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TYPE SPECIMENS OF THE GEOMETRIDAE (LEPIDOPTERA) DESCRIBED BY MATSUMURA IN THE HOKKAIDO UNIVERSITY INSECT COLLECTION, JAPAN

By RIKIO SATO

Abstract

SATO, R. 2001. Type specimens of the Geometridae (Lepidoptera) described by Matsumura in the Hokkaido University Insect Collection, Japan. *Ins. matsum. n. s.* 58: 115–137, 23 figs.

Original label data associated with all extant known types of the Geometridae described by Shonen Matsumura in the Hokkaido University Insect Collection are recorded. Two lectotypes are newly designated.

Author's address. 2–27–29, Shindori-nishi, Niigata City, 950-2036 Japan.

Introduction

Dr. Shonen Matsumura (1872–1960) described a large number of new taxa not only in Lepidoptera but also in other orders of insects from Japan, Taiwan, Korea and Sakhalin. As regards the Geometridae, he described four new genera, one new subgenus, fifty-nine new species, seven new subspecies, seven new forms, four new aberrations and one new variety. This paper is written in order to document the type-material of the species-group taxa of the Geometridae described by Matsumura, which are preserved in the Matsumura Collection, Hokkaido University. Though the aberrations and nomen nuda are clearly unavailable under the Code, they are included in this paper for the future taxonomic study. The work was undertaken as a result of four visits to the Hokkaido University, in July 1995 (3 days), November 2000 (3 days), February 2001 (2 days) and April 2001 (1 day).

The first new geometrid species by Matsumura was *Cyamatophora medinalis* described in 1909 as a member of the Thyatiridae. Currently it is treated as a junior synonym of *Planociampa modesta* (Butler, 1878), belonging to Ennominae, Geometridae. Since then, Matsumura described about 70 nominal species-group taxa from Japan, Taiwan and Sakhalin. I have examined most of the specimens used by Matsumura in his original description, but the following three type-series have not been found up to the present: *Amphidasis jesoensis* Matsumura, 1910; *Bapta bimaculata* f. *pallidiola* Matsumura, 1931; *Boarmia theae* Matsumura, 1917. Fortunately all of them can easily be identified by the original descriptions accompanying figures, and have been already treated as a junior synonym of relevant species. In this paper the names of species-group taxa are arranged in alphabetical sequence by the original combination of genus-name. Each name is followed by the author, date and page reference of original publication. The figure numbers in the original description are enclosed by double quotation marks. The data of types are quoted exactly as given on each label, with (1), (2), (3), etc., indicating the sequence of labels on the pin from top to bottom. Japanese letters used on the labels are replaced by the equivalent roman letters and printed in italics. Some remarks or comments on the type material are given when necessary and where appropriate.

Abraxas grossulariata karafutonis Matsumura, 1925: 174, pl. 10, fig. 11.
Type locality. Sakhalin: "Ichinosawa".

Lectotype ♀, designated by Inoue (1972: 144). (1) [red label] Lectotype, *Abraxas karafutonis* Matsumura; (2) *A. grossulariata karafutonis* [handwriting] det. Matsumura; (3) ♀ Genitalia on slide No. Gmt-69, T. KUMATA, 1973; (4) [red label] Type Matsumura; (5) Saghalien Matsumura, [underside] Ichinosawa, Aug. 14 '23 [handwriting].

Paralectotype ♂, designated by Inoue (1972: 144). (1) Saghalien Matsumura, [underside] *Kiminai*, 27/7 ' 24 [handwriting]; (2) [pink label] Paratype (lecto). *Abraxas karafutonis* Matsumura; (3) ♂ Genitalia on slide No. Gmt-70 T. KUMATA, 1973.
Current status: *Abraxas karafutonis* Matsumura, 1925 (Wehrli, 1935: 2).

Abraxas sachalinensis Matsumura, 1911a: 53, pl. 2[1], fig. 11.
Type locality. Sakhalin: Korsakoff.

Holotype ♀. (1) *Odomari,* 7/12 [Korsakoff, 12 July, 1910]; (2) *A. sachalinensis* n. sp. [handwriting].
Current status: Synonym of *Rheumaptera flavipes flavipes* (Ménétriès, 1858) (Prout, 1934: 102).

Acanthocampa okamotonis Matsumura, 1910: 103, pl. 25, fig. 21.
Type locality. Japan: Hokkaido (Sapporo).

Holotype ♂. (1) *Chu/* IV [middle of April], 1906, Sapporo [handwriting], [underside] Okamoto [handwriting].

Current status. Synonym of *Apochima juglansiaria* (Graeser, 1889) (Inoue, 1944: 78).

Acidalia ainoica Matsumura, 1927a: 183.
Type locality. Japan: Hokkaido (Mt. Daisetsu).

Holotype ♂ [right forewing missing]. (1) Mt. Daisetsu Matsumura, [underside] 4 –10.VIII.1926 *Uchida Kono*; (2) *Acidalia ainoica* n. [handwriting], det. Matsumura; (3) [red label] Type Matsumura; (4) H. Inoue, '75, ♂ Genitalia on slide No. Gmt-72; (5) [red label] Holotype *Acidalia ainonica* Matsumura.

Current status: Synonym of *Asthena nymphaeata* (Staudinger, 1897) (Inoue, 1956b: 661).

Acidalia ichinosawana Matsumura, 1925: 157, pl. 11, fig. 26.
Type locality. Sakhalin: "Ichinosawa".

Syntypes. ♂ ("fig. 26"), (1) Saccalin, 23-vii-1919, S. Isshiki; (2) *Acidalia ichinosawana* [handwriting] det. Matsumura. ♂ , (1) Saccalin, 23-vii-1919, S. Isshiki.

Current status: *Scopula ichinosawana* (Matsumura, 1925).

Acidalia sachalinensis Matsumura, 1925: 158, pl. 11, fig. 6.
Type locality. Sakhalin: "Ichinosawa", "Tonnai".

Syntypes. ♀ ("fig. 6"), (1) Saccalin, 23-vii-1919, S. Issiki; (2) [red label] Type Matsumura; (3) *Acidalia sachalinensis* n. [handwriting]. ♀ , (1)*Tonnaicha* 14/VII [handwriting] det. Matsumura.

Current status: *Asthena sachalinensis* (Matsumura, 1925).

Acidalia shioyana Matsumura, 1927a: 183.
Type locality. Japan: Hokkaido (Mt. Daisetsu).

Holotype ♀ . (1) Mt. Daisetsu Matsumura, [underside] 4–10. VIII '26 *Uchida Kono* [handwriting]; (2)*Acidalia shioyana* [handwriting]; (3) [red label] Type Matsumura.

Current status: *Hydrelia shioyana* (Matsumura, 1927).

Yazaki (1985) confirmed the distinctness of *Hydrelia shioyana* (Matsumura, 1927) and *H. adesma* Prout, 1930, which had been confused with each other.

Acidalia shiskensis Matsumura, 1925: 158, pl. 11, fig. 7.
Type locality. Sakhalin: "Shiska".

Lectotype ♂ ("fig. 7" as female) (Fig. 1), by present designation. (1) Saghalin, Adachi, Isshiki, [underside] *Shisuka*, 1914; (2) [red label] Type Matsumura; (3) R. Sato, 1995 ♂ Genitalia on slide No. Gmt-94; (4) *Idaea sylvestraria* (Hübner). Det. R. Sato, 1995 [handwriting].

Paralectotype ♂ , by present designation. (1) Saghalien Matsumura, [underside] *Kawakami,* 25/7 '24 [handwriting]; (2) *Acidalia shiskensis* [handwriting].

Paralectotype ♀, by present designation. (1) Saghalien Matsumura, [underside] Odomari Aug. 14 '23 [handwriting]; (2) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-95; (3) *Scopula ichinosawana* (Matsumura). Det. R. Sato, 1995 [handwriting].

Current status: New synonym of *Idaea sylvestraria* (Hübner, 1799).

I found that the syntypes of *Acidalia shiskensis* Matsumura (2 ♂ 1 ♀, differing from "1 ♂ 2 ♀" in the original description) were a mixture of two species. The males are identified with *Idaea sylvestraria* (Hübner, 1799) and the female with *Scopula ichinosawana* (Matsumura, 1925). I designated the male specimen illustrated (erroneously as ♀) in the original description as the lectotype. The genitalia are shown in Fig. 13.

Agathia furcula Matsumura, 1931: 862, no. 1138, fig.
Type locality. Taiwan: "Hori".
Syntypes. ♂, (1) HORISHA, Formosa, 3. 5, 1917, K. Asakura; (2) (*Taiwan*) 837. ♂, (1) Formosa Matsumura, [underside] Horisha, VIII, 1924.
Current status: *Agathia laetata furcula* Matsumura, 1931 (Inoue, 1965: 27).

Agathia polishana Matsumura, 1931: 863, no. 1140, fig.
Type locality. Taiwan: "Horisha", "Baibara", "Kanko".
Syntypes. ♂, (1) Formosa K. Kikuchi, [underside] Horisha, 8/VII 1926 [handwriting]. ♂, (1) Baibara, Sep. 11, 1926, Kikuchi. ♂, (1) Formosa, T. Uchida, H. Kono, Y. Miwa, [underside], Kanko, 12/VII '25 [handwriting]. ♂, (1) Formosa, T. Uchida, H. Kono, [underside], Baibara, 19. VII '25 [handwriting]. 2 ♀, (1) HORISHA TAIWAN.
Current status: Synonym of *Trotocraspeda divaricata* (Moore, 1888) (Inoue, 1978: 252).

Amphidasis jesoensis Matsumura, 1910: 130, pl. 28, fig. 2.
Type locality. Japan: Hokkaido.
Syntypes. Not found.
Current status: Synonym of *Biston regalis comitata* (Warren, 1899) (Inoue, 1956a: 341).

