

Korean Species of the Tribe Cochylini (Lepidoptera, Tortricidae)

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ABSTRACT

Twenty six species of 8 genera of the Korean Cochylini belonging to Tortricidae, excluding a genus *Phalonidia*, are recognized during the course of this study. Among them 7 species, *Aethes citreoflavus* Kuznetsov, *Cochylidia heydeniana* (Herrich-Schäffer), *C. moguntiana* (Rösler), *Eupoecilia angustana* (Hübner), *E. kobeana* Razowski, *Pseudargyrotoza calvicaput* (Walsingham), and *Stenodes cuspidatus* Ge, are reported for the first time from Korea. A key to the genera is given. Male and female genitalic structures of 7 unrecorded species are briefly redescribed and illustrated.

Key words: Systematics. Cochylini. Tortricinae. Tortricidae. Lepidoptera.
Korea.

INTRODUCTION

This study focuses on the taxonomic review of the tribe Cochylini. While other tribes of the Tortricidae have been relatively well surveyed in this country, the tribe Cochylini is not well explored to date. Only 2 species have been recorded from Korea by foreign entomologists until Park (1976) added 10 species.

In "Microlepidoptera of Korea", Park (1983) reviewed a total of 15 species belonging to 6 genera of the tribe Cochylini, reporting 3 unrecorded species from Korea. Recently Jaros *et al.* (1992) added 2 species, *Cochylis hybridella* (Hübner) and *Stenodes trianguliferus* Kuznetsov, to the fauna based on the materials collected from North Korea. Byun *et al.* (1993) added 4 species to the Korean fauna. Byun and Park (1995) revised 15 species of *Phalonidia* including 9 unrecorded species.

In the present study, all the Korean species of the tribe Cochylini were revised except the genus *Phalonidia* that was already reviewed by Byun and Park (1995). A total of 26 species of the tribe is recognized, comprising 4 species of *Aethes*, 5 of *Cochylidia*, 1 of *Cochylis*, 1 of *Eulia*, 5 of *Eupoecilia*, 1 of *Hysterosia*, 4 of *Pseudargyrotoza*, and 5 of *Stenodes*. Among them, 7 species are reported for the first time from Korea. The authors placed 2 genera, *Eulia* Hübner and *Pseudargyrotoza* Obraztsov, which have been confused in their taxonomic position and often treated under the different tribes, based on the characteristics of male and female genitalic characteristics.

A key to the genera is given. Male and female genitalic structures of 7 unrecorded species are briefly redescribed and illustrated. Materials examined in this study will be deposited in the Center for Insect Systematics, Kangwon National University, Ch'unch'on-shi 200-701.

Abbreviations used in this study are as follows:

CIS/KWNU: Center for Insect Systematics, Kangwon National University, Chunchön, Korea; ASTI: Agricultural Sciences and Technology Institute, RDA, Suwön, Korea; IECA: Institute of Entomology, Czech Academy of Science, Czech; HNHM: Hungarian Natural history Museum, Budapest, Hungary; KG: Kyönggi-do; KW: Kangwön-do; Ch'B: Ch'ungch'öngbuk-do; Ch'N: Ch'ungch'öngnam-do; CB: Chöllabuk-do; CN: Chöllanam-do; KB: Kyöngsangbuk-do; KN: Kyöngsangnam-do; CJ: Cheju-do. The asterisk (*) marked at left of scientific name means a newly recorded species.

SYSTEMATICS

Tribe Cochylini Kuznetsov & Stekolnikov, 1973

- = *Cochylidii* Guenée, 1845, Anns Soc. ent. Fr., (2)3: 297.
- = *Lozoperidae* Stainton, 1845, Manual Br. Butterflies Moths, 2: 188.
- = *Lozoperinae* Heslop, *ibid.*: 70.
- = *Cochylidae* Morris, 1868, Nat. Hist. Br. Moths, 3: 209.
- = *Cochylinae* Cotes & Swinhoe, 1889, Cat. Moths India, 6: 695.
- = *Phalonidae* Meyrick, 1895, Handbook, Br. Lepid.: 543.
- = *Commophilidae* Hampson, 1918, Novit. Zool., 25: 387.
- = *Phalonidii* Pierce & Metcalfe, 1922, Genitalia Tortricidae Lepid. Br. Isl.: 24.
- = *Hysterosiinae* Heslop, 1938, Cat. Br. Lepid.: 70.
- = *Hysterosiini*: Obraztsov, 1944, Dt. ent. Z. Iris, 57: 68
- = *Aetheinae* Obraztsov, 1946, Z. Wien Ent. Ges., 30: 22.
- = *Agapetidae* Obraztsov, 1950, Ent. News, 61: 198.
- = *Cochylini* Kuznetsov & Stekolnikov, 1973, Trudy Vses ent. Obshch., 51: 21

Key to genera of Cochylini

- 1. Uncus well developed 2
- Uncus reduced or absent 4

2. Gnathos arm well developed *Eulia*
 Gnathos arm absent 3
3. Cornutus absent in vesica *Pseudargyrotoza*
 Several cornuti present in vesica *Hysterosia*
4. Sacculus and valva slightly or apparently divided 5
 Sacculus and valva conjugated 6
5. Valva broad and elongated; apex of aedeagus shortly protruded *Cochylis*
 Valva very narrow, short, very well sclerotized; apex of aedeagus long, elongated *Cochylidia*
6. Socius broad, mostly triangular 7
 Socius narrow, slender, hook-shaped 8
7. Ventral and costal margin nearly parallel to the apex *Eupoecilia*
 Ventral and costal margin not parallel 8
8. Median process of transtilla thin, long, bifurcated terminally *Phalonidia*
 Median process of transtilla short, broad, mostly rounded terminally *Aethes*

Genus *Aethes* Billberg, 1820

Aethes Billberg, 1820, Enum. Ins.: 90. (Type species: *Pyralis smeathmanniana* Fabricius 1781)

***Aethes amurensis* Razowski, 1964** 두줄가는잎말이나방

Aethes amurensis Razowski, 1964, p. 348.

Aethes hoenei sensu Park (nec Razowski), 1976, p. 72.

Material examined. KW: 1 ♂, Mt. Chiak-san, 20 May 1974; 1 ♂, Sogūmgang, 24 May 1988; 1 ♀, Ch'unch'on-shi, 29 May 1984, 2 ♂♂, 2 ♀♀, 15 May 1985 - coll. CIS/KWNU.

