

Seven Species of Tortricinae (Lepidoptera; Tortricidae) New to Korea*

韓國產 잎말이나방亞科의 7 未記錄種

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ABSTRACT Seven species of Tortricinae are reported for the first time from Korea; *Choristoneura evanidana* (Kennel), *Daemilus fulvus* (Filipjev), *Paratorna seriepuncta* Filipjev, *Acleris nigriradix* (Filipjev), *A. nigrilineana* Kawabe, *A. cristana* [Denis & Schiffermüller] and *A. logiana* (Clerk). The genus of *Daemilus* Yasuda is new to the Korean fauna.

KEY WORDS Tortricidae, Lepidoptera, Systematics, Korea

초 록 잎말이나방亞科의 극동산잎말이, *Choristoneura evanidana* (Kennel); 빗살무늬잎말이, *Daemilus fulvus* (Filipjev); 세줄등근잎말이, *Paratorna seriepuncta* Filipjev; 검정어깨무늬잎말이, *Acleris nigriradix* (Filipjev); 칩무늬잎말이, *A. nigrilineana* Kawabe; 깃털무늬잎말이, *A. cristana* [Denis & Schiffermüller] 그리고 선비잎말이, *A. logiana* (Clerk) 등 7種이 우리나라 未記錄種으로 報告된다. 이들중 *Daemilus* Yasuda 屬은 우리나라에서는 처음으로 그 分布가 확인되는 屬이다.

검색어 잎말이나방科, 나비目, 분류, 한국

DESCRIPTION

극동산잎말이(新稱) (Figs. 1, 11, 15)

Choristoneura Lerderer, 1859

Cacoecia evanidana Kennel, 1901, Dt. ent. Z. Iris, 13: 214.

Choristoneura Lerderer, 1859,
Wien. Ent. Mschr., 3: 242.

Hoshinoa evanidana: Razowski, 1971, (p. 466,
figs. 8-10)

<Type species: [*Tortrix*] *diversana*
Hübner, [1871]>

Choristoneura evanidana: Kuznetsov, 1973, (p.
76).

Choristoneura evanidana (Kennel)

Wing span: 21-23 mm in male, 24-28 mm in female.

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Male genitalia (Fig. 11). Uncus broad, spatulate, strongly sclerotized, round apically; socii small; gnathos well sclerotized, pointed termi-

nally; valva broad; sacculus rather slender with a short termination. Aedeagus long, pointed apically, with two long cornuti.

Female genitalia (Fig. 15). Sterigma broad; antrum moderate, cup-shaped, well sclerotized; ductus bursae long, about 4 times as long as the length of corpus bursae; cestum reaching to before its end of ductus bursae; signum rather large.

Material examined. GW: 1♂, Chuncheon, 11.VI.1989, K.T. Park & B.K. Byun; 1♂, same locality, 18.VII.1989, K.T. Park; 1♂, same locality, 19.VII.1989, K.T. Park; 2♂, same locality, 3.VII.1990, K.T. Park; 2♂, Mt. Samag-san, 22.VI.1989, K.T. Park & B.K. Byun; 3♂, 2♀, same locality, 19.VII.1989, K.T. Park; 4♂, Dunnae, Whengsung, 7.VII.1990, S.H. Oh; 15♂, 9♀, Mt. Gyebang-san, 2.VIII.1989, K.T. Park & B.K. Byun; 4♂, 4♀, Mt. Odae-san, 6.VIII.1989, K.T. Park & B.K. Byun; 1♂, Sogumgang, 6.VII.1988, K.T. Park; 4♂, Seomyun, Yangyang, 30.VI.1987, K.T. Park; 1♂, Whacheon, 2.VII.1985, K.T. Park; 1♂, Mt. Seolak-san, 11.VI.1983, H.K. Kim; 4♂, Sambongyaksu, Injae, 24.VII.1981, Y.H. Shin. GG: 1♂, Gwangleung, 14.VI.1986, K.T. Park & U. Park; 1♂, Gapyung, 21.V.1983, K.T. Park. JB: 6♂, 1♀, Muju, 27-29.VII.1976, M.O. Cho et al. JN: 1♀, Mt. Jiri-san, 6.VII.1982, C. M. Kim; 1♀, same locality, 10.VIII.1982, K.L. Chang.

