

Review of the Genus *Rhyacionia* Hübner (Lepidoptera: Tortricidae) in Korea*

韓國產 *Rhyacionia*屬(나비目: 잎말이나방科)의 分類學的 整理

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ABSTRACT A total of 4 species of the genus *Rhyacionia* Hubner are recognized from Korea. Among them 3 species, *dativa* Heinrich, *pinicolana* Doubleday, and *pinivorana* (Zeller) are reported for the first time from Korea.

KEY WORDS Systematics, Lepidoptera, Tortricidae, Olethreutinae, *Rhyacionia*, Korea

초 록 한국산 *Rhyacionia*屬은 4種으로 정리된다. 이 중에서 *Rhyacionia dativa* Heinrich(붉은점애기잎말이나방), *pinicolana* Doubleday(솔새눈애기잎말이나방), *pinivorana*(Zeller) (갈색순애기잎말이나방) 등 3種은 우리나라에서 처음으로 報告되는 種들이다

검색어 분류, 나비目, 잎말이나방科, 애기잎말이나방亞科, *Rhyacionia*屬

Rhyacionia buolana (Denis et Schiffermüller) is the first species of the present genus in this country which was reported by Walsingham (1900). In "A check list of forest insect pests in Korea (For. Res. Stn., 1969)", 3 species (*R. buolana* Schf. et Denis, *R. duplana* Hübner, and *R. turionana* Hübner) were included mainly based on the previous literatures without materials. Due to this reason, their localities in Korea have been uncertain to date

In "Microlepidoptera of Korea (Park 1983a)", 2 species of *Rhyacionia* (*buolana* Schf et Denis and *duplana* Hübner) were included in which one species, *turionana* Hübner removed to the genus *Blastesthia*. He listed only one species, *duplana* under the present genus in his later publication (Park 1983b) with deletion of a species, *buolana* which was previously reported from Gensan (=Wonsan) by Walsingham (1900) and was not cited any more by recent authors (Kawabe 1982; Liu 1983)

In the present study, a total of 4 species are trea-

ted. Of these, 3 species are reported for the first time from Korea. Available male and female genitalic structures were examined and briefly described. All the available informations of locality, known host plant, and distribution are provided. Specimens examined here will be preserved in the Center for Insect Systematics, Kangwon National University, Korea.

***Rhyacionia* Hübner, (1825)**

=*Retinia* Guenee, 1845

<Type species: *Tortrix hastana* Hübner, 1799>

***Rhyacionia duplana* (Hübner)**

(소나무순나방)

Tortix duplana Hübner, (1813), Samml eur. Schmett, 7: pl. 36, figs. 229, 230.

Tortrix corustana Frölich, 1828, Enum. Tort. Würt., 58.

Retinia sylverstrana Stephens, 1852, List. Spec. Brit. Anm., 10: 53.

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*This is a part of the study which was carried out under the financial support by the Center for Insect Systematics, KOSEF (1993)