Additional specimens examined. KG: 1 ♂, Suwŏn, 15 Aug. 1975, 1 ♂, 4 July 1969; 1 ♂, 16 May 1974; 1 ♂, 15 July 1975. KW: 1 ♂, 3 ♀♀, Mt. Chiak-san, 30 May 1974. CN: 1 ♂, Yŏch'ŏn, 10 May 1976 - coll. ASTI.

Distribution. Korea, China, Russia (Amur).

****Aethes citreoflavus* Kuznetsov, 1966** 회백색가는잎말이나방(新稱) (Figs. 1 and 8)

Aethes citreoflava Kuznetsov, 1966, p. 203, fig. 25.

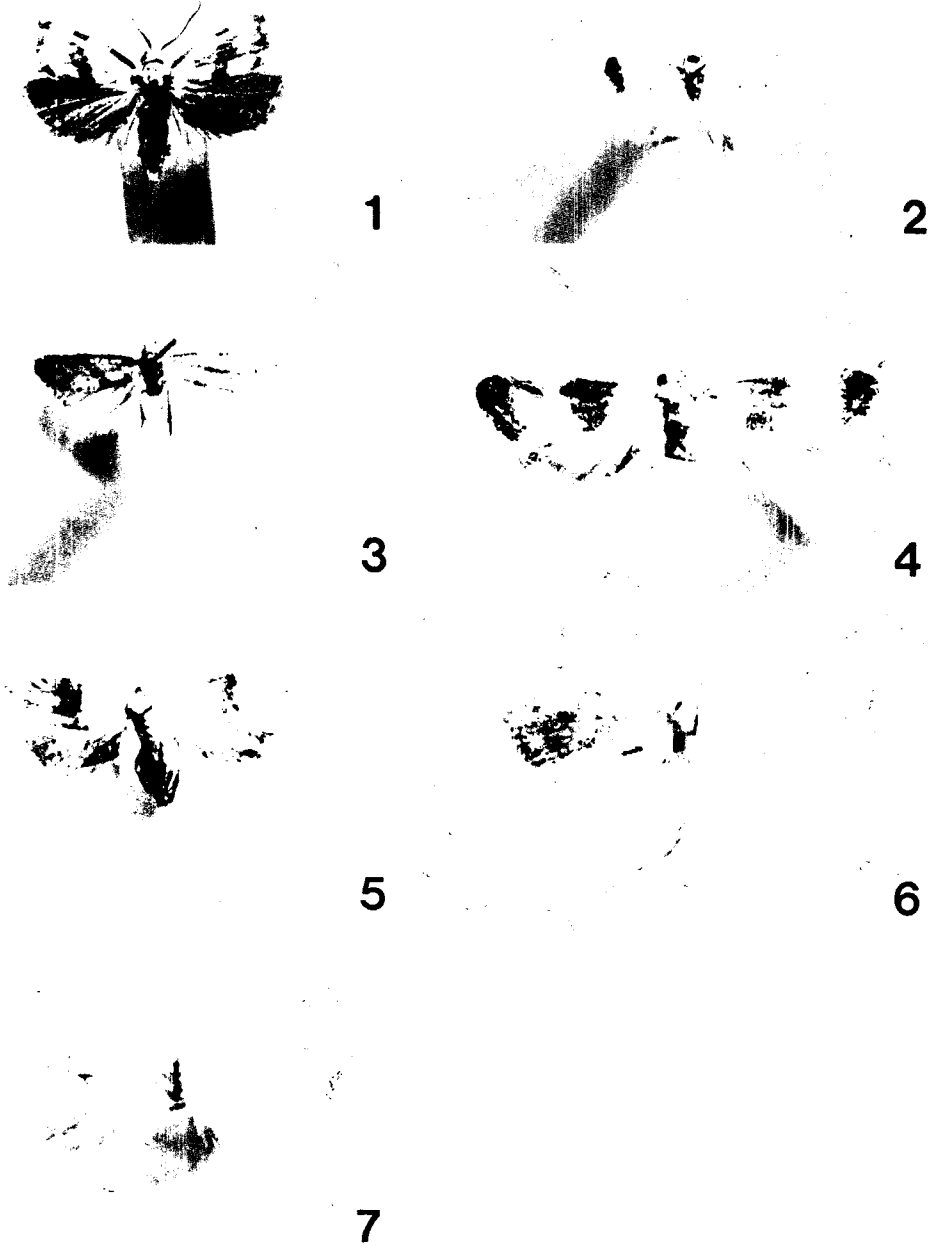
Description. Wing length 6.5 mm.

Male genitalia (Fig. 8). Tegumen narrow, slightly sclerotized. Socius slender, long, strongly curved at middle forming a hook-shaped. Transtilla elongated, subtriangular-shaped, with two shortly protruded portions at apex, one of two very short, indistinct. Valva long, elongated, rather broader at base, rounded terminally; sacculus broad, short restricted to basal area, with two drooped portions ventrally. Aedeagus stout, big, slightly curved inwardly, rather narrowed towards terminally, curved with numerous minute spines at middle portion bearing a big and large cornutus in vesica. Similar to *amurensis* in feature, but valva somewhat broader.

Material examined. CJ: 1 ♂, Moksŏkwŏn, near Cheju city, 29 May 1992 - coll. CIS/KWNU.

Additional specimen examined. Ch'B. 1 ♂, Suanbo, 1 July 1990 - coll. ASTI.

Distribution. Korea (new record), China, Japan, Russia (Amur, Primorye region, Ussuri), Mongolia.



Figs. 1-7. Adults: 1, *Aethes citreoflavus* Kuznetsov; 2, *Cochylidia heydeniana* (Herrich-Schäffer); 3, *Cochylidia moguntiana* (Rösler); 4, *Eupoecilia angustana* (Hübner); 5, *Eupoecilia kobeana* Razowski; 6, *Pseudargyrotoza calvicaput* (Walsingham); 7, *Stenodes cuspidatus* Ge.

***Aethes cnicanus* (Westwood, 1854)** 엉겅퀴가는잎말이나방

Argyroptera cnicana Westwood, 1854, p. 280, pl. 59, fig. 185.