Distribution. Korea, CIS(Ussuri).

Host plants. *Syringa amurensis*, *Phellodendron amurense*, *Philadelphus tenuifolius*, *Ph. schrenki*, *Schizandra chinensis*, *Aralia manshurica*, *Armeniaca manshurica*, *Spiraea betulifolia*, *Tilia amurensis*, *Maackia amurensis*, *Quercus mongolica*, *Betula dahurica*, *Corylus heterophylla*, *Rhododendron mucronulatum*, *Lespedeza bicolor*, *Abies holophylla*, *Corylus manshurica* and *Acer*

tegmentosum have been known from USSR (Kuznetsov, 1973)

Remarks. According to Mr. K.R. Tuck(pers. comm.), B.M., London, Kennel's original description of the species was based on two specimens from Askold, an island about 50 km south east of Vladivostok, CIS. The second author compared externally Korean specimen with a female specimen of Sutschen, S. Ussuri, deposited in B.M., London and found they are identical. Razowski(1971) placed this species to the genus *Hoshinoa*, commenting that its taxonomic position is rather doubtful. But Kuznetsov (1973) placed this species in the genus *Choristoneura* with data of host plants. In the examination of the venation we couldn't find any difference between this species and the type species of *Choristoneura*. Even though still there are some different opinion on the systematic position, we tentatively place this species in the genus *Choristoneura*.

Daemilus Yasuda, 1972

Daemilus Yasuda, 1972, Bull. univ. Osaka Pref. (B)24: 81

<Type specie: *Cacoecia fulva* Filipjev, 1962>

Daemilus fulvus (Filipjev)

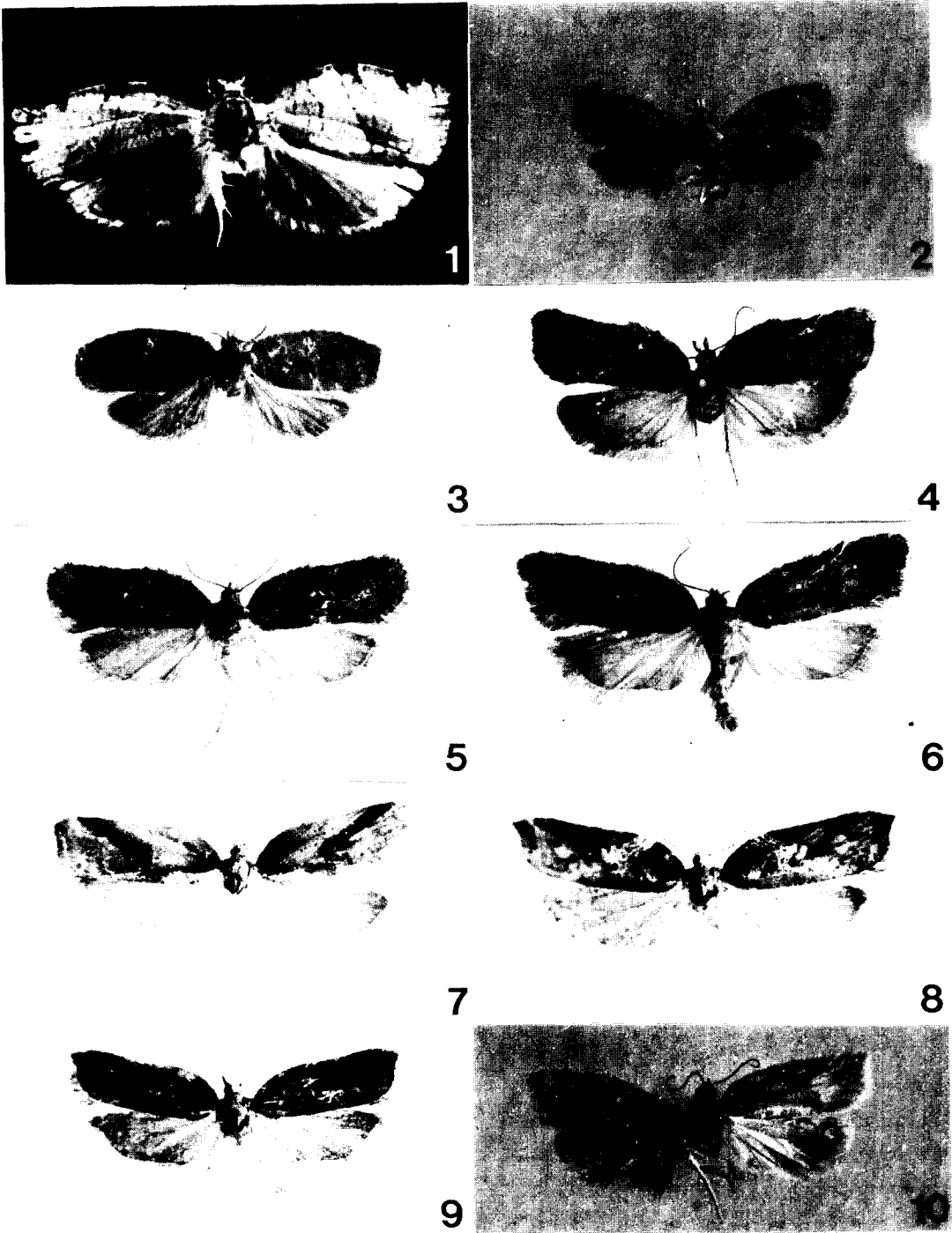
빛살무늬잎말이(新稱)(Figs. 2,12)

