

Four New Species of Apterous *Lathrobium* (Coleoptera, Staphylinidae) from Central Honshu, Japan

Yasuaki WATANABE

Laboratory of Insect Resources, Tokyo University of Agriculture,
Atsugi, Kanagawa, 240–0034 Japan

Abstract Four new apterous species of the staphylinid genus *Lathrobium* are described under the names *L. (s. str.) tahirai*, *L. (s. str.) kanayamaense*, *L. (s. str.) nidoagense* and *L. (s. str.) nikkoense*. They were obtained by sifting dead leaves accumulated in deciduous broadleaved forests in mountain areas of central Honshu, Japan.

Examining the specimens of apterous *Lathrobium* from Japan, I have found a number of interesting species. They were obtained by sifting dead leaves accumulated in deciduous broadleaved forests in four different mountain areas of central Honshu, Japan. They are similar in colour and facies to *Lathrobium yozawanum* Y. WATANABE (1980, p. 24), though more closely similar to *Lobrathium riozoi* Y. WATANABE (1972, p. 117) in body size and morphological features. It is therefore probable that they form a particular species-group in view of their small body and yellowish or reddish brown colour.

After a careful examination, it has become clear that they are classified into four species, all of which are new to science. They will be described in the present paper. All the type specimens of the new species to be described are deposited in the collection of the Laboratory of Insect Resources, Tokyo University of Agriculture.

Before going further, I wish to express my hearty thanks to Dr. Shun-Ichi UENO, Visiting professor at Tokyo University of Agriculture, for his kind advice on the present study. Deep gratitude is also due to Mr. Yoshiaki TAHIRA, Shizuoka, for his kindness in supplying me with the specimens used in this study.

Lathrobium (s. str.) *tahirai* Y. WATANABE, sp. nov.

[Japanese name: Tahira-chibi-kobanenaga-hanekakushi]

(Figs. 1–4)

Body length: 4.1–4.2 mm (from front margin of head to anal end); 1.7–1.8 mm (from front margin of head to elytral apices).

Body elongate, parallel-sided and depressed above; apterous; colour brownish yellow and moderately shining, with palpi and legs somewhat paler.

Male. Head subquadrate, slightly elevated medially, as long as or slightly

longer than broad (length/width=1.05), widest at the base and very slightly narrowed anteriorly; lateral sides feebly arcuate; surface sparingly, coarsely and setiferously punctured, the punctures becoming much sparser and less coarse in vertexal area, and covered with microscopic coriaceous ground sculpture; eyes very small and nearly flat, their longitudinal diameter about one-fourth as long as postocular part. Antennae relatively short, not reaching the middle of pronotum and not thickened towards the apical segment, three proximal segments polished, 4th subopaque and the remainings opaque; 1st segment robust and strongly dilated apically, 1.5 times as long as broad, 2nd constricted at the base, a little longer than broad (length/width=1.17) but remarkably shorter (2nd/1st=0.58) and apparently narrower (2nd/1st=0.75) than 1st, 3rd somewhat longer than broad (length/width=1.33) but a little shorter (3rd/2nd=0.75) and slightly narrower (3rd/2nd=0.93) than 2nd, 4th to 10th moniliform and nearly equal in both length and width to one another, each almost as long as broad, 11th fusiform and about twice as long as broad, twice as long as though as broad as the 10th, subacuminate at the tip.

Pronotum oblong and moderately elevated medially, widest just behind anterior angles and slightly narrowed posteriorly, apparently longer than broad (length/width=1.30), distinctly longer (pronotum/head=1.24) than though almost as broad as head; lateral sides almost straight except near anterior and posterior angles, anterior margin broadly though slightly emarginate at the middle, posterior margin subtruncate, anterior angles obtuse and not visible from above, posterior ones narrowly rounded; surface much more closely and more finely punctured than in head except for a narrow median smooth space throughout the length of pronotum. Scutellum small and subtriangular, almost impunctate on the surface. Elytra quadrate though slightly dilated posteriorly and somewhat depressed above, a little broader than long (width/length=1.10), distinctly shorter (elytra/pronotum=0.77) but somewhat broader (elytra/pronotum=1.10) than pronotum; lateral sides nearly straight; posterior margin broadly emarginate at the middle, posterior angles broadly rounded; surface closely, roughly punctured and sparingly covered with fine brownish pubescence. Legs relatively short; profemur markedly thickened, though abruptly constricted near the apex and excavated on the inner face in apical half, so that the basal part of the excavation forms a blunt subtriangular tooth; meso- and metafemora normal; protibia somewhat dilated apically and hollowed in basal half on the inner face, meso- and metatibiae normal; protarsus with 1st to 4th segments strongly dilated, meso- and metatarsi thin.