Material examined. KG: 3 ♂♂, Mt. Dodram-san, 19 May 1990. KW: 1 ♂, Hwengsöng-dam, 16 July 1994; 2 ♂♂, Ch'unch'ön-shi, 22 May 1985, 1 ♀, 16 May 1990; 1 ♂, 1 ♀, Mt. Samag-san, 19 July 1989, 1 ♂, 22 May 1990; 3 ♂♂, 5 ♀♀, Sogūmgang, 24 May 1988, 1 ♂, 23 May 1988, 2 ♂♂, 6 July 1988 - coll. CIS/KWNU.

Additional specimen examined. <North Korea> 1 ♀, Mt. Kūmgang-san, KW, 19 Nov. 1980-coll. HNHM.

Distribution. Korea, Japan, China, Russia (Amur, Siberia), Mongolia, Europe.

Host plants. *Carduus* sp. and *Cirsium* sp. have been known from Japan and hibernates in roots of them (Kawabe, 1982).

***Aethes rectilineanus* (Caradja, 1939)** 쌍띠가는잎말이나방

Loxopera rectilineana Caradja, 1939, p. 10.

Lozophora bradleyi Razowski, 1962, p. 408, figs. 46-49.

Material examined. 1 ♀, Sinshido, CB, 26 July 1980 - coll. CIS/KWNU.

Distribution. Korea, Japan, China, Russia (Amur, Siberia), Mongolia.

Genus *Cochylidia* Obraztsov, 1956

(Type species: *Tortrix subroseana* Haworth [1811])

***Cochylidia contumescens* (Meyrick, 1931)** 큰횡줄가는잎말이나방

Phalonia contumescens Meyrick, 1931, p. 157.

Material examined. KW: 1 ♂, Chöngsön, 30 July 1991 - coll. CIS/KWNU.

Additional specimen examined. KG: 1 ♂, Suwön, 14 June 1974, 1 ♂, 2 July 1974, 1 ♂, 12 Sept. 1974; 1 ♂, Mt. Chönggye-san, 19 Aug. 1976 - coll. ASTI.

Distribution. Korea, Japan, China, Russia (Far East).

****Cochylidia heydeniana* (Herrich-Schäffer, 1851)** 망초가는잎말이나방 (新稱)
(Fig. 2, 9 and 14)

Cochylidia heydeniana Herrich-Schäffer, 1851, p. 4: 187.

Cochylis padorana Staudinger, 1859, p. 229.

Cochylis erigerana Walsingham, 1891, p. 3.

Phalonia sabulicola Walsingham, 1900, p. 194.

Phalonia almana Kennel, 1919, p. 74, t. 3, fig. 5.

Phalonia obraztsovi Amsel, 1951, p. 411, f. l., 1 A-C.

Cochylidia amseli Obraztsov, 1956, p. 19, figs. 9-11.

Description. Wing span, 10-13 mm.

Male genitalia (Fig. 9). Uncus very short, bifurcated, with rounded apex. Socius strong, moderate in length. Transtilla short, with narrow median process. Valva short, nearly triangular in shape, broad at base, narrower towards apex; costa not sclerotized; sacculus not developed. Aedeagus short, with long spine-like apex, with several short cornuti on middle.

Female genitalia (Fig. 14). Papillae analis very narrow. Apophysis anterioris a little bit longer than apophysis posterioris. Ostium bursa quite broad, weakly sclerotized. Ductus bursa indistinct. Corpus bursa very large, sack-shaped, plicated on upperside.

Material examined. KG: 1 ♀, Kwangnŭng, 7 Aug. 1986. KW: 1 ♀, Ch'unch'ŏn-shi, 13 June 1989, 1 ♂, 30 Aug. 1990, 1 ♂, 15 Aug. 1992, 2 ♀ ♀, 15 May 1985, 1 ♀, 30 Aug. 1988; 1 ♀, Dunnae, Hwengsŏng, 12 May 1992; 1 ♂, 1 ♀, Mt. Sŏrak-san, 10 Aug. 1989; 1 ♂, Mt. Chiak-san, 23 June 1977; 1 ♀, Sogŭmgang, 8 Aug. 1988; 2 ♀ ♀, Hwach'ŏn, 2 July 1985; 1 ♂, Sŏmyŏn, Yangyang, 10 July 1987. Ch'B: 1 ♀, Mt. Songni-san, 19 Aug. 1993. CN: 1 ♀, Mt. Pekun-san, 19 Aug. 1992. CJ: 1 ♂, Mt. Halla-san, 5 July 1986; 1 ♀, Sŏgwip'ŏ, 5 July 1986 - coll. CIS/KWNU.

Additional specimen examined. KG: 1 ♂, Suwŏn, 27 May 1974; 1 ♂, 20 May 1976. KW: 1 ♂, Mt. Chiak-san, 23 June 1977. CB: 2 ♂ ♂, Isl. Sinshi-do, 26 Aug. 1980. CN: 6 ♂, Yŏch'ŏn, 10 May 1976; 1 ♂, Isl. Hŭksan-do, 18 July 1974 - coll. ASTI.

Distribution. Korea (new record), Japan, China, Russia (Amur), Mongolia, Europe.

Host plant. *Erigeron* sp. and *Solidago* sp. (Kawabe, 1982).

****Cochylidia moguntiana* (Rösler, 1864) *썩가는잎말이나방* (新稱) (Fig. 3 and 10)**

Tortrix moguntiana Rösler, 1864, p. 131.

Phalonia trafvenfelti Beander, 1949, p. 8.

Cochylis grieolana Petersen, 1924, p. 436.

Description. Wing span, 9 mm in male.

Male genitalia (Fig. 10). Uncus very short, slightly concaved at the top. Socius long, with numerous minute spines apically. transtilla broad, short, with slender median process. Valva moderate, slightly emarginated ventrally; sacculus not developed; costa not sclerotized, with narrow apex. Aedeagus short, with long spine-like apex, with several short cornuti on middle.

Material examined. KW. 1 ♂, Chunsŏng, 20 July 1987 - coll. CIS/KWNU.

Distribution. Korea (new record), China, Europe (except for England).

***Cochylidia richteriana* (Fischer von Röslerstamm, 1837) 갈색가는잎말이나방**

Cochylis richteriana Fischer von Röslerstamm, 1837, p. 92, t. 40, figs. 3a-b.

