

Józef RAZOWSKI

The Oriental *Cochylidii* (Lepidoptera, Tortricidae)

[With 11 Text-figures]

Abstract. Thirty five Oriental species are reviewed of which 3 (*Stenodes scoptes* sp. n., *Phalonidia attenuata* sp. n. and *Cochylis lactana* sp. n.) are described as new. Several species are transferred to different genera, and one (*Aethes irmozona* DIAK.) referred to the *Noctuidae*.

The fauna of the Oriental *Cochylidii* is very little known (34 species recorded) as one can judge of the comparison with that of the Palaearctic Region (290 species noticed). The northern part of the region in question, especially Nepal, is much better explored than the remaining areas and its fauna is very close to that of the Palaearctic Region. It constitutes a typical transition zone. The Oriental species belong in 5 genera widely distributed in the Palaearctic Region. Two of them (*Phalonidia* LE MARCH. and *Eupoecilia* STEPH.) are known also from the Australian Region and the former is of world-wide repartition.

There is probably only one species (*Eupoecilia sumbana* (DIAK.) common of the Oriental and Australian Regions. The affinities to the Palaearctic Region are better known. There are 5 Afghan species (*Cochylis apricana* KENN., *C. faustana* (KENN.), *C. indica* RAZ., *Aethes bilbaensis* (RÖSSL.), *Ae. pardaliana* (KENN.) recorded from Pakistan. Three of them (*C. faustana*, *C. apricana* and *Ae. pardaliana*) have larger areals as they are also distributed more northwards (cf. systematic part, p. 244) and one (*Aethes lateritia* RAZ.) is known from Iran. Further Palaearctic species are expected in discussed western part of the region in question. There is no Oriental species common with the eastern part of the Palaearctic Region, however, they certainly should be discovered as one can judge on the similarities of those faunas in other *Tortricidae*.

Two already mentioned genera, viz., *Phalonidia* LE MARCH. and *Eupoecilia* STEPH. are abundant in species. The species of first of them occurring in this region belong in the group of *Ph. permixtana* ([DEN. & SCHIFF.]) showing

slight specific differences. All Oriental species require reexamination and the Indian *Ph. definita* (MEYR.) is a key-species known unfortunately of the single female to date. In *Eupoecilia* belong 15 Oriental species and certainly several further representatives should be discovered in the adjacent regions. The species of so well defined genus are often placed in various other genera as for instance *E. tenaces* (DIAKONOFF, 1973), **comb. nov.** of New Guinea was described in *Aethes* BILLB. or *E. dynodesma* (DIAKONOFF, 1971), **comb. nov.** of N. Karakorum in *Cryptocochylis* RAZ.

REVIEW OF SPECIES

Stenodes innotatana (WARREN), **comb. n.**

Xanthosetia innotatana WARREN, 1888, Proc. zool. Soc. London, 1888: 337. Type locality: "Kala Pani, W. India". Holotype, female: "Kala Pani, 6. V. 1887", G. Sl. 7802; coll. BM (NH).

Alar expanse, 24 mm. Forewing not expanding terminally; costa straight except for base; termen weakly oblique, almost straight. Head, thorax and forewing ochreous yellow, fringes hardly paler. Hindwing brownish grey, mixed with ferruginous on peripheries; fringes whitish.

