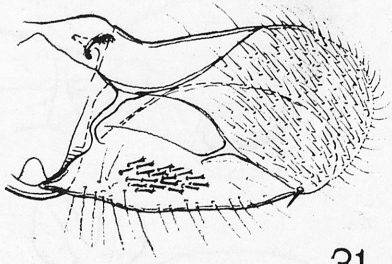
Figs 19—23. Male genitalia of *Hilarographini*: 19, 20 — *Mictocommosis nigromaculata* DIAK., Japan: Honsyu; 21 — *Thaumatographa leucopyrga* (MEYR.), Japan; 22 — *Th. aurosa* (DIAK. & ARITA), Japan: Kyusyu; 23 — *Charitographa micadonis* (STRINGER), Japan: Honsyu

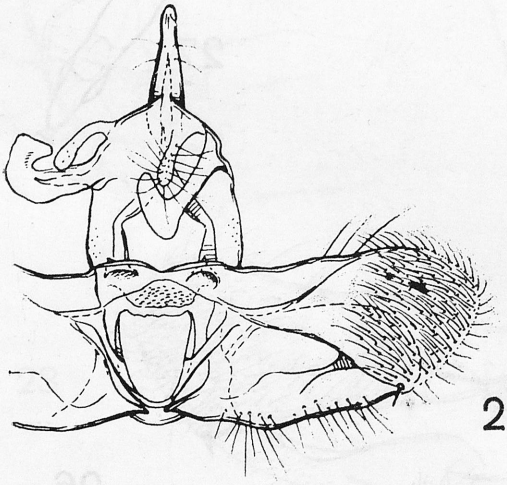


Figs 24—27. Male genitalia of *Polyorthini*: 24, 25 — *Cnephasitis dryadarcha* (MEYR.), Sikkim; 26, 27 — *Olindia schumacherana* (F.), Poland



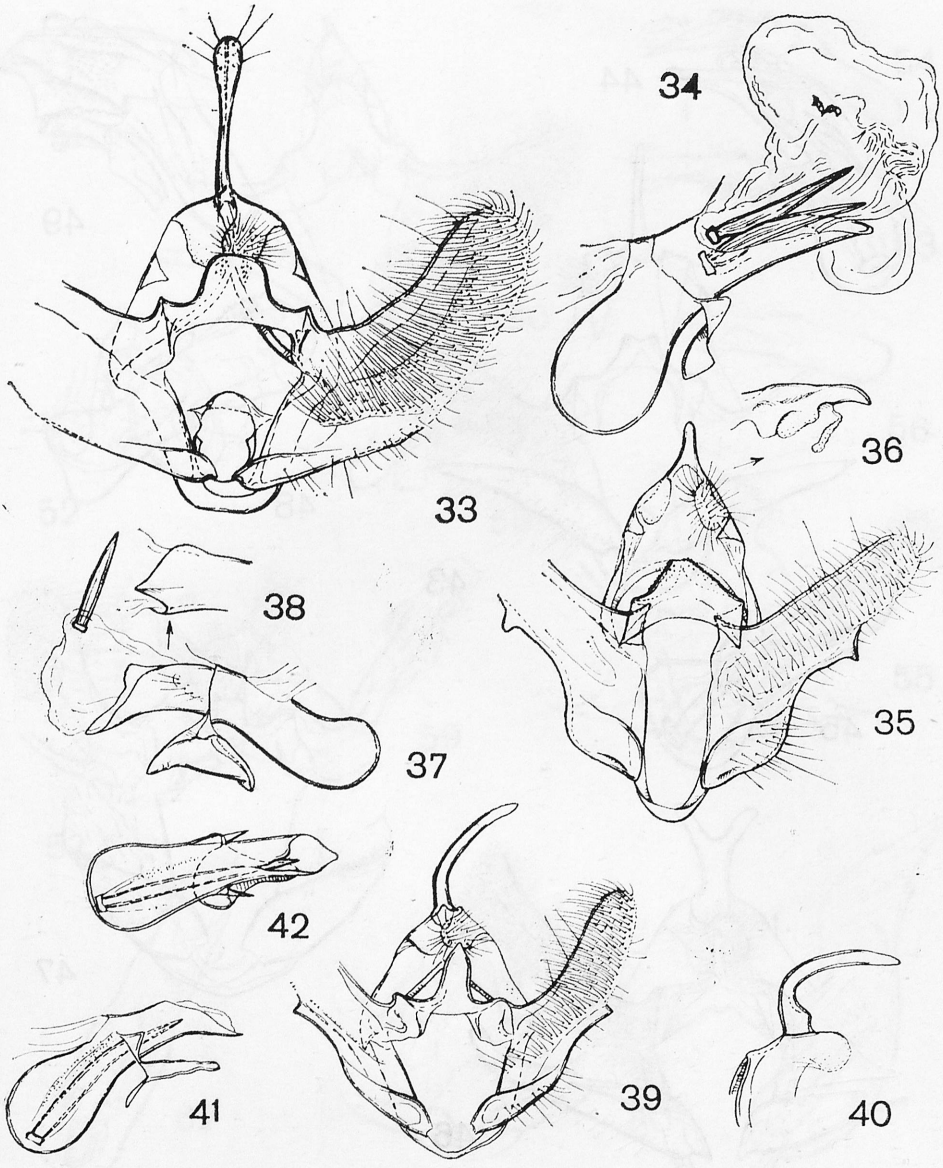




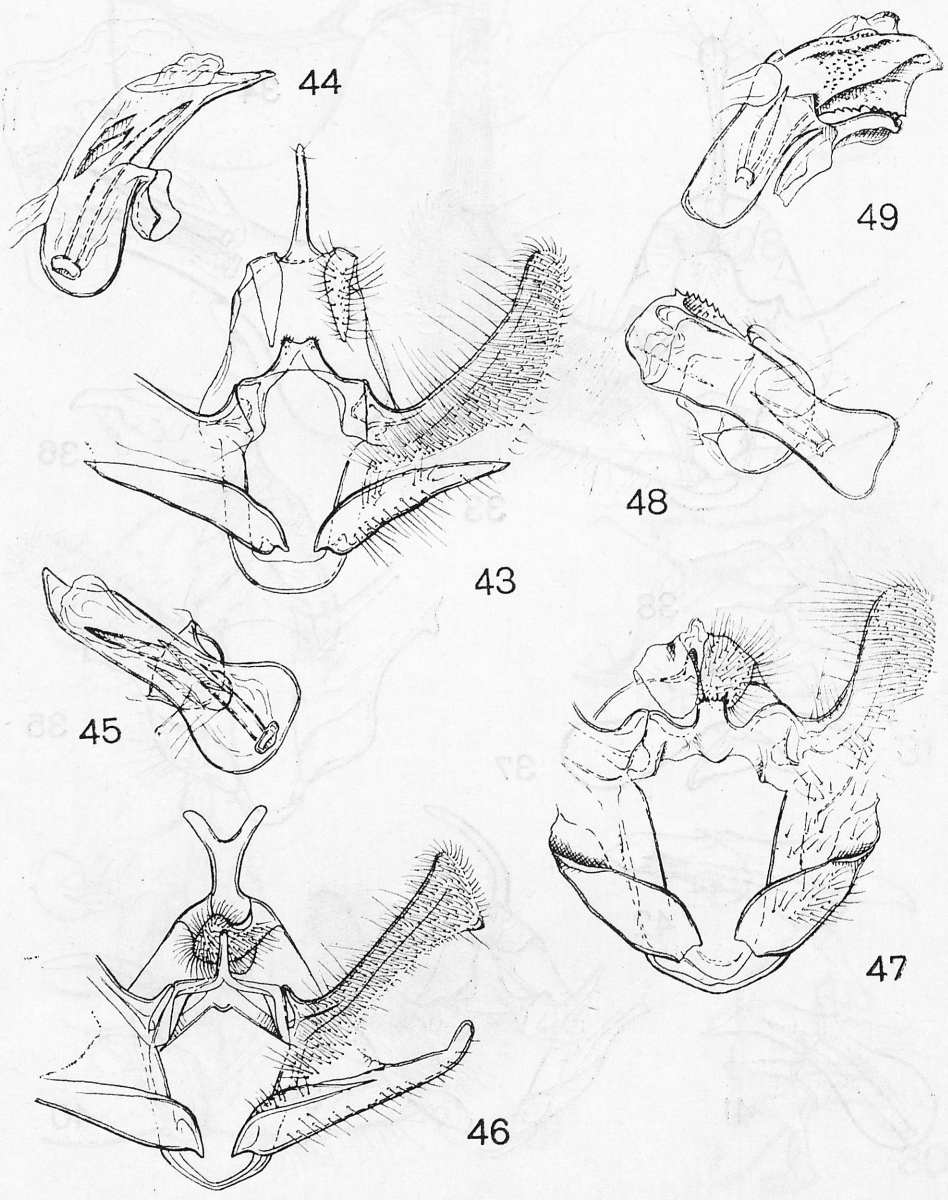




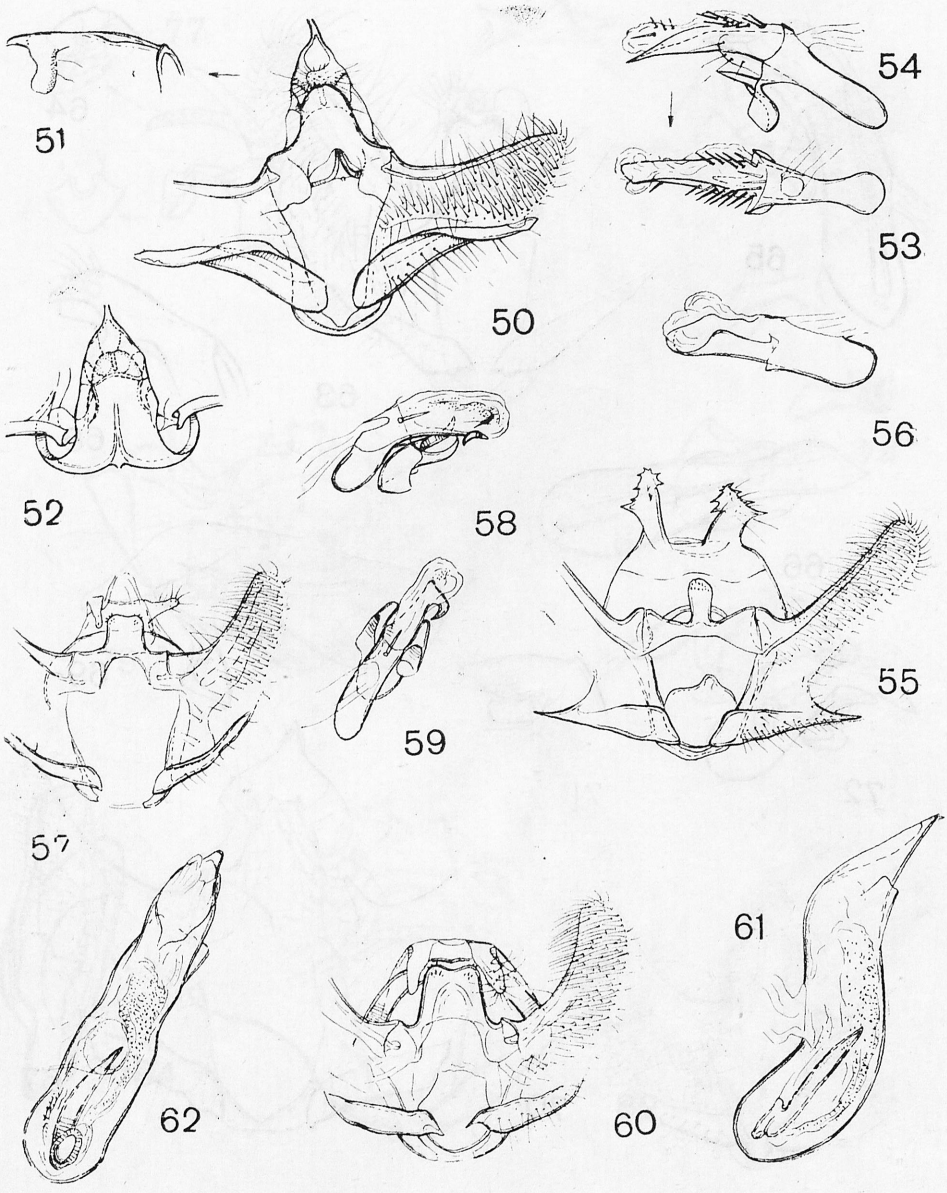
Figs 28—32. Male genitalia and coremata of *Polyorthini*: 28 — coremata of *Olindia schumacherana* (F.), Poland; 29, 30 — *Isotrias rectifasciana* (HAW.), W. Germany; 31, 32 — *I. hybridana* (HÜBN.), Italy



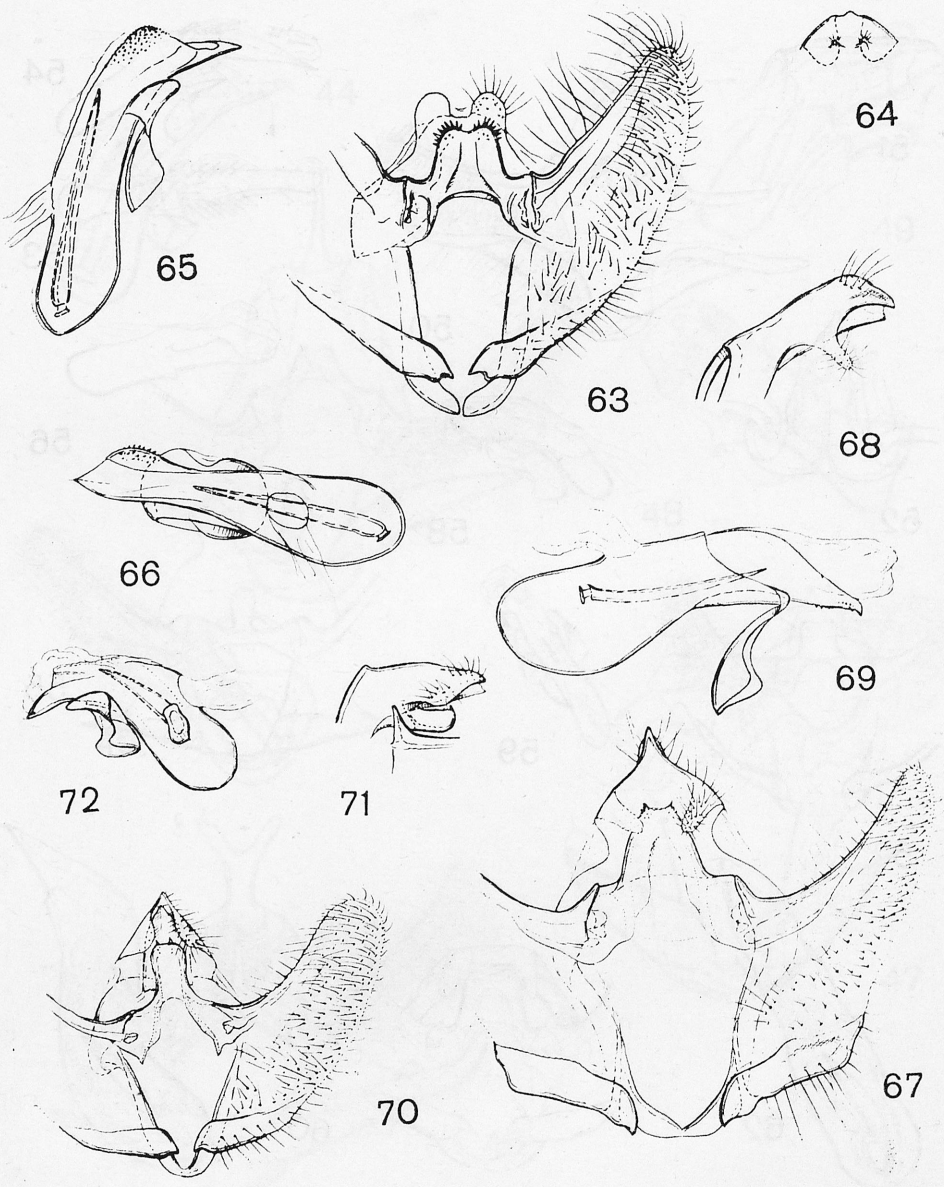
Figs 33—42. Male genitalia of *Cochylini*: 33, 34 — *Phtheochroa duponchelana* (DUP.), Sicily; 35—38 — *Ph. pulvillana* (H.-S.), Poland; 39—42 — *Ph. schreibersiana* (FRÖL.), Poland



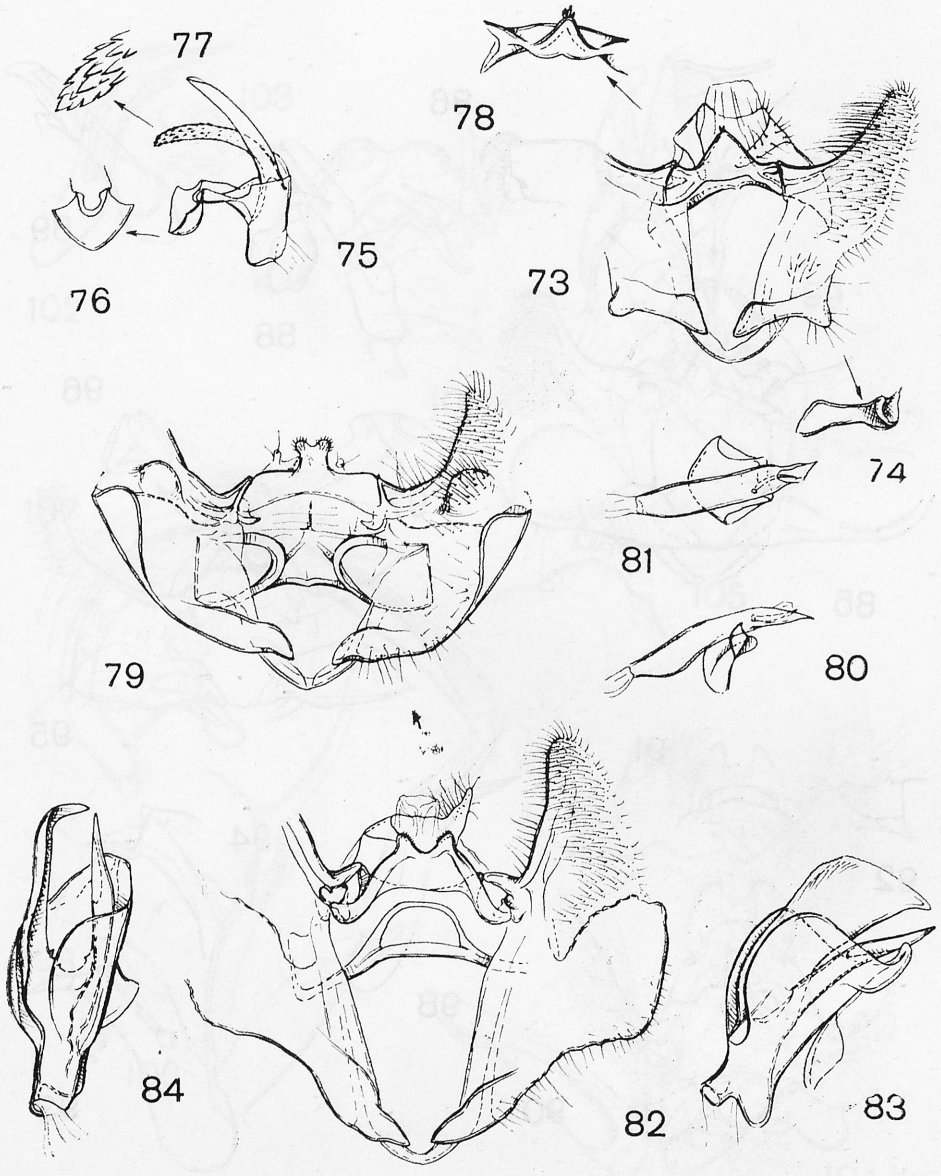
Figs 43—49. Male genitalia of *Cochylini*: 43—45 — *Phtheochroa inopiana* (Haw.), Manchuria; 46 — *Ph. cornigera* (Raz.), Turkmenia; 47—49 — *Ph. rugosana* (Hübn.), Poland



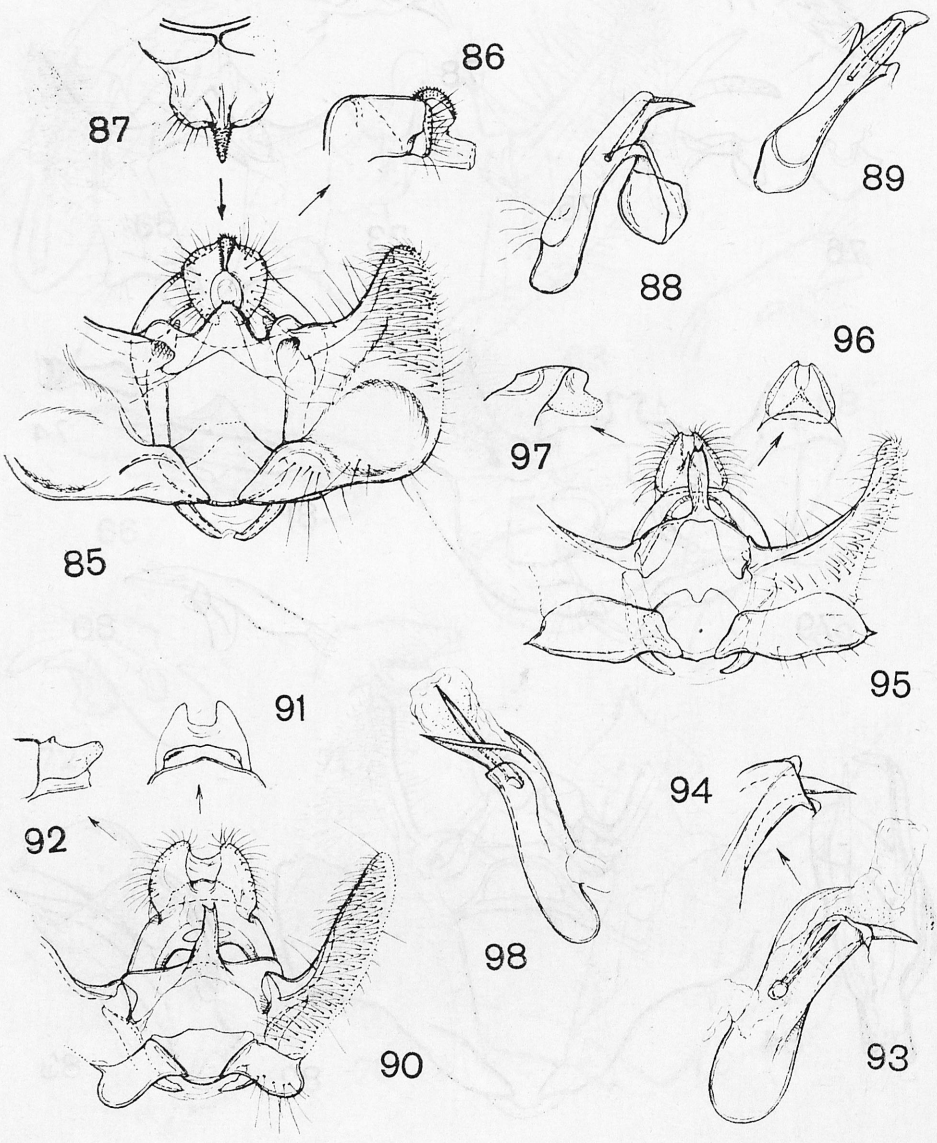
Figs 50—62. Male genitalia of *Cochylini*: 50—54 — *Hysterophora maculosana* (Haw.), Sardinia; 55, 56 — *Prohysterophora chionopa* (Meyr.), Algeria, 57—59 — *Stenodes elongana* (F. R.), Majorca; 60—62 — *S. cultana* (Led.), Bulgaria



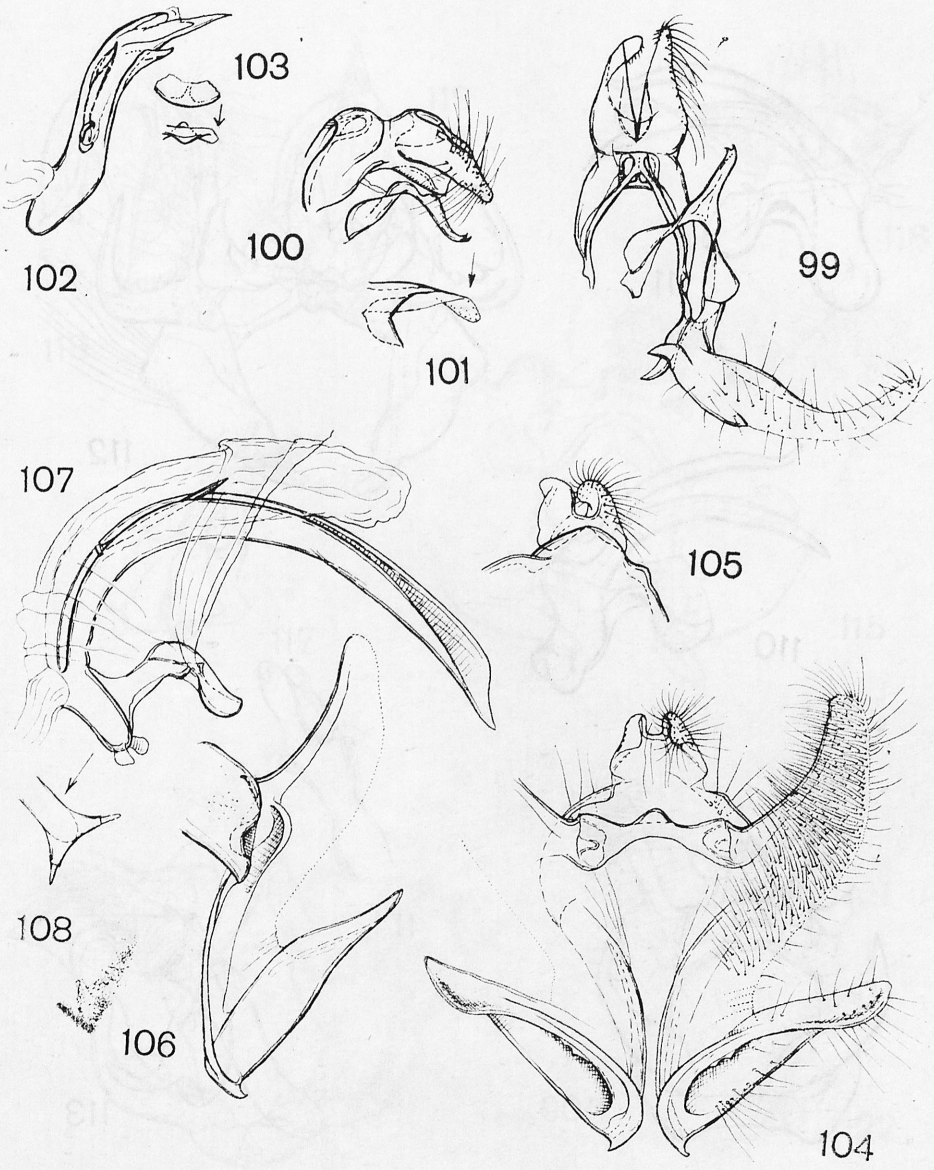
Figs 63—72. Male genitalia of *Cochylini*: 63—66 — *Stenodes meridiana* (STAUD.), Spain; 67—69 — *S. jaculana* (SNELL.), Manchuria; 70—72 — *S. perfusana* (GUEN.), Yugoslavia



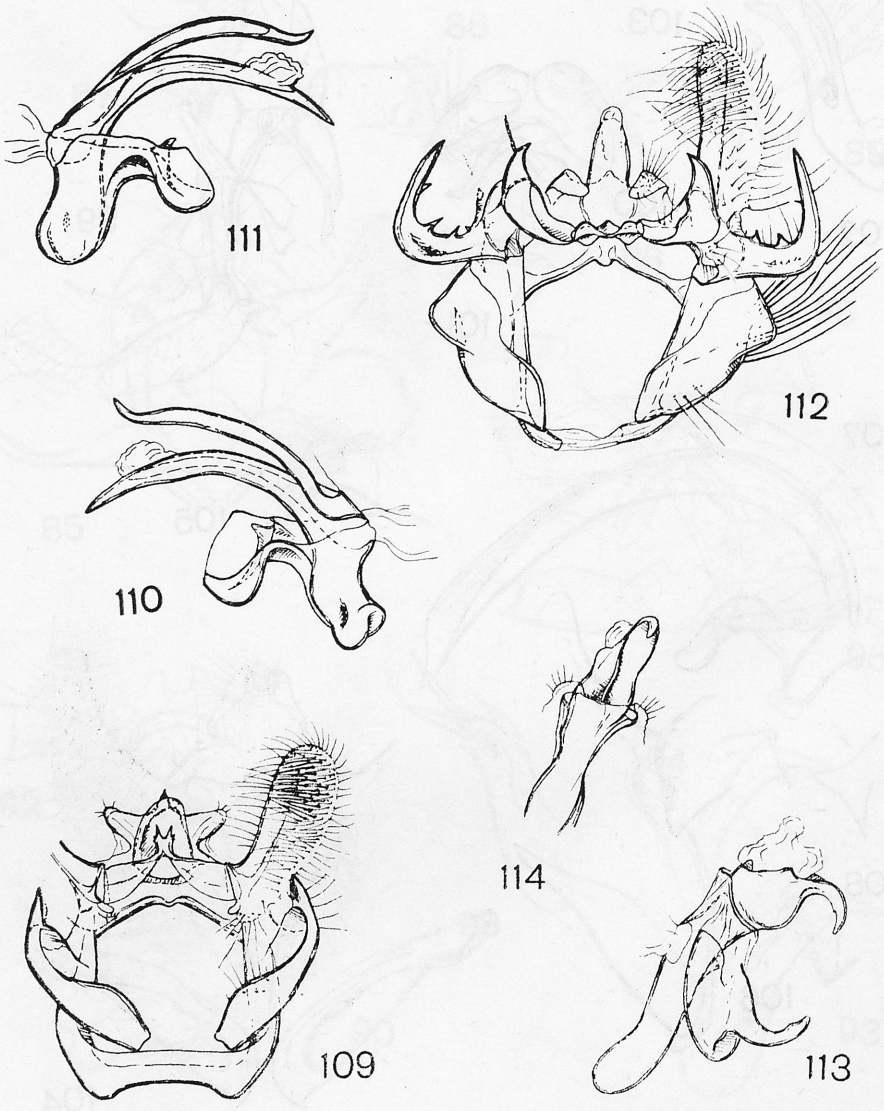
Figs 73—84. Male genitalia of *Cochylini*: 73—78 — *Stenodes obliquana* (EVERSM.), close to *S. jucundana* (TREIT.), Austria; 79—81 — *S. straminea* (HAW.), Poland; 82—84 — *S. alternana* (HAW.), Ukraina



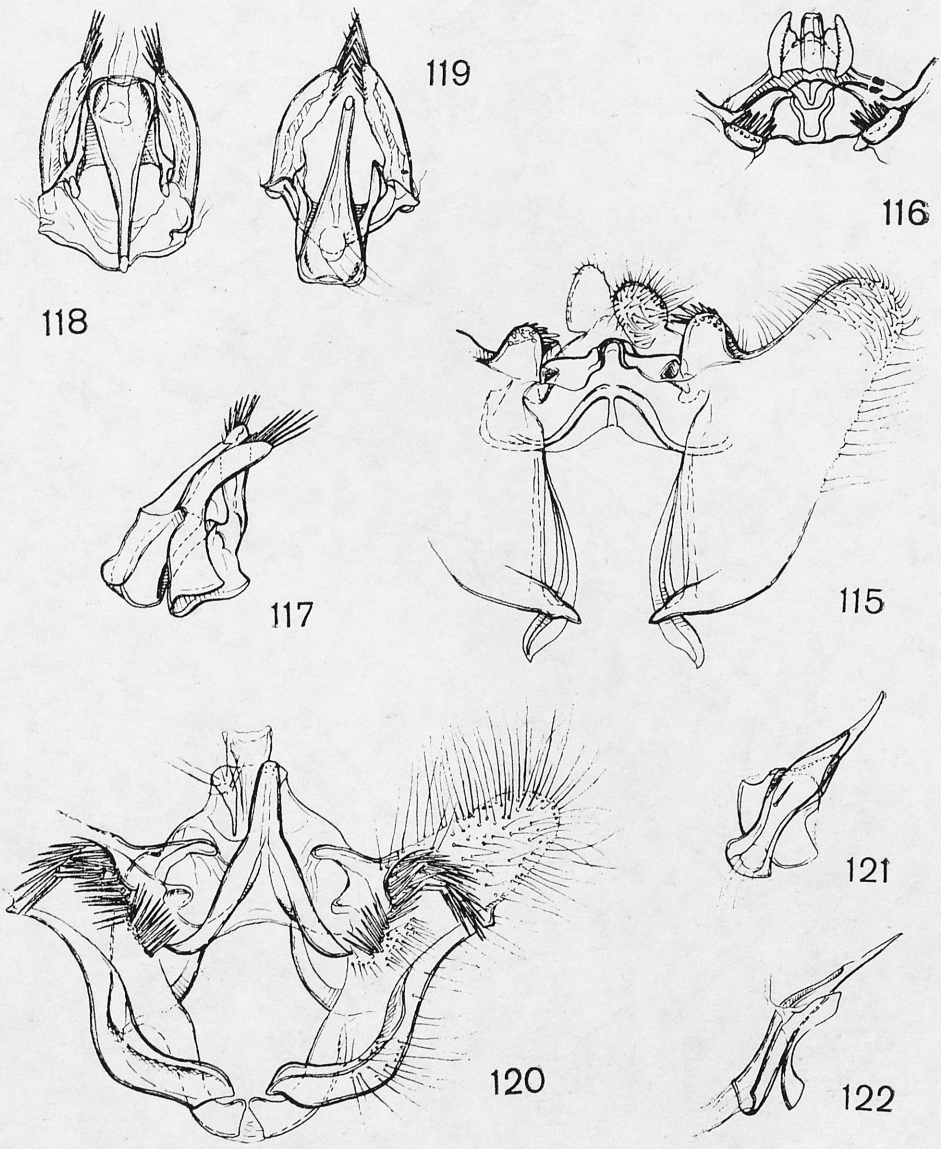
Figs 85—98. Male genitalia of *Cochylini*: 85—89 — *Stenodes chamomillana* (H.-S.), Sardinia; 90—94 — *Phalonidia affinitana* (Dougl.), Austria; 95—98 — *Ph. gilvicomana* (Z.), Poland



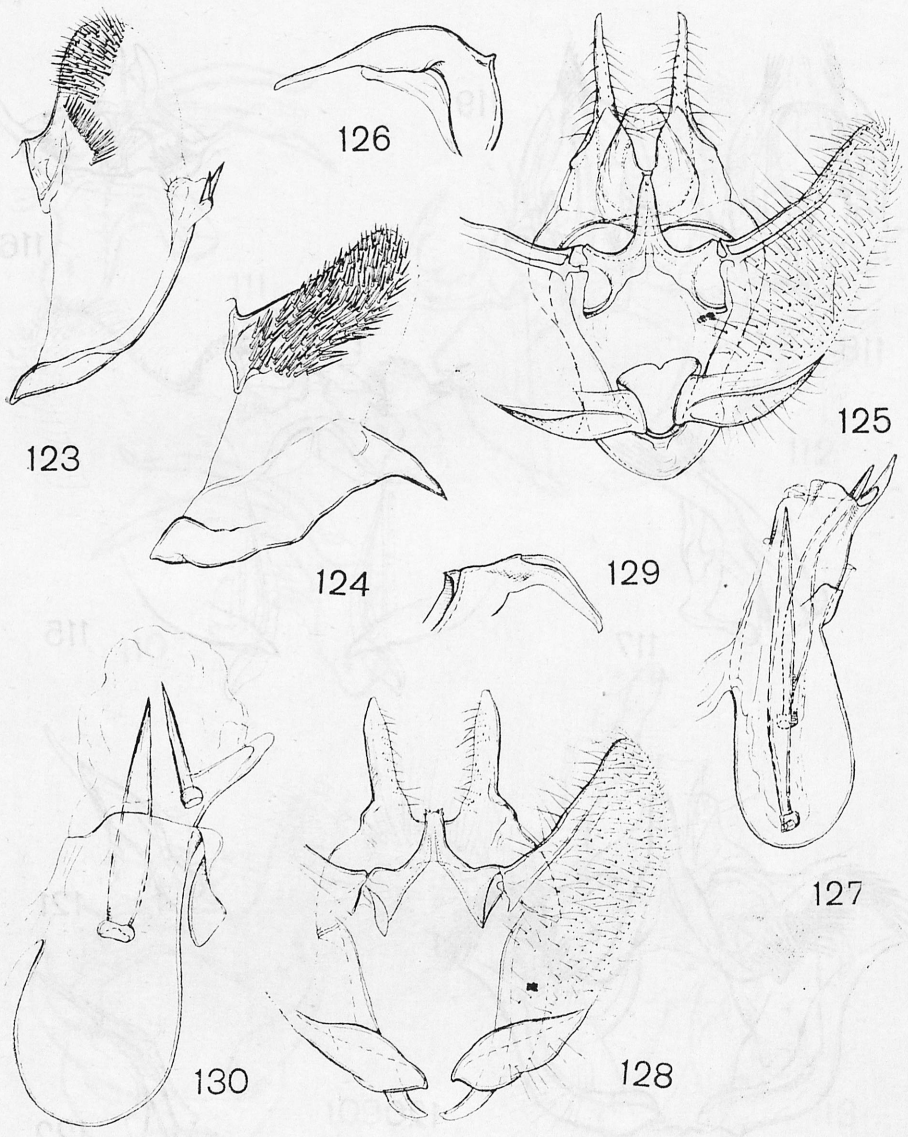
Figs 99—108. Male genitalia of *Cochylini*: 99—103 — *Piercea alismana* (RAG.), Germany; 104—108 — *Phtheochroides clandestina* RAZ., Japan: Hokkaido



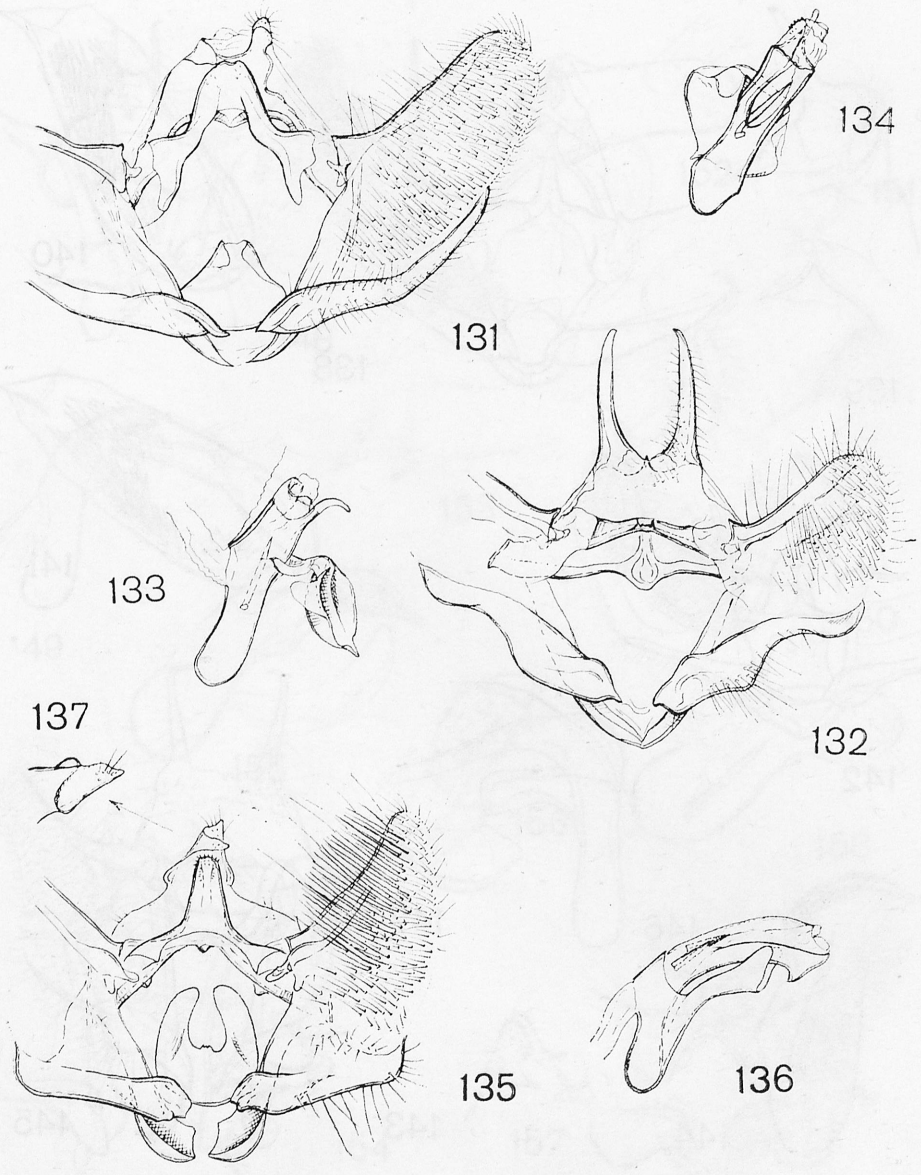
Figs 109—114. Male genitalia of *Cochylini*: 109—111 — *Agapeta zoegana* (L.), Poland
112—114 — *A. hamana* (L.), Poland



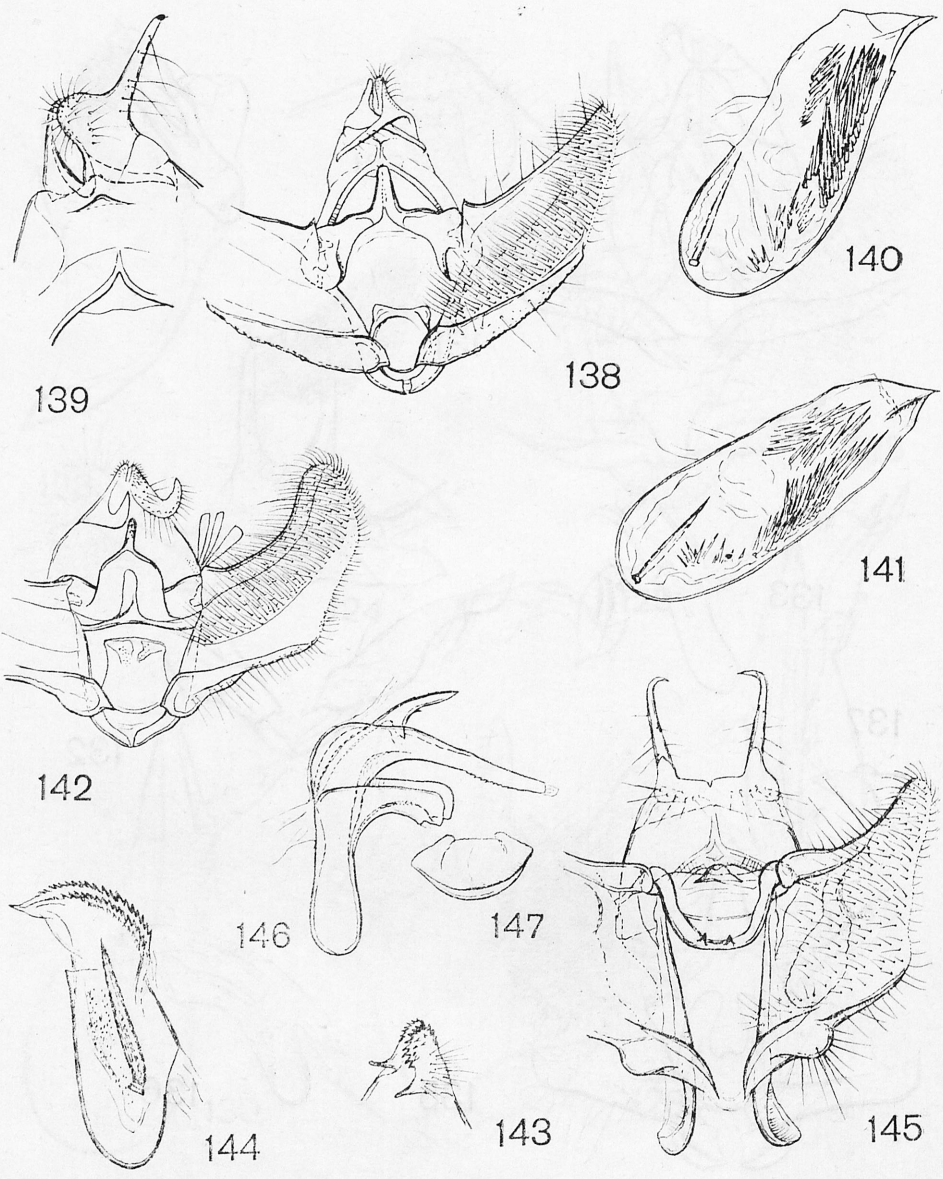
Figs 115—122. Male genitalia of *Cochylini*: 115—119 — *Ceratoxanthis externana* (Eversm.), Ural Mts.; 120—122 — *Fulvoclysia pallorana* (Led.), Armenia



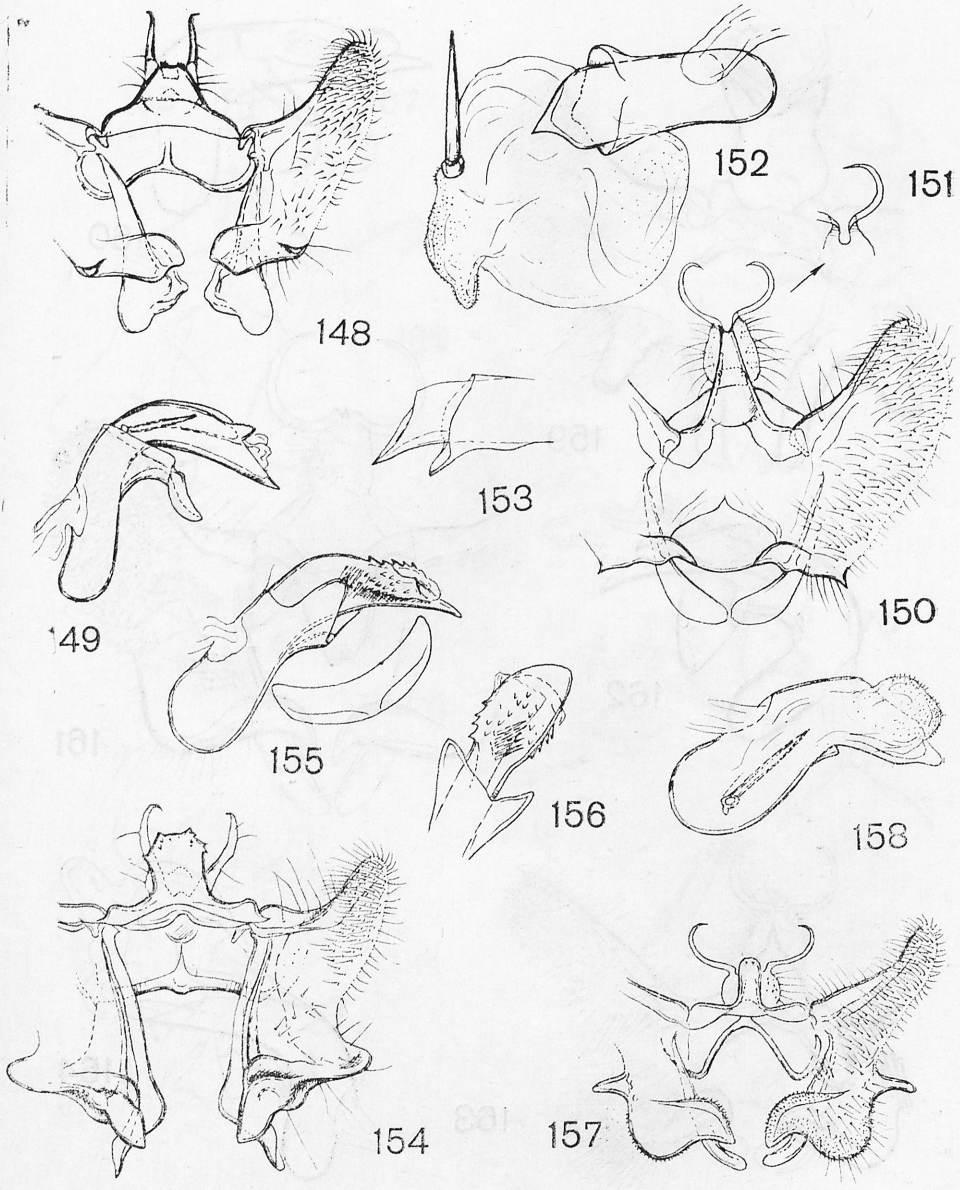
Figs 123—130. Male genitalia of *Cochylini*: 123 — *Fulvoclysia arguta* RAZ., Syria; 124 — *F. fulvana* (F. R.,), Poland; 125—127 — *Eugnosta lathoniana* (HÜBN.), West Germany; 128—130 — *E. dives* (BUTL.), Manchuria



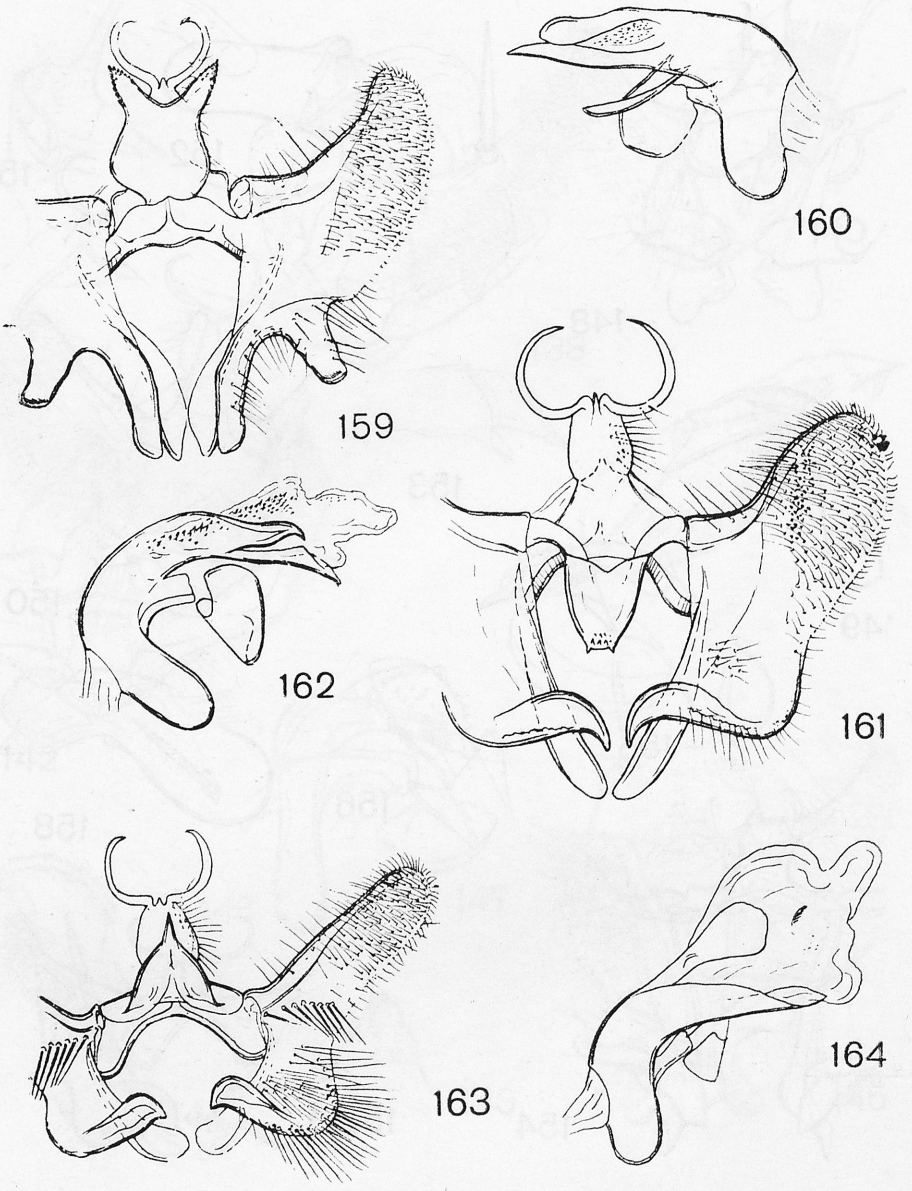
Figs 131—137. Male genitalia of *Cochylini*: 131 — *Eugnosta arrecta* Raz., Afghanistan; 132—134 — *Commophila aeneana* (Hübn.), West Germany; 135—137 — *Prochlidonia amiantana* (Hübn.), Austria



