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Józef RAZOWSKI

**Review of the Palaearctic *Sparganothini* (Lepidoptera, Tortricidae)**

[Pp. 151—166, 15 text-figs.]

**Przegląd palearktycznych *Sparganothini* (Lepidoptera, Tortricidae)**

**Обзор палеарктических *Sparganothini* (Lepidoptera, Tortricidae)**

**Abstract.** The paper constitutes a partial revision of the tribe *Sparganothini* based on the Palaearctic species. One species is described as new.

GENERAL PART

**Introduction.** This group of the leaf-rollers is insufficiently known and needs a comprehensive revision. As a first step it seems justifiable to present a review of the Palaearctic species based on the background of the available data on the world fauna. Unfortunately I have had no possibility of examining *Sparganothis xanthoides* (WALKER) a species known from North America and probably artificially introduced to Morocco.

I would like express my thanks to Dr. T. Yasuda, Osaka and Dr. A. KAWABE, Tokyo, especially for providing some of the material studied, and to Dr J. D. BRADLEY, London for his help in the translation of this paper into English.

**Historical review.** WALSINGHAM (1914) proposed the family *Sparganothidae* for HUBNER's genus *Sparganothis* and two other New World genera. BUSCK (1940 as *Sparganothiinae*) and OBRAZTSOV (1944, 1954, 1955) treated it as a subfamily. DIAKONOFF (1961, as *Sparganothidini*) treated it as only a tribe of the *Tortricinae*; of same opinion were MACKAY (1962), POWELL (1964) and KUZNETSOV & STEKOLNIKOV (1973), and only SWATSCHKE (1958) followed the system by KENNEL (1910) and other earlier authors, synonymizing *Sparganothinae* of OBRAZTSOV with the *Archipsinae* (= *Archipinae*). Besides *Sparganothis*,

WALSINGHAM in the above mentioned work included in his *Sparganothidae* two other genera viz., *Amorbia* CLEMENS and *Platynota* CLEMENS. MACKAY added *Synmoma* WALSINGHAM and *Cenopsis* ZELLER. The number of the species included in *Sparganothini* is rather low (OBRAZTSOV, 1956—4 species; MACKAY, 1962—20 named species) but it will certainly grow after the examination of the numerous tropical species described in various genera (compare DIAKONOFF, 1961; RAZOWSKI, 1964).

Morphology. *Sparganothidina*, a subtribe established by DIAKONOFF (1961:126) are characterized as follows.

Ocelli reduced or absent; haustellum developed. Labial palpus long (up to 6 times longer than the largest diameter of eye); antenna simple (in males joints subsquare, with pointed tips distally on the prominences in the anterior portion of the antenna, longer ciliated than in the females). Thorax without crest. In the forewing of the males costal fold often developed. Venation: in the forewing veins  $r_4$ — $r_5$  stalked, internal vein of median cell not developed; in the hindwing vein  $rr$  short stalked with  $m_1$ ,  $m_2$  close to  $cu_1$  or from one point. In the basal portion of the cubital arm of median cell a hair pecten is present dorsally.

Male genitalia. Tegumen broad with fairly small, partially weakly sclerotized pedunculi. Tenth tergite broad, convex in dorsal part with long, thin distal part curving ventrally (uncus). Gnathos with arms not coalescent terminally, usually slender, broadening and hairy or spined terminally. Socius large, with free extending dorsal part, broad, coalescent with gnathos arms proximal lobes. Terminal portion of the digestive tract weakly sclerotized; anus between proximal portions of socii in a membraneous area. Vinculum uniform with ventral part directed proximally. Valva large, broad, with long costa and much shorter sacculus. Inner surface of valva developing a hairy proximal flap extending midwards rather dorsally. Lateral parts of transtilla connecting to costal portions of valvae forming proximally directed fold on each side. Juxta with a tendency of folding along median axis, connecting with aedeagus by small caulis. Aedeagus short, simple, usually curved laterally with short coecum penis and lateral opening for ductus ejaculatorius situated on left side; sclerotized tubular body of aedeagus opening dorsally. Cornuti bunch consisting of numerous spines with lateral prominences for subbasally fixing in the vesica.

Female genitalia. Ovipositor in all known species typically developed. Ductus bursae swung around submedially, often well sclerotized terminally. Corpus bursae large, often elongate, completely membranous or with a plate-like signum. Position of ductus seminalis characteristic specifically. Sterigma consisting of fairly large lamella postvaginalis and weaker lamella antevaginalis. Lamella postvaginalis rather weakly sclerotized, minutely spined, developing a more strongly sclerotized concave area and slender lateral connections to apophyses anteriores. Lamella antevaginalis short, connecting laterally and proximally with the former lamella, producing a membrane folding towards pregenital sternite. Between the two plates a cup-shaped, often flat and weakly sclerotized antrum developed.

Early stages. Egg elliptical, flat (in *pilleriana* measuring  $0.7-0.9 \times 1.0-1.2$  mm), yellowish-green to green turning to orange-yellow before hatching; after SIERPIŃSKI, 1962:103. Larvae do not show any tribal characters. MACKAY (1962:72) could not characterize the tribe from a study of the Nearctic species. Neither could SWATSCHEK (1958:57) find any distinguishing differences from the *Archipini*; however, he examined only a single species (*pilleriana*). Pupa (known only from *pilleriana*) with long cremaster somewhat flattened dorso-ventrally and provided with two lateral and two terminal bristles directed ventrally.

