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On the Generic Groups *Saphenista* and *Cochylis* (Tortricidae)

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In the Palaearctic Region the genera *Phalonidia* Le March. and *Cochylis* Treit. distinctly differ from one another (cf. Razowski, 1970) especially in the form of the socii. A study of the Neotropical fauna, however, shows that the shape of the "socii" is insufficient to distinguish these genera. A too general description of *Saphenista* Walsm. has led to the inclusion of some valid genera, e.g. *Phalonidia*, and to confusion with *Cochylis*. In this paper the previously synonymized genera are treated as valid and their probable autapomorphies are discussed. The most important problem is the interpretation of the so called socii. In *Cochylis* we named as such a flattened, hairy sclerite situated above the anal tube. Actually it represents a distal, more or less distinctly separated portion of the tegumen. The most apical portions of that plate provided with delicate hairs are really the socii. In the *Saphenista* group that plate is separated from the main part of the tegumen to various degrees. The process of this separation can be observed in some groups of Cochylidii and most probably is also well advanced in the *Cochylis* group forming a parallel transformation series. Thus the differences between the two groups of genera are only in the shape of the sterigma which in the *Saphenista* group is always simple, characterized with a band shaped distal sclerite connecting the anterior apophyses or is entirely membranous being more or less convex laterally. In the representatives of the *Cochylis* group, the sterigma is complex, partially membranous, with a depression around the ostium, strengthened with various sclerites. The proximal part of the sterigma is pocket-shaped. The males differ in the structures of the vesica : in *Saphenista* and its allies there is a simple, capitate cornutus (rarely two), whilst in the *Cochylis* group, apart of numerous cornuti without capitulum, there is a cone-shaped or bristled structure in the vesica.

It is supposed that the elaborate sterigma and the cone-shaped sclerites of the vesica of the *Cochylis* group are progressive characters. The cornuti without heads are found also in some Neotropical species of *Aethes* Bill-

BERG and cannot be treated as autapomorphies until we accept that *Cochylis* and *Aethes* belong to two separate phylogenetic branches.

REVIEW OF THE GENERA

Saphenista group

Saphenista WALSINGHAM, 1914, Biologia cent.-am. Zool., Lepid.-Heterocera, **4** : 296. Type species : *Conchylis lacteipalpis* WALSINGHAM, 1891 – by orig. designation.

Socius large, directed distally, from top of tegumen ; distal portion of tegumen weakly differentiated. Supposed autapomorphies : internal wall of valva forming rather well sclerotized pocket (however, reduced in several species) ; vinculum with tooth-shaped prominence extending from its proximal portion. Synapomorphies with the following genus : base of socius extending laterally, connected with tegumen by means of a thin, more strongly sclerotized band ; end of transtilla with large lateral prominences (occasionnaly secondarily altered). Other characters : top of tegumen more or less extended apically (? remainder of uncus) ; valva elongate, simple ; sacculus simple or basal portion produced ventrally ; caulis small, or elongate, coalescent with ventral wall of aedeagus. Female genitalia with weakly sclerotized bursa copulatrix and small, dorsal accessory bursa. In one group of species (*S. praefasciata* (MEYRICK)) the sclerotization is stronger. Presence of weak prominence of distal edge of 6th and 7th sternites in some species is of uncertain importance. In some genera these prominences have developed into various processes and may be a synapomorphy of the *Saphenista* group.

WALSINGHAM, when describing this genus, mentioned his *Thyralia* as its objective synonym. This synonymy is, however, incorrect as the type of the latter is *Conchylis bunteana* ROBINSON (by original designation, original spelling of generic name was *Thyraylia*). The systematic position of *bunteana* is doubtful, thus *Thyraylia* is not discussed in this paper. About 10 Neotropical species belong to *Saphenista*. For figures see RAZOWSKI – BECKER (1983, figs. 1-4, 75).

Piercea FILIPIEV, 1940, Trudy zool. Inst. Leningr., **6** : 71. Type species : *Tortrix permixtana* [DENIS & SCHIFFERMÜLLER] 1775.

Socius directed distally, long ; vinculum arm slender ; distal part of tegumen differentiated. Supposed autapomorphies : rather well sclerotized fold between upper portions of socii ; costal part of valva strongly protruding at base dorsally ; teeth of apical portion of transtilla in a row.

Known from the Holarctic, Oriental and Australian Regions. About 15 species exhibiting slight differences from each another. This genus was treated as a synonym of *Phalonidia* Le March. in latter years, cf. Razowski (1970, figs. 133-139, on pls. 64 and 134).