Cochylis olindiana Snellen, 1883, p. 194.

Cochylis ineptana Kennel, 1900, p. 233.

Phalonia xanthodryas Meyrick, 1936, p. 155.

Material examined. KW: 2 ♂ ♂, Sŏmyŏn, Yangyang, 25 July 1987. KN: 1 ♂, Mt. Chiri-san, 17 July 1976. KB: 1 ♂, 1 ♀, Sangju, 9 May 1976 - coll. CIS/KWNU.

Additional specimen examined. KG: 2 ♂ ♂, Suwŏn, 16 May 1974 - coll. ASTI.

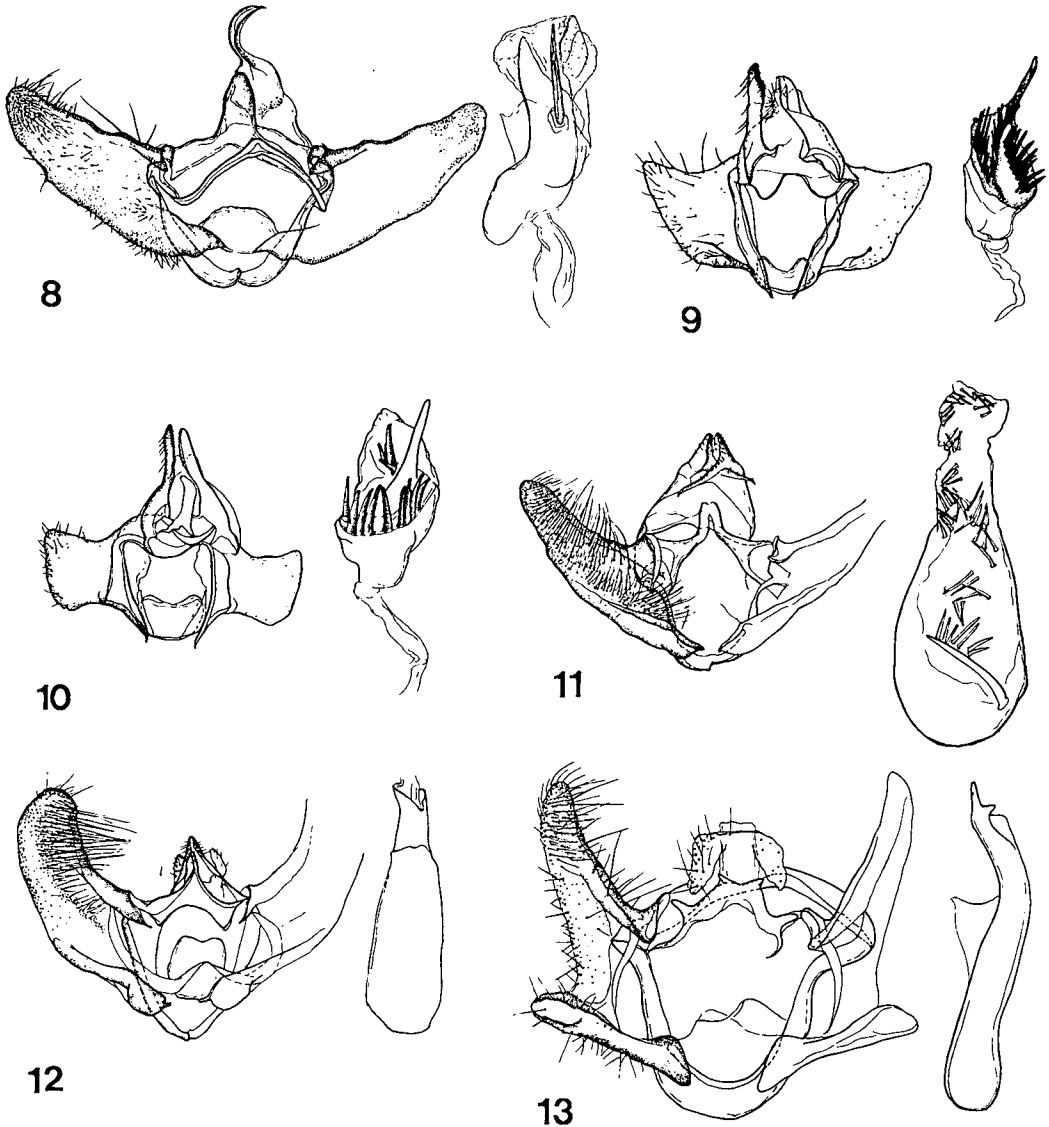
Distribution. Korea, Japan, Russia (Amur, Siberia), China, Mongolia, Europe.

Host plant. The larvae of this species are known to feed on *Artemisia* sp. in Japan (Kawabe, 1982).

***Cochylidia subroseana* (Haworth, 1811) 황줄가는잎말이나방**

Tortrix subroseana Haworth, 1811, p. 402.

Cochylis phaleratana Herrich-Schäffer, 1851, p. 189.



Figs. 8-13. Male genitalia: 8, *Aethes citreoflavus* Kuznetsov; 9, *Cochylidia heydeniana* (Herrich-Schäffer); 10, *Cochylidia moguntiana* (Rösler); 11, *Eupoecilia angustana* (Hübner); 12, *Eupoecilia kobeana* Razowski; 13, *Stenodes cuspidatus* Ge.

Cochylis flammeolana Tengström, 1848, p. 161.

Material examined. KG: 1 ♂, Kwangnŭng, 31 May 1986, 1 ♂, 7 Aug. 1986; 1 ♂, Suwon, 2 July 1974. KW: 1 ♀, Ch'unch'ŏn-shi, 12 May 1986, 4 ♀ ♀, 15 May 1985, 1 ♂, 5 July 1983, 1 ♂, 25 July 1988, 1 ♀, 1 May 1989, 2 ♂ ♂, 7 May 1989, 1 ♂, 2 July 1989, 1 ♂, 18 July 1989, 1 ♂, 15 Aug. 1992, 1 ♂, 5 Aug. 1993, 1 ♂, 1 ♀, 5 July 1993, 3 ♀ ♀, 4 June 1993; 2 ♂ ♂, Chunsŏng, 20 July 1987; 1 ♀, Chugok, 20 July 1986; 4 ♂ ♂, 1 ♀, Dunnae, Hwengsŏng, 12 May 1992; 1 ♂, Pyŏngch'ang, 31 July 1991; 1 ♀, Mt. Sŏrak-san, 10 Aug. 1989; 1 ♀, Sogŭmgang, 9 Aug. 1988; 2 ♂ ♂, Sŏmyŏn, Yangyang, 25 July 1987, 1 ♀, 10 July 1987. CB: 3 ♂ ♂, Buan, Naebyŏnsan, 30 July 1992; 1 ♀, Mt. Daedun-san, 3 May 1991. KB: 1 ♀, Mt. Chuwang-san, 18 Aug. 1993. CJ: 1 ♂,

Sögwip'ö, 5 July 1986 - coll. CIS/KWNU.

