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Title	New Butterflies especially from the Kuriles
Author(s)	Matsumura, S.
Citation	Insecta matsumurana, 2(4), 191-201
Issue Date	1928-06
Doc URL	<a href="https://hdl.handle.net/2115/9152">https://hdl.handle.net/2115/9152</a>
Type	departmental bulletin paper
File Information	2(4)_p191-201.pdf



# NEW BUTTERFLIES ESPECIALLY FROM THE KURILES

By

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The total number of species of butterflies which were collected in Kuriles by Mr. K. DOI during the three successive years, e. g. 1925, 1926 and 1927, is 38. Among these I found 13 new subspecies and 2 new aberrations and one form which are checked with an asterisk in the following enumeration. In this occasion I shall describe some new butterflies from other Japanese Empire.

## PAPILIONIDÆ

- \*1. *Papilio machaon chishimana* MATS. (n. subsp.)
- \*2. a. *P. maackii kurilensis* MATS. (n. subsp.)
- b. *P. " tutanus* FENT.
- \*3. *P. bianor japonica doii* MATS. (n. form.)
- \*4. a. *Parnassius stubbendorfi doii* MATS. (n. subsp.)
- \* b. *P. " " indecorata* (n. form.)

## PIERIDÆ

- 1. a. *Pieris rapæ* L.
- b. *P. " crucivora* BOISD.
- 2. a. *P. napi pseudomelete* VERITY
- b. *P. " frigida* SCUDD.
- 3. a. *P. melete pseudonapi* VERITY
- \*b. *P. " tomariana* MATS. (n. subsp.)
- 4. *Colias hyale poliocephalus* MOTSCH.

## SATYRIDÆ

- 1. *Ypthima argus jezoensis* MATS.
- 2. *Erebia sedakovii doii* NAK.
- 3. *Lethe diana diana* BUTL.
- \*4. *Neope goschkevitschii*  
*kurilensis* MATS. (n. subsp.)
- 5. *Lethe callipteris obscura* NAK.
- \*6. *Satyrus dryas kurilensis* MATS. (n. subsp.)
- \*7. *Pararge achine kurilensis* MATS. (n. subsp.)

## NYMPHALIDÆ

- 1. *Pyrameis cardui japonica* STICH.
- 2. *P. indica indica* HRBST.
- 3. *Neptis lucilla magnata* RÜHL.
- \*4. *Apatura ilia doii* MATS. (n. subsp.)

- 5. *Argynnis paphia neopaphia* FRUHS.
- 6. *A. daphne rabdina* BUTL.
- 7. *A. aglaja chishimensis* MATS.
- 8. *A. selene chibiana* MATS.
- 9. *A. rulsana lysippe* JANS.
- 10. *A. adippe doii* MATS. (n. subsp.)
- 11. *Vanessa io geisha* STICHEL
- 12. *V. urticae connexa* BUTL.
- 13. a. *Araschnia burejana* BUTL.
- b. *A. " fallax* JANS.

## LYCAENIDÆ

- \*1. *Zephyrus taxilla*  
*sachalinensis* MATS. (n. subsp.)
- 2. *Thecla w-album fentoni* BUTL.
- 3. a. *Lycaena euphemus ogumæ* MATS.
- \*b. *L. " doii* MATS. (n. subsp.)
- 4. *Lycaena lycormas tomariana* MATS.
- 5. a. *Lycaena optilete sibiricus* STGR.
- \*b. *L. " kamuikotana* MATS. (n. subsp.)
- 6. *Cyaniris argiolus levetti* BUTL.
- \*7. *Chrysophanus phlaeas chinensis*  
*kurilensis* MATS. (n. ab.)

## HESPERIDÆ

- 1. *Augiades sylvanus amurensis* MABIL.
- 2. *Halpe varia* MURR.
- 3. *Parnara pellucida sachalinensis* MATS.
- 4. a. *Pamphila silvius issykkii* MATS.
- \*b. *P. " " doii* MATS. (n. ab.)
- 5. *Pamphila palaemon shakotanus* NAK.

\*New to science.