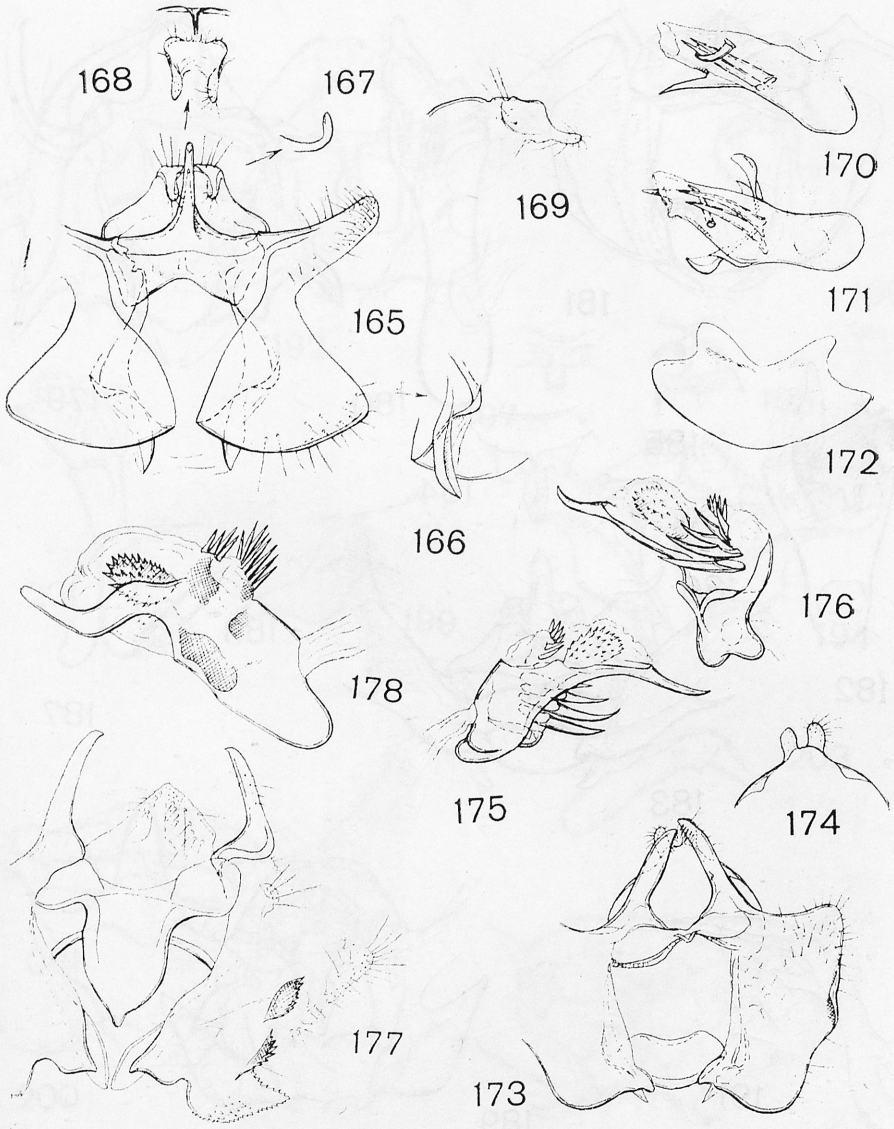
Figs 138—147. Male genitalia of *Cochylini*: 138—141: *Eupoecilia angustana* (HÜBN.), Poland; 142 — *E. kobeana* RAZ., Japan; 143, 144 — *E. dentata* RAZ., Sumatra; 145—147 — *Aethes hartmanniana* (CL.), Poland



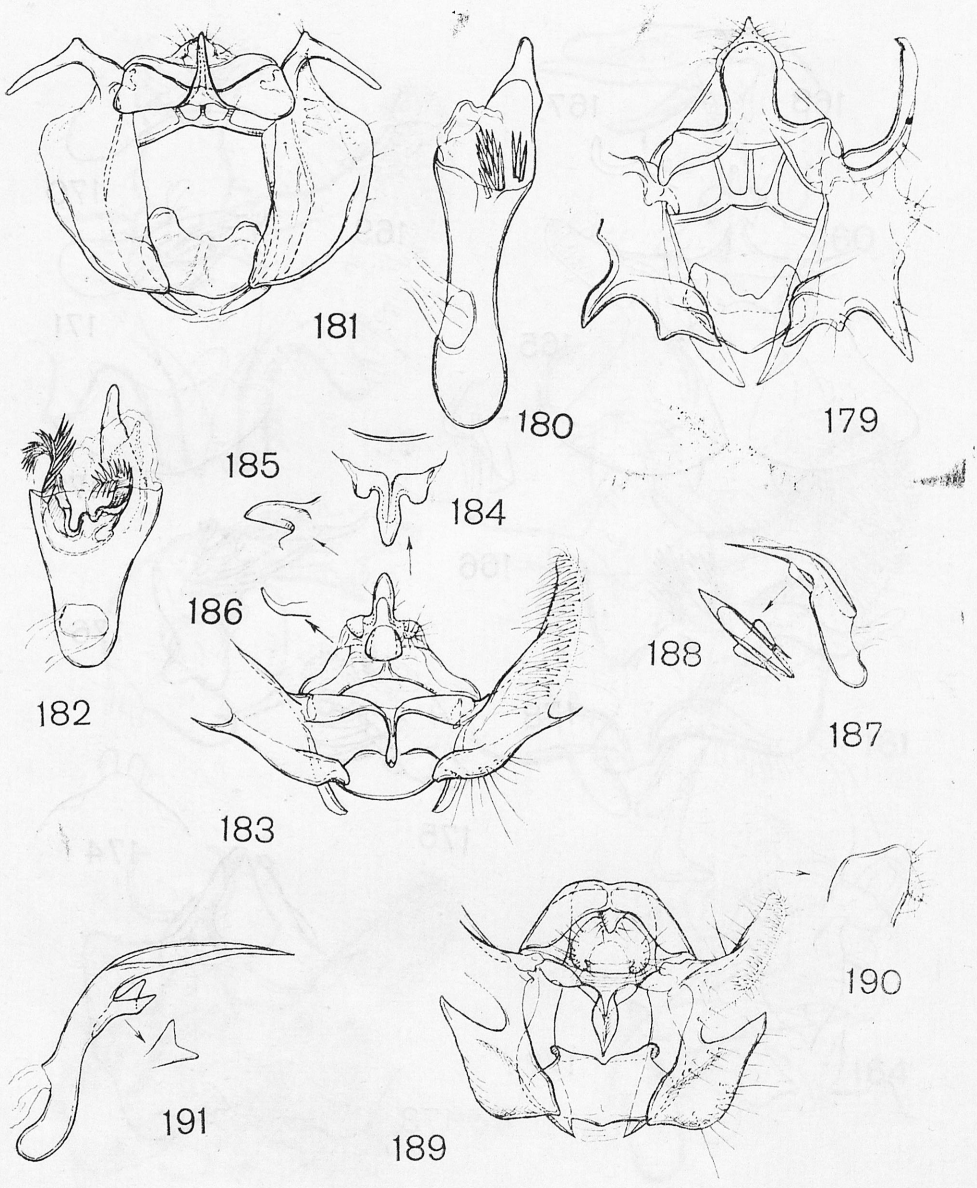
Figs 148—158. Male genitalia of *Cochylini*: 148, 149 — *Aethes smeathmanniana* (F.), Poland; 150—153 — *Ae. margaritana* (HAW.), Poland; 154—156 — *Ae. tesserana* ([DEN. & SCHIFF.]), Poland; 157, 158 — *Ae. rutilana* (HÜBN.), Poland



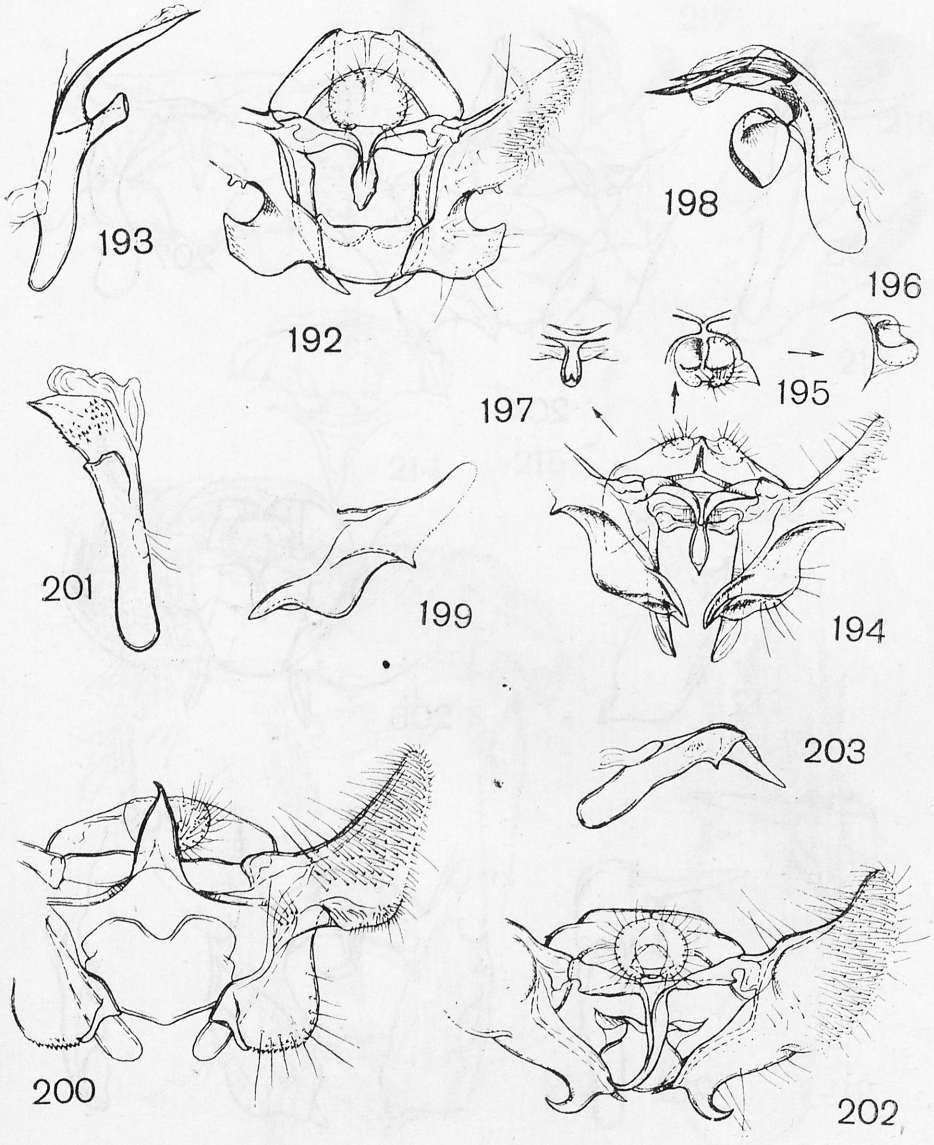
Figs 159—164. Male genitalia of *Cochylini*: 159, 160 — *Aethes francillana* (F.), Algeria; 161, 162 — *Ae. pamirana* Raz., Afghanistan; 163; 164 — *Ae. mauritanica* (Walsm.), Morocco



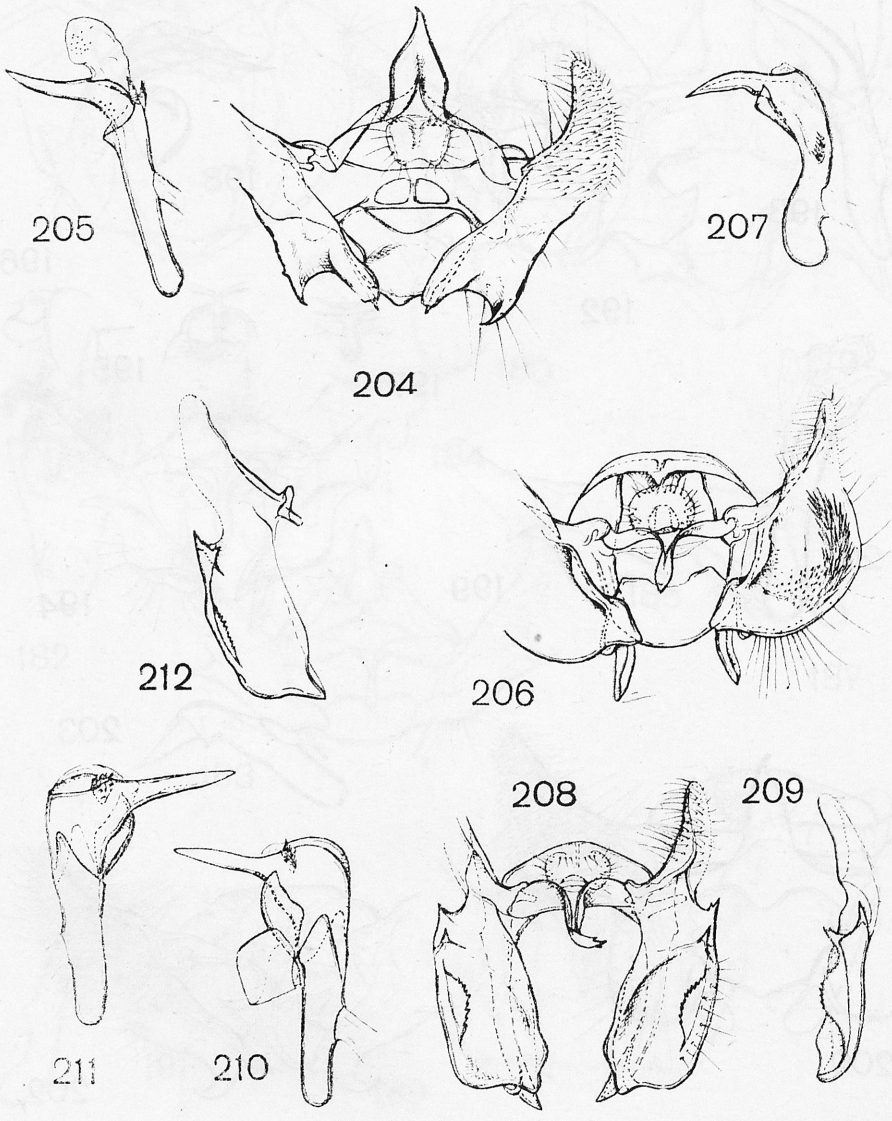
Figs 165—178. Male genitalia of *Cochylini*: 165—172 — *Cochylidia rupicola* (CURT.), Poland; 173—176 — *C. implicitana* (WOCKE), Poland; 177—178 — *Diceratura ostrinana* (GUEN.), Austria



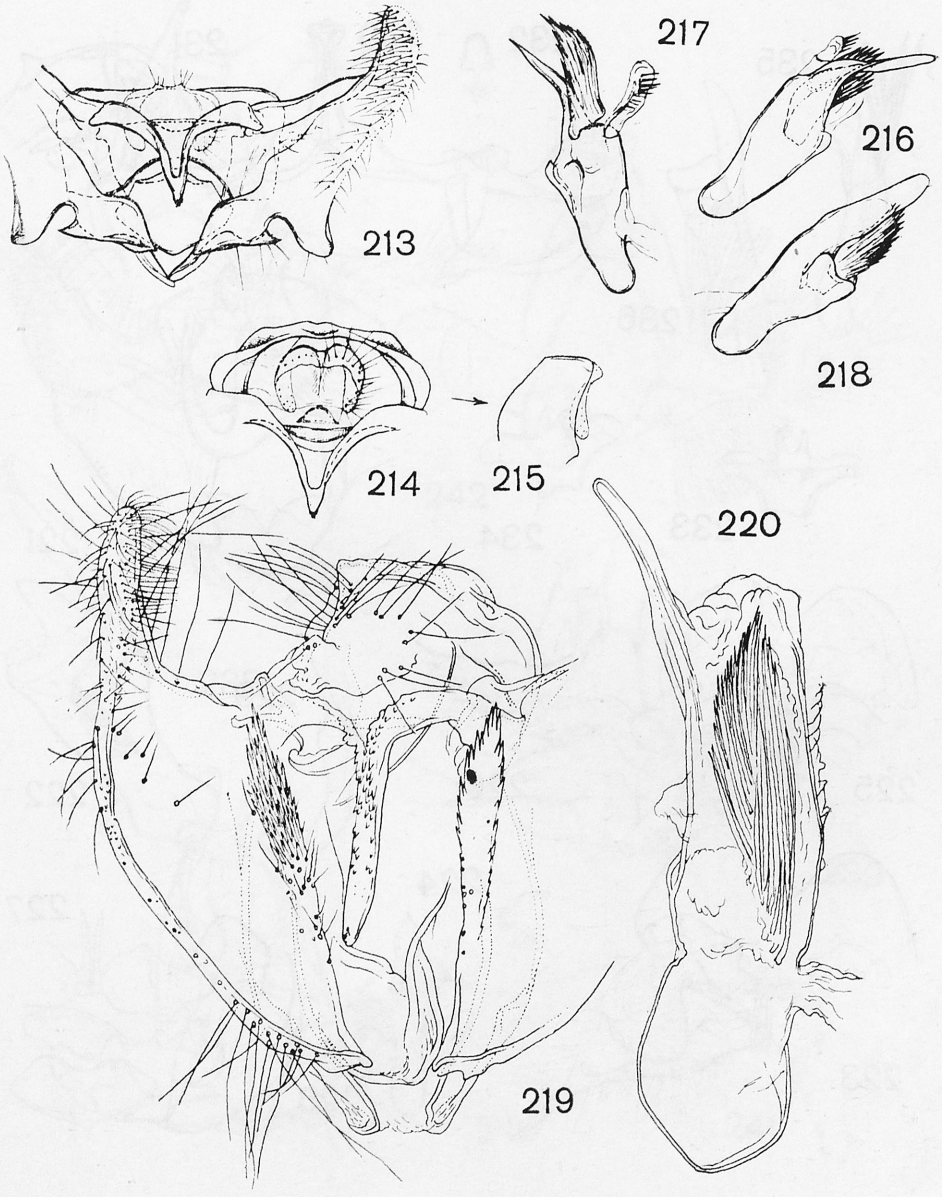
Figs 179—191. Male genitalia of *Cochylini*: 179, 180 — *Diceratura teheranica* RAZ., Iran; 181, 182 — *D. roseofasciana* (MANN.), Syria; 183—188 — *Cochylis nana* (HAW.), Poland; 189—191 — *C. flaviciliana* (WESTW.), West Germany



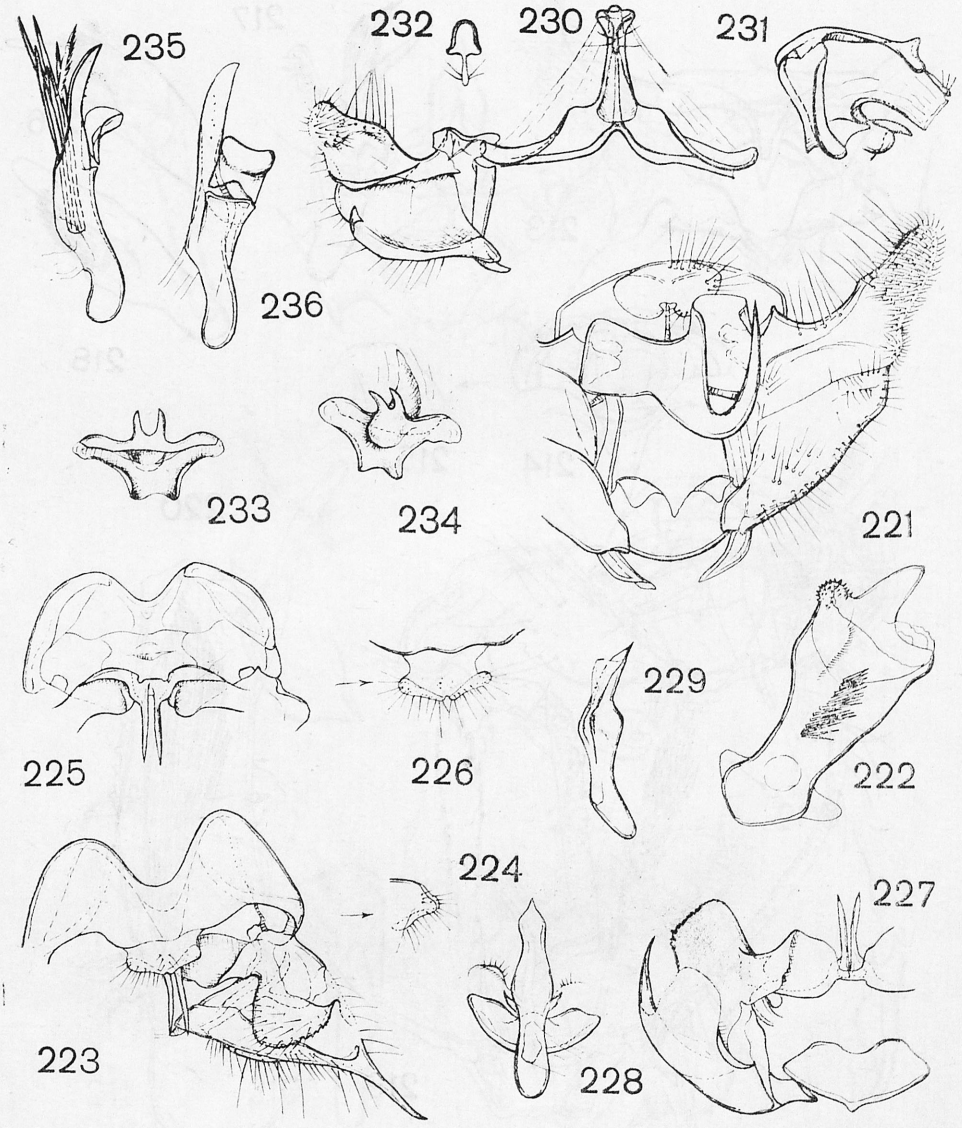
Figs 192—203. Male genitalia of *Cochylini*: 192, 193 — *Cochylis roseana* (HAW.), West Germany; 194—199 — *C. epilinana* DUP., Ukraina; 200, 201 — *C. molliculama* Z., Spain; 202, 203 — *C. salebrana* (MANN.), Sardinia



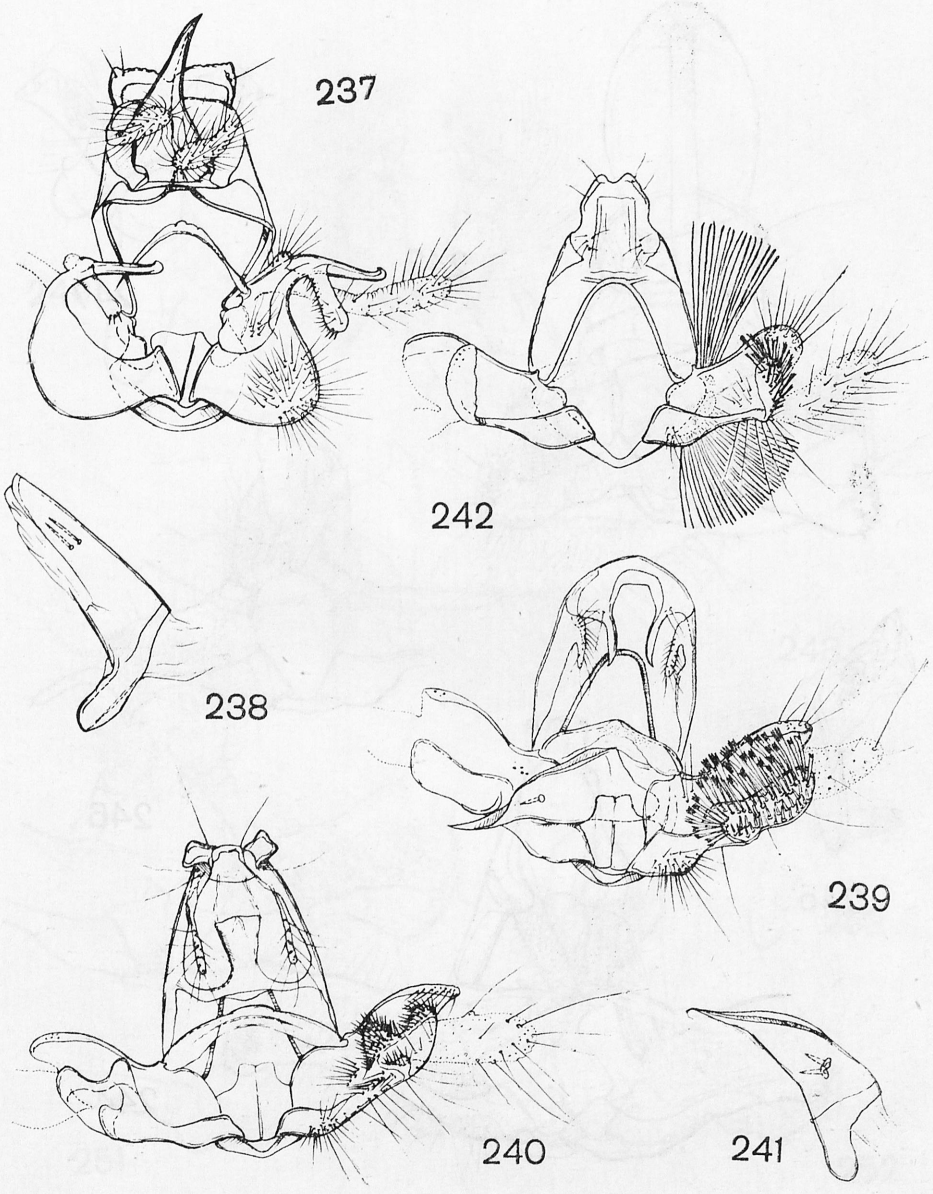
Figs 204—212. Male genitalia of *Cochylini:* 204, 205 — *Cochylis dubitana* (HÜBN.), Poland; 206, 207 — *C. atricapitana* (STEPH.), England; 208—211 — *C. pallidana* (HAW.), Poland; 212 — same species, Ukraina



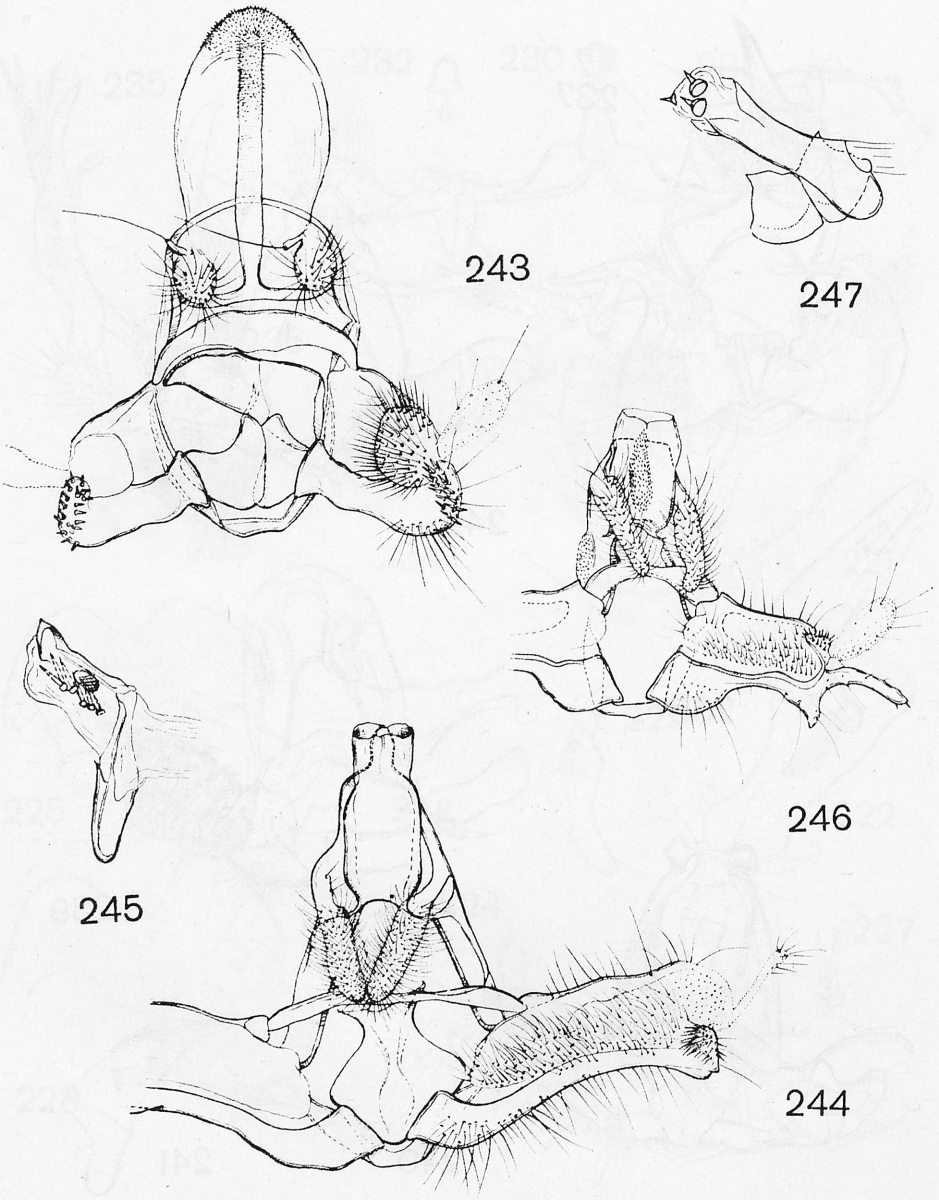
Figs 213—220. Male genitalia of *Cochylini*: 213—218 — *Cochylis posterana* Z., Poland; 219, 220 — *Aprepodoxa mimocharis* MEYR., Vietnam, after DIAKONOFF, 1974



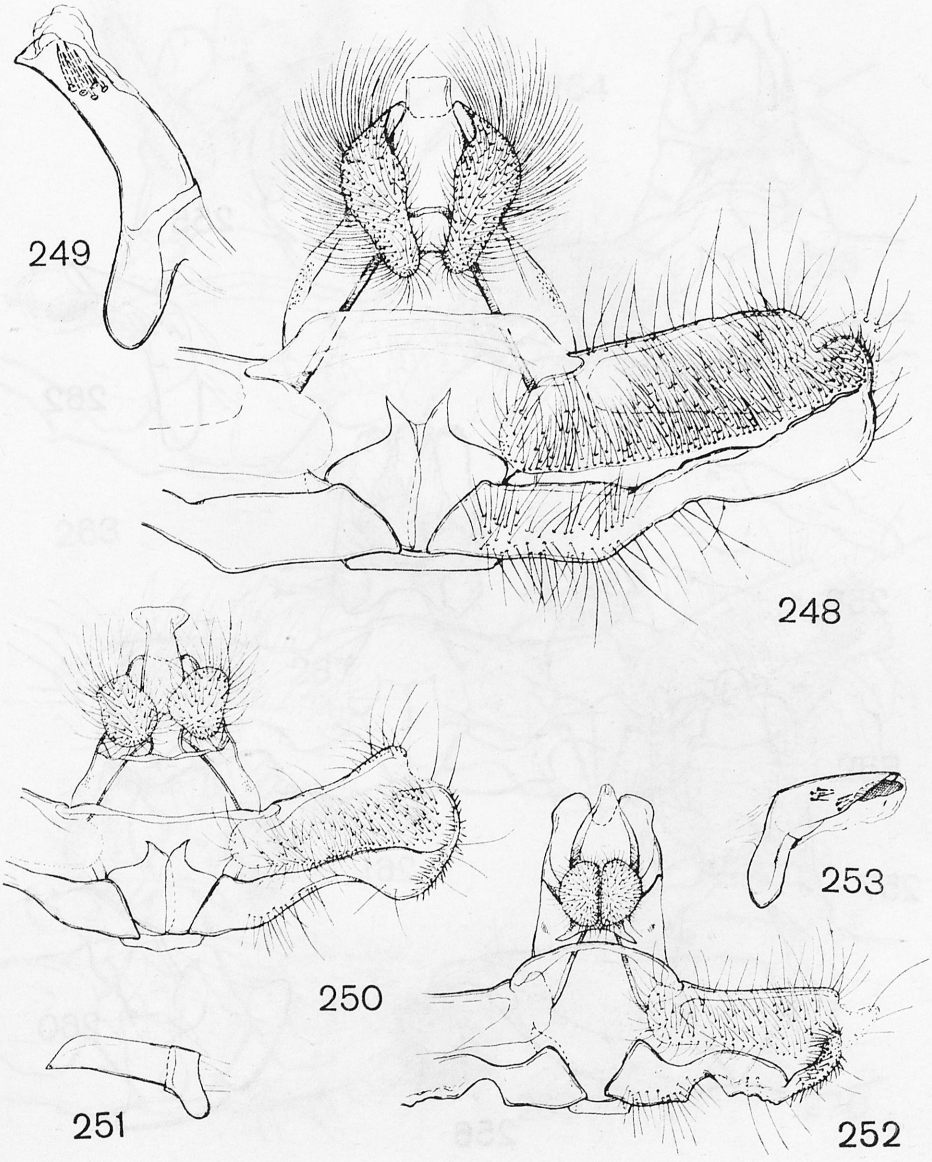
Figs 221—236. Male genitalia of *Cochylini*: 221, 222 — *Cochylis apricana* KENNEL, Uzbekistan; 223—229 — *Cryptocochylis conjunctana* (MANN), West Germany; 230—236 — *Falseuncaria degreyana* (MCLACHL.), Poland



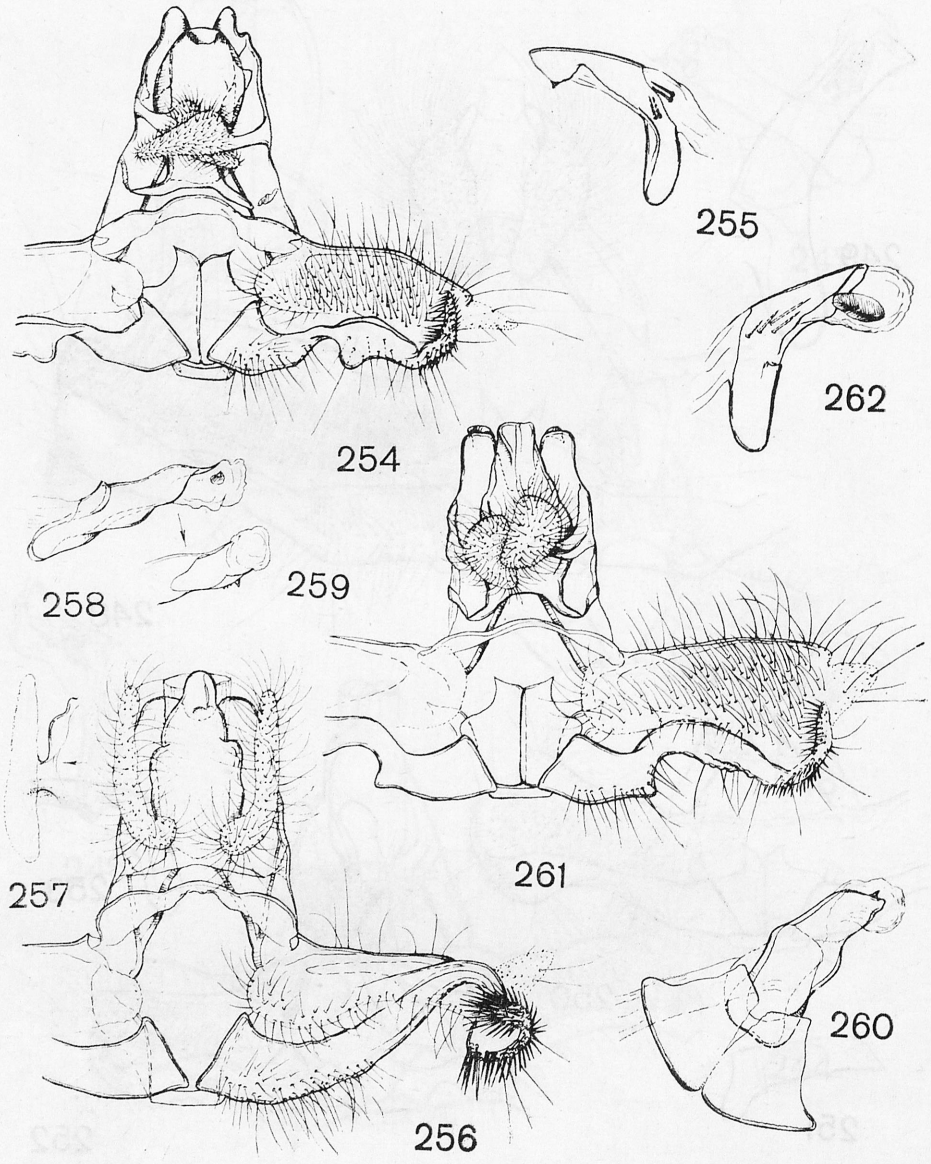
Figs 237—242. Male genitalia of *Tortricini*: 237, 238 — *Pseudocroesia coronaria* Raz., China: Shansi; 239 — *Paratorna cuprescens* Falk., Primorski Krai; 240, 241 — *P. seriepuncta* Fil., South Primore; 242 — *P. dorcas* Meyr., Khasi Hills, India



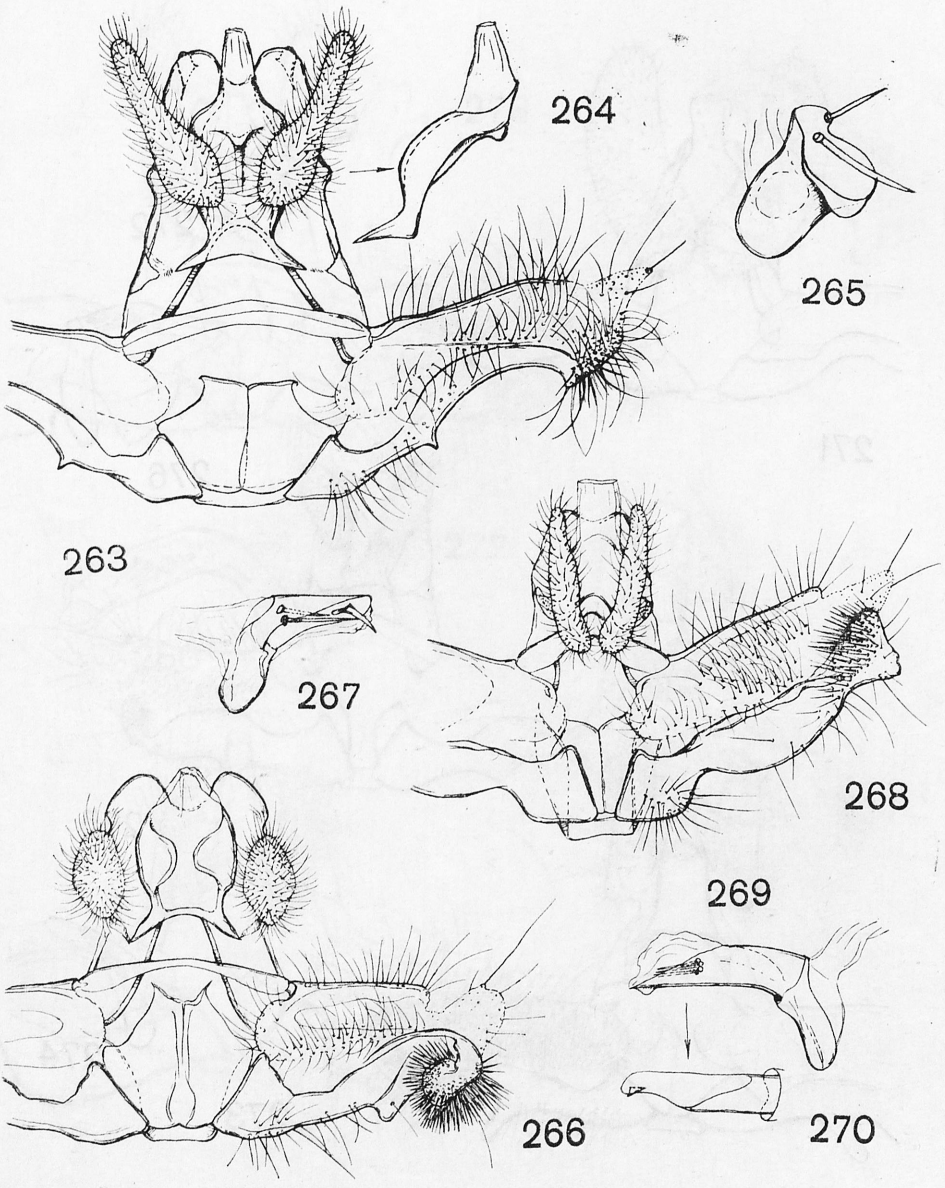
Figs 243—247. Male genitalia of *Tortricini*: 243 — *Paracroesia abievora* (Issiki), Japan: Honsyu; 244, 245 — *Spatalistis christophana* (Walsm.), close to *S. rhopica* (Meyr.), Japan: Honsyu; 246, 247 — *S. bifasciana* (F.), Poland



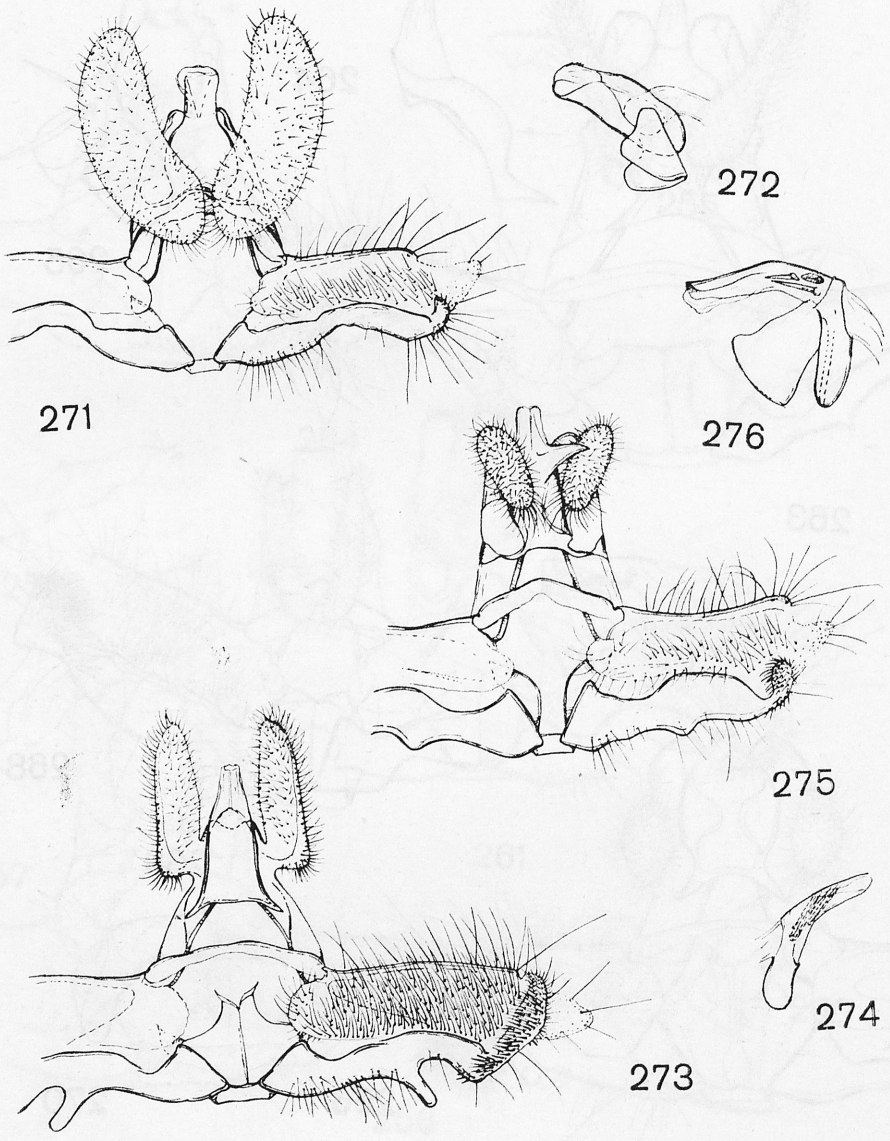
Figs 248—253. Male genitalia of *Tortricini*: 248, 249 — *Tortrix viridana* L., Poland; 250, 251 — *Aleimma leoflingiana* (L.), Poland; 252, 253 — *Acleris aspersana* (HÜBN.), Poland



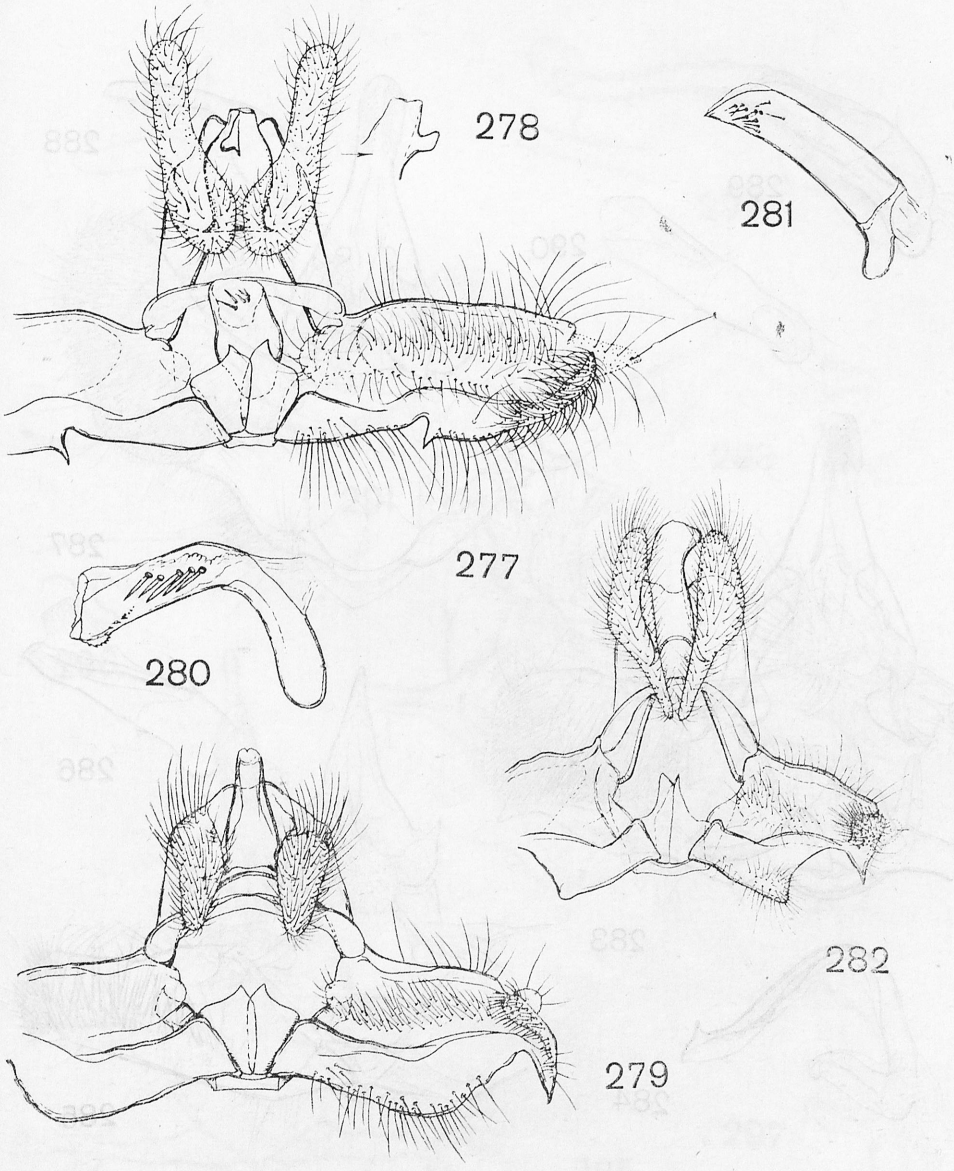
Figs 254—262. Male genitalia of *Tortricini*: 254, 255 — *Acleris cristana* ([Den. & Schiff.]) Poland; 256—260 — *A. emargana* (F.), Poland; 261, 262 — *A. hastiana* (L.), Poland