Bionomy. The eggs are deposited in groups, the eggs of each group imbricate and covered with a substance hardening to the air. One female may deposit 175—396 eggs (SIERPIŃSKI 1962:102 after STELLWAAG, 1928 for *pilleriana*). In this species the egg stage lasts 10—21 days (BLATTNY & others, 1956) and 10 days in Poland (SIERPIŃSKI, same paper). The hatching of a larva takes 2—4 minutes and a whole egg mass may be staggered over a period of 24 hours. Larvae hatch first from the eggs situated in the middle of the mass. After hatching the larvae construct hibernacula in the bark crevices or other parts of food plant. They start feeding the following spring. The larvae live solitarily or in small groups, for instance in the spun leaves (*pilleriana*). Those of *Synnoma lynosyrana* (WALSINGHAM) live in silken tubes in small colonies (MACKAY, 1962:73). It is supposed that in many species the mode of life varies according to the part of the plant on which the larva is feeding. The *Sparganothini* species are generally omnivorous as far as we can judge from the few known examples (*Platynota rostrana* (WALKER), *Amorbia emigratella* BUSCK after MACKAY, 1962:86, 88 or *pilleriana* after many authors). The larvae roll the leaves or spinn them together, eat into the shoots or flowers, or bore into the buds, seeds, fruit or even the stems or bark. The number of generations depends on the climatic conditions. POWELL (1964: 65) mentions that in Alameda County and Berkeley *Amorbia cuneana* WALSINGHAM and *Platynota stultana* WALSINGHAM do not have a well-defined single generation but in coastal California the first of them has two generations and the second one developed as many successive generations as the prevailing environmental conditions allowed. Pupation lasts about 10 days; in Poland 12—13 days for *pilleriana*.

Parasites. Several species of the *Ichneumonidae*, *Chalcididae* and *Braconidae* (*Hymenoptera*) and *Tachinidae* (*Diptera*) are cited in the literature.

Economic importance. Amongst the species attacking cultivated plants (North American mainly — compare MACKAY, 1962) the most important is the Palaearctic species *pilleriana*, a pest of vines (STELLWAAG, 1928, BLATTNY & others, 1956 and other authors). BOVEY (1966:620) provides complete data on this species basing mainly on the literature. In Poland it is recorded as a pest of some important trees, such as pine, but it is local in distribution (SIERPIŃSKI, 1962).

Geographical distribution. The tribe is most abundantly represented in the Nearctic and Neotropical Regions. It appears that the greatest number of species occurs in the latter region. In the Palaearctic Region the tribe is



poorly represented similarly as in the Oriental and Australian Regions from which only a few species are recorded (compare DIAKONOFF, 1961:126). The subtribe *Anacrusina* is exclusively bound to the Neotropics. One can thus suppose that the centre of the repartition of the tribe is in the southern part of North America. The distribution of the tribe in the Palaearctic Region is discussed under the genus *Sparganothis*.

**Systematics.** As already mentioned on p. 151 the status of the *Sparganothini* has been changed several times. Although in the larval characters the group does not differ from the *Archipini* the synonymization of it is incorrect since there are some features in the adults which distinctly separate the two groups. The family or subfamily status is also not acceptable as already explained by POWELL (1964:65) and by other above mentioned authors. The interpretation of the bifurcation of the gnathos by KUZNETSOV & STEKOLNIKOV (1973:38) as having a primitive character cannot be accepted because in the Neotropic *Anacrusina* it is not divided terminally and is hooked. Also the cubital pecten of the hindwing must be treated as a secondarily developed character since it is lacking in the *Anacrusina*. The two characters occur also in other groups of *Tortricidae*, the first in some *Cnephasiini* (*Isotrias* MEYRICK), the second in all *Olethreutinae*. The above mentioned features and certain other (for instance the structure of the signum) indicate that the *Anacrusina* are more primitive than the *Sparganothidina*. The tribe is an offshoot of the *Archipini* to which it is similar by the genitalia and bionomy.

## SYSTEMATIC PART

### *Sparganothis* HÜBNER

*Sparganothis* HÜBNER 1825, Verz. bek. Schmett.: 386. (type species: *Phalaena pilleriana* [DENIS & SCHIFFERMÜLLER] 1775 — designated by FERNALD, 1908, Genera Tortr.: 14).

*Oenophthira* DUPONCHEL, 1845, Cat. Meth. Lep. Eur.: 288 (type-species: *Phalaena pilleriana* [DENIS & SCHIFFERMÜLLER] 1775 — designation by monotypy).

*Oenectra* GUENÉE, 1845 Ann. Soc. ent. France, ser. 2, 3: 142 (type species *Phalaena pilleriana* [DENIS & SCHIFFERMÜLLER], 1775 — designation by monotypy).

*Aenectra* (nom. emend.) DOUBLEDAY, 1850, Synon. List Brit. Lepidopt.: 21.

*Begunna* WALKER, 1863, List Spec. Lepidopt. Heterocera Brit. Mus., 28: 189 (type-species: *Begunna xanthoides* WALKER, 1863 — designation by monotypy).

*Leptoris* CLEMENS, 1865, Proc. ent. Soc. Philad., 5: 139 (type-species *Begunna xanthoides* WALKER, 1863 — designation by monotypy).

*Cenopsis* ZELLER, 1875, Verh. zool.-botan. Ges. Wien, 25: 239 (type-species: *Tortrix petti-tana* ROBINSON, 1869 — designated by OBRAZTSOV 1955: 195).

Note: misspellings omitted from this list.

Description as for the tribe (p. 152). Labial palpus longer in male than in female. Ocellus developed, hair pecten of the cubital vein of the hindwing preserved.



Male genitalia showing rather slight specific differences. Arms of gnathos more or less broadening terminally, exceptionally broad subtriangular; valva weakly sclerotized terminally, scarcely hairy, scaled.

