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**Palaeartic *Polyorthini* (Lepidoptera, Tortricidae)**

[With 38 text-figs.]

**Palearktyczne *Polyorthini* (Lepidoptera, Tortricidae)**

**Abstract.** Seven species of *Polyorthini* are recorded from the Palaeartic Region to date. One subspecies is described as new.

The tribe *Polyorthini* erected by DIAKONOFF (1974) has been known from the tropical zones of all regions but Ethiopian. Then two well known European genera, *Olindia* GUENÉE and *Isostris* MEYRICK usually placed (e.g. OBRAZTSOV, 1955) in the *Cnephasiini* (= *Archipini*) were transferred (RAZOWSKI, 1979) to the tribe in question. I have also discovered (RAZOWSKI, 1981a) a member of the Oriental genus *Cnephasitis* RAZOWSKI in the Palaeartic Region. One species of another *Polyorthini* genus *Lopharcha* DIAKONOFF was described by that author (DIAKONOFF, 1976) from Nepal, so one can suppose it may be represented in our region.

The Palaeartic *Polyorthini* fall into two groups of genera. The European genera *Olindia* and *Isostris* characterize with well preserved coremata and distinct outer split of valva. The gnathos is in both genera highly specialized. *Cnephasitis* represents main bulk of the genera of the tribe. It is characterized by typical gnathos and reduced coremata whilst the split of the valva is weakly developed.

*Olindia* GUENÉE

*Olindia* GUENÉE 1845, Ann. Soc. ent. Fr., (2)3:178. Type-species: [*Tortrix*] *ulmana* HÜBNER, [1822] = *Pyralis schumacherana* FABRICIUS, 1787.

*Anisotaenia* STEPHENS 1852, List Spec. Br. Animals Colln Br. Mus., 10: 45 — objective younger synonym of *Olindia*.

Redescriptions: OBRAZTSOV, 1955:152; RAZOWSKI, 1959:197; 1981b:

:38. Known from western part of the Palaearctic Region as far as to European USSR (KUZNETSOV, 1978). Monotypical.

*Olindia schumacherana* (FABRICIUS)

*Pyralis schumacherana* FABRICIUS 1787, Mantissa Ins., 2:236. Type locality: Hafnia.

[*Tortrix*] *ulman* HÜBNER, [1822—1823], Samml. Schmett. Eur., pl. 45, fig. 278. Type locality: Europe (from title of work). [*Tortrix*] *areolana* HÜBNER [1822—1823], *ibid.*, pl. 45 fig. 279. Type locality: as above.

Last redescription: RAZOWSKI (1981b:38). Distributed in Europe, from the British Isles to Central Italy, southern part of USSR and Scandinavia.

*Isotrias* MEYRICK

*Isotrias* MEYRICK 1895, Handbook Br. Lepidopt.: 542. Type species: *Isotrias hybridana*: MEYRICK, 1895 = *Tortrix rectifasciana* HAWORTH, [1811].

Redescriptions: OBRAZTSOV 1955:154; RAZOWSKI 1959:200; 1981b:40.

This genus requires a thorough revision on much larger material as I have had at hand. The differences among the species are slight especially in the genitalia, thus the literature data are difficult for interpretation. Practically all published drawings are inaccurate, e.g. KUZNETSOV'S (1978) fig. 293/1 in which the uncus is bifurcate. In the male genitalia the differences are mainly in the shape of the uncus which should be examined in the lateral position. In two species the socii are short and broad. There are also some specific characters in the shapes of the transtilla and the number of the transformed setae of the internal surface of the valva. In one species the ventral edge of the valva is angulated immediately before the spine but that character requires confirmation on further examples. The variation of the male genitalia is rather insufficiently known as it has been checked on *I. hybridana* (HÜBNER) only (on 15 specimens), but it seems slight. The female genitalia are even less known than the male genitalia and the specific differences are in the length of the signum. Its variation has not been studied. The external characters are in many cases of importance, however, there is a distinct variation in at least one species (*hybridana*: in the specimens of same locality there are pale and dark examples, some of which characterize even with brownish grey suffusion of the submedian fascia of the ground colour).

OBRAZTSOV (1956) mentioned 6 species in this genus and distinguished *Olindia pedemontana* (STAUDINGER) as the subspecies of *hybridana*. Same author (OBRAZTSOV, 1965) included in this genus *Anisotaelia buckwelli* LUCAS described from Morocco. KUZNETSOV (1978) treated *hybridana* as the subspecies of *rectifasciana* and suggested *stramentana* and *joannisana* are the subspecies or even infrasubspecific forms of the latter. Certainly the two last mentioned are valid species as one can realise on the figures given in this paper. *I. hybridana* and *rectifasciana* are treated as distinct species and the differences are given as follows, however, the problem of their forms remains obscure.