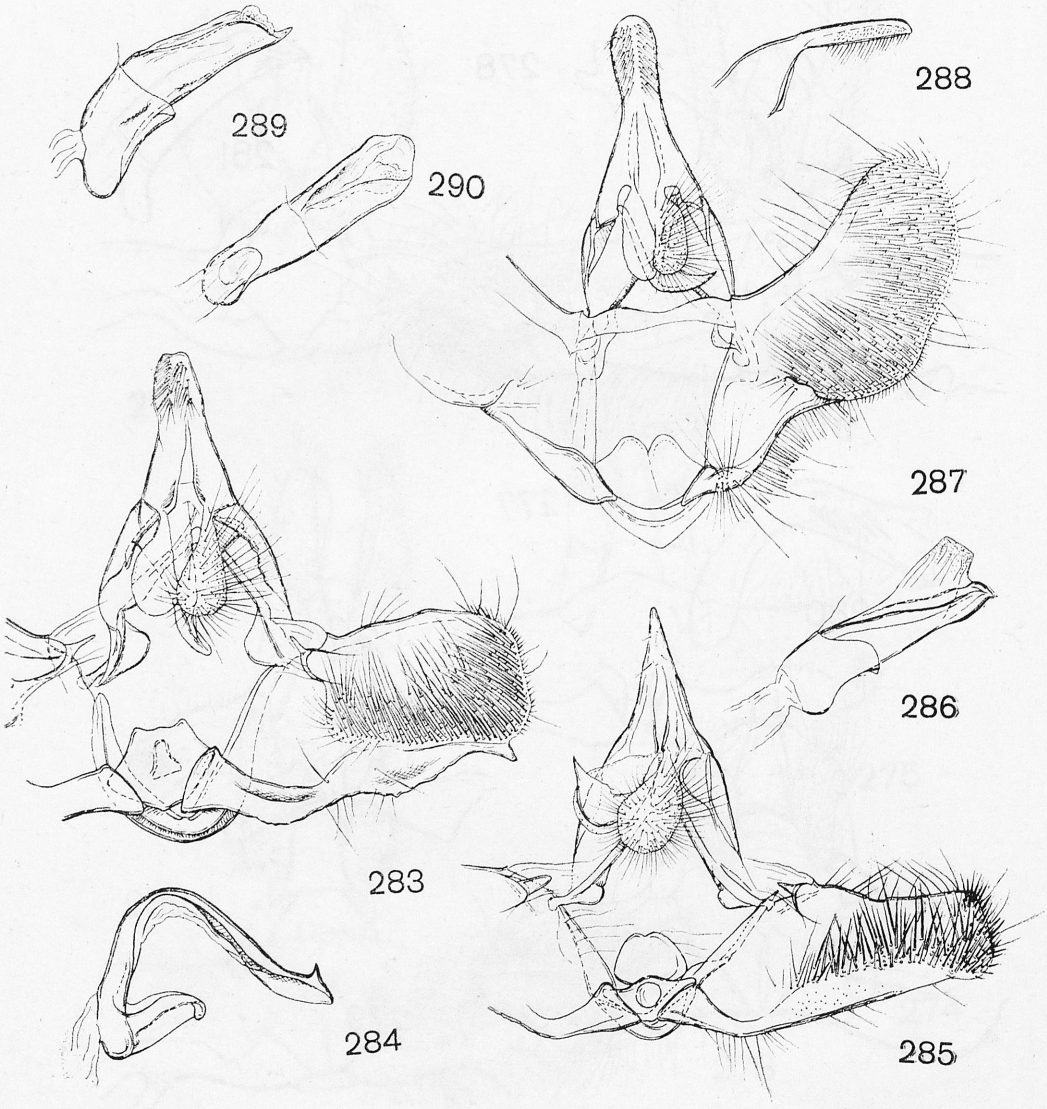
Figs 263—270. Male genitalia of *Tortricini*: 263—265 — *Acleris abietana* (HÜBN.), Poland; 266, 267 — *A. literana* (L), Poland; 268—270 — *A. rhombana* ([DEN. & SCHIFF.]), Poland



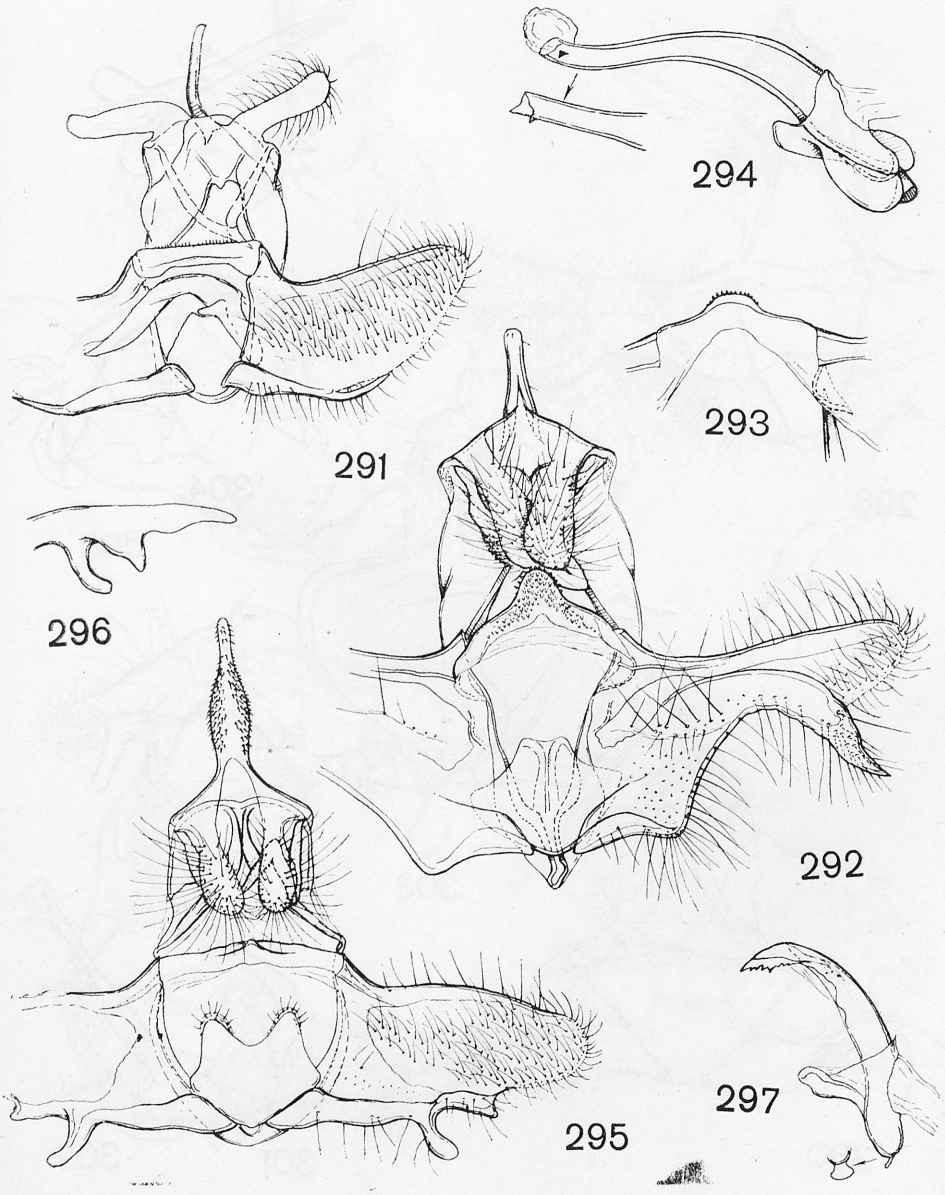
Figs 271—276. Male genitalia of *Tortricini*: 271, 272 — *Acleris bergmanniana* (L.), Poland; 273, 274 — *A. schalleriana* (L.), Poland; 275, 276 — *A. notana* (Don.), Poland



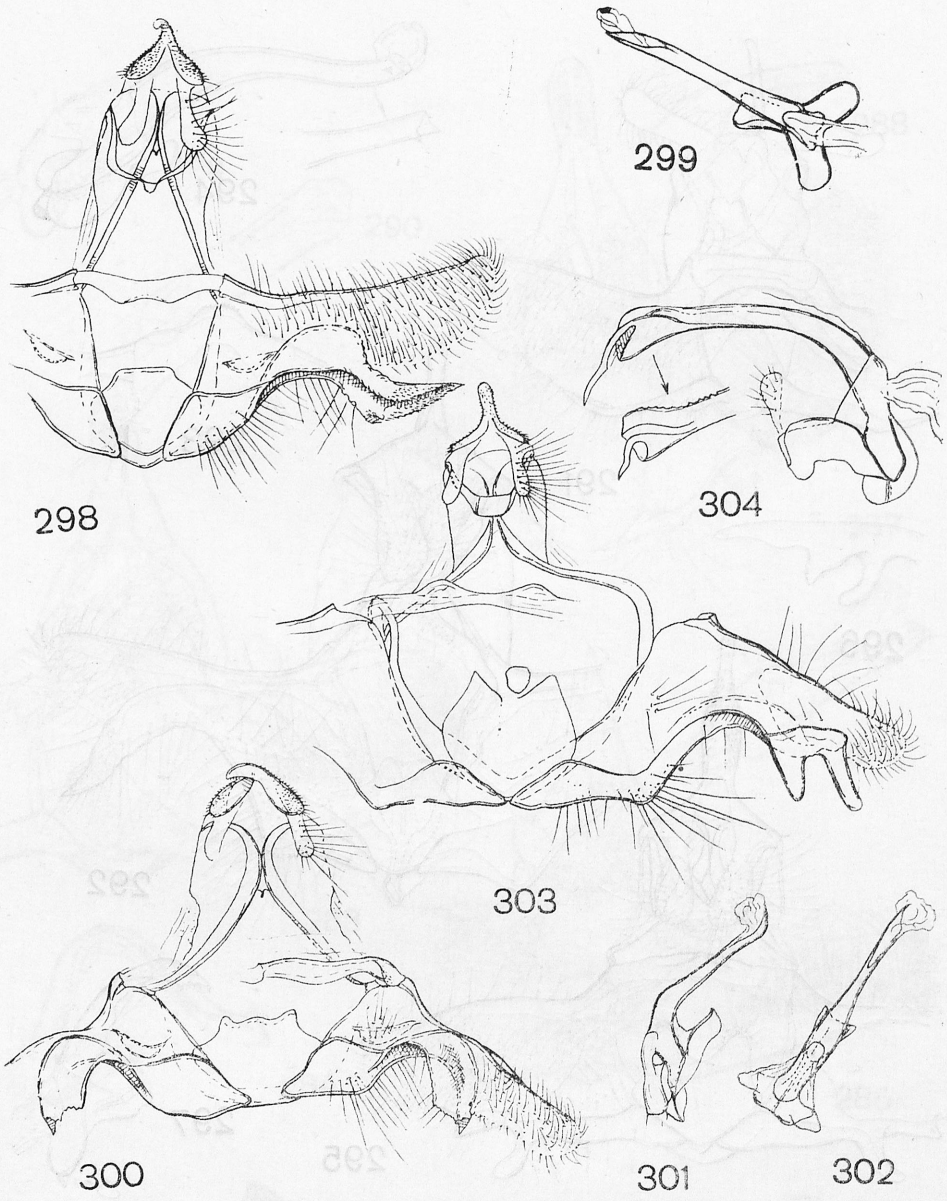
Figs 277—282. Male genitalia of *Tortricini*: 277, 278 — *Acleris latifasciana* (Haw.), Poland; 279, 280 — *A. indignana* (Chr.), Japan: Hokkaido; 281 — *A. crataegi* Kuzn., Vladivostok; 282 — *A. tigricolor* (Walsm.), Japan: Honsyu



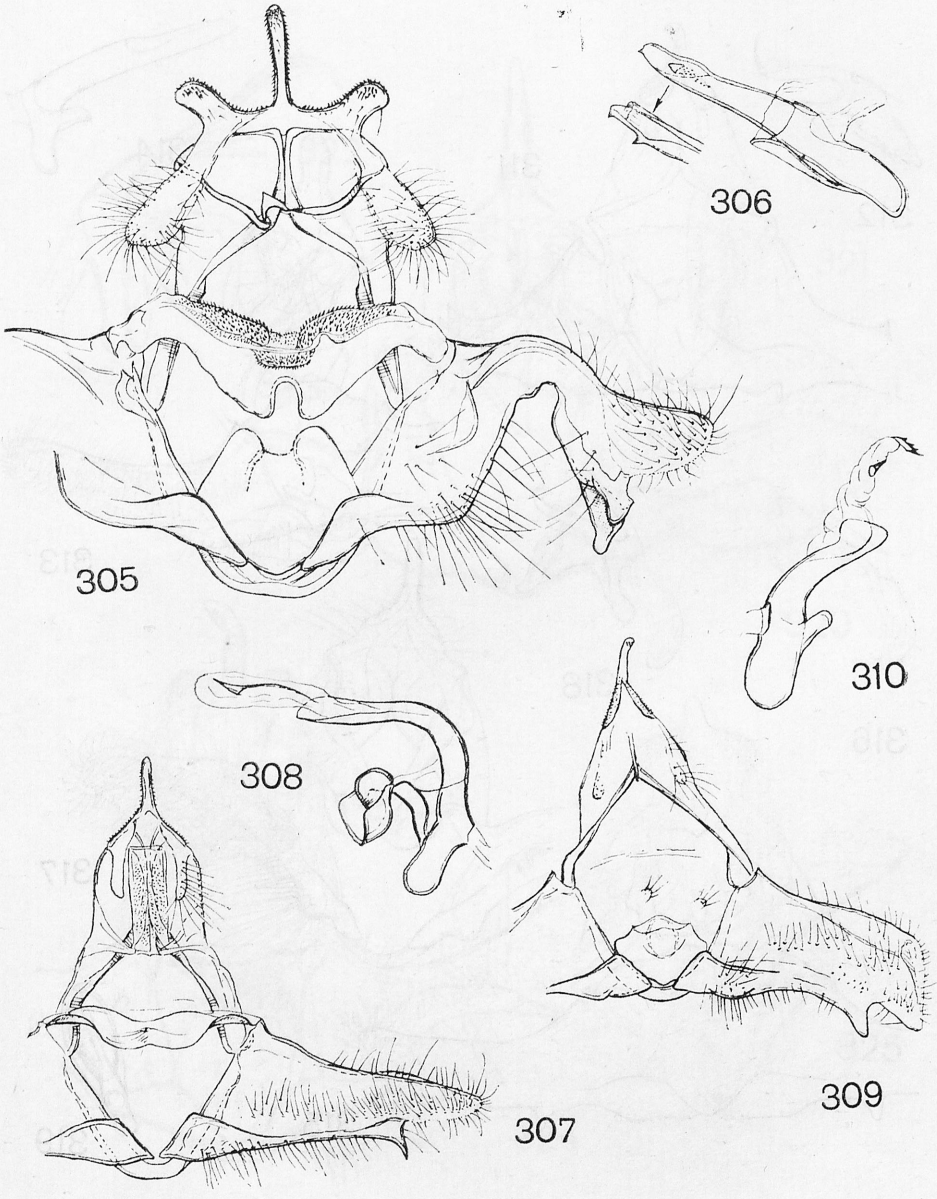
Figs 283—290. Male genitalia of *Ceracini*: 282, 284 — *Eurydoxa sapporensis* (MATS.), Japan; Hokkaido; 285, 286 — *Pentacitrotus tetrakore* (WILEM. & STRINGER), Taiwan; 287—290 — *Cerace xanthocosma* DIAK., Japan: Honsyu



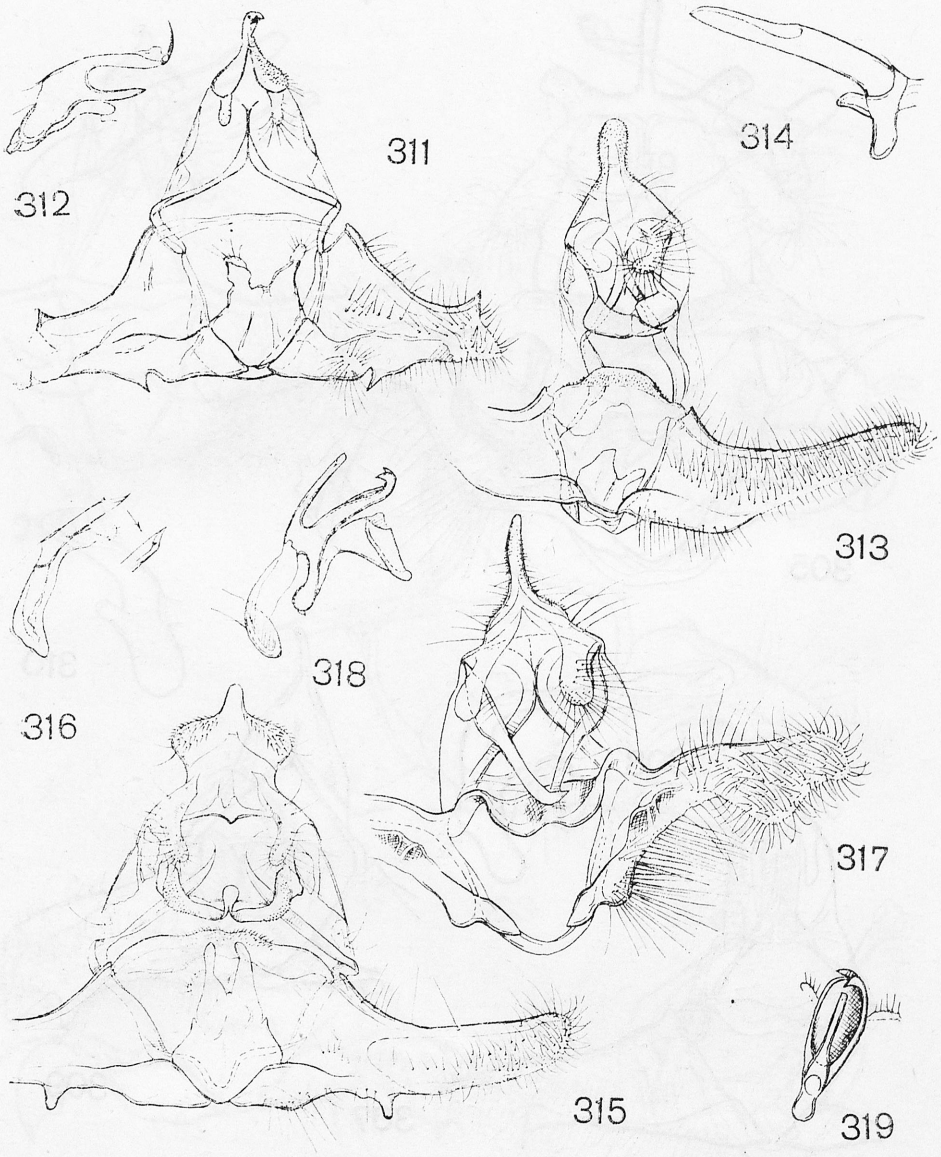
Figs 291—297. Male genitalia of *Cnephasiini*: 291 — *Propiromorpha rhodophana* (H.-S.); Yugoslavia: Korčula; 292—294 — *Xerocnephasia rigana* (Sodoff.), Switzerland; 295—297 — *Neosphaleroptera nubilana* (Hübn.), Poland



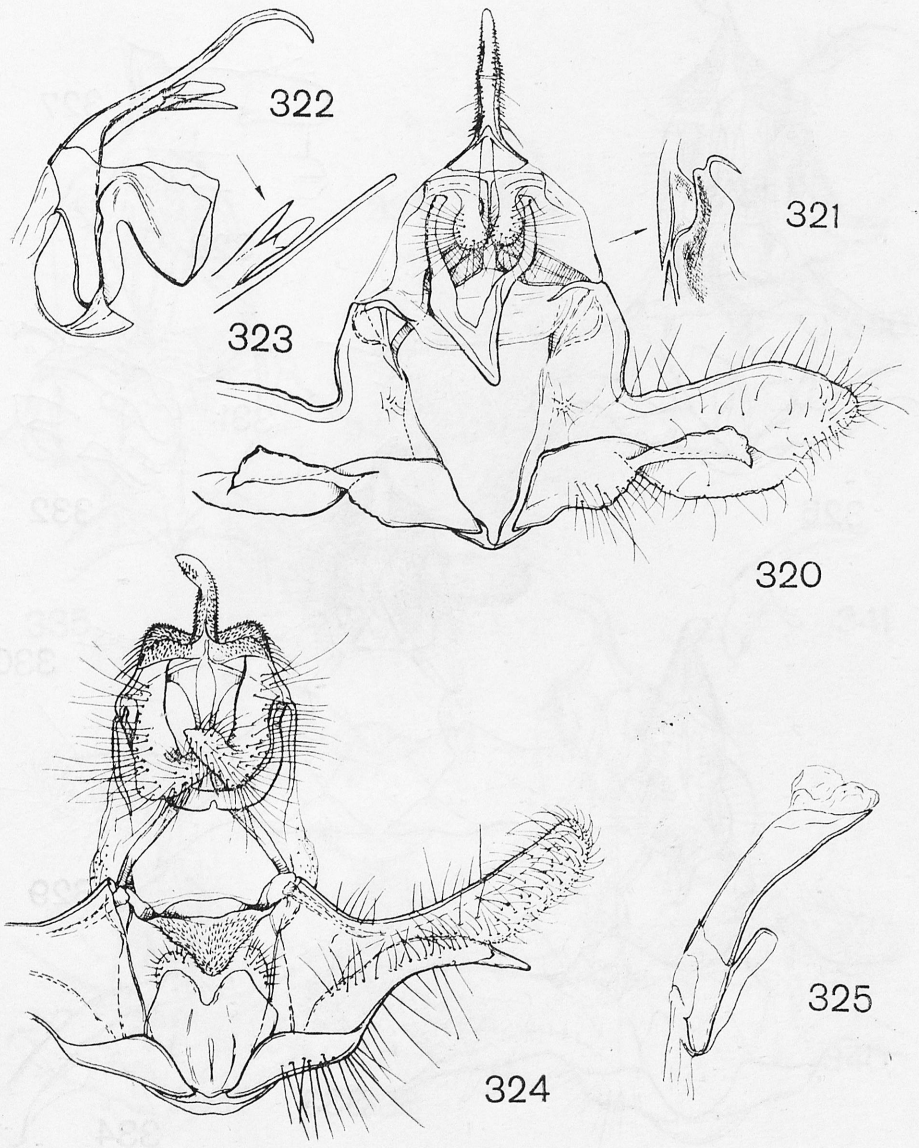
Figs 298—304. Male genitalia of *Cnephasiini*: 298, 299 — *Amphicoecia adamana* (KENN.), Siberia; 300—302 — *Oporopsamma wertheimsteini* (RBL.), Hungary; 303, 304 — *Euledereria alpicolana* (FRÖL.), Switzerland



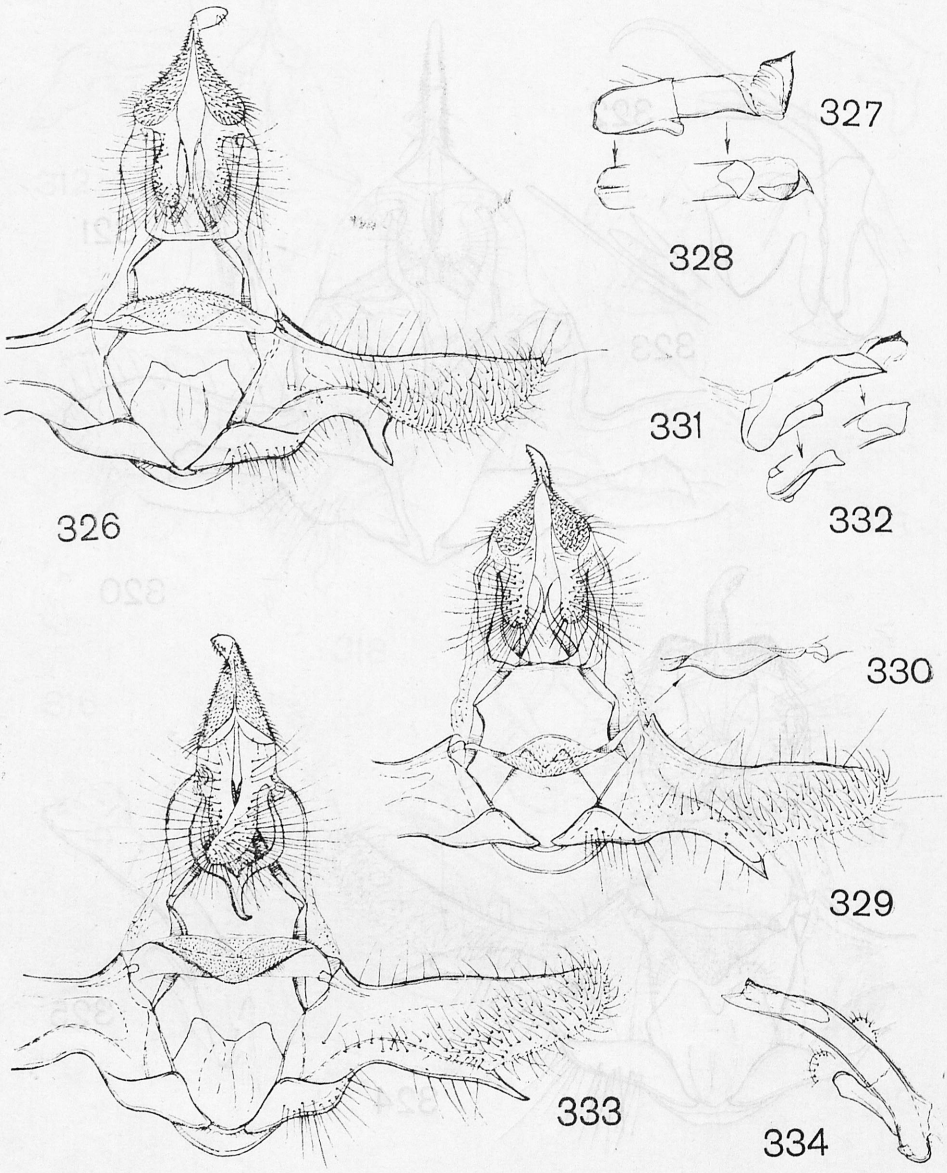
Figs 305—310. Male genitalia of *Cnephasiini*: 305, 305 — *Doloploca punctulana* ([Den. & Schiff.]), West Germany; 307, 308 — *Oxypteron impar* (Stgr.), Ural; 309, 310 — *O. schawerdai* (Rbl.), Spain



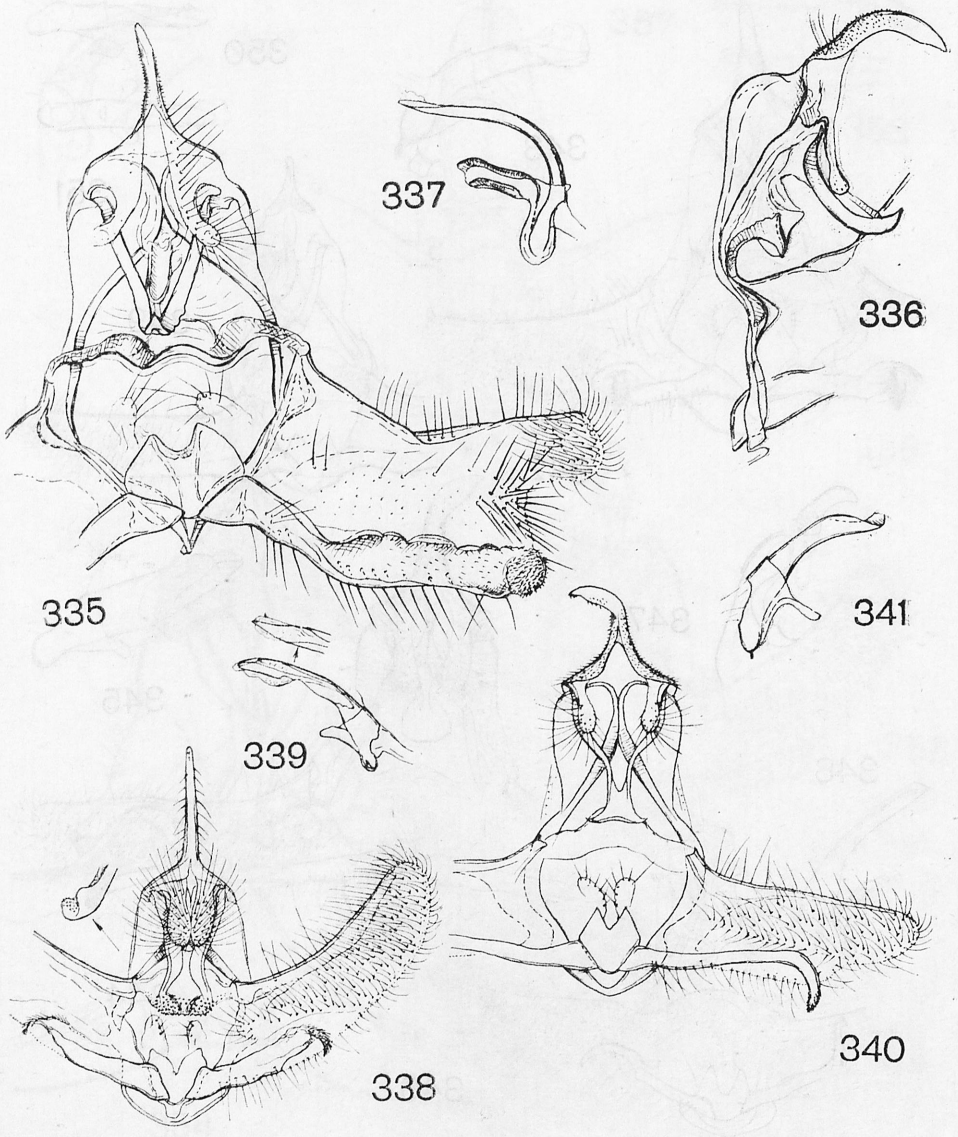
Figs 311—319. Male genitalia of *Cnephasiini*: 311, 312 — *Oxypteron politum* (WALSM.), Algeria; 313, 314 — *Epicnephasia mongolica* DANIL., Mongolia; 315, 316 — *Exapate congelatella* (CL.), Poland; 317—319 — *Kawabeia ignavana* (CHR.), Japan



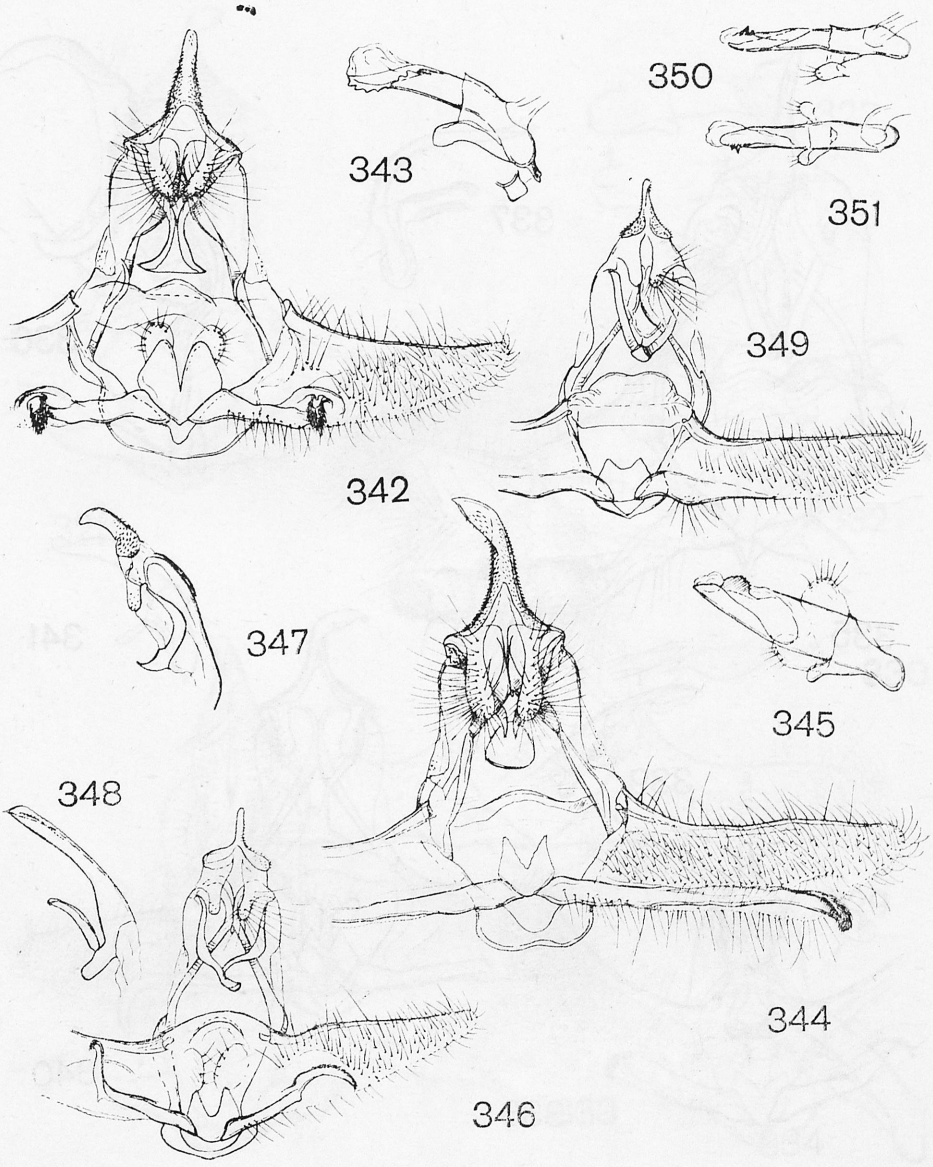
Figs 320—325. Male genitalia of *Cnephasiini*: 320—323 — *Tortricodes alternella* ([Den. & Schiff.]), Poland; 324, 325 — *Eana penziana* (Thunb. & Beckl.), Poland



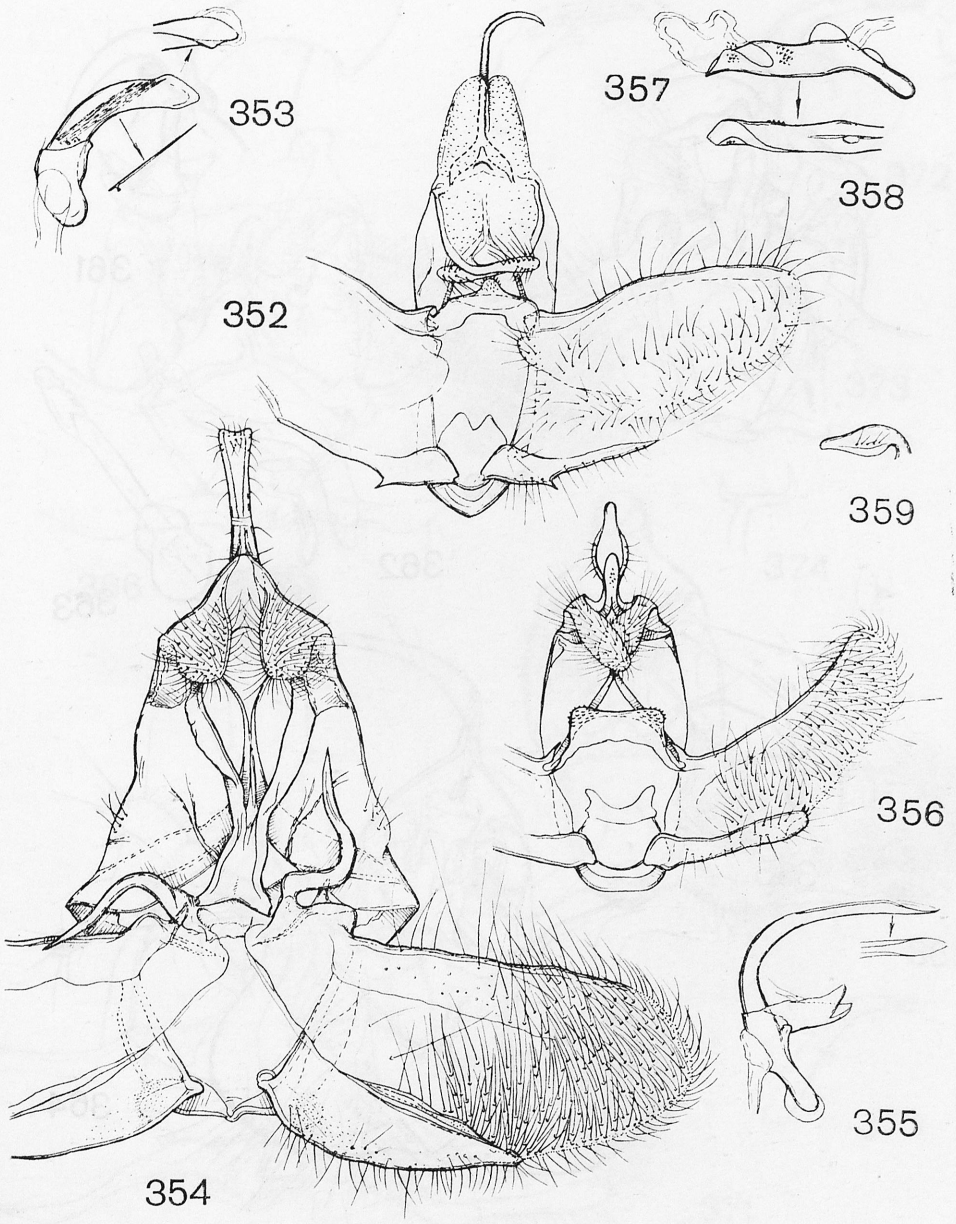
Figs 326—334. Male genitalia of *Cnephasiini*: 326—328 — *Eana argentana* (Cl.), Poland; 329—332 — *E. osseana* (Scop.), Poland; 333, 334 — *E. canescana* (Guen.), Poland



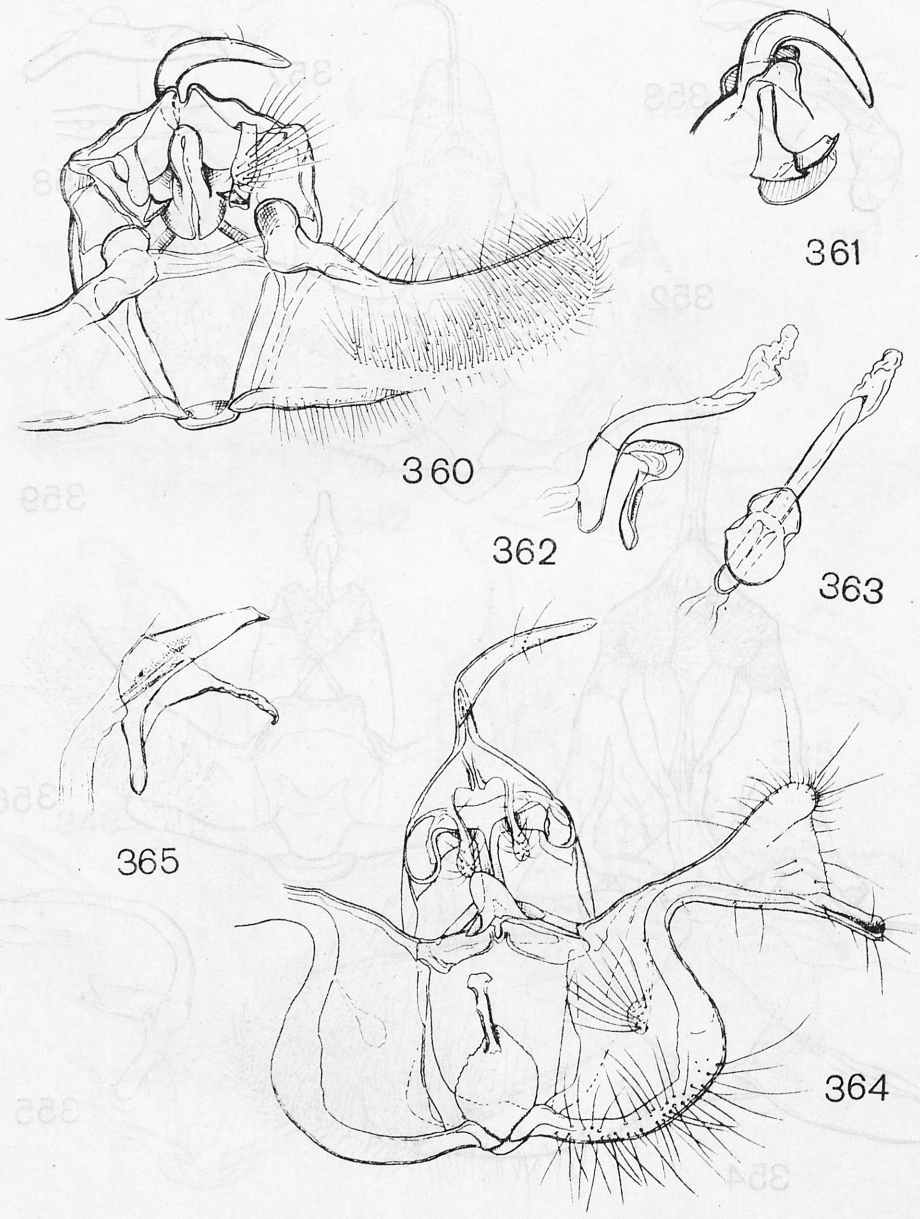
Figs 335—341. Male genitalia of *Cnephasiini*: 335—337 — *Archicnephasia hartigi* RAZ., Italy; 338, 339 — *Cnephasia incertana* (TREIT.), Poland; 340, 341 — *C. pasiuana* (HÜBN.), France



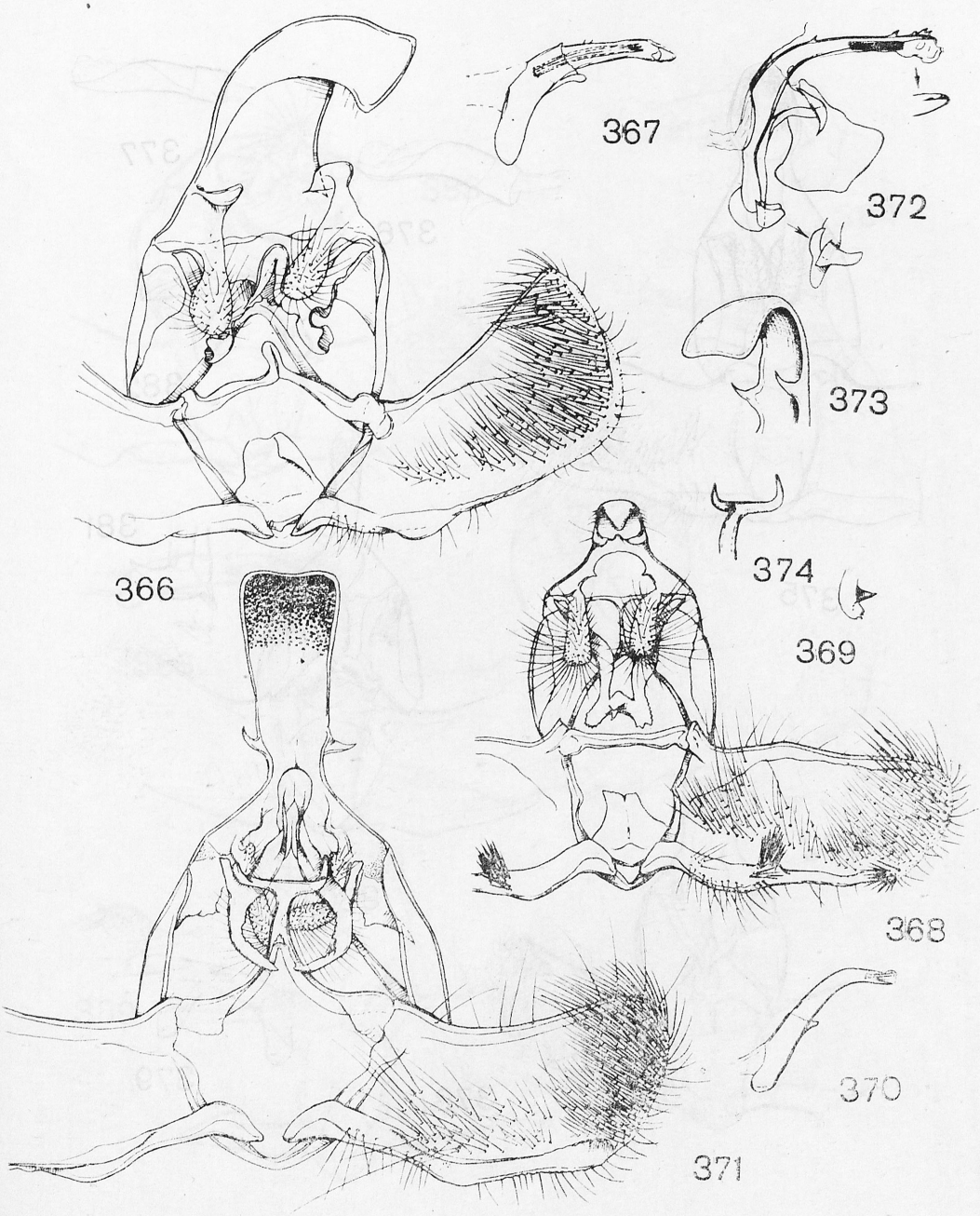
Figs 342—351. Male genitalia of *Cnephasiini*: 342, 343 — *Cnephasia longana* (HAW.), West Germany; 344, 345 — *C. alticolana* (H.-S.), Poland; 346—348 — *C. ecullyana* RÉAL, Greece; 349—351 — *C. sedana* (CONST.), Austria



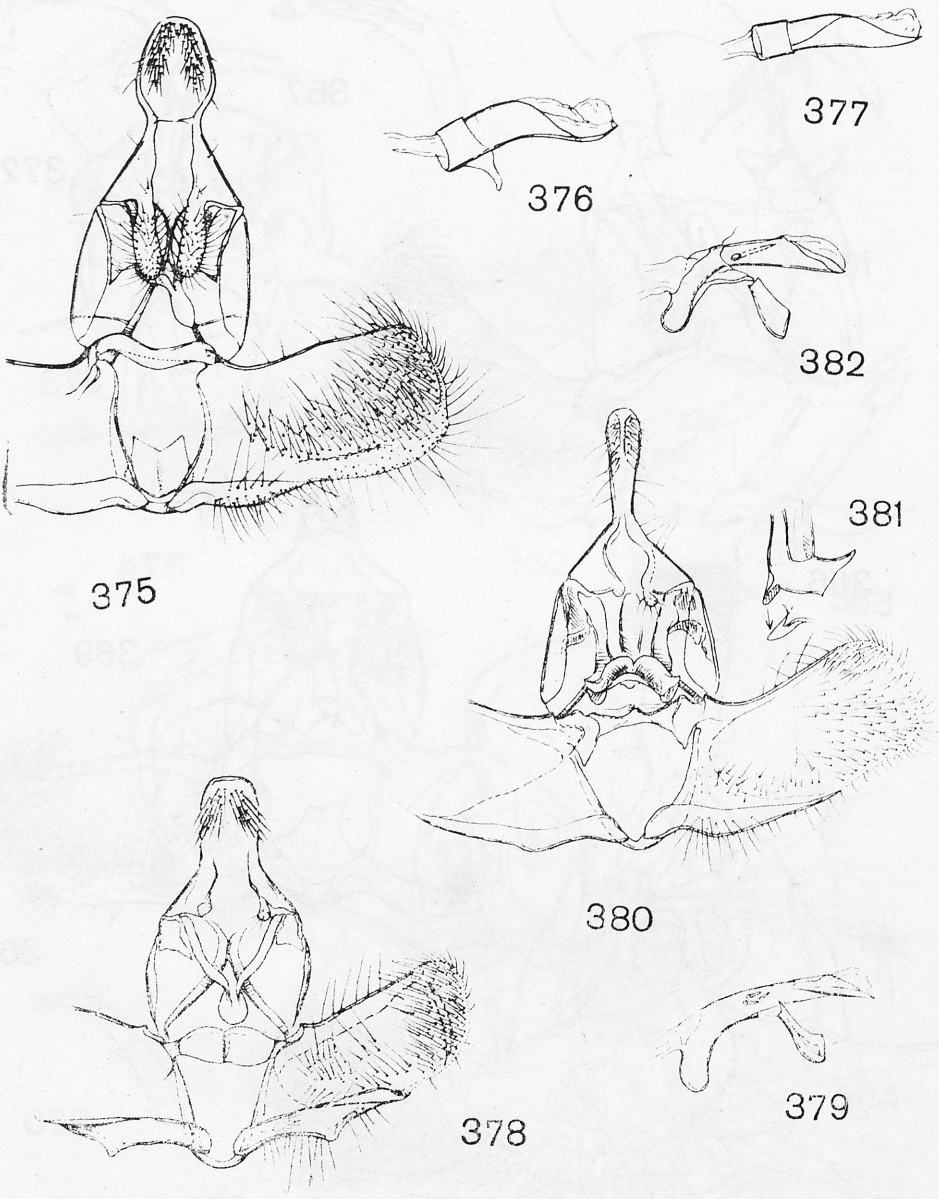
Figs 352—359. Male genitalia of *Sparganothini* and *Archipini*: 352, 353 — *Sparganothis pilleriana* ([Den. & Schiff.]), Poland; 354, 355 — *Eulia ministrana* (L.), Poland; 356—359 — *Pseudargyrotoza conwagana* (F.), Poland



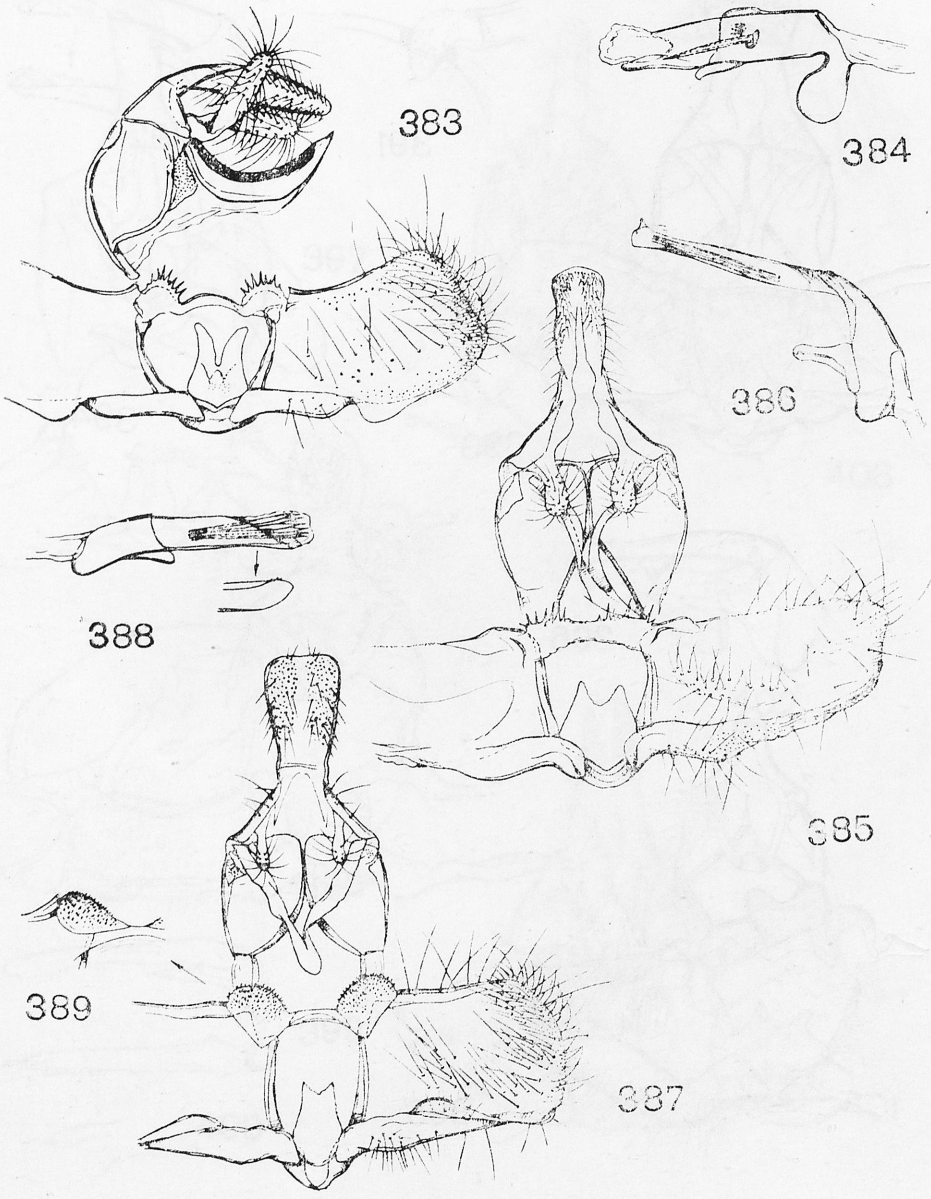
Figs 360—365. Male genitalia of *Archipini*: 360—363 — *Terthreutis xanthocycla* Meyr., China: North Yunnan; 364, 365 — *Synochoneura ochriclivis* Meyr., China: West Tien-mu-shan