Female genitalia as described on p. 152.

Early stages discussed on p. 153. SWATSCHEK (1958:57) gives the following characteristic of the genus based on the larval characters. "Crowns of hooks of the abdominal legs double also laterally. Second ocellus closer 3rd than 1st one, all uniformly developed. Stigma of eighth abdominal segment as large as wart III, on second abdominal segment larger than the base of bristle III". MACKAY (1962:75, 79) divided the genus into two groups, listing several characters separating them. The diagnosis is based on the North American species and only one examined Palaearctic one, viz., *pillieriana* is included in the second group.

Bionomy. The data on the Palaearctic species are scarce except for *pillieriana*. The latter is partially discussed on p. 153 and 164. The larva utilises over 40 plant species, and is sometimes a serious pest on grape vines (*Vitis vinifera* L.). It attacks various organs adopting the mode of feeding to them.

Distribution. Only one species (*pillieriana*) is of Holarctic distribution, two other species (*abiskoana* and *rubicundana*) are characteristic of northern Europe and exceptionally (*rubicundana*) occurs in the mountains of Silesia. Two species (one described in this paper) are endemic in Japan.

Comments. The present systematic arrangement of the species is based mainly on the male genitalia but because of the inadequate material of some of the examined species cannot be definite. Because of the external variability of the species only the keys based on the genitalia are given.

## KEYS TO THE DETERMINATION OF THE SPECIES

### Males

1. Single central prominence of transtilla developed . . . . . 2
- Double prominence of transtilla present . . . . . 4
2. End of gnathos arm broad, subtriangular . . . . . *illustris*
- Gnathos arm slender, club-shaped . . . . . 3
3. Acute indentation before middle of sacculus ventrally . . . . . *pillieriana*
- No indentation in middle portion of sacculus . . . . . *matsudai*
4. Costa of valva about 1.3 times longer than upper part of socius . . . . .
- . . . . . *abiskoana*
- Costa of valva over 1.5 times longer than upper part of socius . . . . .
- . . . . . *rubicundana*

### Females

1. Signum developed . . . . . 2
- Signum absent . . . . . 4

2. Terminal sclerotized part of ductus bursae uniformly broad throughout . . . . . *pillleriana*  
 —. Terminal sclerotized part of ductus bursae tapering proximally . . . . . 3  
 3. Anapophysis anterior more than twice as long as sterigma . . . . . *rubicundana*  
 —. Apophysis anterior as long as sterigma . . . . . *illustris*  
 4. Apophysis anterior about twice as long as sterigma . . . . . *matsudai*  
 —. Apophysis anterior somewhat longer than sterigma . . . . . *abiskoana*

## REVIEW OF THE SPECIES

### *Sparganothis abiskoana* (CARADJA)

*Dichelia praecana* v. *abiskoana* CARADJA, 1916, Dt. ent. Z. Iris, 30: 45.

*Tortrix cinerana* ZETTERSTEDT, 1840, Isn. Lappon.: 978 — nom. praeocc. by *T. cinerana* HAWORTH, 1811.

Labial palpus about 4, pale brownish with darker brown scales; head and thorax rather brown; abdomen greyer. Forewing subtriangular; costa somewhat convex in basal portion, slightly concave submedially; apex short, rounded; termen tolerably straight, slightly oblique. Male with very small costal fold. Ground colour pale brownish grey to cream-grey in distal part of wing; browner along costa and basally, distinctly strigulate with brown-grey, reticulate in terminal half of wing, dark spot in disc. Pattern diffuse, ferruginous brown to purple brown, consisting of a median fascia the anterior edge of which extends from third of costa to middle of dorsum and a subapical blotch sometimes reaching the apex of wing. Fringes more or less concolorous with ground colour or paler, with a brownish basal line. Hindwing brown to pale brownish grey, cilia paler. Wing expansion about 24 mm.

Male genitalia (Fig. 1, 2). Arm of gnathos slender, broadening in terminal half; socius with long distal part. Valva broad, weakly tapering terminally, rounded apically; sacculus reaching to before middle of ventral edge of valva, convex in middle ventrally. Transtilla with double, broad prominence covered with minute spines. Aedeagus short.

Female genitalia (Fig. 11). Papilla analis fairly broad; apophyses short. Sterigma rather broad, concave in middle of distal edge, with broadly rounded proximal corners. Distal portion of ductus bursae short, tapering proximally. Ductus bursae long; ductus seminalis situated distally. Corpus bursae without indication.

Bionomy. Moth flies in June (KENNEL, 1910:115), and July (BENANDER, 1950: 27).

Distribution: Scandinavia, Finland.

Comments. The lectotype ("Abiskojoekk, Lappmark.") designated by me (RAZOWSKI, 1971: 492) is a male. OBRAZTSOV (1956: 154) lists misidentifications, misspellings and the literature positions concerning this species.

*Sparganothis rubicundana* (HERRICH-SCHÄFFER)

*Lozotaenia rubicundana* HERRICH-SCHÄFFER, 1856, Syst. Bearb. Schmett. Eur., 6: 155.

Labial palpus ca. 4, longer in female, brownish to rust-brown; head and thorax brown; abdomen brownish grey. Forewing fairly slender, weakly expanding terminally in male, rather uniformly broad throughout in female, with short, rather pointed apex; termen fairly oblique, hardly sinuate. Male without costal fold. Ground colour brown-ferruginous, often mixed with yellowish, weakly strigulate or reticulate with brown. Base of wing browner, pattern reddish brown to brown, rather indistinct or diffuse. It consists of a median fascia the proximal edge of which extends from fourth of costa to before middle of dorsum and a subapical blotch at  $2/3$  of costa, sometimes produced towards tornus but atrophied in median part of wing. In some specimens the shade of forewing greyish. Fringes concolorous with ground colour, paler, rather mixed grey at tornus. Hindwing pale brownish grey with paler fringes. Expansion of forewings 17—22 mm.