There are no specimens captured in Hokkaido before the publishing date of the original description in the Matsumura Collection.

Angerona prunaria ab. *infuscata* Matsumura, 1925: 176, pl. 10, fig. 23. Nomen nudum.
Type locality. Sakhalin: "Ichinosawa".
Holotype ♂ ("fig. 23"). (1) Saghalien Matsumura, [underside] *Ichinosawa,* July 27 '24, *Shibuya* [handwriting]; (2) *Angerona prunaria ichinosawana* [handwriting], [underside] *Ang. purunaria infuscata* n. [handwriting].

The name *infuscata* is clearly infrasubspecific and not available under the Code.

Angerona prunaria ab. *unicolor* Matsumura, 1925: 176, pl. 10, fig. 8. Nomen nudum.
Type locality. Sakhalin: "Ichinosawa".
Holotype ♂ ("fig. 8"). (1) Saghalien Matsumura, [underside] *Ichinosawa,* 27/7 '24 [handwriting]; (2) *Angerona prunaria unicolor* n. [handwriting].

The name *unicolor* is clearly infrasubspecific and not available under the Code.

Aoshachia virescens Matsumura, 1927: 9, pl. 5, fig. 37. (as Notodontidae)
Type locality. Taiwan: "Baibara".
Syntypes. ♂, (1) BAIBARA Y. Saito, Kikuchi, [underside] 18 March 1926 [handwriting]; (2)

Aoshachia (n.g.) *virescens* n. [handwriting]; (3) [red label] Type Matsumura. ♀, (1) Formosa Matsumura, [underside] Baibara, 3/IV 24 [handwriting]; (2) *Aoshachia virescens* n. [handwriting]. ♂, (1) BAIBARA Y. Saito, Kikuchi, [underside] 17 March 1926 [handwriting]. ♂, (1) BAIBARA Y. Saito, Kikuchi, [underside] 22 April 1926 [handwriting].
Current status: Synonym of *Doratoptera virescens* (Marumo, 1923) (Inoue, 1956a: 343).

The genus *Aoshachia* Matsumura, 1927 (type species: *virescens* Matsumura, 1927) was synonymized with *Doratoptera* Hampson, 1895 (type species: *D. nicevillei* Hampson, 1895) by Yazaki (1992: 33).

Aoshakuna sachalinensis Matsumura, 1925: 156, pl. 11, fig. 28.
Type locality. Sakhalin: "Kawakami".
Holotype ♀ [abdomen missing] (Fig. 2). (1) *Aoshakuna* n. *sachalinensis* n. [handwriting]; (2) Saghalien Matsumura, [underside] *Kawakami* July 30 '24 [handwriting].
Current status: *Chlorissa sachalinensis* (Matsumura, 1925) (Prout, 1934: 15).

Unfortunately the holotype female is in a very poor condition; abdomen missing, wing colour changed to yellow, lines almost disappearing. Prout (1934: 15) treated *sachalinensis* as a member of *Chlorissa*. I examined *C. macrotyro* Inoue, *C. amphitritaria* Oberthür, *C. anadema* Prout and *C. obliterata* Walker known to Sakhalin, but could not identify the holotype of *sachalinensis* with any species. In *sachalinensis*, the third segment of labial palpus is not so long as in the former three species, but as long as in *obliterata*. Forewing has the venation with R_1 fused to Sc for long distance, while in all the *Chlorissa* species examined, R_1 free from or closely appressed to Sc, sometimes fused to Sc for short distance. With consideration of some variation in venation, I intend to assign *sachalinensis* provisionally to *Chlorissa*. So far, I have not been able to confirm the taxonomic treatment of this taxon. Material in good condition from Sakhalin is needed for further studies.

Aracima muscosa sachalinensis Matsumura, 1925: 155, pl. 10, fig. 14.
Type locality. Sakhalin: "Ichinosawa", Pubuny.
Syntype ♀ ("fig.14"). (1) [red label] Type Matsumura; (2) Saghalien Matsumura, [underside] Ichinosawa, Aug. 14 '23 [handwriting]; (3) *Aracima sachalinensis* n. [handwriting] det. Matsumura.
Current status: *Aracima muscosa sachalinensis* Matsumura, 1925.

This species was described based on two males and one female taken from Ichinosawa (S. Sakhalin) and Pubuny (N. Sakhalin). I found only one female from Ichinosawa in the Matsumura Collection.

Arichanna melanaria ab. *aciculata* Matsumura, 1925: 174, pl. 10, fig. 18. Nomen nudum.
Type locality. Sakhalin: Nyiwo, Rikovskoie.
Syntypes. ♀ ("fig. 18"), (1) Kitakarafuto, Kono, Tamanuki [underside], *Nuiho* [Nyiwo] Aug. 14 '22[handwriting]; (2) *melanaria* L. *aciculata* n. [handwriting] det. Matsumura ♀, (1) Kitakarafuto, Kono, Tamanuki [underside], *Ruikohu* [Rikovskoie] Aug. 3 '22; (2) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-82; (3) *Arichanna melanaria* (Linnaeus). Det. R. Sato, 1995 [handwriting].
Current status: *Arichanna melanaria aciculata* Inoue, 1946.

Arichanna melanaria ab. *aciculata* Matsumura is an infrasubspecific name and

therefore not available, so the authorship of *aciculata* is attributed to Inoue (1946: 11) who used it as a subspecific name for the Sakhalin population.

Asthena chibiana Matsumura, 1925: 173, pl. 11, fig. 18.
Type locality. Sakhalin: "Kawakami".
Holotype ♀ ("fig. 18"). (1) Saghalien Matsumura, [underside] Kawakami, July 30 '24 [handwriting]; (2) *Asthena chibiana* n. [handwriting] det. Matsumura; (3) [red label] Type Matsumura.
Current status: Synonym of *Hydrelia flammeolaria* (Hufnagel, 1767) (Inoue, 1946: 7).

Auzeoides horishana Matsumura, 1931: 939, no. 1494. fig. (as Uraniidae).
Type locality. Taiwan: "Hori".
Holotype ♀. (1) HORISHA Formosa, 1917; (2) *Auzeoides horishana* n. sp. [handwriting].
Current status: Synonym of *Schistophyle falcifera* Warren, 1896 (Inoue, 2000: 121).

Bapta bimaculata f. pallidiola Matsumura, 1931: 868, no. 1164. fig.
Type locality. Japan: Hokkaido, Honshu.
Syntypes. Not found.
Current status: *Lomographa bimaculata subnotata* (Warren, 1895)(Inoue, 1956a: 303).

According to the original description (in Japanese), this form (female) is different from the typical form in lacking black marks and having indistinct lines on forewing. There are twelve specimens of *bimaculata* (typical form) collected from Hokkaido or Honshu in the Matsumura Collection. However I was not able to find any specimens bearing the name *pallidiola*.

Biston takeuchii Matsumura, 1931: 870, no. 1176, fig.
Type locality. Japan: Honshu (Minoo).
Holotype ♂. (1) *Taishou* 6, 4 22 [1917, 4 22] *Minomo* [Minoo]; (2) *Biston takeuchii* Mats. n. sp. [handwriting].
Current status: *Biston takeuchii* Matsumura, 1931.

Boarmia karafutonis Matsumura, 1911a: 56.
Type locality. Sakhalin: "Kimunai".
Holotype ♀. (1) *Kimu* [Kimunai], 13/VII [handwriting] det. Matsumura; (2) *Boarmia karafutonis* n. [handwriting] det. Matsumura; (3) [red label] Type Matsumura; (4) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-91; (5) *Alcis extinctaria* (Eversmann). Det. R. Sato, 1995 [handwriting].
Current status: Synonym of *Alcis extinctaria moesta* (Butler, 1881) (Inoue, 1956b: 662).

Boarmia sachalinensis Matsumura, 1911a: 55.
Type locality. Sakhalin: Solowiyofka, Galkinowraskoe.
Syntypes. ♂, (1) Saghalien Oguma *Garakino* [Galkinowraskoe] 29/7 [handwriting]; (2) *B. sachalinensis* n. [handwriting]; (3) *Alcis bastelbergeri* (Hirschke, 1908). Det. R. Sato, 1995 [handwriting]. ♀, (1) Saghalien Oguma *Sorou* [Solowiyofka] 12/8 [handwriting]; (2) *Boarmia sachalinensis* Mats. *Karafutoeda* [handwriting]; (3) R. Sato ♀ Genitalia on slide No. Gmt-89; (4) *Alcis bastelbergeri* (Hirschke, 1908). Det. R. Sato, 1995 [handwriting].
Current status: *Alcis bastelbergeri sachalinensis* (Matsumura, 1911) (Inoue, 1987: 265).

See the comment under *Boarmia (Alcis) kaibatonis* Matsumura.

Boarmia theae Matsumura, 1917: 603, pl. 27, fig. 5.
Type locality. Japan: Honshu (Kyoto district).
Syntypes. Not found.
Current status. Synonym of *Megabiston plumosaria* (Leech, 1891) (Matsumura, 1931).

Four male and one female specimens referable to the present species are preserved in the Matsumura Collection, but all males were captured after the original description, and the female has no data label. Therefore I cannot recognize any specimen as one of the syntypes.

Boarmia (Alcis) kaibatonis Matsumura, 1929: 64, fig. 1.
Type locality. Sakhalin: "Is. Kaibato".
Syntypes. ♂, (1) Co-type Matsumura; (2) Saghalien Tamanuki, [underside] Kaibato 14/VIII '28; (3) *Boarmia kaibatonis* M. [handwriting]; (4) *Alcis bastelbergeri* (Hirschke). Det. R. Sato, 1995 [handwriting]. ♂, (1) Saghalien K. Tamanuki, [underside] Kaibato 14/VIII 1928; (2) *B. (Alcis) tamanukii* n. [handwriting]. ♂, (1) Saghalien K. Tamanuki, [underside] Kaibato 14/VIII '28; (2) Co-type Matsumura; (3) *Boarmia kaibatonis* n. [handwriting]; (4) R. Sato, 1995 ♂ Genitalia on slide No. Gmt-87; (5) *Alcis bastelbergeri* (Hirschke). Det. R. Sato, 1995 [handwriting]. ♂, (1) Saghalien Tamanuki, [underside] Kaibato 14/VIII '28 ; (2) 64; (3) Co-type Matsumura.
Current status: Synonym of *Alcis bastelbergeri sachalinensis* (Matsumura, 1911) (Inoue, 1987: 265).