*Isotrias hybridana* (HÜBNER)

[*Tortrix*] *hybridana* HÜBNER [1814—1817], Samml. eur. Schmett., pl. 38, fig. 238. Type locality: Europe (from title of work).

*Phal. [aena] cingulana* [? SCOPOLI 1772, Ann. Hist. nat.: 118] WERNEBURG 1864, Beitr. Ent., 1: 359. Type locality: not mentioned. ? *Tortrix puellana* FROLICH 1828, Enumeratio Tortr. Würtemb.: 58. Type locality: Virtembergia (from title of work).

Redescriptions: RAZOWSKI 1959: 203; 1981b: 41.

Head, thorax and forewing pattern brownish, the latter dark spotted along edges. Antemedian fascia of ground colour white, occasionally suffused with brownish grey, postmedian area of wing suffused with same colour; fringes rather concolorous with suffusion.

Male genitalia (Figs. 1, 2): Dorsal edge of uncus bent postbasally, ventral edge hardly convex before end; spines of outer surface of gnathos usually distinct; transformed setae of valva numerous. In female genitalia (Fig. 31) signum short.

f. *castiliana* RAGONOT

*Olindia castiliana* RAGONOT, 1894, Ann. Soc. ent. Fr., 63:187. Type locality: Spain [Castilia].

Forewing pattern dark brown with weak black-brown marginal spots; ground colour more grey, especially before median fascia; fringes greyish with brownish median line.

Male genitalia (Figs. 3—5): Uncus somewhat broader than in nominate form.

The type and one topotype examined. Usually treated as a form of the following species.

f. *pedemontana* STAUDINGER

*Olindia pedemontana* STAUDINGER 1871, Berl. ent. Z., 14 (1870):275. Type locality: Macugnaga, Pedemontium (Italy).

*Olindia tingalana* MILLIÈRE 1884, Revue Ent. (Silbermann), 3: 3. Type locality: Madone de Fenestra (Italy).

Forewing pattern brownish with ochreous-olive hue; ground colour much paler; fringes ochreous cream with brownish basal line.

Male genitalia (Figs. 6—8): Median portion of uncus slightly broader than in nominate form.

Type series examined; *lingalana* is unknown to me.

*Isotrias cuencana* (KENNEL)

*Olindia cuencana* KENNEL, 1899, Dt. ent. Z. Iris, 12:13 pl. 1, fig. 11. Type locality: Cuenca, Spain.

The type is unknown to me; two specimens from Albarracin (Andalusia, Spain) so determined before me.

Ground colour of forewing grey, delicately darker strigulated; pattern brownish grey; fringes grey. Male genitalia (Figs. 9—11) with uncus as in *hybridana* but with strongly angulated distal portion of the ventral edge of sacculus and somewhat different transtilla.

*Isotrias rectifasciana* (HAWORTH)

*Tortrix rectifasciana* HAWORTH, [1811], Lepidopt. Brit.: 465. Type locality: British I. (from title of work).

*Phalaena trifasciana* DONOVAN 1806, Nat. Hist. Brit. Insects, 11: 30, pl. 370, f. 2. Type locality: Coombe Wood (Surrey). *Tortrix nemorana* FROLICH 1828, Enumeratio Tortr. Würtemb.: 58. Type locality. Wirtembergia (from title of work). *Sciaphila albulana* TREITSCHKE 1835, Schmett. Eur., 10 (3): 85. Type locality: Saxonia: district of Weissenfels. *Cnephasia Eudemis curvifasciana* STEPHENS 1834, Illustr. Br. Ent., *Haustellata*, 4: 130. Type locality: Darenth and Birch Woods and near Dover. *Isotrias rectifasciana* ab. *pseudomodestana* OBRAZTSOV 1956, Tijdschr. Ent., 99 (3): 108; n. nov. for *Sciaphila modestana*: DUPONCHEL not TREITSCHKE.