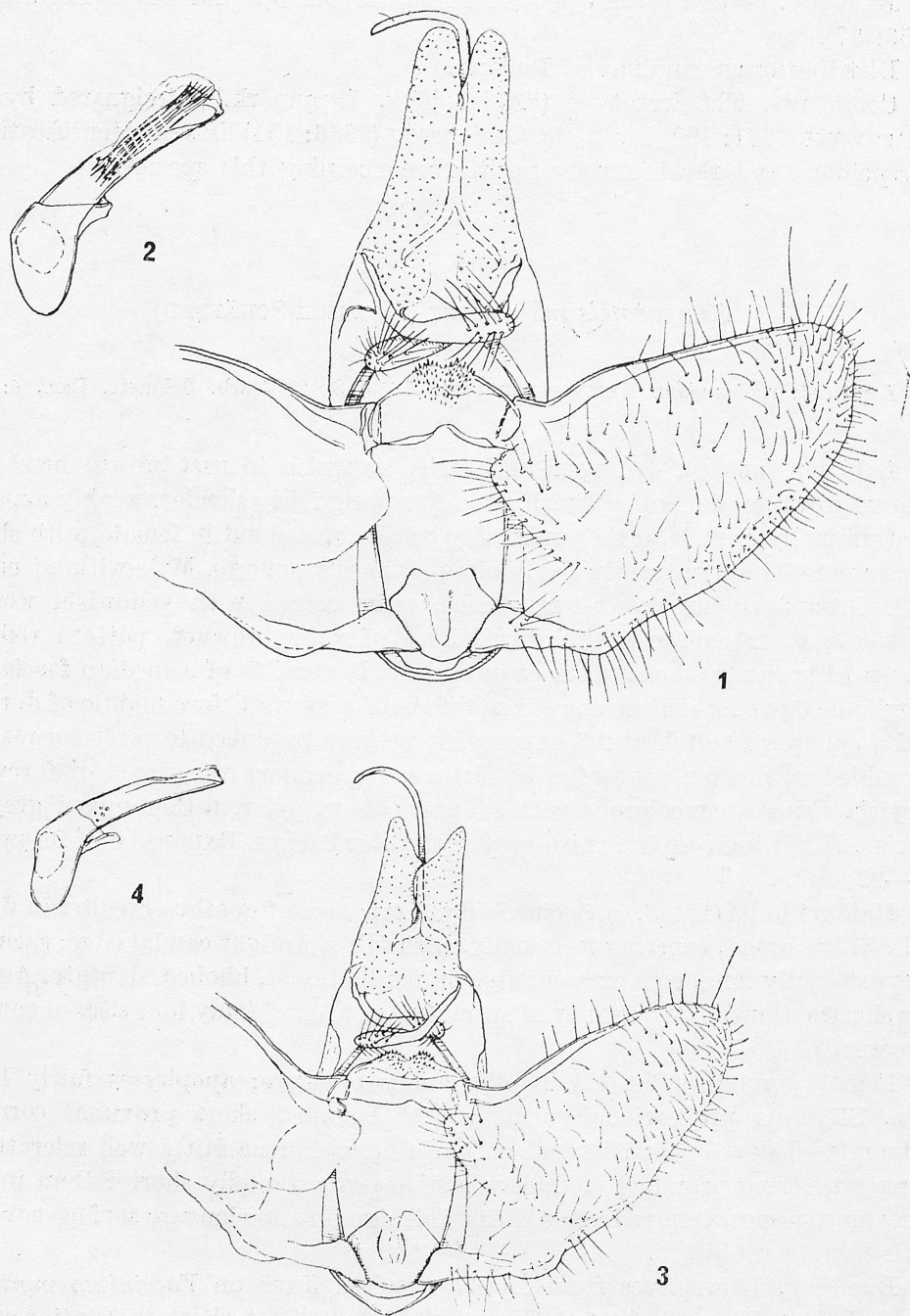
Male genitalia (Fig. 3, 4). Socius fairly short; arm of gnathos broader in distal half. Valva broad, tapering terminally, with fairly straight caudal edge; sacculus proportionally long, convex medially. Transtilla broad, bilobed, dentate. Aedeagus short; cornuti in the examined specimens not found (only four sites of cornuti discerned).

Female genitalia (Fig. 12). Papilla analis elongate; apophyses fairly long, thin. Sterigma proportionally small, with rounded short proximal corners; antrum well developed; terminal part of ductus bursae fairly well sclerotized, weakly tapering proximally. Ductus bursae proportionally shorter than in the preceding species. Corpus bursae with small signum and elongate surface covered with minute sculpture.

Bionomy. Larva lives from April to end of June on *Vaccinium myrtillus* L. Moth from June till August (KENNEL, 1910: 111). A short description of the larva is given by BENANDER (1950: 27, in Swedish).

Distribution. The species is known from the Mountains of Silesia (Sudety Mts.), Scandinavia (Norway, Central to Northern Sweden) and Finland.