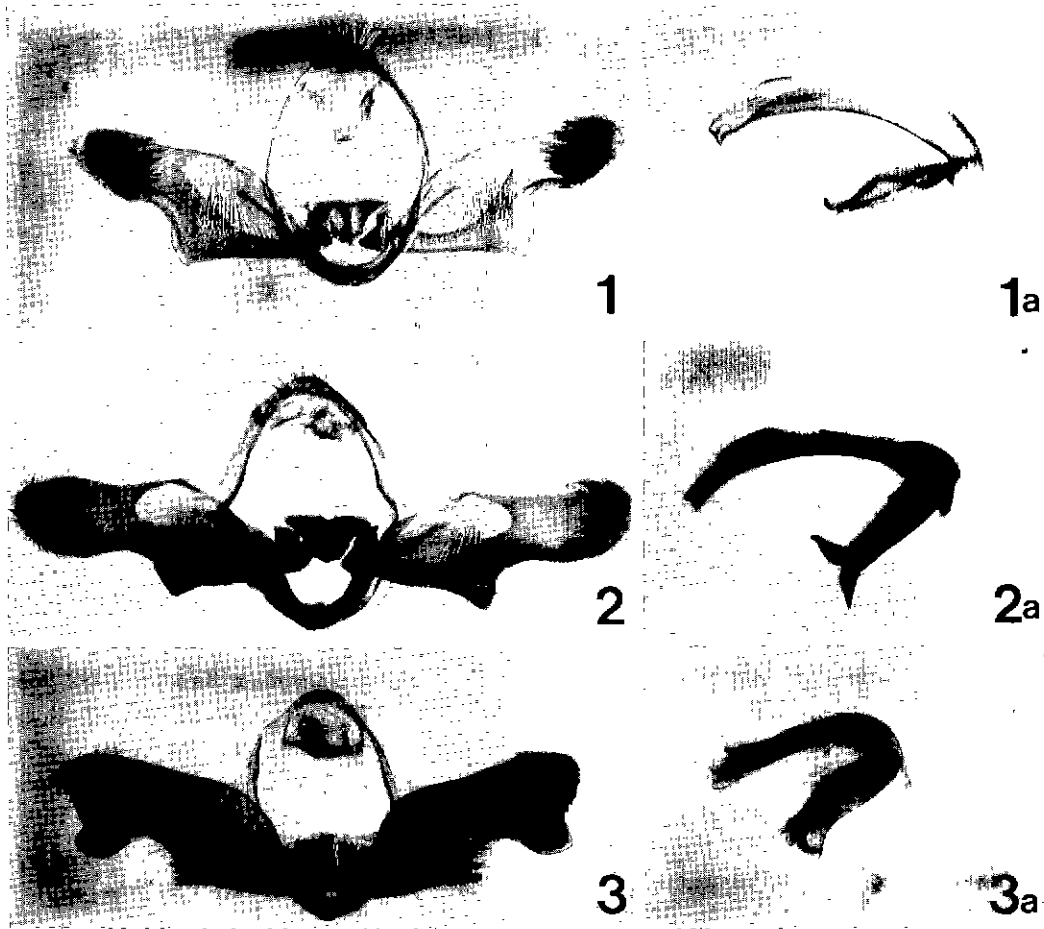


Fig. 1-3. Male genitalia. 1, *Rhyacionia dativa* Heinrich; 1a, ditto, aedeagus; 2, *R. pinicolana* Doubleday; 2a, ditto, aedeagus; 3, *R. pinivorana* (Zeller); 3a, ditto, aedeagus.

Rhyacionia duplana Pierce & Metcalfe, 1922, Genit. Brit. Tort., 81; For. Res. Inst., 1969, Bull. For. Res. Inst. 5: 88; Liu & Bai, 1981, Entomotaxonomia, 3(2): 100; Kawabe, 1982, Moths of Japan, 1: 131, 2: 176, pl. 27: 48; Liu, 1985, Econ. Ins. Faun. Chin., 1: 50; Park 1983(b), Ins. Koreana, 3: 29.

Rhyacionia duplana simplata Heinrich, 1928, Proc. ent. Soc. Wash. 30: 62.

Evertia duplana: Matsumura, 1931, 6000 Ill. Ins. Jap.: 1070.

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

Remarks. Since the present species was cited by Park (1983) based on the previous report, no specimen was found to date by the authors.

Rhyacionia dativa Heinrich, 1928

붉은점애기잎말이나방(신칭)

Rhyacionia dativa Heinrich, 1928, Proc. ent. Soc. Wash., 30: 61, pl. 3: 3; Kawabe, 1982, Moths of Japan. 1: 131. 2: 176, pl. 27: 45; Liu, 1981, Entomotaxonomia, 3(2): 99-102.

Evertia japoniella Matsumura, 1917, Oyo Konchugaku, 1: 516, pl. 20: 7

Wing expanse, 19~21 mm.

Male genitalia (Fig. 1, 1(a)). Uncus strongly atrophied. Tegumen rather broad, weak. Valva elongated with dense hairs apically; sacculus heavily sclerotized, thickened, fairly long reaching to 2/3 of valva; protruded horizontally at middle. Aedeagus long,

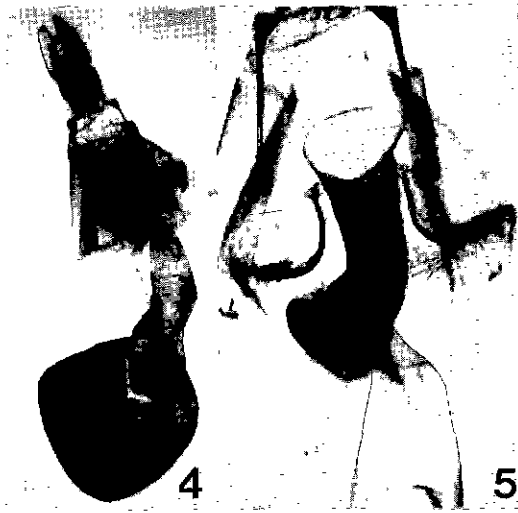


Fig. 4-5. *Rhyacionia dativa* Heinrich. 4, Female genitalia; 5, magnification of ostium bursa

deeply arched, strongly sclerotized.