Phalonidia Le Marchand, 1933, Amat. Papill., **6** : 242. Type species : *Cochylis affinitana* Douglas, 1846, by original designation. *Brevisociaris* Obraztsov, 1943, Mitt. münch. ent. Ges., **33** : 96. Type species : *Cochylis gilvicomana* Zeller, 1847, by original designation.

Socius directed distally, rather short ; distal portion of tegumen well differentiated ; vinculum slender. Supposed autapomorphy : ? minute teeth on top of median part of transtilla. Other characters : sacculus simple or with rounded, rarely pointed distal portion ; base of costa hardly erect ; cornutus capitate ; caulis small, exceptionally broad, embracing aedeagus.

Distribution : Holarctic and Neotropical Regions. About 30 species. For illustrations see Razowski (1970, figs. 119-129 on pls. 61-63 and 132-133).

Amallectis Meyrick, 1917, Trans. ent. Soc. London, 1917 : 1. Type species : *Amallectis devincta* Meyrick, 1917, by original designation.

Supposed autapomorphy : end of median part of transtilla large laterally. Insufficiently known (the only genitalia slide difficult to interpret, cf. Clarke, 1963, pl. 2, pl. 1). Very similar to *Phalonidia*, but with long vinculum, extending ventrally. Systematic position doubtful. Known from Neotropical Region ; single species.

Marylinka Razowski & Becker, 1983, Acta zool. cracov., **26** : 438. Type species : *M. mimera* Razowski & Becker, 1983, by original designation.

Socius as in *Phalonidia*. Supposed autapomorphies : tegumen very broad ; median part of transtilla short, very broad. Other characters : base of costal portion of valva slightly erect, broad (different from *Piercea*) ; basal portion of valva expanded ventrally ; spines on end of sacculus present.

Single species known from S. America. For illustrations see Razowski & Becker (1983, figs. 55-58).

Lasiothyris Meyrick, 1917, Trans. ent. Soc. London, 1917 : **4**. Type species : *Lasiothyris limatula* Meyrick, 1917 – designated by monotypy.

Distal portion of tegumen and socii directed ventro-distally. Supposed autapomorphies : aedeagus with extremely long cornutus (reduced, how-

ever, in some species) ; vinculum arms expanded ventro-terminally, fusing to form an apical prominence resembling saccus ; abdominal organ in form of large, bifid process of 6th sternite. Other characters : caulis posterior ; coecum penis large ; cornutus curved ; sacculus without free termination ; base of socius long, bristled dorso-laterally ; distal part of socius usually long.

Neotropical Region ; about 10 species. For illustrations see Razowski & Becker (1983, figs. 15-22).

Platphalonidia gen. n. Type species : *Phalonia felix* Walsingham, 1895.

Distal part of tegumen almost completely separated from the basal portion ; socius rudimentary, in form of a pair of lateral hairy prominences of tegumen. Supposed autapomorphies : group of scent scales on outer part of valva ventrally ; end of transtilla incised apically. Other characters : valva slender ; sacculus without free end, short ; small median prominence of distal portion of tegumen resembling rudimentary uncus ; atrophy of socius in several species ; antrum cup-shaped, distinctly sclerotized.

Distributed in Neotropical Region and southern part of Nearctic Subregion. Over 10 species known. Illustrations in Razowski & Becker (1983, figs. 29-34 and 96-102).

Mourecochylis Razowski & Becker, 1983, Acta zool. cracov., **26** : 440. Type species : *M. ramosa* Razowski & Becker, 1983 – by original designation.

Distal part of tegumen long, less distinctly separated from basal portion than in the preceding genus. Position of *Mourecochylis* remains uncertain. Supposed autapomorphies : distal portion of tegumen tapering apically to form an uncus like process incised at apex, concave along middle dorsally ; sacculus long, arm-shaped, provided with terminal bristles. Other characters : median part of transtilla broad basally, tapering apically in distal third, without apical teeth ; caulis anterior, large ; juxta strong.

Neotropical ; single species. Illustrated by Razowski & Becker (1983, figs. 63-65).

Mielkeana Razowski & Becker, 1983, Acta zool. cracov., **26** : 439. Type species : *M. gelasima* Razowski – Becker, 1983 – by original designation.

Distal part of tegumen resembling somewhat that in *Mourecochylis*. Supposed autapomorphies : two rigid, sharp processes on apex of tegumen ; bases of processes folded ventrally, hairy. Other characters : 5th

sternite in male with small, 6th with large distal prominence ; median part of transtilla stout, minutely spined dorso-apically ; sacculus strongly sclerotized, angulate distally ; additional sack (second accessory bursa) developed.