## A DESCRIPTION OF NEW SPECIES AND ABERRATIONS

***Papilio machaon chishimana* n. sp.**

Differs from *hypocratides* VERITY in the following points:

Primaries—Yellow spots on the marginal series roundish, distinctly much more separated from each other; black band on the innerside of the marginal spot-series becomes much broader towards the dorsum, scattering very few yellowish scales over it. Secondaries with much broader black postmedial band, the bluish patches being much smaller, becoming obsolete towards the costa; tail distinctly longer. This resembles also *sachalinensis* MATS., but differs from it in having much larger black patches and broader bands on the underside of both wings, lacking fuscous part at the base below the cell.

Hab.—Kuriles; 4 (2 ♂, 2 ♀) specimens were collected in July and August by K. Dor at Shakotan, Fushikotan and Uyenkotan.

***Papilio maackii kurilensis* n. subsp.**

Differs from *jezoensis* MATS. in having much narrower bluish bands to both wings, that of the secondaries becoming somewhat broader towards the costa and the colour changing more to blue; whitish postdiscal bands to both wings on the underside, especially that of primaries, much narrower.

Hab.—Kuriles; 3 male specimens were collected in July and August at Shakotan.

***Argynnis aglaia chishimensis* n. subsp.**

Closely allied to subsp. *tonnai*\* MATS., but differs from it as follows:

♂, ♀. Upperside—Black margins to both wings distinctly narrower, the yellowish spots smaller, especially the spots of the discocellulars; submarginal lunular series of the primaries distinctly nearer to termen, each lunule enclosing a smaller yellowish spot at the outside, which becomes smaller towards the costa.

Underside—In the male primaries at the termen near apex infuscated, and the submarginal fuscous lunules much larger and more conspicuous.

Hab.—Kuriles; 5 (1 ♂, 4 ♀) specimens were collected on the 31st of July to 15th of August, 1927, at Fushikotan, Shana and Pokotan.

***Argynnis aglaia tonnai otaniana* n. ab.**

♂. Differs from the subspecies *tonnai* in having a broader margin to each

\*This was described as *sachalinensis* by the author, but this name being preoccupied I want to give *tonnai* for it.

wing, which runs in it a series of small oblong yellowish spots; the basal part and the basal half of the dorsum fuscous.

Hab.—Saghalien; one male specimen was collected on the 23rd of August, 1914, by ADACHI and ISSHIKI at Otani.

***Argynnis aglaia myonia* FRUHS.**

ab. *isshikii* n. ab.

Closely allied to ab. *wilemana* KUWAY., but differs from it as follows:

♂. Yellowish spots on the submarginal series especially those of secondaries much smaller, becoming mere a short line. Underside of secondaries near the base with 3 large oblong silvery patches, that of the middle with a fuscous spot near the innerside and defined outwardly by a black discocellular line; submarginal silvery spots linear and not roundish as those of *wilemana*.

Hab.—Hokkaido; one male specimen was collected by S. ISSHIKI on the 5th of July, 1914, at Maruyama near Sapporo.

***Argynnis adippe doii* n. subsp.**

Closely allied to *satakei*\* MATS., but differs from it as follows:

♂, ♀. Upperside—Primaries lacks the marginal series of yellowish spots entirely; discocellular spot becomes linear towards the costa; spots of the post-discal and submarginal series much larger. Secondaries with a distinctly larger maculation, the spots of the marginal series becoming linear and very narrow.

Underside—Spots of both wings nearly similar to those of the upperside, but with 2 silvery spots near the apex to primaries and a much narrower yellowish marginal line to the secondaries.

Hab.—Kuriles; 5 (4 ♂, 1 ♀) specimens were collected in July and August, 1824-27, by K. DOI at Shakotan, Tomari and Tobutsu.

***Pararge achine kurilensis* n. subsp.**

♂. Closely allied to *karafutonis* MATS. but differs as follows:

Upperside—Primaries with an ocellus in the interspace 2 much smaller than that of 3. Secondaries lacks the ocellus entirely, while the ocellus in *karafutonis* is very small, but being distinct.

Underside—Primaries with the ocelli larger, excepting that of the interspace 2, which is nearly the same with that of 3, while in *karafutonis* being much larger. Secondaries with a narrower white band at the innerside of the first 4 ocelli, which becomes much narrower to the inner margin, while that on the

\*This was described as *sachalinensis* by S. SATAKE, but this name being preoccupied I want to give *satakei* for it.

innerside of the costal ocellus broad and nearly straight; discocellular white patch much larger.