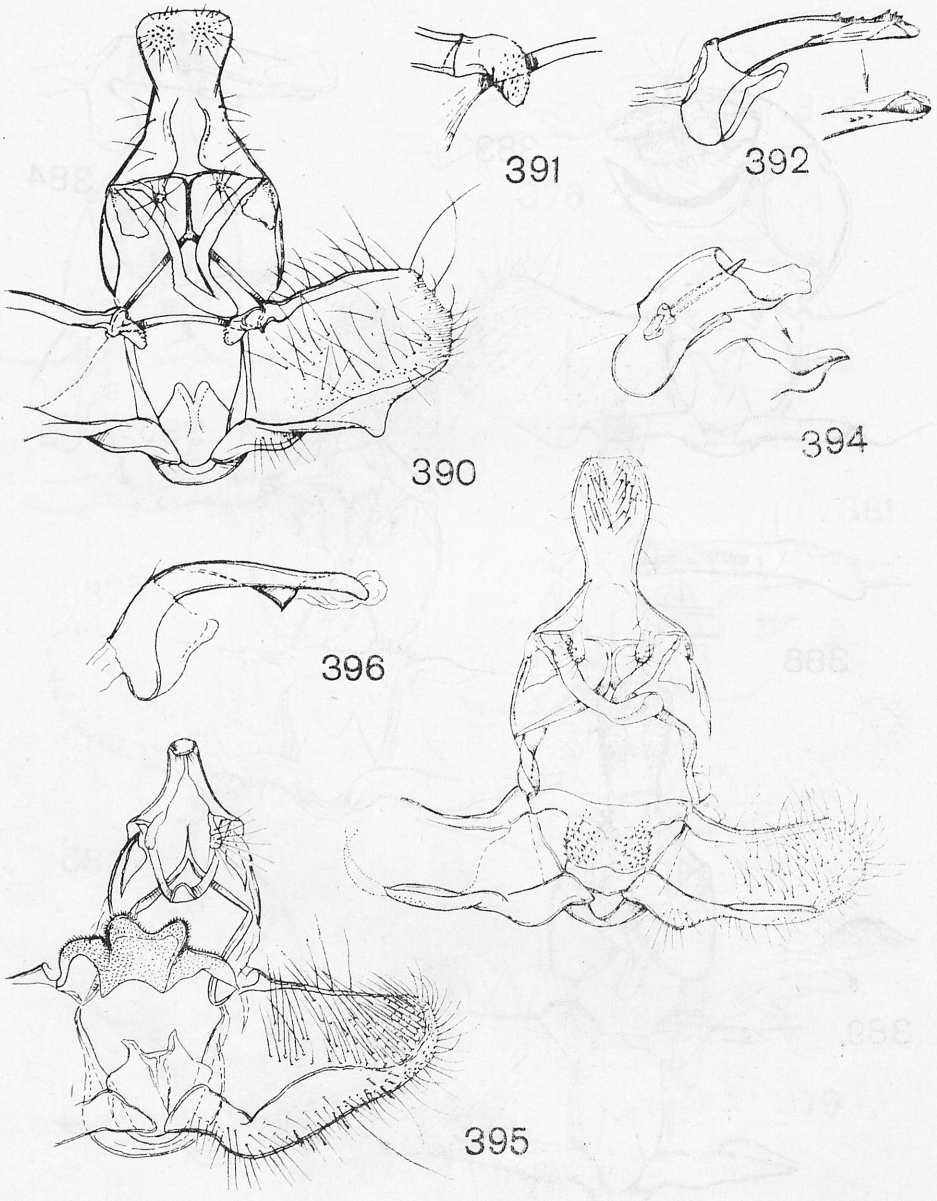
Figs 366—374. Male genitalia of *Archipini*: 366, 367 — *Gnorismoneura exulis* Issiki & String., Taiwan; 368—370 — *G. hoshinoi* (Kaw.), Japan: Honsyu; 371—374 — *G. zyzzogeton* Raz., China: Cheakiang



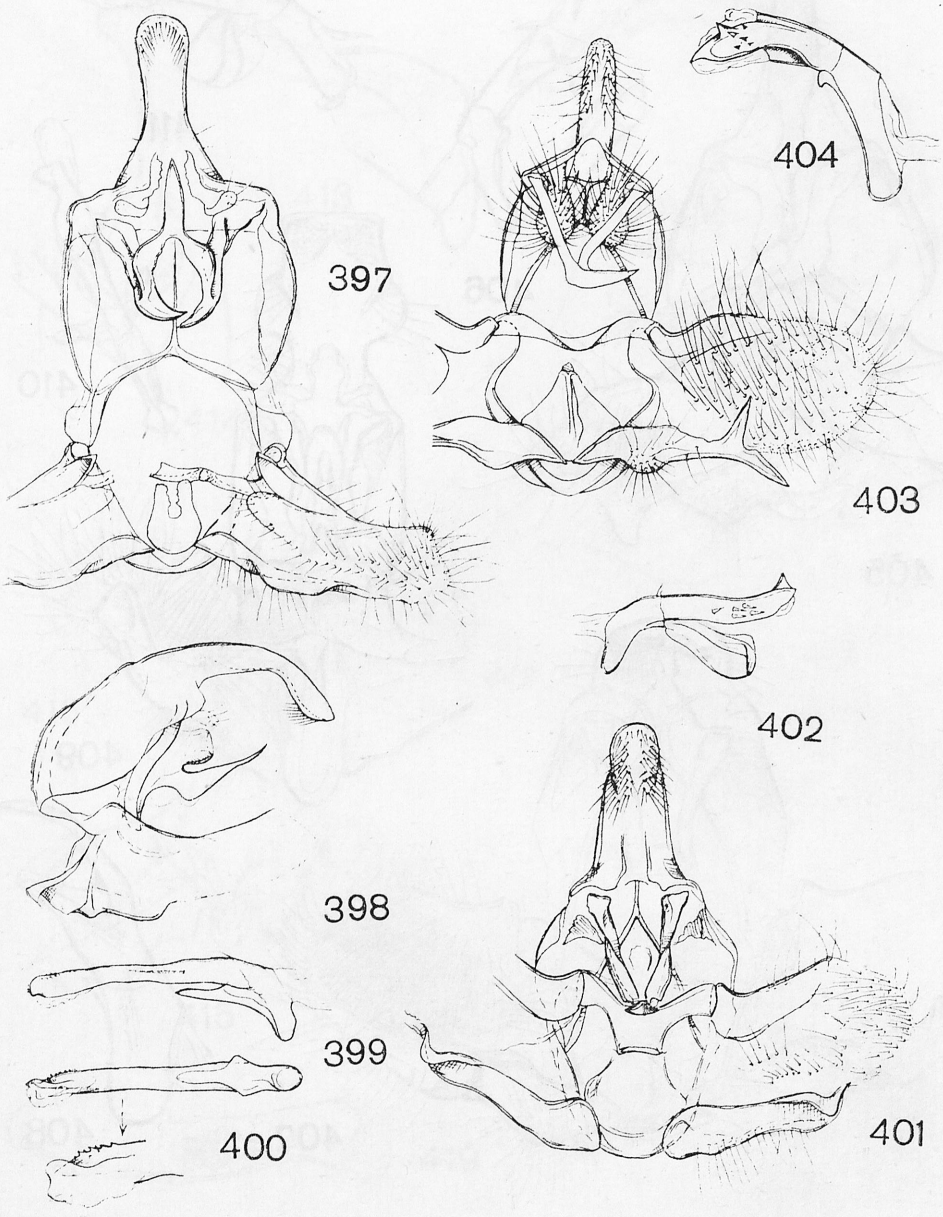
Figs 375—382. Male genitalia of *Archipini*: 375—377 — *Egogepa zosta* Raz., China: Chekiang; 378, 379 — *Batodes angustiorana* (Haw.), West Germany; 380—382 — *Aneuxanthis locupletana* (Hübn.), Spain



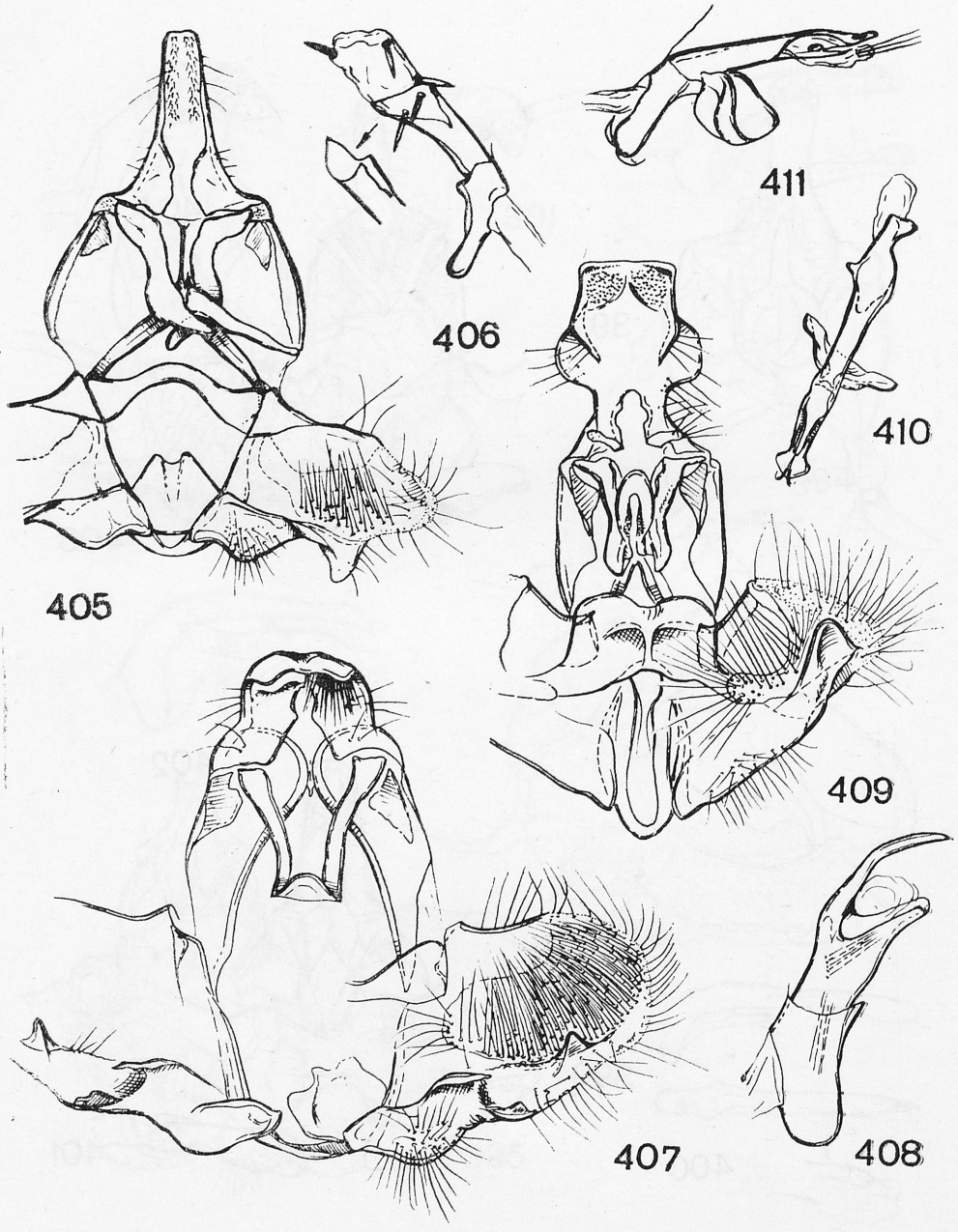
Figs 383—389. Male genitalia of *Archipini*: 383, 384 — *Geogepa zeuxidia* RAZ., China: Chekiang; 385, 386 — *Epagoge grotiana* (F.), Poland; 387—389 — *Ramapezia gnonama* (CL.), Poland



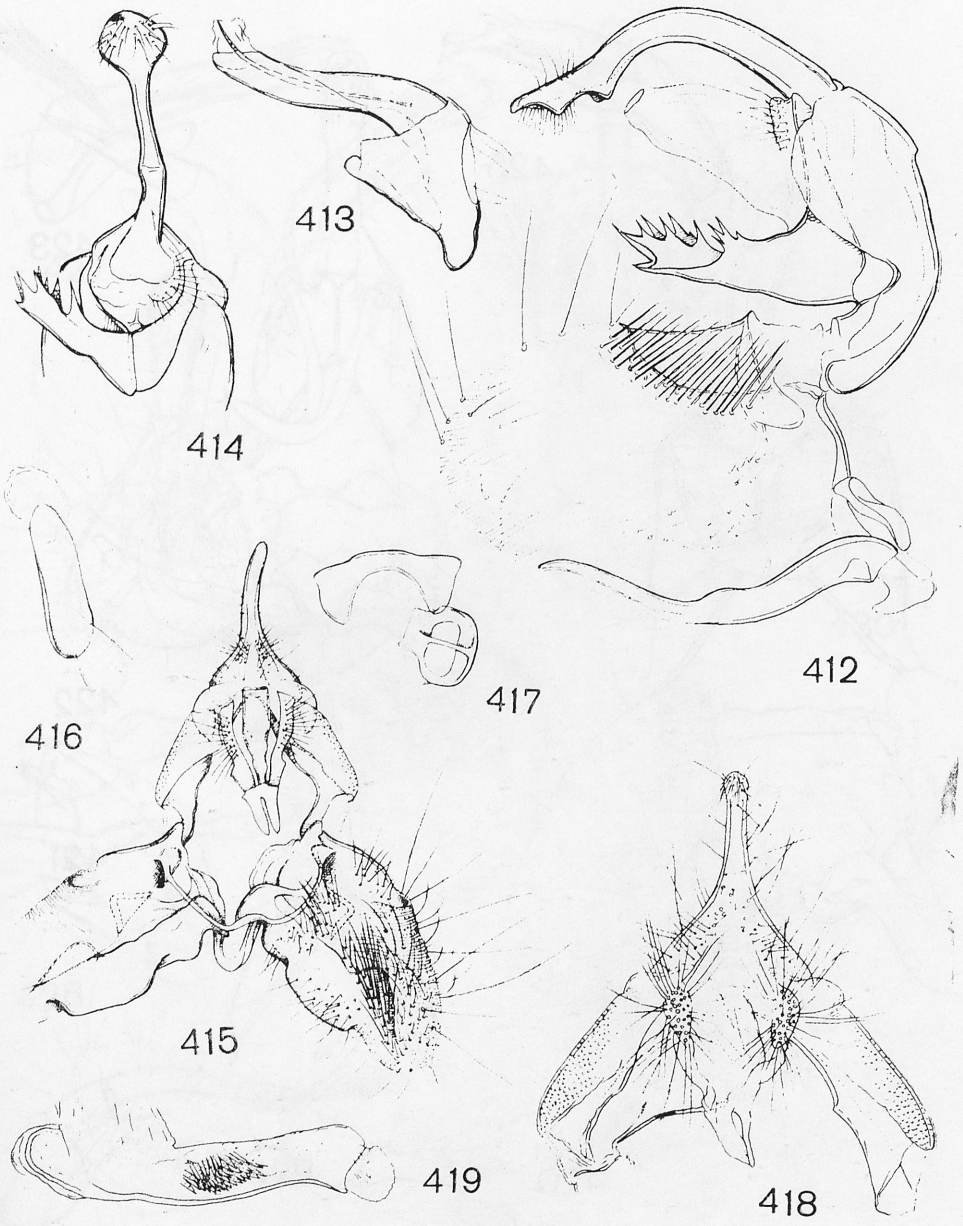
Figs 390—396. Male genitalia of *Archipini*: 390—392 — *Periclepsis cinctana* ([Den. & Schiff.]), Poland; 393, 394 — *Philedone gerningana* ([Den. & Schiff.]), Poland; 395, 396 — *Terricula violenta* (Kaw.), Japan: Honsyu



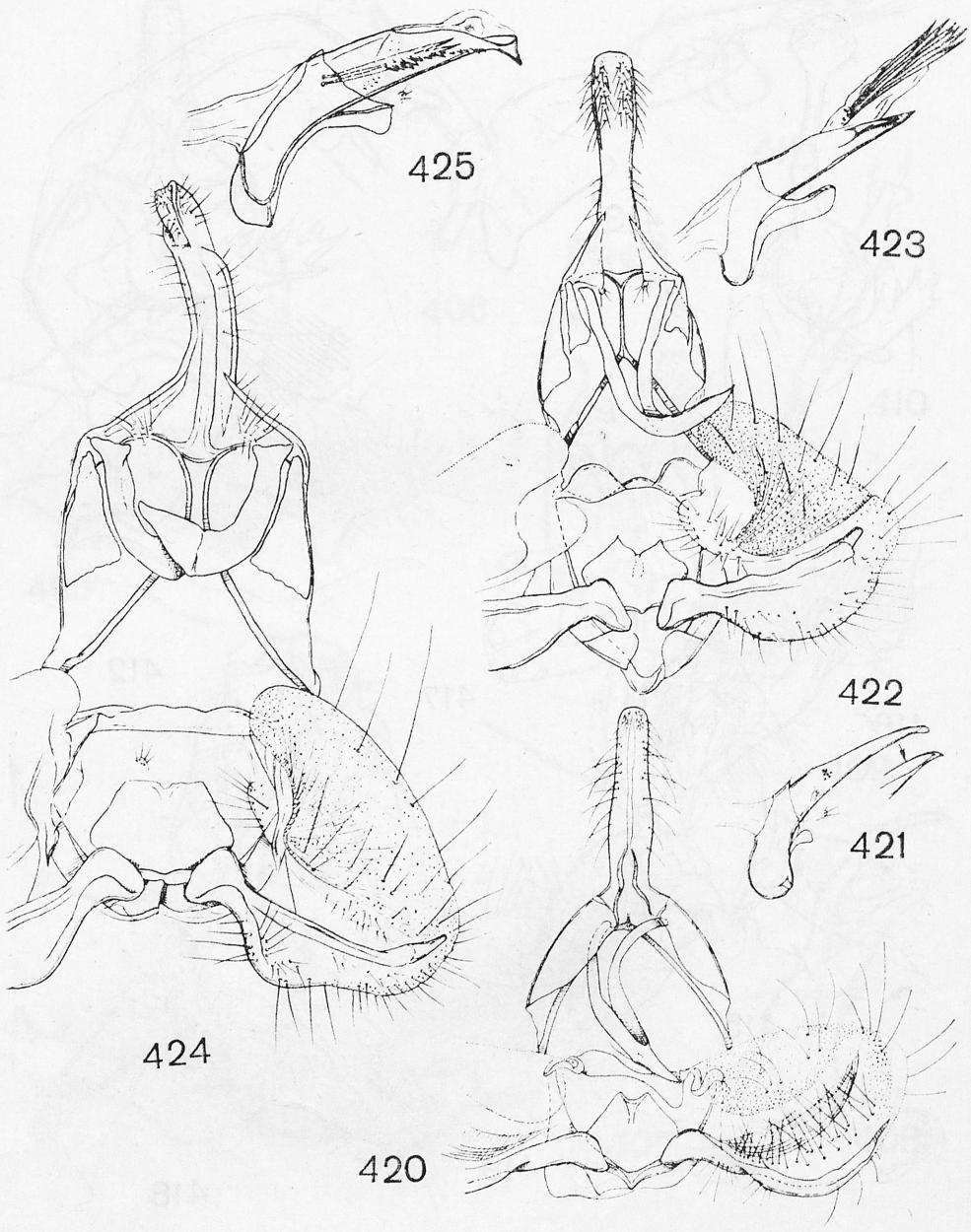
Figs 397—404. Male genitalia of *Archipini*: 397—400 — *Hastula hyerana* (MiLL.), Sardinia; 401—402 — *Pseudeulia asinana* (HÜBN.), Hungary; 403, 404 — *Capua vulgana* (FRÖL.), Poland



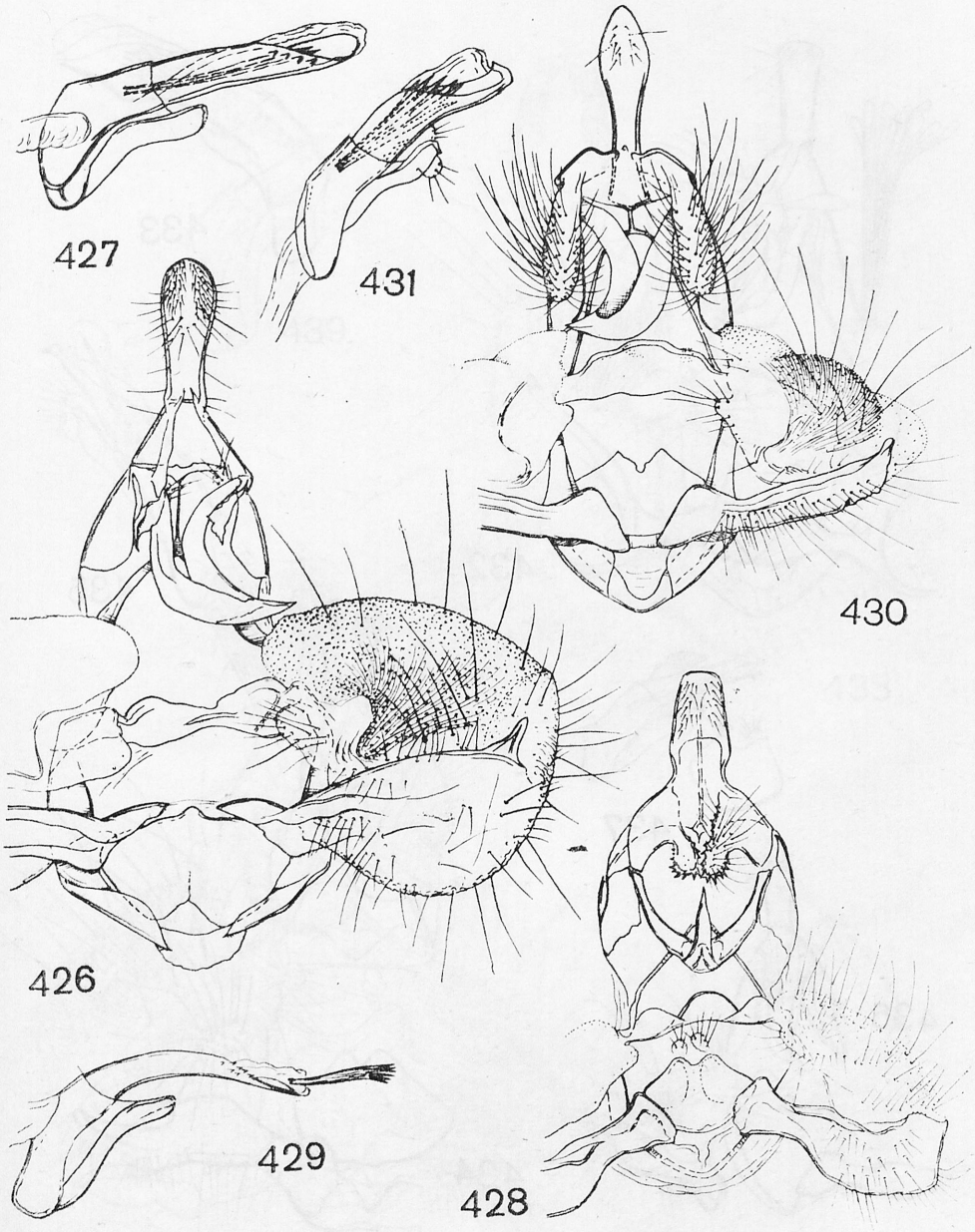
Figs 405—411. Male genitalia of *Archipini*: 405, 406 — *Philedonides lunana* (BORGSTR.), Poland; 407, 408 — *Leontochroma aurantiacum* WALSM., Sikkim; 409—411 — *L. supprupuratum* WALSM., China: North Yunnan



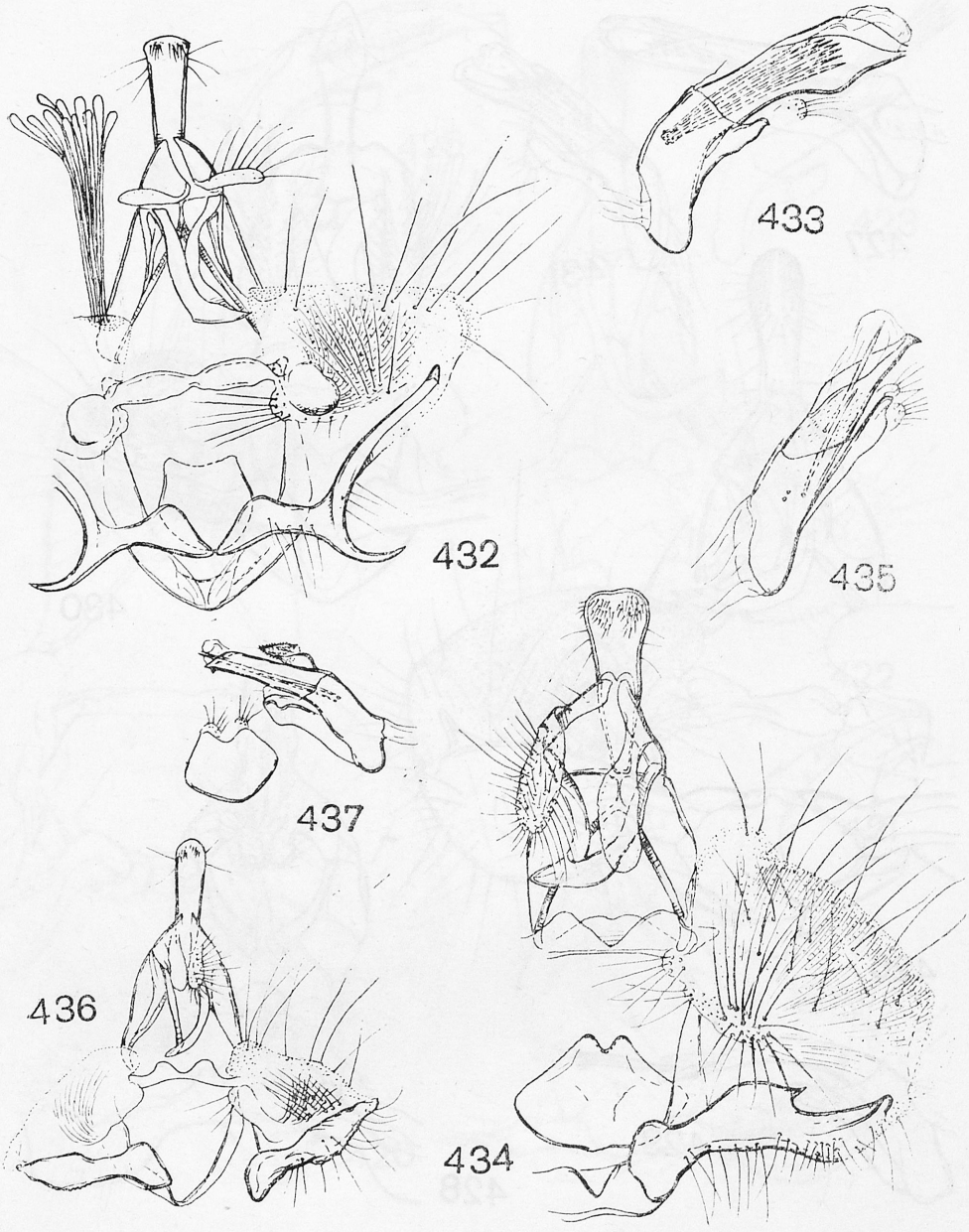
Figs 412—419. Male genitalia of *Archipini*: 412, 413 — *Ulodemis trigrapha* MEYR., Bhutan; 424 — *U.* sp., India: Darjeeling; 415—417 — *Scotiophyes faeculosa* DIAK., China: Likiang; 418, 419 — *S. hemiptycta* DIAK., after DIAKONOFF, 1983



Figs 420—425. Male genitalia of *Archipini*: 420, 421 — *Argyrotaenia pulchellana* (HAW.), Poland; 422, 423 — *Archips xylosteanus* (L.), Poland; 424, 425 — *A. packardianus* (FERN.), Canada



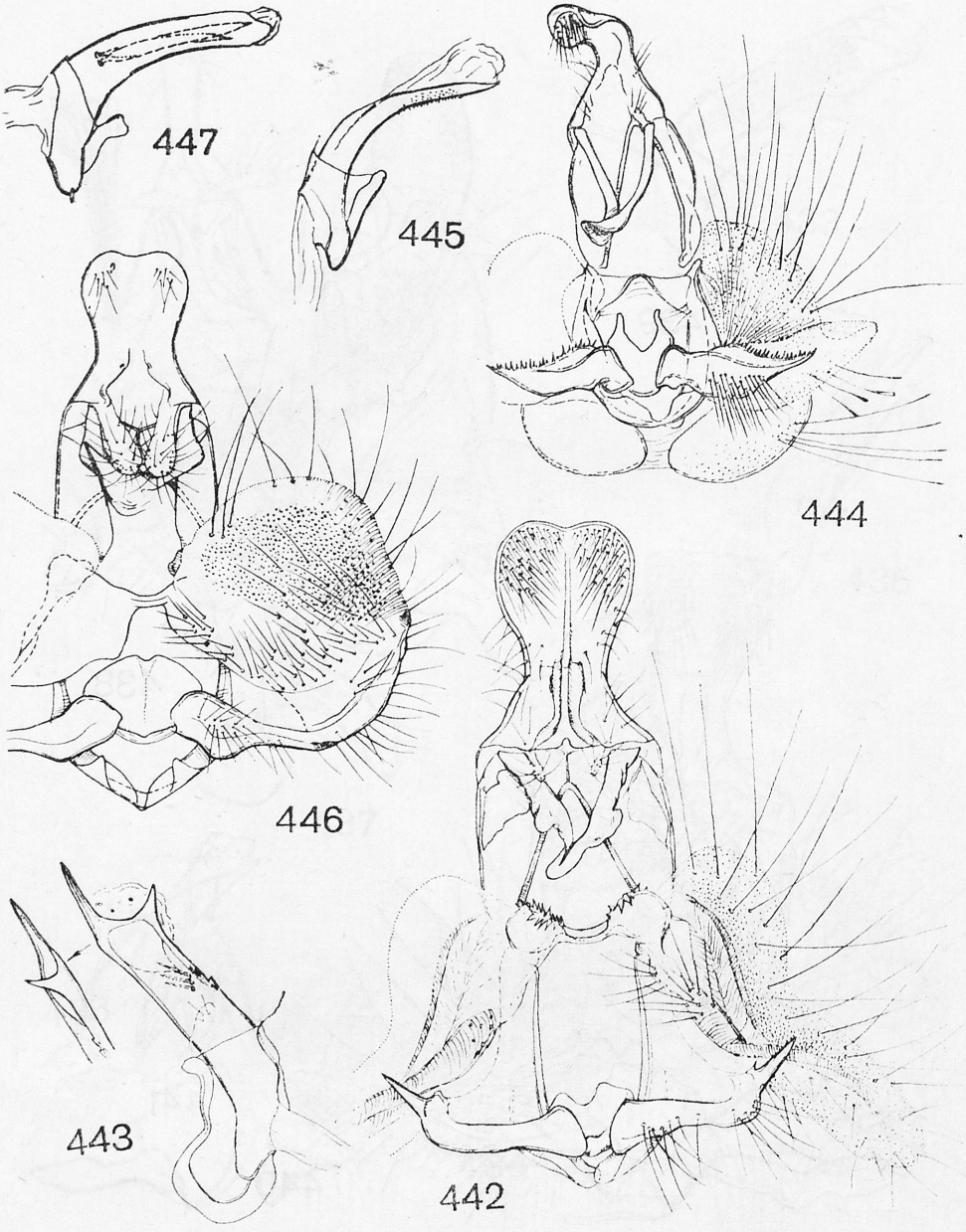
Figs 426—431. Male genitalia of *Archipini*: 426, 427 — *Archips pulcher* (BUTL.), Japan: Honsyu; 428, 429 — *Dentisociaria okui* YAS., close to *D. armata* KUZN., Japan: Honsyu; 430, 431 — *Choristoneura diversana* (HÜBN.), Poland



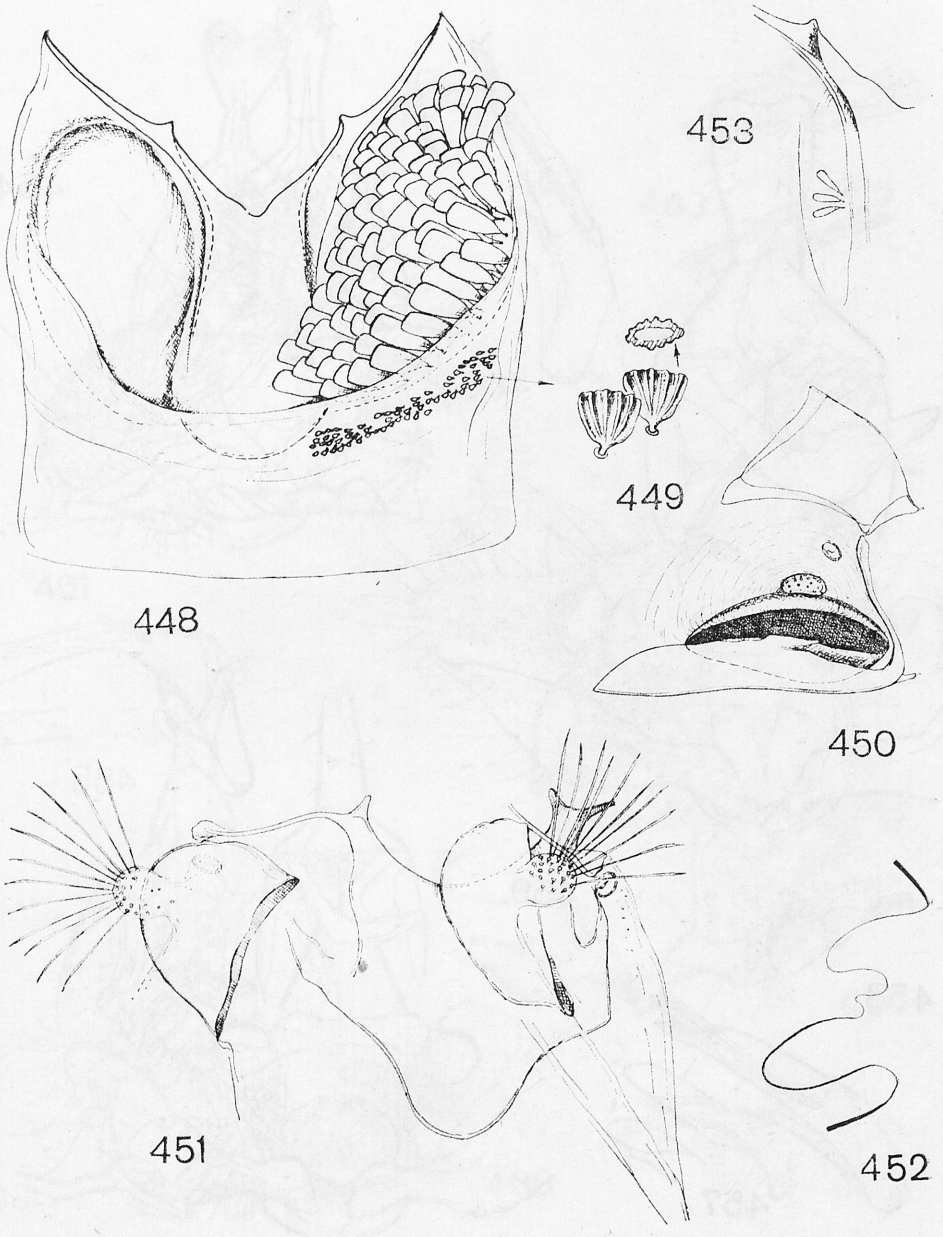
Figs 432—437. Male genitalia of *Archipini*: 432, 433 — *Choristoneura lafauryana* (RAG.), Manchuria; 434, 435 — *Ch. longicellana* (WALSM.), Japan: Honsyu; 436, 437 — *Meridemis furtiva* DIAK., Nepal



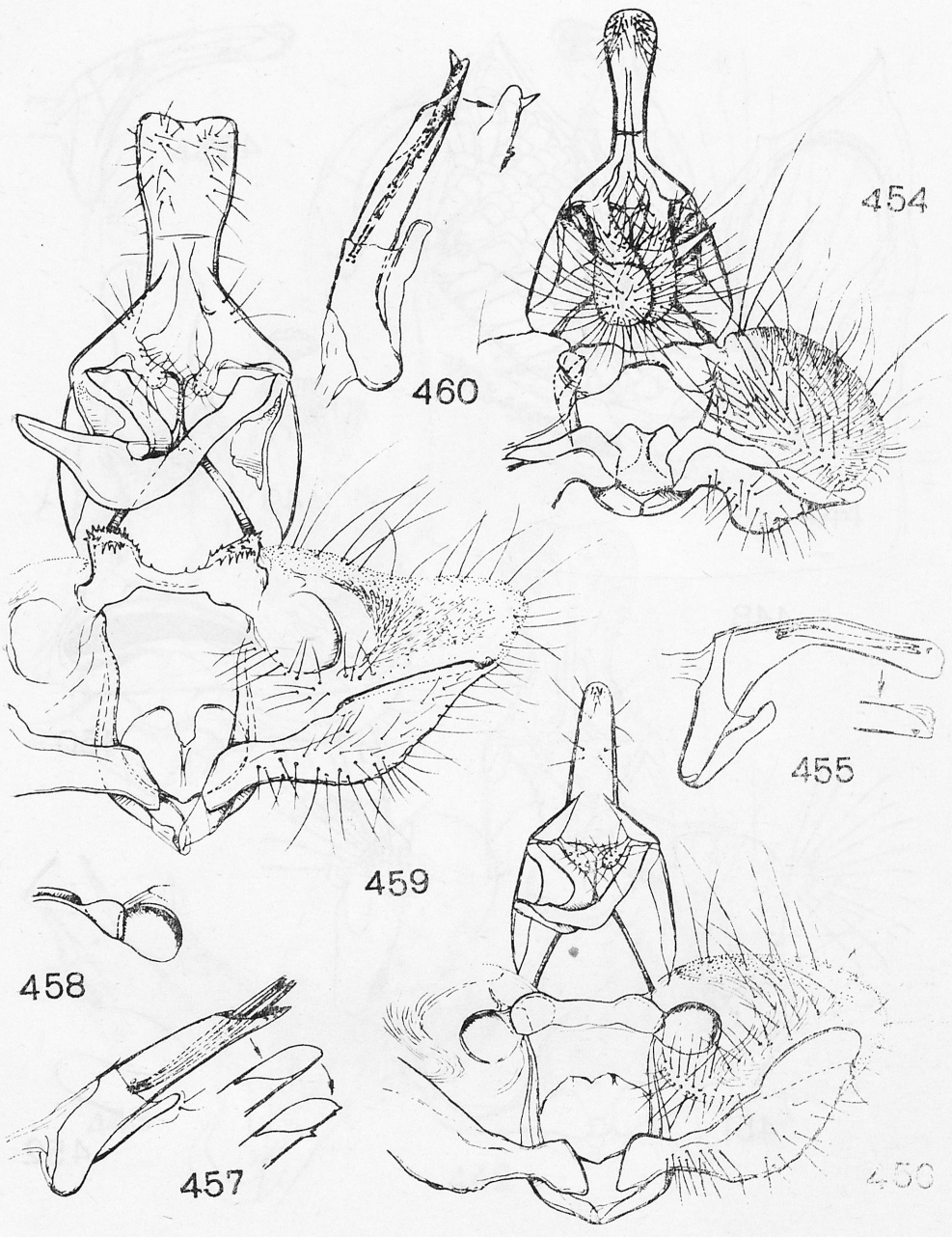
Figs 438—441. Male genitalia of *Archipini*: 438, 439 — *Tosirips magyarus* Raz., Hungary; 440, 441 — *Ptycholomoides aeriferana* (H.-S.), Poland



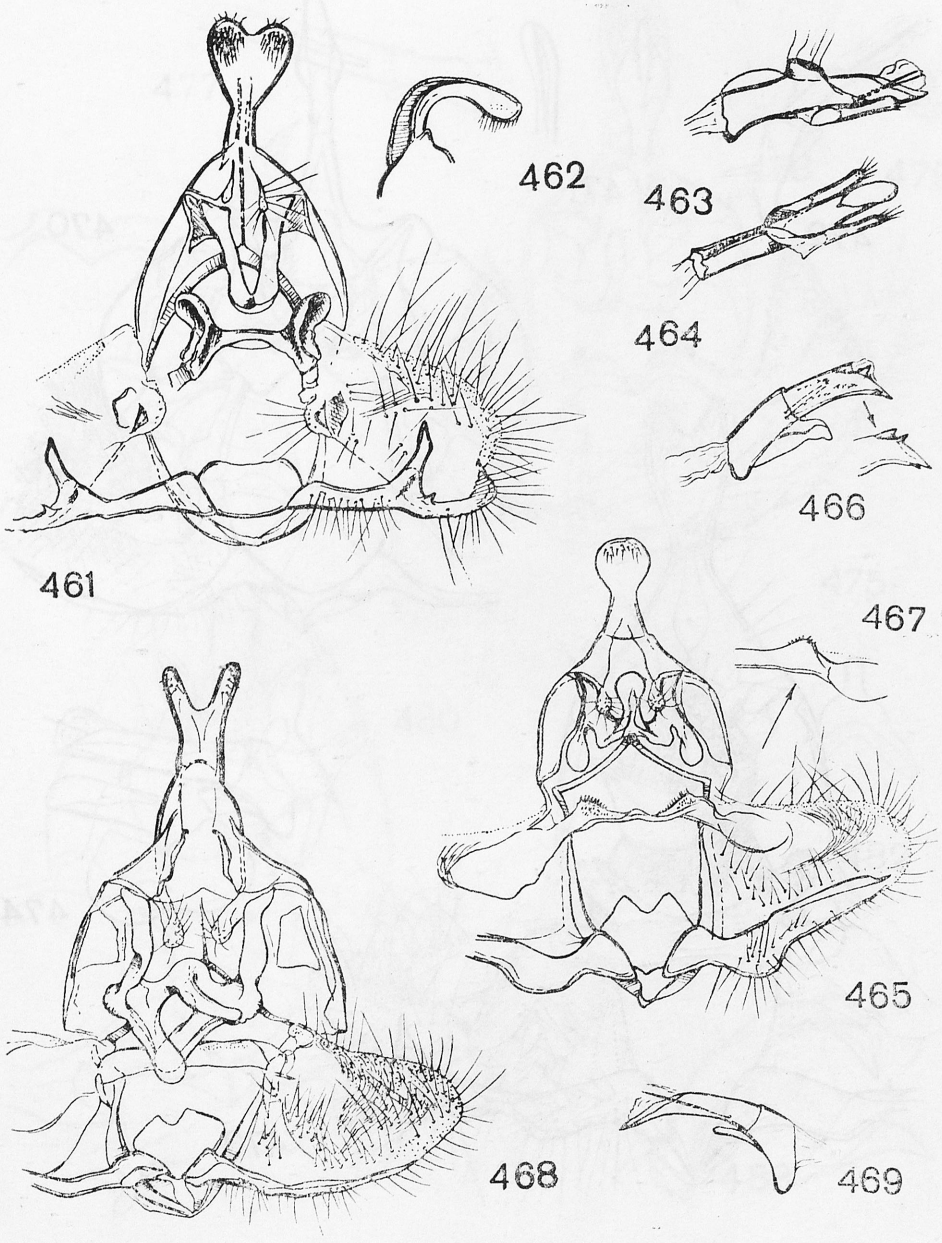
Figs 442—447. Male genitalia of *Archipini*: 442, 443 — *Ptycholoma lecheana* (L.), Poland; 444, 445 — *Lumaria minuta* (WALSM.), India: Palnis; 446, 447 — *Pandemis corylana* (F.), Poland



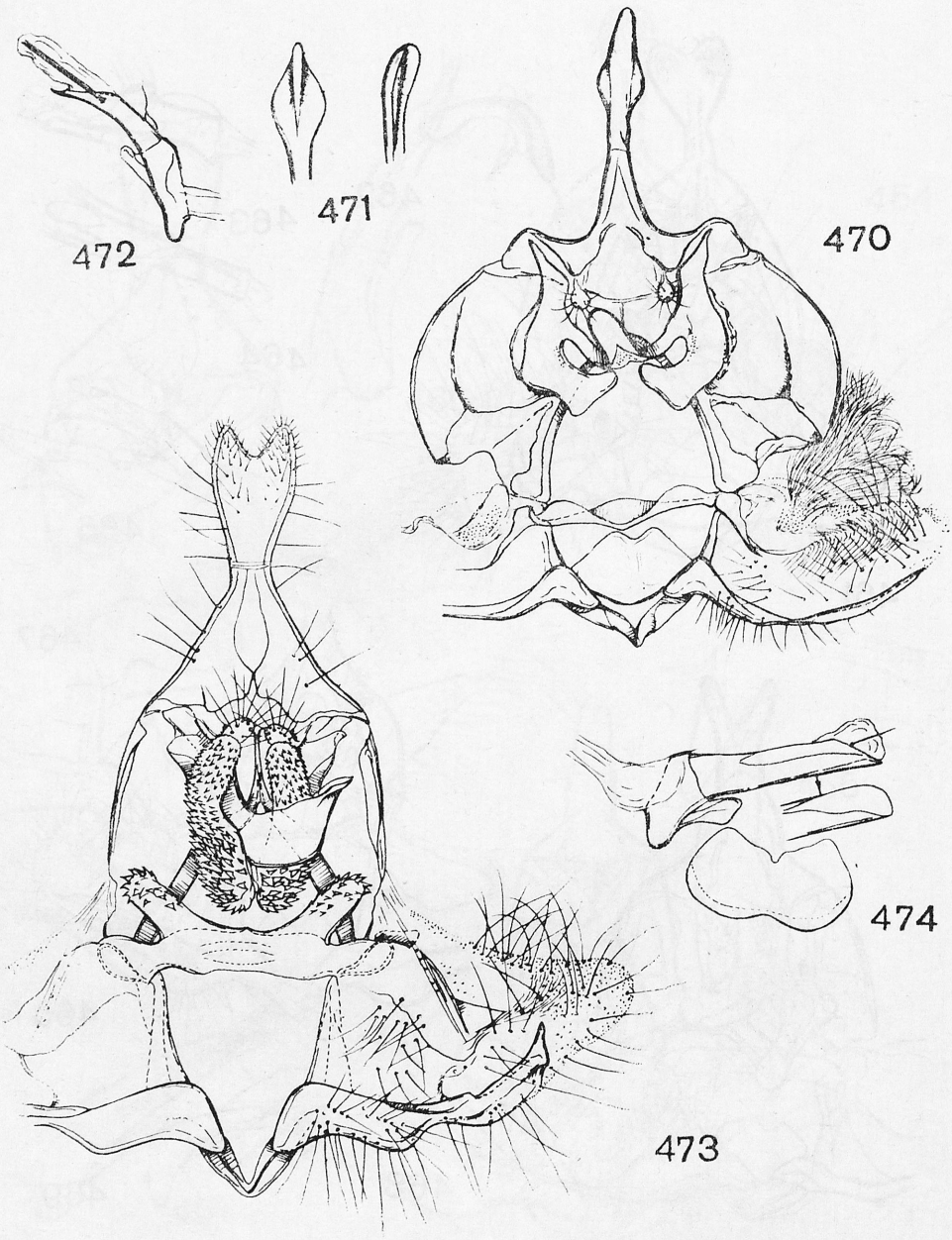
Figs 448—453. Male abdominal scent organs of *Pandemis* HÜBN.: 448, 449 — P. *cerasana* (HÜBN.), Poland; 450—452 — *P. phaiopteron* RAZ., China: South Shansi, after RAZOWSKI 1978b; 453 — *P. corylana* (F.), after RAZOWSKI, 1978b, Poland



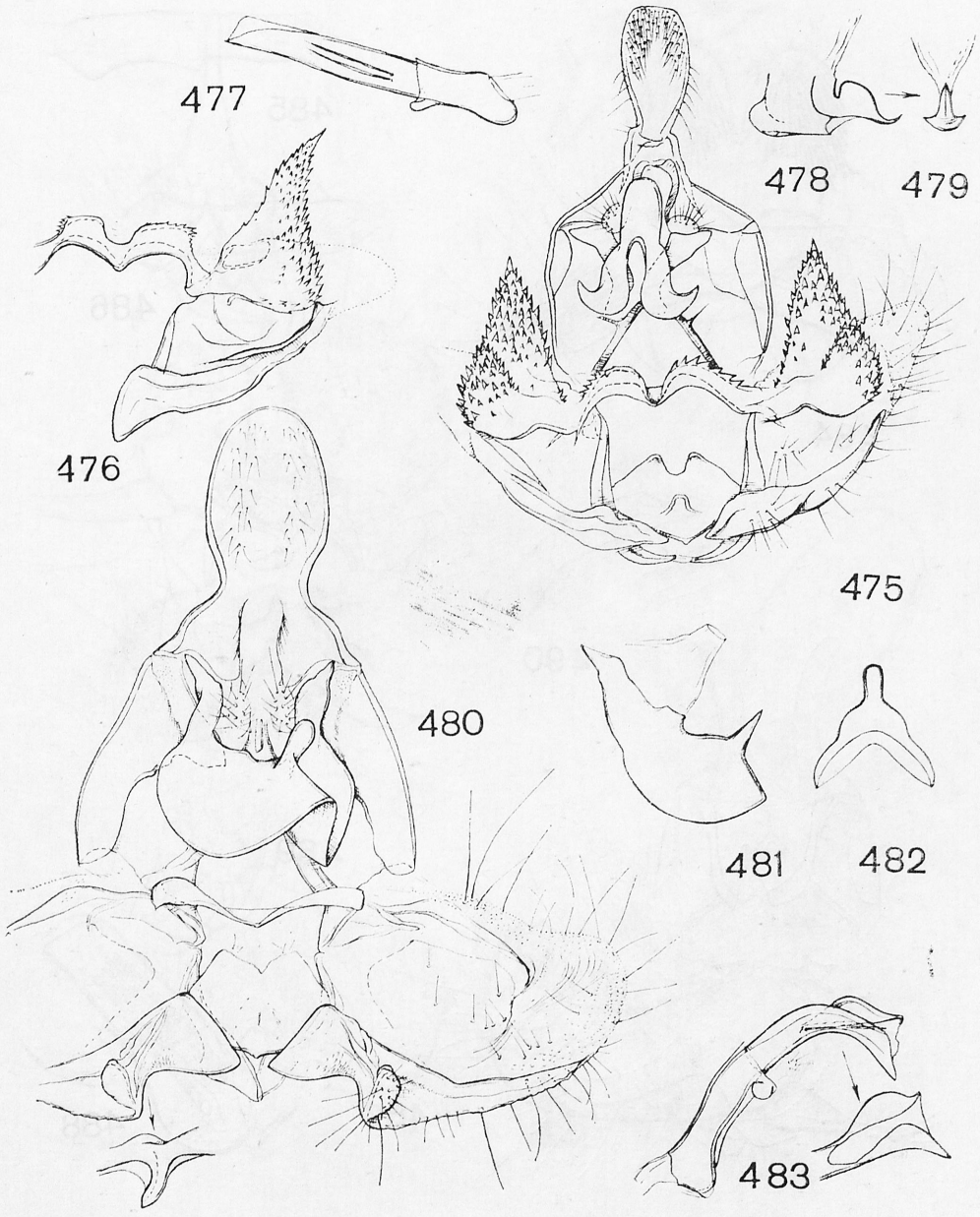
Figs 454—460. Male genitalia of *Archipini*: 454, 455 — *Pandemis chondrillana* (H. -S.), USSR at Volga River; 456—458 — *Syndemis musculana* (HÜBN.), Poland; 459, 460 — *Lozotaenia forsterana* (F.), Poland



