

Nine Species of Tortricidae (Lepidoptera), New to Korea.*

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韓國産 잎말이나방과의 9未記錄種

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적 요

잎말이나방亞科의 *Archips endoi* Yasuda와 *Planostocha cumulata* Meyrick 등 2種과 애기잎말이나방亞科의 *Epinotia ulmi* Kuznetsov, *E. contrariana* Kuznetsov, *Eudemopsis purpurissatana* (Kennel), *Statherotis towadaensis* Kawabe, *Apotomis vaccini* Kuznetsov, *Ancylis melanostigma* Kuznetsov, *Zeiraphera virinea* Falkovitsh 등 7種이 우리나라 未記錄種으로 報告된다.

Key words: systematics, Lepidoptera, Tortricidae, Tortricinae, Olethreutinae, Korea.

INTRODUCTION

From the serial faunistic survey since 1976, a total of 266 species of Tortricidae has been known from Korea. In the present paper, two species of subfamily Tortricinae and 7 species of subfamily Olethreutinae are reported for the first time from Korea. Among them, three genera i.e. *Planostocha* Meyrick, *Eudemopsis* Falkovitsh, and *Statherotis* Meyrick are new to the Korean fauna. All available informations on the known host plants of the species were reviewed and given respectively, with brief redescriptions of their genital characteristics. Abbreviation used are: NHM — The Natural History Museum, London, United Kingdom; GG — Prov. Gyunggi-do; GW — Prov. Gangweon-do; JB — Prov. Jeonlabuk-do.

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LIST OF SPECIES

1. *Archips endoi* Yasuda, 1975 어리황색잎말이나방(新稱) (Figs. 1, 10)

Archips endoi Yasuda, 1975 (p. 97, figs. 31, 32, 367-369, 568).

Archips endoi: Razowski, 1977 (p. 135); Kawabe, 1982 (part 1: p. 67, part 2: p. 159, pl. 15: 24, 25).

Wing expanse. 20 mm in male.

Male genitalia (fig. 10). Uncus moderate, capitate apically. Socius weak. Valva broad, with long hairs medially. Sacculus strong and broad with a free termination. Aedeagus slender, slightly curved, with longer latero-dorsal process expanded rather distally.

Material examined. 1♂, Suweon, GG, 14. V. 1974. (K.T.Park); 2♂♂, same locality, 14. V. 1974. (P.E.S.Whalley); 2♂♂, same locality, 2. VII. 1974. (K.T.Park). All above specimens preserved in NHM.

Distribution. Korea, Japan.

Host plants. *Malus pumila* Mill., *M. baccata* Boekh., *Pirus simonii* Carr., *Prunus yedoensis* Mats., *P. sargentii* Rehder, *Alnus japonica* Steud., and *Salix* sp. have been reported (Razowski, 1977).

Remarks. Moths appear from July to September in Japan, but some specimens were collected in the early spring in Korea. Recently the authors examined five Korean specimens preserved in NHM.

2. *Planostocha cumulata* Meyrick, 1907 끝오목잎말이나방(新稱) (Figs. 2, 11)

Cacoecia cumulata Meyrick, 1907 (p. 977).

Planostocha cumulata: Meyrick, 1958 (p. 180, pl. 90: 1-1d)

Wing expanse. 9 mm in male.

Male genitalia (fig. 11). Uncus fairly slender, long, strongly curved ventrally at base. Socius small, slightly drooped ventrally. Tegumen narrow. Valva slightly sclerotized about 1/3 along ventral margin and membranous in dorsal 2/3; brachiola forming digitate process beyond 2/3. Aedeagus rather small, slender, slightly narrowed at basal 1/3 and inflated near middle with a small process.

Material examined. 1♂, Mt. Daedoon-san, JB, 3. V. 1991. (K.T.Park).

Distribution. Korea, Sri Lanka, Nepal, Burma, Thailand, Brunei, New Guinea, Australia.

Remarks. The genus, *Planostocha* Meyrick has been known as monotypic so far, and this species is a typical Oriental element. This is the first report from Palaearctic region for the species, and this collecting locality may be the northern uppermost limit.

3. *Epinotia ulmi* Kuznetsov, 1966 끝회색애기잎말이나방(新稱) (Figs. 3, 12)

Epinotia ulmi Kuznetsov, 1966 (p. 182, figs. 5, 6).