B. kaibatonis is now accepted as a synonym of *Alcis bastelbergeri sachalinensis* distributed in Korea, East Siberia and Sakhalin. The specimens examined of *B. kaibatonis* are quite different from those of *A. b. sachalinensis* from the mainland of Sakhalin in having the forewing with a broad black band in the middle and the hindwing with black basal part. Moreover, Kaibato (Moneron) Is. is located about 50 km west of South Sakhalin. These might indicate that the Kaibato population belongs to a separate subspecies of *A. bastelbergeri*. A form with a similar wing-pattern is, however, found also in the Korean population of this subspecies together with the typical form. It may be reasonable to understand that the "*kaibatonis*"-like wing-pattern is nothing more than an individual variation.

Boarmia (Cleora) daisetsuzana Matsumura, 1927a: 185.
Type locality. Japan: Hokkaido (Mt. Daisetsu).
Holotype ♀. (1) Mt. Daisetsu Matsumura [underside], 4 –10. VIII. 1926 *Uchida Kono* [handwriting]; (2) *B. daisetsuzana* n. [handwriting]; (3) [red label] Type Matsumura; (4) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-85; (5) *Deileptenia ribeata* (Clerck). Det. R. Sato, 1995 [handwriting].
Current status: Synonym of *Deileptenia ribeata* (Clerck, 1759) (Inoue, 1956a: 661).

Boarmia (Cleora) ribeata ab. *ichinosawana* Matsumura, 1925: 178, pl. 9, fig. 7, pl. 11, fig. 10. Nomen nudum.
Specimen examined. ♀ ("pl. 11, fig. 10"), (1) Saghalien Matsumura, [underside] Ichinosawa, Aug. 14 '23; (2) *Boarmia ribeata ichinosawana* n. [handwriting]; (3) [red label] Type Matsumura;

(4) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-86; (5) *Deileptenia ribeata* (Clerck). Det. R. Sato, 1995 [handwriting].
Current status: *Deileptenia ribeata* (Clerck, 1759) (Inoue, 1956b: 661).

Boarmia (Cleora) sounkeana Matsumura, 1927a: 185.
Type locality. Japan: Hokkaido (Mt. Daisetsu).

Holotype ♂. (1) Mt. Daisetsu Matsumura, [underside] 4 -10. VIII. 1926 *Uchida Kono* [handwriting]; (2) [red label] Type Matsumura; (3) *Boarmia sounkeana* n. [handwriting]; (4) ♂ Genitalia on slide No. Gmt-56 T. KUMATA, 1965.
Current status: Synonym of *Arbognophos amoenaria* (Staudinger, 1897) (Viidalepp, 1979: 787).

Cidaria corydalaria ichinosawana Matsumura, 1925: 168, pl. 10, fig. 15.
Type locality. Sakhalin: "Ichinosawa".

Syntypes. ♀ ("fig. 15") (Fig. 8), (1) Saghalien Matsumura, [underside] Ichinosawa Aug. 14 '23 [handwriting]; (2) *Cidaria corydalaria ichinosawana* [handwriting]; (3) [red label] Type Matsumura; (4) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-100; (5) *Spargania luctuata* (Denis & Schiffermüller). Det. R. Sato, 1995 [handwriting]. ♂, (1) Saghalien Matsumura, [underside] Ichinosawa VII 27 '24 [handwriting]; (2) R. Sato, 1995 ♂ Genitalia on slide No. Gmt-99; (3) *Spargania luctuata* (Denis & Schiffermüller). Det. R. Sato, 1995 [handwriting]. ♀, (1) Saghalien Matsumura, [underside] Ichinosawa Aug. /4 '23 [handwriting]. ♀, (1) Saghalien Matsumura, [underside] Ichinosawa July 25 '24 [handwriting]. ♂, (1) Saghalien Matsumura, [underside] *Ichino* [Ichinosawa] 25/ 7 '24.
Current status: *Spargania luctuata ichinosawana* (Matsumura, 1925) (Prout, 1939: 252).

The genitalia of the male and female syntypes are illustrated in Figs 15 and 16, respectively.

Cidaria (Cidaria) miyakei Matsumura, 1925: 169, pl. 11, fig. 30.
Type locality. Sakhalin: "Ichinosawa", "Odomari".

Syntype ♀ ("fig. 30" as male). (1) Saghalien Matsumura, [underside] Ichinosawa, July 25 '24 [handwriting]; (2) *Cidaria (Cidaria) miyakei* n. [handwriting].
Current status: Synonym of *Ecliptopera capitata capitulata* (Staudinger, 1897) (Viidalepp, 1996: 25).

This species was originally described from Ichinosawa and Odomari, but only one female from Ichinosawa is found in the Matsumura Collection.

Cidaria (Dystroma[sic]**) alexandrowskana** Matsumura, 1925: 163.
Type locality. Sakhalin: Alexandrowsk.

Holotype ♀ [only right wings existing] (Fig. 5). (1) Kitakarafuto [North-Saghalien] Kono Tamanuki, [underside] *A-kou* [Alexandrowsk], Aug. 28 '22[handwriting]; (2) *Larentia alexandrowskana* n. [handwriting].
Current status: A synonym of *Dysstroma citrata nyiwonis* Matsumura, 1925 (Inoue, 1977: 267, 320).

See the comment under the next species.

Cidaria (Dystroma[sic]**) nyiwonis** Matsumura, 1925: 164, pl. 11, fig. 17.
Type locality. Sakhalin: Nyiwo.

Holotype ♂ [head missing] (Fig. 7). (1) *Larentia nuihonis* [sic] n. [handwriting]; (2) Kitakarafuto Kono Tamanuki, [underside] *Nuiho* [Nyiwo], Aug 14 '22 [handwriting].
Current status: *Dysstroma citrata nyiwonis* Matsumura, 1925 (Inoue, 1977: 267, 320).

The genitalia of the holotype male (Gmt-110) dissected by me are shown in Fig. 19. *Cidaria* (*Dystroma*[sic]) *alexadrowskana* Matsumura, 1925, was synonymized with *C.* (*D.*) *nyiwonis* Matsumura, 1925, by Inoue (1977: 267). According to Dr. Beljaev's personal information, he examined one unidentified female of *Dysstroma* from Sakhalin, which is similar to *alexadrowskana* in the wing colour and maculation, and expressed his doubt on the above synonymy. The taxonomic status of *nyiwonis* and *alexandrowskana* will be determined through his close examination of more specimens from Sakhalin.

Cidaria (Epirrhoe) commixta Matsumura, 1925: 167, pl. 10, fig. 16.
Type locality. Sakhalin: "Furumaki".

Holotype ♂ (Fig. 9). (1) KARAFUTO, S. Takano, Tamanuki, [underside] Furumaki 13/VII '24 [handwriting]; (2) *Cidaria (Epirrhoe) commixta* n. [handwriting]; (3) [red label] Type Matsumura.
Current status: *Rheumaptera subhastata commixta* (Matsumura, 1925) (Viidalepp, 1977: 570).

Inoue (1982: 480) suggested that the holotype of *commixta* might be a specimen of *Rheumaptera hastata rikovskensis* (Matsumura) with white wing maculation more developed. But the genitalia (Gmt-141) (Fig. 20) agree with those of *R. subhastata* (Nolcken, 1870). The Sakhalin population has been treated as a different race under the name of *commixta* together with those from Kamchatka and Kuriles since Viidalepp (1977).

Cidaria (Eulype) hastata rikovskensis Matsumura, 1925: 168, pl. 10, fig. 24 [26].
Type locality. Sakhalin: Rikovskoie.

Holotype ♀ (Fig. 10). (1) Kitakarafuto, Kono, Tamanuki; (2) *Cidaria hastata rikovskensis*; (3) [red label] Type Matsumura.
Current status: *Rheumaptera hastata rikovskensis* (Matsumura, 1925) (Inoue, 1982: 480).

The genitalia of the holotype female (Fig. 21) were examined by me (Gmt-140) to confirm the identification.

Cidaria (Eulype) hecate sachalinensis Matsumura, 1925: 168, pl. 9, fig. 24; pl. 10, fig 24.
Type locality. Sakhalin: "Kiminai", " Tonnai".

Syntypes. ♀ ("pl. 9, fig. 24") (Figs 11 & 12), (1) *Tonnaicha* [Tonnai] 22/VII [handwriting]; (2) *Cidaria hecate sachalinensis* n. [handwriting] det. Matsumura; (3) [red label] Type Matsumura. ♀, (1) *Kimu* [Kiminai] 13/ VII.
Current status: *Rheumaptera hecate matsumurai* Inoue, 1977 (Inoue, 1982: 480).

Inoue (1977: 261) proposed *Rheumaptera hastata matsumurai* as a replacement subspecies name for "*Rheumaptera hastata sachalinensis* (Matsumura, 1925)"(= *Cidaria hecate sachalinensis* Matsumura, 1925), a junior secondary homonym of *R. sachalinensis*

(Matsumura, 1911), which is currently considered a junior synonym of *R. flavipes* (Ménétriès, 1858). Inoue's *hastata* is a misidentification of *R. hecate* Butler, 1878 (Inoue, 1982). The genitalia of the female syntype (Gmt-139) (Fig. 22) taken at Tonnai were examined to confirm the identification.