Cacoecia fulva Filipjev, 1962, Trudy Zool. Inst. Akad. Nauk. SSSR., 30: 371.

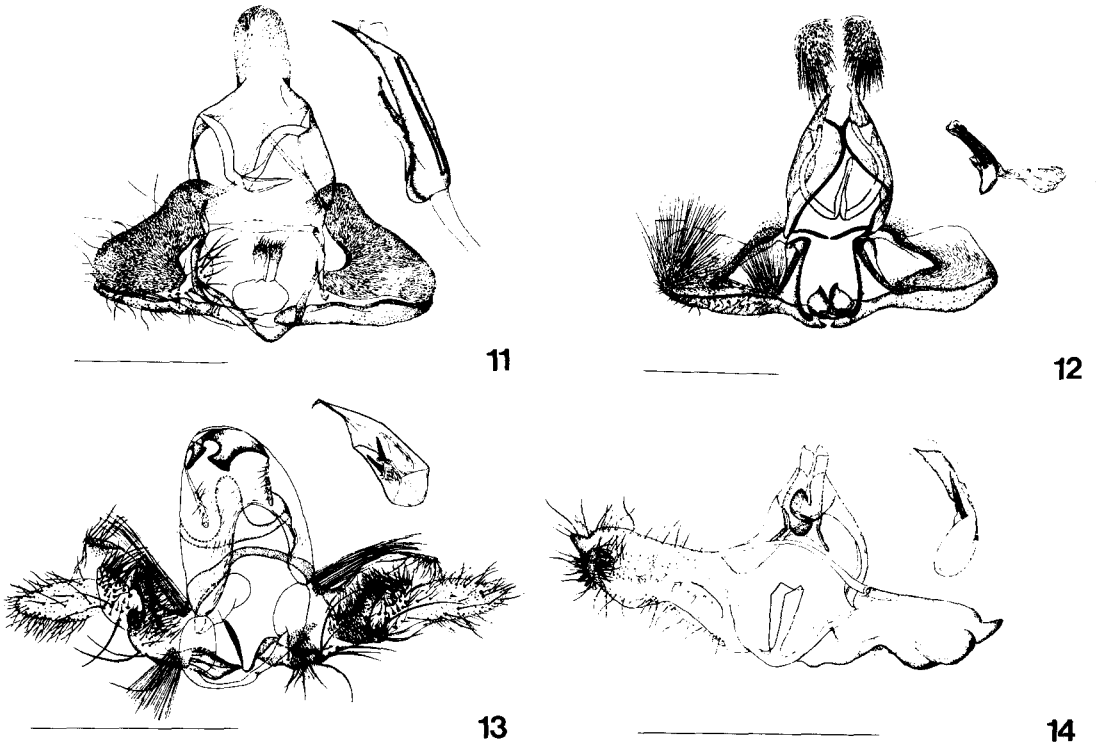
Daemilus fulva: Yasuda, 1975, (p. 135, figs. 99, 100, 435, 603); Kawabe, 1982, (part I. p. 74, part II. pl.17: 6).