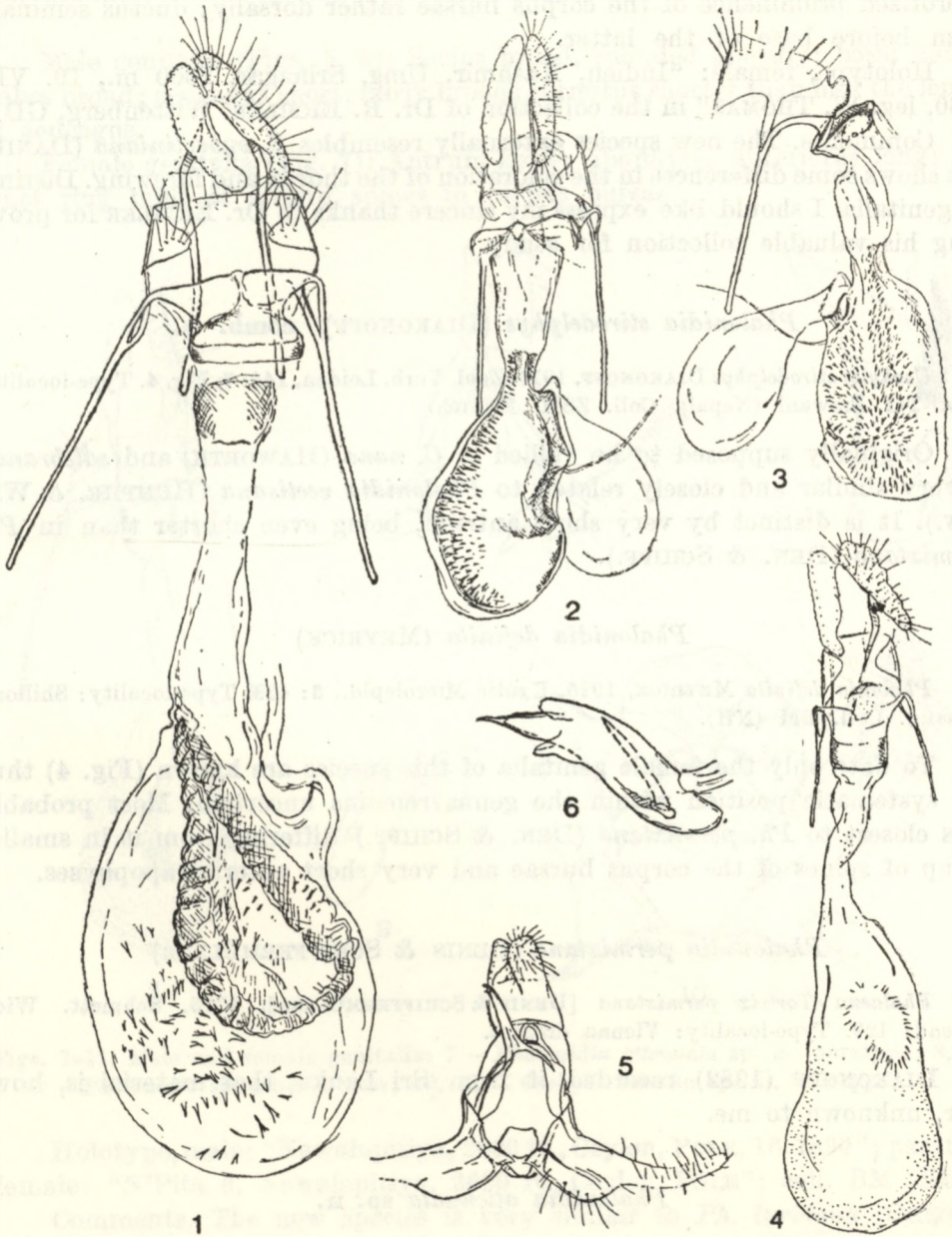
Female genitalia (Fig. 1): Sterigma arms broad; antrum short, ring-shaped; distal portion of ductus bursae more strongly sclerotized than remaining parts; sclerites of corpus bursae well developed; spines innumerable.

Comments. This species is close to *S. kurdistanica* (AMSEL) and *S. meridiolana* (STGR.) but differs in the sclerites of the bursa copulatrix.

Stenodes scoptes sp. n.

Alar expanse, 14 mm. Labial palpus over 3, broad, pale ferruginous, white above; remaining parts of head white, vertex slightly mixed with brownish; thorax whitish with rust pattern. Forewing not expanding terminally, with short, rounded apex and straight, weakly oblique termen. Ground colour white, pattern ferruginous brown consisting of oblique, curved median fascia and broad, convex posteriorly postmedian marking accompanied with some terminal and subdorsal spots. Weaker, paler suffusions near base and along costa to median fascia; brown dot at disc; fringes brown-grey. Hindwing slender, brownish grey; fringes cream-grey with darker median line.

