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Four New Species of the *Lathrobium brachypterum* Group (Coleoptera, Staphylinidae) from the Hokuriku District, Japan

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Abstract Four new species of the *Lathrobium* (s. str.) *brachypterum* group are described under the names *L*. (s. str.) *sugiei*, *L*. (s. str.) *notoense*, *L*. (s. str.) *shiritakanum* and *L*. (s. str.) *nabetaniense*. They were obtained by sifting dead leaves or litter in deciduous broadleaved forests on the mountainous areas of the Hokuriku District, Central Japan.

The members of the *Lathrobium* (s. str.) *brachypterum* group are characterized by the body smaller in size than in the *Lathrobium* (s. str.) *pollens* group. Up to the present, nine species of the group have been reported from Japan. Six of them (*L. brachypterum, L. densum, L. susumui, L. shingon, L. ohkurai* and *L. ishidai*) have been described from Honshu by SHARP (1889), BERNHAUER (1936), WATANABE (1984, 1992) and HAYASHI (1996), two species (*L. tamotsui, L. sanukiense*) from Shikoku by WATANABE (1991, 1994) and one species (*L. onodai*) from the Island of Shimokoshiki-jima off southwestern Kyushu by WATANABE (1996).

Through the courtesy of the late Mr. Yoshiharu SUGIE, Ishikawa Prefecture, I had an opportunity to examine two interesting species of the *Lathrobium* (s. str.) *brachypterum* group obtained by himself from under dead leaves or litter in deciduous broadleaved forests on the hilly area of Nabetani in Tatsunokuchi-machi of Ishikawa Prefecture, Japan. After a careful examination, it has become clear that the two species are new to science for reasons of the secondary sexual characters of the abdominal sternites and configuration of the male genital organ different from those of the known members of the species-group. They will be described in the present paper, together with two other new species of the same group preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo, and of the Laboratory of Entomology, Tokyo University of Agriculture.

Before going further, I would like to express my sincere thanks to Dr. Shun-Ichi UÉNO, Visiting Professor at Tokyo University of Agriculture, for his valuable advice on the present study. Thanks are also due to the late Mr. Yoshiharu SUGIE and Dr. Ichiji TOGASHI, Ishikawa Agricultural College, for their kindness in giving me the opportunity to examine the interesting specimens used in this study. I also extend my hearty gratitude to Mr. Yasuhiko HAYASHI, Kawanishi-shi, for the gift of paratypes of the two species L. (s. str.) ohkurai and L. (s. str.) ishidai.

Lathrobium (s. str.) sugiei Y. WATANABE, sp. nov.

(Figs. 1, 2, 6–9)

[Japanese name: Sugie-himekobane-nagahanekakushi]

Body length: 6.9–8.0 mm (from front margin of head to anal end); 3.3–3.5 mm (from front margin of head to elytral apices).

Body elongate, subparallel-sided. Colour brownish black to black, moderately shining, with mouthparts except for mandibles, legs and two apical segments of abdomen yellowish brown, mandibles and antennae brownish red.

Male. Head subtrapezoidal, gently narrowed anteriad and feebly elevated medially, somewhat transverse (width/length=1.15), lateral sides weakly arcuate, frontal area between antennal tubercles transversely flattened and impunctate; surface sparsely, distinctly and setiferously punctured, the punctures somewhat sparser in median area than in lateral areas, and covered with indefinite microscopic ground sculpture only visible under high magnification; eyes very small and flat, the longitudinal diameter of each eye one-fourth as long as postocular part. Antennae elongate, extending to the middle of pronotum and not thickened apicad, with basal two segments polished, the remainings gradually becoming opaque towards the apicalmost segment, 1st segment robust and strongly dilated apicad, conspicuously longer than broad (length/ width=2.50), 2nd constricted at the base, somewhat longer than broad (length/ width=1.06) but remarkably shorter (2nd/1st=0.33) and evidently narrower (2nd/1st=0.33)0.78) than 1st, 3rd somewhat dilated apicad, apparently longer than broad (length/ width=1.56), distinctly longer (3rd/2nd=1.40) but slightly narrower (3rd/2nd=0.96) than 2nd, 4th to 10th more or less moniliform, 4th to 6th equal in both length and width to one another, 4th a little longer than broad (length/width=1.33) but slightly shorter (4th/3rd=0.86) and equal in width to 3rd, 7th a little longer than broad (length/ width=1.28) but slightly shorter (7th/6th=0.92) and equal in width to 6th, 8th to 10th equal in both length and width to one another, each somewhat longer than broad (length/width=1.25) but slightly shorter (8th/7th=0.91) and narrower (8th/7th=0.93) than 7th, apicalmost fusiform, more than twice as long as broad, evidently longer than 10th (apicalmost/10th=1.80) though equal in width to 10th, subacuminate at the apex.