Daemilus fulvus: Razowski, 1987, (p.239, figs. 521, 522, 767).

Wing span: 12 mm in male. This species is related to *Adoxophyes* Meyrick in appearance, but they are very different in their genitalic



Figs. 1-10. Adults : 1. *Choristoneura evanidana* (Kennel); 2. *Daemilus fulvus* (Filipjev); 3. *Paratorna seriepuncta* Filipjev; 4. *Acleris nigriradix* (Filipjev); 5. ditto; 6. *A. nigrilineana* Kawabe; 7. *A. cristana* [Denis & Schiffermüller]; 8, 9. ditto; 10. *A. logiana* (Clerk).



Figs. 11-14. Male genitalia: 11. *Choristoneura evanidana* (Kennel)-gen. slide no. 2416; 12. *Daemilus fulvus* (Filipjev)-gen. slide no. 2625; 13. *Paratorna seriepuncta* Filipjev-gen. slide no. 1643; 14. *Acleris nigriradix* (Filipjev)-gen. slide no. 2560 (scale bars: 1mm).

characters.

Male genitalia (Fig. 12). Uncus strongly broadened terminally, with narrow neck; gnathos very long; valva rather quadrilated; sacculus slender, reaching end of valva, without termination. Aedeagus short, very small with a bundle of cornuti in vesica.

Material examined. : GG : 1 ♂, Gwangleung, 10.VII.1990, S. W. Cho.

Distribution. Korea, Japan, Siberia.

Host plants. *Abies firma* S. et Z. (Pinaceae) and *Pieris japonica* D. (Ericaceae) have been known from Japan (Yasuda, 1975).

Remarks. Two species of the genus *Daemilus* Yasuda have been known from Palaearctic region. Razowski (1987) suggested that the genus of *Daemilus* shows a similarity both to genera of

the *Archips*-group and the *Clepsis*-group, but he placed tentatively this species in the former.

Paratorna Meyrick, 1907

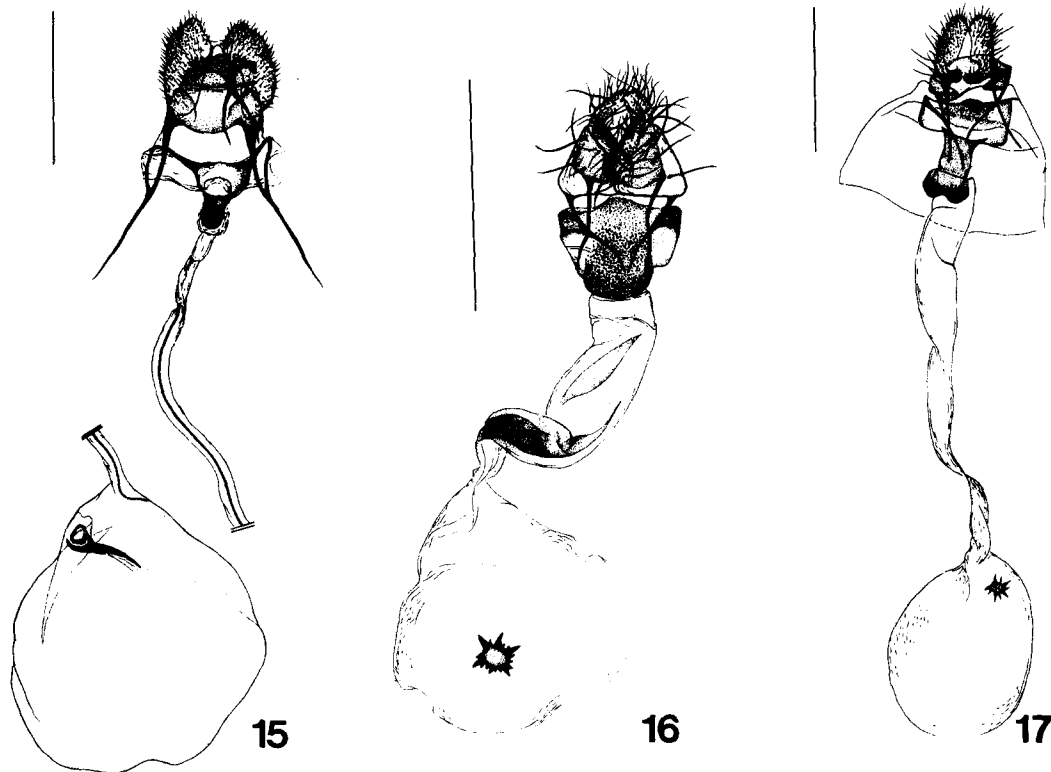
Paratorna Meyrick, 1907,
J. Bombay nat. Hist. Soc., 17: 980.