Additional specimen examined. KG: 1 ♂, 1 ♀, Suwon, 22 May 1974, 1 ♂, 2 June 1974, 3 ♂ ♂, 12 July 1974, 2 ♂ ♂, 12 Sept. 1974; 1 ♂, Mt. Chönggye-san, 19 Aug. 1976. KW: 1 ♂, Mt. Chiaksan, 23 June 1977. CB: 1 ♀, Muju, 13 Aug. 1975; 1 ♂, Mt. Dögyu-san, Muju, 12 Sept. 1974; 1 ♂, Isl. Sinshi-do, 26 July 1980. Ch'B: 3 ♀ ♀, Suanbo, 1 July 1990. Ch'N: 1 ♂, Mt. Kyeryong-san, 21 July 1980. KB: 1 ♂, Sangju, 9 May 1975. KN: 1 ♂, Mt. Chiri-san, 19 July 1981. CN: 1 ♂, Isl. Hüksan-do, 27 June 1974; 1 ♂, 3 July 1974; 1 ♂, 1 ♀, Bosöng, 27 Sept. 1989 - coll. ASTI.

Distribtuion. Korea, Japan, China (Manchuria), Russia (Far East), Europe.

Host plant. *Solidago* sp. (Razowski, 1970).

Genus *Cochylis* Treitschke, 1829

Cochylis Treitschke, 1829, Schmett. Eur., 7: 233. (Type species: *Tortrix roseana* Haworth [1811]).

***Cochylis hybridella* (Hübner, 1813)** 꼬마무늬가는잎말이나방

Tinea hybridella Hübner, 1813, p. 51, fig. 351.

Cochylis dissolutana Herrich-Schäffer, 1847, t. 12, fig. 83.

Cochylis carduana Zeller, 1847, p. 741.

Conchylis dubitana var. *clarana* Caradja, 1916, Dt. ent. Z. Iris 30: 52.

Material examined. 2 ♂ ♂, 1 ♀, Samjiyon, 14 July 1987 - coll. IECA.

Distribtuion. Korea, Japan, China, Russia (Amur), Europe.

Genus *Eulia* Hübner, [1825]

Eulia Hübner, Verz. bek. Schm., 379. (Type species: *Phalaena ministrana* Linnaeus, 1758).

***Eulia ministrana* (Linnaeus, 1758)** 민무늬잎말이나방

Phalaena ministrana Linnaeus, 1758, p. 531.

Lophoderus subfasciana Stephens, 1834, p. 144.

Material examined. KG: 1 ♀, Mt. Myöngji-san, 26 June 1992. KW: 1 ♂, Mt. Odae-san, 23 May 1989, 2 ♂ ♂, 26 June 1989, 1 ♂, 27 June 1991; 1 ♂, Sömyön, Yangyang, 15 May 1987, 1 ♂, 1 ♀, Mt. Chömbong-san, 20 June 1992 - coll. CIS/KWNU.

Host plants. *Corylus* sp., *Betula* sp., *Alnus* sp., *Fraxinus* sp., *Sorbus* sp., *Prunus* sp., *Vaccinium myrtillus*, *Epilobium* sp., *Rubus chamaemorus*, *Rosa* sp., *Fagua* sp., *Quercus* sp., and *Tilia* sp. have been known from U.K. (Bradely, 1973).

Distribution. Korea, Japan, China, Russia (Siberia), Europe, N. America.

Remarks. Taxonomic status of the genus *Eulia* Hübner is still doubtful to date. Many species described under this generic name by Meyrick (1931) or listed by Obraztsov (1956) have been removed to other genera belonging to Archipini. Razowski (1965) and Yasuda (1975) placed the genus *Eulia* Hübner in Cnephasiini, but Razowski (1987) removed the genus *Eulia* Hübner to the tribe Archipini. Kuznetsov and Stekonikov (1977) erected the subtribe Euliae for *Eulia* Hübner and *Pseudagyrotoza* Obraztsov, belonging to the Cochylini on the basis of shared archaic male genitalia musculature. Powell (1986) erected the Euliini for *Eulia* Hübner and its related genera. Some recent authors (Brown & Horak, 1990, 1991) follow his suggestion, but the authors place this genus in the tribe Cochylini which show apparently same phylogenetic characters shared within the tribe,

especially on spinose corpus bursa of female genitalic structure and modified transtilla of male genitalia.

Genus *Eupoecilia* Stephens, 1829

Eupoecilia Stephens, 1829, Syst. Catalog. Br. Ins., 2: 100. (Type species: *Tortrix angustana* Hübner, 1799).

***Eupoecilia ambiguella* (Hübner, 1796) 버찌가는잎말이나방**

Tinea ambiguella Hübner, 1796, pl. 22, fig. 153.

Tinea omphaciella Faure-Bignet De Simonest, 1801, p. 5.

Tortrix roserana Frölich, 1828, p. 52.