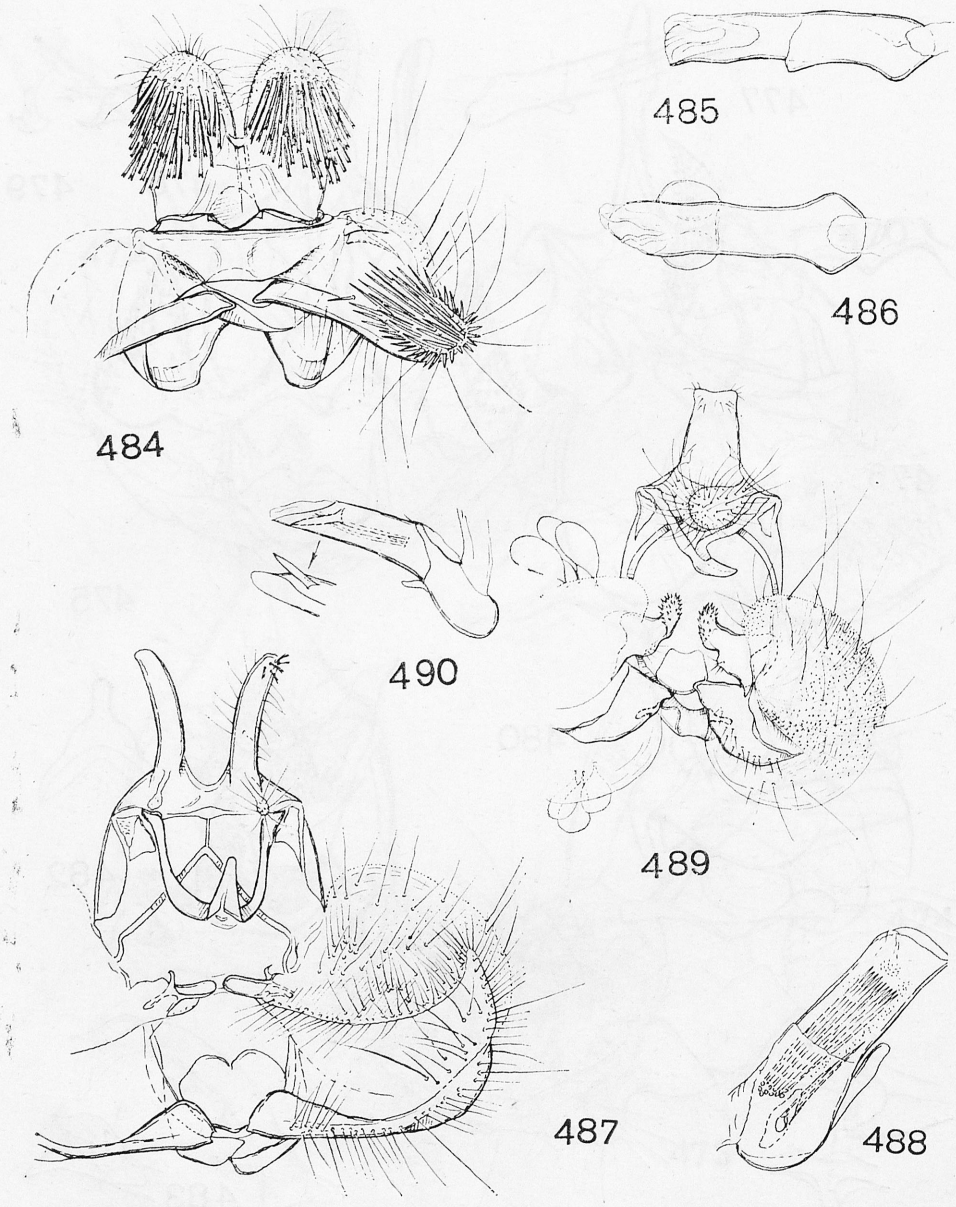
Figs 461—469. Male genitalia of *Archipini*: 461—464 — *Cacoecimorpha pronubana* (HÜBN.) Italy; 465—467 — *Aphelia albociliana* (H.-S.), USSR, at Volga River; 468, 469 — *A. ignoratana* (STGR.), Asia Minor



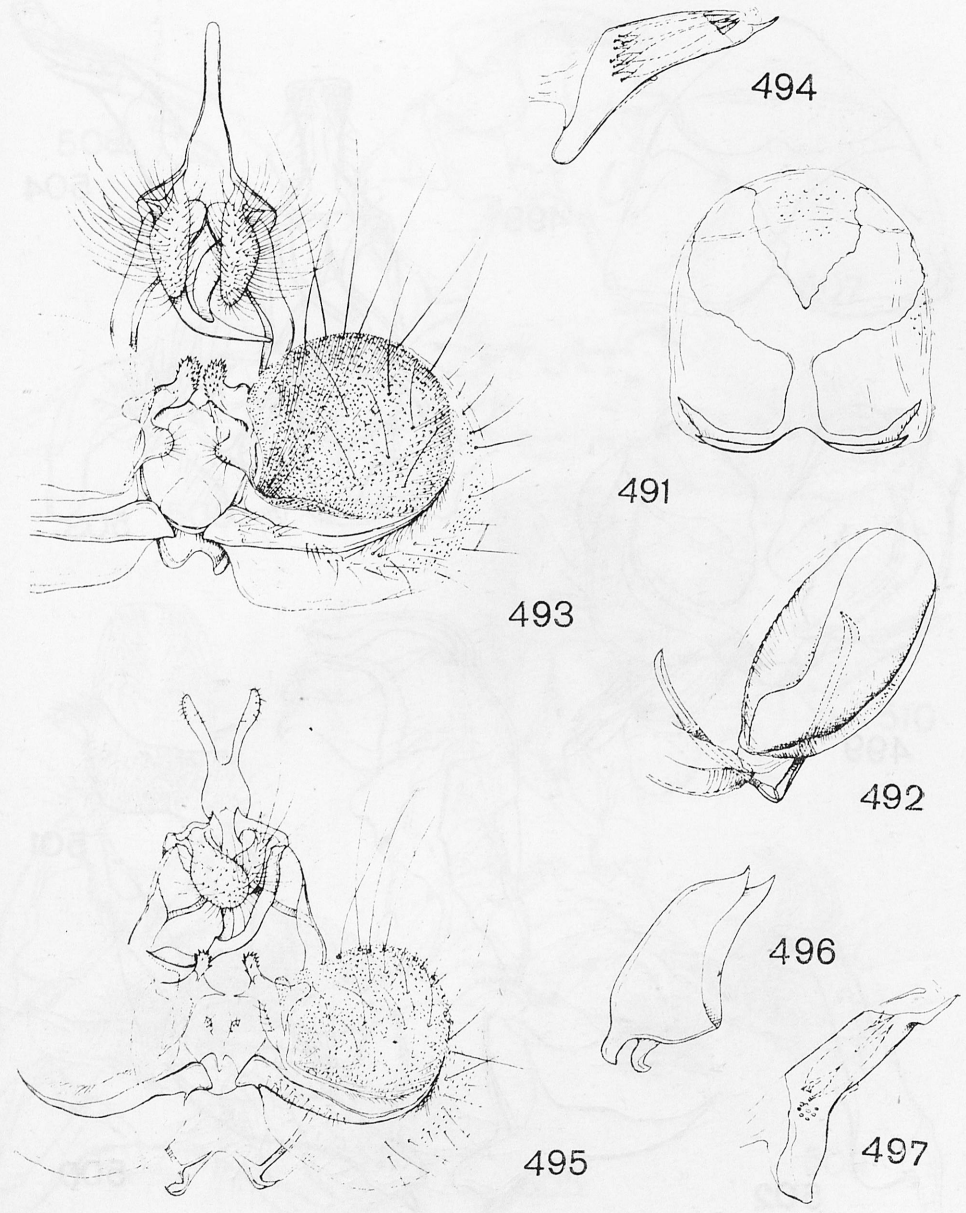
Figs 470—474. Male genitalia of *Archipini*: 470—472 — *Aphelia ochreana* (Hübn.), Bulgaria; 473, 474 — *A. viburniana* (F.), Poland



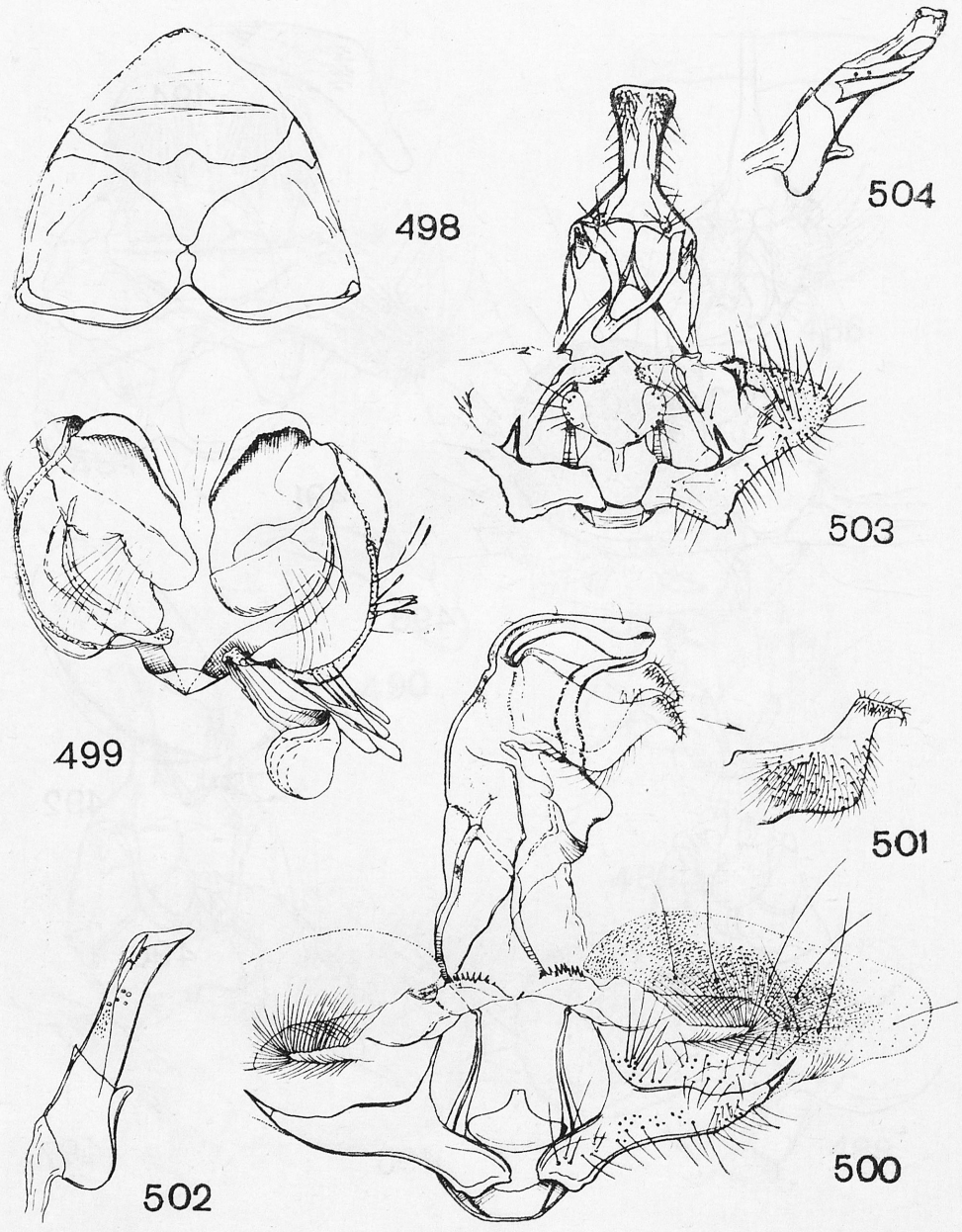
Figs 475—483. Male genitalia of *Archipini*: 475—479 — *Aphelia disjuncta* (FIL.), Mongolia; 480—483 — *Dichelia histrionana* (FRÖL.), Poland



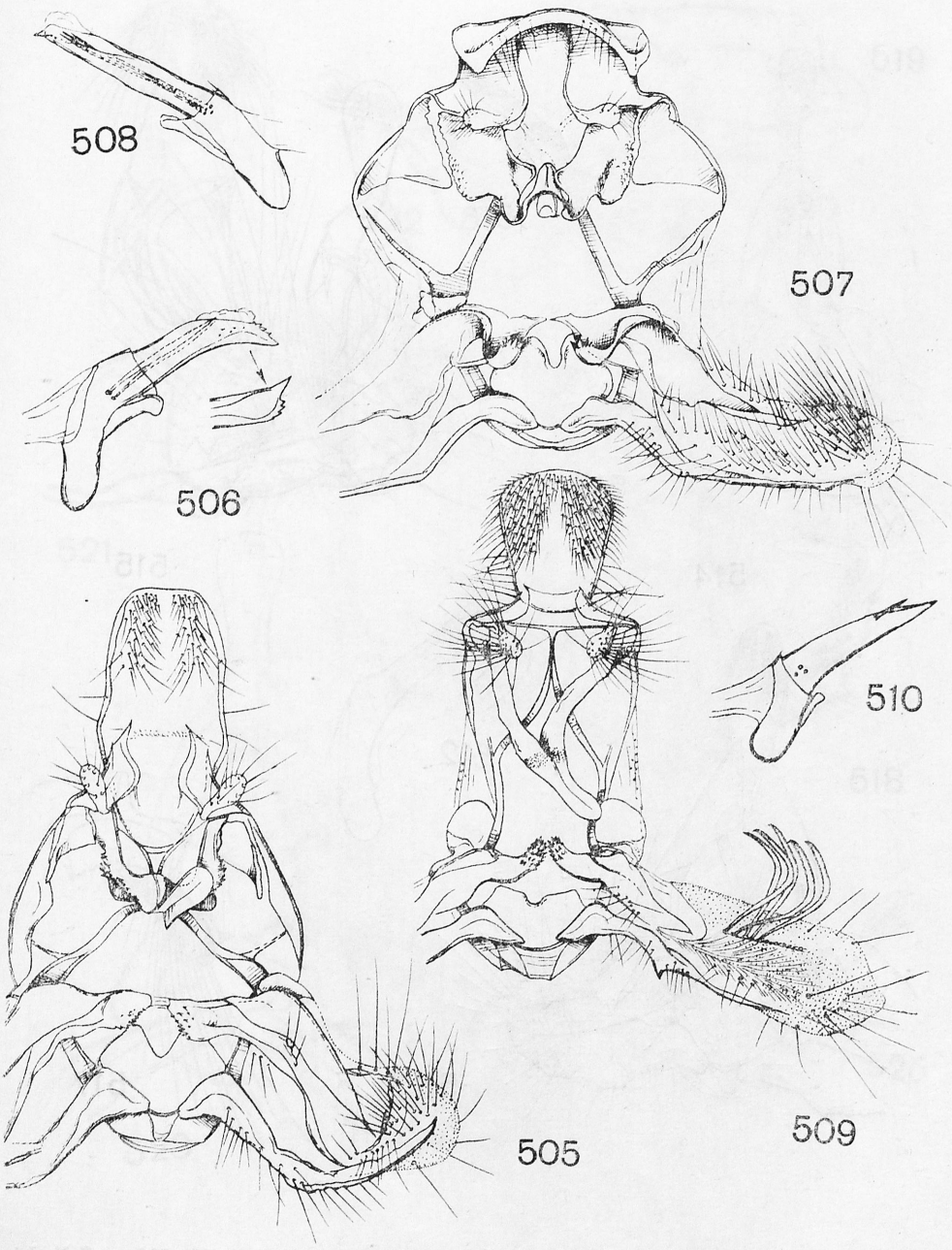
Figs 484—490. Male genitalia of *Archipini*: 484—486 — *Homonopsis illotana* (KENN.), South Primore; 487, 488 — *Chiraps chlorotypa* (MEYR.), China: Kwantung; 489, 490 — *Neocalyptis inconditana* (KENN.), Japan: Honsyu



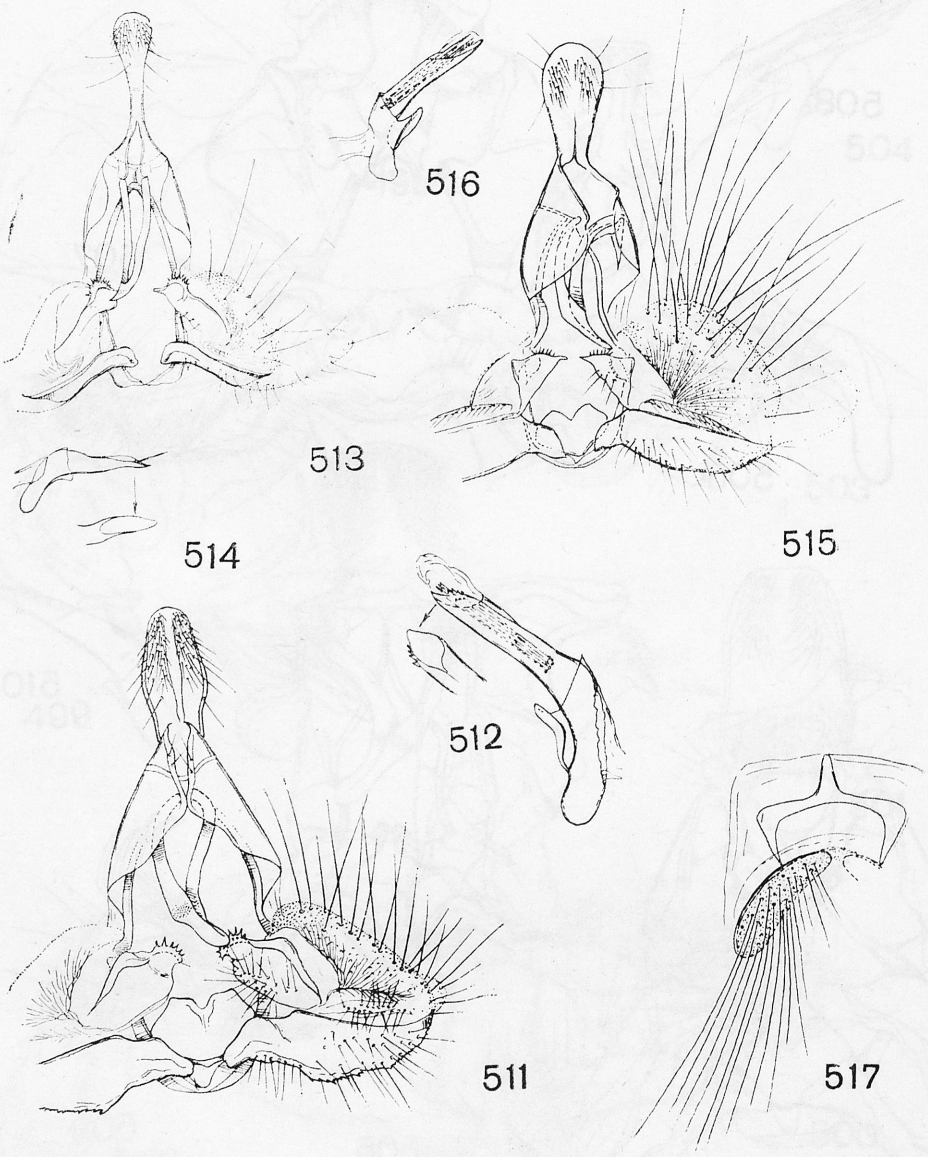
Figs 491—497. Male genitalia and subgenital segments of *Archipini*: 491, 492 — *Neocalyptis inconditana* (KENN.) Japan: Honsyu; 493, 494 — *N. liratama* (Chr.), near *N. telutanda* DIAK., Japan: Honsyu; 495—497 — *Diplocalyptis congruentana* (KENN.), near *D. apona* DIAK. Japan: Honsyu



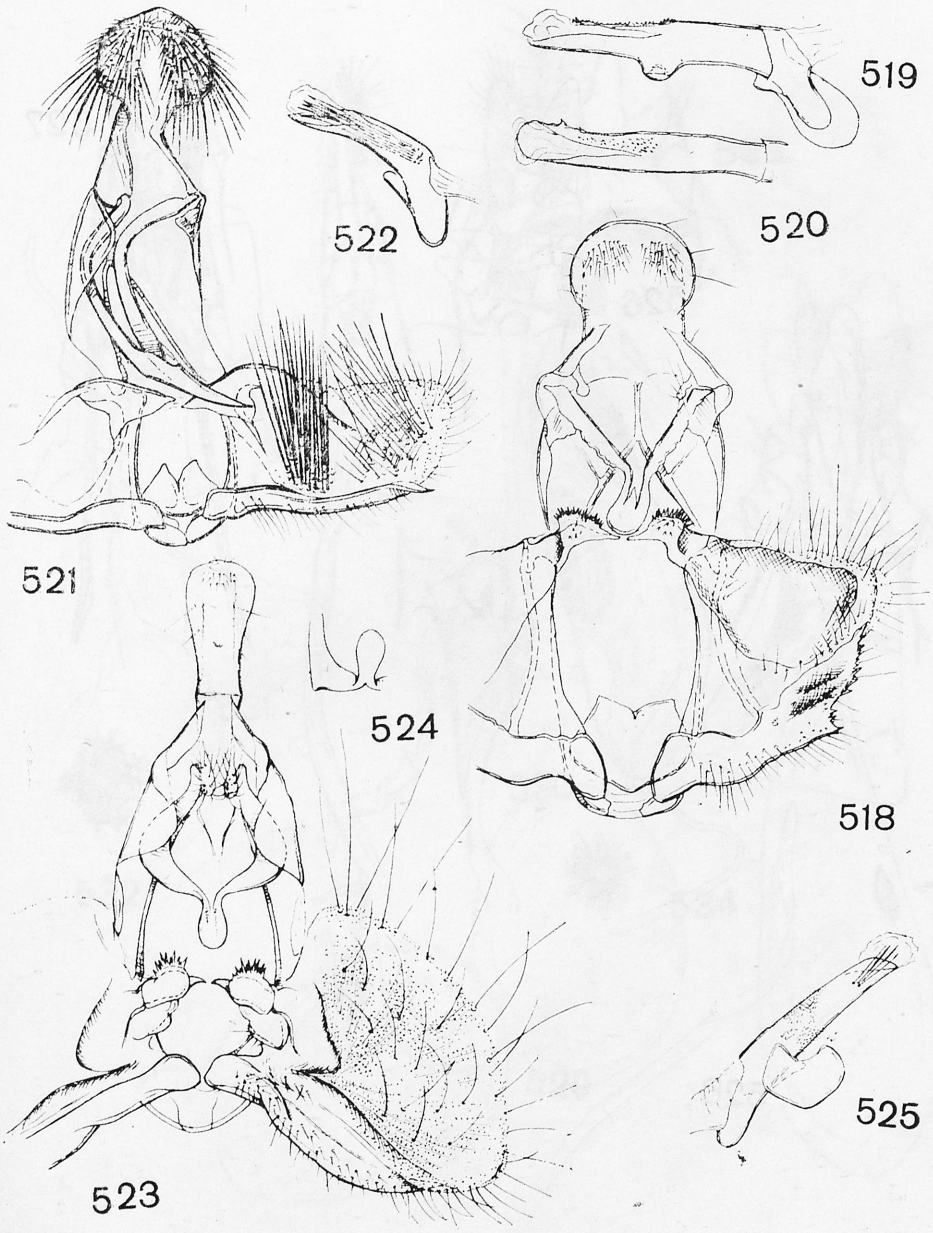
Figs 498—504. Male genitalia and subgenital segments of *Archipni*: 498, 499 — ***Diplocalyptis congruentana*** (KENN.), Japan: Honsyu; 500—502 — ***Ancyroclepsis rhodoconia*** DIAK., China: Likiang; 503, 504 — ***Clepsis senecionana*** (HÜBN.), Poland



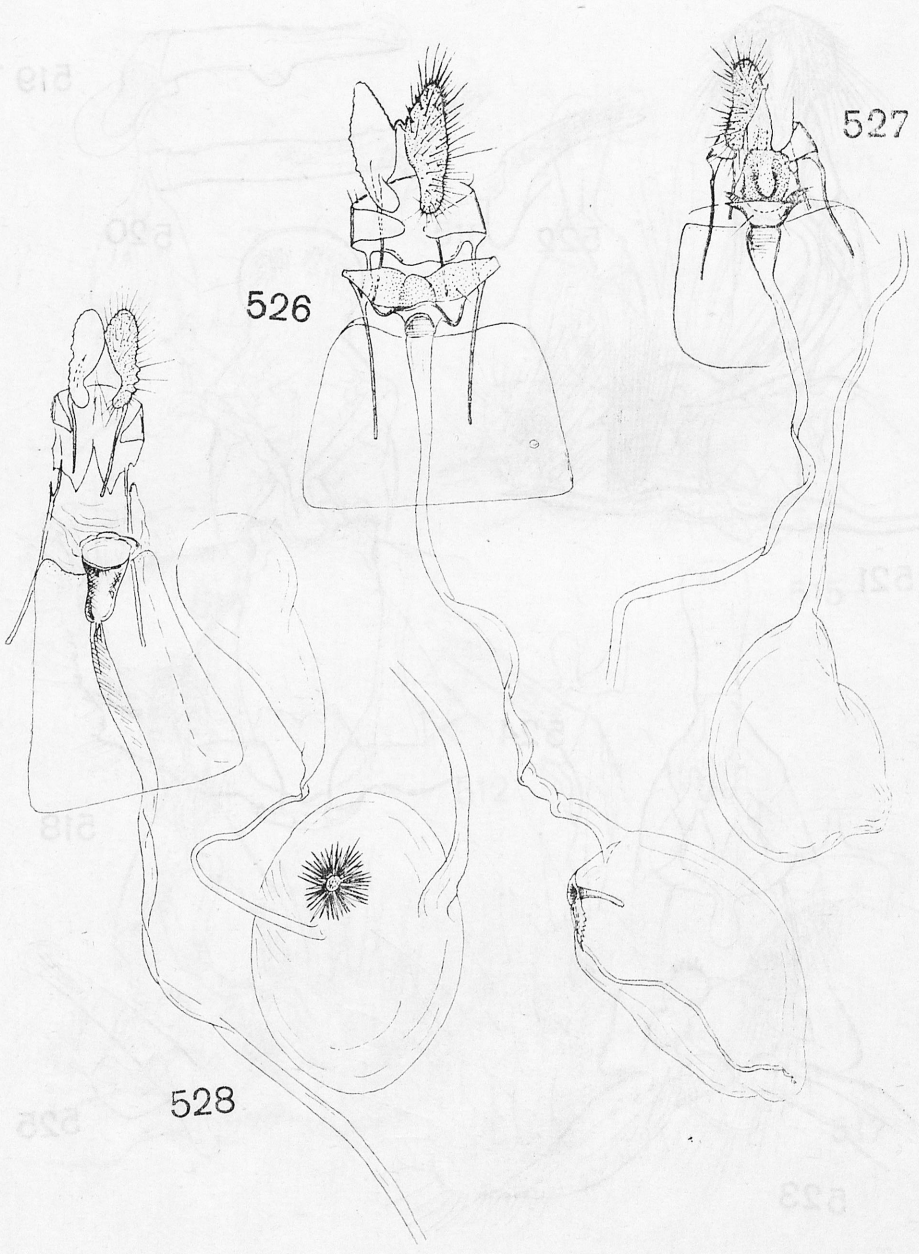
Figs 505—510. Male genitalia of *Archipini*: 505, 506 — *Clepsis rogana* (GUEN.), Poland; 507, 508 — *C. humana* (MEYR.), India: Bengal; 509, 510 — *C. consimilana* (HÜBN.), Poland



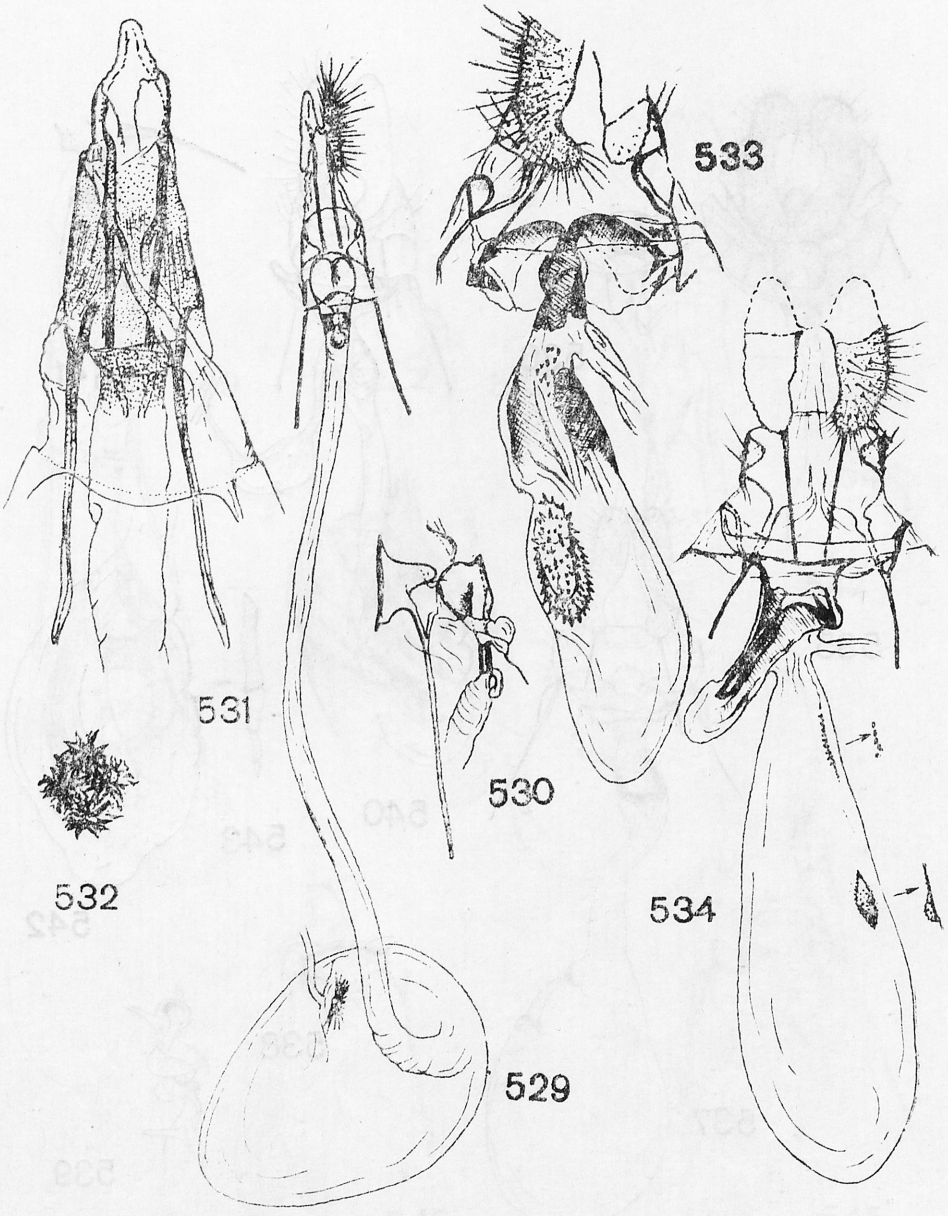
Figs 511—517. Male genitalia and abdominal scentorgan of *Archipini*: 511, 512 — *C. lindebergi* (KROG.), Poland; 513, 514 — *Clepsis peritana* (CLEM.), U. S. A.: Nevada, 515—517 — *Epiphyas postvittana* (WKR.), close to *E. eucyrta* (TURNER), England



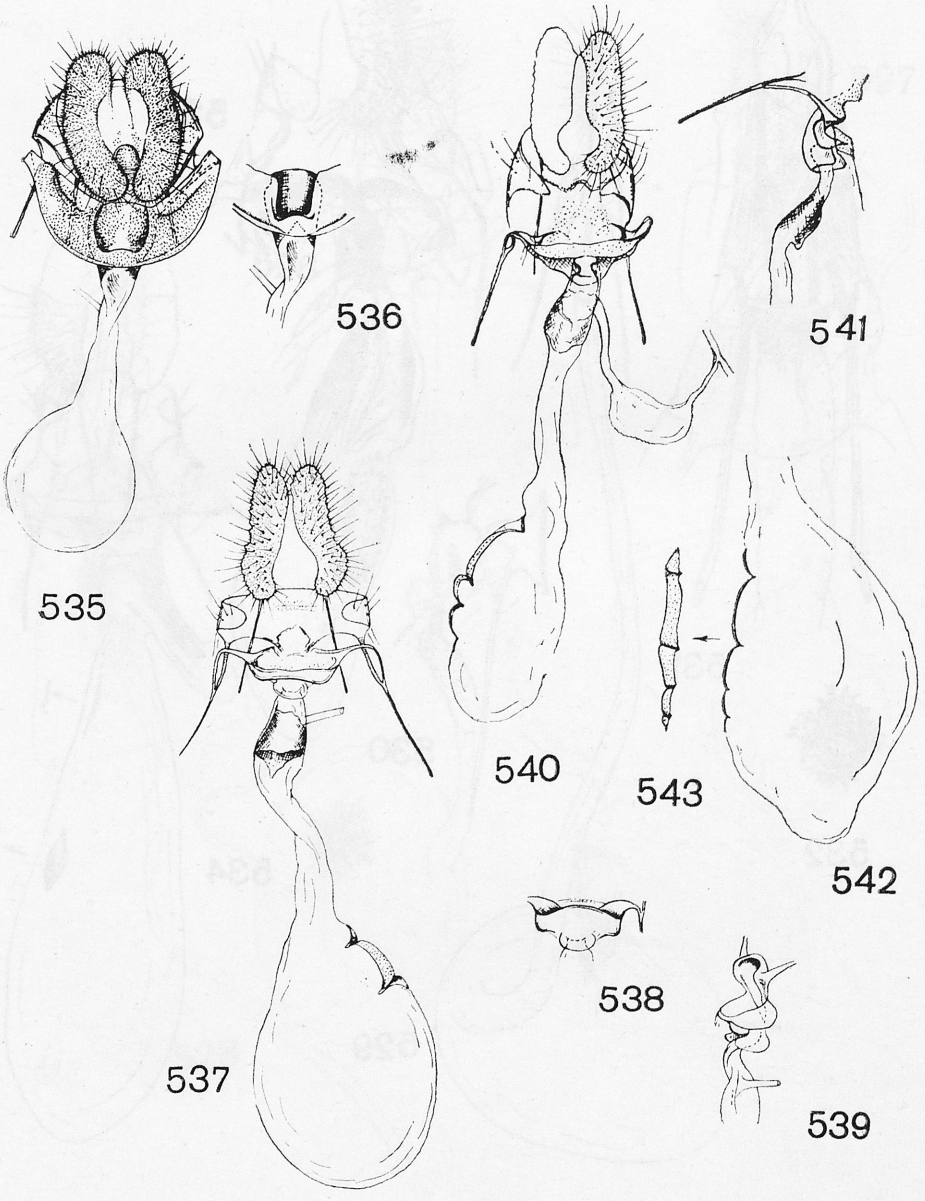
Figs 518—525. Male genitalia of *Archipini*: 518—520 — *Lozotaeniodes cupressana* (Dup.), Spain; 521, 522 — *Daemilus fulvus* (Fil.), USSR: Ussuri District; 523—525 — *Adoxophyes orana* (F. R.), Poland



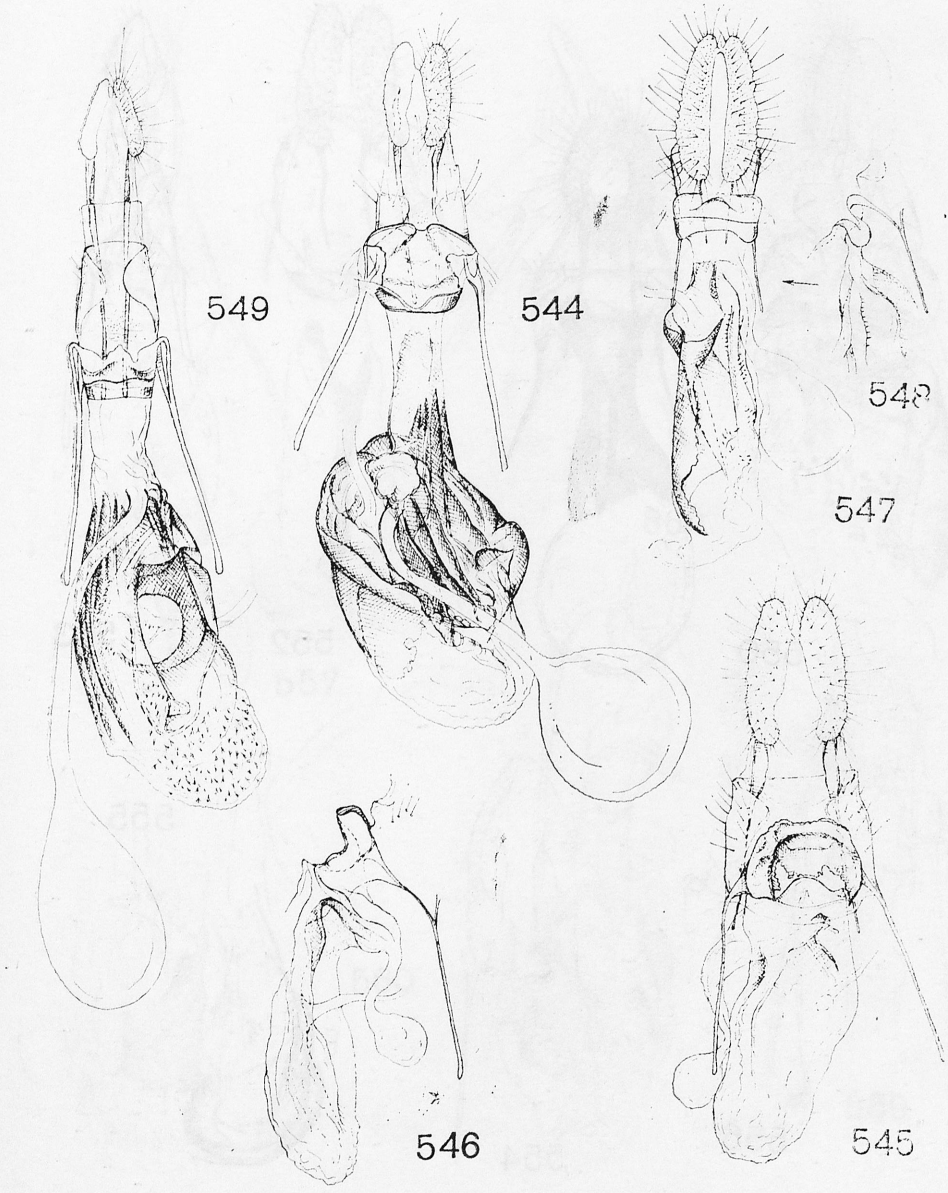
Figs 526—528. Female genitalia of *Hilarographini*: 526 — *Miclocommosis nigromaculata* DIAK. Japan: Honsyu; 527 — *Thaumatographa leucopyrga* (MEYR.), Japan; 528 — *Th. decoris* (DIAK. & ARITA), Japan



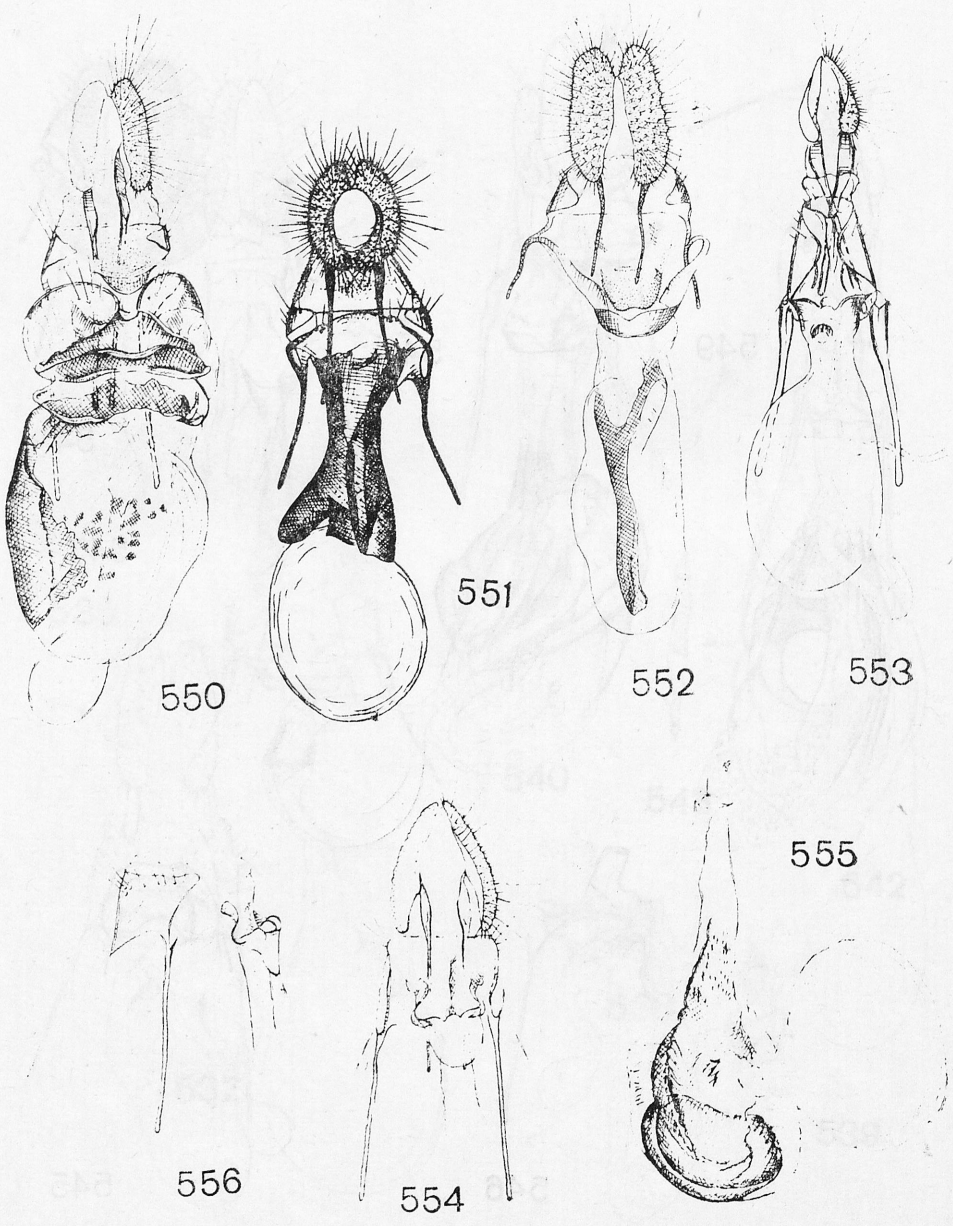
Figs 529—534. Female genitalia of *Hilarographini* and *Polyorthini*: 529, 530 — *Thaumatographa aurosa* (DIAK. & ARITA), Japan: Kyusu; 531, 532 — *Charitographa micadonis* (STRINGER), Japan: Honsyu, after DIAKONOFF & ARITA, 1976; 533 — *Cnephasitis dryadarcha* (MEYR.), India: Bengal; 534 — *C. apodicta palaearctica* RAZ., China: Tsinling



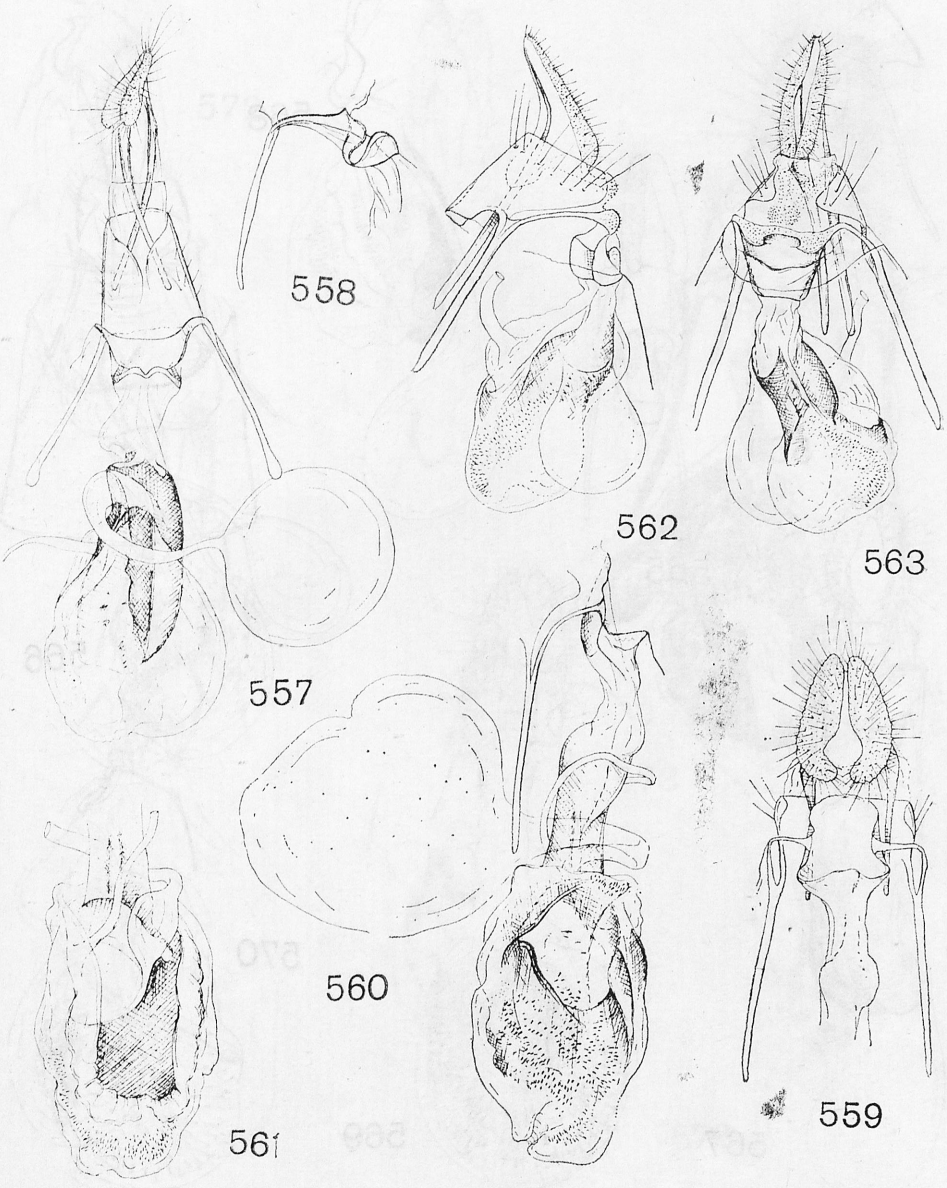
Figs 535—543. Female genitalia of *Polyorthini*: 535, 536 — *Olindia schumacherana* (F.), Poland; 537—539 — *Isotrias hybridana* (HÜBN.), Poland; 540, 541 — *I. rectifasciana* (HAW.), West Germany; 542, 543 — *I. rectifasciana* f. *insubrica* (M. R.), Italy



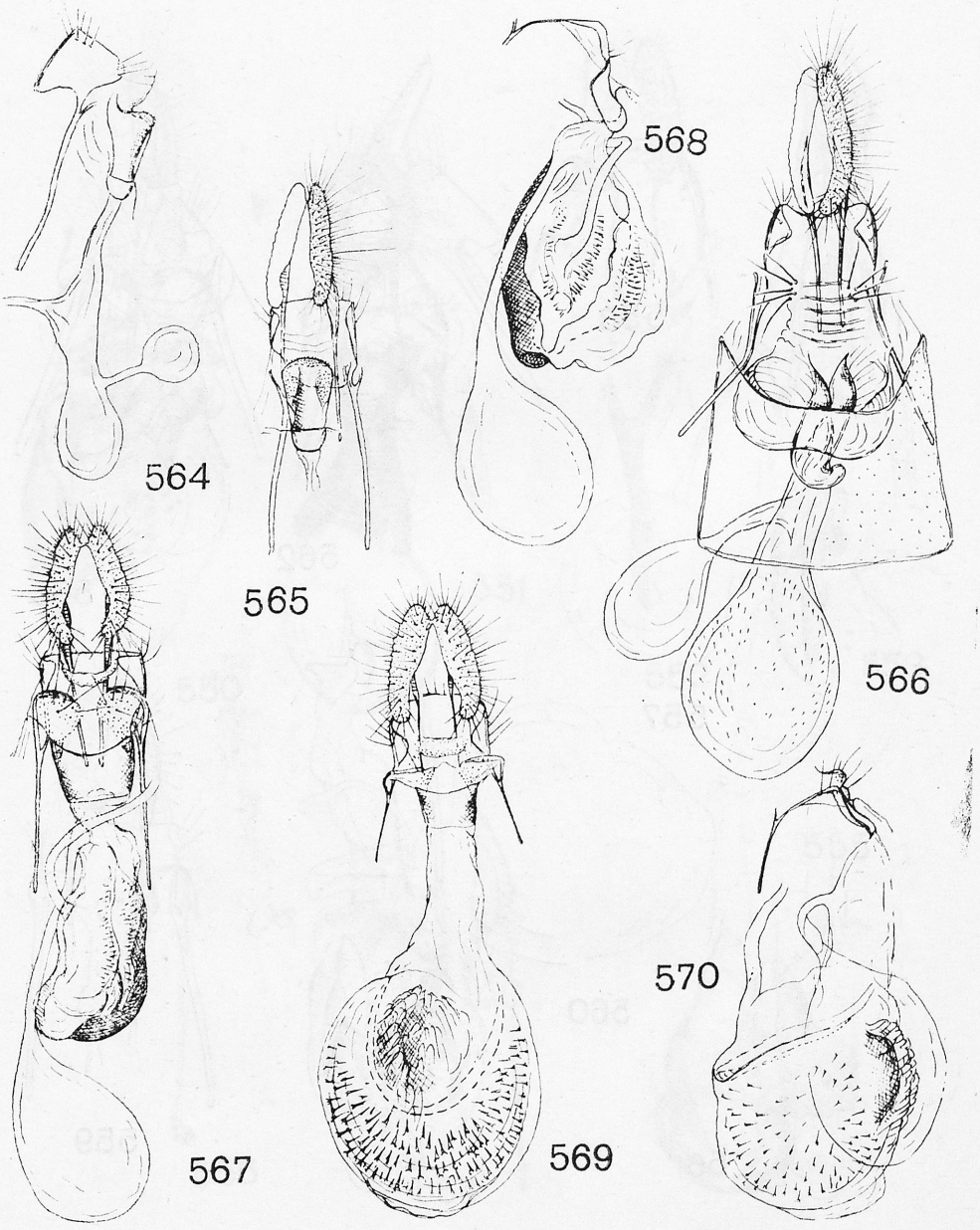
Figs 544—549. Female genitalia of *Cochylini*: 544 — *Phtheochroa duponchelana* (DUP.), Amman; 545, 546 — *Ph. pulvillana* (H.-S.), Ukraina; 547, 548 — *Ph. schreibersiana* (FRÖL.), Poland; 549 — *Ph. inopiana* (HAW.), Poland