Ground colour of forewing white hardly suffused or delicately strigulated with ochreous; pattern brownish to ochreous brown; fringes rather concolorous with ground colour. Male genitalia (Figs. 12, 13). Dorsal edge of uncus gradually curved outwards throughout, ventral edge tolerably straight at least in middle portion; spines of outer surface of gnathos arm atrophying; transformed setae of valva innumerable (according to illustration in PIERCE & METCALFE, 1922) innumerable or absent (in examined specimens). Signum (Figs. 32—34) much longer than in *hybridana*.

f. *insubrica* (MÜLLER-RUTZ)

*Anisotaenia rectifasciana insubrica* MÜLLER-RUTZ 1920, Mitt. Ent. ZÜRICH, 5:339, pl. 2. fig. 5. Type locality: Generoso and near Gogno (Val Camonica, Italy).

*Anisotaenia carinthiaca* PROHASKA 1922, Z. Osterr. Ent. Ver., 7: 3 (after OBRAZTSOV, 1956).

Externally differing from the nominate form in having ochreous or brownish yellow forewing pattern. Male genitalia (Figs. 14—17): Uncus

somewhat broader distally than in nominate form, area of transformed setae of valva distinct, elongate. Female genitalia (Figs. 35, 36) as in nominate form. The types of both *insubrica* and *carinthiaca* are unknown to me.

f. ?

Two specimens from Mte Baldo (Italy) differing from *insubrica* in slenderer forewing, stronger gloss, ochreous suffusion of ground colour and darker pattern. Male genitalia (Figs. 18,19) characterize with median convexity of ventral portion of uncus, female genitalia (Fig. 37) with much shorter signum.

*Isotrias stramentana* (GUENÉE)

*Sciaphila stramentana* GUENÉE 1845, Anns Soc. ent. Fr., (2) 3:167. Type locality: Burgundia, south and eastern France. Redescription: RAZOWSKI, 1959:204.

Ground colour cream with pale brownish or greyish suffusion; pattern darker than suffusion reduced to transverse thin fascias or strigulation, more distinct in female than in male. Male genitalia (Figs. 20—22): Uncus short, distinctly convex in middle ventrally, with thin apical portion; socius short; area of transformed setae of valva interrupted. Female genitalia require reexamination; signum short.

Distributed in France, Spain and (after OBRAZTSOV, 1956) Switzerland.

*Isotrias joannisana* (TURATI)

*Anisotaenia joannisana* TURATI 1921, Nat. Sicil., 23:327, pl. 4, figs. 40, 41. Type locality: Monte Autore (prov. Roma, Italy). Redescription: RAZOWSKI, 1961:663.

Ground colour of forewing yellowish, pattern more orangeous, distinct, especially in costal area of wing. Male genitalia (Figs. 23—27): Anterior portion of uncus thick, terminal part tapering apically; transtilla thin medially; transformed setae of valvae numerous.

To date known from Italy; recently discovered by Dr. F. HARTIG in Lazio.

*Isotrias buckwelli* (LUCAS)

*Anisotaenia buckwelli* LUCAS 1954, Bull. Soc. Sci. Nat. Maroc, 34:39. Described from Morocco. Unknown to me.

*Cnephastis apodicta palaeartica* ssp. n.

Alar expanse, 21—23 mm. Forewing slenderer than in nominate subspecies, with ground colour pale brownish and somewhat darker, more

brown pattern. Basal blotch with separate distal band-shaped portion, median fascia diffuse, preserved in costal half of wing, partially fusing with subapical indistinct pattern; spots along dorsum. Fringes more cream than ground colour. Hindwing pale brownish cream; fringes paler. Variation: ground colour more or less pale, pattern often ill-defined, better developed in costal than remaining parts of wing, atrophying dorsally; brownish suffusions among veins in apical half of wing or pale ground colour among blotches of pattern costally.

Male genitalia (Figs. 28—30): As in nominate subspecies but uncus with apical dent directed ventrally and vesica with much shorter or absent dent.

Female genitalia (Fig. 38). Eighth tergite membranous ventroproximally; apophyses thin; sterigma with delicate dorsal and lateral portions; antrum short provided with large, partially strongly sclerotized ventral sack; ductus seminalis subdorsal; corpus bursae long; signum in form of a sclerotized, minutely dentate concavity; another sclerotized structure, a row of granules, in distal portion of corpus bursae.

Holotype, male: "Tapaishan im Tsinling, Sued Shensi (China), 22.VI.1935, H. HONE"; paratypes, over 20 specimens, males and 1 female of same locality dated from 20. to 30.VI.1935. One female with label "Li-kiang (China) Provinz Nord-Yuennan, 22.VI.1935, H. HONE". Holotype in the collection of the Zoologisches Forschungsinstitut und Museum "Alexander KONIG", Bonn.