Hab.—Kuriles; 3 male specimens were collected on the 7th of July, 1925, by K. Dor at Shakotan.

***Neope goschkevitschi* MÉN. *kurilensis* n. subsp.**

♂, ♀. Differs from the typical specimen as follows:

Upperside—Both wings distinctly darker, so that the yellowish veins are conspicuous; all the yellowish spots on the subterminal region much smaller, with the fuscous pupils, especially the pupil on the 4th interspace to secondaries very small.

Underside—Both wings with much smaller ocellar spots; secondaries darker, especially on the terminal half, the discal band on its inner margin paler.

This differs from subsp. *solorvofka* MATS., which is quite common in Saghalien, in lacking fuscous basal half to secondaries, underside.

Hab.—Kuriles; 3 (1 ♂, 2 ♀) specimens were collected on 5–21th of July, 1927, at Naibo, Kamuikotan by K. Dor.

***Erebia ligea takanonis* MATS.**

ab. ***junsaiensis* n. ab.**

♂. Differs from the subspecies *takanonis* MATS. in having a larger ocellus to the interspace 3, which becomes much smaller on the underside, while in *takanonis* lacking the latter entirely. The whitish band to secondaries, underside, extends unbrokenly to the interspace 1, while in *takanonis* being broken.

Hab.—Hokkaido; one male specimen was collected on the 7th of July, 1918, at Junsai near Hakodate by M. Suzuki.

***Erebia ligea koreana* n. subsp.**

Differs from *takanonis* as follows:

♂. Upperside—Reddish brown bands to both wings narrower and more darker, approaching to those of *sachalinensis* MATS.; ocellus in the interspace 2 much smaller and not pipillated with a whity speck. None the ocelli on the secondaries pipillated, that of 2 being much smaller compared with *takanonis*.

Underside—Band and ocelli of the primaries nearly the same with those of upperside, that of the interspace 3 becoming very small. Reddish brown band to secondaries obsolete, being only traceable at the periphery of each ocellus; white band narrower, broken, lacking white patches at the antemedial region.

♀. Differs from female in having much smaller and narrower reddish brown bands to both wings, chain-like broken white postdiscal band to second-

aries and in lacking the ocellus in the interspace 3 to primaries, underside.

Hab.—Korea; 3 (1 ♂, 1 ♀) specimens were collected on the 18th of July, 1925, by F. SHO at Mt. Daitoku in the Prov. Kwankyonando.

ab. *hakutozana* n. ab.

♂. Differs from *korcana* MATS., in having much smaller ocelli to both wings, most of which are pupillated with each 2 whity speck except that of the interspace 2 to primaries and 3 to secondaries. Ocelli to both wings, underside, pupillated except that of the interspace 4 to secondaries; a large region to primaries from the discocellulars to the base reddish brown; in the middle with a whitish spot; white postdiscal band broader, being not broken.

Hab.—Corea; one male specimen was collected on the 2nd of August, 1926, by F. SHO, at Mt. Hakuto (Mutoho).

*Erebia ligea rishirizana* n. subsp.

Closely allied to *sachalinensis* MATS., but differs as follows:

♂. Upperside—All the ocelli to both wings distinctly smaller, none of them being pupillated, reddish.

Underside—Primaries nearly the same except that ocellus in the interspace 2, which is larger. Secondaries with a much broader postdiscal white band which becomes more conspicuous below vein 4; ocellus in the interspace 4 smaller and not pupillated.

Upperside—Primaries with very small obsolete ocelli in each interspace of 2 and 3; reddish brown band to secondaries not ocellated except that of the interspace 4, the ocellus of which is very small.

Underside—Secondaries with very small obsolete ocellus in each interspace 2 and 3.

Hab.—Hokkaido; 2 (1 ♂, 1 ♀) specimens were collected on the 27th of July, 1924, by K. DOI at Oshidomari, in the island Rishiri.

ab. *daisetsuzana* n. ab.

♂. Differs in having 3 ocelli and a broader reddish brown band to secondaries, upperside.

Hab.—Hokkaido; numerous male specimens were collected in the first part of August, 1926, by the author at Mt. Daisetsu, (c. 2750 ft.) in the Prov. Ishikari.