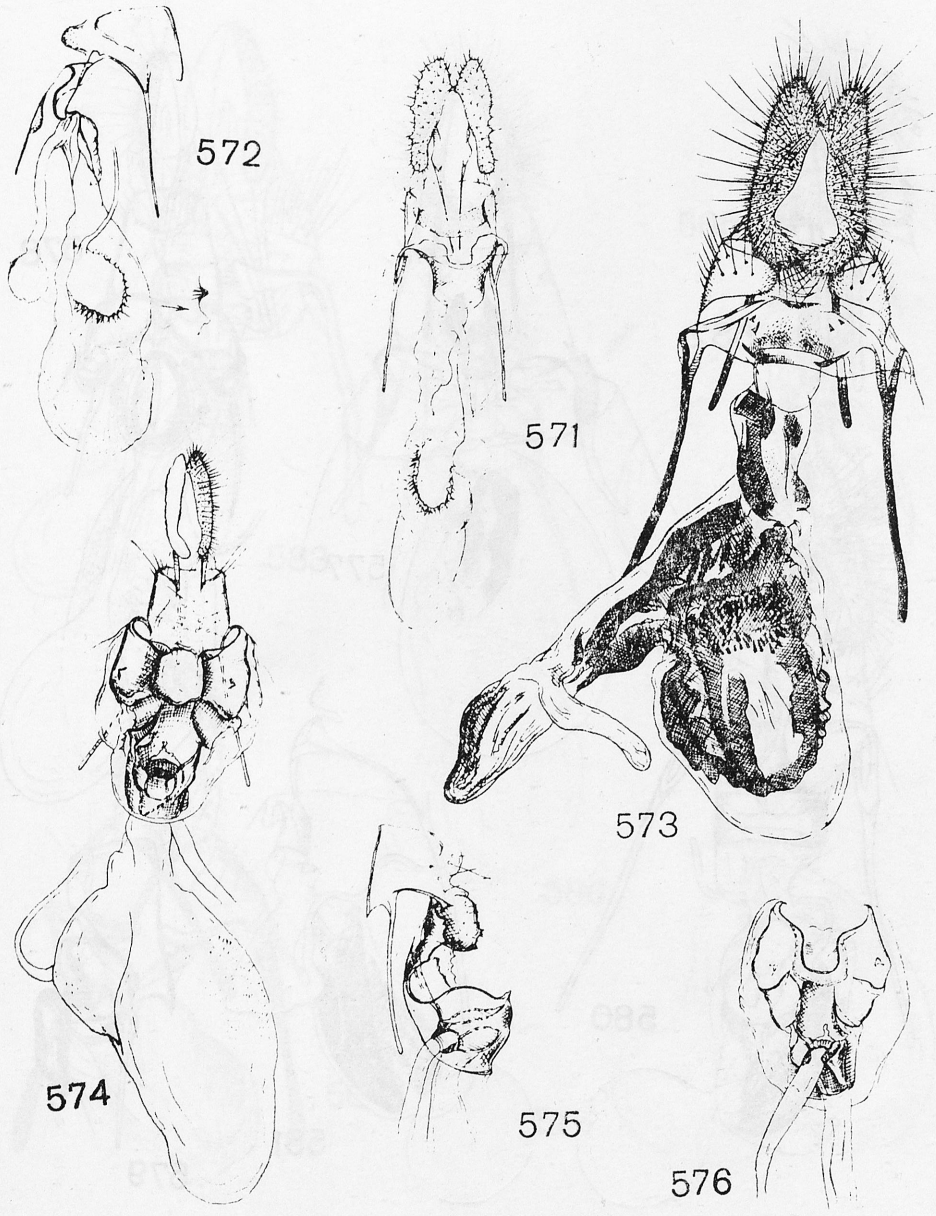
Figs 550—556. Female genitalia of *Cochylini*: 550 — *Phtheochroa rugosana* (HÜBN.), France; 551 — *Hysterophora maculosana* (HAW.), Hungary, after RAZOWSKI, 1970; 552 — *Prohysterophora chionopa* (MEYR.), Algeria, after RAZOWSKI, 1970; 553 — *Stenodes elongana* (F. R.), Majorka; 554—556 — *S. cultana* (LED.), Bulgaria



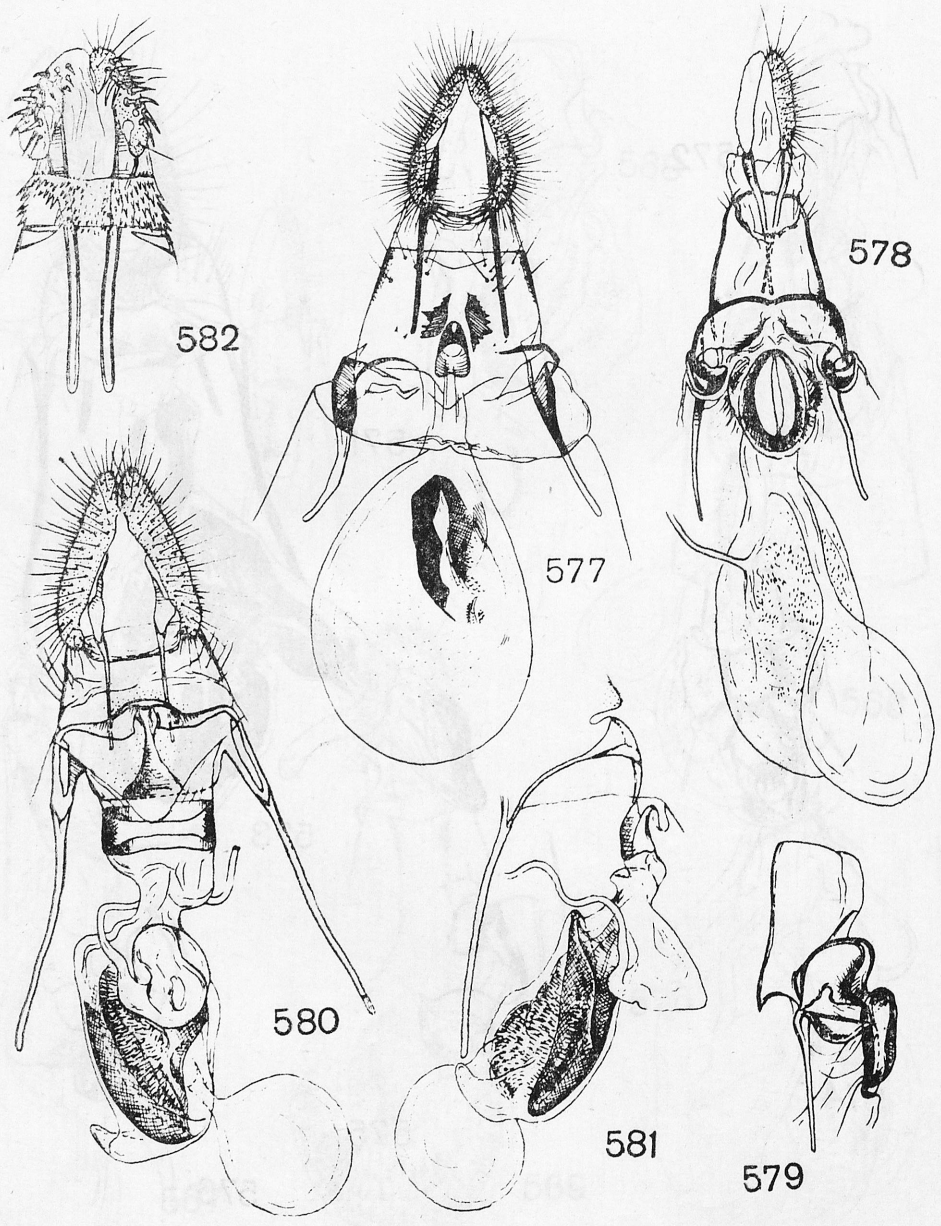
Figs 557—563. Female genitalia of *Cochylini*: 557, 558 — *Stenodes meridiana* (STGR.), Spain; 559—561 — *S. jaculana* (SNELL.), Manchuria; 562, 563 — *S. perfusana* (GUEN.), Yugoslavia



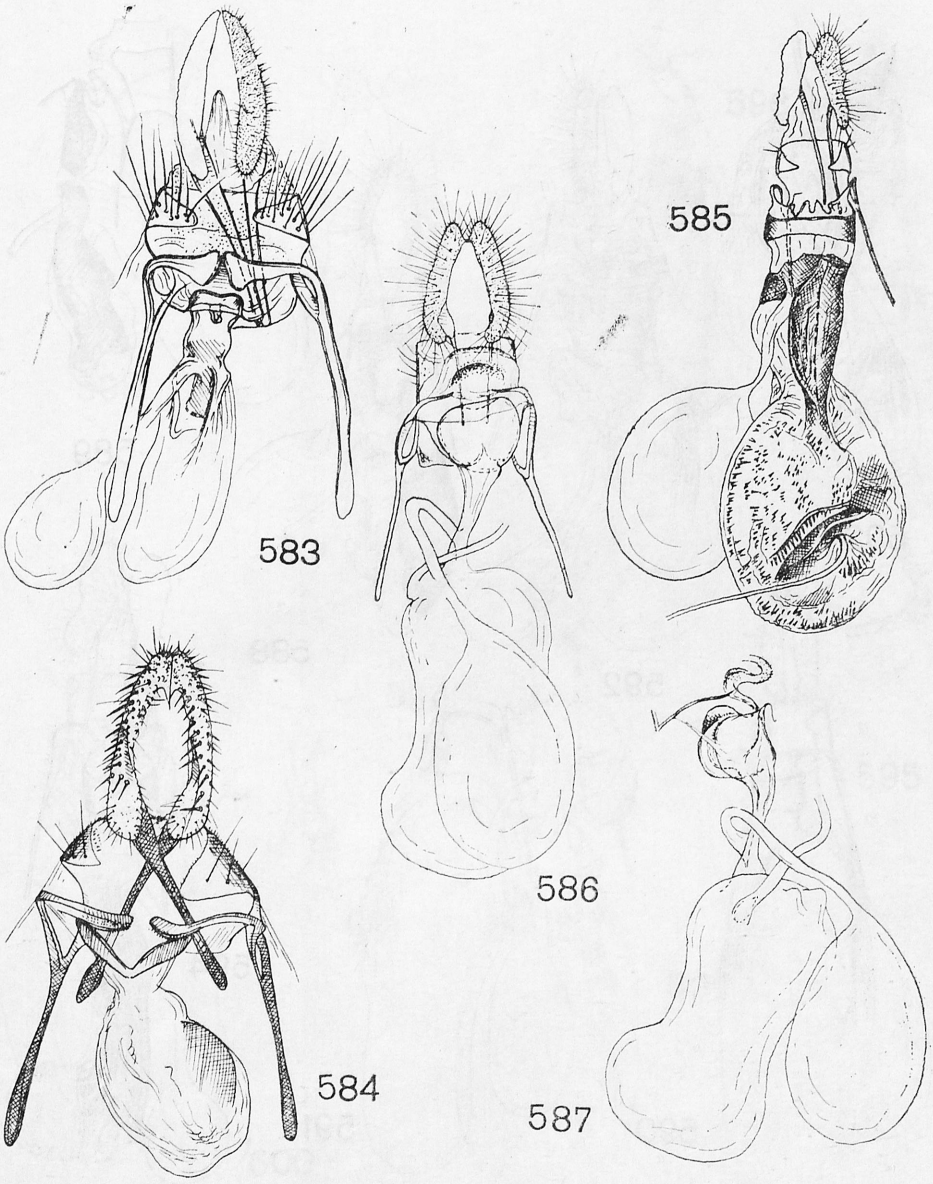
Figs 564—570. Female genitalia of *Cochylini*: 564, 565 — *Stenodes straminea* (Haw.), Poland; 566 — *S. alternana* (Haw.), Ukraina; 567, 568 — *Phalonidia manniana* (F. R.), Poland; 569, 570 — *Ph. gilvicomana* (Z.), Austria



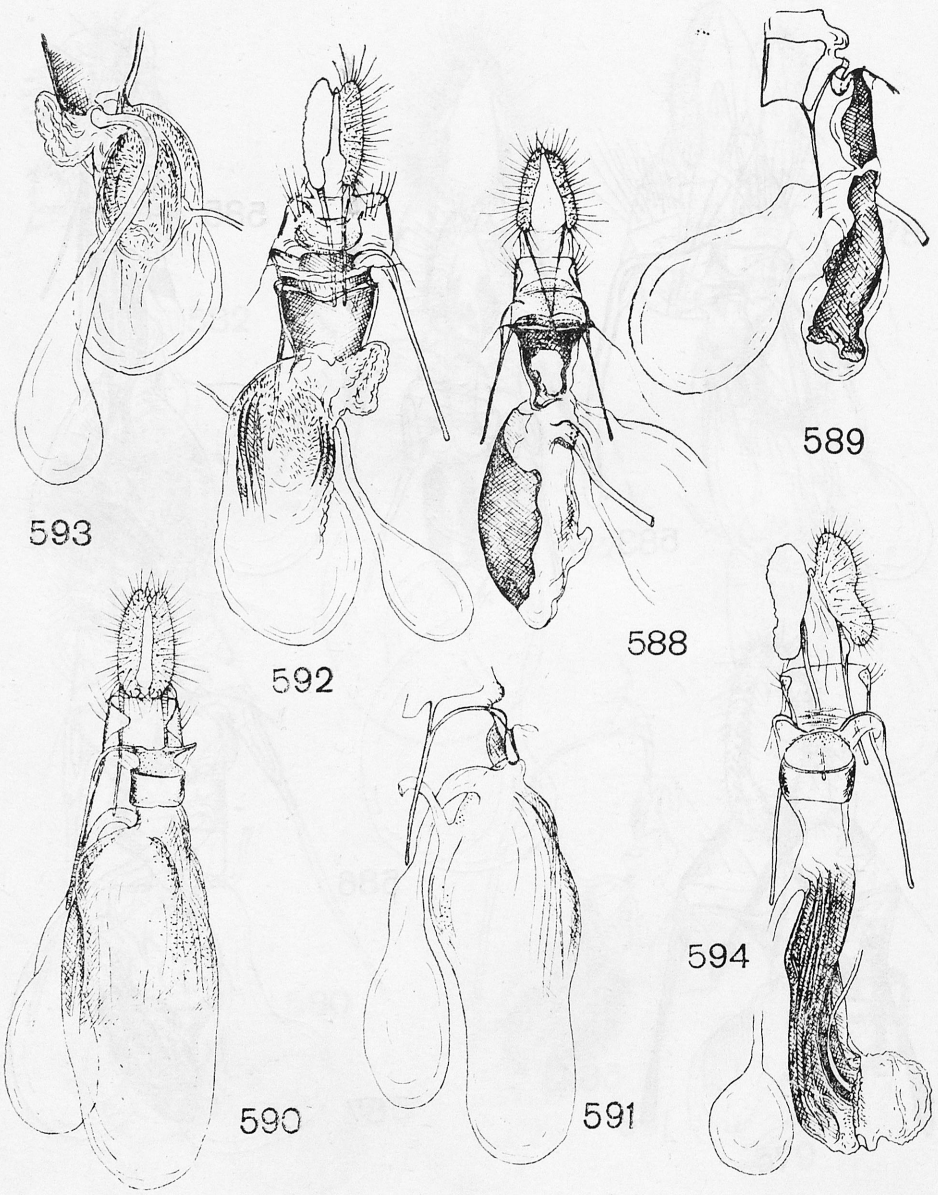
Figs 571—576. Female genitalia of *Cochylini*: 571, 572 — *Piercea alismana* (Rag.), Poland; 573 — *Phtheochroides clandestina* Raz., Japan: Honsyu, after Razowski, 1970, 574—576 — *Agapeta hamana* (L.), Bulgaria



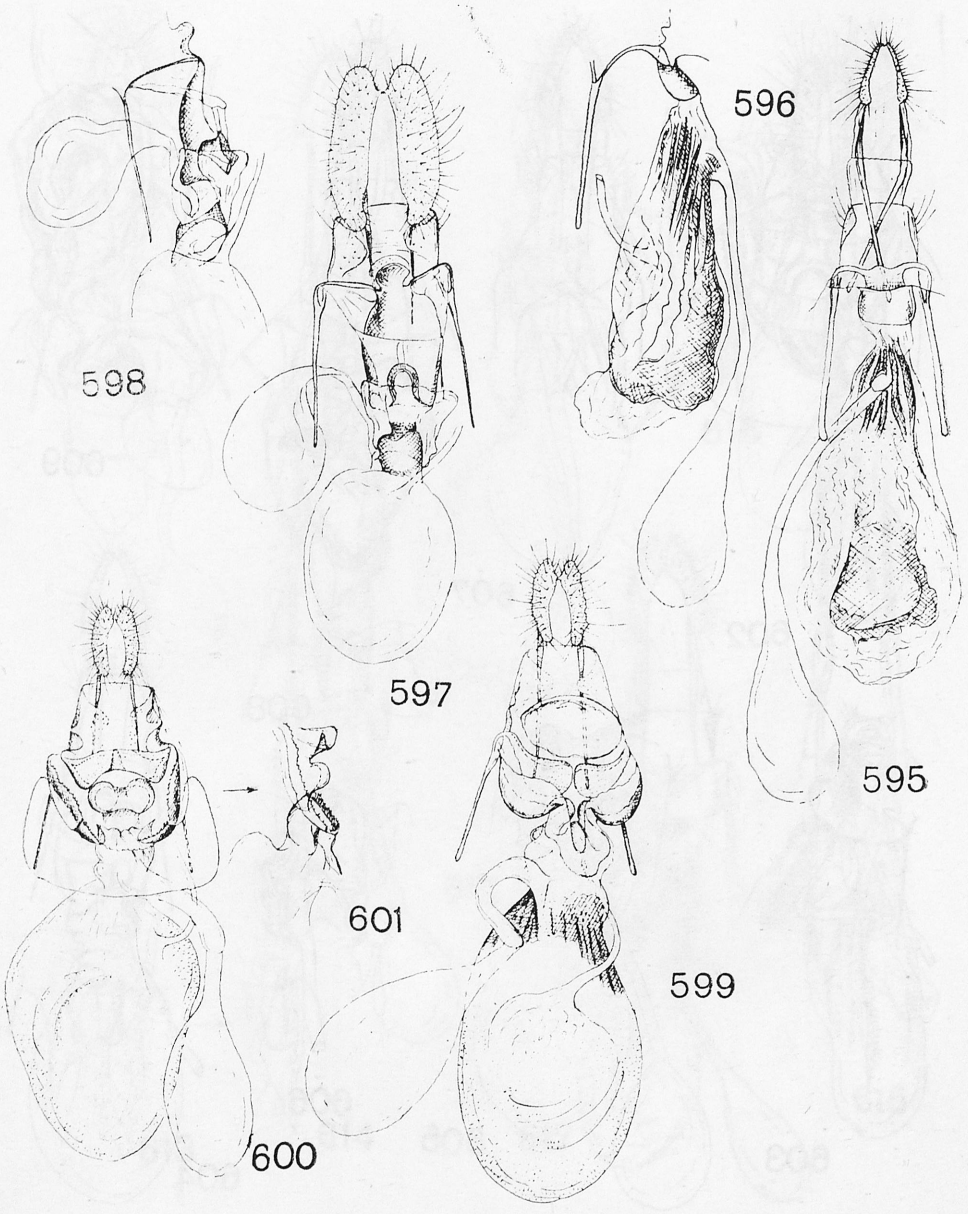
Figs 577—582. Female genitalia of *Cochylini*: 577 — *Ceratoxanthis externana* (EVERSM.), Ural Mts.; 578, 579 — *Fulvoclysia fulvana* (F. R.), France; 580, 581 — *Eugnosta lathoniana* (HÜBN.), Anatolia; 582 — *E. acanthana* RAZ., Afghanistan



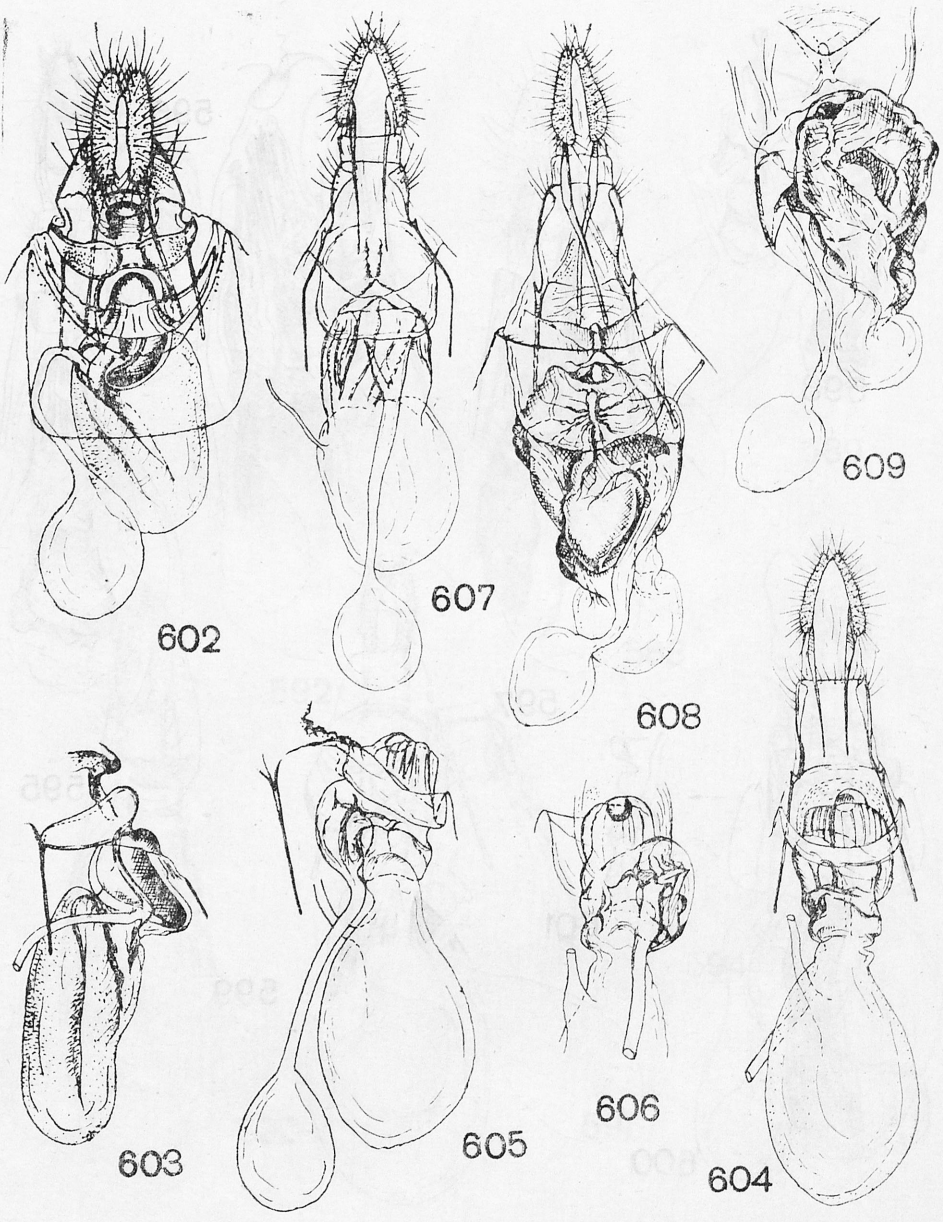
Figs 583—587. Female genitalia of *Cochylini*: 583 — *Commophila aeneana* (HÜBN.), West Germany; 584 — *Prochlidonia ochromixtana* (STGR.), close to *P. amiantana* (HÜBN.), Asia Minor, after RAZOWSKI, 1970; 585 — *Eupoecilia angustana* (HÜBN.), Poland; 586, 587 — *Aethes hartmanniana* (CL.), Poland



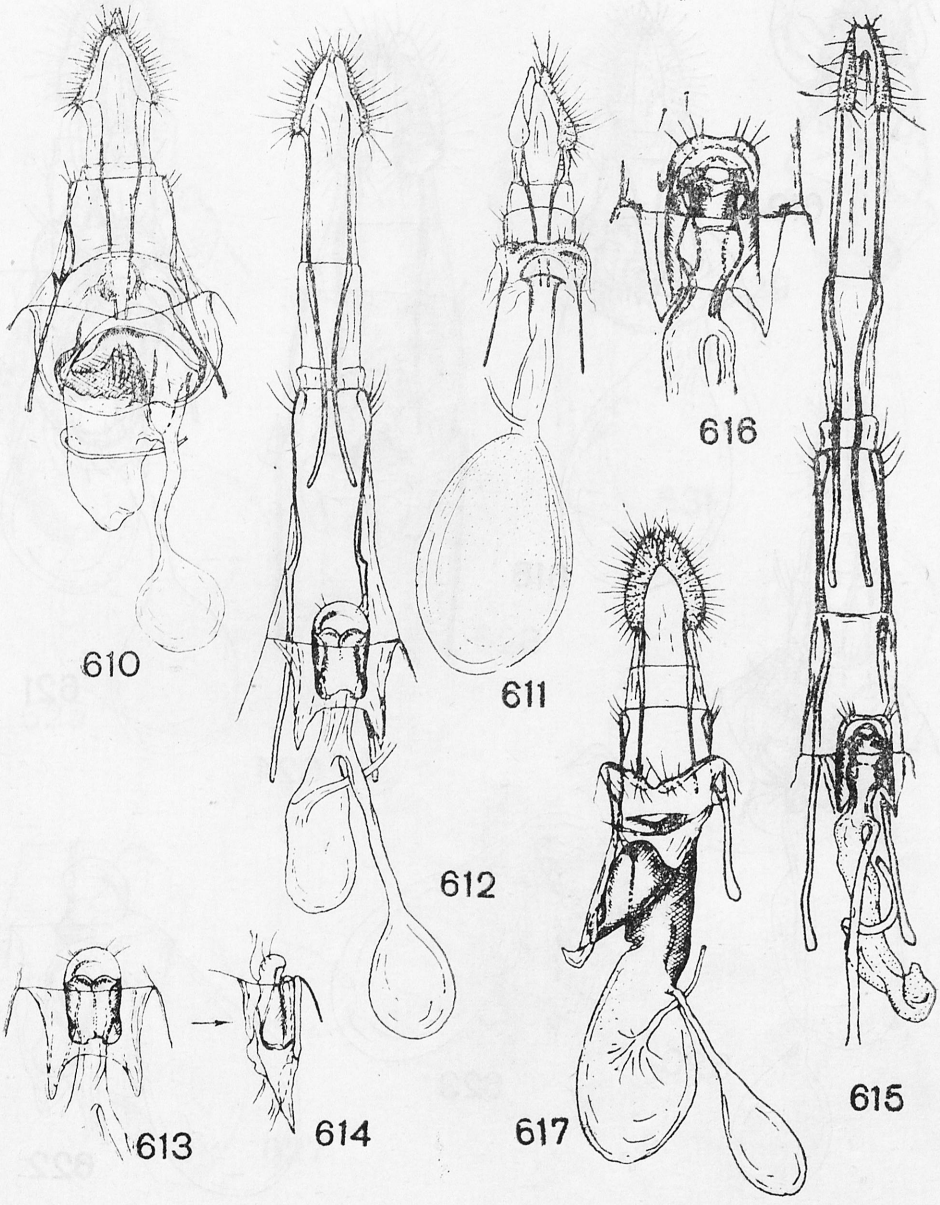
Figs 588—594. Female genitalia of *Cochylini*: 588, 589 — *Aethes smeathmanniana* (F.), Poland 590, 591 — *Ae. margaritana* (HAW.), Poland; 592, 593 — *Ae. tesserana* ([DEN. & SCHIFF.]) Poland; 594 — *Ae. rutilana* (HÜBN.), Poland



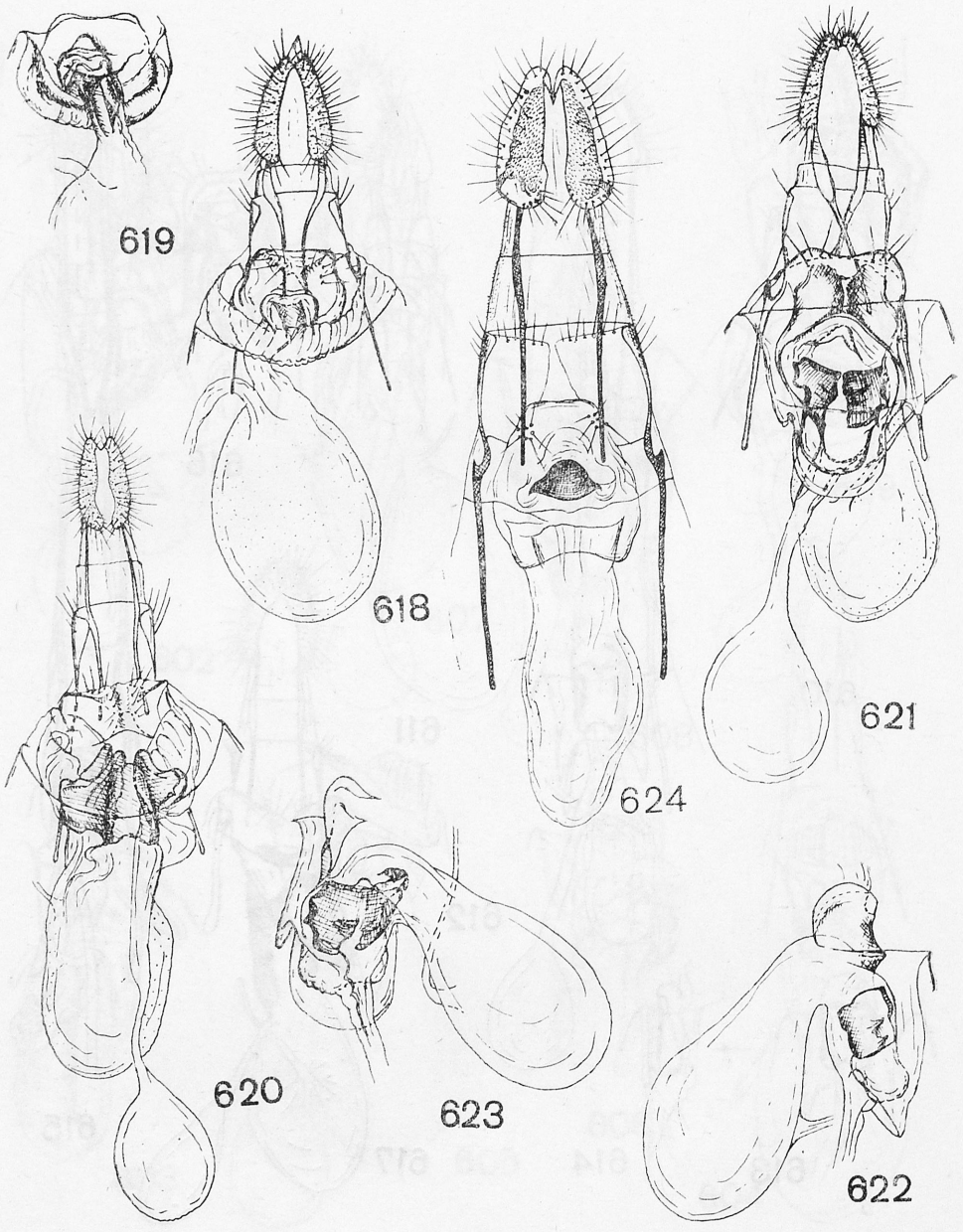
Figs 595—601. Female genitalia of *Cochylini*: 595, 596 — *Aethes moribundana* (STGR.), Poland; 597, 598 — *Ae. williana* (BRACHM.), Ukraina; 599 — *Ae. francillana* (F.), Greece; 600, 601 — *Ae. mauritanica* (WALSM.), Greece



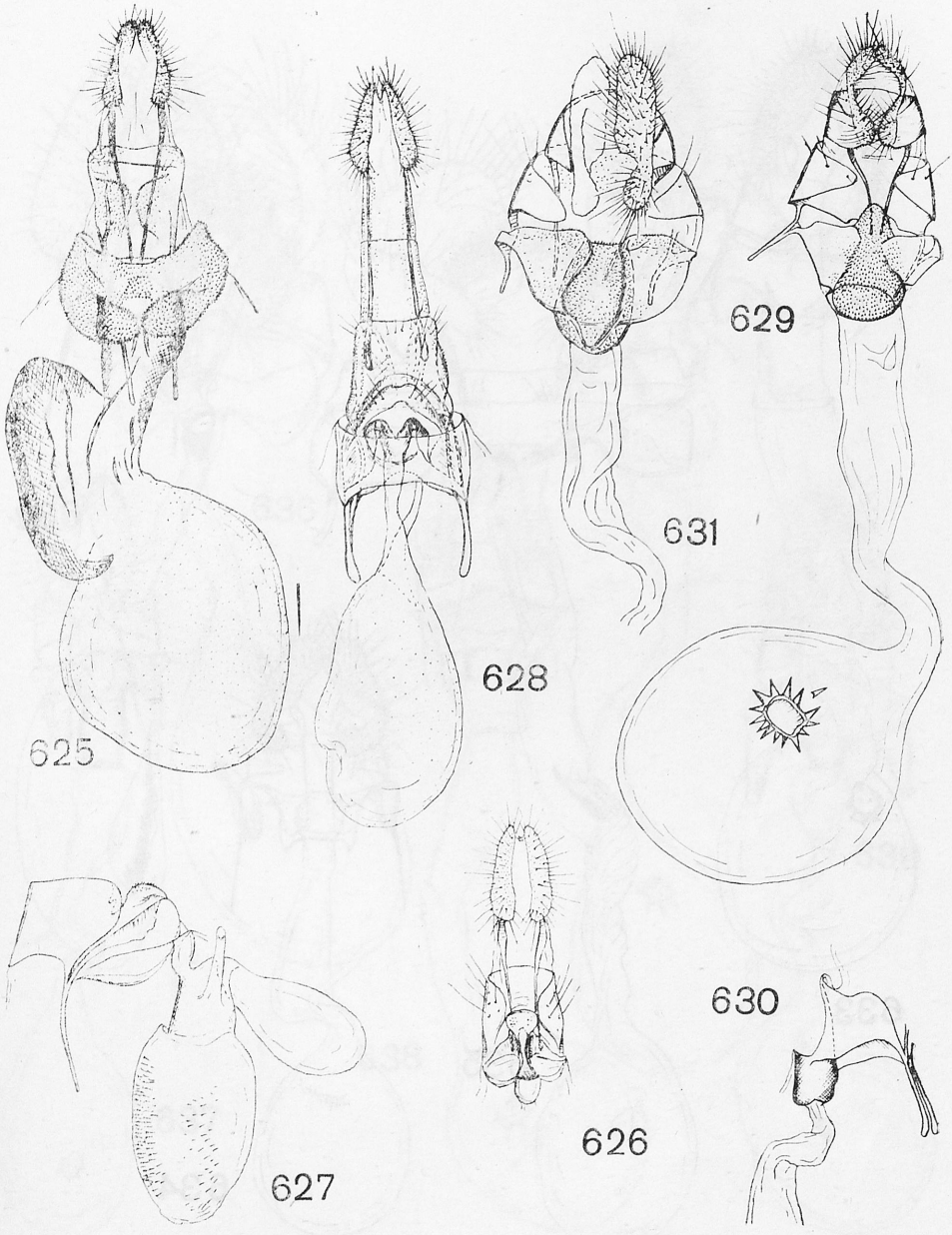
Figs 602—609. Female genitalia of *Cochylini*: 602, 603 — *Aethes beatricella* (WALSM.), Italy; 504—506 — *Cochylidia rupicola* (CURT.), Poland; 507 — *C. heydeniana* (H.-S.), Sardinia; 608, 609 — *C. subroseana* (HAW.), Poland



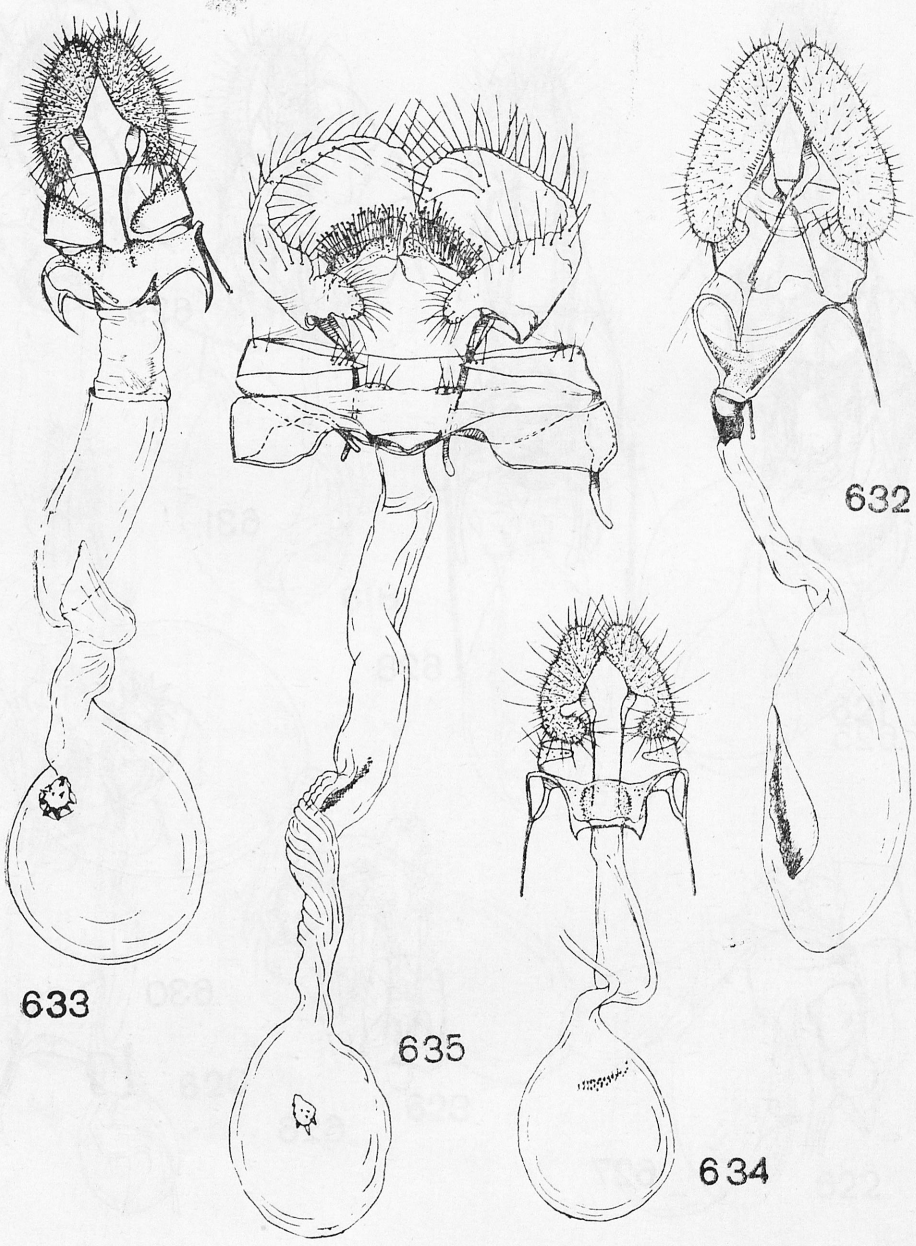
Figs 610—617. Female genitalia of *Cochylini*: 610 — *Diceratura ostrinana* (GUEN.), Italy; 611 — *Cochylis nana* (HAW.), Poland; 612—614 *C. flaviciliana* (WESTW.), France; 615, 616 — *C. roseana* (HAW.), West Germany; 617 — *C. epilinana* (DUP.), Poland



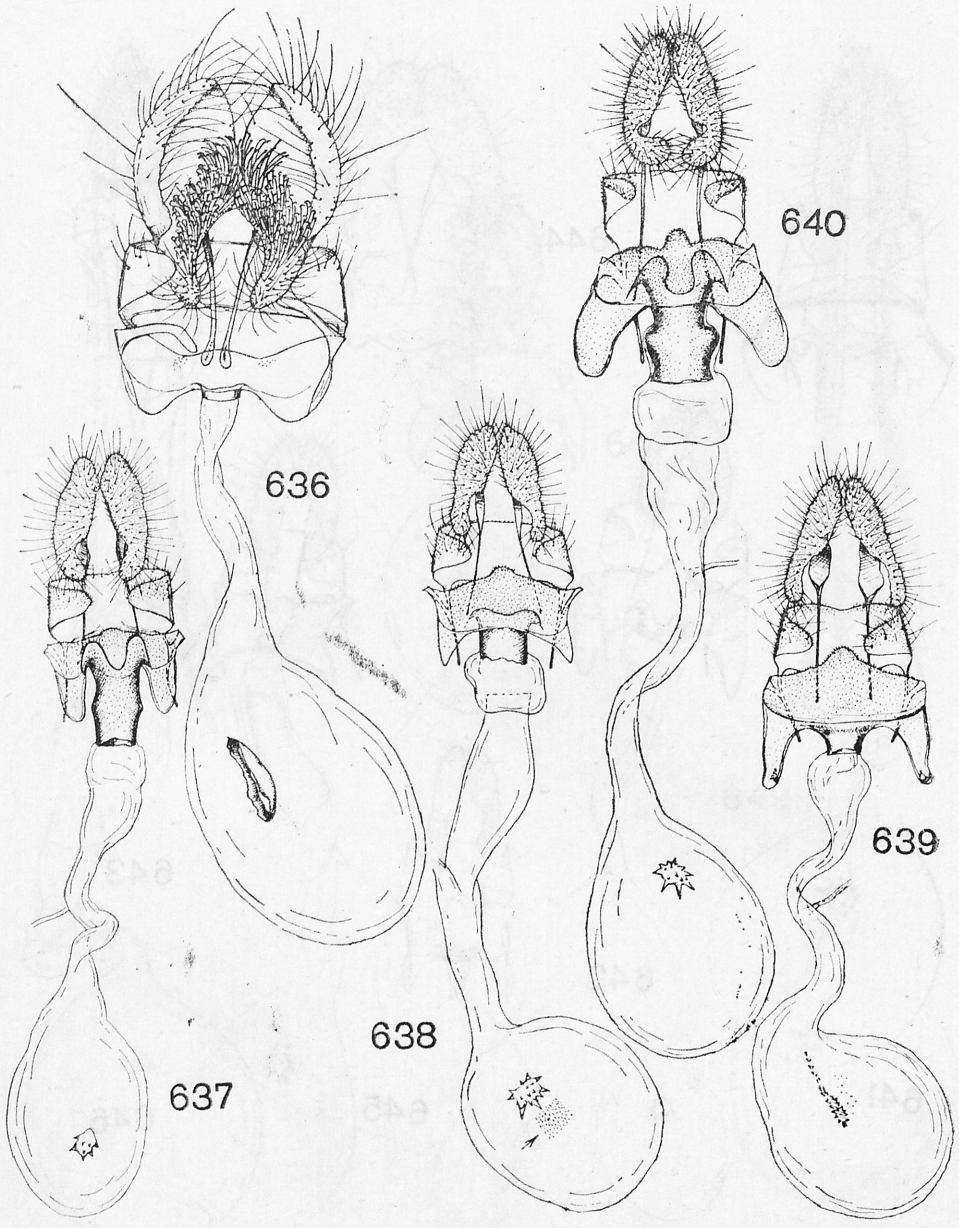
Figs 618—624. Female genitalia of *Cochylini*: 618, 619 — *Cochylis dubitana* (HÜBN.), Poland; 620 — *C. pallidana* Z., Poland; 621—623 — *C. posterana* Z., Poland; 624 — *C. amoenana* (KENN.), Pakistan, after RAZOWSKI, 1970



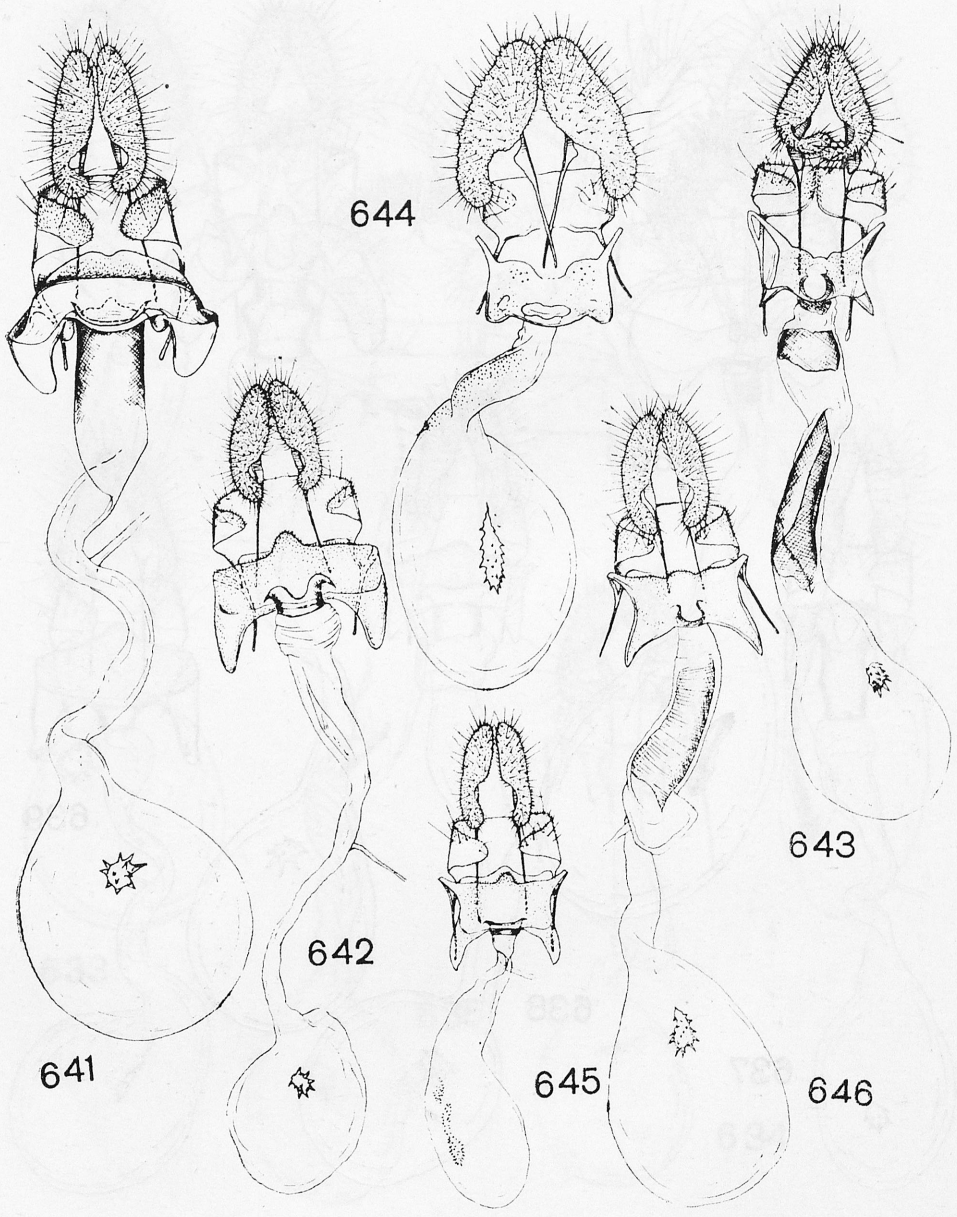
Figs 625—631. Female genitalia of *Cochylini* and *Tortricini*: 625 — *Aprepodoxa mimocharis* MEYR., China: North Yunnan, after RAZOWSKI, 1970; 626, 627 — *Cryptocochylis conjunctana* (MANN), West Germany; 628 — *Falseuncaria degreyana* (MCLACHL.), Ukraina; 629, 630 — *Paratorna seriepuncta* FIL., South Primore; 631 — *P. dorcas* MEYR., India: Khasis