Female genitalia (Fig. 4, 5). Papillae analis small, slightly showing a rectangular shape. Ostium bursae strongly sclerotized, fairly broad, thickened. Ductus bursae long, broad. Corpus bursae round with two large signa.

Material examined. 1 ♂, Mt. Yumyoung-san, Gyeonggi Prov., 17 VI. 1990 (B. K. Byun)-gen. prep. no. 3328; 1 ♀, Chuncheon, Kangwon Prov., 26. VI. 1984 (K. T. Park); 2 ♀, Chuncheon, Kangwon Prov., 13. VI. 1989 (K. T. Park & B. K. Byun)-gen. prep. no. 3329; 1 ♂, 1 ♀, Sogumgang, Kangwon Prov., 6. VII. 1988 (K. T. Park).

Distribution. Korea, Japan, China, Russia, Europe

Remarks. It has been known that the present species has 2 generations a year in Japan and their larvae feed on *Pinus* sp. in Japan (Kawabe, 1982).

Rhyacionia pinicolana Doubleday, 1850

솔새눈애기잎말이나방(신칭)

Retinia pinicolana Doubleday, 1850, The Zool., 8, App. CVI. Taf. 20, Fig. 13; Liu & Bai, 1981, Entomotaxonomia, 3(2): 100; Liu, 1985, Econ. Ins. Faun. Chin., 1: 50; Kuznetsov, 1986, Keys Ins. Eur. Part USSR, 4(1): 725

Wing expanse, 19~21 mm.

Male genitalia (Fig. 2, 2(a)). Uncus atrophied.

Tegumen short, setose terminally. Socii very small, semicircular. Valva long with a triangular projection near basal 1/3 ventrally; basal opening rather broad, reaching to near half; cucullus spatulated, numerous setae caudally. Aedeagus slender, elongated, strongly sclerotized, with two prominent short projections.

Material examined. 1 ♂, Mt. Yumyoung-san, Gyeonggi Prov., 17. VI. 1990 (B. K. Byun); 2 ♂, Seoguiipo, Jeju Is., 5. VII. 1986 (K. T. Park)-gen. prep. no. 3641.

Distribution. Korea, China, Russia, Europe.

Remarks. Larvae of the species live in buds, and hibernate in the shoots of young pines, rarely on *Pinus silvestris* and *P. pumila* (Kuznetsov, 1986).

Rhyacionia pinivorana (Zeller, 1846)

갈색순애기잎말이나방(신칭)

Coccyx pinivorana Zeller, 1846, Isis: 225, Taf. 13, fig. 13.

Rhyacionia pinivorana: Kawabe, 1982, Moths of Japan, 1: 131, 2: 176, pl. 27: 46, 47; Kuznetsov, 1986, Keys Ins. Eur. Part USSR, 4(1): 725.

Coccyx pudendana Herrich-Schäffer, 1848, Syst. Bearb. Schmett. Eur. Tortr. pl. 21, fig. 149, 150.

Retinia miniatana Staudinger, 1871, Berl. Ent. Zschr. 1870: 281.

Wing expanse, 17-20 mm.

Male genitalia (Fig. 3, 3(a)). Uncus atrophied. Tegumen weak, broad. Valva elongated, broad, slightly concaved ventrally beyond half; cucullus rounded terminally with a protruded portion ventro-caudally forming a subrectangular shape; sacculus narrow, reaching to half of ventral margin, with a sharp termination. Aedeagus moderate, 3-4 denticles at terminal area, a bundle of cornuti in vesica.

Material examined. 1 ♂, Chuncheon, Kangwon Prov., 14. V. 1991 (B. K. Byun & Y. D. Kwon); 1 ♂, Chuncheon, Kangwon Prov., 7. VI. 1990 (K. T. Park); 1 ♂, Mt. Samak-san, Kangwon Prov., 24. V. 1990 (B. K. Byun); 1 ♂, Sogumgang, Kangwon Prov., 24. V. 1988 (K. T. Park)-gen. prep. no. 3334; 2 ♂, Cheongryang-Ri, Seoul, 25. III. 1984 (J. D. Park).

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

Remarks. Larva of the species feed inside lateral leaf buds, whorls, or shoots produced in May of

young pines, rarely spruce. Young larvae hibernate in resin deposits (Kuznetsov, 1986).

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(Received March 28, 1994)