Abdomen elongate and gradually dilated from 3rd to 7th segment, and then abruptly narrowed towards the anal end, 3rd to 7th tergites each transversely depressed along the base and closely, finely and superficially punctured, and closely covered with fine brownish pubescence; 8th and 9th tergites each more sparingly and more finely punctured than in the preceding tergites; 8th sternite subtriangularly excised at the middle of posterior margin and slightly, longitudinally depressed along the middle in front of the excision; 7th sternite slightly emarginate at the middle of posterior margin and provided with a shallow, long horseshoe-shaped depression before the emargina-

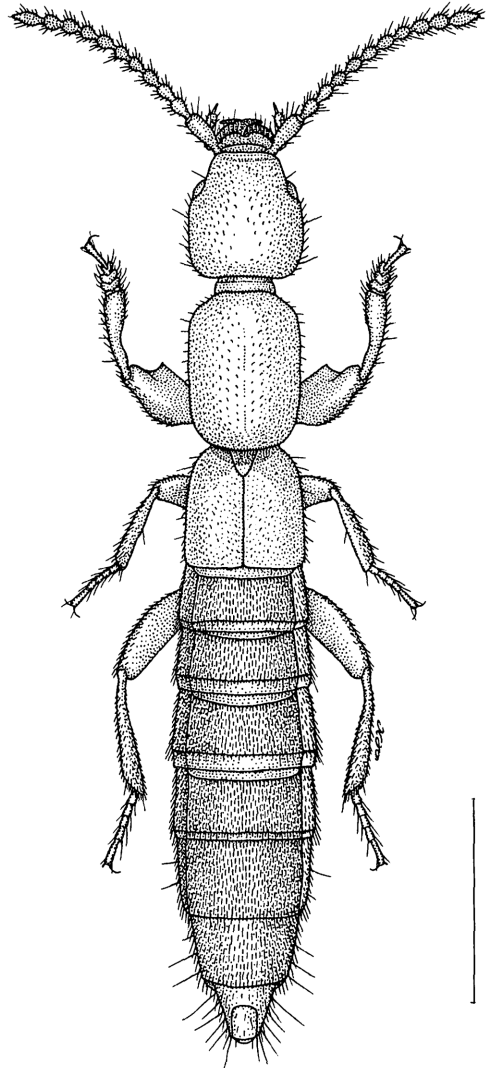
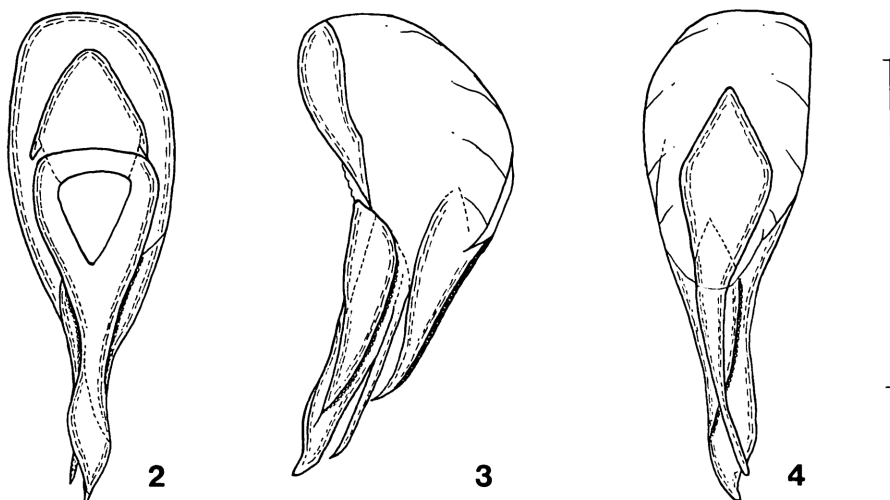


Fig. 1. *Lathrobium* (s. str.) *tahirai* Y. WATANABE, sp. nov., ♂, from Mt. Mitsumine of Shizuoka in central Honshu, Japan. Scale: 1.0 mm.

tion; 6th sternite also depressed at the middle in front of posterior margin, the depression being much smaller and shallower than that of 7th sternite.