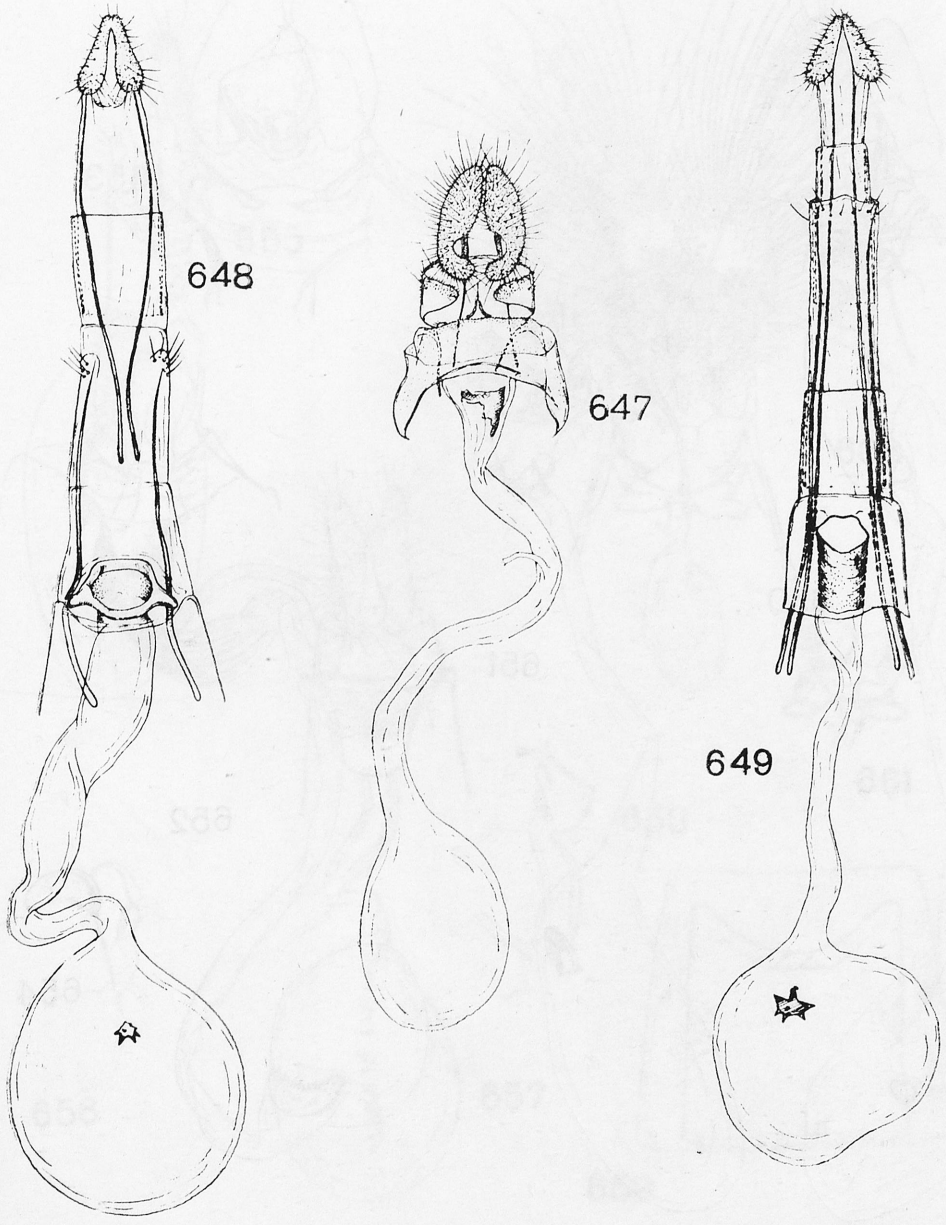
Figs 632—635. Female genitalia of *Tortriani*: 632 — *Pseudocroesia abievora* (Issiki). Japan: Honsyu; 633 — *Spatalistis christophana* (Walsm.), close to *S. rhopica* Meyr., Japan: Honsyu; 634 — *S. bifasciana* (F.), Poland; 635 — *Tortrix viridana* L., Poland



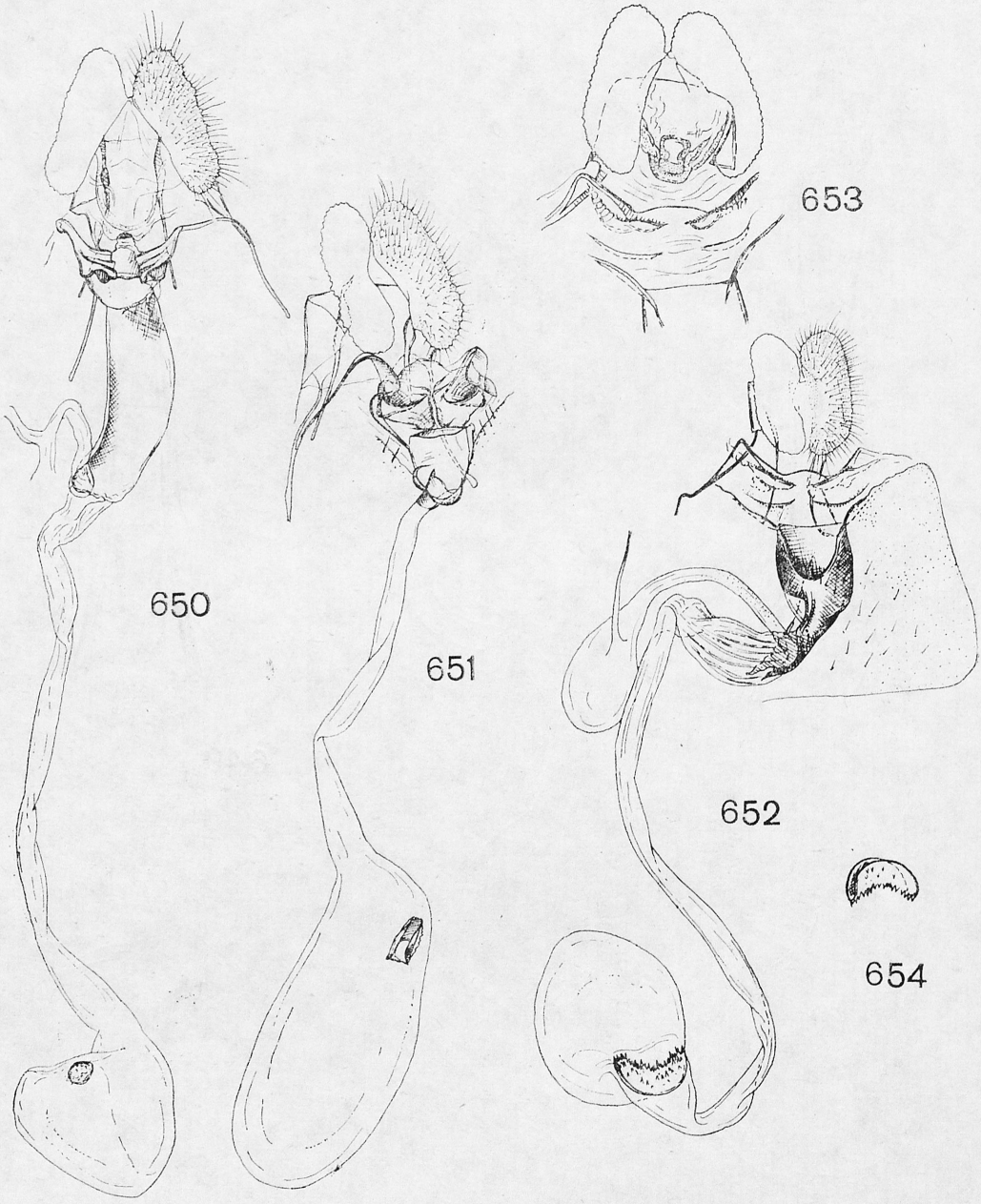
Figs 636—640. Female genitalia of *Tortricini*: 636 — *Aleimma loeflingiana* L., Poland; 637 — *Acleris aspersana* (HÜBN.), Poland; 638 — *A. cristana* ([DEN. & SCHIFF.]), Poland; 639 — *A. emargana* (F.), Poland; 640 — *A. hastiana* (L.), Poland



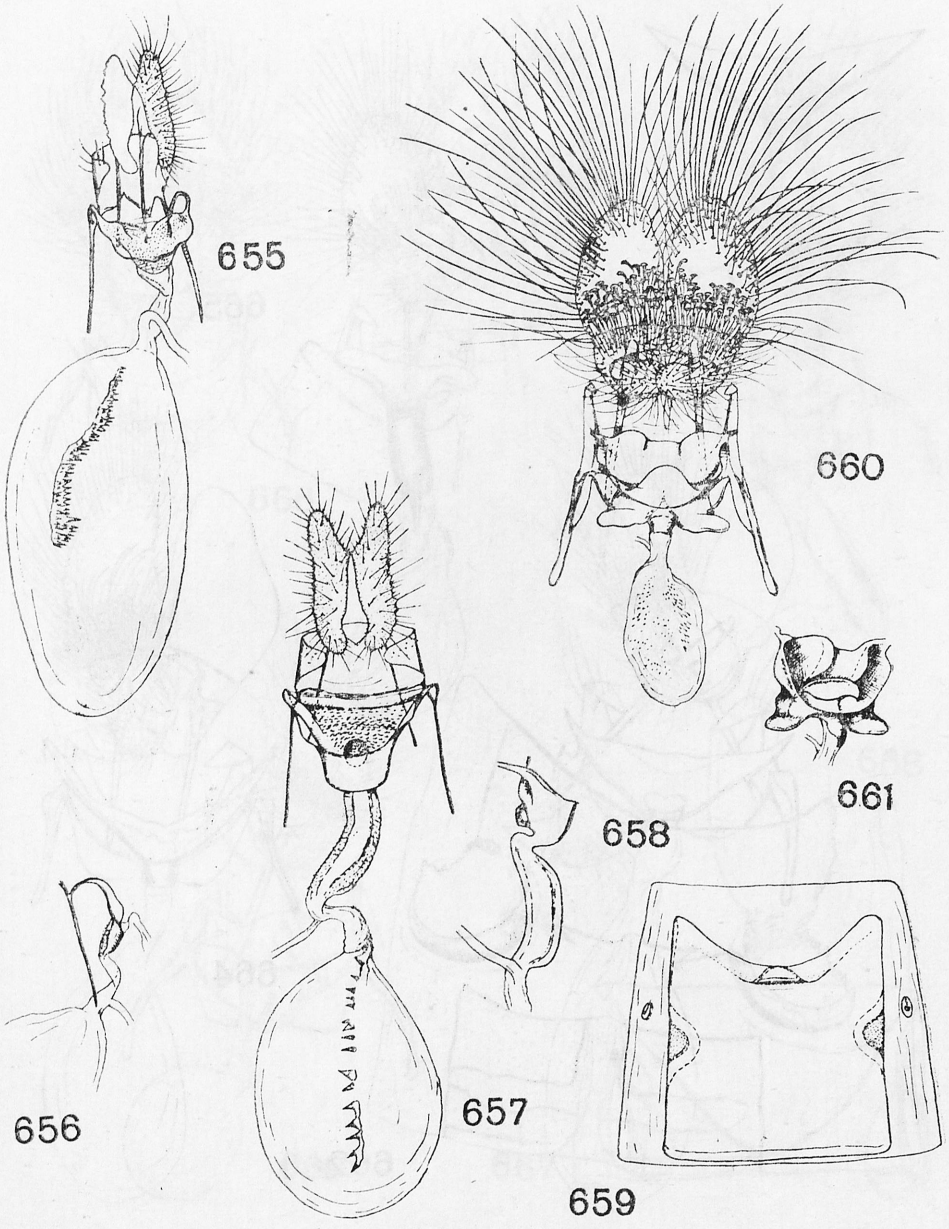
Figs 641—646. Female genitalia of *Tortricini*: 641 — *Acleris abietana* (HÜBN.), Poland; 642 — *A. literana* (L.), Poland; 643 — *A. rhombana* ([DEN. & SCHIFF.]), Poland; 644 — *A. bergmanniana* (L.), Poland; 645 — *A. schalleriana* (L.), Poland; 646 — *A. notana* (DON.), Poland



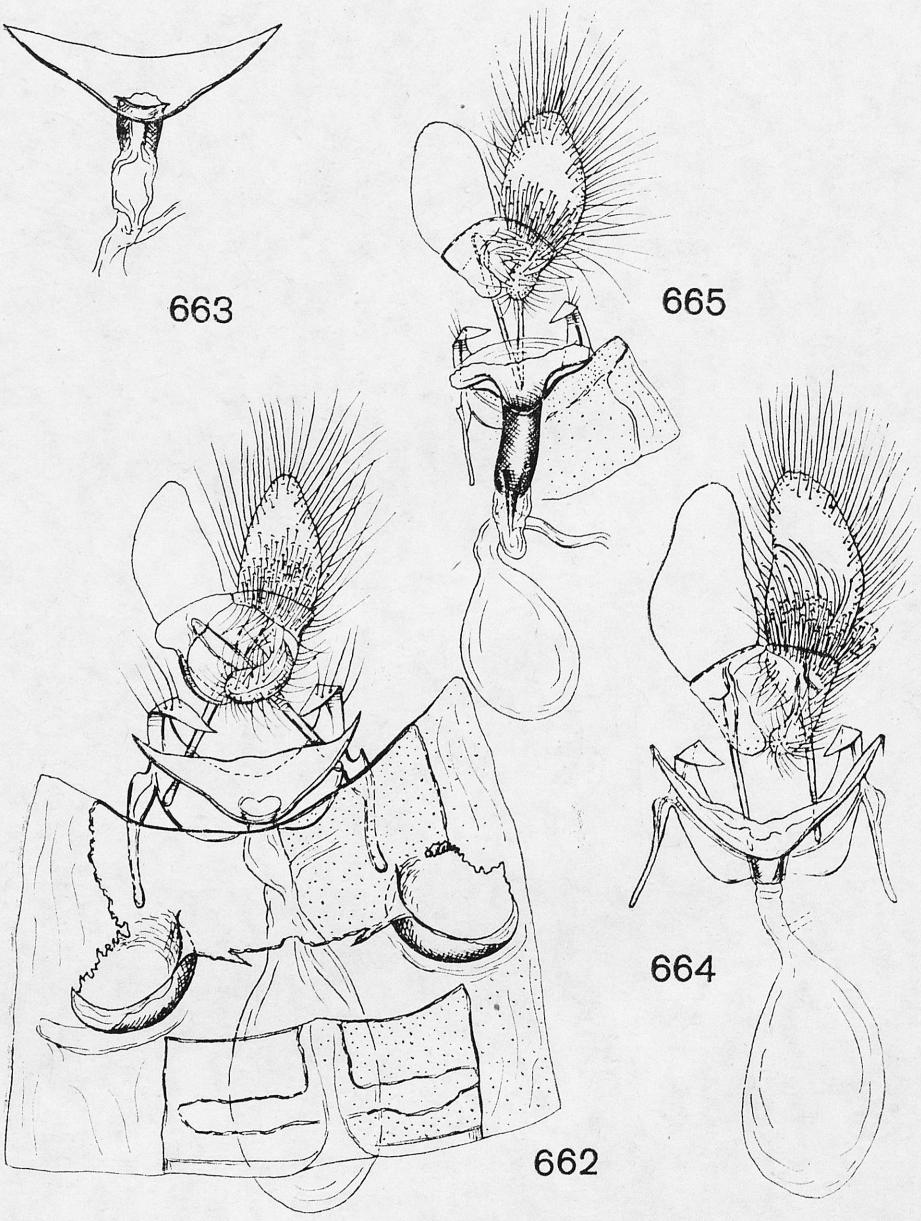
Figs 647—650. Female genitalia of *Tortricini*: 647 — *Acleris latifasciana* (HAW.), Poland; 648 — *A. indignana* (CHR.), Japan: Hokkaido; 649 — *A. crataegi* (KUZN.), USSR: Vladivostok



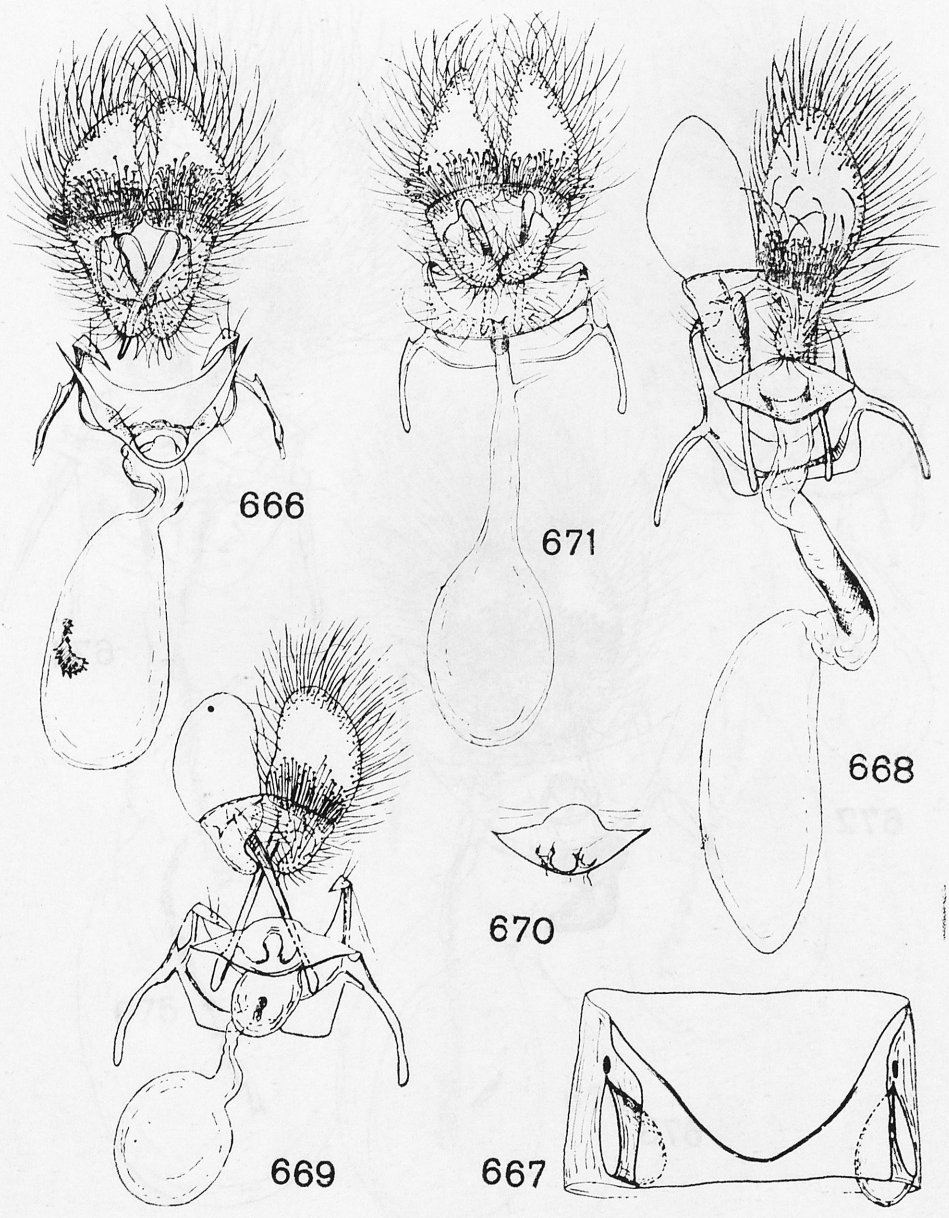
Figs 650—654. Female genitalia of *Ceracini*: 650 — *Eurydoxa sapporensis* (MATS.), Japan, Hokkaido; 651 — *Pentacitrotus tetrakore* (WILEM. & STRING.), Taiwan; 652—654 — *Cerace xanthocosma* DIAK., Japan: Honsyu



Figs 555—661. Female genitalia of *Cnephasiini*: 555, 556 — *Propiromorpha rhodophana* (H.-S.), Ukraina; 557—559 — *Xerocnephasia rigana* (Sodoff.), West Germany; 660, 661 — *Neosphaleroptera nubilana* (Hübn.), Poland



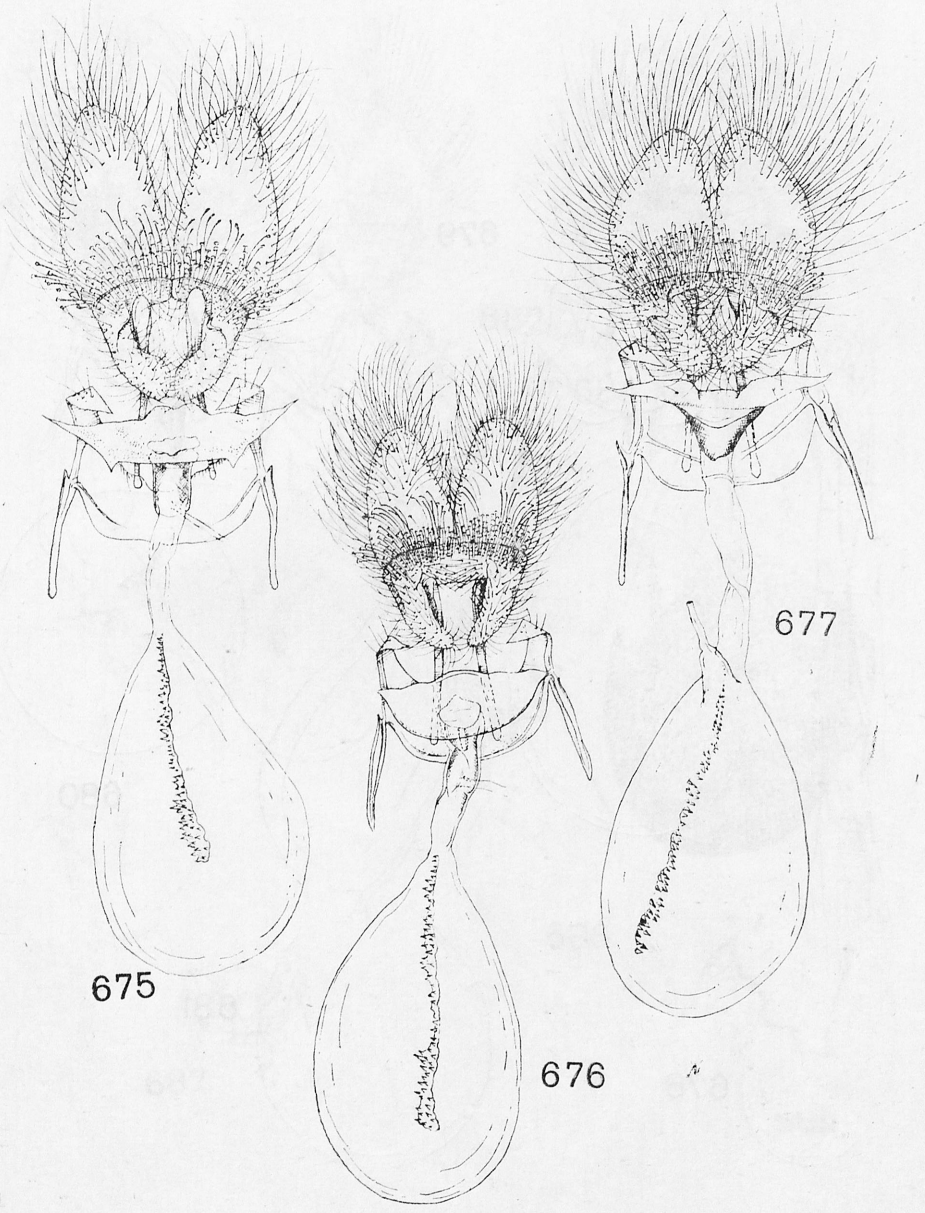
Figs 662—665. Female genitalia of *Cnephasiini*: 662, 663 — *Amphicoecia adamana* (KENN.), Altai Mts., 664 — *Oporopsamma wertheimsteini* (RBL.), Hungary; 665 — *Euledereria alpicolana* (FRÖL.), Switzerland



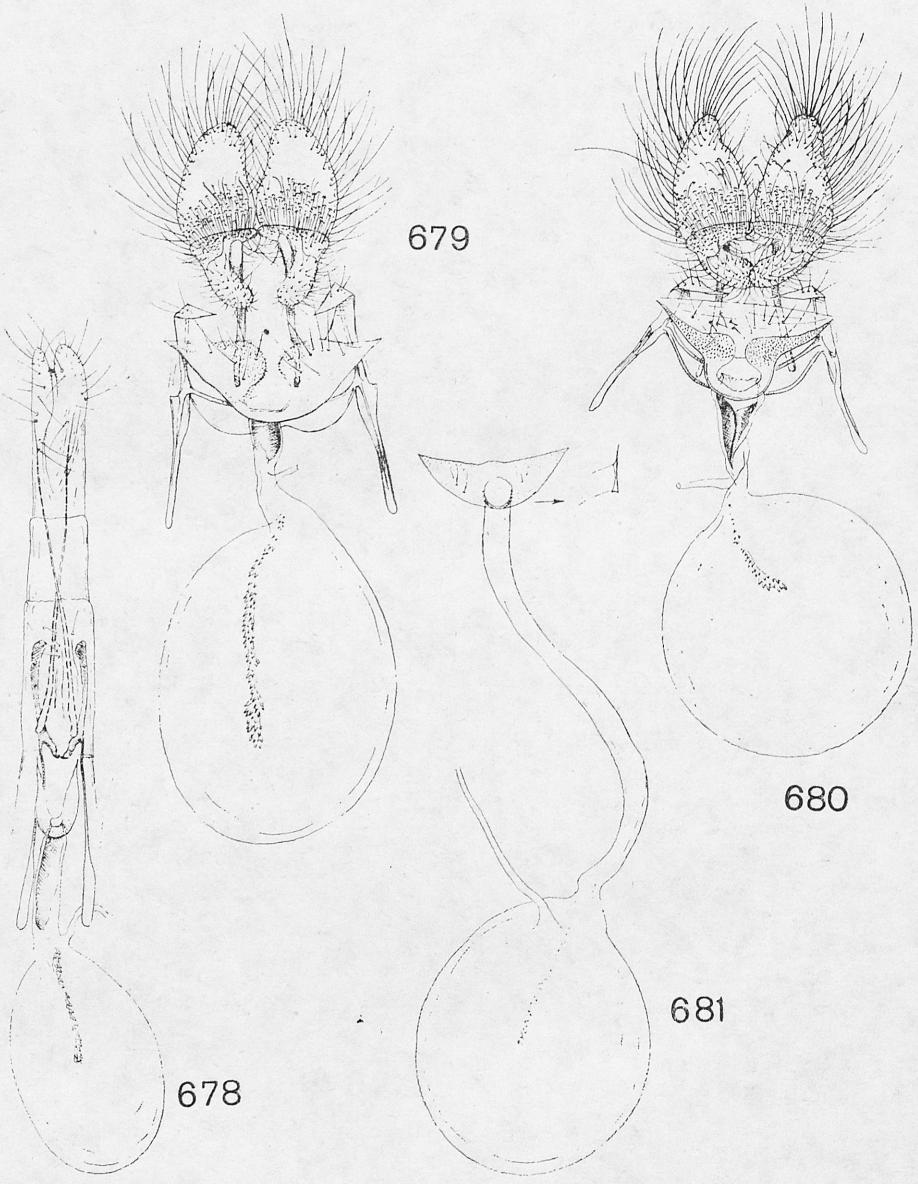
Figs 666—671. Female genitalia and scent organ of *Cnephasiini*: 666, 667 — *Doloploca punctulana* ([Den. & Schiff.]), West Germany; 668 — *Oxypteron schawerdai* (Rbl.), Algeria; 669, 670 — *O. partitanum* Chrét., Algeria; 671 — *Exapate congelatella* (Cl.), Poland



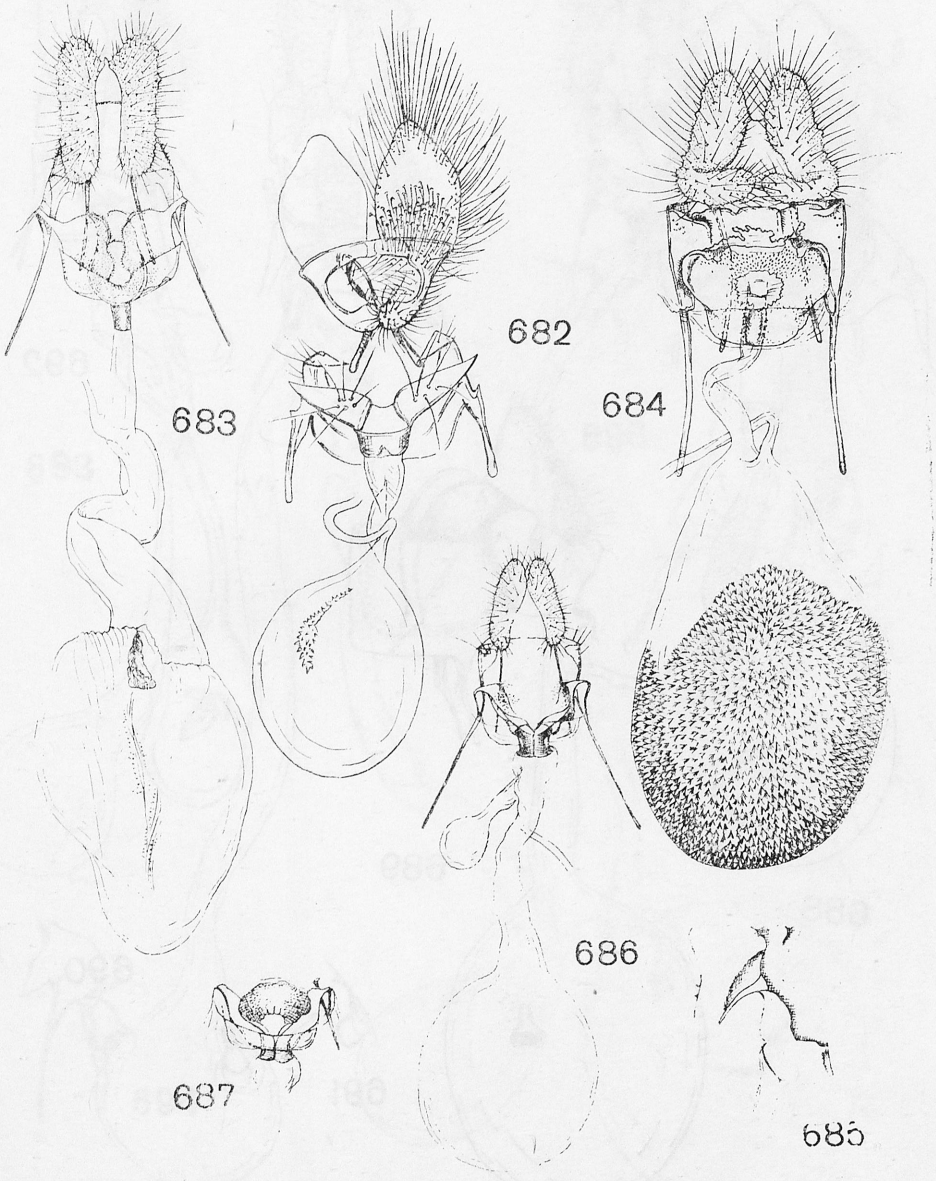
Figs 672—674. Female genitalia of *Cnephasiini*: 672 — *Kawabeia nigricolor* YAS. & KAW., Japan: Honsyu; 673 — *Tortricodes alternella* ([DEN. & SCHIFF.]), Poland; 674 — *Eana penziana* (THUNB. & BECKL.), Poland



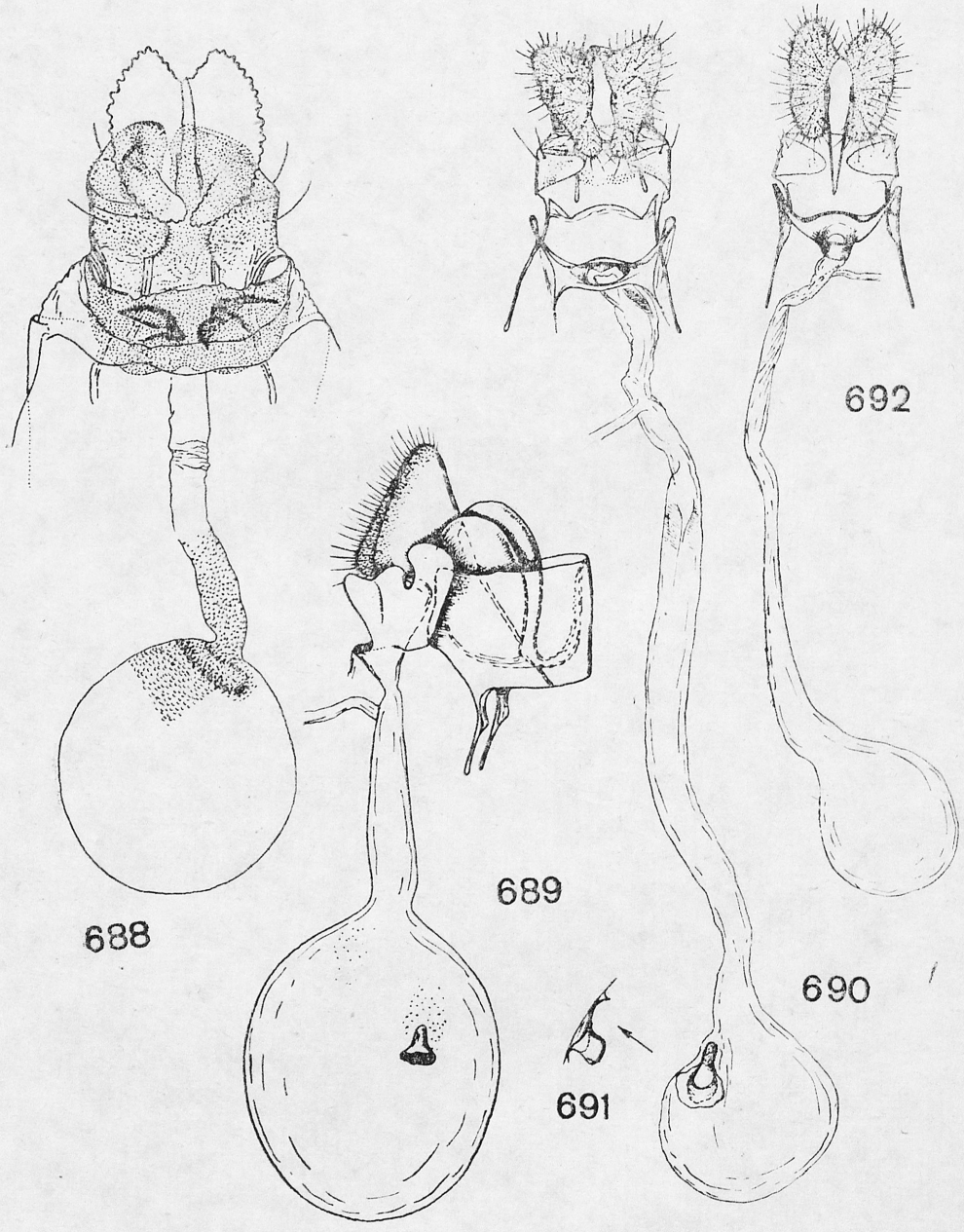
Figs 675—677. Female genitalia of *Cnephasiini*: 675 — *Eana argentana* (Cl.), Poland; 676 — *E. osseana* (Scop.), Poland; 677 — *E. canescana* (Guen.), Poland



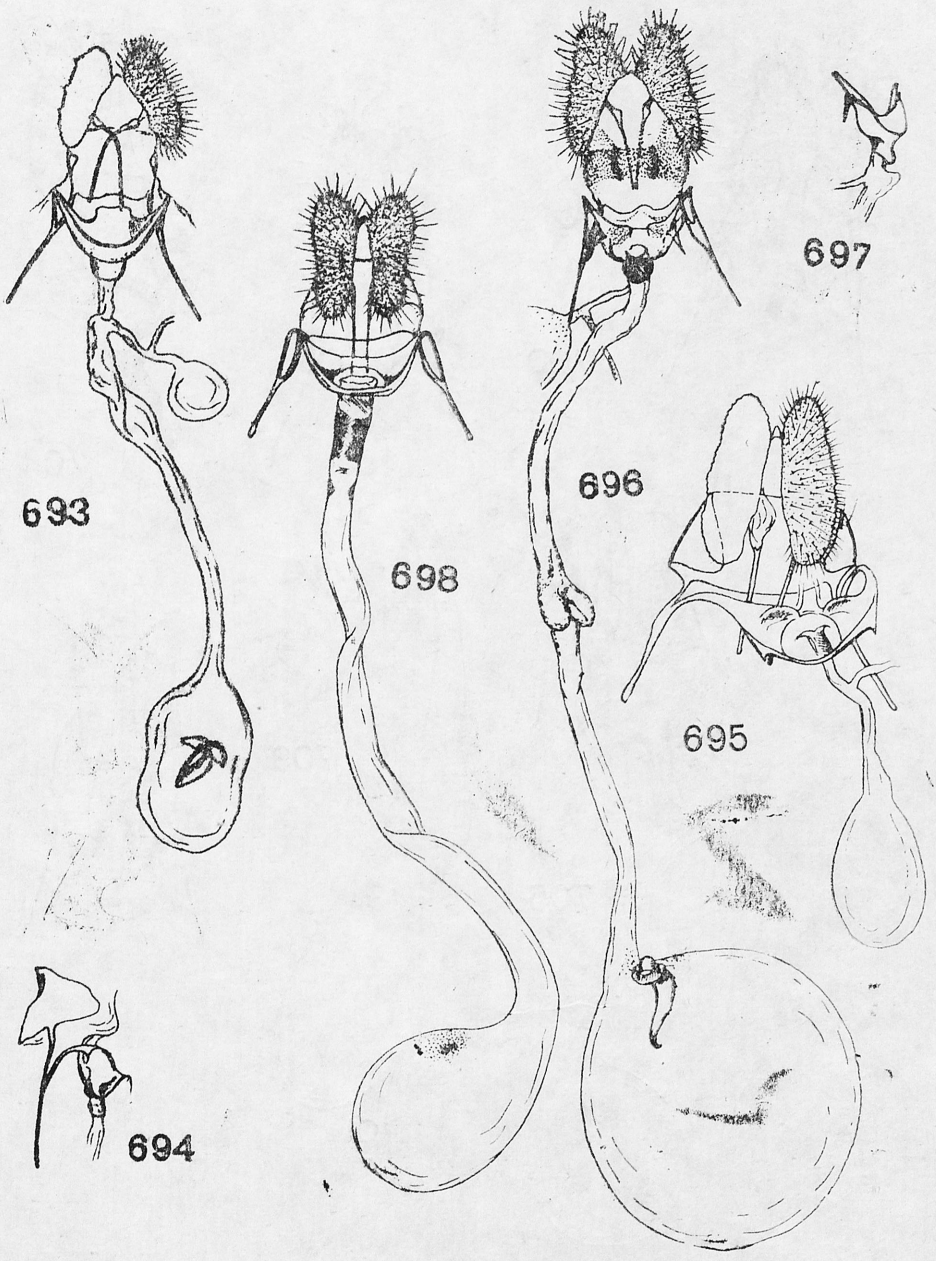
Figs 678—681. Female genitalia of *Cnephasiini*: 678 — *Cnephasia incertana* (TREIT.), Poland; 679 — *C. pasiuana* (HÜBN.), West Germany; 680 — *C. longana* (HAW.), West Germany; 681 — *C. ecullyana* RÉAL, Greece



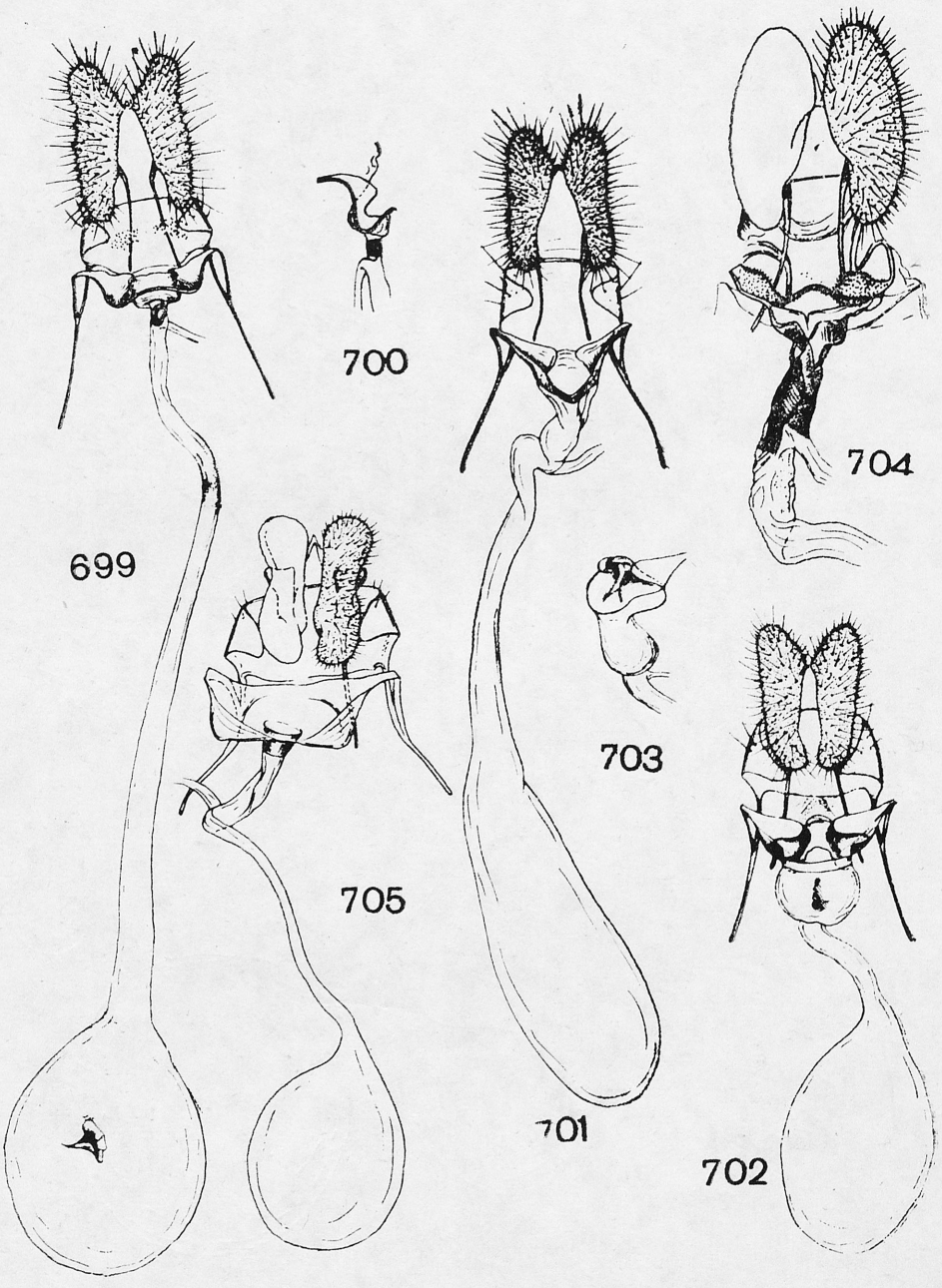
Figs 682—687. Female genitalia of *Cnephasiini*, *Sparganothini* and *Archipini*: 682 — *Cnephasia sedana* (Const.), Switzerland; 683 — *Sparganothis pilleriana* ([Den. & Schiff.]), Poland; 684, 685 — *Eulia ministrana* (L.), Poland; 686, 687 — *Pseudargyrotoza conwagana* (F.), Poland



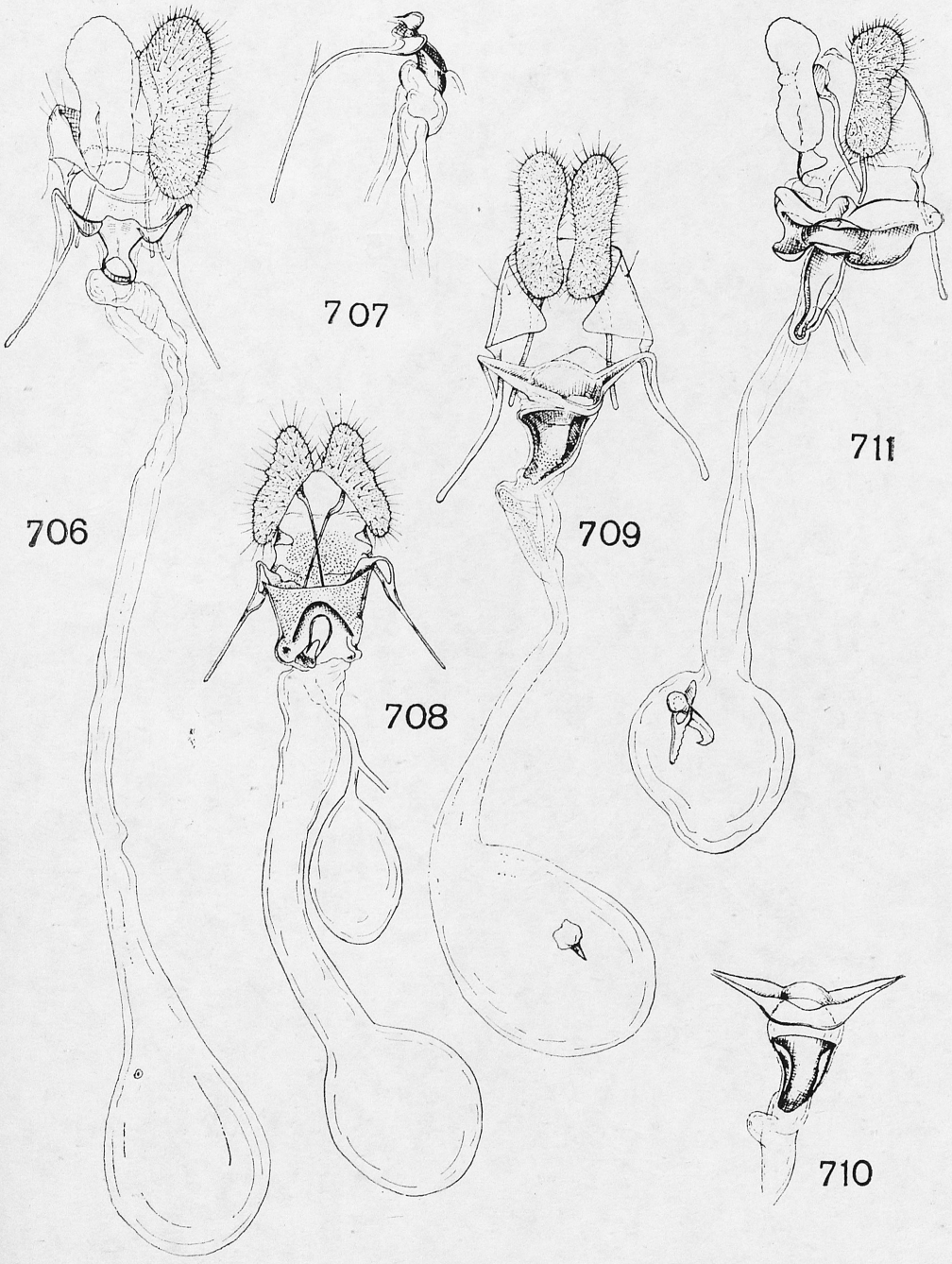
Figs. 688—692. Female genitalia of *Archipini*: 688 — *Terthreutis bulligera* MEYR., Nepal, after DIAKONOFF, 1976; 689 — *Synochoneura ochriclivis* MEYR., China: West Tien-mu-shan; 690, 691 — *Gnorismoneura micronca* (MEYR.), China: North Yunnan; 692 — *Egogepa zosta* RAZ., China: Chekiang



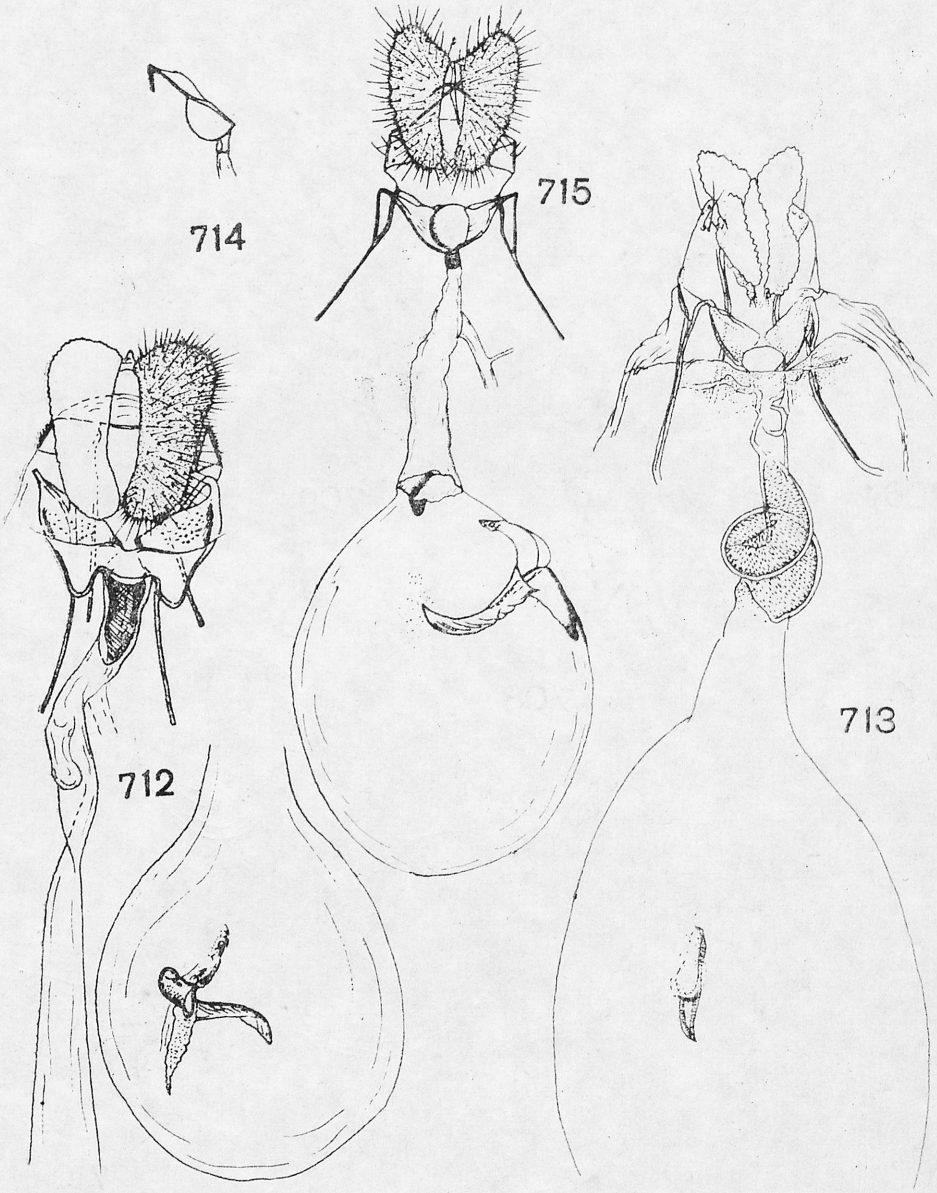
Figs 693—698. Female genitalia of *Archipini*: 693, 694 — *Batodes angustiorana* (Haw.), West Germany; 695 — *Aneuxanthis locupletana* (Hübn.), Spain; 696, 697 — *Geogepa zeuxidia* Raz., China: Chekiang; 698 — *Epagoge grotiana* (F.), Poland