Pronotum elliptical and convex medially, evidently longer than broad (length/ width=1.26) and distinctly longer (pronotum/head=1.38) though equal in width to head, widest behind anterior angles and feebly narrowed posteriad in anterior threefourths though rather abruptly so in posterior fourth; lateral sides almost straight at about the middle though slightly arcuate in anterior fourth as seen from dorsal side, anterior margin slightly emarginate at the middle, posterior margin truncate, anterior angles rounded and invisible from above, posterior ones narrowly rounded; surface more densely and more roughly punctured than on head, provided with a narrow longitudinal smooth space at the middle through the whole length of pronotum, and sometimes bearing an indefinite longitudinal sulcus along the median line within a smooth space at the basal part. Scutellum subtriangular, provided with a few punctures on the sur-

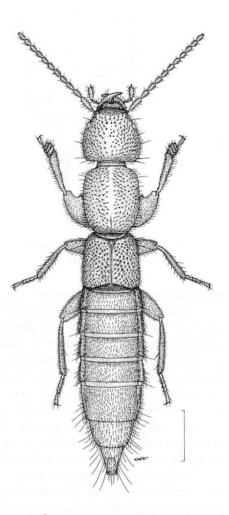
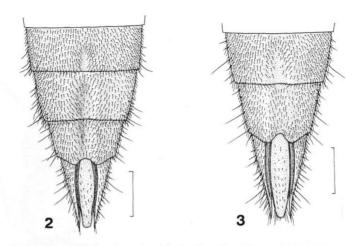


Fig. 1. Lathrobium (s. str.) sugiei Y. WATA-NABE, sp. nov., δ, from Nabetani, Tatsunokuchi-machi, Ishikawa Prefecture. Scale: 1.0 mm.

face. Elytra oblong, slightly dilated posteriad and as long as or only just broader than long (width/length=1.05), distinctly shorter than (elytra/pronotum=0.72) though equal in width to pronotum; lateral sides feebly arcuate, posterior margin emarginate at the middle, posterior angles broadly rounded; surface covered with denser, much shallower and much rougher setiferous punctures than those on pronotum. Legs moderately long; profemur remarkably thickened, though abruptly constricted near the apex and excavated in apical half on the inner side, so that the anterior part of the excavation forms a subtriangular blunt tooth; protibia widened apicad, hollowed in basal half on the inner margin and provided with four or so transverse rows of comb-like fine golden setae in basal half within the hollow; meso- and metatibiae simple; 1st to 4th protarsal



Figs. 2–3. Last abdominal sternites in male of *Lathrobium* (s. str.) spp.; *L*. (s. str.) *sugiei* sp. nov. (2); *L*. (s. str.) *notoense* sp. nov. (3).

segments strongly widened, meso- and metatarsi thin.

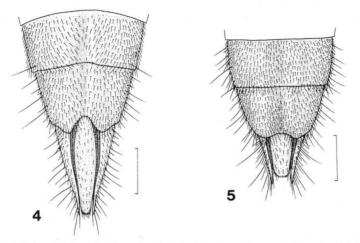
Abdomen elongate, widest at 5th segment, more strongly narrowed posteriad than anteriad, 3rd to 6th tergites each shallowly and transversely depressed along the base; surface of each tergite moderately closely covered with fine superficial punctures and brownish pubescence; 8th tergite more sparsely and more minutely punctured than in the preceding tergites; all the tergites covered with fine brownish pubescence; 8th sternite semicircularly excised at the middle of posterior margin and longitudinally depressed in front of the excision; 7th sternite also slightly emarginate at the middle of posterior margin and longitudinally, though more shallowly, depressed at the middle before posterior margin than in the preceding sternite; 6th sternite provided with a weak longitudinal depression at the middle in front of posterior margin.