Comments. The nominate subspecies is known of single male from Upper Burma. It differs from China specimens in much darker, contrasting coloration and slightly so in the genitalia.

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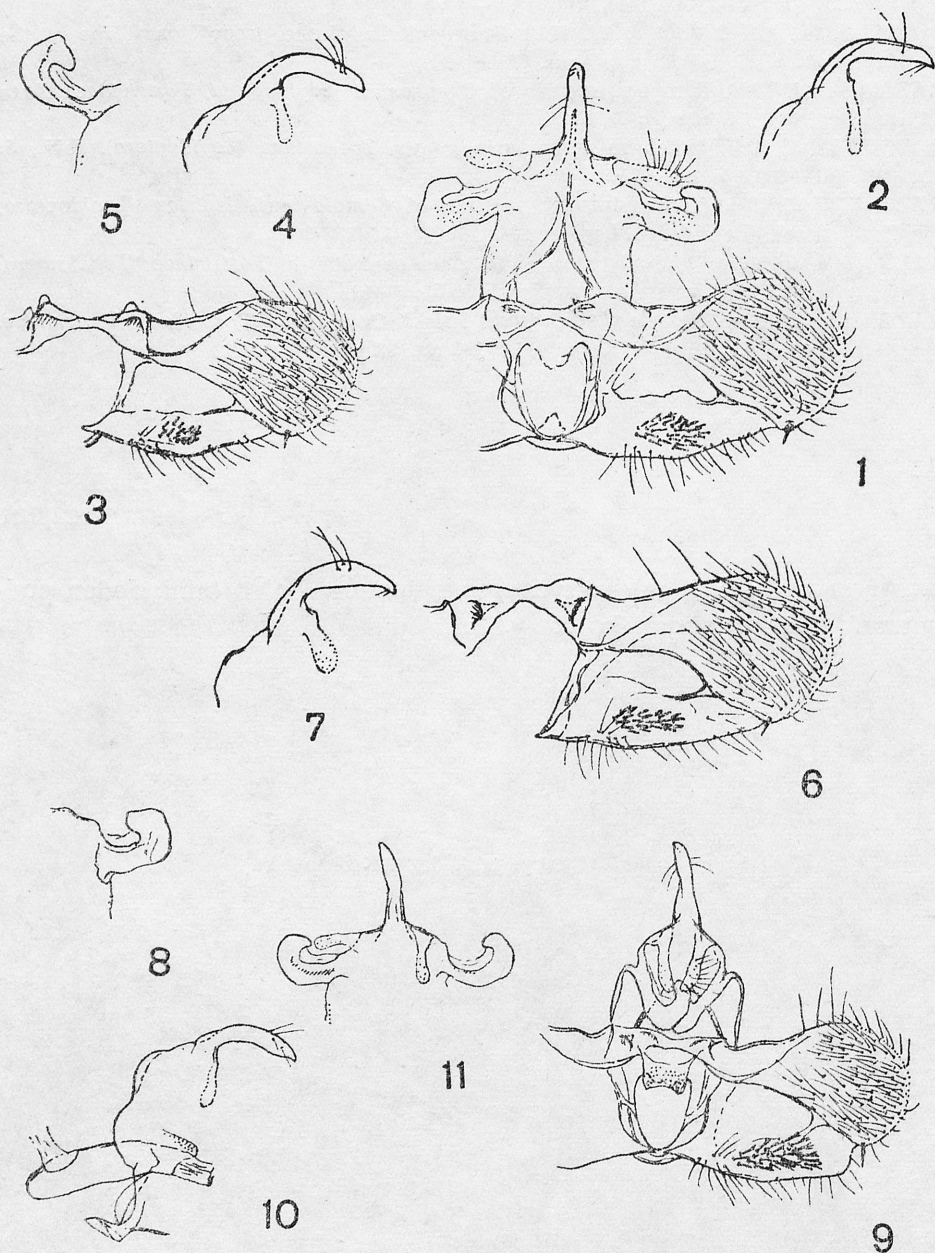
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## STRESZCZENIE

