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<td>TYPE SPECIMENS OF THE GEOMETRIDAE (LEPIDOPTERA) DESCRIBED BY MATSUMURA IN THE HOKKAIDO UNIVERSITY INSECT COLLECTION, JAPAN</td>
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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.

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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”.

**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].
Acanthocampa okamotonis Matsumura, 1910: 103, pl. 25, fig. 21.
Type locality. Japan: Hokkaido (Sapporo).
Holotype ♂ (1) Chul IV [middle of April], 1906, Sapporo [handwriting], [underside] Okamoto [handwriting].
Current status. Synonym of Apochima juglansiaaria (Graeser, 1889) (Inoue, 1944: 78).

Acidalia ainoica Matsumura, 1927a: 183.
Type locality. Japan: Hokkaido (Mt. Daisetsu).
Current status: Synonym of Asthena nymphaeata (Staudinger, 1897) (Inoue, 1956b: 661).

Acidalia ichinosawana Matsumura, 1925: 157, pl. 11, fig. 26.
Type locality. Sakhalin: “Ichinosawa”.
Current status: Scopula ichinosawana (Matsumura, 1925).

Acidalia sachalinensis Matsumura, 1925: 158, pl. 11, fig. 6.
Type locality. Sakhalin: “Ichinosawa”, “Tonnai”.
Current status: Asthena sachalinensis (Matsumura, 1925).

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

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].
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* (Hubner, 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.

**Agathia polishana** Matsumura, 1931: 863, no. 1140, fig.
Type locality. Taiwan: “Horisha”, “Baibara”, “Kanko”.

**Amphidasis jeesoensis** Matsumura, 1910: 130, pl. 28, fig. 2.
Type locality. Japan: Hokkaido.
Syntypes. Not found.

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)


The genus Aoshachia Matsumura, 1927 (type species: virescens Matsumura, 1927) was synonymized with Doratoptera Hampson, 1895 (type species: D. nicevilleri 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, fused to Sc for long distance, while in all the Chlorissa species examined, R, 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.


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.


Current status: Arichanna melanaria aciculata Inoue, 1946.

Arichanna melanaria ab. aciculata Matsumura is an infrasubspecific name and

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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.


**Auzoeloides horishana** Matsumura, 1931: 939, no. 1494. fig. (as Uraniidae).

Type locality. Taiwan: “Hori”.

Holotype ♀ . (1) HORISHA Formosa, 1917; (2) *Auzoeloides horishana* n. sp. [handwriting].


**Bapta bimaculata** f. pallidiola Matsumura, 1931: 868, no. 1164. fig.

Type locality. Japan: Hokkaido, Honshu.

Syntypes. Not found.


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”.


**Boarmia sachalinensis** Matsumura, 1911a: 55.

Type locality. Sakhalin: Solowiyofka, Galkinowraskoe.


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.

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”.

*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 $\varphi$. (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,
[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.
Specimen examined. $\varphi$ (“pl. 11, fig. 10”), (1) Saghalien Matsumura, [underside] Ichinosawa,
Aug. 14 ’23; (2) *Boarmia ribeata ichinosawana* n. [handwriting]; (3) [red label] Type Matsumura;
Current status: Deileptenia ribeata (Clerck, 1759) (Inoue, 1956b: 661).

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

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) Sakhalien 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-Sakhalien] Kono Tamanuki, [underside] A-kou [Alexandrowsk], Aug. 28 ’22[handwriting]; (2) Larentia alexandrowskana n. [handwriting].

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 nuhonis [sic] n. [handwriting]; (2) Kitakarafuto Kono Tamanuki, [underside] Nuiho [Nyiwo], Aug 14 '22 [handwriting].

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 alexadrowskana 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.

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: Rikovskoe.

Holotype ♀ (Fig. 10). (1) Kitakarafuto, Kono, Tamanuki; (2) Cidaria hastata rikovskensis; (3) [red label] Type Matsumura.

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.

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* (Ménétrès, 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”.


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”.


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*, *renee* 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.


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.


**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].


**Dindica subtepens f. formosicola** Matsumura, 1931: 894, no. 1284, fig. Nomen nudum.


**Eilicrinia cordiaria f. nipponica** Matsumura, 1931: 895, no. 1288, fig. Nomen nudum.


**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].


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].


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) Sakhalien Matsumura, [underside] Ichinosawa Aug. 25 '24 [handwriting]; (2) Eupithecia (Pena) ichinosawana n. [handwriting], [underside] Ichinosawa-chibi-namishaku [Japanese name] [handwriting]; (3) [red label] Type Matsumura.