Genital organ elongate and slightly asymmetrical, moderately sclerotized except for membranous dorsal side of median lobe; median lobe apparently broader than fused paramere in the median part, and then abruptly narrowed in apical half, which is lanceolate as seen from right lateral side. Fused paramere very slender and markedly longer than median lobe, gently curved to the right side and somewhat constricted at about middle as seen from ventral side, and distinctly curved ventrad and sharply pointed at the tip in profile.

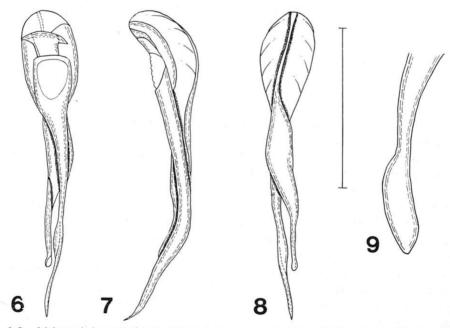
Female. Similar in size and facies to male, but each one of the 6th to 8th abdominal sternites is simple.

Type series. Holotype: 3, allotype: 9, Nabetani, Tatsunokuchi-machi, Ishikawa Pref., Honshu, Japan, 20–IV–1995, Y. SUGIE leg. Paratypes: all from the same locality and by collector as the holotype; 13, 21–V–1994; 333, 28–V–1994; 13, 5–VI–1994; 13, 12–VI–1994; 13, 24–VII–1994; 19, 7–VIII–1994; 19, 13–VIII–1994; 13, 16–VIII–1994; 19, 21–III–1995; 19, 26–III–1995; 233, 10–IV–1995; 233, 15–IV–1995;

Four New Lathrobium from Hokuriku



Figs. 4–5. Last abdominal sternites in male of *Lathrobium* (s. str.) spp.; *L*. (s. str.) *shiritakanum* sp. nov. (4), and *L*. (s. str.) *nabetaniense* sp. nov. (5). Scale: 0.5 mm.



Figs. 6–9. Male genital organ of *L*. (s. str.) *sugiei* sp. nov.; ventral view (6), lateral view (7), dorsal view (8), and apical part of median lobe from the right side (9). Scale: 1.0 mm (6–8), 0.5 mm (9).

1 ♀, 16–IV–1995; 1♀, 18–IV–1995; 1 ♂, 1♀, 21–IV–1995; 1 ♂, 2♀♀, 22–IV–1995; 3 ♂♂, 2♀♀, 27–IV–1995; 1 ♂, 30–IV–1995; 1♀, 4–V–1995; 1♀, 5–V–1995; 1 ♂, 2♀♀, 7–V–1995; 1♀, 10–V–1995; 1 ♂, 2♀♀, 14–V–1995; 2 ♂♂, 30–V–1995; 1♀, 31–V–1995; 2 ♀♀, 1–VI–1995; 5 ♂♂, 1♀, 2–VI–1995; 1 ♂, 7–VI–1995; 1 ♂, 9–VI–1995; 2 ♂♂, 11–VI–1995; 1 ♂, 11–VII–1995; 1 ♂, 14–VII–1995; 1 ♂, 20–VII–1995. All the type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (central Honshu).

Notes. The present new species resembles *L. ishidai* in general appearance as well as in configuration of male genital organ, but differs from the latter in the following points: head and pronotum more coarsely punctate, 7th and 8th abdominal sternites in male each longitudinally depressed at the middle in front of posterior margin, and 6th sternite provided with a small depression at the middle before posterior margin; male genital organ with median lobe broader than fused paramere in median part, fused paramere somewhat curved to the right side in apical half and much slenderer than that of *L*. (s. str.) *ishidai*.