Cidaria (Euphyia) karafutonis Matsumura, 1925: 167, pl. 10, fig. 13.
Type locality. Sakhalin: "Ichinosawa".

Syntypes. ♀ ("fig. 13"), (1) Saghalien Matsumura, [underside] *Ichinosawa*, 25/7 '24 [handwriting]; (2) *Cidaria Euphyia karafutonis* n. det. Matsumura; (3) [red label] Type Matsumura. ♀ , (1) Saghalien Matsumura, [underside] Ichinosawa Takano and Tamanuki July 10 1924 [handwriting]. 2 ♀ , (1) Saghalien Matsumura, [underside] *Ichinosawa*, 25/7 '24. ♀ , (1) *Cid. karafutonis* Mats. [handwriting]; (2)Saghalien Matsumura, [underside] *Ichinosawa* 25/7 '24. ♂, (1) Saghalien Matsumura, [underside] Ichinosawa, Aug/ 4 '23 [handwriting].
Current status: Synonym of *Eupithecia gigantea* Staudinger, 1897 (Inoue, 1956a: 289).

Cidaria (Euphyia) tonnaichana Matsumura, 1925: 166, pl. 10, fig. 6.
Type locality. Sakhalin: "Ichinosawa", "Tonnai".

Syntypes. ♂ ("fig. 6"), (1) *Tonnaicha* [Tonnai] 14/VII [handwriting] det. Matsumura; (2) *Cidaria tonnaichana* n. [handwriting] det. Matsumura; (3) R. Sato, 1995 ♂ Genitalia on slide No. Gmt-92; (4) *Euphia unangulata* (Haworth, 1809). Det. R. Sato, 1995 [handwriting]. ♂, (1) *Tonnaicha* [Tonnai] 14/VII [handwriting]; (2) *L. unangulata* Haw. [handwriting]; (3) R. Sato, 1995 ♂ Genitalia on slide No. Gmt-93; (4) *Euphia unangulata* (Haworth, 1809). Det. R. Sato, 1995 [handwriting]. ♀ , (1) Saghalien Matsumura, [underside] Ichinosawa Aug 14 '23 [handwriting]; (2)*Euphia unangulata* (Haworth, 1809). Det. R. Sato, 1995 [handwriting].
Current status: Synonym of *Euphyia unangulata* (Haworth, 1809) (Viidalepp, 1977: 571).

Viidalepp (1996: 17) examined Sakhalin material of *Euphyia unangulata* (Haworth, 1809) and recognized two subspecies, *gracilaria* (Bang-Haas, 1906) from North Sakhalin and *tonnaichana* (Matsumura, 1925) from South Sakhalin. *E. u. gracilaria* was described from Munku (Sajan district, Siberia), and is currently assigned not only to the Russian population (Siberia and Far East region) but also to the Japanese population (Hokkaido). In addition, Bryk (1942: 72) described *regnelli* as a subspecies of *tonnaichana* from Kuriles (Urup, Tokotnbai), and Bryk (1949: 175) described two subspecies of *unangulata*, *renei* from Kamtchakta and *gekatsungensis* from Korea (Gekatsungu). I have not yet examined the type specimens of these subspecies except *tonnaichana*. Therefore, in order to avoid additional confusion, any trinomial names should not be used for populations in Sakhalin until the relationship between these taxa is clarified. The genitalia of the syntype male (Gmt-92), illustrated in the original description, are shown as in Fig. 18.

Cidaria (Karacidaria) shibuyae Matsumura, 1925: 170, pl. 11, fig. 10.
Type locality. Sakhalin: "Ichinosawa".

Holotype ♂ [no abdomen]. (1) Saghalien 24 6 1922 Shibuya; (2) *Cidaria (Karacidaria) shibuyae* n. sp. [handwriting]; (3) [red label] Type Matsumura.
Current status: Synonym of *Hydriomena furcata furcata* (Thunberg, 1784) (Viidalepp, 1977: 571).

In *H. furcata*, the following three subspecies have so far been recognized in addition

to the nominotypical one from Europe (Sweden): *fergusoni* McDunnough, 1954 (Canada), *nexifasciata* (Butler, 1881) (Japan) and *saga* (Prout, 1938) (Iceland).
Karacidaria established as a subgenus of *Cidaria* by Matsumura, 1925 (type species: *Cidaria shibuyae* Matsumura, 1925) is currently considered as a synonym of *Hydriomena* Hübner, 1825 (type species: *Geometra elutata* Hübner, 1799).

Cidaria (Thera) sounkeana Matsumura, 1927: 184.
Type locality. Japan: Hokkaido (Mt. Daisetsu).
Holotype ♂. (1) Mt. Daisetsu Matsumura, [underside] 4 -10.VIII.1926 *Uchida Kono*; (2) *C. sounkeana* n. sp. [handwriting]; (3) [red label] Type Matsumura.
Current status: *Heterothera taigana sounkeana* (Matsumura, 1927) (Choi, 1998: 39).

Cymatophora medialis Matsumura, 1909: 76, pl. 11, fig. 11. (as Tyatiridae)
Type locality. Japan: Honshu (Morioka).
Syntype ♀ [head missing]. (1) Morioka [handwriting]; (2) Type Matsumura, [underside] *medialis* n. [handwriting]; (3) 361.
Current status: Synonym of *Planociampa modesta* (Butler, 1878) (Inoue, 1941: 114).

Dindica baibarana Matsumura, 1931: 893, no. 1281, fig.
Type locality. Taiwan: "Baibara".
Holotype ♂. (1) BAIBARA Y. Saito Kikuchi, [underside] 9/ VI '26 [handwriting]; (2) ♂ Genitalia on slide No. Gmt-60 T. KUMATA, 1967; (3) *Dindica baibarana* n. [handwriting].
Current status: *Herochroma baibarana* (Matsumura, 1931) (Inoue, 1986: 212).

Dindica subtepens f. *formosicola* Matsumura, 1931: 894, no. 1284, fig. Nomen nudum.
Specimens examined. ♂, (1) Baibara Kikuchi, [underside] Oct. 1925 [handwriting]; (2)*Terpna* Wk. *subtepens formosicola* n.; (3) *Dindica subtepens* Wk. f. *formosicola* Mats. *Akaobi-ayashaku* [Japanese name]; (4) ♂ Genitalia on slide No. Gmt-104 H. Inoue, 1998. ♀, (1) HORISHA Formosa – 1917; (2)157 [handwriting].
Current status: *Herochroma cristata* (Warren, 1894) (Inoue, 1978: 204).

Eilicrinia cordiaria f. *nipponica* Matsumura, 1931: 895, no. 1288, fig. Nomen nudum.
Specimens examined. ♀, (1) Sapporo Matsumura [underside], 4/6 '22 [handwriting]. ♀, (1) Sapporo Matsumura, [underside] Otaru 18 July 23 [handwriting]. ♂, (1) Sapporo Matsumura. ♂, (1) Sapporo Matsumura, [underside] Aug. 3 '23, Garugawa. ♂, (1) Sapporo Matsumura, [underside] 24/VII '08 [handwriting].
Current status: *Eilicrinia wehrli* Djakonov, 1933 (Inoue, 1956a: 353).

Epamraica bilineata Matsumura, 1910: 130, pl. 28, fig. 1.
Type locality. Taiwan: Alishan.
Holotype ♀ ("fig. 1"). (1) *Epamraica formosana* n. sp. [handwriting]; (2) Formosa Matsumura, [underside] Arishan, IX. 2. 1909, No. 20 [handwriting].
Current status: Synonym of *Biston perclara* (Warren, 1899)(Matsumura, 1931:882).

The genus *Epamraica* Matsumura, 1910 (type-species: *E. bilineata* Matsumura, 1910) is currently considered a junior synonym of *Biston* Leach, 1815 (type-species: *Geometra prodromaria* [Denis & Schiffermüller], 1775).

Eupithecia jezonica Matsumura, 1927a: 184.
Type locality. Japan: Hokkaido (Sapporo).

Lectotype ♀, designated by Inoue (1979: 192). (1) Sapporo Matsumura, [underside] 13/VIII '18 [handwriting]; (2) *Eupithecia jezonica* n. [handwriting], det. Matsumura; (3) [red label] Type Matsumura; (4) LECTOTYPE [handwriting]; (5) R. Sato, 1994 ♀ Genitalia on slide No. Gmt-77; (6) [red label] Lecto-type *Eupithecia jezonica* Matsumura [handwriting].

Paralectotype ♀, designated by Sato (1995: 2). (1) Sapporo Matsumura, [underside] 20/VIII 1917 [handwriting]; (2) R. Sato, 1994 ♀ Genitalia on slide No. Gmt-78; (3) *Eupithecia jezonica* Matsumura. Det. R. Sato, 1994 [handwriting]; (4) [pink label] Paratype (lecto) *Eupithecia jezonica* Matsumura [handwriting].

Paralectotype ♀, designated by Sato (1995: 2). (1) Mt. Daisetsu Matsumura, [underside] 4-10.VIII.1926 *Uchida Kono* [handwriting]; (2) R. Sato, 1994 ♀ Genitalia on slide No. Gmt-79; (3) *Eupithecia jezonica* Matsumura. Det. R. Sato, 1994 [handwriting]; (4) [pink label] Paratype (lecto) *Eupithecia jezonica* Matsumura [handwriting].
Current status: *Eupithecia jezonica* Matsumura, 1927.

E. jezonica Matsumura, 1927, was synonymized with *E. sophia* Butler, 1878, by Inoue (1956b: 661), but later was proved to be a distinct species by Sato (1995: 2).

Eupithecia (Eupithecia) ichinosawana Matsumura,1925: 172, pl. 11, fig. 23.
Type locality. Sakhalin: "Ichinosawa".