Female genitalia (Figs. 2, 3): Papilla analis slender; apophyses long; sterigma with slender lateral arms, weakly sclerotized posterior plate and incomplete, collar-shaped lamella antevaginalis forming weak median prominence ventrally; distal portion of ductus bursae broad, membranous, flattened dorso-ventrally, its anterior portion very short, more strongly sclerotized; corpus bursae with



Figs. 1-6. Male and female genitalia: 1 - *Stenodes innotatana* (WARREN), holotype; 2, 3 - *Stenodes scoptes* sp. n., holotype; 4 - *Phalonidia definita* (MEYR.), lectotype; 5, 6 - *Phalonidia attenuata* sp. n., holotype.

lateral sclerites and spined area; accessory bursa sack-shaped, extending from sclerotized prominence of the corpus bursae rather dorsally; ductus seminalis from before base of the latter.

Holotype, female: "Indien, Kashmir, Umg. Srinagar, 2600 m., 19. VII. 1980, leg. W. THOMAS" in the collection of Dr. R. EICHLER, Wittenberg, GDR.

Comments. The new species externally resembles *S. subvoliniana* (DANIL.) but shows some differences in the coloration of the thorax and forewing. Distinct by genitalia. I should like express my sincere thanks to Dr. EICHLER for providing his valuable collection for study.

Phalonidia stirodelphys (DIAKONOFF), **comb. n.**

Cochylis stirodelphys DIAKONOFF, 1976, Zool. Verh. Leiden, **144**: 7, Fig. 4. Type-locality: Repti-Tal Jhawani (Nepal). Coll. ZSM, Munich.

Originally supposed to be "allied to *C. nana* (HAWORTH) and *salebrana*" is very similar and closely related to *Phalonidia vectisana* (HUMPHR. & WESTW.). It is distinct by very short antrum, being even shorter than in *Ph. permixtana* (DEN. & SCHIFF.).

Phalonidia definita (MEYRICK)

Phalonia definita MEYRICK, 1925, Exotic Microlepid., **3**: 438. Type-locality: Shillong (Assam). Coll. BM (NH).

To date only the female genitalia of this species are known (Fig. 4) thus the systematic position within the genus remains uncertain. Most probably it is closest to *Ph. permixtana* (DEN. & SCHIFF.) differing from it in smaller group of spines of the corpus bursae and very short anterior apophyses.

Phalonidia permixtana (DENIS & SCHIFFERMÜLLER)

Phalaena Tortrix permixtana [DENIS & SCHIFFERMÜLLER], 1775, Schmett. Wien Gegend: 129. Type-locality: Vienna district.

DIAKONOFF (1982) recorded it from Sri Lanka, that material is, however, unknown to me.