Bionomics. The type specimens were obtained from under dead leaves or litter in a deciduous broadleaved forest consisting of *Quercus serrata*, *Q. cripspula* and *Hamamelis japanica* var. *abtusata*.

Etymology. The specific epithet of the present new species is dedicated to the late Mr. Yoshiharu SUGIE, who collected all the type specimens.

Lathrobium (s. str.) notoense Y. WATANABE, sp. nov.

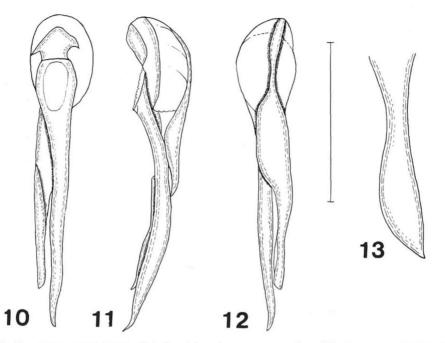
(Figs. 3, 10-17)

[Japanese name: Noto-himekobane-nagahanekakushi]

Body length: 6.7–7.0 mm (from front margin of head to anal end); 3.2–3.4 mm (from front margin of head to elytral apices).

Male and female. In facies and body size similar to the preceding species, but differs from it in the following points. Head more closely punctured in lateral areas though more obscurely coriaceous on the surface than in the preceding species. Pronotum more distinctly and evenly narrowed posteriad, provided with less coarse punctures than on head except for median longitudinal smooth space. Elytra somewhat transverse (width/length=1.20), slightly broader (elytra/pronotum=1.07) though evidently shorter (elytra/pronotum=0.71) than pronotum; surface covered with slightly denser punctures than in the preceding species. In male, abdomen with 8th sternite provided with a similar excision at the middle of posterior margin, though the median depression before posterior margin is shallower; 7th sternite more shallowly emarginate at the middle of posterior margin and more shallowly depressed before the emargination than in the preceding species; 6th sternite lacking the depression at the middle in front of posterior margin, though sometimes provided with an obscure depression.

Four New Lathrobium from Hokuriku



Figs. 10–13. Male genital organ of *L*. (s. str.) *notoense* sp. nov.; from Mt. Hôryû-zan, Wajima-shi, Ishikawa Pref.; ventral view (10), lateral view (11), dorsal view (12), and apical part of median lobe from the right side. Scale: 1.0 mm (10–12), 0.5 mm (13).

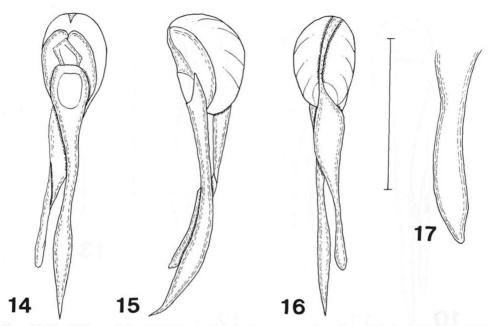
Male genital organ also similar to that of the preceding species, but differs from it by the following details: median lobe broader than that of the preceding species in apical half, which is spindle-shaped as seen from lateral side and subangulate at the apex; fused paramere relatively broad, slightly constricted near the middle, abruptly curved ventrad in apical half in profile.

Type series. Holotype: δ , allotype: \Im , Hôryû-zan, SE slope, Wajima-shi, Ishikawa Pref., Honshu, Japan, 29–V–1985, Y. NISHIKAWA Jeg. Paratypes: $2 \delta \delta$, $4 \Im \Im$, same data as for the holotype. The type specimens are deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo, except for two pairs of the paratypes preserved in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Further specimens examined. 1 Å, Sogo, Oshimizu-machi, Hakui-gun, Ishikawa Pref., Honshu, Japan, 21–II–1990, I. TOGASHI leg.; 1 Å, same locality as above, 19–IV–1996, A. TANAKA leg.

These specimens slightly differ from the type specimens in configuration of the median lobe and the fused paramere in the male genital organ, but the difference is considered to be an infraspecific variation.

Distribution. Japan (central Honshu).