Holotype ♀ ("fig. 23") [no abdomen]. (1) Saghalien Matsumura, [underside] Ichinosawa Aug. 25 '24 [handwriting]; (2) *Eupithecia (Pena) ichinosawana* n. sp. [handwriting], [underside] *Ichinosawa-chibi-namishaku* [Japanese name] [handwriting]; (3) [red label] Type Matsumura.
Current status: Synonym of *Eupithecia ussuriensis* Dietze, 1910 (Viidalepp & Mironov, 1988: 291).

Eupithecia (Eupithecia) latimarginata Matsumura, 1925: 171, pl. 10, fig. 17.
Type locality. Sakhalin: "Ichinosawa".

Holotype ♀ ("fig. 17") [abdomen and right forewing missing]. (1) Saghalien Matsumura, [underside] *Ichinosawa* 25/7 '24; (2) *Eupithecia latimarginata* n. [handwriting]; (3) [red label] Type Matsumura.
Current status: Synonym of *Eupithecia ussuriensis* Dietze, 1910 (Viidalepp & Mironov, 1988: 291).

Eupithecia (Pena) kawakamiana Matsumura, 1925: 172, pl. 11, fig. 19.
Type locality. Sakhalin: "Ichinosawa", "Kawakami".

Syntypes. ♀, (1) Saghalien Matsumura, [underside] Kawakami, July 30 '24; (2) *Eupithecia (Pena) kawakamiana* n. [handwriting]; (3) [red label] Type Matsumura; (4) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-103. ♀, (1) Saghalien Matsumura, [underside] Ichinosawa July 25 '24 [handwriting]; (2) Co-type Matsumura.
Current status: Synonym of *Eupithecia bohatschi* Staudinger, 1897 (Viidalepp, 1978: 754).

Fascellina plagiata f. *kankozana* Matsumura, 1931: 900, no. 1310, fig. Nomen nudum.

Specimens examined. ♂, (1) Baibara Kikuchi, [underside] Kantozan 24/VIII '25 [handwriting]; (2) *Fascellina plagiata* Wk. [handwriting], [underside] f. *kantozana* [sic] n. [handwriting]. ♂, (1)

TAIHOKU 24.XII.1916 INAMURA [handwriting]. ♂, (1) HORISHA Formosa 1917. ♂, (1) Baibara Kikuchi, [underside] 22. July 1925 [handwriting]. ♂, (1) Formosa Matsumura, [underside] Horisha VIII. 1924. ♂, (1) Kyuhabon 20-vii-1925 S. Issiki S. Asakura.
Current status: *Fascellina plagiata* (Walker, 1866).

Gnophos formosana Matsumura, 1910: 96, pl. 25, fig. 9.
Type locality. Taiwan: Alishan, "Toroen", "Kagi", "Kanshirei".

Syntypes. ♀, (1) Formosa Matsumura, [underside] *Arisan* [Alishan] 24/4 07 [handwriting]; (2) [red label] PARALECTOTYPE [handwriting] (by Inoue). 3 ♂, (1) Formosa Matsumura, [underside] *Torouen* [Toroen] 19/4 07 [handwiring]. ♂, (1) Formosa Matsumura, [underside] *Kagi* [Kagi] 26/IV 07 [handwriting]. ♂, (1) Formosa Matsumura, [underside] *Kanshirei* 4/V 08 [handwriting]. ♂, (1) Formosa Matsumura, [underside] *Kanshirei* 9/V 08 [handwriting].
Current status: Synonym of *Gnophos delitescens* (Bastelberger, 1909) (Inoue, 1986: 266).

A male specimen, labeled "Horisha, Formosa, 1916, K. Asakura" in the Matsumura Collection, was designated as the lectotype of *formosana* by Inoue (1986: 266), but it was collected after the original description (1910). Therefore, Inoue's designation is invalid.

Gnophos ichinosawana Matsumura, 1925: 180, pl. 11, fig. 32.
Type locality. Sakhalin: "Ichinosawa"

Syntypes. ♀ ("fig. 32"), (1) *Gnophos ichinosawana* n. [handwriting] det. Matsumura; (2) Saghalien Matsumura, [underside] Ichinosawa Aug. 14 '23 [handwriting]. ♀, (1) Saghalien Matsumura, [underside] Odomari Aug. 14 '23 [handwriting]. ♀, (1) Saghalien Matsumura, [underside] Ichinosawa Aug. 14 '23.
Current status: *Synegia ichinosawana* (Matsumura, 1925) (Inoue, 1956a: 307).

Gnophos (Ctenognophos) kawakamiana Matsumura, 1925: 180, pl. 10, fig. 27.
Type locality. Sakhalin: "Kawakami".

Syntypes. ♂, (1) Saghalien Matsumura, [underside] *Kawakami* 30/7 '24 [handwriting]; (2) *Gnophos kawakamiana* n. [handwriting] det. Matsumura; (3) [red label] Type Matsumura. ♂, (1) Saghalien Matsumura [underside] *Kawakami* 30/ 7 '24; (2) Co-type Matsumura. ♂, (1) Saghalien Matsumura, [underside] Kawakami July 30 '24 [handwriting]; (2) Co-type Matsumura.
Current status: Synonym of *Arbognophos amoenaria* (Staudinger, 1897) (Viidalepp, 1979: 787).

Hemistola ichinosawana Matsumura, 1925: 156, pl. 11, fig.23 [24].
Type locality. Sakhalin: "Ichinosawa".

Holotype ♂. (1) Saghalien Matsumura, [underside] *Ichinosawa* 25/7 '24 [handwriting]; (2) *Hemistola ichinosawana* [handwriting] det. Matsumura; (3) [red label] Type Matsumura.
Current status: Synonym of *Mujiaoshakua plana* (Wileman, 1911) (Inoue, 1956b: 659).

Hemithea inornata Matsumura, 1925: 155, pl. 11, fig. 21.
Type locality. Sakhalin: "Ichinosawa".

Holotype ♂ (Fig. 3). (1) Otomari, 24. 6, 1922, Shibuya; (2) *Hemithea inornata* n. [handwriting], [underside] *Muji-aoshaku* [Japanese name] [handwriting]; (3) [red label] Type Matsumura; (4) R. Sato, 1995 ♂ Genitalia on slide No. Gmt-98; (5) [red label] Holotype *Hemithea inornata* Matsumura.
Current status: *Chlorissa inornata* (Matsumura, 1925), comb. nov.

The genitalia and eighth abdominal sternite of the holotype male (Fig. 14) quite agree with those of *Chlorissa macrotyro* Inoue, 1954: 29, pl. 6, fig. 1 (Tokyo: Takao-san), so the latter is synonymized with *H. inornata* Matsumura, 1925 (syn. nov). As a result of transferring of *inornata* from *Hemithea* to *Chlorissa*, *Chlorissa inornata* Prout, 1930 (*in* Seitz, A: *The Macrolepidoptera of the World* 16: 29, pl. 3, line i) from Transvaal, Natal in South Africa, becomes a junior secondary homonym.

Hemithea mali Matsumura, 1917: 625, pl. 29, fig. 12.
Type locality. Japan: Honshu (Aomori Prefecture).
Syntype ♂ [abdomen missing]. (1) Nitobe [handwriting]; (2) *ringo gaichû* [pest of *Malus*]; (3) *Hemithea mali* n. sp. [handwriting] det. Matsumura.
Current status:Synonym of *Chlorissa amphitritaria* Oberthür, 1879 (Inoue, 1956b: 659).

Hemithea sasakii Matsumura, 1917: 624, pl. 29, fig. 11.
Type locality. Japan: Honshu (Tohoku district).
Syntypes. Not found.
Current status:Synonym of *Mexates illiturata* (Walker, 1863) (Inoue, 1977: 235).

Inoue (1956b: 659) synonymized *Hemithea sasakii* with *Hemistola tenuilinea* (Alphéraky, 1897) by examining a specimen referable to *sasakii* with a type-label in the Matsumura Collection, but later Inoue (1977: 320) treated it as a junior synonym of *Gelasma* (=*Mexates*) *illiturata* (Walker, 1863) following Nakamura's opinion (1971: 110). For the detailed discussion, see Inoue's paper (1977: 320). I examined a male specimen of *tenuilinea*, erroneously labeled "Morioka/ *Thalera sasakii* n. det. Matsumura", but could not find any other specimens bearing a type-label of *sasakii* in the Matsumura Collection.

Heterolocha sachalinensis Matsumura, 1925: 177.
Type locality. Sakhalin: "Ichinosawa".
Holotype ♂ [only left wings existing] (Fig. 6). (1) Saccalien, 23-vii-1919, S. Issiki; (2) *Heterolocha sachalinensis* n. [handwriting]; (3) *Heterolocha laminaria* (Herrich-Schäffer) Det. R. Sato, 1995 [handwriting].
Current status: New synonym of *Heterolocha laminaria* Herrich-Schäffer, 1856.

Inoue (1956a: 358) treated *Heterolocha sachalinensis* Matsumura, 1925, as a synonym of *H. stulta* (Butler, 1879), and later Inoue (1977: 316; 1982: 309) expressed doubt on his treatment by adding a question mark before the name *sachalinensis*. On the other hand, Viidalepp (1979: 798) suggested that *Heterolocha sachalinensis* Matsumura, 1925 is identical with *H. laminaria sutschanska* Wehrli, 1937 (Amur, Ussuri), but he also put a question mark on the name *sachalinensis*. Unfortunately the holotype of *sachalinensis* is broken and all parts except for the left wings have been lost. Having examined the left forewing and hindwing, I have come to the conclusion that *H. sachalinensis* is conspecific with *H. laminaria*, and the former is here synonymized with the latter. The subspecific treatment for the Sakhalin population is left for future studies.

Hydrelia sachalinensis Matsumura, 1925: 170, pl. 11, fig. 29.
Type locality. Sakhalin: "Ichinosawa".