Material examined. KG: 1 ♂, Mt. Chönggye-san, 19 Aug. 1976; 1 ♀, Kwangnūng, 27 June 1986, 1 ♂, 17 May 1988, 2 ♂♂, 10. July 1990, 3 ♂♂, 8 July 1992; 1 ♂, Mt. Myöngji-san, 25 May 1990, 1 ♂, 23 May 1991, 1 ♂, 28 July 1992; 2 ♂♂, Mt. Soyo-san, 3 Sept. 1992. KW: 1 ♂, Ch'unch'ön-shi, 5 Sept. 1989, 2 ♂♂, 6. May 1994, 2 ♀♀, 4. June 1993, 1 ♂, 5. July 1993, 1 ♂, 1 ♀, 21. July 1992, 1 ♀, 15. May 1985, 2 ♂♂, 12. May 1986, 1 ♂, 1 ♀, 12 Aug. 1988; 1 ♂, 5. July 1993; 1 ♂, Chugok, 30 July 1986; 1 ♂, Söngdong, Hongchön, 5 Sept. 1986; 3 ♀♀, Bongmyöng-ri, Hongchön, 3 June 1992; 1 ♂, Mt. Chömbong-san, 21 June 1992, 3 ♀♀, 10 Aug. 1992; 1 ♂, Mokujae, near Sokch'o-shi, 19 Aug. 1992; 1 ♂, Mt. Odae-san, 22 May 1989, 1 ♂, 6 Aug. 1989; 1 ♂, Mt. Obong-san, 1 July 1993; 1 ♂, 1 ♀, Sögümgang, 24 May 1988; 4 ♂♂, 6-8 Aug. 1988; 1 ♂, Sömyön, Yangyang, 30. May 1987, 1 ♂, 1 ♀, July 1987. KB: 1 ♂, Mt. Chuwang-san, 18 Aug. 1993. KN: 1 ♂, Mt. Chiri-san, 15 May 1992; 4 ♀♀, Mt. Kaji-san, 19 Aug. 1993. CB: 1 ♀, Mt. Daedun-san, 22 May 1992. CN: 1 ♂, 1 ♀, Mt. Pek'un-san, 19 Aug. 1992, 1 ♀, Namhae, 25 July 1985. CJ: 1 ♂, Cheju Natl. Univ., 17-18 May 1991, 1 ♂, Söngpanak, 23 Aug. 1992; 1 ♀, Kwanūm-sa, 24 Aug. 1992; 2 ♀♀, Sunhül, near Hamdök, 11 Aug. 1993; 1 ♀, Topyöng, near Sögwip'o city, 29 June 1993, 1 ♀, Sögwip'o, 5 July 1986 - coll. CIS/KWNU.

Additional specimens examined. KG: 2 ♂♂, Mt. Chönggye-san, 19 Aug. 1976. KW: 2 ♂♂, Mt. Chiak-san, 23 June 1977. Ch'B: 1 ♂, Suanbo, 1 Aug. 1990 - coll. ASTI. <N. Korea> 2 ♂♂, 2 ♀♀, Mt. Myohyang-san, 13 July 1982, 1 ♂, 27 May 1985; 1 ♀, Mt. Daesöng-san, near Py ngyang, 17 May 1985 - coll. HNHM.

Distribtuion. Korea, Japan, India (Assam, Pegu, W-Sumatra), China, Mongolia, Russia (Far East), Europe. Widespread in the temperate zones of the Palaearctic and Indo-Oriental regions.

Host plants. *Prunus*, *Ribes*, *Nedera*, and *Lonicera* sp. (on fruit, seed) have been known from Japan (Kawabe, 1982).

****Eupoecilia angustana* (Hübner, 1799) 미역취가는잎말이나방(新稱) (Figs. 4 and 11)**

Tortrix angustana Hübner, [1799], t. 12, fig. 74.

Phalaena fasciella Donovan, 1808, p. 41, t. 452.

Cochylis cruentana Herrich-Schäffer, 1851, p. 191.

Description. Wing span, 15 mm in male.

Male genitalia (Fig. 11). Tegumen narrow. Socius slender, elongated, narrowed apically. Median process of transtilla subtriangular, broad medially, slightly delated at apex laterally. Valva long, expanded, slightly broad at base, narrower beyond 2/3, with rounded termination; sacculus narrow,

well developed to basal half ventrally. Aedeagus short, rounded and very broad basally, narrowed terminally, with a big cornutus and numerous minute cornuti in vesica.

Material examined. 1 ♂, Mt. Samak-san, KW, 24 May 1991 - coll. CIS/KWNU.

Distribution. Korea (new record), Europe, China, Japan.

***Eupoecilia citrinana* Razowski, 1960** 진노랑가는잎말이나방

Eupoecilia citrinana Razowski, 1960, p. 401.

Euxanthis patriciana Caradja, 1916, p. 52, 83.

Material examined. KG: 1 ♂, Suwŏn, 10 Sept. 1974. KW: Ch'unch'ŏn-shi: 1 ♂, 5 Sept. 1989; 2 ♂♂, 9 Oct. 1988; 1 ♂, 25 Aug. 1988; 1 ♂, Hwengsŏng-dam, 22 Aug. 1994. CN: 2 ♂♂, Mt. Dŏgyu-san, Muju, 13 Aug. 1975. KB: 1 ♂, Mt. Juwang-san, 18 Aug. 1993 - coll. CIS/KWNU.

Additional specimen examined. CB: 2 ♂♂, Muju, 13 Aug. 1975 - coll. ASTI.

Distribution. Korea, Japan, China (Manchuria), Russia (Ussuri, E-Siberia).

***Eupoecilia inouei* Kawabe, 1972** 끝검은가는잎말이나방

Eupoecilia inouei Kawabe, 1972, p. 250, figs. 9, 19, 25.

Material examined. 1 ♀, Sŏmyŏn, Yangyang, KW, 10 July 1987-coll. CIS/KWNU.

Distribution. Korea, Japan, China.

****Eupoecilia kobeana* Razowski, 1968** 인동가는잎말이나방 (新稱) (Figs. 5 and 12)

Eupoecilia kobeana Razowski, 1968, p. 125, figs. 37-39.

Description. Wing span, 11 mm in male.

Male genitalia (Fig. 12). Socius strong, broad basally, tapering terminally, hairy with broad, minutely spined basal portions. Transtilla protruding in middle dorsally, bearing thin central part and large lateral portions. Valva large, elongate, curved; sacculus broad basally, tapering terminally. Aedeagus large, tapering apically; cornutus strong, slightly curved accompanied by minute dentation of the vesica.

Material examined. CB: 1 ♂, Mt. Daedun-san, 22-23 May 1992. CN: 1 ♂, Kwangyang, 8 June 1991. CJ: 3 ♂♂, 2 ♀♀, Moksŏkwon, 29 May 1992; 1 ♀, Kwanŭm-sa, 24 Aug. 1992; 1 ♂, Oradong, Cheju-shi, 10 June 1993; 1 ♂, 1 ♀, Sŏnhŭl, near Hamdŏk, 11 Aug. 1993; 1 ♀, Cheju, 11 May 1985 - coll. CIS/KWNU.