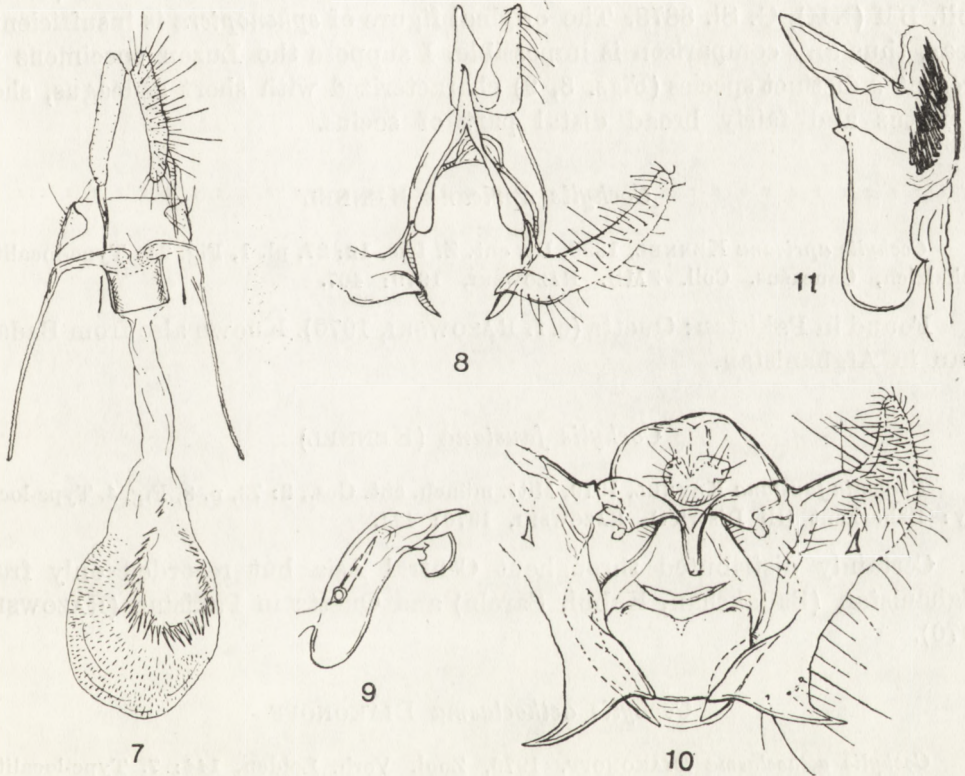
Phalonidia attenuata **sp. n.**

Alar expanse, 8 mm. Labial palpus ca 1.5, yellow-brown, remaining parts of head concolorous, but front more cream. Forewing weakly expanding terminally. Ground colour yellowish cream with darker, more brown suffusions along veins and at tornus; dorso-basal suffusion as in *permixtana*; base of costa, costal part of subapical blotch and small spot at apex browner; median

fascia yellow-brown with brown suffusion near middle. Fringes concolorous with ground colour. Variation weak: median fascia in male interrupted subcostally.

Male genitalia (Figs. 5, 6): Socius broad, rounded apically; basal half of valva broad; aedeagus short, fairly broad; cornutus shorter than half the length of aedeagus.

Female genitalia (Fig. 7): Antrum large; apophyses anteriores long; distinct ring built of strong spines in corpus bursae.



Figs. 7-11. Male and female genitalia: 7 - *Phalonidia attenuata* sp. n., paratype; 8, 9 - *Phalonidia* sp. from Luzon; 10, 11 - *Cochylis laetana* sp. n., holotype.

Holotype, male: "Nawalapitiya, 2000 ft., Ceylon, POLE, 10.1890"; paratype, female: "N'Pita 6, Nawalapitiya, 2000 ft., Ceylon, POLE"; coll. BM (NH).

Comments. The new species is very similar to *Ph. luridana* (GREGSON) and somewhat so to *Ph. permixtana*. From the former it differs in somewhat broader top of the socius, shorter aedeagus and the shape of the sacculus; from the latter mainly in the shape of the socius. In *attenuata* anterior apophyses and antrum are almost as long as in *vectisana*, much longer than in the two previously mentioned species.

Phalonidia sphaenophora (DIAKONOFF), **comb. n.**

Phalonia sphaenophora DIAKONOFF, 1941, Treubia, **18**: 397, pl. 17, Fig. 12. Type-locality: Pasoeroean, E. Java. *Phalonia sphenophora* DIAKONOFF, 1948, Treubia, **19**: 483 — **n. emend.**

Besides the type-locality found also (DIAKONOFF, 1948) in Buintenzorg, Java. In 1967 same author recorded it from Philippine Islands (Los Baños, Luzon) and transferred to the genus *Aethes* BILLB.

I had an opportunity to examine one specimen from Manilla (Luzon) Coll. BM (NH), G. Sl. 8878. The original figure of *sphenoptera* is insufficiently clear, thus any comparison is impossible. I suppose the Luzon specimens represent a distinct species (Figs. 8, 9) characterized with short aedeagus, short cornutus and fairly broad distal part of socius.

Cochylis apricana KENNEL

Cochylis apricana KENNEL, 1899, Dt. ent. Z. Iris, **12**: 27, pl. 1, Fig. 24, Type-locality: Achalzich, Caucasus. Coll. ZMB. RAZOWSKI, 1970: 407.

Found in Pakistan: Quetta (c. f. RAZOWSKI, 1970). Known also from Badakshan in Afghanistan.

Cochylis faustana (KENNEL)

Phalonia faustana KENNEL, 1919, Mitt. münch. ent. Ges., **3**: 73, p. 3, Fig. 4. Type-locality: Dsharkent (Ili District). RAZOWSKI, 1970: 424.