Syntypes. ♂, (1) Saccalin, 23-vii-1919; (2) *Hydrelia sachalinensis* n. [handwriting] det Matsumura; (3) [red label] Type Matsumura. ♂, (1) Saghalien Matsumura, [underside] *Ichinosawa* 25/7 '24; (2) H. Inoue, '77, ♂ Genitalia on slide No. Gmt-76. 2 ♂, (1) Saccalin 23. VII. 1919 S. Issiki.
Current status: Synonym of *Hydrelia sylvata* ([Denis & Schiffermüller], 1775) (Inoue, 1956a: 661).

Loxaspilates formosana Matsumura, 1911b: 36, pl. 33, fig. 3
Type locality. Taiwan: Alishan.
Syntypes. ♂, (1) Formosa Matsumura, [underside] Arikan [Alishan] 21/VIII'09 [handwriting]; (2) *Loxaspilates formosana* n. sp. *Togari-obi-edashaku* [Japanese name]; (3) VI 1938 *Heteralex aspersa formosana* (Matsumura) [handwriting] Det. T. Sawamoto. ♂, (1) Formosa Matsumura, [underside] Arikan 27/VII '09 [handwriting]; (2) VI 1938 *Heteralex aspersa formosana* (Matsumura) [handwriting] Det. T. Sawamoto. ♂, (1) Formosa Matsumura, [underside] Arikan VIII. 7. 09 No.12; (2) VI 1938 *Heteralex aspersa formosana* (Matsumura) [handwriting] Det. T. Sawamoto.
Current status: *Heteralex aspersa formosana* (Matsumura, 1911) (Prout, 1921: 30).

Loxaspilates obliquaria f. *arisana* Matsumura, 1931: 908, no. 1353, fig. Nomen nudum.
Specimens examined. ♂, (1) Formosa Matsumura, [underside] *Arisan* [Alishan] 23, 24/IV.1928; (2)*Loxospilates*[sic] *obliquaria* Moore [handwriting]. 1♂3♀, (1) Formosa Matsumura, [underside] *Arisan* [Alishan] 23, 24/IV. 1928.
Current status: Synonym of *Loxaspilates arrizanaria* Bastelberger, 1909 (Inoue, 1978: 250).

Lygris testata karafutonis Matsumura, 1925: 162, pl. 9 [11], fig. 3.
Type locality. Sakhalin: "Sakayehama".
Syntypes. ♂ ("fig. 3" as female), (1) Saghalien Matsumura, [underside] Sakaihama Aug 27 '24 [handwriting]; (2) *C. testata karafutonis* n. [handwriting]; (3) [red label] Type.Matsumura. ♂, (1) Saghalien Matsumura, [underside] Sakaihama Aug. 27 '24 [handwriting]; (2) Co-type Matsumura; (3) *C. testata karafutonis* Mats. [handwriting]. ♀, (1) Saghalien Matsumura, [underside] Sakaihama Aug. 27 '24 [handwriting]; (2) Co-type Matsumura.
Current status: Synonym of *Eulithes testata achatinellaria* (Oberthür, 1880) (Inoue, 1956a: 271).

Obeidia horishana Matsumura, 1931: 915, no. 1386, fig.
Type locality. Taiwan.
Holotype ♂. (1) *Taiwan*; (2) *Tokyo Hirayama Shujiro*; (3) *O. formosicola* n. [handwriting]; (4) ♂ Genitalia on slide No. Gmt-61 T. KUMATA, 1967; (5) [red label] Hollotype *Obeidia horishana* Matsumura [handwriting].
Current status: *Obeidia horishana* Matsumura, 1931.

Ortholitha kiminaiana Matsumura, 1925: 161, pl. 11, fig. 15.
Type locality. Sakhalin: "Ichinosawa", "Kiminai", "Kawakami", Alexandrowsk.
Syntypes. ♀ (Fig. 4), (1) Saghalien Matsumura, [underside] Ichinosawa July 29 24 [handwriting]; (2) Co-type Matsumura; (3) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-101; (4) *Colostygia aptata* (Hübner) Det. R. Sato, 1995 [handwriting]. ♀, (1) Saghalien Matsumura, [underside] *Kiminai* 27/7 24 [handwriting] (2) *Ortholitha kiminaiana* [handwriting] det. Matsumura. ♀, (1)Saghalien

Matsumura, [underside] Kawakami, July 30 '24 [handwriting]; (2) Co-type Matsumura. ♂, (1) Kitakarafuto Tamanuki, [underside] *A-ko* [Alexandrowsk] Aug 28 '22 [handwriting]; (2) Co-type Matsumura.
Current status: New synonym of *Colostygia aptata* (Hübner, 1813).

O. kiminaiana was originally described from four specimens, all of which are preserved in the Matsumura Collection as listed above. They belong to one and the same species, and the female genitalia (Fig. 17) agree well with those of *Colostygia aptata* (Hübner, 1813). The present species should be synonymized with the latter.

Ourapteryx formosana Matsumura, 1910: 76, pl. 23, fig. 13.
Type locality. Taiwan: Alishan.
Holotype ♂. (1) *O. formosana* n. sp. [handwriting]; (2) Formosa Matsumura, [underside] 17/IX 1908 Arizan [handwriting].
Current status: *Ourapteryx clara formosana* Matsumura (Inoue, 1985: 106).

Ourapteryx horishana Matsumura, 1910: 75, pl. 23, fig. 11.
Type locality. Taiwan: "Gyochi"
Holotype ♂ [no head]. (1) Formosa Matsumura, [underside] *Gyochi* 1908 [handwriting].
Current status: *Ourapteryx similaria horishana* Matsumura, 1910 (Inoue, 1985: 104).

Ourapteryx jesoensis Matsumura, 1910: 76, pl. 23, fig. 14.
Type locality. Japan: Hokkaido.
Holotype ♂. (1) *O. jesoensis* n.sp. [handwriting], [underside] [no data].
Current status: Synonym of *Ourapteryx maculicaudaria* (Motschulsky, 1866) (Inoue, 1956a: 362).

Ourapteryx laeta Matsumura, 1910: 77, pl. 23, fig. 15.
Type locality. Japan: Hokkaido (Sapporo).
Holotype ♀. (1) *O. maculicaud.* var. *lata*[sic] n. [handwriting] det. Matsumura; (2) [Sa]ppo[ro], Mats[umura].
Current status: Synonym of *Ourapteryx maculicaudaria* (Motschulsky, 1866) (Inoue, 1956a: 362).

Ourapteryx virescens Matsumura, 1910: 77, pl. 23, fig. 16.
Type locality. Taiwan: "Banshoryo".
Holotype ♂. (1) Formosa Matsumura, [underside] *Sakai Banshoryo* [handwriting]; (2) *O. virescens* n. sp.; (3) ♂ Genitalia on slide No. Gmt-58 T. KUMATA, 1967; (4) [red label] Holotype *Ourapteryx virescens* Matsumura.
Current status: *Ourapteryx yerburii virescens* Matsumura, 1910 (Inoue, 1993: 109).

Percnia felinaria var. **formosana** Matsumura, 1910: 112, pl. 26, fig. 8.
Type locality. Taiwan: "Shinsha".
Lectotype ♀, by present designation. (1) Formosa Matsumura, [underside] 24/VII 1906 Shinsha [handwriting].
Current status: A synonym of *Antipercnia albinigrata* (Warren, 1896) (Parsons et al., 1999: 49).

One male specimen labelled "HORISHA, Formosa 1917" is placed under the name-label of "*Percnia felinaria* Guen. var. *formosana* Mats. Formosa" in the Matsumura Collection. But it does not agree with the figure in the original description and bears the collecting data later than the publication. Its genitalia (Gmt-80) show the specimen to be identified with *Metabraxas rubrotincta* Inoue from Taiwan (Inoue, 1986: 245). On the other hand, I found one female taken from Taiwan and six specimens (five males and one female) from Honshu, Japan under the name-label of "*Percnia belluaria* Guen. Honshiu, Formosa". They are currently identified with *Antipercnia albinigrata* (Warren). The figure of male specimen in the original description shows *formosana* to be identical with *A. albinigrata* (Warren). Therefore I considered the female from Taiwan as a syntype of *formosana* and, to clarify its taxonomic status, designated it as the lectotype. Parsons et al. (1999) treated *formosana* as a Taiwanese subspecies of *A. albinigrata*, but any additional records have not been known since the original description. Besides, any significant differences between the "Taiwanese" and the Japanese forms cannot be found in the appearance and female genitalia (Gmt-138) (Fig. 23). I think the lectotype female from Taiwan was mis-labelled, and Taiwan should be deleted from the geographical range of *A. albinigrata*.

Pingasa shirakiana Matsumura, 1931: 923, no. 1420, fig.
Type locality. Taiwan: "Taihoku".

Holotype ♂. (1) Formosa *Taihoku*; (2) *Pingasa shirakiana* n.; (3) ♂ Genitalia on slide No. Gmt-59 T. KUMATA, 1967; (4) [red label] Holotype *Pingasa shirakiana* Matsumura [handwriting].
Current status: Synonym of *Pachista superans* (Butler, 1878) (Inoue,1986: 213).

Pachista superans (Butler) was deleted from the fauna of Taiwan by Inoue (1986: 213), because he considered the holotype of *shirakiana* to be mis-labelled. To date, no other specimens of *superans* than the holotype of *shirakiana* have been reported from Taiwan.

Pseudomiza cruentaria f. *tamahonis* Matsumura, 1931: 924, no. 1427, fig. Nomen nudum.

Specimens examined. ♂, (1) Formosa T. Uchida H. Kono Y. Miwa, [underside] Tamaho 11/VII '25 [handwriting]; (2) *Pseudomiza cruentaria* Mr. *tamahoensis* Mats. [handwriting], [underside] *hanamon-edashaku* [Japanese name] [handwriting].
Current status: Synonym of *Pseudomiza aurata* Wileman, 1915 (Inoue, 1978: 253).