Genital organ somewhat spindle-shaped, well sclerotized except for membranous ventral side of median lobe. Median lobe somewhat shorter than fused paramere, with ventral sclerotized piece elongate, widest at basal fourth and much strongly narrowed apicad than basad. Fused paramere asymmetrical in apical half, broadly constricted at the median part though dilated posteriad and forming a somewhat nib-shaped apical part, which is a little broader than median lobe, apex curved to right side as seen from dorsal side.



Figs. 2–4. Male genital organ of *Lathrobium* (s. str.) *tahirai* Y. WATANABE, sp. nov.; dorsal view (2), lateral view (3), and ventral view (4). Scale: 0.5 mm.

Female. Similar in general appearance to male, but different from it in the following points: first to fourth protarsal segments not so dilated, 8th abdominal sternite narrowed towards the apex which is narrowly rounded.

Type series. Holotype: ♂, allotype: ♀, Mt. Mitsumine, Shizuoka, Honshu, Japan, 11–X–1982, Y. TAHIRA leg. Paratypes: 3 ♂♂, same data as for the holotype.

Distribution. Japan (central Honshu).

Remarks. The present new species is remarkably different from the other apterous members of *Lathrobium* in light coloration and much smaller body size.

Bionomics. The type specimens were obtained by sifting dead leaves accumulated in a deciduous broadleaved forest, consisting of *Fagus crenata*, *Quercus crispula*, *Stewartia monadelpha* and *Acer* spp., on Mt. Mitsumine in Shizuoka at an altitude of 1,350 m.

Etymology. This new species is named after Mr. Yoshiaki TAHIRA, Shizuoka, who kindly supplied me with the specimens of the type series.

***Lathrobium* (s. str.) *kanayamaense* Y. WATANABE, sp. nov.**

[Japanese name: Kanayama-chibi-kobanenaga-hanekakushi]

(Figs. 5–7)

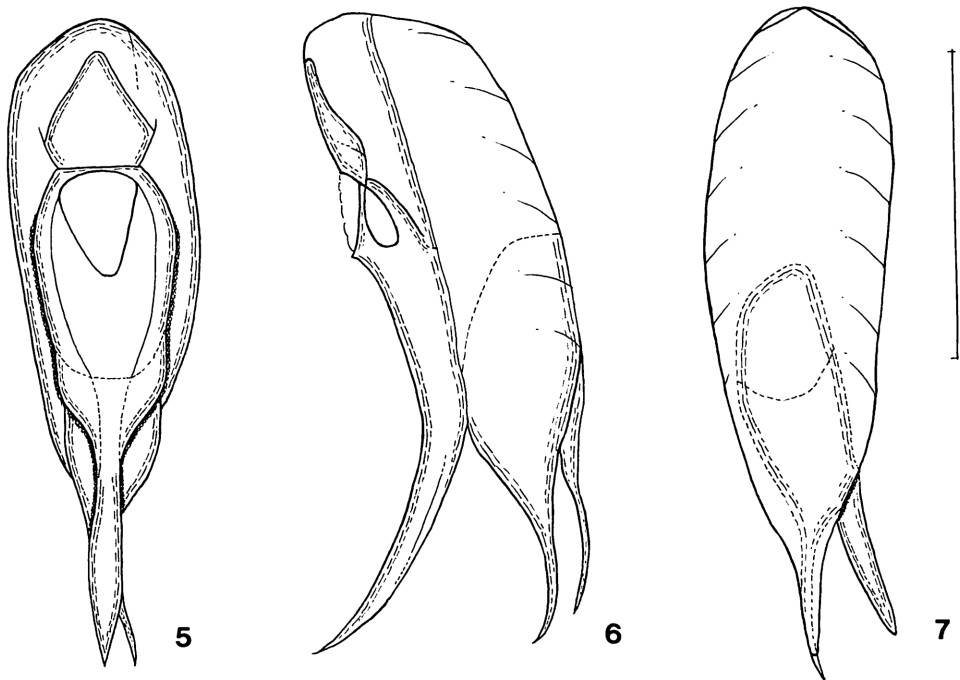
Body length: 4.6–4.9 mm (from front margin of head to anal end); 2.0–2.1 mm (from front margin of head to elytral apices).