Certainly distributed throughout Central Asia but recorded only from Afghanistan (Badakshan, Kabul, Sarobi) and Quetta in Pakistan (RAZOWSKI, 1970).

Cochylis aethoclasma DIAKONOFF

Cochylis aethoclasma DIAKONOFF, 1976, Zool. Verh. Leiden, **144**: 7. Type-locality: Kathmandu, Chauni (Nepal).

Closely related to the preceding species, originally included in the "*C. indica* RAZOWSKI — *C. meastrana* [sic!] KENNEL group".

Cochylis indica RAZOWSKI

Cochylis indica RAZOWSKI, 1968, Acta zool. cracov., **13**: 144, Figs. 7, 8. Type-locality: Khyra Gully (Pakistan). RAZOWSKI, 1970: 420.

This species has been found also in E. Afghanistan (Safed Koh at the altitude of 2350–2700 m). The new data are from Pakistan: Beha, Choprial, Malam-jaba and Khawja Khaila (Swat) and Dhirkot (Azad Kashmir). The specimens have

been bred from larvae feeding in the flowers of *Carduus nutans* and *C. wallichii* by the workers of the Commonwealth Institute of Biological Control, Ravalpindi. The specimens emerged by the end of April.

Cochylis laetana sp. n.

Alar expanse, 15 mm. Labial palpus 1.5, pale brownish, remaining parts of head whitish; thorax somewhat darker (damaged). Forewing not expanding terminally with weakly oblique termen. Ground colour white in costal area strigulated with pale brownish grey, in dorsal part with brown. Some dorsal and median strigulae and spots dark brown, some with leaden shine. Fringes whitish mixed with brown posteriorly, divisions brown. Hindwing broad, cream-white, slightly mixed with brownish and delicately strigulated with brown on peripheries. Fringes paler than wing; median line indistinct.

Male genitalia (Figs. 10, 11): Tegumen and socii as in *C. posterana* Z.; valva broad basally, up-curved in distal half, provided with postmedian, strongly sclerotized dent; sacculus well sclerotized, with strong terminal process. Aedeagus thick, with numerous, moderate cornuti.

Holotype, male: "Khasis, (Nat. Coll.)", G. Sl. 12960; Coll. BM (NH).

Comments. The new species is distinct by the genitalia and certainly belongs in the *posterana*-group. The female remains unknown.

Cochylidia altivaga DIAKONOFF

Cochylidia altivaga DIAKONOFF, 1976, Zool. Verh. Leiden, **144**: 5. Type-locality: Chisapani Garhi (Nepal).

The only representative of *Cochylidia* OBR. in this region, very close to *C. rupicola* (CURT.).

Eupoecilia cracens DIAKONOFF

Eupoecilia cracens DIAKONOFF, 1982, Zool. Verh. Leiden, **193**: 6, pl. 1, Figs. 1, 2. Type locality: Kanda-ela Reservoir, N. E. District (Sri Lanka).

The position of this species within the genus is uncertain as no original comment provided.

Eupoecilia turbinaris (MEYRICK)

Clysia turbinaris MEYRICK, 1928, Exotic *Microlepid.*, **3**: 435. Type-locality: Khasi Hills (Assam); Coll. BM (NH).

Known from Shillong and Cherra Punji (Assam) and North Manipur (RAZOWSKI, 1968).

Eupoecilia engelinae (DIAKONOFF)

Clysiana engelinae DIAKONOFF, 1941, Treubia, **18**: 399, pl. 17, Fig. 4. Type-locality: Mt. Gede, West Java. RAZOWSKI, 1968: 110.

Eupoecilia tenggerensis (DIAKONOFF)

Clysiana tenggerensis DIAKONOFF, 1949, Bijdr. Djerk., **28**: 132. Type-locality not mentioned originally. RAZOWSKI, 1968: 110.

DIAKONOFF (1941) recorded it first under the name *Clysiana reliquatrix* MEYR. from East Java, Tengger Mts., Pogal and Mt. Segeroe.