Epinotia ulmi: Kawabe, 1982 (part 1: p. 124, part 2: p. 175, pl. 26: 38).

Wing expanse. 13 mm in male.

Male genitalia (fig. 12). Uncus very small, bifurcated, sharpened apically. Socius broad at basal area, rather narrower terminally. Valva slightly curved near middle, set with numerous long hairs, bearing with minute spines along the ventral margin from 2/5 to 4/5. Aedeagus short, simple, narrower toward terminal.

Material examined. 1♂, Chuncheon, GW, 2. VII. 1989. (K.T. Park and B.K. Byun).

Distribution. Korea, Japan, Russia (Ussuri).

4. *Epinotia contrariana* (Christoph, 1881) 흰세접애기잎말이나방 (新稱) (Figs. 4, 13)

Grapholitha contrariana Christoph, 1881 (p. 424).

Eplema contrariana: Kennel, 1921 (p. 606-607, pl. 22, figs. 62, 63).

Epinotia contrariana: Kuznetsov, 1967 (p. 60); Kawabe, 1972 (p. 243, figs. 3, 7, 11); Kawabe, 1982 (part 1: p. 125, part 2: p. 175, pl. 26: 48).

Wing expanse. 10 mm in male.

Male genitalia (fig. 13). Uncus similar to the preceding species, but its apex more or less round. Socius small, bearing dense hairs. Valva forming a neck at middle ventrally, then become broader to the apex, covered with numerous long hairs. Sacculus well sclerotized, thickened, reaching to 1/3 of ventral margin of valva. Aedeagus short, slender.

Material examined. 1♂, Mt. Samak-san, GW, 22. VI. 1989. (K.T. Park and B.K. Byun); 1♂, Chuncheon, GW, 12. VI. 1990. (S.W. Cho).

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

Host plant. *Astilbe microphylla*, K. has been known from Japan (Kawabe, 1972).

5. *Eudemopsis purpurissatana* (Kennel, 1901) 밤색접애기잎말이나방 (新稱) (Figs. 5, 14, 18, 19)

Penthia purpurissatana Kennel, 1901 (p. 252).

Semasia purpurissatana: Kennel, 1916 (p. 478, pl. 19, fig. 2).

Eudemopsis purpurissatana: Kawabe, 1974a (p. 388, figs. 1, 6, 9); Kawabe, 1982 (part 1: p. 93, part 2: p. 166, pl. 22: 19, 282: 12, 290: 13).

Wing expanse. 15-17 mm in female.

Male genitalia (fig. 14). Uncus nearly atrophied. Socii small. Valva broad at base, densely set with long hairs. Brachiola very broad, round terminally, more or less membraneous. Aedeagus short, stout.

Female genitalia (fig. 18, 19). Antrum very well sclerotized, cup-shaped. Corpus bursa about half length of ductus bursa; ductus seminalis originated from the middle of ductus bursa. Corpus bursa ovate with a obtuse horn-shaped signum.

Material examined. 2♀♀, Mt. Odae-san, GW, 6. VI. 1989. (K.T. Park and B.K. Byun); 2♀♀, Mt. Yaksusan, GW, 8. VIII. 1989. (K.T. Park and B.K. Byun).

Distribution. Korea, Japan, Russia (Ussuri).

Remarks. This species is very similar to *Eudemopsis toshimai* Kawabe and *E. tokui* Kawabe, but it differs from the latter by the basal patch on forewing which is narrower and darker. It is one of Manchurian species, with known range in mountain area of Honshu and Hokkaido in Japan.

6. *Statherotis towadaensis* Kawabe, 1978 참노랑줄애기잎말이나방 (新稱) (Figs. 6, 20)

Statherotis towadaensis Kawabe, 1978 (p. 176, fig. 9); Kawabe, 1982 (part 1: p. 96, part 2: p. 167, pl. 22: 35).

Wing expanse. 19 mm in female.

Female genitalia (fig. 20). Papilla anales more or less long. Ostium bursa wide. Antrum short cup-shaped. Ductus bursa short, a half of corpus bursa in length. Corpus bursa circular, with two small and stout pin-like signa.

Material examined. 1♀, Mt. Samak-san, GW, 19. VII. 1989. (K.T. Park); 1, Hongcheon Exp. Forest, GW, 3. VI. 1988. (K.T. Park).