Figs. 14–17. Male genital organ of *L*. (s. str.) *notoense* sp. nov. from Sogo, Hakui-gun Ishikawa Pref.; ventral view (14), lateral view (15), dorsal view (16), and apical part of median lobe from the right side (17). Scale: 1.0 mm (14–16), 0.5 mm (17).

Bionomics. The type specimens were obtained by excavating a scree deposited at the side of a narrow stream at an altitude of 410 m.

Etymology. The specific epithet of the present new species is derived from the Noto Peninsula, on which lies the type locality "Mt. Hôryû-zan".

Lathrobium (s. str.) shiritakanum Y. WATANABE, sp. nov.

(Figs. 4, 18–21)

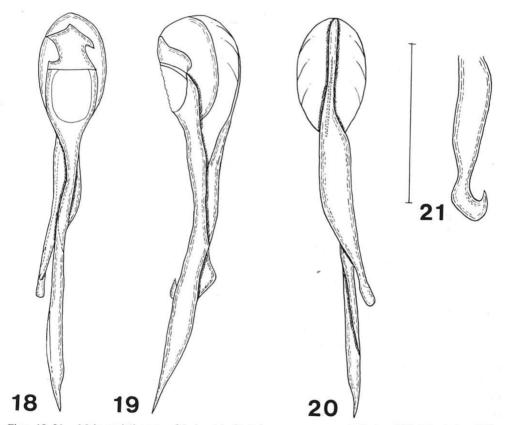
[Japanese name: Shiritaka-himekobane-nagahanekakushi]

Body length: 8.0–8.1 mm (from front margin of head to anal end); 3.6–3.8 mm (from front margin of head to elytral apices).

Male. Again closely resembles L. (s. str.) *sugiei* in general appearance and body size, but differing from it in configuration of male genital organ as well as in the following points: head less transverse (width/length=1.09) and less coarsely punctured than in L. (s. str.) *sugiei*; pronotum less narrowed posteriad, lateral sides feebly arcuate in whole length, surface slightly less closely punctured than in L. (s. str.) *sugiei* with the exception of the smooth median space; elytra distinctly broader than long (width/length=1.19) and slightly broader than pronotum (elytra/pronotum=1.04), surface slightly more coarsely punctured; abdomen more coarsely punctured on the sur-

face of each tergite, 8th sternite more deeply excised at the middle and more strongly depressed in front of the excision, 7th sternite also more distinctly depressed at the middle before posterior margin, surface of the depression almost glabrous; other external features similar to those of *L*. (s. str.) *sugjei*.

Also similar to L. (s. str.) *ishidai* Y. HAYASHI in facies and body size, but can be distinguished from it by the following points: head slightly more closely and more coarsely punctured on the surface; pronotum relatively broad, as broad as elytra, more strongly narrowed posteriad in posterior third, lateral sides feebly arcuate in posterior half, surface more coarsely punctured than in L. (s. str.) *ishidai*; elytra more transverse (width/length=1.19), with lateral sides slightly arcuate, more closely and more coarsely punctured on the surface; abdominal tergites each more sparingly covered with coarser punctures than in L. (s. str.) *ishidai*, 8th sternite more deeply excised at the middle of posterior margin and narrowly, longitudinally depressed in front of the excision, 7th sternite slightly emarginate at the middle of posterior margin and longitu-



Figs. 18–21. Male genital organ of *L*. (s. str.) *shiritakanum* sp. nov.; ventral view (18), lateral view (19), dorsal view (20), and apical part of median lobe from the right side (21). Scale: 1.0 mm.

dinally depressed along the median line, surface of the depression almost glabrous.

Male genital organ similar in general appearance to those of L. (s. str.) *sugiei* and L. (s. str.) *notoense*, but different from them in the following points: much more elongate, median lobe abruptly narrowed in apical third, strongly curved ventrad in the apical part which is uncinate in profile; fused paramere much longer than median lobe, abruptly narrowed near the apex which is sharply pointed as seen from ventral side.

Female. Unknown

Type series. Holotype: \eth , Mt. Shiritaka, Tsurugi-machi, Nomi-gun, Ishikawa Pref., Honshu, Japan, 23–IV–1991, K. TANAKA leg. Paratypes: $2 \eth \eth$, same data as for the holotype. The type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (central Honshu).