<Type species: *Paratorna dorcas*
Meyrick, 1907 >

Paratorna seriepuncta Filipjev

세줄둥근잎말이(新稱) (Figs. 3, 13 16)

Paratorna seriepuncta Filipjev, 1962, Trudy Zool. Inst. Akad. Nauk. SSSR., 30: 373, figs. 8-10; Razowski, 1966, (p. 139, Pl. IV: 4 figs. 185-187); Kuznetsov, 1973, (p. 97); Kawabe, 1982, (part I. p. 79, par II. p. 163,



Figs. 15-17. Female genitalia : 15. *Choristoneura evanidana* (Kennel)-gen. slide no. 2451; 16. *Paratorna seriepuncta* Filipjev-gen. slide no. 2611; 17. *Acleris nigriradix* (Filipjev)-gen. slide no. 2561. (scale bars : 1 mm).

P18. 1 : 24); Liu & Bai, 1985, (p.30, P1. VI : 11); Razowski, 1987, (p. 177, figs. 240, 241, 629, 630); Liu & Bai, 1988, (p. 219, P1. I : 3, figs. 1,2); Razowski, 1984, (p.80, P1. 1 : 1, 19 : 1, 69).

Wing span: 16 mm in male and female.

Male genitalia (Fig. 13). Uncus bifid, provided with a pair of lateral subsquare projections; socii thin, long. Valva with broadened costal portion and large spatulate brachiola; sacculus with two digitate subterminal lobes, terminal portion spined. Aedeagus short, pointed with two capitate small cornuti.

Female genitalia (Fig. 16). Sterigma broad with large lateral plates, convexed in middle

posteriorly; ostium bursae round; antrum very large, well sclerotized; ductus bursae, broad, narrower towards corpus bursae; corpus bursae large, ovate; signum stellate, bearing strong denticles.

Material examined. GW: 1 ♂, Seomyon, Yangyang, 25.VII.1987, K.T. Park. GG: 1 ♀, Gwangleung, 10.VII.1990, K.T. Park.

Distribution. Korea, China, East Asia.

***Acleris* Hübner, 1825**

Acleris Hübner [1825],
Verz. bek. Schmett.,: 384
<Type species: [*Tortrix*
aspersana Hübner, [1817]>

Paramesia Stephens, 1829,
Schmett. Eur., 7: 187.

***Acleris nigriradix* (Filipjev)**

검정어깨무늬잎말이(新稱) (Figs. 4, 5, 14, 17)

Peronea nigriradix Filipjev, 1931, Ann. Mus.
Zool. Acad. Sci. URSS, 31: 513.

Acleris nigriradix: Obraztsov, 1956, (p.131);
Yasuda, 1965, (p.26, figs. 27, 71, 140-142);
Razowski, 1966, (p.408, pl. XXX : 7, 8, figs.
582-586); Kuznetsov, 1973, (p.106);
Yasuda, 1975, (p.178, figs. 161-163, 508,
509, 644); Kawabe, 1982, (part I. p.84, part
II. p.164, Pl. 20; 1-13); Razowski, 1984, (p.
260, Pl. 14: 107, 55; 107, 93; 107).

Wing span : 20 mm male, 19 mm in female.

Male genitalia (Fig. 14). Uncus atrophied;
soccii well developed; valva elongate, with a
small triangular brachiola; sacculus broad near
base, ventral margin strongly sinuate near mid-
dle, termination with a hair tuft.

Female genitalia (Fig. 17). Antrum weakly
developed, broadened anteriorly; signum fairly
small, stellate.