Psodos daisetsuzana Matsumura, 1927a: 186.
Type locality. Japan: Hokkaido (Mt. Daisetsu).

Syntypes. ♂, (1) Mt. Daisetsu Matsumura, [underside] 4 - 10. VIII. 1926 *Uchida Kono* [handwriting]; (2) [red label] Type Matsumura; (3) *Psodos daisetsuzana* n. [handwriting]. ♂, (1) Mt. Daisetsu H. Kono, [underside] 8 *gatsu jôjun* [beginning of August] 1927 [handwriting]. 4♂, (1) Matsumura Mt. Daisetsu, [underside] 4 - 10. VIII '26 Uchida, Kono [handwriting]. ♂, (1) Mt. Daisetsu H. Kono, [underside] *Hokkai-dake* [Mt. Hokkaidake] 18/VII '26 [handwriting]. 2 ♂, (1) Mt. Daisetsu Matsumura, [underside] 4 -10. VIII. 1926 *Uchida Kono* [handwriting].
Current status: *Glacies coracina daisetsuzana* (Matsumura, 1927) (Povolny & Moucha, 1960).

Ptychopoda karafutonis Matsumura, 1925: 159, pl. 11, fig. 4.
Type locality. Sakhalin: "Ichinosawa", "Toyohara", "Kawakami", "Kiminai", "Sakayehama", Nyiwo, Rikovskoie.

Syntypes. ♂ ("fig. 4" as female), (1)Saccalin, 23.vii.1919, S. Issiki; (2) *Acidaria karafutonis* n.; (3) [red label] Type Matsumura; (4) R. Sato, 1995 ♂ Genitalia on slide No. Gmt-96; (5) *Idaea straminata* (Borkhausen) Det. R. Sato, 1995 [handwriting]. ♀, (1) Saghalien Matsumura, [underside] *Kawakami* 30/7/24 [handwriting]; (2) R. Sato, 1995 ♀ Genitalia on slide No. Gmt-97; (3) *Idaea straminata* (Borkhausen) Det. R. Sato, 1995 [handwriting]. ♀ , (1) Saghalien Adachi Isshiki, [underside] *Sakayehama* 19/VIII 1914 [handwriting]. 1♂2♀, (1) Saghalien Matsumura, [underside] Kawakami July 30 '24 [handwriting]. ♀, (1) Saghalien Adachi Isshiki, [underside] *Toyohara* 29/VII 1914 [handwriting]. 2♀, (1) Saghalien Matsumura, [underside] *Ichinosawa* 25/7 '24 [handwriting]. ♀ , (1) Kitakarafuto Tamanuki, [underside] *Nuiho* [Nyiwo] Aug 14 '22 [handwriting]. ♂ , (1) Kitakarafuto Tamanuki, [underside] Rikovskoie Aug 3 '22 [handwriting].
Current status: *Idaea straminata karafutonis* (Matsumura, 1925) (Viidalepp,1996: 52).

Ptycopoda shimizuensis Matsumura, 1925: 159, pl. 11, fig. 5.
Type locality. Sakhalin: "Shimizu", "Kawakami".

Syntypes. ♂ ("fig. 5"), (1) Saghalien Matsumura, [underside] Kawakami July 30 '24 [handwriting]. ♂, (1) [red label] Type Matsumura; (2) Saghalien Matsumura, [underside] *Hôshinsandô* Aug 21'23 [handwriting]. ♀ , (1) Saghalien Matsumura, [underside] Kawakami July 30 '24 [handwriting].
Current status: Synonym of *Idaea biselata* (Hufnagel, 1767) (Inoue, 1956b: 660).

The genitalia of the male syntype (Gmt-106) shown in the original description were examined to reconfirm the synonymy.

Trichodezia kindermanni latifasciaria Prout sensu Matsumura, 1925: 162.
Type locality. Sakhalin: "Ichinosawa", "Kiminai", "Odomari".

Syntypes. ♀ , (1) KARAFUTO S. TAKANO TAMANUKI, [underside] Ichinosawa 9/ VII 1924 [handwriting]. ♀, (1) *Kimu* [Kiminai] 15/ VII [handwriting]; (2)*latifasciaria* Prout [handwriting]. ♂ , (1) *Kimu* [Kiminai] 13/ VII [handwriting]. ♂ , (1) *Odomari* 10/ VII [handwriting].
Current status: *Trichodezia kindermanni latifasciaria* Matsumura, 1925.

The name *latifasciaria* in *Trichodezia kindermanni* ab. *latifasciaria* published by Prout (1914: 170) is infrasubspecific under the Code, and has been available since Matsumura (1925) used it as a subspecific name.

Xandramella marginata Matsumura, 1911: 54.
Type locality. Sakhalin: Nowoalexandloskoe.

Syntype ♂ . (1) Saghalin Oguma, [underside] *Nooarechi* [Nowoalexanloskoe], 28/VII'09 [handwriting]; (2) *X. marginata* n. sp. [handwriting].
Current status: Synonym of *Scionomia anomala* (Butler, 1881) (Inoue, 1956a: 335).

This species was described on two male specimens at the type locality, but only one male was found in the Matsumura Collection.

The genus *Xandramella* Matsumura, 1911 (type species: *X. marginata* Matsumura, 1911) is currently considered a junior synonym of *Scionomia* Warren, 1901 (Type species:

Cidaria mendica Butler, 1879).

Yezognophos kononis Matsumura, 1927a: 187.
Type locality. Japan: Hokkaido (Mt. Daisetsu).

Holotype ♂ (1) Mt. Daisetsu H. Kono, [underside] Koizumidake 18/VII 1926; (2) [red label] Type Matsumura; (3) *Yezognophos kononis* n. [handwriting] det. Matsumura; (4) ♂ Genitalia on slide No. Gmt-55, T. KUMATA, 1965.
Current status: *Elophos vittaria kononis* (Matsumura, 1927) (Sato, 1979: 20).

Sato (1979) treated *Y. kononis* as a subspecies of *Gnophos sordaria* Thunberg, 1792 (Europe), and *sordaria* is currently considered a junior synonym of *Elophos vittaria* (Thunberg, 1788).

The genus *Yezognophos* Matsumura, 1927 (type species: *Y. kononis* Matsumura, 1927) was synonymized with *Elophos* Boisduval, 1840 (type species: *Geometra operaria* Hübner, 1813) by Sauter (1990: 336).