Bionomics. The type specimens were collected from under rock debris at the roadside near the top of the mountain.

Etymology. The specific epithet of this new species is derived from the type locality "Mt. Shiritaka-yama", which lies to the east of Tsurugi-machi in Ishikawa Prefecture.

Lathrobium (s. str.) nabetaniense Y. WATANABE, sp. nov.

(Figs. 5, 22-24)

[Japanese name: Nabetani-himekobane-nagahanekakushi]

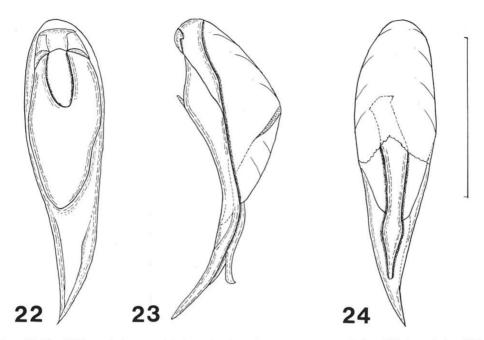
Body length: 6.5–7.4 mm (from front margin of head to anal end); 3.5–3.7 mm (from front margin of head to elytral apices).

The present new species resembles L. (s. str.) *ohkurai* Y. HAYASHI in general appearance and configuration of male genital organ, but differs from it in male secondary sexual character of abdominal sternites and in details of male genital organ.

Male and female. Head subquadrate, slightly transverse (width/length=1.03), more sparingly and less coarsely punctured and covered with more distinct ground sculpture than in L. (s. str.) ohkurai. Pronotum nearly oblong, slightly more elongate (length/width=1.19), less coarsely punctured on the surface except for smooth median longitudinal space. Elytra subtrapezoidal and somewhat dilated posteriad, evidently transverse (width/length=1.13) and somewhat broader than pronotum (elytra/pronotum=1.09); surface more sparingly and less coarsely punctured than in L. (s. str.) ohkurai. Abdomen similarly punctured on each tergite to that in L. (s. str.) ohkurai; in male, 8th sternite more shallowly emarginate at the middle of posterior margin than in L. (s. str.) ohkurai, shallowly and longitudinally depressed in front of the emargination, surface of the depression somewhat densely covered with more blackish setae than on the other parts, 7th sternite also shallowly and elliptically depressed at the middle before posterior margin.

Male genital organ sclerotized except for membranous dorsal side of median lobe, median lobe much shorter than fused paramere, gradually narrowed towards the

Four New Lathrobium from Hokuriku



Figs. 22–24. Male genital organ of *L*. (s. str.) *nabetaniense* sp. nov.; ventral view (22), lateral view (23), and dorsal view (24). Scale: 1.0 mm.

broadly rounded apex, provided with a well sclerotized plate on the dorsal side, the plate elongate though dilated near apical fourth and then abruptly narrowed towards the apex, which is turned up dorsad and forming a minute projection in profile.

Type series. Holotype: δ , Nabetani, Tatsunokuchi-machi, Nomi-gun, Ishikawa Pref., Honshu, Japan, 27–XII–1995, Y. SUGIE leg.; allotype: \mathfrak{P} , same locality and collector as for the holotype, 16–IV–1995. Paratypes: all from the same locality and by the same collector as above, 1δ , 5–VI–1994; $1 \mathfrak{P}$, 8–IV–1995; $1 \mathfrak{P}$, 16–IV–1995; 1δ , 20–IV–1995; 1δ , 21–IV–1995; 1δ , 22–IV–1995; 1δ , 2 $\mathfrak{P}\mathfrak{P}$, 27–IV–1995; 1δ , 29–IV–1995; 1δ , 20–V–1995; $1 \mathfrak{P}$, 30–V–1995; $1 \mathfrak{P}$, 18–VII–1995; $1 \mathfrak{P}$, 6–XII–1995; 1δ , 9–XII–1995; $1 \mathfrak{P}$, 13–XII–1995; 1δ , 1 \mathfrak{P} , 27–XII–1995. All the type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (central Honshu).