Two Neotropical species belong in this genus. Illustrations : Razowski & Becker (1983, figs. 59-61 and 115, 116).

Banhadoa Razowski & Becker, 1983, Acta zool. cracov., **26** : 432. Type species : *B. luculenta* Razowski & Becker, 1983 – by original designation.

Distal part of tegumen strongly tapering basally. Supposed autapomorphies : Cornutus very large, with broad asymmetric base ; vinculum very broad, rounded ventrally ; basal part of sacculus strongly extending ventrally. Other characters : sacculus with free termination situated beyond middle of valva ; top of median part of transtilla bifurcate ; socius fairly large.

Monotypical genus known from S. America only. Its position is doubtful. However, the complete vinculum is a plesiomorphic character and its shape is of apomorphic importance. Illustrations : Razowski & Becker (1983, figs. 35-37).

Spinipogon Razowski, 1967, Acta zool. cracov., **12** : 199. Type species : *S. trivius* Razowski, 1967 – by original designation.

Tegumen with distinctly separated distal part and rudimentary socii. Supposed autapomorphies : vinculum broad, distinctly sclerotized, with flattened ventro-proximal prominence. Other characters : internal surface of valva provided with setae or spines ; aedeagus long, bent, slender ; cornutus absent.

Neotropical in distribution ; 4 species known. Systematic position uncertain ; distal portion of tegumen resembling that in *Platphalonidia*. Figured in Razowski (1967, figs. 71-76) and Razowski & Becker (1983, figs. 50-54).

Cochylis group

Cochylis Treitschke, 1829, Schmett. Eur., **7** : 233. Type species : [*Tortrix*] *rubellana* Hübner [1823] = *Tortrix roseana* Haworth [1811] – by subsequent designation (Curtis, 1834). For synonymy see Razowski, 1977 : 229.

Distal part of tegumen almost completely separate from the basal portion ; socius rudimentary ; uncus resembling prominence between socii. Sup-

posed autapomorphies : elaborate sterigma ; cone-shaped structure in vesical (wanting in many species). Other characters : cornuti numerous, without capituli, often with fused bases ; caulis often expanding distally ; vinculum arms separate, often ill-defined.

Distribution : Holarctic, Neotropical and Oriental Regions. The genus was divided into several subgenera (Razowski, 1962), then (Razowski, 1970) synonymized. The type species of *Cochylis* differs in genitalia from the remaining species. Almost all subgenera require re-examination and probably some of them shall be treated as valid genera. For illustration see Razowki (1970, figs. 260-283 on pls. 104-109 and 157-160).

Falseuncaria Obraztsov & Swatschek, 1959 [in] : Swatschek, Abh. Larvalsyst. Insekten, **3** : 232. Type species : *Tortrix ruficiliana* Haworth [1811] – by original designation.

Supposed autapomorphies : distal portion of tegumen not separated from the basal portion, but strongly elongate ; socius rudimentary, single ; valva fused with transtilla ; cone-shaped structure of vesica thin, very long. Other characters : apical portion of tegumen variably shaped, broadening ; vinculum arms separate from one another ; sacculus well sclerotized ; distal part of aedeagus slender ; bunch of strong cornuti in vesica ; sterigma elaborate ; antrum simple.

Distributed in Palaearctic Subregion ; 4 species. Illustrations in Razowski (1970, pls. 116 and 161).

References

Clarke, J. F. Gates, 1963. Catalogue of the type specimens of Microlepidoptera in the British Museum (Natural History) described by Edward Meyrick, 4. British Museum Trustees, London, [521].

Razowski, J., 1962. Studies on *Cochylidae* (*Lepidoptera*). Part II. The genera of the Palaeractic Cochylidae. *Polskie Pismo ent.*, Wrocław, **30** (17) : 281-356.

Razowski, J., 1967. South American Cochylidae (Lepidoptera) from the collection of the British Museum (Natural History). *Acta zool. cracov.*, Kraków, **12** (18) : 163-210, pls. 15, 16.

Razowski, J., 1970. [in :] Amsel, Gregor, Reisser. Microlepidoptera Palaearctica, 3. Verlag G. Fromme & Co. Wien.

Razowski, J., 1977. Catalogue of the generic names used in Tortricidae (Lepidoptera). *Acta zool. cracov.*, **22** (6) : 207-296.

Razowski, J., Becker, V. O., 1983. Brazilian Cochylidii (Lepidoptera, Tortricidae). *Ibid.*, **26** (13) : 421-464.