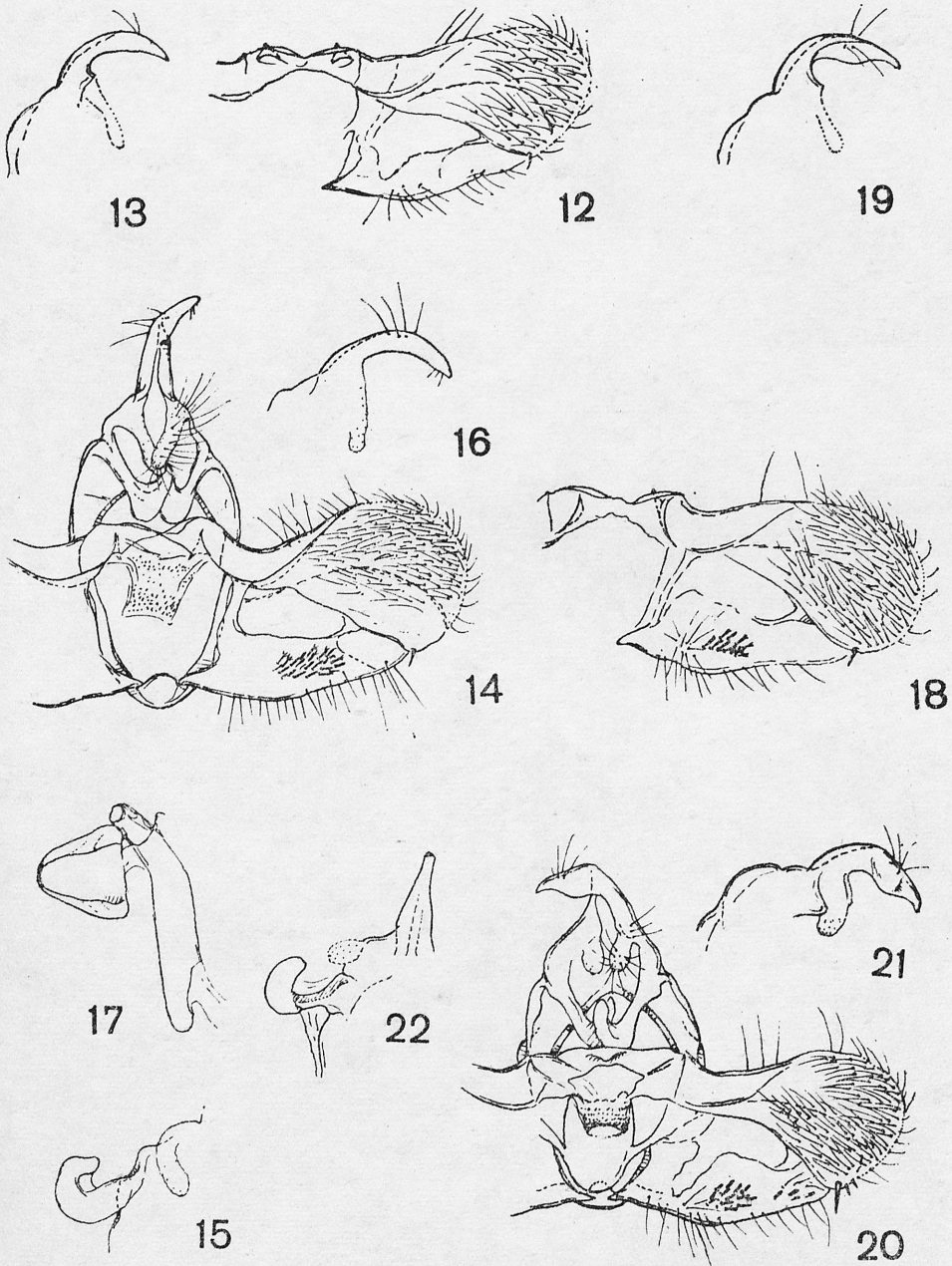
Autor omawia 7 palearktycznych gatunków *Polyorthini*. Jeden podgatunek został opisany jako nowy.