Distribution. Korea, Japan.

Remarks. This species is very similar to *Epinotia bicolor* (W.) in appearance, but it differs from the latter by its larger size, broader median fascia and genital characteristics.

7. *Apotomis vaccini* Kuznetsov, 1969 흰끝무늬애기잎말이나방 (新稱) (Figs. 7, 15)

Apotomis vaccini Kuznetsov, 1969 (p. 354, fig. 34); Kawabe, 1975 (p. 394, fig. 4); Kawabe, 1982 (part 1: p. 104, part 2: p. 169, pl. 23: 45).

Wing expanse. 19 mm in female.

Male genitalia (fig. 15). Uncus slightly protruded. Socius broad, covered densely with hairs. Transtilla band-shaped. Valva slender, forming golf club-shaped terminally. Sacculus well sclerotized with a tongue-shaped protrusion ventrally, bearing numerous short setae. Aedeagus bent medially, with a big cornutus.

Material examined. 1♂, Chuncheon, GW, 28. V. 1991 (K.T. Park).

Distribution. Korea, Japan.

Host plant. *Vaccinium hirtum*, *V. ovalifolia* (Kuznetsov, 1969).

8. *Ancylis melanostigma* Kuznetsov, 1970 검은점애기잎말이나방 (新稱) (Figs. 8, 16, 23)

Ancylis melanostigma Kuznetsov, 1970 (p. 436, figs. 5, 6.); Kawabe, 1982 (part 1: p. 115, part 2: p. 172, pl. 25: 20).

Wing expanse. 14 mm in male, 16 mm in female.

Male genitalia (fig. 16). Uncus long, bifurcated terminally. Socius big, broad. Valva broad slightly concaved at basal 1/3 ventrally, bearing with numerous moderate hairs beyond half of ventral margin; sacculus slender reaching to 1/4 of valva. Aedeagus long, slender, sharpened at its apex, slightly curved at basal 1/3.

Female genitalia (fig. 23). Papilla anales slender, somewhat long. Apophysis anteriores long, two times of apophysis posteriores in length. Antrum long enough to reach nearly 1/3 of ductus bursae. Ductus bursae as same as corpus bursa in length. Corpus bursa ovate with two signa; one developed along the corpus bursa vertically, well sclerotized in its middle part, and the other nearly triangular, especially sclerotized on middle portion, located on upperside of corpus bursa.

Material examined. 1♂, Chuncheon, GW, 16. V. 1990. (K.T. Park); 1♀, Mt. Odae-san, GW, 22. V. 1989. (K.T. Park); 1♂, Seomyun, Yangyang, GW, 4. VI. 1987. (K.T. Park).

Distribution. Korea, Japan, Russia (Amur).

9. *Zeiraphera virinea* Falkovitsh, 1965 녹색점애기잎말이나방 (新稱) (Figs. 9, 17, 21, 22)

Zeiraphera virinea Falkovitsh, 1965 (p. 429, figs. 22-23); Kawabe, 1974b (p. 315, fig. 7); Kawabe, 1982 (part 1: 128, part 2: p. 175, pl. 27: 19, 20).

Wing expanse. 19-20 mm in female.

Male genitalia (fig. 17). Uncus atrophied. Socius broad, with dense hairs. Valva slender, gently arched inwardly, bearing dense strong hairs from basal 1/3 to the tip. Sacculus weak, short. Aedeagus slender with a bundle of cornuti.

Female genitalia (fig. 21, 22). Papilla anales very small. Ostium bursae rather simple. Antrum cup-shaped, elongated to nearly half of ductus bursae. Corpus bursa ovate without signum.

Material examined. 3♀♀, Mt. Gyeong-san, GW, 2 VIII 1989 (K.T. Park and B.K. Byun).

Distribution. Korea, Japan, Russia (Ussuri).

ABSTRACT

Two species of Tortricinae [*Archips endoi* Yasuda and *Planostocha cumulata* Meyrick] and 7 species of Olethreutinae [*Epinotia ulmi* Kuznetsov, *E. contrariana* Kuznetsov, *Eudemopsis purpurissatana* (Kennel), *Statherotis towadaensis* Kawabe, *Apotomis vaccini* Kuznetsov, *Ancylis melanostigma* Kuznetsov and *Zeiraphera virinea* Falkovitsh] are reported for the first time from Korea.