Figs. 1—4. Male genitalia of *Sparganothis* HBN.: 1 — *S. abiskoana* (CAR.) „La Saana, 2—8. VII. 1948, Fennia, M. v. SCHANZ”, G. Sl. 12694, 2 — aedeagus of same specimen, 3 — *S. rubicundana* (H.-S.), „La Mijakonjauri, 19. VII. [19]47, Max v. SCHANTZ”, G. Sl. 12693, 4 — aedeagus of same specimen

Comments. This species is little known in Central Europe. It is especially characterized by the male genitalia and seems closest to *abiskoana* in having a broad transtilla. The distribution of these two species is also somewhat similar.

*Sparganothis matsudai* YASUDA

*Sparganothis matsudai* YASUDA, 1975, Bull. Univ. Osaka Pref., ser. B, 27: 201, figs. 231, 232, 555, 671.

Labial palpus broad, subtriangular, ca. 3 in male, 4 in female, brownish rust or ferruginous. Head brown; thorax rather concolorous, darker proximally, tegula mixed yellowish; abdomen paler. Forewing in male somewhat expanding terminally; costa curved outwards; apex short, rounded; termen weakly oblique, tolerably straight beyond apex. Costal fold reaching third of costa, broad, long-scaled distally. Ground colour brownish orange slightly mixed with brownish yellow, with distinct greenish refraction. Pattern dark brown, strigulation much paler. Median fascia reduced to a narrow line extending from third of costa to beyond middle of dorsum, prominent in middle proximally; subapical marking in form of a curved line reaching termen or a small spot at costa accompanied by remnants of that line. Two or three weak parallel lines formed by connected transverse strigulae may occur. Fringes rather concolorous with ground colour. Hindwing brownish with darker venation; fringes orange-brown except from base to  $cu_2$  where grey, with darker median line. Expansion of forewings 20 mm. Female with broad forewing and more strongly curved basal part of costa. Termen slightly concave beyond apex. Pattern strongly reduced: median fascia represented by two diffuse spots, one at costa, another at dorsum; subapical blotch small, subtriangular. Base of wing suffused with brownish. Expansion 25 mm.

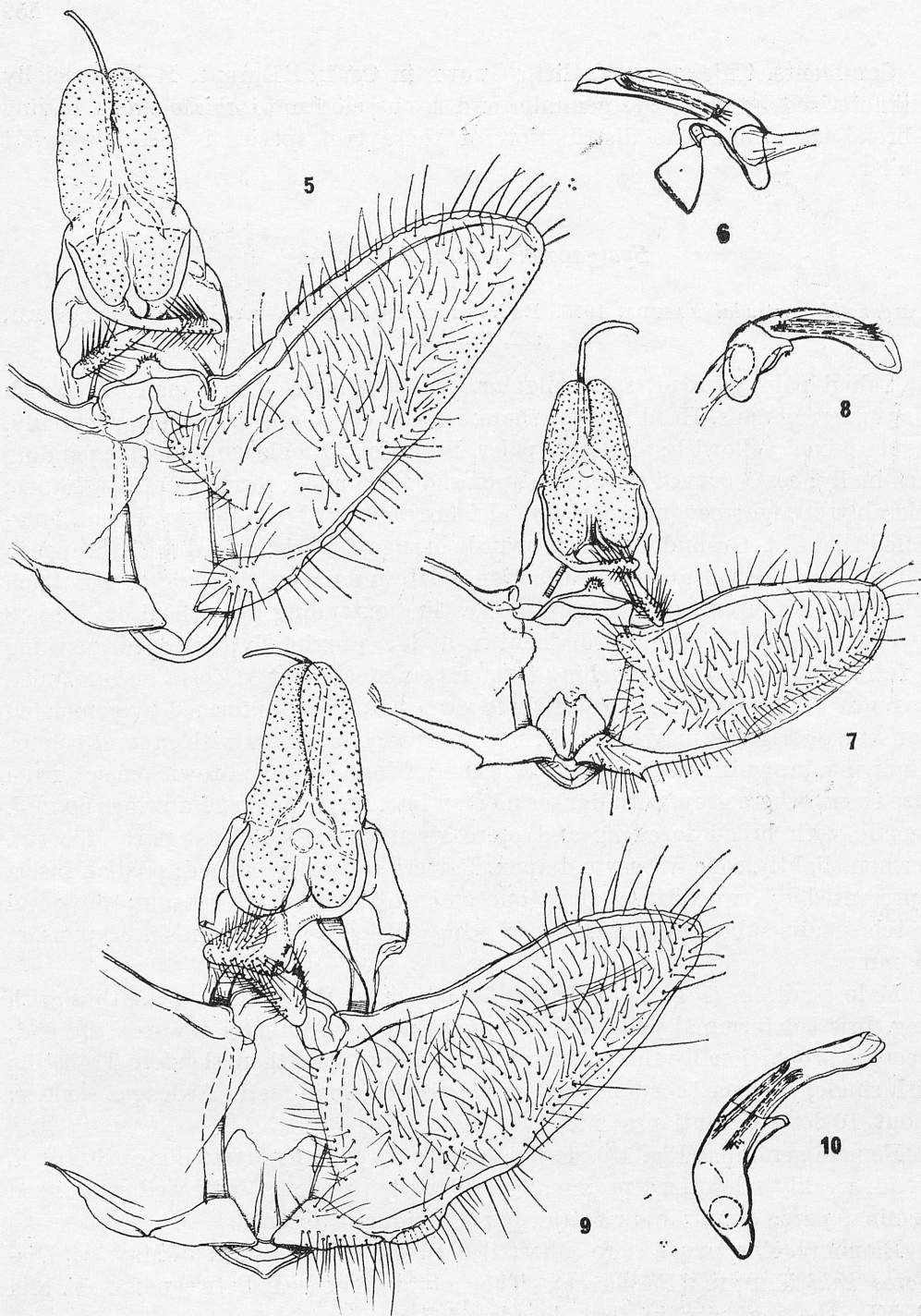
Male genitalia (Fig. 5, 6). Socius broad; uncus long; arm of gnathos with long, bristled terminal part. Valva large, tapering gradually towards the end; sacculus proportionally short, convex in basal portion, then slender. Transtilla with single, produced median part provided with small teeth. Aedeagus slender; about 10 long cornuti present.