Eupoecilia sumbana (DIAKONOFF)

Clysiana sumbana DIAKONOFF, 1952, Verh. Naturforsch. Ges. Basel, **63**: 139, Figs. 3, 4, 8. Type-locality: Mau Maru, East Sumba. RAZOWSKI, 1968: 112.

Eupoecilia reliquatrix (MEYRICK)

Clysia reliquatrix MEYRICK, 1921, Zool. Meded. Leiden, **6**: 145. Type-locality: Preanger, W. Java, *Clysiana opisthodontia* DIAKONOFF, 1941, Treubia **18**: 398. Type locality: Tjibodas, W. Java. RAZOWSKI, 1968: 114.

Known from Java and Sumatra.

Eupoecilia lata RAZOWSKI

Eupoecilia lata RAZOWSKI, 1968, Acta zool. cracov., **13**: 115, Figs. 13, 14. Type-locality: Sikkim.

Eupoecilia armifera RAZOWSKI

Eupoecilia armifera RAZOWSKI, 1968, Acta zool. cracov., **13**: 117, Figs. 19–21. Type-locality: Golaghat, Naga Hills (Assam).

Eupoecilia dentata RAZOWSKI

Eupoecilia dentata RAZOWSKI, 1968, Acta zool. cracov., **12**: 118, Figs. 22, 23. Type-locality: Padang Rangas, W. Sumatra.

Eupoecilia amphimnesta (MEYRICK)

Euzanthis amphimnesta MEYRICK, 1928, Exotic Microlepid., **3**: 436. Type-locality: Binh Tal, Kumaon. RAZOWSKI, 1968: 119.

Recorded to date from Muktesar and Kumaon.

Eupoecilia wegneri (DIAKONOFF)

Clysiana wegneri DIAKONOFF, 1941, Treubia, **18**: 401. Type-locality: Nongkodjadar, E. Java. Razowski, 1968: 120.

Known from East Java and West Sumba.

Eupoecilia ochrotona RAZOWSKI

Eupoecilia ochrotona RAZOWSKI, 1968, Acta zool. cracov., **13**: 124, Figs. 35, 36. Type locality: Pusa (Sarawak).

Eupoecilia anisoneura DIAKONOFF

Eupoecilia anisoneura DIAKONOFF, 1982, Zool. Verh. Leiden, **193**: 6. Type-locality: Uggalkaltota, Ratnapura District (Sri Lanka).

Originally placed after *cracens*, however, it is closer to *charixantha* listed by DIAKONOFF before the former. It is closely related to *E. kobeanae* RAZ. from Japan.

Eupoecilia charixantha (MEYRICK)

Clysia charixantha Meyrick, 1928, Exotic Microlepid., **3**: 435. Type-locality: Maskeliya (Sri Lanka). RAZOWSKI, 1968: 128.

Known from several localities in Sri Lanka (cf. RAZOWSKI, 1968; DIAKONOFF, 1982).

Eupoecilia eucalypta (MEYRICK)

Clysiana eucalypta MEYRICK, 1928, Exotic Microlepid., **3**: 436. Type-locality: Bentota (Sri Lanka).

Aethes geniculata (MEYRICK)

Phalonia geniculata MEYRICK, 1930, Exotic Microlepid., **3**: 591. Type-locality: Shilong, Assam (India).

Aethes lateritia RAZOWSKI

Aethes lateritia RAZOWSKI, 1970, Microlepid. Pal., **3**: 355. Type-locality: Sahidan (S. O. Iran).

This species was recorded also from Quetta in Pakistan.

Aethes bilbaensis (RÖSSLER)

Conchylis francillana var. *bilbaensis* RÖSSLER, 1877, Stettin. ent. Ztg., **38**: 372. Type-locality: Bilbao (Spain). RAZOWSKI, 1970: 353.

Distributed in W and SC parts of the Palaearctic Region. Known also from Afghanistan and Quetta in Pakistan. One can, however, suspect that the genital variation within *bilbaensis* may prove of subspecific or even specific importance. That problem cannot be solved on the available material.

Aethes enicana taiwanica RAZOWSKI

Aethes enicana taiwanica RAZOWSKI, 1977, Trans. lepid. Soc. Japan, **28**: 37, Fig. 8
Type-locality: Tattaka (Taiwan). Coll. S. ISSIKI, Osaka.