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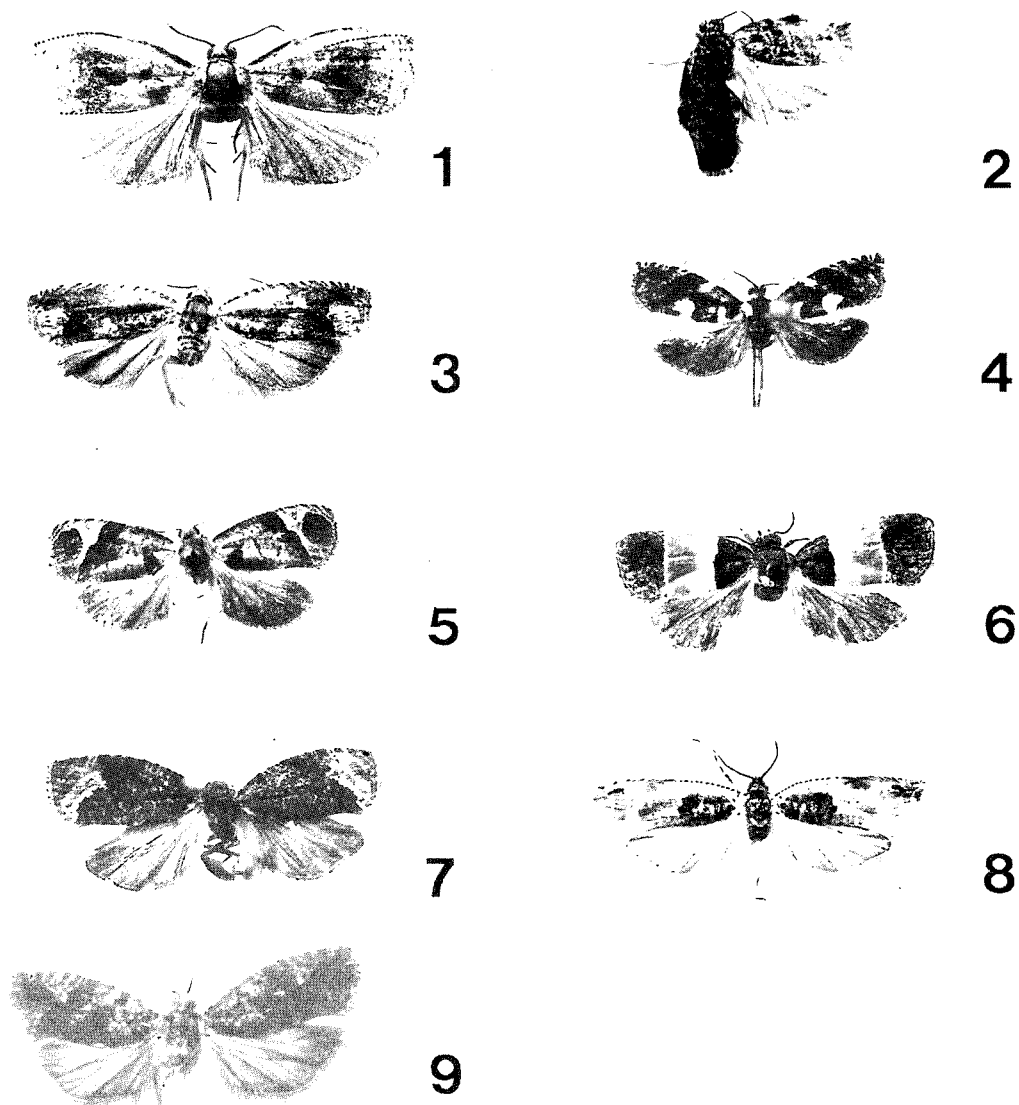
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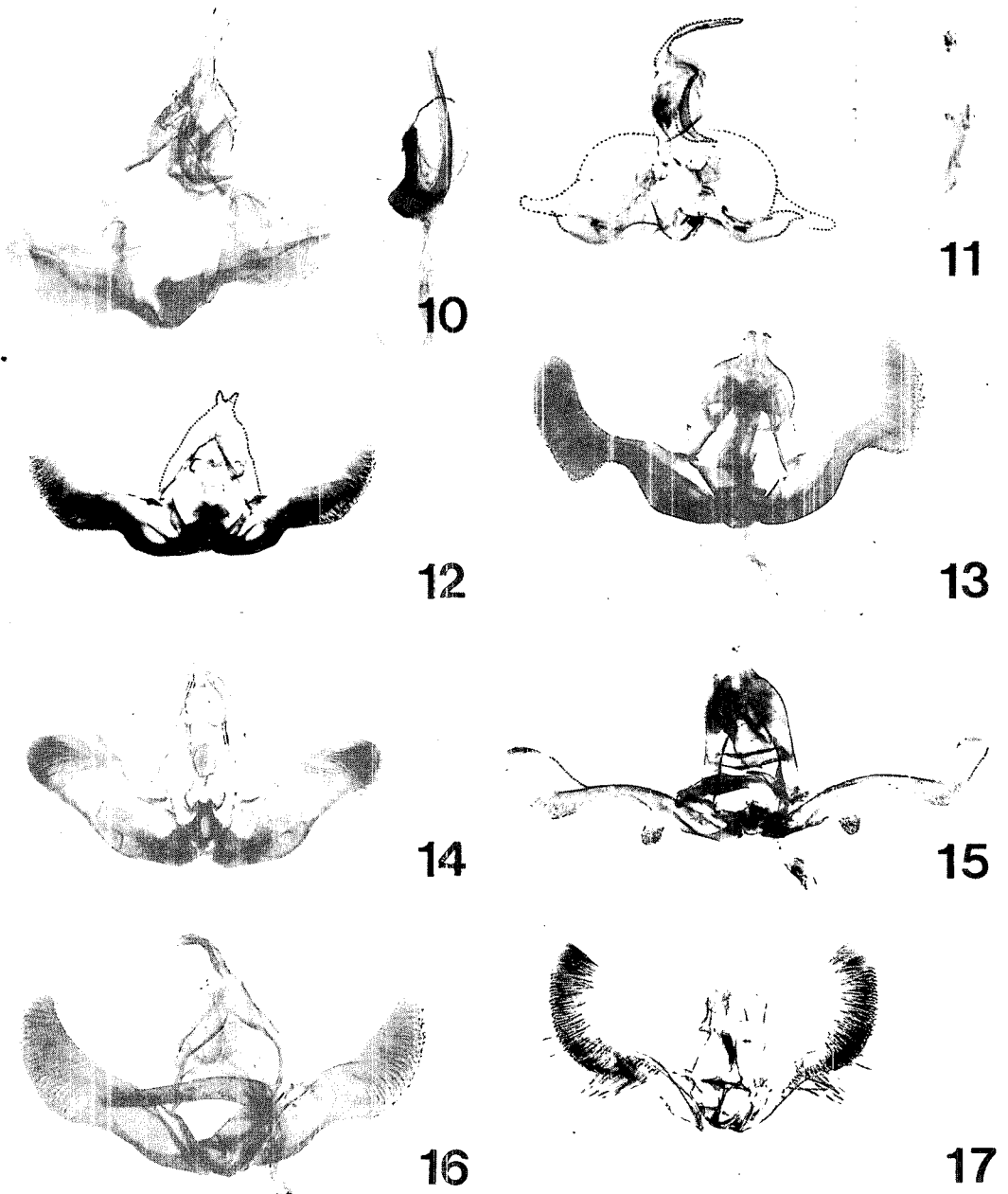
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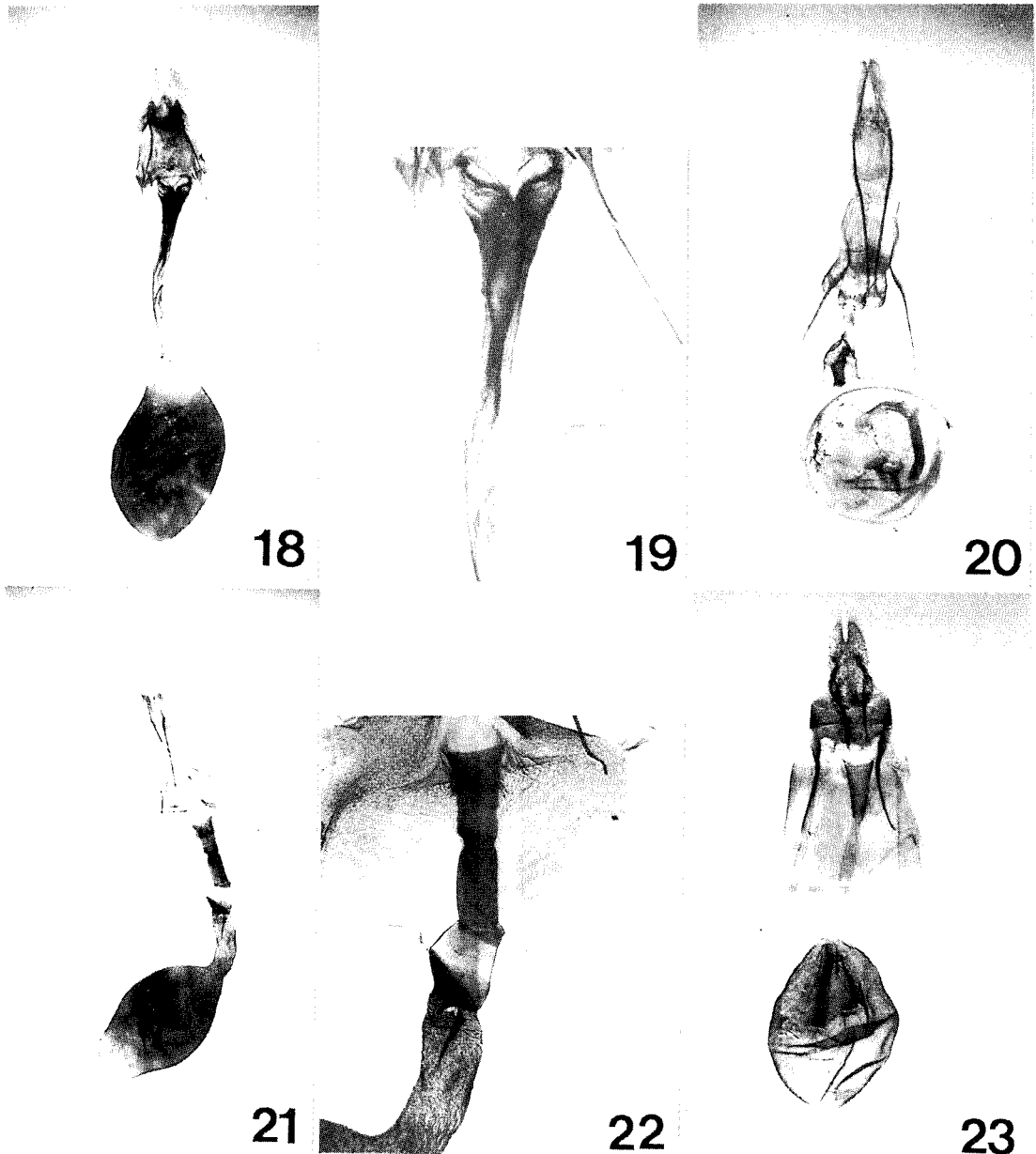
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Figs. 1-9. Adults: 1, *Archips endoi* Yasuda; 2, *Planostocha cumulata* Meyrick; 3, *Epinotia ulmi* Kuznetsov; 4, *E. contrariana* Kuznetsov; 5, *Eudemopsis purpurissatana* (Kennel); 6, *Statherotis towadaensis* Kawabe; 7, *Apotomis vaccini* Kuznetsov; 8, *Ancylis melanostigma* Kuznetsov; 9, *Zeiraphera virinea* Falkovitsh.



Figs. 10-17. Male genitalia, 10, *Archips endoi* Yasuda; 11, *Planostocha cumulata* Meyrick; 12, *Epinotia ulmi* Kuznetsov; 13, *E. contrariana* Kuznetsov; 14, *Eudemopsis purpurissatana* (Kennel); 15, *Apotomis vaccini* Kuznetsov; 16, *Ancylis melanostigma* Kuznetsov; 17, *Zeiraphera virinea* Falkovitsh.



Figs. 18-23. Female genitalia: 18, *Eudemopsis purpurissatana* (Kennel); 19, ditto, magnification of ostium part; 20, *Statherotis towadaensis* Kawabe; 21, *Zeiraphera virinea* Falkovitsh; 22, ditto, magnification of ostium part; 23, *Ancylis melanostigma* Kuznetsov.