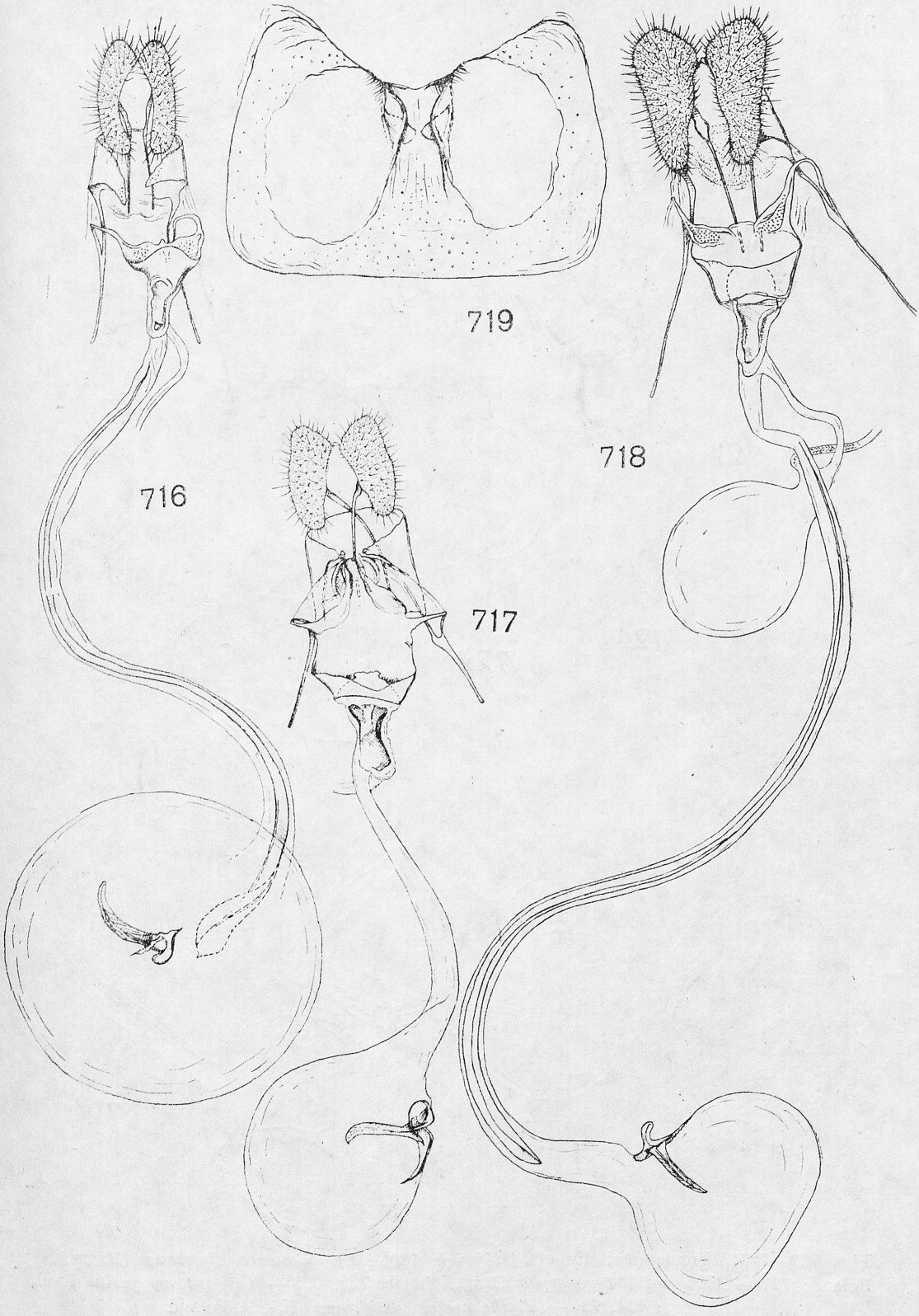
Figs 699—705. Female genitalia of *Archipini*: 699, 700 — *Ramapezia gnomana* (Cl.), Poland; 701 — *Periclepsis cinctana* ([Den. & Schiff.]), Poland; 702, 703 — *Philedone gerningana* ([Den. & Schiff.]), Poland; 704 — *Terricula violenta* (Kaw.), Japan: Honsyu, 705 — *Hastula hyerana* (Mill.), Sicily



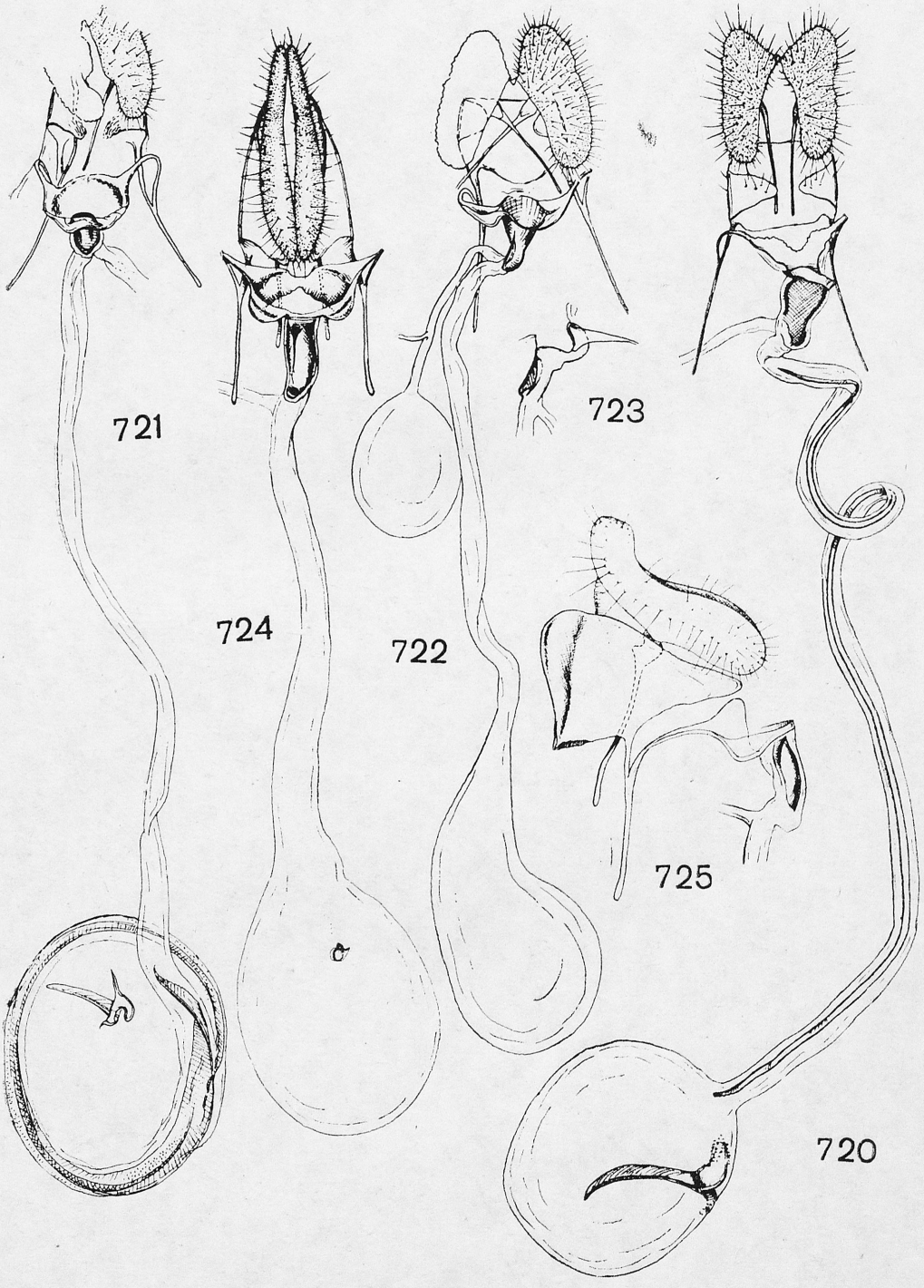
Figs 706—711. Female genitalia of *Archipini*: 706, 707 — *Pseudeulia asinana* (HÜBN.), Asia Minor; 708 — *Capua vulgana* (FRÖL.), Poland; 709, 710 — *Philedonides lunana* (BORGSTR.), Poland; 711 — *Leontochroma suppurpuratum* WALSM., Sikkim



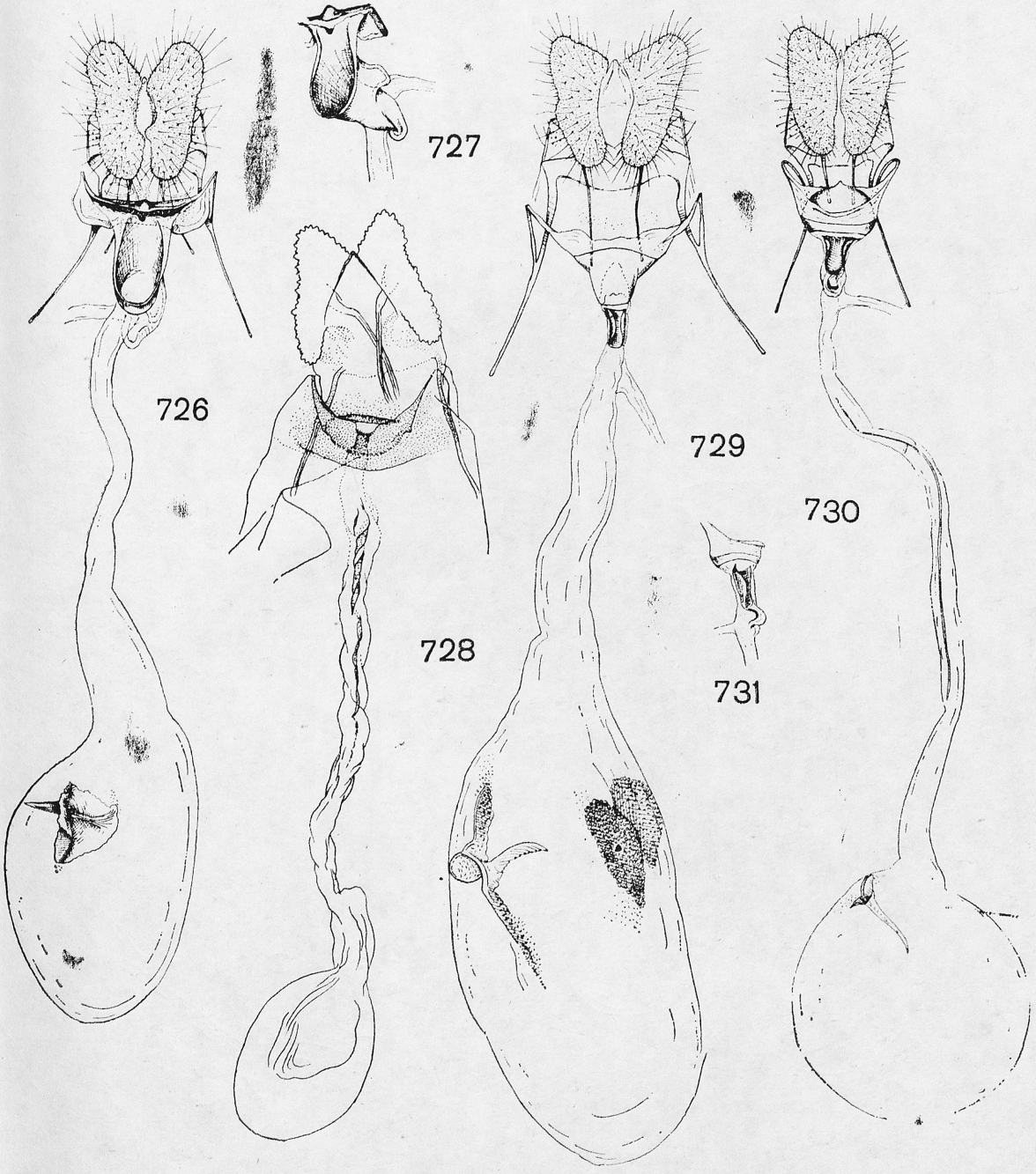
Figs 712—715. Female genitalia of *Archipini*: 712 — *Ulodemis trigrapha* MEYR., China: Fukien; 13 — *Scotiophyes hemiptycta* DIAK., Sumatra, after DIAKONOFF, 1983; 714, 715 — *Argyrotaenia pulchellana* (HAW.), Poland



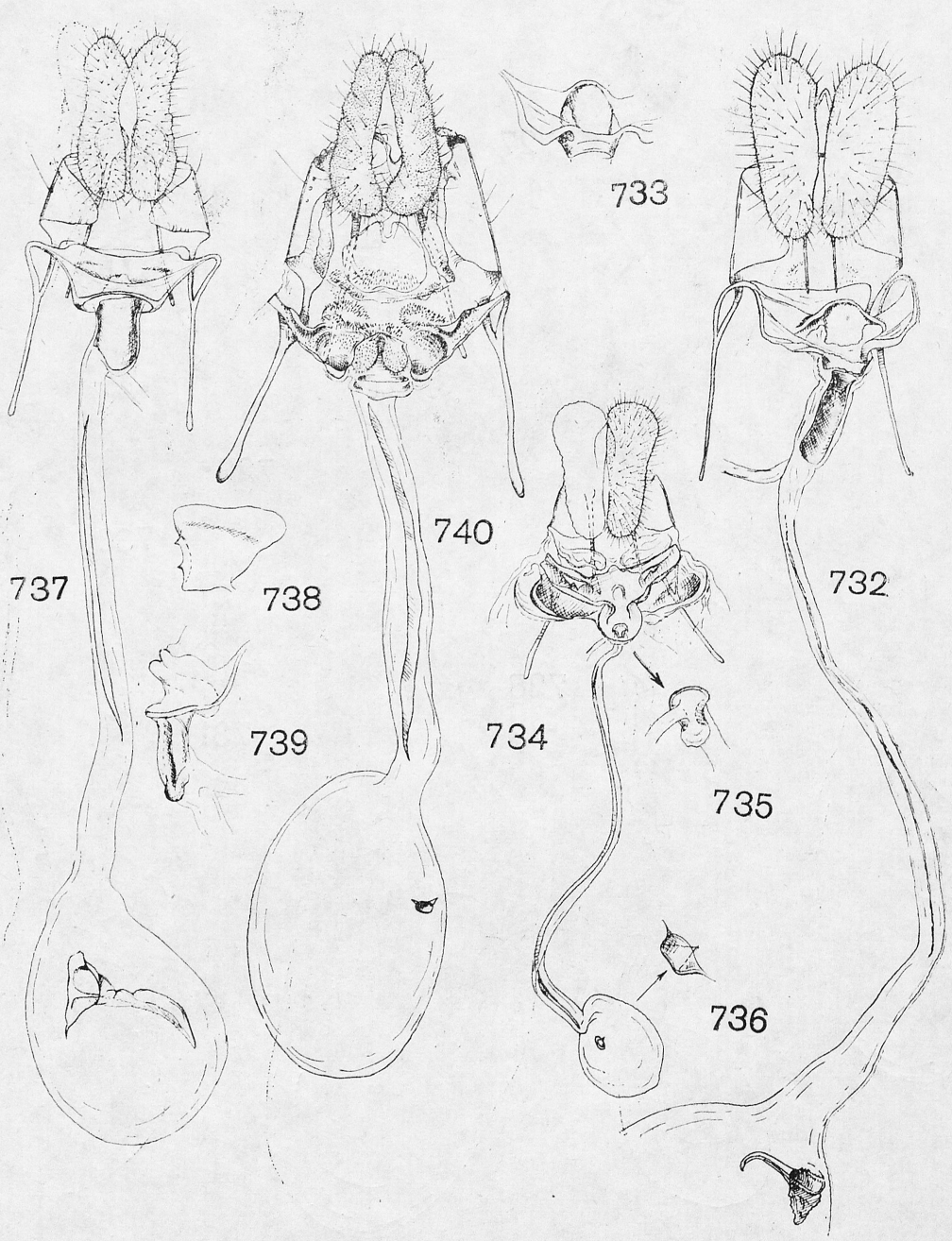
Figs 716—719. Female genitalia and subgenital sternite of *Archipini*: 716 — *Archips xylosteanus* (L.), Poland; 717 — *A. packardianus* (FERN.), Canada; 718 — *A. pulcher* (BUTL.), Japan: Honsyu; 719 — *A. subrufanus* (SNELL.), Manchuria



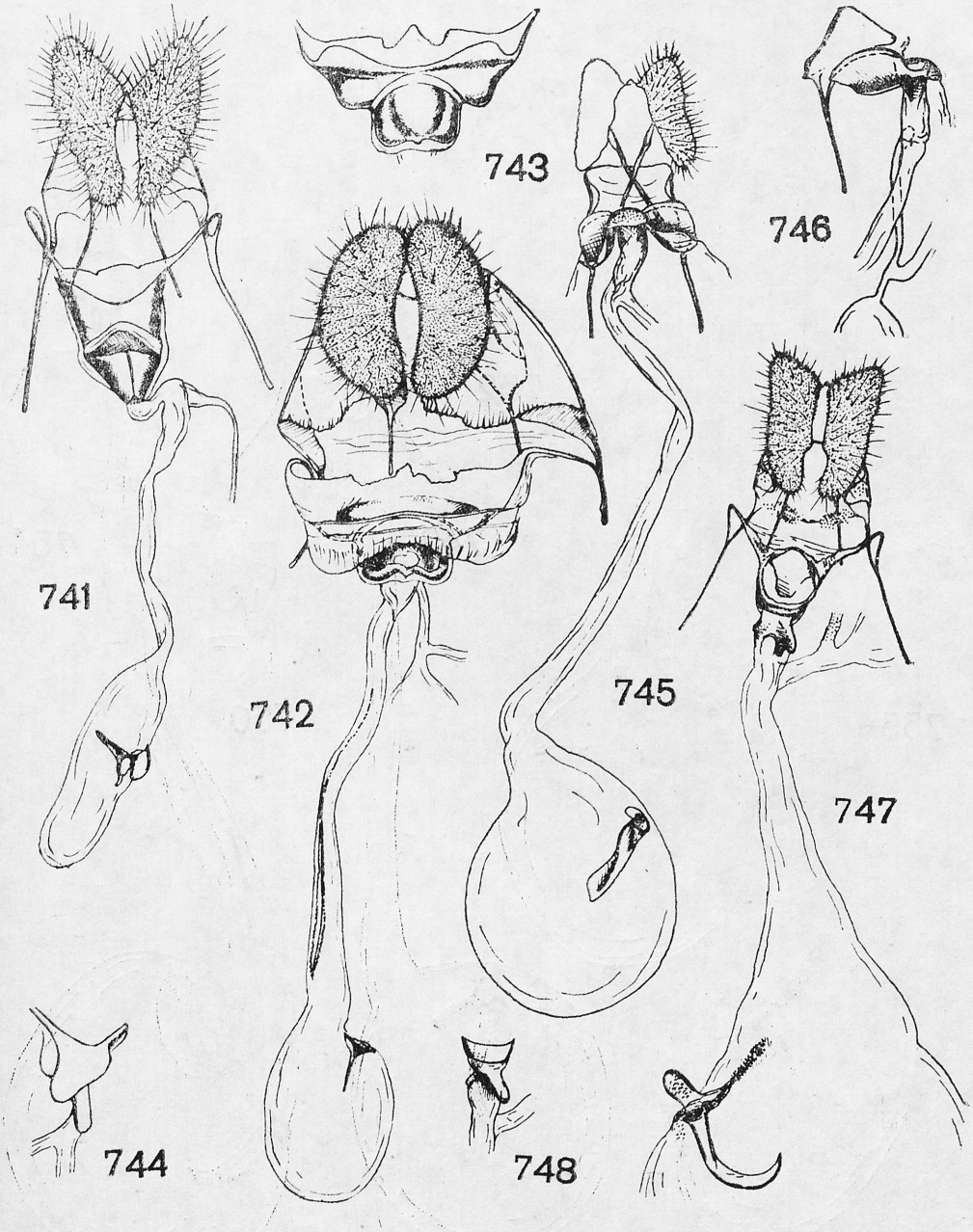
Figs 720—725. Female genitalia of *Archipini*: 720 — *Choristoneura diversana* (HÜBN.), Poland; 721 — *Meridemis bathymorpha* DIAK., Nepal; 722, 723 — *Tosirips magyarus* RAZ., Hungary; 724, 725 — *Ptycholomoides aeriferana* (H.-S.), Poland



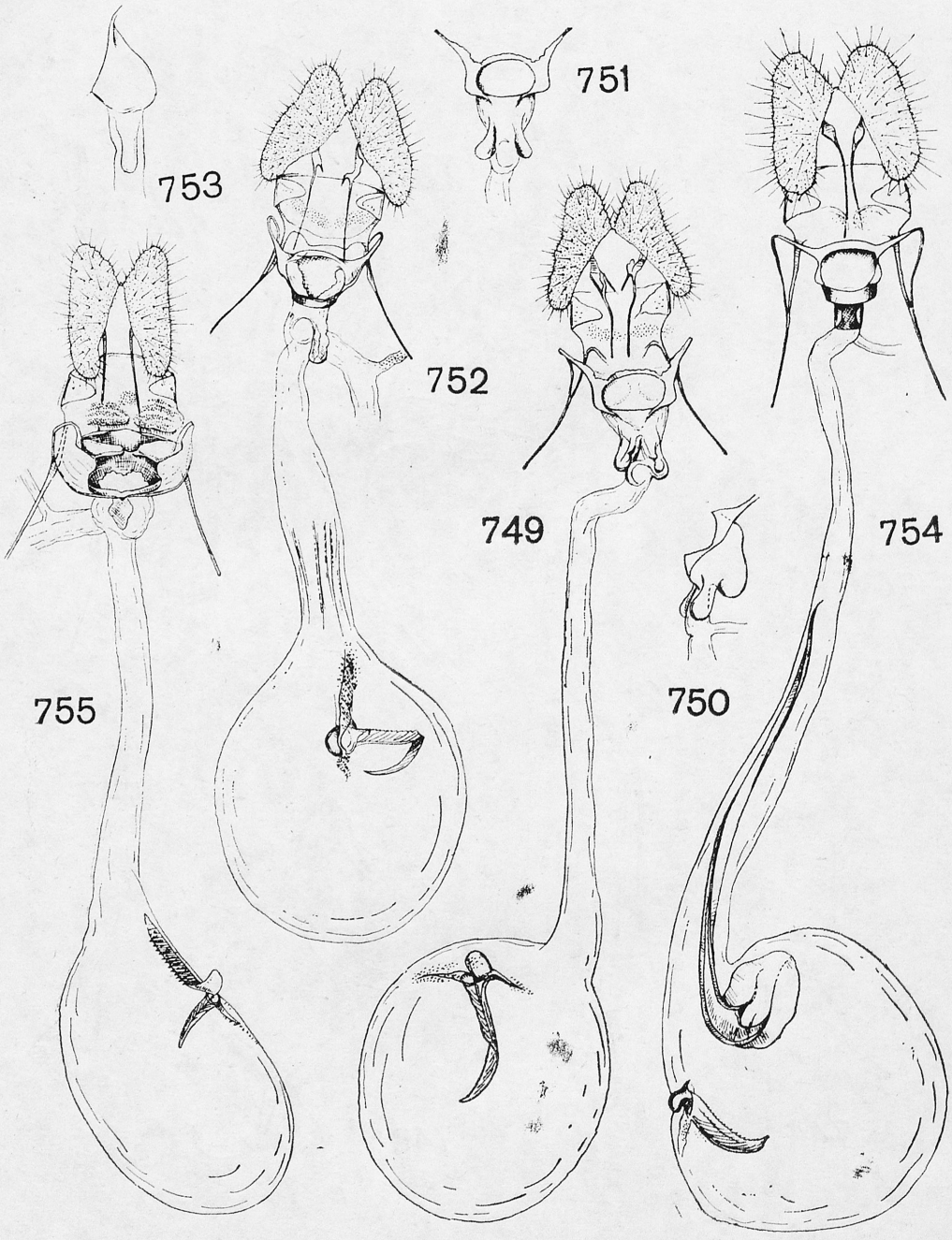
Figs 726—731. Female genitalia of *Archipini*: 726, 727 — *Ptycholoma lecheana* (L.), Poland; 728 — *Lumaria minuta* (WALSM.), Nepal, after DIAKONOFF, 1976; 729 — *Pandemis corylana* (F.), Poland; 730, 731 — *Syndemis musculana* (HÜBN.), Poland



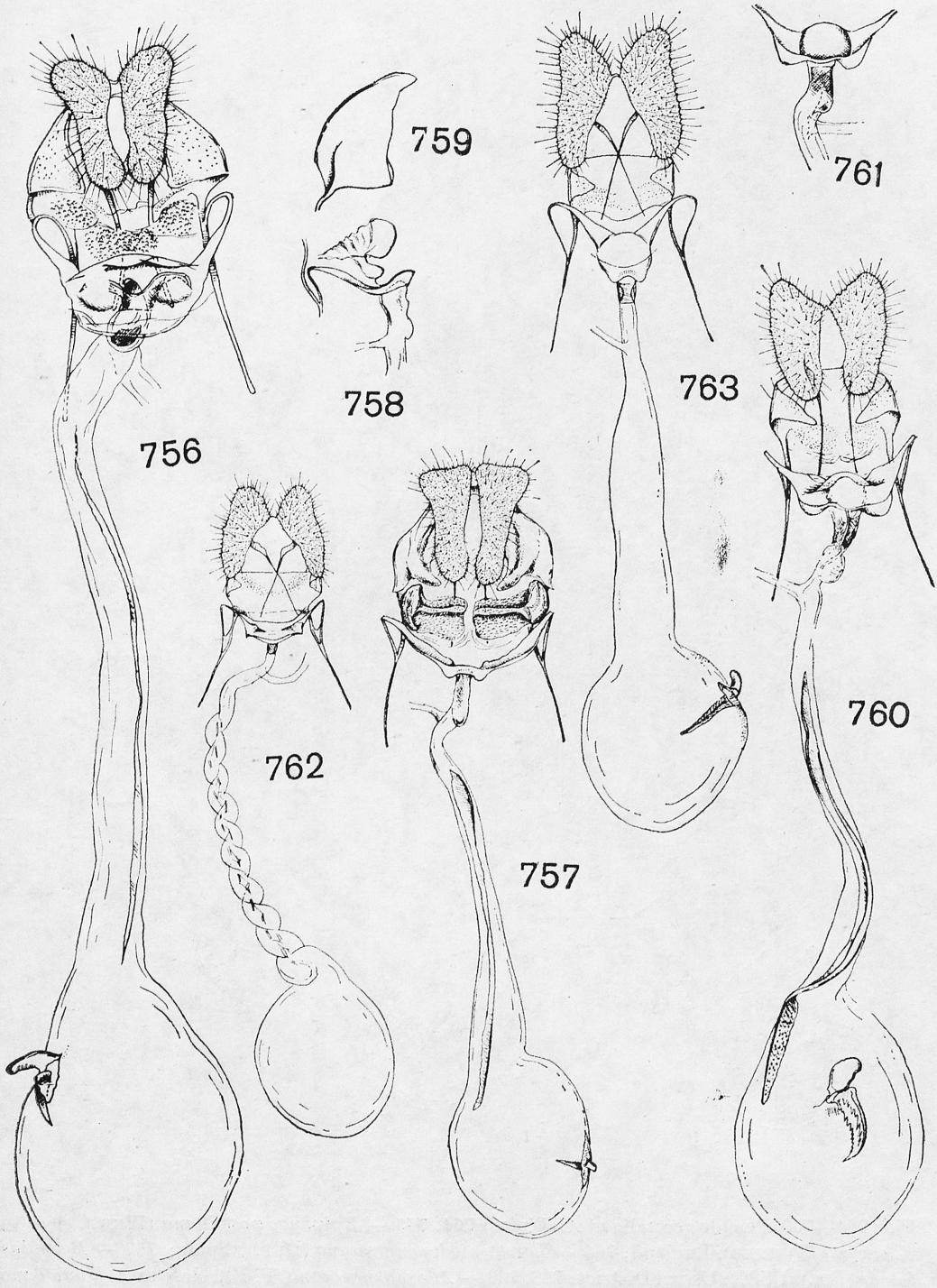
Figs 732—740. Female genitalia of *Archipini*: 732, 733 — *Lozotaenia forsterana* (F.), Poland; 734—736 — *Cacoecimorpha pronubana* (HÜBN.), Italy; 737—739 — *Aphelia paleana* (HÜBN.), close to *A. albociliana* (H.-S.), Poland; 740 — *A. viburniana* (F.), Poland



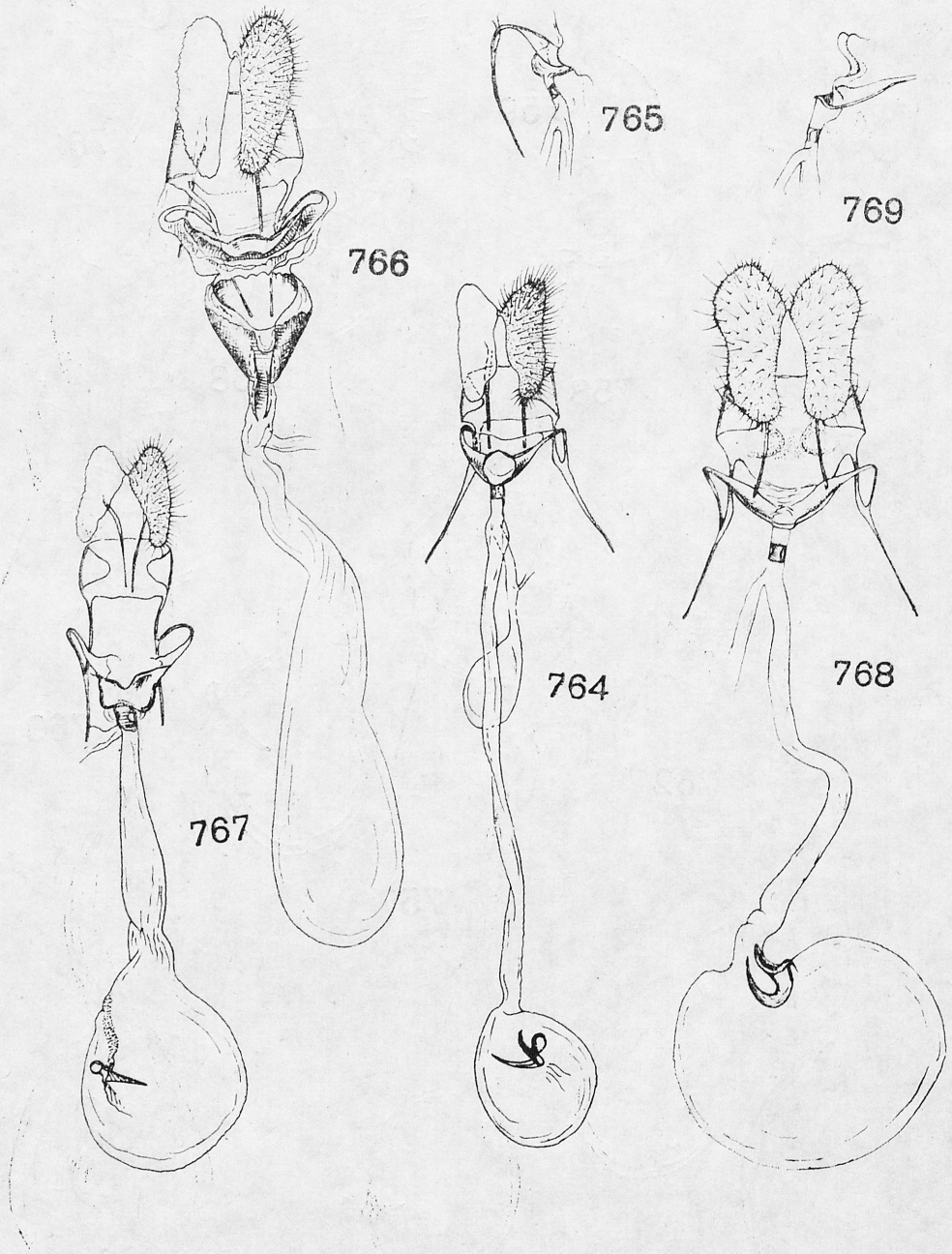
Figs 741—748. Female genitalia of *Archipini*: 741 — *Aphelia disjuncta* (Fil.), Mongolia; 742—744 — *Dichelia histrionana* (Frröl.), Poland; 745, 746 — *Homonopsis illotana* (Kenn.), USSR: Vladivostok; 747, 748 — *Neocalyptis liratana* (Chr.), close to *N. telutanda* Diak., Japan: Honsyu



Figs 749—755. Female genitalia of *Archipini*: 749, 750 — *Neocalyptis inconditana* (KENN.), Japan: Honsyu; 752, 753 — *Diplocalyptis congruentana* (KENN.), Japan: Honsyu; 754 — *Ancyroclepsis rhodoconia* DIAK., China: Likiang; 755 — *Clepsis senecionana* (HÜBN.), Poland



Figs 756—763. Female genitalia of *Archipini*: 756 — *Clepsis rogana* (GUEN.), Poland; 757—759 — *Cle. humana* (DIAK.), Nepal; 760, 761 — *C. consimilana* (HÜBN.), Poland; 762 — *C. peritana* (CLEM.), USA: California; 763 — *C. finitima* RAZ., Mexico: Veracruz



Figs 764—769. Female genitalia of *Archipini*: 764, 765 — *Epiphyas postvittana* (WKR.), close to *E. eucyrta* (TURNER), England; 766 — *Lozotaeniodes cupressana* (DUP.), Spain; 767 — *Daemilus fulvus* (FIL.), USSR: Ussuri District; 768, 769 — *Adoxophyes orana* (F. R.), close to *A. heteroidana* (MEYR.), Poland

Family-level taxa

Archipina 187
Archipini 143, 145, 147, 148, 188, 202, **204**, 206, 219, 220, 236, 238, 283—307, 335—348

Bactrini 148

Ceracini 148, **185**, 274, 328
Chlidanotinae 142, **148**, 151
Chlidanotini 143, 148, 151
Cnephasiini 143, **147**, 148, **187**—189, 192, 207, 219, 275—282, 329—335
Cochylini 142, 148, **153**, 154, 155, 190, 202, 204, 206, 214, 247—266, 311—323
Crambinae 202

Epitymbini 148
Eucosmini 145, 147, 148, 188
Eulia 188, 202, 204, **205**

Grapholitini 148

Hilarographini **148**, 151, 244, 308, 309

Microcorsini 148

Olethreutini 144, 148
Olethreutinae 146, 148, 210

Phricanthini 148
Polyorthini 143, 145, 148, **151**, 188, 245, 246, 309, 310
Pyralidae 202

Schoenotenini 148
Sparganothini 148, **202**, 283, 335

Tortricidae 141, 151, 156, 235
Tortricinae 142, 146, 148, 149, 150, **153**, 178, 183, 188, 205
Tortricini 144, 148, **176**, 179, 267—273, 323—327

Genera

Ablabia 198
Acleris 176, 177, **181**, 182—184, 213, 269—273, 325—327
Acornutia 171, 173
Adoxophyes 219, **240**, 241, 307, 348
Aenectra 202
Aethes 154, **167**—169, 258—260, 317—320
Aethesoides 169
Agapeta 154, **161**—163, 167, 254, 315
Agapete 161
Aleimma 176, 177, 179, **181**, 268, 325
Alimma 181
Amelia 182, 184
Amniodes 207
Amphicoecia 188, **191**, 192, 276, 330
Amphisa 213
Amphysa 213
Ancyroclepsis **236**, 304, 346
Aneuxanthis **210**, 286, 337
Anisotaenia 152
Anoplocnephasia 200, 202
Arachniotes 166
Aphelia 229, **230**, 231, **232**, 236, 238, 299—301, 344, 345

Aprepodoxa **174**, 265, 323
Arce 154
Archiceps 221
Archicnephasia 189, **199**, 281
Archippus 221, 222
Archips 213, **221**, 223—225, 229, 230, 234, 236, 240, 292, 293, 341
Argyridia 168, 169
Argyrolepia 157, 168
Argyroptera 198
Argyrotaenia 216, **220**, 234, 292, 340
Argyrotosa 182
Argyrotoxa 182
Argyrotoza 182, 205
Ariola 221
Austrotortrix 238
Austerotortrix 238

Batodes 207, **210**, 216, 286, 337
Bathypluta 185, 187
Begunna 202
Bipenisia 157, 158
Bleszynskiella 157, 158
Brachycnephasia 200, 202

Brevicornutia 172, 173
Brevisociaria 159

Cacoecia 221, 234, 239
Cacoecimorpha 229, **230**, 299, 344
Calala 234, 235
Capua 210, **216**, 217, 227, 289, 339
Carolella 165
Cenopis 202
Cerace 185, **186**, 187, 274, 328
Ceraceopsis 185
Ceratoxanthis **162**, 163, 255, 316
Charitographa **150**, 244, 309
Cheimaphasia 195
Cheimatophila 182, 184, 195, 196
Chiraps **234**, 302
Chlidonia 167, 169, 176
Choristoneura 204, 220, **223**, 225, 293, 294, 342
Cirriaethes 168, 169
Clepsis 232, **237**—240, 304—306, 346, 347
Clysia 166
Clysiana 166
Cnephasia 188, 189, 191, **200**, **202**, 281, 282, 334, 335
Cnephasianella 201
Cnephasiella 200, **201**, 202
Cnephasitis **151**, 245, 309
Coccyx 225
Cochylichroa 171, 173, 176
Cochylidia 168, **169**—171, 173, 261, 320
Cochylimorpha 157
Cochylis 154, 157, 159, **171**—175, 262—265, 321, 322
Coecaethes 168, 169
Commophila **165**, 166, 257, 317
Conchylis 156, 162—164, 171, 172, 231
Cornicacoecia 223, 224
Croesia 182—184
Cryptocochylis **174**, 276, 323

Daemilus **239**, 240,307, 348
Danilevskiana 178
Dapsilia 168, 169
Dentisociaria **222**, 293
Diceratura 170, **171**, 261, 262, 321
Dichelia 202, **232**, 233, 301, 345
Dictyopteryx 181
Diplocalyptis **236**, 303, 304, 346
Ditula 210
Diakonovia 231
Dolophoca 200
Dolophora 200
Doloploca 188, 189, **193**, 194, 196, 200, 277, 331
Drachmobola 204
Durrantia 154

Eana 188, 189, **197**—199, 279, 280, 332, 333
Eclectis 182, 184
Egogepa **209**, 286, 336
Enyphantes 195
Epagoge 178, 209, **211**, 212, 214, 233, 287, 337
Epicnephasia 188, **194**, 278
Epiphyas **238**, 306, 348
Ergasia 182, 184, 185
Eudemis 210
Eugnosta **164**—166, 256, 257, 316
Enoditis 202
Eulederia 192
Euledereria 188, **192**, 276, 330
Eulia 188, 202, **205**, 207, 285, 335
Eupoecilia **166**, 171, 258, 317
Eurydoxa **185**—187, 274, 328
Eustenodes 157, 158
Eutrachia 198
Euxanthis 161, 232
Euxanthoides 157, 158
Exapata 188, 193, **195**, 278, 331

Falseuncaria 173, **175**, 266, 323
Fulvoclysia **163**, 164, 255, 256, 316

Geogepa 210, **211**, 287, 337
Glyphiptera 182
Glyphisia 182
Gnorismoneura 207, **208**, 210, 211, 285, 336
Gynoxypteron 194

Hastula **215**, 289, 338
Heterognomon 180
Hilarographa 148—150
Homona 204, 220, 224, 234
Homonopsis **233**, 302, 345
Hoshinoa 223, 224
Hypostephanuntia 200, 202
Hysterophora 154, **156**, 249, 312
Hysterosia 154, 155, 173, 190

Idiographis 154
Idiothauma 148
Isotrias **153**, 188, 205, 246, 310

Kawabea 196
Kawabeia 188, **196**, 278, 332

Leontochroma **217**, 290, 339
Leptogramma 182
Leptoris 202
Longicornutia 172, 173
Lopas 181, 184
Lophoderus 205
Loxoptera 168
Lozopera 168, 169
Lozotaenia 212, 227, **229**, 239, 298, 344
Lozotaenioides **239**, 348
Lumaria **227**, 296, 343

Meridemis **224**, 294, 342
Meritastis 204
Mictocommosis 148, **149**, 244, 308
Mochlopyga 237, 238

Neocalyptis **234**—236, 302, 303, 346
Neocochylis 172, 173, 345
Neosphaleroptera 188, **190**, 275, 329
Nephodesma 197
Nephodesme 197

Obraztsoviana 156
Oenectra 202
Oenophthera 202
Oenophthira 202
Olethreutes 200
Olindia 152, 153, 188, 205, 245, 246, 310
Oporinia 197
Oporopsamma 188, **191**, 192, 194, 276, 330
Oxigrapha 182, 184
Oxygrapha 182
Oxypteron 188, 192, **193**, 194, 277, 278, 331
Oxypterum 194

Paedisca 210
Palpocrinia 188
Pandemis **227**, 228, 296—298
Paraclepsis 212, 213
Paracochylis 192, 194
Paracroesia 176, **178**, 268
Paramesia 182, 213
Parapandemis 227—229
Pararchips 221
Parastenodes 157, 158
Parasyndemis 232, 233
Paratorna 176, **177**, 267, 323
Paraxantoides 157
Pentacitrotus 185, **186**, 187, 274, 328
Penthina 189
Periclepsis 212, 213, 288, 338
Peronea 151, 181
Phalaena 161, 168, 180—182, 195, 198, 202, 205, 212, 221, 226
Phalonia 160, 168, 169
Phalonidia 154, **159**, 252, 314
Pharmacis 160
Philedone 213, 217, 288,
Philedonides 214, **217**, 290, 339
Phloiophila 182
Phtheochroa **154**, 155, 159, 173, 247, 311, 312
Phtheochroides **160**, 161, 164, 253, 315
Phylacophora 182—184
Piercea 159, **160**, 253, 315
Platphalonia 159, 173
Pontoturnia 171, 173
Prochlidonia 165, **166**, 257, 317
Procrica 204, 220
Prohysterophora **156**, 249, 312
Propira 154, 155
Propiromorpha 188, **189**, 275, 329
Psammozesta 194
Pseudamelia 237, 238
Pseudagyrotoza 202, **206**, 207, 285, 335
Pseudeulia **215**, 217, 289, 339
Pseudocroesia 176, **177**, 267, 324
Ptycholoma 210, 214, **226**, 296, 343
Ptycholomoides **225**, 226, 295, 342
Pyralis 167, 168, 181, 182, 211, 227, 229, 230

Ramapezia **212**, 287, 338
Rhacodia 182—184

Sacaphelia **232**
Safra 164
Saphenista 159, 173
Sciaphila 198, 200
Scinipher 195
Sciniphes 195
Scotiophyes 188, **219**, 291, 340
Sericoris 154, 155, 190
Siclobola 237, 238
Simaethis 149
Smicrotes 237—239
Sparganothis **203**, 204, 283, 335
Spatalistis 176, **179**, 268, 324
Sphaleroptera 200
Spinipogon 159
Stenodes 154, **157**—159, 176, 249—252, 312—314
Subeana 198, 199
Substenodes 157, 158
Syndemis 222, **228**, 229, 343
Synochoneura 188, **207**, 284, 336

Teleia 182, 184
Teras 182, 238
Teratodes 216
Terricula **214**, 288, 338
Terthreutis **207**, 284, 336
Taumatographa 148, **149**, 150, 244, 308, 309
Thyralia 171
Thyraylia 171, 173
Tinea 166, 168, 196, 197
Tortricodes 188, 191, 194, 196, **197**, 279, 332
Tortricomorpha 231
Tortrix 153—156, 160, 161, 164—169, 171, 175—178, **180**—182, 189, 190, 192, 193, 195, 197, 198, 200, 205, 210, 213, 215—217, 220—223, 225—228, 230—232, 237, **239**, 269, 324
Tosirips **225**, 295, 342
Trachysmia 154, 155, 190

Ulodemis **218**, 219, 291, 340

Xanthosetia 161
Xerocnephasia 188, **189**, 190, 295, 329

Zelotherses **231**, 232

Species and subspecies

abietana 182, 271, 326
abievora 178, 268, 324
acanthana 316
adamana 191, 276, 330
advena 185, 186
aeneana 165, 257
aeriferana 225, 295, 342
affinitana 159, 252
afflictana 229
albiscapulana 183
albociliana 231, 299, 344
alismana 253, 315
alloica 234
alpicolana 276, 330
alternana 251
alternella 197, 279, 314, 332
alticolana 200, 282
ambiguella 166, 167
amiantana 166, 257, 317
ammina 204, 220
amoenana 172, 322
amseli 168
angustana 166, 167, 258, 317
angustilineana 234, 235
angustiorana 210, 286, 337
apicana 161, 164
apodicta 152, 309
apona 236, 303
apricana 174, 265
argentana 198, 280, 333
argentomixtana 162
arguta 164, 256
armata 222, 293
armeniaca 163
arrecta 165, 257
asinana 289, 339
aspersana 181, 184, 269, 325
atricapitana 171, 173, 264
aurantiacum 217, 290
aurichalcana 184
aurosa 244, 310
avellana 167

bathymorpha 342
baumanniana 168
beatricella 320
bergmanniana 182, 184, 272, 326
bifasciana 179, 180, 268, 324
breviornatana 202
bulligera 336
bunteana 171, 173

calavrytana 172
canescana 198, 280, 333
castaneana 182
caudana 182
centrana 154
cerasana 297
chamomillana 157, 252
chionopa 156, 249, 312
chlorotypa 302
chondrillana 227, 228, 298
christophana 268, 324
cinctana 213, 288, 338
clandestina 160, 253, 315
cnicana 169
communana 188
congelatella 195, 196, 298, 331
congruentana 303, 304, 346
conjunctana 174, 266, 323
consimilana 305, 347
conwagana 206, 285, 335

cornigera 248
coronaria 177, 267
corylana 227, 296, 297
crataegi 273, 327
cristana 181, 184, 270, 325
cristalana 181
cultana 157, 249, 312
cuprescens 178, 267
cupressana 239, 348
cupressanus 239

dactylota 166
dealbata 183
decipiens 154
decoris 308
defessana 171
degreyana 176, 266, 323
dentata 258
derivana 188
desfontainana 181
dipoltella 168
disjuncta 232, 301, 345
diversana 223, 293, 341
dives 164, 256
dorcas 177, 267, 323
dorsimaculana 157
dryadarcha 151, 152, 245, 309
dubitana 264, 322
dumerillana 210
dumetana 228
duponchelana 154, 190, 247, 311
duponcheliana 154, 155

ecullyana 202, 202, 282, 334
effractana 182
egesta 180
elegans 184
elongana 157, 249, 312
emargana 182, 184, 270, 325
epilinana 172, 173, 263, 321
eremnotorna 150
eucyrta 238, 306, 348
euxina 231
externana 255, 316
exulis 208, 285

faeculosa 219, 291
favillaceana 157, 216
fimbriana 184
finitima 327
flaviciliana 262, 321
foliana 183
forsterana 229, 298, 344
forskaleana 184
francillana 168, 260, 319
frigidana 154
fulva 239
fulvana 163, 164, 256, 316
fulvus 240, 307,
furvita 224, 294

gelatana 195
gelatella 195
gerningana 213, 288, 338
gilvicomana 159, 252, 314
gnomana 182, 212, 287, 338
grotiana 211, 287, 337

hamana 161, 162, 254, 315
hartigi 199, 281
hartmanniana 168, 169, 258, 317
hastiana 182, 184, 270, 325
hemiptycta 219, 291, 340
heparana 228
heteroidana 240, 348
heydeniana 320
histrionana 232, 301, 345
holmiana 182, 184
hoshinoi 285
humana 237, 305, 347
hybridana 153, 130
hydrargyrana 164
hyemana 197
hyerana 215, 289, 338

ignavana 196, 278
ignoratana 299
illotana 233, 302, 345
impar 193, 194, 277
implicitana 261
incertana 281, 344
inconditana 235, 302, 303, 346
indignana 182, 183, 185, 173, 327
inopiana 154, 155, 311
insubrica 310
interjectana 200
irrorana 182

jaculana 250, 313
joannisiana 215
jucundana 251

kindermanniana 169
kobeana 167, 258

lafauryana 223, 294,
lathoniana 164, 168, 256, 316
latifasciana 182, 273, 327
lecheana 226, 296, 343
leucopyrga 308
liadelpha 238
lindebergi 306
liratana 303, 345
literana 182, 184, 271, 326
locupletana 210, 286, 337
loeflingiana 181, 269, 325
logiana 200
longana 200, 282, 334
longicellana 224, 294
longicellanus 223
lunana 217, 290, 339
luteolana 202

maculosana 156, 249, 312
magnana 198
magnanima 224
magyarus 295, 342
manniana 314
margaritana 168, 259, 318
mauritanica 168, 260
meridiana 157, 158, 250, 313
mesotoma 209
metaphaella 164
micadonis 150, 244, 309
micronca 336
mimocharis 174, 265, 323
ministrana 205, 283, 335
minuta 227, 296, 343
molliculana 172, 173, 168
mongolica 194, 278
moribundana 219
murinana 224
musculana 228, 298, 343

nana 171, 173, 262, 321
neglectana 238
neogena 194
nigricolor 332
nigromaculata 149, 244, 308
noctis 214
notana 272, 326
nubilana 190, 275, 329

obliquana 251
ochraceana 216
ochreana 231, 300
ochriclivis 207, 284, 336
ochromixtana 317
okui 293
orana 241, 307, 348
osseana 198, 280, 333
ostrinana 171, 261, 321

packardiana 221
packardianus 292, 341
palaearctica 309
paleana 344
pallidana 172, 173, 264, 322
pallorana 163, 164, 231, 255
pamirana 168, 260
pareyssiana 164
partitanum 331
pasiuana 200, 202, 281, 334
pectinana 213
penziana 197, 279, 332
perfusana 157, 250, 313
peritana 237, 238, 306, 347
permixtana 160
perpulchrana 225
pettitana 202
phaiopteron 228, 297
phaleratana 172
phasmatica 204
pilleriana 202—204, 283, 335
polita 194
politana 220
politum 278
pontana 157
posterana 264, 322
postvittana 238, 239, 306, 348
praecana 202
prodromana 217
pronubana 230, 299, 344
pulchellana 220, 221, 292, 340
pulcher 293, 341
pulchra 221
pulvillana 247, 311
punctulana 193, 277, 331
purpuratana 171
pusilla 178

quadridentana 184
quadripunctana 198

rectifasciana 153, 246, 310
rhodoconia 236, 304, 346
rhodophana 189, 275, 329
rhombana 182, 184, 271, 326
rhopica 189, 268, 324
rhytmologa 227
ribeana 228

rigana 155, 189, 190, 275, 329
rocharva 154
rogana 237, 305, 347
roseana 171, 173, 263, 321
roseofasciana 262
rubellana 171
rubicundana 204
ruficiliana 175, 176
rugosana 154, 155, 311
rupicola 237
rutilana 168, 259, 318

salebrana 263
sapporensis 185, 274, 328
schalleriana 182, 184, 272, 326
schawerdai 194, 277, 331
schreibersiana 154, 247, 311
schumacherana 245, 246, 310
shaqlavana 231
sedana 200, 202, 282, 335
semilutea 204
semipurpurana 181, 183
senecionana 237, 304, 346
seriepuncta 178, 267, 323
sinapina 180
smeathmanniana 167, 259, 318
sparsana 183
sphaerocosma 207
stipatana 186
straminea 157, 251, 314
subroseana 169, 170, 320
subrufanus 341
sulphurana 154
suppurpuratum 290, 339

tapaishami 208
teperanica 262
telutanda 234, 303, 345
tesserana 168, 259, 318
tetracore 274, 328
textana 227
tigricolor 273
tortricella 197
trigrapha 218, 219, 291, 340
tripunctana 182

ulmana 152
umbrosa 204
unicolorana 237
unifasciana 237

vallifica 209
viburniana 230, 300, 344
violenta 214, 288,
viridana 180, 269, 324
voluta 204
vulgana 216, 289, 339
vulneratana 160
vulneratus 186

wahlbomiana 200
wertheimsteini 191, 276, 330
williana 319

xanthocosma 187, 274, 328
xanthocycla 207
xanthoides 202
xylosteana 221
xylosteanus 292, 341

zapyra 149
zeuxidia 211, 287, 337
zoegana 161, 162, 254
zosta 209, 286, 336
zyzzogeton 285

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