Material examined. GW: 1♂, Chuncheon,
10.v.1990, K.T. Park. GG: 1♀ Gwangleung,
31.XI.1982, K.J. Won; 1♂, 1♀, same locality,
29.III.1990, K.T. Park. JJ: 1♀, Mt. Hanla-san,
27.V.1987, K.T. Park.

Distribution. Korea, Japan, CIS(East Siber-
ia).

***Acleris nigrilineana* Kawabe**

침무늬잎말이(新稱) (Figs. 6, 8, 21)

Acleris nigrilineana Kawabe, 1963, (p.71, figs.
1, 2, 11, 12, 12a, b); Yasuda, 1965, (p.16,
figs. 7, 87); Razowski, 1966, (p.239, Pl. IX;

8, figs. 331-332); Kuznetsov, 1973, (p.98);
Razowski, 1981, (p.133, Pl. 11 : 4, figs. 180,
181, 426); Kawabe, 1982, (part I. p.81, part
II. p. 163, Pl.18 : 42, 43); Razowski, 1984,
(p. 175, Pl. 6 : 51, 36 : 51, 81 : 51);
Kuznetsov, 1986, (p. 559).

Acleris abietana nigrilineana (Kawabe) :
Yasuda, 1975, (p. 164, figs. 145, 473).

Wing span: 23 mm in both sexes. This spe-
cies is very similar to *Acleris abietana*, but the
male genitalia of two species shows some differ-
ences in the shape of the ventral edge of saccu-
lus. But this species is easily distinguished by
the female genitalia from the former.

Male genitalia (Fig. 18). Tegumen broad;
soccii very large, erected, dilated at base; valva
broad basally, costa narrowly straight; saccu-
lus narrow, strongly concaved beyond 1/3 of
ventral margin with four thorns which are vari-
able in size. Aedeagus very short, opening to-
ward tip, with two spine-like cornuti.

Female genitalia(Fig. 21). Sterigma broad,
rather short, convexed posteriorly; antrum not
sclerotized; corpus bursae ovate, moderate size;
signum stellate, with numerous strong denticles.

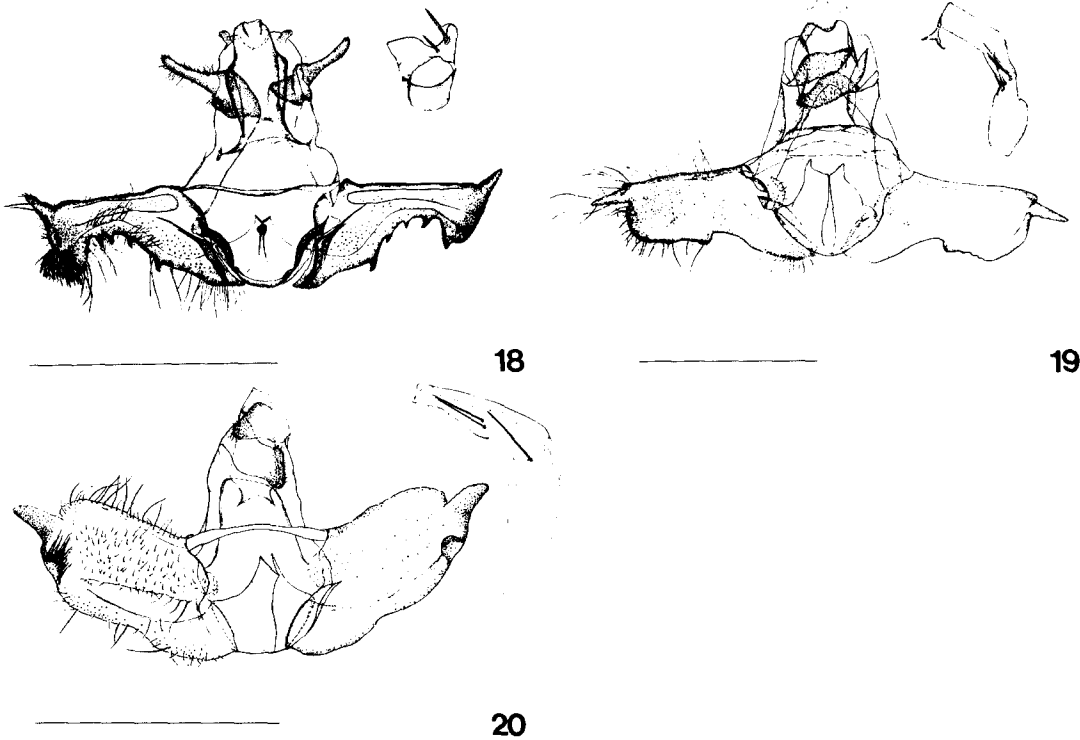
Material examined. GW: 1♀, Chuncheon,
21.III.1990, K.T. Park. GG: 1♀ Gwangleung, 8.
XI.1985, K.J. Won; 1♀, same locality, 22.XI.
1985, K.J. Won; 1♀, same locality, 7.XI.1986,
K.J. Won; 1♀, same locality, 8.XI.1986, K.J.
Won; 2♂, 1♀, same locality, 12.XI.1986, K.J.
Won.