Redaktor pracy: prof. dr A. Krzanowski

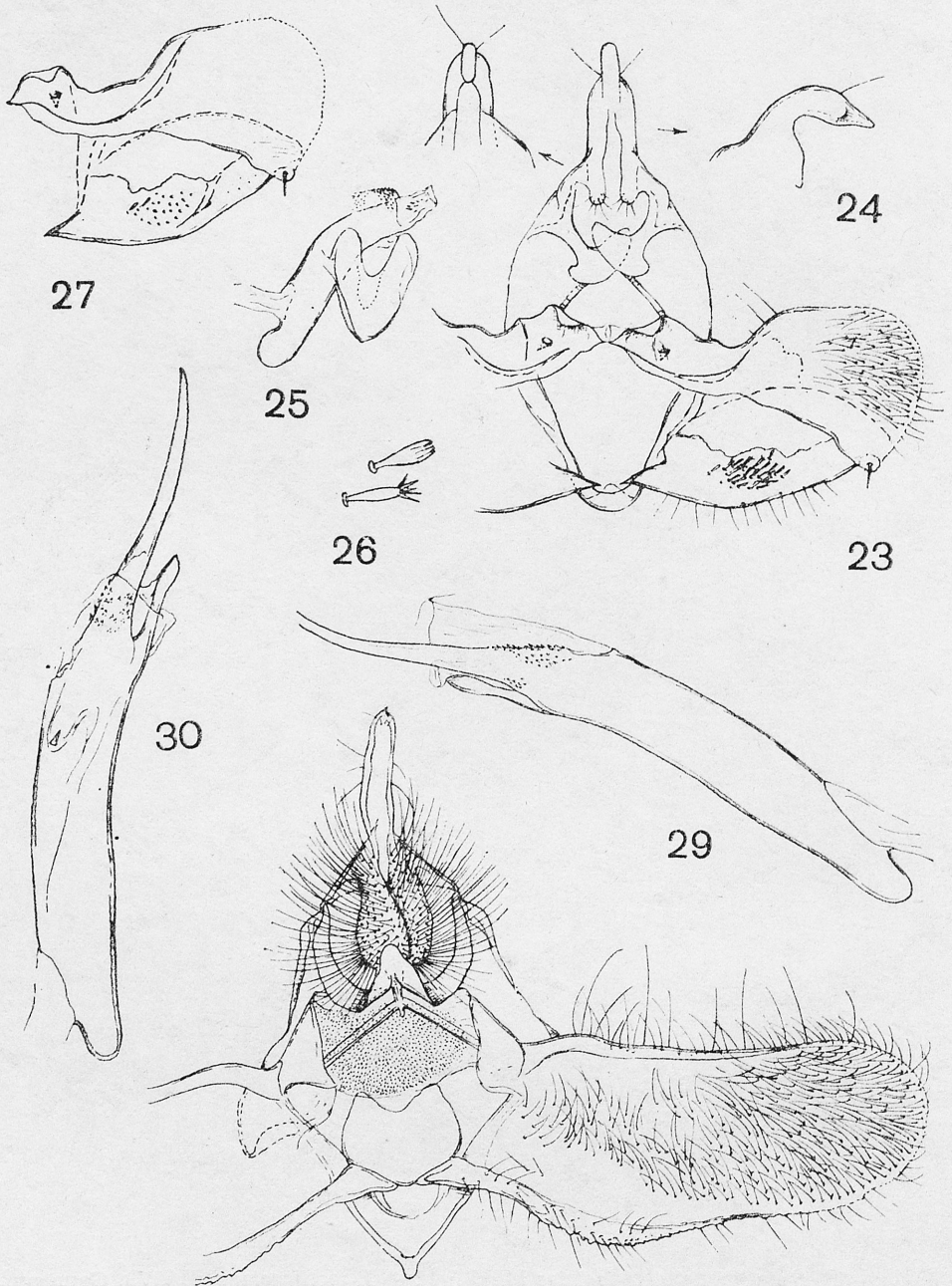


Figs. 1—11. Male genitalia of *Isotrias* MEYR.: 1 — *I. hybridana* (HBN.), Pieniny Mts.; 2 — same, uncus laterally; 3 — same species, f. *castiliana* (RAG.), Castilia, valva and transtilla; 4 — same, uncus laterally; 5 — same, gnathos; 6 — same species, f. *pedemontana* (STGR.), Pedemontium, valva and transtilla; 7 — same, uncus laterally; 8 — same, gnathos; 9 — *I. cuencana* (KENN.), Albarracin Mts.; 10 — same, tegumen and aedeagus, laterally; 11 — same, distal portion of tegumen, with gnathos