*Erebia ligea sachalinensis* MATS.

ab. *murasei* n. ab.

♂. Differs from the typical *sachalinensis* MATS. in having smaller ocelli, that of the interspace 5 being much smaller than that of 4, and a narrower, into patches broken, reddish brown postdiscal band to secondaries.

Hab.—Saghalien; one male specimen was collected on the 9th of August, 1924, by Y. MURASE at Tomarigishi.

***Erebja sedakovii niphonica*** JANS.

ab. *assamana* n. ab.

Differs from *niphonica* JANS. in having much narrower reddish brown postdiscal band to secondaries, which becomes obsolete from vein 4 to 2.

Hab.—Honshu; 2 male specimens were collected on the 31st of August, 1910, by the author at Assama.

ab. *yatsugadakeana* n. ab.

Differs from *niphonica* JANS. in having very small fuscous ocelli to primaries, which are not pupillated. Secondaries with much narrower reddish brown band as in *assamana* MATS., but lacking fuscous ocelli in the interspace 2, only having a small whity speck.

Hab.—Honshu; one male specimen was collected on the 2nd of August, 1918, by Prof. I. SUGITANI at Mt. Yatsugadake.

ab. *komagadakeana* a. ab.

Differs from *niphonica* JANS. in having 3 reddish brown spots on the postdiscal region, of which one in the interspace 4 being the largest, while the following 2 are smaller and with each a tiny whity speck.

Hab.—Honshu; one male specimen was collected on the 2nd of August, 1924, by H. KŌNO at Mt. Komagadake.

ab. *shiroumana* n. ab.

Resembles ab. *assamana* MATS., but differs in having a much darker reddish brown ocellus in each interspace of 2 and 3, which are fuscous in the middle and pupillated with a whity blue speck.

Hab.—Honshu; one male specimen was collected on the 8th of August, 1917, by Y. YAZAWA at Mt. Shirouma in the Prov. Shinano.

ab. *yazawai* n. ab.

Differs from ab. *shiroumana* MATS. in having only a reddish brown spot in the interspace 4 to secondaries, which is provided with a fuscous ocellus in it.

Hab.—Honshu; one male specimen was collected on the 8th of August, 1917, by Y. YAZAWA at Mt. Shirouma in the Prov. Shinano.

***Erebia sedakovii chosensis*** n. subsp.

Differs from *niphonica* JANS. as follows:

♂. Upperside—Primaries nearly the same, except the reddish brown band with non-pupillated ocellus in the interspace 2; secondaries with the same band narrower, so that the lower 2 ocelli being at the external margin of it, instead of being in the band as in *niphonica* JANS.

Underside—Secondaries with a much narrower grayish band, so that the bluish white specks being further apart from the band.

Hab.—Corea; 8 male specimens were collected by F. SHO on the 5th of August, 1926, at Sanchien in Mt. Hakuto.

***Satyrus dryas kurilensis*** n. subsp.

Closely allied to *bipunctatus* MOTSCH., but differs from it in the following points:

♂. Upperside—Primaries with smaller ocelli, lacking submarginal fuscous band; secondaries nearly the same, except the ocellus which is very small.

Underside—Primaries nearly the same, except the submarginal fuscous band wanted. Secondaries in the middle with a broad fuscous band, defined outwardly by an obsolete whity band, being conspicuous at costa and dorsum; submarginal band obsolete towards the tornus, being further apart from the ocellus; marginal whity line wanted entirely.

Hab.—Kuriles; one male specimen was collected on the 5th of August, 1925, at Tobutsu (Kunashiri).

***Pieris melete tomariana*** n. subsp.

♀. Upperside—Primaries with a fuscous patch in the interspace 1 divided by the submedian fold; dorsum somewhat infuscated from the base to the post-medial spot; in the interspace 3 with a trace of spot; median vein distinctly and apical veins obsoletely infuscated. Secondaries with a fuscous patch at the costa before the apex; veins not infuscated except the median vein.

Underside—Primaries at the tip pale yellowish, the markings being nearly the same with those of the upperside. Secondaries pale yellowish, veins not infuscated except the median and some dorsal veins; basal yellowish patch distinct at the curve of the costa.

Hab.—Kuriles; one female specimen was collected on the 1st of July, 1925, at Tomari (Kunashiri).