Female genitalia (Fig. 13). Papilla analis large; apophyses long. Sterigma broad, weakly sclerotized proximally; ductus bursae long, with well sclerotized terminal part; corpus bursae transparent, signum absent.

Bionomy. The larvae were collected between 3rd and 25th of May on *Diosporos kaki* THUNB. (*Ebenaceae*). The moths emerged between 25. V. and 10. VI., the majority in first decade of June.

Distributed in Honshyu: Kyoto: Kizu.

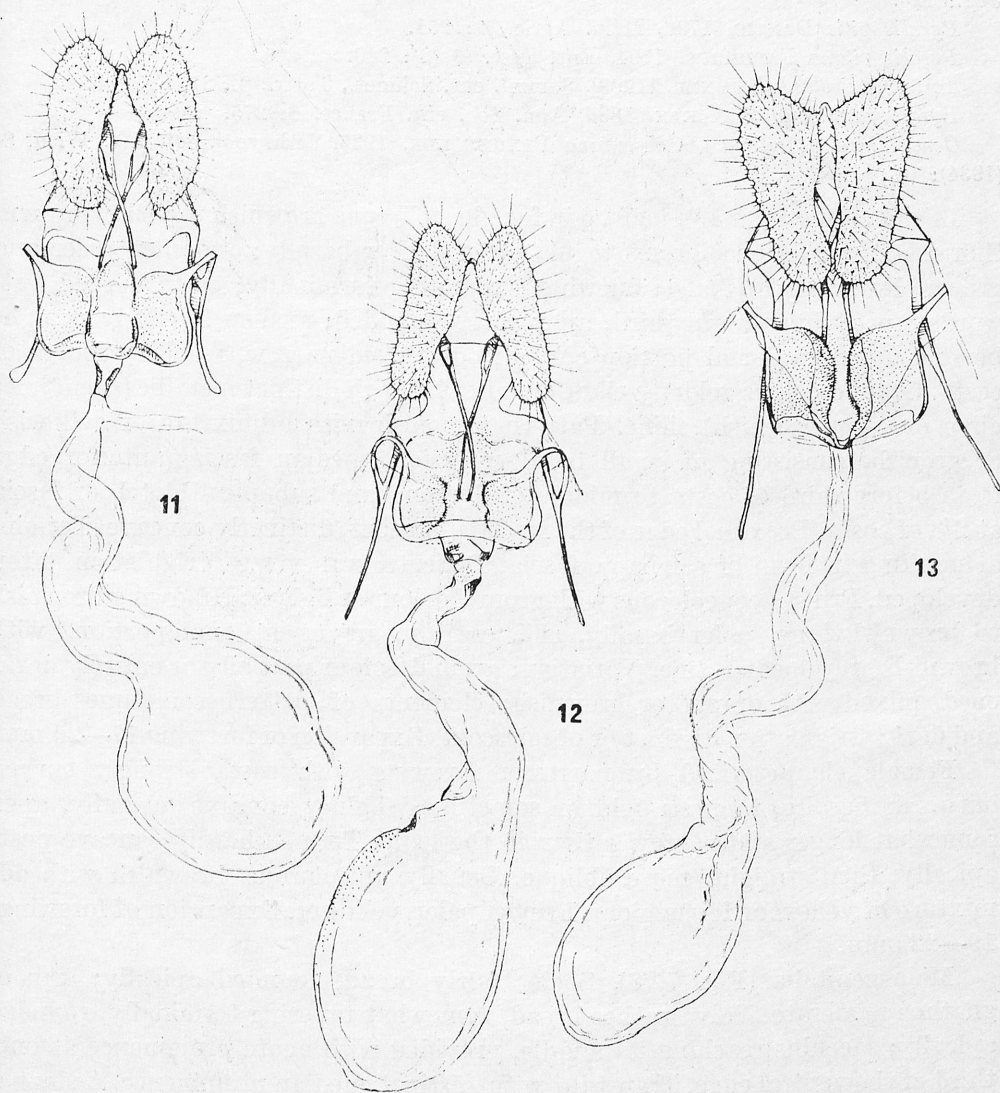
Holotype: ♂, "Jap. Honshyu, Kyoto, Kizu, 26. V. 1957 (larva); Osaka, Sakai, 7. VI. 1957 em., Y. MATSUDA". Besides the holotype 15 paratypes (7 males and 8 females) examined.



Figs. 5—10. Male genitalia of *Sparganothis* HBN.: 5 — *S. matsudai* YASUDA, paratype, „Japan, Honshyu, Kyoto, Kizu, 26. V. 1957 (larva), 7. VI. 1957 (emer.), T. MATUDA, G. Sl.” 12684, 6 — aedeagus of same specimen, 7 — *S. pilleriana* (DEN. & SCHIFF.), „Babińce k. Krzywca, 7. VII. 1937, Hr. S. TOLL leg.”, G. Sl. 12681, 8 — aedeagus of same specimen, 9 — *S. illustris* sp. nov., holotype



Comments. The new species is easily recognized by the genitalia. The females differ from *pilleriana* in the comparatively broad forewing, the male mainly



Figs. 11—13. Female genitalia of *Sparganothis* HBN.: 11 — *S. abiskoana* (CAR.), paralectotype, „Abiskojokk, Lappmarken”, G. Sl. 10258, 12 — *S. rubicundana* (H.-S.), Altvater, 15. VII. [18]97”, 13 — *S. matsudai* YASUDA, paratype, „Japan, Honshyu, Kyoto, Kizu, 26. V. 1957 (larva), 7. VI. 1957 (emer.), T. MATUDA”

in the costal fold. The holotype is preserved in the collection of the University of the Osaka Prefecture.