Bionomics. The type specimens were obtained at the same place as the type locality of *L*. (s. str.) *sugiei*.

Etymology. The specific epithet of this new species is derived from the type locality "Nabetani".

要 約

渡辺泰明:北陸地方から採集されたヒメコバネナガハネカクシ種群に含まれる4新種(甲虫 目,ハネカクシ科). — ヒメコバネナガハネカクシ種群は後翅が退化した特徴的な種群で, これまでに9種が知られている.わたしは,石川県辰口町に在住されていた故杉江良治氏より, この種群に含まれる2種をご恵送いただいた.これらを分類学的に検討した結果,いずれも新 種と判定されたので,国立科学博物館および東京農業大学昆虫学研究室にそれぞれ所蔵されて いた別の2新種を加えて4新種を下記のとおり命名・記載した.

1. Lathrobium (s. str.) sugiei Y. WATANABEスギエヒメコバネナガハネカクシ

本種は、石川県辰口町鍋谷の落葉広葉樹林の林床から採集されたもので、一般的外部形態は L. (s. str.) ishidai Y. Hayashi に類似している.しかし、頭部および前胸背板の点刻がより粗く、 雄の腹部腹板に表われる第二次性徴や雄交尾器の形状が異なることによって区別できる.

2. Lathrobium (s. str.) notoense Y. WATANABEノトヒメコバネナガハネカクシ

本種は能登半島北部の宝立山から採集されたもので、体長および外部形態は前種に類似して いる.しかし、頭部各側方の点刻がより密で、翅鞘は長さおよび前胸背板より幅広く、雄に表 われる腹部腹板の第二次性徴や雄交尾器の形状が異なることなどで区別できる.

3. Lathrobium (s. str.) shiritakanum Y. WATANABE シリタカヒメコバネナガハネカクシ

本種は、石川県鶴来町の後高山から採集されたもので、L. (s. str.) *ishidai* Y. HAYASHI および前 記のL. (s. str.) *sugiei*の両種に、体長および外部形態が類似している.しかし、雄交尾器の中葉 末端部が上方に湾曲し、右側方から見ると鉤形を呈することで容易に区別できる.

4. Lathrobium (s. str.) nabetaniense Y. WATANABE ナベタニヒメコバネナガハネカクシ

本種は前記のL. (s. str.) sugieiが採集された場所から得られたもので、外部形態はL. (s. str.) ohkurai Y. HAYASHI に類似している.しかし、頭部は長さよりわずかに幅広く、よりまばらに点刻されること、翅鞘は長さより明らかに、また前胸背板よりもいくらか幅広いこと、さらに雄の腹部腹板の第二次性徴および交尾器の形状が異なることによって区別できる.

References

- BERNHAUER, M., 1936. Neuheiten der palaearktischen Staphylinidenfauna II. Pubb. Mus. ent. Pietro Rossi, 14: 303–325.
- HAYASHI, Y., 1996. New brachypterous *Lathrobium* species from Mt. Amaishi, Hyogo, Japan (Coleoptera, Staphylinidae). *Ent. Rev. Japan*, **51**: 15–21.

SHARP, D., 1889. The Staphylinidae of Japan. Ann. Mag. nat. Hist., (6), 3: 249-267 [part 6].

- WATANABE, Y., 1984. The brachypterous staphylinid beetles from Tôhoku District, Northeast Japan, with descriptions of four new species. *Mem. natn. Sci. Mus., Tokyo*, (17): 131–144.
- 1992. New species of the group of *Lathrobium pollens* (Coleoptera, Staphylinidae) from western Honshu, Japan. *Elytra, Tokyo*, **20**: 189–196.
 - 1994. A new apterous *Lathrobium* from Shikoku, Japan (Coleoptera, Staphylinidae). *Trans. Shikoku ent. Soc.*, **20**: 349–353.

— 1996. A new species of the *Lathrobium pollens* group (Coleoptera, Staphylinidae) from the Island of Shimokoshiki-jima off southwestern Kyushu, Japan. *Elytra, Tokyo*, **24**: 291–224.