Distribution. Korea, Japan, China.

Genus *Hysteriosia* Stephens, 1852

(Type species: *Tortrix inopiana* Haworth, [1811])

***Hysteriosia pistrinana* (Erschoff, 1877)** 흰빛가는잎말이나방

Cochylis (Phtheochroa) pistrinana Erschoff, 1877, p. 341.

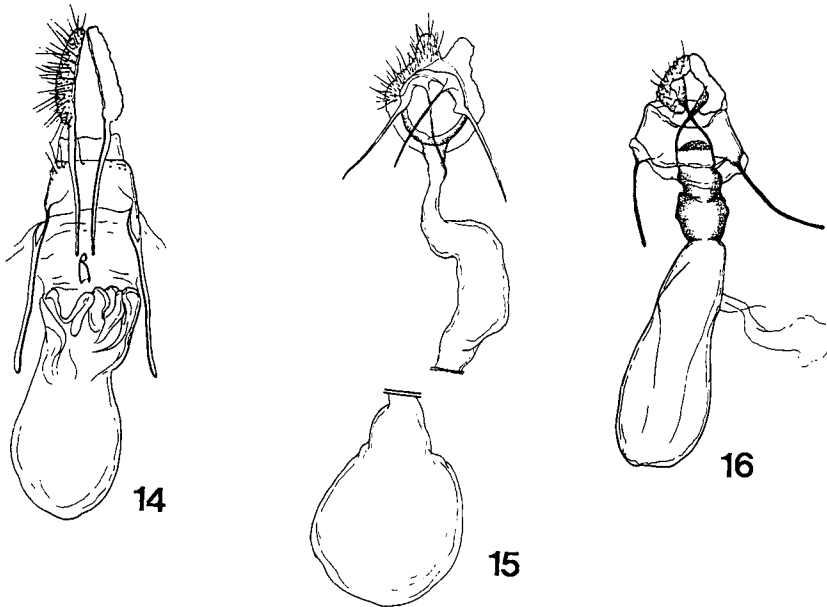
Hysteriosia coreana Walsingham, 1900, p. 447.

Phtheochora albiscutellum Walsingham, 1900, p. 448.

Propira pistrinana heptopotamica Obraztsov, 1944, p. 68.

Previous record. Wŏnsan (Razowski, 1970).

Distribution. Korea, Japan, China, Russia (Siberia), Mongolia.



Figs. 14-16. Female genitalia: 14, *Cochylidia heydeniana* (Herrich-Schäffer); 15, *Pseudargyrotoza calvicaput* (Walsingham); 16, *Stenodes cuspidatus* Ge.

Remarks. Walsingham (1900) described *H. coreana* from Korea, which was collected from Wönsan by Leech in 1886 <Type (male): "Gensan, Corea, June 1886, Leech 60364", G. sl. 4097 (7787 B.M.)>, but it had been sinked to a junior synonym of *H. pistrinana* (Erschoff). No specimen has been found to date by the author. It is known that the larvae feed in stem of *Lilium auratum* Lindl. (Liliaceae) (Kawabe, 1982).

Genus *Pseudargyrotoza* Obratzsov, 1954

Pseudargyrotoza Obratzsov, 1954, Tijd. Ent., 97: 228. (Type species: *Pyralis conwagana* Fabricius, 1775).

***Pseudargyrotoza aeratana* (Kennel, 1910)** 알락은무늬잎말이나방

Tortrix aeratana Kennel, 1910, p. 174.

Material examined. KG: 1♀, Kwangnŭng, 17 June 1994. KW: 4♀♀, Mt. Sörak-san, 10 Aug. 1989; 6♀♀, Mt. Odae-san, 26 June 1989, 5♀♀, 6 Aug. 1989; 1♀, Mt. Daeam-san, 27 July 1987. CB: 1♀, Mt. Dögyu-san, Muju, 13 Aug. 1975 - coll. CIS/KWNU.

Distribution. Korea, Japan, Russia (Ussuri).

****Pseudargyrotoza calvicaput* (Walsingham, 1900)** 쥐똥나무가느잎말이나방 (新稱)
(Figs. 6 and 15)

Epagoge calvicaput Walsingham, 1900, p. 485.

Description. Wing span, 12 mm.

Female genitalia (Fig. 15). Papillae analis narrow, slender, short. Sterigma small. Ostium bursa small, narrow in length. Ductus bursa broadened slightly towards corpus bursa. Corpus bursa without

signum.

Material examined. 1 ♀, Kwangnŭng, KG, 7 Aug. 1986 - coll. CIS/KWNU.

Distribution. Korea (new record), Japan.

***Pseudargyrotoza conwagana* (Fabricius, 1775) 금빛꼬마잎말이나방**

Pyralis conwagana Fabricius, 1775, p. 653.

Material examined. KW: 15 ♂♂, Mt. Odae-san, 26 June 1989; 1 ♂, 6 Aug. 1989; 3 ♂♂, 2 ♀♀, Mt. Kyebang-san, 2 Aug. 1989; 1 ♂, Pyŏngchang, 31 July 1991. CB: 1 ♂, Mt. Dŏgyu-san, Muju, 13 Aug. 1975 - coll. CIS/KWNU.

Distribution. Korea, Japan, China, Russia, Europe, Asia Minor.

Host plant. *Berberis* sp., *Ligustrum* sp. and *Fraxinus* sp. are known from Europe (Razowski, 1987), but not known in Korea.

***Pseudargyrotoza minuta* (Walsingham, 1900) 활무늬잎말이나방**

Capua minuta Walsingham, 1900, p. 484.

Material examined. 1 ♂, Kwangnŭng, KG, 15 May 1982 - coll. ASTI.

Distribution. Korea, Japan.

Genus *Stenodes* Guenée, 1845

Stenodes Guenée, 1845, Anns. Soc. ent. Fr., (2)3: 298. (Type species: *Cochylis elongana* Fisher von Röslerstam, 1939).