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

Holotype ♀ (“fig. 17”) [abdomen and right forewing missing]. (1) Sakhalien Matsumura, [underside] Ichinosawa 25/7 '24; (2) Eupithecia latimarginata n. [handwriting]; (3) [red label] Type Matsumura.


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


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

Current status: Fascella plagiata (Walker, 1866).

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


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”.


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


Current status: Synonym of Arbognophos amoenaaria (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.


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).  
Synotype ♂ [abdomen missing]. (1) Nitobe [handwriting]; (2) ringo gaichū [pest of Malus]; (3) Hemithea mali n. sp. [handwriting] det. Matsumura.  

**Hemithea sasakii** Matsumura, 1917: 624, pl. 29, fig. 11.  
Type locality. Japan: Honshu (Tohoku district).  
Syntypes. Not found.  

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) SaccaIien, 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”.

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Syntypes. $\delta^a$, (1) Saccalin, 23-vii-1919; (2) Hydrelia sachalinensis n. [handwriting] det Matsumura. $\delta^a$, (1) Saghalien Matsumura, [underside] Ichinosawa 25/7 ‘24; (2) H. Inoue, ‘77, $\delta^a$ Genitalia on slide No. Gmt-76. 2 $\sigma^a$, (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.


Current status: Heteralex aspersa formosana (Matsumura, 1911) (Prout, 1921: 30).

Loxaspilates obliquaria f. arisana Matsumura, 1931: 908, no. 1353, fig. Nomen nudum.


Lygris testata karafutonis Matsumura, 1925: 162, pl. 9 [11], fig. 3.

Type locality. Sakhalin: “Sakayehama”.

Syntypes. $\delta^a$ (“fig. 3” as female), (1) Saghalien Matsumura, [underside] Sakaihama Aug 27 ’24 [handwriting]; (2) C. testata karafutonis n. [handwriting]; (3) [red label] Type.Matsumura. $\delta^a$, (1) Saghalien Matsumura, [underside] Sakaihama Aug. 27 ‘24 [handwriting]; (2) Co-type Matsumura; (3) C. testata karafutonis Mat. [handwriting]. $\varphi$, (1) Saghalien Matsumura, [underside] Sakaihama Aug. 27 ’24 [handwriting]; (2) Co-type Matsumura.


Obeidia horishana Matsumura, 1931: 915, no. 1386, fig.

Type locality. Taiwan.

Holotype $\varphi^a$. (1) Taiwan; (2) Tokyo Hirayama Shujiro; (3) O. formosicola n. [handwriting]; (4) $\sigma^a$ Genitalia on slide No. Gmt-61 T. KUMATA, 1967; (5) [red label] Holotype Obeidia horishana Matsumura [handwriting].

Current status: Obeidia horishana Matsumura, 1931.

Ortholitha kiminaiana Matsumura, 1925: 161, pl. 11, fig. 15.


Syntypes. $\varphi$ (Fig. 4), (1) Saghalien Matsumura, [underside] Ichinosawa July 29 24 [handwriting]; (2) Co-type Matsumura; (3) R. Sato, 1995 $\varphi$ Genitalia on slide No. Gmt-101; (4) Colostygia aptata (Hübner) Det. R. Sato, 1995 [handwriting]. $\varphi$, (1) Saghalien Matsumura, [underside] Kiminai 27/7 24 [handwriting] (2) Ortholitha kiminaiana [handwriting] det. Matsumura. $\varphi$, (1) Saghalien

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].

Ourapteryx horishana Matsumura, 1910: 75, pl. 23, fig. 11.
Type locality. Taiwan: “Gyochi”

Holotype ♂ [no head]. (1) Formosa Matsumura, [underside] Gyochi 1908 [handwriting].

Ourapteryx jesoensis Matsumura, 1910: 76, pl. 23, fig. 14.
Type locality. Japan: Hokkaido.

Holotype ♂. (1) O. jesoensis n.sp. [handwriting], [underside] [no data].

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].

Ourapteryx virescens Matsumura, 1910: 77, pl. 23, fig. 16.
Type locality. Taiwan: “Banshoryo”.


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].
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 Antiperenia 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].


*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.


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


**Ptychopoda karafutonis** Matsumura, 1925: 159, pl. 11, fig. 4.


**Ptychopoda shimizuensis** Matsumura, 1925: 159, pl. 11, fig. 5.
Type locality. Sakhalin: “Shimizu”, “Kawakami”.


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”.


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) Sakhalin Oguma, [underside] Nooarechi [Nowoalexandloskoe], 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).


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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REFERENCES

Inoue, H., 1972. The genus Abraxas of Japan, Korea, Saghalien and Manchuria (Lepidoptera:
Matsumura, S., 1929. One new species and one new subspecies of moths from Saghaliien. Ins. matsum. 4: 64–65.
Publishing. Victoria.