Aethes pardaliana (KENNEL)

Cochylis pardaliana KENNEL, 1899, Dt. ent. Z. Iris, **12**: 38, pl. 1, Fig. 37. Type-locality: Samarkand (USSR). RAZOWSKI, 1970: 371.

Known from the type-locality (Uzbek SSR), Kuh-i-Mirabi (NO Iran) and several localities in O. Afghanistan. Collected also in Baltal near Solamarg (India) at the altitude of 3000 m.

"Aethes" *irmozona* DIAKONOFF

Described from Nepal (1976, Zool. Verh. Leiden, **144**:8, Fig. 4a) and originally compared with *Aethes moribundana* (STGR.) actually belongs to *Noctuidae Jaspideinae*.

SPECIES INCERTAE SEDIS

Phalonia glycitis MEYRICK

Phalonia glycitis MEYRICK, 1928, Exotic Microlepid., **3**: 438. Type-locality: Khasis (Assam, India). CLARKE, 1963: 27, pl. 13, Figs. 4-4b.

This species externally resembles *Cochylis laetana* sp. n. In the aedeagus occurs a cluster of the cornuti similar to that in other *Cochylis*-species but the shape of the socii is different.

REFERENCES

- CLARKE, J. F. G. 1963. Catalogue of the type specimens of *Microlepidoptera* in the British Museum (Natural History) described by Edward MEYRICK, London, **4**: 521 pp, 252 pls.
DIAKONOFF A. 1941. *Tortricidae* chiefly from the collection of the Institute for the Plant Diseases at Buintenzorg. Treubia, Buintenzorg, **18**: 377-439, pls. 17-22.

- DIAKONOFF A. 1948. Records and descriptions of *Microlepidoptera* (2). *Ibid.*, **19**: 483-524.
- DIAKONOFF A. 1949. Notes on synonymy of some Asiatic *Microlepidoptera*. *Bijdr. Dierk., Leiden.*, **28**: 133-139.
- DIAKONOFF A. 1968. *Microlepidoptera* of the Philippine Islands. U. S. natn. Mus. Bull. Washington, **257**: 1-484.
- DIAKONOFF A. 1970. *Tortricoidea* from Nepal, 2. *Zool. Verh. Leiden*, **144**: 1-145, pls. 1-14.
- DIAKONOFF A. 1982. On the collection of some families of *Microlepidoptera* from Sri Lanka (Ceylon). *Ibid.*, **193**: 1-124, pls. 1-17.
- RAZOWSKI J. 1968. Revision of the genus *Eupoecilia* STEPHENS (*Lepidoptera, Cochylidae*). *Acta zool. cracov.*, **13**: 103-130.
- RAZOWSKI J. 1970. *Cochylidae* [in:] A.-G. AMSEL, F. GREGOR, H. REISSER, *Microlepidoptera Palearctica*, Wien, **3**: 527 pp. 161 pls.

Zakład Zoologii Systematycznej
i Doświadczalnej PAN
31-016 Kraków, Sławkowska 17

STRESZCZENIE

[Tytuł: Orientalne *Cochylidii* (*Lepidoptera, Tortricidae*)]

Autor dokonuje przeglądu znanych gatunków orientalnych *Cochylidii*. Z wykazanych 35 gatunków 3 opisano jak nowe (*Stenodes scoptes* sp. n. z Indii, *Phalonidia attenuata* sp. n. z Cejlonu i *Cochylis laetana* sp. n. z Indii), a jeden (*Aethes irmozona* DIAKONOFF) przeniesiono do rodziny *Noctuidae*.

РЕЗЮМЕ

[Заглавие: Ориентальные *Cochylidii* (*Lepidoptera, Tortricidae*)]

Автор дает обзор известных ориентальных *Cochylidii*. Из приведенных 35 видов 3 описаны как новые (*Stenodus scoptes* sp. n. из Индии, *Phalonidia attenuata* sp. n. с Цейлона, *Cochylis laetana* sp. n. из Индии), а один вид (*Aethes irmozona* DIAKONOFF) перенесен в семейство *Noctuidae*.