Distribution. Korea, Japan, CIS(Southern
Primor region), Denmark.

Host plant. *Abies sachalinensis* M. (Pinaceae)
has been known from Japan(Yasuda 1975).

***Acleris cristana* [Denis & Schiffermüller]**

깃털무늬잎말이(新稱) (Figs. 7-9, 19, 22)



Figs. 18-20. Male genitalia: 18. *A. nigrilineana* Kawabe-gen. slide no. 2423; 19. *A. cristana* [Denis & Schiffermüller]-gen. slide no. 2559; 20. *A. logiana* (Clerk)-gen. slide no. 2465(scale bars : 1 mm).

Phalena (Tortrix) cristana [Denis & Schiffermüller] 1775, Verz Schmett. Wien.:129.

Peronea cristana: Issiki, 1922, Dob. Zass., 34 : 282; Barret, 1905, Lep. Brit. Isl., X: 220.

Acalla cristana: Matsumura, 1931, (p.1060).

Acleris cristana: Inoue, 1954, (part I. p.78); Obraztsov, 1956, (p.143); Hannemann, 1961, (p.62); Yasuda, 1965, (p.24, figs. 23, 68, 136-139); Razowski, 1966, (p.62); 318, P1. XIX : 4-7, figs. 452-454); Kloet & Hincks, 1972, (p.37); Kuznetsov, 1973, (p.103); Bradely, 1973, (p.204, P1. 44 : 1-17); Yasuda, 1975, (p.175, figs. 203-205, 501, 641); Razowski, 1981, (p.142, P1.12: 7,8, 13: 1, figs. 197, 198, 434); Kawabe, 1982, (part I. p.83, part II. p.164, P1. 19: 34-40); Liu, 1983, (p.28); Razowski, 1984, (p.221,

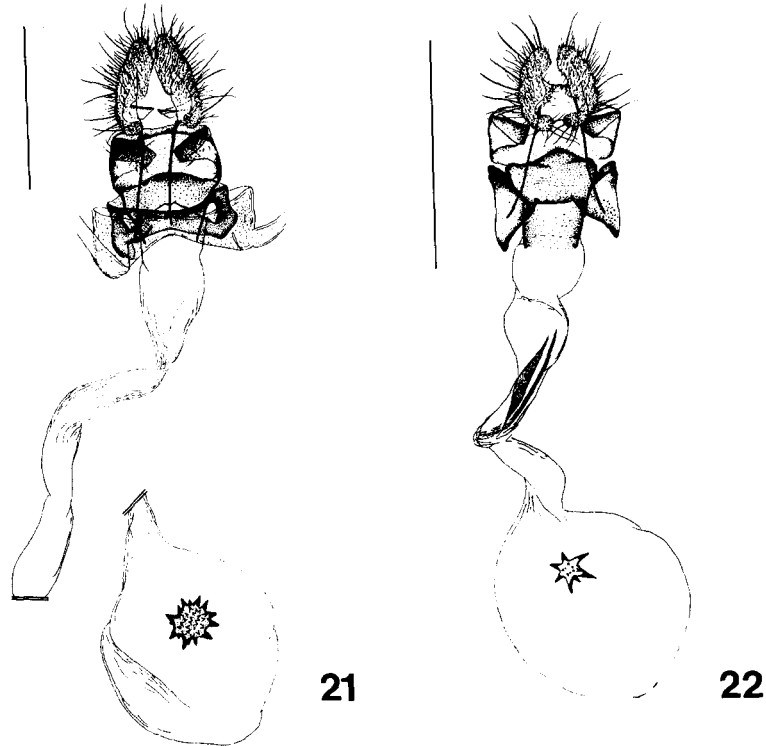
P1. 11: 84, 48: 84, 88: 84); Karsholt, 1985, (p.69); Liu & Bai, 1985, (p.32, P1.3: 9-10); Kuznetsov, 1986, (p.553).