****Stenodes cuspidatus* Ge, 1992 꼬마백색가는잎말이나방 (新稱) (Figs. 7, 13 and 16)**

Stenodes cuspidata Ge, 1992, p. 306, figs. 7, 19.

Description. Wing span, 12 mm.

Male genitalia (Fig. 13). Tegumen broad. Socius short, drooping. Valva broad at costa and fringe of valva concave; sacculus large, round, well developed at base and terminal. Median process of transtilla broad with two sharp projections terminally. Aedeagus slender, with several teeth at terminal portion; two different sized cornuti in vesica.

Female genitalia (Fig. 16). Antrum broad. Apophysis anterioris long, while posterioris short. Ductus bursa very short. Corpus bursa large, sclerotized posteriorly without spine.

Material examined. KW: 1 ♀, Mt. Palbong-san, 15 June 1990; 1 ♂, Chunsŏng, 7 July 1987; 1 ♀, Wŏnasa temple, 24 July 1994. Ch'N: 1 ♂, Mt. Kyeryong-san, 20 Aug. 1980 - coll. CIS/KWNU.

Distribution. Korea (new record), China.

Remarks. This species is very similar to *S. alticolana* in genitalic characters, but very different in the apex of aedeagus in male genitalia.

***Stenodes hedemannianus* (Snellen, 1883) 백색가는잎말이나방**

Cochylis hedemanniana Snellen, 1883, p. 192, t. 11, figs. 6, 6a.

Euxanthis rectifascia Filipjev, 1924, p. 53.

Material examined. KG: 1 ♂, Mt. Myŏngji-san, 23 May 1991, 1 ♂, 27 June 1992; 1 ♀, 28 July 1992; 1 ♂, Kapyŏng, 15 July 1986. KW: 1 ♂, Ch'unch'ŏn-shi, 29 May 1989, 1 ♀, 19 June 1990, 1 ♀, 18 July 1989, 1 ♀, 22 July 1991; 1 ♂, Chugok, 30 July 1986; 1 ♀, Sŏmyŏn, Yangyang, 30

June 1987, 1 ♂, 25 July 1987-coll. CIS/KWNU.

Distribution. Korea, Japan, China, Russia (Siberia, Amur).

***Stenodes jaculanus* (Snellen, 1883) 쇠뿔가는잎말이나방**

Cochylis jaculana Snellen, 1883, p. 195.

Material examined. KW: 2 ♀ ♀, Bongmyöng-ri, near Hongch'ön, 31 Aug. 1992-coll. CIS/KWNU.

Distribution. Korea, Japan, China, Russia (Ussuri, Amur), Mongolia.

Remarks. This species was collected from Wonsan, N. Korea by Leech (1886) and has not been found in this country to date. Fortunately the authors recently collected 2 female specimens from Hongch'ön (24 km SE from Ch'unch'ön-shi), central part of Korea.

***Stenodes nankinensis* Razowski, 1964 홍갈색가는잎말이나방**

Stenodes nankinensis Razowski, 1964, p. 346.

Material examined. KG: 1 ♂, Suwon, 15 July 1975- coll. CIS/KWNU.

Additional specimen examined. KW: 1 ♂, Pyöngchang, 24 June 1988; 1 ♂, Mt. Chiak-san, 23 June 1977. CB: 1 ♂, Mt. Dögyu-san, Muju, 13 Aug. 1975; 1 ♀, 2 June 1989 - coll. ASTI.

Previous record. KG: Suwon (Park, 1976); KW: Mt. Chiak-san, KB: Sangju (Park, 1983b).

Distribution. Korea, China.

***Stenodes trianguliferus* Kuznetsov, 1966 세모무늬가는잎말이나방**

Stenodes triangulifera Kuznetsov, 1966, p. 201, fig. 23.

Description. Wing span, 15-17 mm in male.

Material examined. KG: 2 ♂ ♂, Mt. Myöngji-san, 26 June 1992. CJ: 2 ♂ ♂, Cheju Natl. Univ. Campus, 17-18 May 1991; 1 ♂, Moksökwon, near Cheju-shi, 29 May 1992 -coll. CIS/KWNU.

Additional specimen examined. CB: 1 ♂, Mt. Naejang-san, 16 June 1982 -coll. ASTI. <N. Korea> 1 ♂, Mt. Myohyang-san, Hyangsan, 15 June 1985 - coll. ICEA.

Distribution. Korea, Russia (Far East).

ACKNOWLEDGEMENTS

The authors wish to express their sincere thanks to the late Kawabe, A., Tokyo, Japan for his examination of some difficult species during the course of the present study and to Dr. Y. J. Kwon, Department of Agricultural Biology, Kyungpook National University for his fruitful discussion and comment for the manuscript.

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RECEIVED: 5 March 1996

ACCEPTED: 28 March 1996

한국産 가는잎말이나방族(나비目, 잎말이나방科)의 分類

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요 약

한국産 가는잎말이나방族의 분류학적 연구를 위해 전국적으로 채집을 실시하였으며 현재까지 채집되어 곤충계통분류연구센터와 농업과학기술원 등에 소장되어 있는 전표본을 검경하였다. 그 결과 8屬 26種이 확인되었으며 이중 7種은 韓國未記錄種들이었다. 또한 가는잎말이나방族내에서 가장 큰 *Phalonidia*屬은 최근 9미기록종을 포함하여 15種으로 정리, 발표된 바 있어 본稿에서는 제외하였다. 금번에 *Phalonidia*속을 제외하고 종합적으로 정리된 26種 중 우리나라未記錄種인 7種의 암수生殖器를 圖解하고 각 種의 특징을 간략히 기술하였으며 그 목록은 다음과 같다.

1. *Aethes citreoflavus* Kuznetsov 희백색가는잎말이나방(新稱)
2. *Cochylidia heydeniana*(Herrich-Schäffer) 망초가는잎말이나방(新稱)
3. *Cochylidia moguntiana*(Rösler) 썩가는잎말이나방(新稱)
4. *Eupoecilia angustana*(Hübner) 미역취가는잎말이나방(新稱)
5. *Eupoecilia kobeara* Razowski 인동가는잎말이나방(新稱)
6. *Pseudargyrotoza calvicaput*(Walsingham) 쥐똥나무가는잎말이나방(新稱)
7. *Stenodes cuspидatus* Ge 꼬마백색가는잎말이나방(新稱)