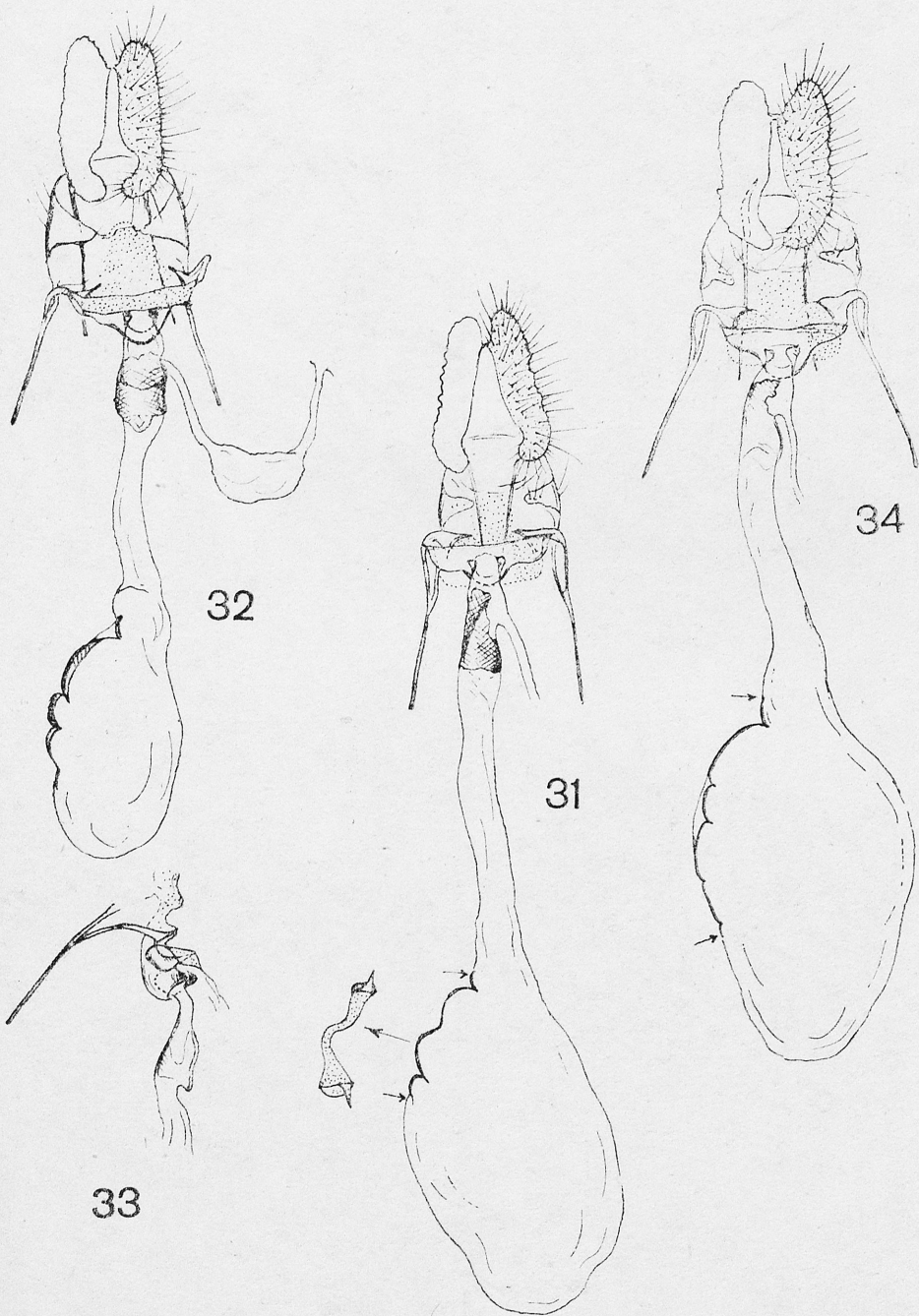




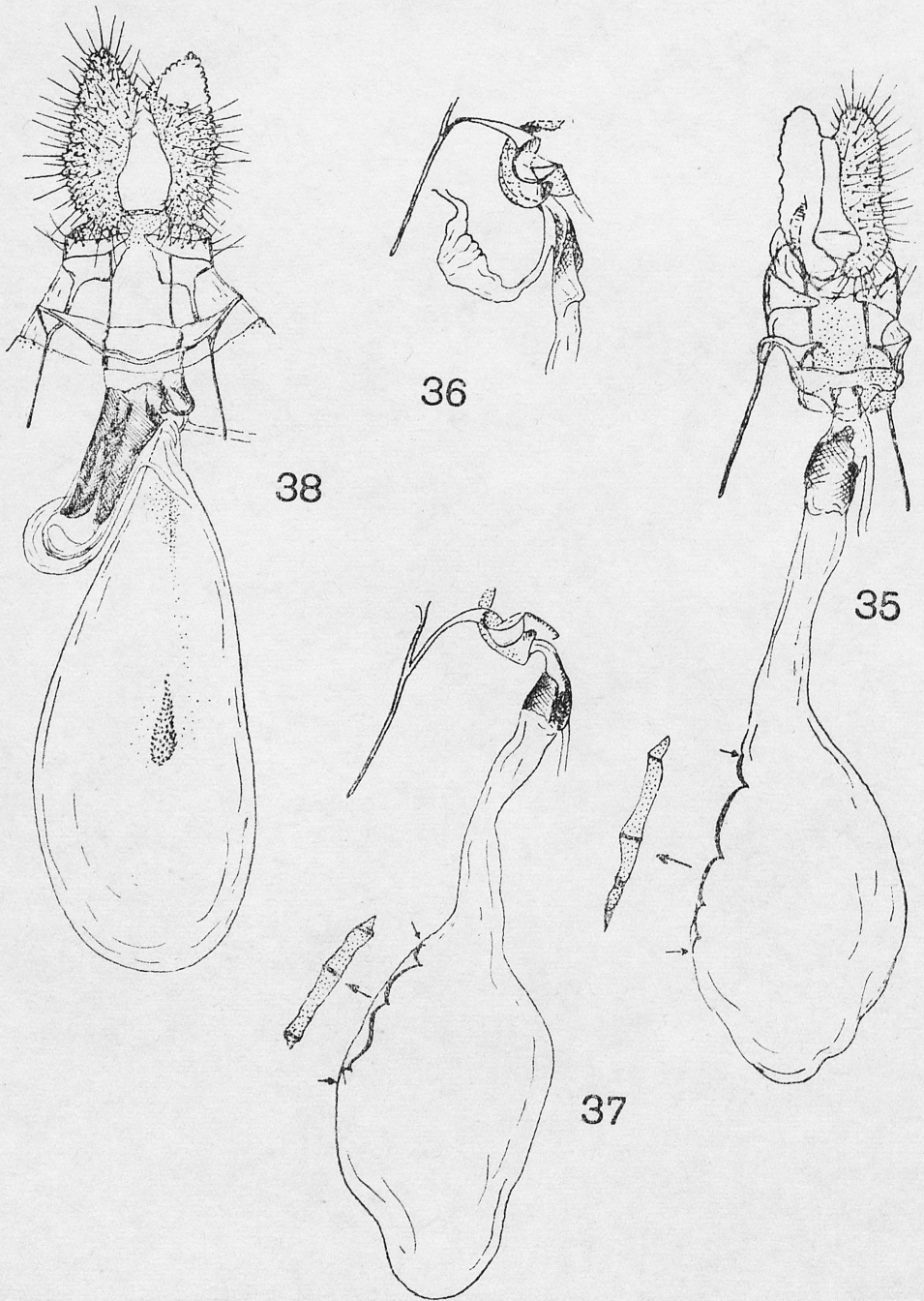
Figs. 12—22. Male genitalia of *Isotrias* MEYR.: 12 — *I. rectifasciana* (HAW.), Germany, valva and transtilla; 13 — same, uncus laterally; 14 — same species, f. *insubrica* (M.-R.), Bologna; 15 — same, gnathos and socii; 16 — same, uncus laterally; 17 — same, aedeagus and juxta; 18 — same species, f.?, Mte Baldo, valva and transtilla; 19 — same, uncus laterally; 20 — *I. stramentana* (GUEN.), Tarragona; 21 — same, uncus laterally, 22 — same, distal part of tegumen



Figs. 23—30. Male genitalia: 23 — *Isotrias joannisana* (TUR.), Lazio; 24 — same, uncus laterally; 25 — same, aedeagus and juxta; 26 — same, transformed setae of valva; 27 — same, valva and transtilla; 28 — *Cnephasitis apodicta palaeartica* ssp. n., paratype; 29 — same, aedeagus; 30 — aedeagus of paratype, G. S. 20646



Figs. 31—34. Female genitalia of *Isotrias* MEYR.: 31 — *I. hybridana* (HBN.), Pieniny Mts.; 32 — *I. rectifasciana* (HAW.), Kyffhäuser/Rothenberg; 33 — same, antrum and sterigma, laterally; 34 — same species, Speyer, Germany



Figs. 35—38. Female genitalia: 35 — *Isotrias rectifasciana* f. *insubrica* (M.-R.), Bologna; 36 — same, sterigma and antrum laterally; 37 — same species, f.?, Mte Baldo; bursa copulatrix; 38 — *Cnephasitis apodicta palaeartica* ssp. n., paratype from Li-kiang