Wing span: 22 mm in male, 19 mm in female. This species is a well known species representing seasonal and sexual dimorphism.

Male genitalia (Fig. 19). Tegumen rather broad; socia large, broadly lanceolate; valva elongate, brachiola rather sharply pointed; sacculus weakly emarginated at half. Aedeagus curved, with five cornuti.

Female genitalia (Fig. 22). Sterigma broad with lateral lobes, convexed posteriorly at middle; ostium bursae well sclerotized; corpus bursae small; signum stellate.

Material examined. GW: 1 ♂, Hwacheon, 10.VI.1988, K.T. Park. GG: 1 ♂, 1 ♀, Gwang-



Figs. 21-22. Female genitalia: 21. *A. nigrilineana* Kawabe-gen. slide no. 2457; 22. *A. cristana* [Denis & Schiffermüller]-gen. slide no. 2555 (scale bars: 1 mm.)

leung, 29.III.1990, K.T. Park.

Distribution. Korea, Japan, China, CIS, Europe.

Host plants. *Crataegus cuneatus* S. & Z., *Malus pumila* M., *Prunus salicina* L.(Rosaceae) and *Zelkova serrata* T.(Ulmaceae) have been known from Japan and *Carpinus betulus* L. (Betulaceae), *Ulmus campestris* L.(Ulmaceae), *Rosa* sp., and *Prunus spinosa* L.(Betulaceae), *Ulmus campestris* L. (Ulmaceae), *Rosa* sp., and *Prunus spinosa* L. (Rosaceae) from Europe (Razowski 1966, Yasuda 1975).

***Acleris logiana* (Clerk)**

선비잎말이(新稱)(Figs. 10, 20)

Phalaena logiana Clerk, 1759, Icon. Ins. rar.,: 10; Barret, 1905, Lep. Brit. Isl., X: 228.

Pyralis niveana Fabricius, 1787, Mant. Ins., 2: 233.

Peronea niveana: Issiki, 1922, Dob. Zass.,: 282.

Acleris logiana: 1954, (p.79); Hannemann, 1961, (p.59); Yasuda, 1965, (p.29, Figs. 32, 123); Razowski, 1966, (p.428, Pl. XXXII : 4, 5, figs. 625-627); Klot & Hincks, 1972, (p. 37); Bradely, 1973, (p.198); Yasuda, 1975, (p.182, figs. 172, 517, 518); Razowski, 1981, (p.156, Pl. 15: 1, figs. 220, 221, 445); Diakonoff & Dorst, 1982, (p.110, figs. 16, 39); Kawabe, 1982, (part I. p.85, part II. p. 164, Pl. 20: 33, 34); Razowski, 1984, (p. 285, Pl. 16: 125, 61: 125, 97: 125); Karsholt, 1985, (p.69); Kuznetsov, 1986, (p. 551).

Wing span: 21 mm in male.

Male genitalia (Fig. 20). Tegumen fairly narrow; valva broad, with weak longitudinal fold, obtuse apically; brachiola moderate; sacculus broad at base, with round densely haired termination. Aedeagus strongly curved from before middle, with three strong cornuti.

Material examined. GG: 1♂, Gwangleung, 17.V.1988, K.T. Park; 1♂, Gwangleung, 12.IV.1988, K.J. Won.

Distribution. Korea, Japan, CIS, Europe, N-America.

Remarks. This species has been known as worldwidely distributed one, from Far East to the Western Europe and N. America. Larvae of the species are often found in rolled leaves of birch (Kuznetsov, 1986).

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