*Sparganothis pilleriana* ([DENIS & SCHIFFERMÜLLER], 1775)

*Phaleana Tortrix pilleriana* ([DENIS & SCHIFFERMÜLLER], 1775). Syst. Verz. Schmet Wien. Geg.: 126.

*Pyrallis vitis* DANTIC, 1786, Mém. Agric., 2: 251.

*Pyrallis vitana* FABRICIUS, 1794, Ent. Syst., 3 (2): 249.

*Tortrix luteolana* HÜMNER, [1799], Samml. eur. Schmet., Tortr., pl. 21, fig. 136.

*Pyrallis danticana* WALCKEN, 1836, Ann. Soc. ent. France, 5: 275.

*Oenophthira pilleriana* ab. *obscurana* PREISSECKER, 1935, Verh. zool.-bot. Ges. Wien, 84 (1934): (6).

Labial palpus over 4 in male, 6 in female, ochreous brownish to yellow-brown; thorax and head concolorous, tegula often darker basally; abdomen paler and greyer. Forewing in male somewhat expanding terminally; costa curved outwards especially in basal third; apex short, rounded; termen tolerably straight beyond apex, in dorsal portion curved; costal fold narrow, reaching fourth of costa. Ground colour golden-yellow or yellowish with distinct metallic (sometimes olive or even greenish) shine. Pattern brownish with admixture of eyllowish or greyish, consisting of small basal suffusion, median fascia (anterior edge from before third of costa to middle of dorsum) and subapical blotch or fascia at 2/3 of costa. Proximal edge of the fascia, if present, distinctly concave. Terminal marking in form of a narrow fascia. Delicate transverse strigulation often developed. Fringes concolorous with ground colour or lighter. Hindwing brownish to brownish grey, paler basally, cilia creamy, greyer in anal portion, with brownish grey median line. Variation: ground colour partially or entirely darkened, mixed with orange or brownish; elements of pattern sometimes broad and dark; strigulation distinct or obsolescent. Expansion of forewing 17—20 mm.

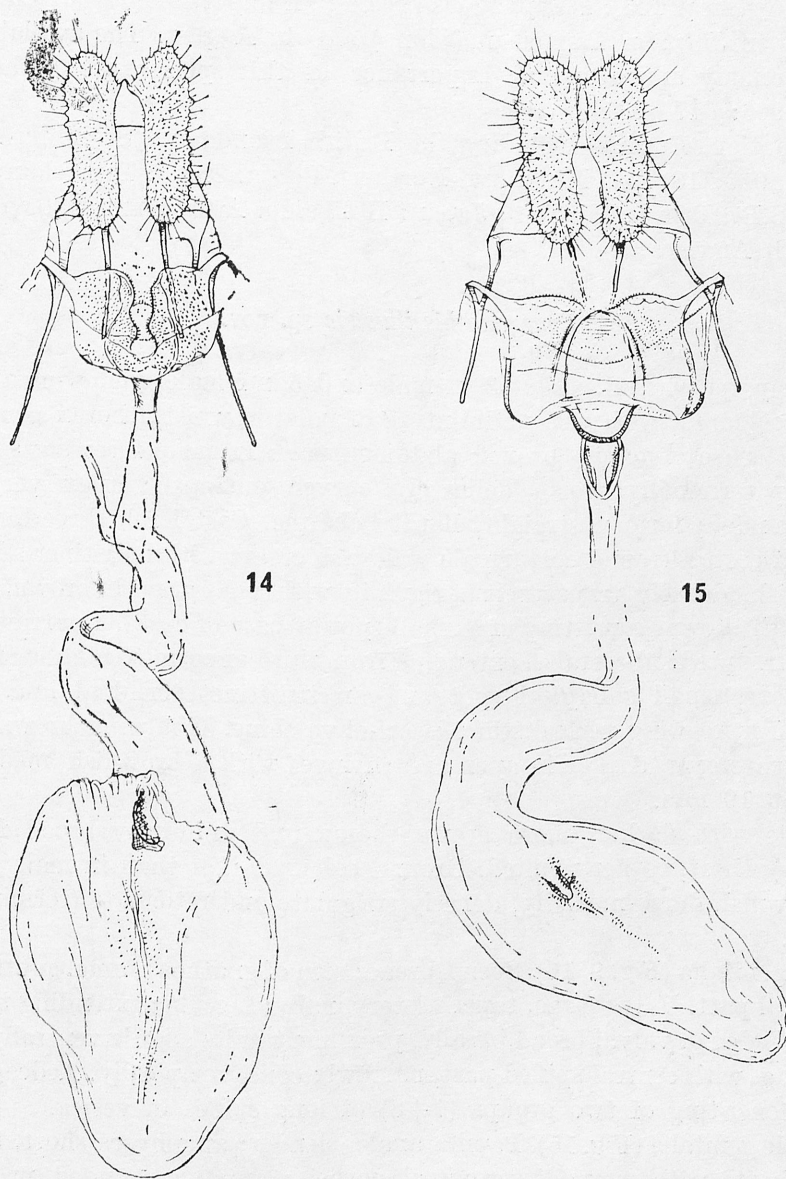
Female characterized by narrower forewing with costa strongly curved outwards basally, then straight or sometimes slightly concave medially, apex somewhat longer and narrower than in the male. Termen hardly concave post-apically, then straight, more oblique. Usually unicolorous, brownish with admixture of yellow or ferruginous. Fringes paler, yellower. Expansion of forewings 19—22 mm.