This belongs to the group of *aglaope* MOTSCH., but very small, measuring only 24 mm. in wing expanse.

***Pieris napi karafutonis*** n. subsp.

Closely allied to *pseudomelete* VERITY, but differs from it as follows:

♂. Upperside—Primaries at the apex less infuscated, on the termen at the end of each vein with a much smaller black spot; a fuscous spot in the interspace 3 larger.

Underside—Nearly the same, differing only in having the more yellowish secondaries and a fuscous patch in the interspace 3 to primaries.

♀. Upperside—Primaries more infuscated, apical black stripes being much broader; vein 2 infuscated just as 3; secondaries with much broader and distinct fuscous stripes on the longitudinal veins.

Underside—Primaries nearly the same, but the secondaries less yellowish and the longitudinal veins narrowly infuscated.

Hab.—Saghalien; one female specimen was collected on the 24th of June, 1922, by J. SHIBUYA at Odomari and another female by H. KÔNO and K. TAMANUKI in July of the same year at Pilevo.

K. DOI captured the same subspecies by 5 (2 ♂, 3 ♀) specimens at Kuriles (Shakotan).

***Colias hyale poliographus*** MOTSCH.

ab. *daisetsuzana* n. ab.

♂. Differs from *poliographus* MOTSCH. in lacking yellowish patches in the black part of the termen and in having very distinct postmedial series of fuscous spots.

Hab.—Hokkaido; one male specimen was collected in the first part of July, 1926, at Mt. Daisetsu by T. UCHIDA and H. KÔNO.

***Apatura ilia heijona*** n. subsp.

Differs from subsp. *substituta* BTLR. in the following points:

♂. Upperside—Primaries in the cell yellow, its spots being very small; no white speck in the interspace 5; submarginal lunule-series of yellowish spots fused together so as to make a broad band; secondaries with a broader, nearly straight medial yellowish band, so that the outer fuscous band becoming narrower, having in it a longitudinal series of yellow specks; submarginal series of yellowish spots larger, quadratisch.

Underside—Primaries nearly the same, but secondaries with nearly a straight paler medial band.

♀. Differs in having much broader yellowish medial and submarginal bands.

Hab.—Corea; 3 (1 ♂, 2 ♀) specimens were collected in July and August, 1919–1922, by H. OKAMOTO, T. UCHIDA and S. TAKANO.

***Apatura ilia yanagawensis* n. subsp.**

♀. Resembles much *heijona* MATS. from Corea, but differs from it in having narrower medial paler band to secondaries, so that the outer darker band becoming much broader, which resembles rather *substituta* BTLR., being somewhat broader than that.

Hab.—Kiushu; one female specimen was collected in the middle of June by T. TAKAMUKU at Yanagawa (Chikugo).

***Apatura ilia doii* n. subsp.**

Differs from *substituta* BTLR. in having much smaller fuscous spots in the cell and lacking a small white speck in the interspace 5 to primaries; yellowish medial band to secondaries much narrower, so that the outer fuscous band becoming much broader, the latter lacking a series of yellowish specks in the interspaces 4 and 5. Underside darker than that of *substituta*, the pale bluish lunules of the submarginal series becoming nearly straight, interrupted by the longitudinal veins.

Hab.—Kuriles; one female specimen was collected in the 12th of August, 1925, in Kunashiri.

***Zephyrus taxilla sachalinensis* n. subsp.**

♂. Upperside—Both wings darker green, with each a much narrower black termen.

Underside—Both wings with more a brownish tinge; white postdiscal band narrower, lacking submarginal band which is very obsoletely defined by grayish on both sides. Secondaries also with narrower white bands, the anal patches being pale yellow.

Hab.—Saghalien; 5 male specimens were collected on the 12th of August, 1909, by Prof. K. OGUMA at Kaizuka and one specimen on the 15th of September, 1926, by N. OTA at Ichinosawa.

Two male specimens of this subspecies were captured also at Tobutsu (Kunashiri) in the Kuriles.

***Lycaena euphemus doii* n. subsp.**

Closely allied to *L. jezoensis* MATS., but differs as follows:

♂. Upperside—Black spots to primaries larger, more roundish, not reducing practically their sizes towards the costa. Secondaries with smaller roundish

black spots. Underside whiter, being paler than in *oguniae* MATS. from Saghalin, so that causing the black spots more conspicuous.