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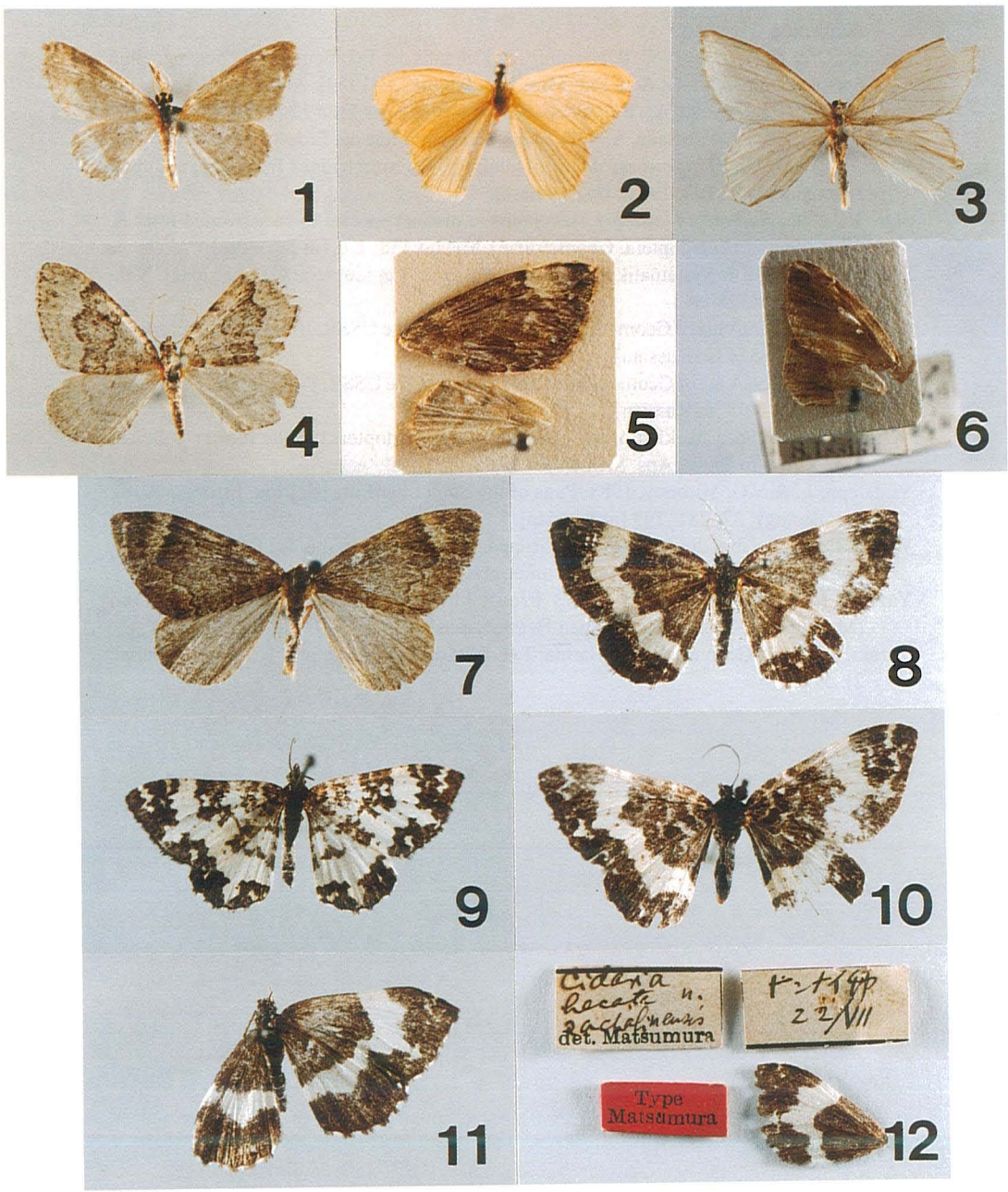
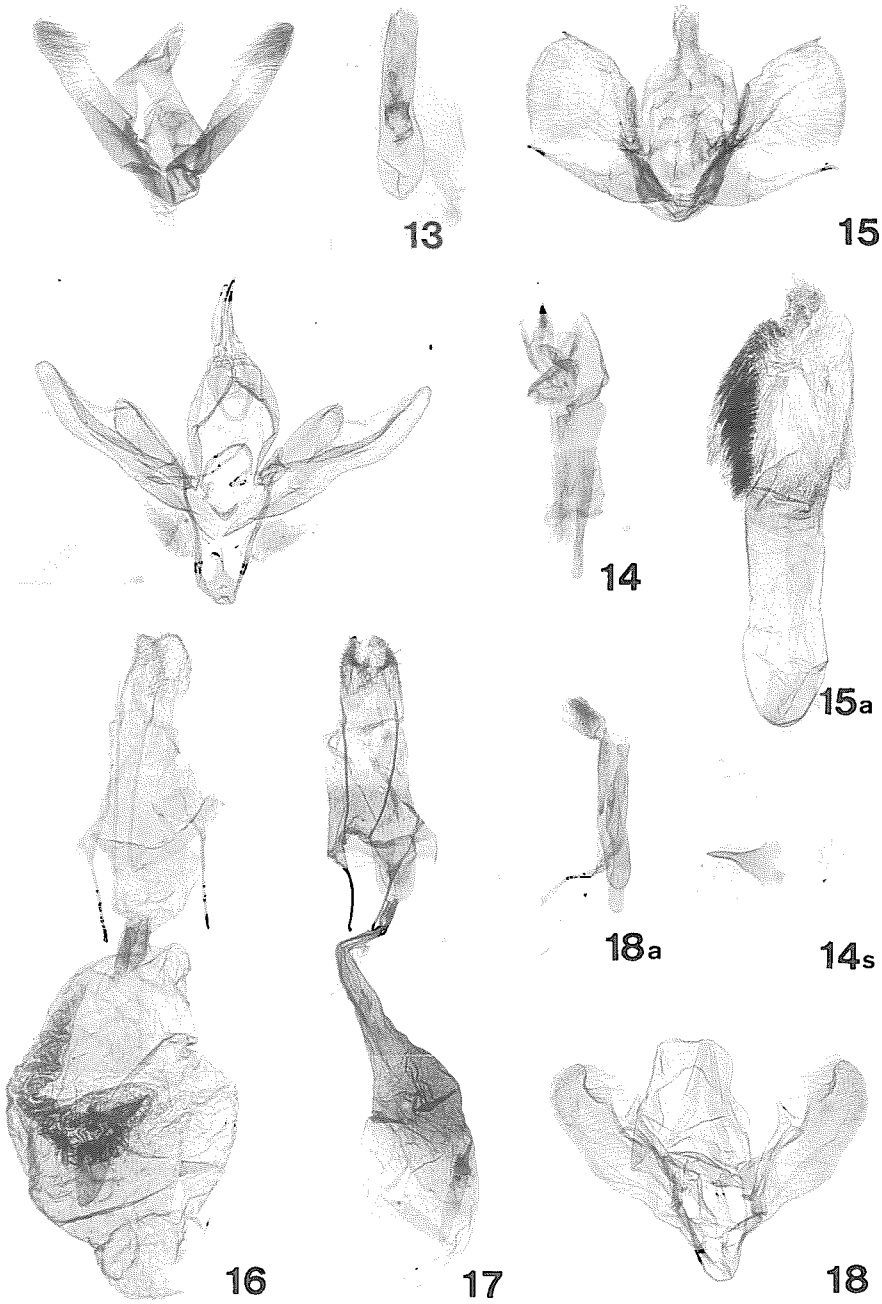
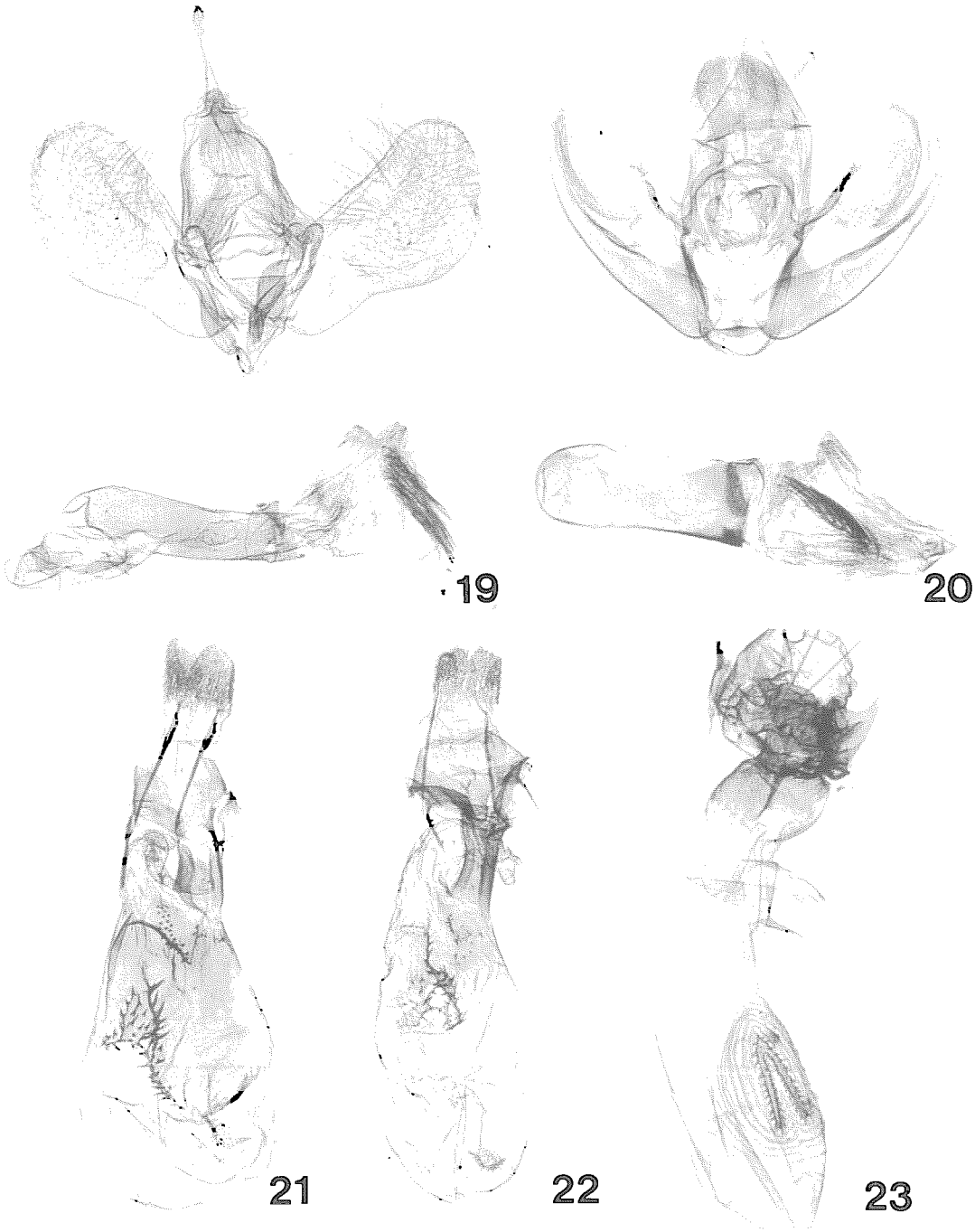


Figs 1-12. Type specimens of Geometridae described by Matsumura. 1. *Acidalia shiskensis*, lectotype ♂. 2. *Aoshakuna sachalinensis*, holotype ♂. 3. *Hemithea inornata*, holotype ♂. 4. *Ortholitha kiminaiana*, syntype ♀. 5. *Cidaria* (*Dystroma* [sic]) *alexandrowskana*, holotype ♀. 6. *Heterolocha sachalinensis*, holotype ♂. 7. *Cidaria* (*Dystroma* [sic]) *nyiwonis*, holotype ♂. 8. *Cidaria corydalaria ichinosawana*, syntype ♀. 9. *Cidaria* (*Epirrhoe*) *commixta*, holotype ♂. 10. *Cidaria* (*Eulype*) *hastata rikovskensis*, holotype ♀. 11. *Cidaria* (*Eulype*) *hecate sachalinensis*, syntype ♀. 12. Ditto, left forewing and labels.



Figs 13-18. Genitalia of type specimens of Geometridae described by Matsumura. 13. *Acidalia shiskensis*, lectotype ♂. 14. *Hemithea inornata*, holotype ♂, s: eighth abdominal sternite. 15. *Cidaria corydalaria ichinosawana*, syntype ♂, a: aedeagus (enlarged). 16. *Cidaria corydalaria ichinosawana*, syntype ♀. 17. *Ortholitha kiminaiana*, syntype ♀. 18. *Cidaria* (*Euphyia*) *tonnaichana*, syntype ♂, a: aedeagus.



Figs 19-23. Genitalia of type specimens of Geometridae described by Matsumura. 19. *Cidaria* (*Dystroma* [sic]) *nyiwonis*, holotype ♂. 20. *Cidaria* (*Epirrhoe*) *commixta*, holotype ♂. 21. *Cidaria* (*Eulype*) *hastata rikovskensis*, holotype ♀. 22. *Cidaria* (*Eulype*) *hecate sachalinensis*, syntype ♀. 23. *Percnia felinaria* var. *formosana*, lectotype ♀.