Male genitalia (Fig. 7, 8). Socius fairly broad, rounded apically; arm of gnathos moderate. Valva rather broad, somewhat tapering terminally, rounded apically; sacculus reaching its middle, provided with acute prominence at one-third of the ventral edge. Transtilla with distinct median prominence. Aedeagus curved; a cluster of ca. 10 long cornuti in vesica.

Female genitalia (Fig. 14). Papilla analis rather slender; apophyses slender, long. Sterigma with well developed submedian, spined folds forming ventrally a rounded antrum. Ductus bursae long, slender distally with well sclerotized terminal portion; ductus seminalis from distal third; corpus bursae provided with well developed signum and a sculptured elongate area before it.

Early stages. Data on the egg and pupa are given on p. 153. SWATSCHEK (1958:57) gives the following description of the larva: "whitish-green or grey-white with somewhat greener warts. Head, neck, thoracic legs dark brown to

black, prothoracic shield sometimes darker laterally. Abdominal legs not sclerotized laterally. On thoracic shield IIIa somewhat further from III than from IX, on praestigmal shield IV, V and VI positioned horizontally. Group VII on first,



Figs. 14—15. Female genitalia of *Sparganothis* HBN.: 14 — *S. pilleriana* (DEN. & SCHIFF.), „[Poland], coll. KLEMENSIEWICZ Nr. 1327”, G. Sl. 12673, 15 — *S. illustris* sp. nov. allotype

second and seventh abdominal segments consists of three and in eight and ninth segments of two setae. On eighth abdominal segment the distance between setae I and II equally large, III anterior to stigma. On ninth abdominal segment I



and III on separate warts, setae II and on other side IV, V and VI on common warts. Setae VIII are not more separated one from the other than on eighth abdominal segment. Body strongly shagreened."

Bionomy (see p. 153). Polyphagous species; an important pest of grape vine. Moth flies in July: in Tapaishan (China) also in August. The available data on the bionomy and economic importance of this species are gathered by BOVEY (1966: 617—631).

Distribution. Europe, including the British Islands and Scandinavia, after KENNEL (1910:118) Asia Minor and Northern Persia. China: Tapaishan in Tsinling, U.S.S.R.: Primorskij Kraj; Japan: Hokkaido. After KENNEL (same work) also North America.

### *Sparganothis illustris* sp. nov.

Labial palpus broad, about 3 in male and 5 in female, yellow-cream; head similarly coloured, with weak admixture of pale brownish; thorax concolorous with head, base of tegula brown; abdomen pale. In male forewing somewhat expanding terminally; costa delicately curved outwards; apex very short, broad, rounded; termen straight, hardly oblique. Costal fold broad, reaching to third of costa. Ground colour pale yellowish cream with indistinct admixture of brownish, densely transversely strigulate with pale greyish brown. Pattern pale greyish brown, consisting of a small spot at base of costa, a narrow median fascia interrupted subcostally, extending from third of costa to middle of dorsum a subsquare, small subapical spot and an indistinct terminal line. Fringes creamer. Entire wing with distinct pearl-olive shine. Hindwing brownish grey mixed with cream, darker in apex area; fringes with a brownish median line. Expansion 19 mm.

Female with darker, more brown thorax and uniformly broad forewing. Apex very short, rather pointed. Ground colour darker than in male, suffused with brownish dorso-medially, densely strigulate and reticulate (terminal third of wing).

Male genitalia (Fig. 9, 10). Socius broad; arm of gnathos strong, subtriangular in terminal part. Valva large, tapering terminally; sacculus extending to middle of ventral edge of valva, broad basally, prominent in its middle ventrally. Transstilla strong, with central spined part, narrowly concave apically. Aedeagus long; cornuti consisting of two groups (7+8) of long spines in vesica.

Female genitalia (Fig. 15). Papilla analis slender; apophyses short. Sterigma broad, short, with rounded proximal corners; antrum rounded proximally; ductus bursae sclerotized terminally; corpus bursae with weak signum and a finely sculptured band running parallel with signum.

No data on the bionomy and distribution of this species is at present available other than mentioned for type specimens.

Holotype, male labelled "Niitsu City, Nigata Pref., June 13, 1960, Coll. H. MU-

RAKI; allotype: "Sounkyo, Hokkaido, 1. VIII. 1959, A. KAWABE" in the collection of the Institute of Systematic and Experimental Zoology, PAS, Kraków.

Comments. The species is probably endemic in Japan. I have received the specimens in exchange from Dr. A. KAWABE, Tokyo, to whom I would like express my thanks.

Institute of Systematic and Experimental Zoology  
Polish Academy of Sciences  
31-016 Kraków, Sławkowska 17

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Praca zawiera ogólną charakterystykę plemienia, opartą na materiale palearktycznym i klucz do oznaczania gatunków, ułożony na podstawie narządów genitalnych. W części systematycznej omówiono dotychczas znane gatunki, a jako nowy opisano *Sparganothis illustris* sp. nov.

## РЕЗЮМЕ

Работа содержит общую характеристику трибы основанную на палеарктическом материале и определитель видов, составленный на основании органов размножения. В систематической части рассмотрено до сих пор известные виды, а как новый описано *Sparganothis illustris* sp. nov.

Redaktor zeszytu: dr A. Szeptycki

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