♀. Resembles rather more *oguniae* MATS. in the point of maculation, but the fuscous termen being much narrower.

Hab.—Kuriles; 4 (3 ♂, 1 ♀) specimens were collected in July and August, 1925, by K. DOI at Kunashiri.

***Lycaena lycormas tomariana* n. subsp.**

Differs from *lycormas* BTLR. in the following points:

♂. Much smaller, measuring only 28 mm. in wing expanse. Upperside nearly the same, but the underside much differs in colour and marking, the former being darker, so that the white rings which surround the black spots are more conspicuous. Black spots much smaller, especially those of secondaries, one spot in the interspace 4 nearly in the same size with that of 3.

Hab.—Kuriles; one male specimen was collected on the 1st of July, 1925, at Tomari in Kunashiri Island.

***Lycaena optilete kamuikotana* n. subsp.**

Closely allied to subsp. *sibirica* STGR. but differs as follows:

♂. Primaries, underside, with larger, by a paler ring surrounded spots, an inner spot in the interspace 1 black, being divided into 2 small ones. Underside to both wings much darker.

Hab.—Kuriles; numerous male specimens were collected on the 27th of July, 1927, at Kamuikotan in Etorop Island.

***Chrysophanus phlaeus chinensis* FELD.**

ab. ***kurilensis* n. ab.**

Closely allied to ab. *dainio* SERTZ, but differs in the following points:

♀. Black, the termen to primaries much narrower and the maculation distinctly smaller. Secondaries with a much broader submarginal reddish band.

Secondaries much darker, with smaller black specks; reddish submarginal band much narrower, lacking black spots on both sides entirely; no discocellular lunule, with a black speck in the interspace 6, being situated far apart inwardly than that of 7.

Underside—Primaries nearly the same except a white spot at the tornus, which is not conspicuous, and the apex at the costa with the grayish colour more extended.

Hab. Kuriles; one female specimen was collected on the 1st of August, 1925, at Tomari in Kunashiri Island.

***Pamphila silvius isshikii*\* MATS.**ab. *doii* n. ab.Differs from subsp. *isshikii* MATS. as follows:

Upperside—Primaries with much larger black spots in cell and medial region, which are narrowly oblong instead of oval or roundish as in *sachalinensis*; spots of the submarginal series much larger, the yellowish spots being subequal in size except that of the interspace 3.

Underside—Maculation corresponds to that of upperside.

Hab.—Kuriles; one male specimen was collected on the 7th of July, 1927, at Shakotan.

***Papilio bianor japonica doii* n. form.**♂ Differs from *japonica* f. *puradoxa* Nak. as follows:

Upperside—Marginal bluish lunules to the secondaries much larger and weaker in curvature; tail distinctly longer and broader.

Underside—Primaries with much a broader whitish band on the postmedial region; secondaries with distinctly larger marginal reddish lunules.

Hab.—Kuriles; one male specimen was collected on the 8th of August, 1927, by K. DOI.

***Parnassius stubbendorffii doii* n. subsp.**♂ Closely allied to *hoceni* Schw., but differs from it as follows:

Primaries with a fuscous postmedial band and at each side of the longitudinal vein towards the termen narrowly infuscated; inner margin of the secondaries not infuscated on the apical  $\frac{1}{3}$  except on the extreme innerside.

Hab.—Kuriles; one male specimen was collected on the 3rd of July, 1925, by K. DOI at Shakotan.

One male without the postmedial fuscous band to primaries was collected also on the same day by K. DOI, which I want to name *indecorata* n. form.

\*DR. W. NAKAHARA has apparently misidentified *P. paraemon murasei* MATS. as *Silvius isshikii* MATS.; may it be so, then his *shakotanus* (Ins. Inscit Mens. p. 51, 1926) must be placed under the subspecies *palaemon* PALL.

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摘 要

本文には主として土井久作氏の千島にて採集せる十三の新亜種と二新異常形とを發表せり。尙序に高橋梯吉、一色周知、足立仁郎、鈴木元治郎、村瀬義、河野廣道、太田勇愛、矢澤米三郎、内田登一、岡本半次郎、趙福成等の諸氏の採集せる新亜種及び新異常形をも發表せり。