Similar in facies to the preceding species, but can be readily distinguished from it by the body larger, and the head, elytra and abdomen reddish brown.

Male. Head subtrapezoidal and somewhat depressed above, as long as broad, widest before posterior angles and narrowed anteriorly; lateral sides gently arcuate; surface sparingly and coarsely punctured, the punctures becoming much sparser in vertexal area, and covered with microscopic coriaceous ground sculpture all over; eyes small and almost flat, their longitudinal diameter about one-fourth as long as postocular part. Antennae relatively short, not reaching the middle of pronotum, slightly thickened towards the apicalmost segment, two proximal segments polished, 3rd and 4th subopaque, the remainings opaque; 1st segment robust, dilated apically, twice as long as broad, 2nd constricted at the base, a little longer than broad (length/width=1.33), remarkably shorter (2nd/1st=0.50) and somewhat narrower (2nd/1st=0.75) than 1st, 3rd slightly longer than broad (length/width=1.07), somewhat shorter (3rd/2nd=0.75) and slightly narrower (3rd/2nd=0.93) than 2nd, 4th equal to 3rd in both length and width, 5th to 7th almost equal in both length and width to one another, each nearly as long as broad and equal in length to, though slightly broader than (each of 5th to 7th/4th=1.07), 4th, 8th and 9th equal in both length and width to each other, each a little broader than long (width/length=1.10) and as long as though somewhat broader (8th or 9th/7th=1.10) than 7th, 10th somewhat transverse (width/length=1.17), as long as though slightly broader (10th/9th=1.17) than 9th, 11th apparently longer than broad (length/width=1.71), twice as long as though as broad as 10th, subacuminate at the apex.

Pronotum oblong though slightly narrowed posteriorly and moderately elevated medially, distinctly longer than broad (length/width=1.27), apparently longer (pronotum/head=1.38) and somewhat broader (pronotum/head=1.04) than head; lateral sides almost straight except near anterior and posterior angles, anterior margin arcuate but feebly emarginate at the middle, posterior margin nearly truncate, anterior angles obtuse and invisible from above, posterior ones narrowly rounded; surface more closely and more coarsely punctured than in head except for a narrow median smooth space throughout the length of pronotum, coriaceous ground sculpture wanting. Scutellum small and subtriangular, surface provided with a few minute setiferous punctures and microscopic coriaceous ground sculpture. Elytra oblong though slightly dilated posteriorly, slightly transverse (width/length=1.04), distinctly shorter (elytra/pronotum=0.79) but slightly broader (elytra/pronotum=1.04) than pronotum; lateral sides nearly straight, posterior margin nearly straight though feebly emarginate at the middle; posterior angles broadly rounded; surface sparingly and obscurely punctured and covered with fine brownish pubescence. Legs relatively short, similar in structure to those of the preceding species.

Abdomen elongate and almost parallel-sided from 3rd to 7th segment, and then abruptly narrowed towards the anal end, 3rd to 8th tergites each closely, finely and superficially punctured and covered with fine brownish pubescence; 8th sternite subtriangularly excised at the middle of posterior margin and narrowly, longitudinally flattened in front of the excision; 7th sternite shallowly emarginate at the middle of posterior margin and provided with a long horseshoe-shaped depression before the emargina-



Figs. 5–7. Male genital organ of *Lathrobium* (s. str.) *kanayamaense* Y. WATANABE, sp. nov.; dorsal view (5), lateral view (6), and ventral view (7). Scale: 0.5 mm.

tion.

Genital organ spindle-shaped and sclerotized except for membranous ventral side of median lobe. Median lobe widest near the middle and gradually narrowed basad though abruptly narrowed in apical fifth, with ventral sclerotized piece elliptical in basal half though abruptly narrowed in apical half. Fused paramere slightly longer than median lobe, abruptly narrowed in apical half to the acutely pointed apex as seen from dorsal side and strongly curved dorsad in posterior half in profile.

Female. Similar in general appearance to male, but different from it in the following points: 1st to 4th protarsal segments not so widely dilated; abdomen with 8th sternite abruptly narrowed in apical third to the apex which is narrowly rounded.

Type series. Holotype: ♂, allotype: ♀, Kanayama-daira, Yamanashi Pref., Honshu, Japan, 30–V–1993, Y. WATANABE leg. Paratypes: 2 ♀♀, same data as for the holotype; 1 ♂, 3 ♀♀, same locality and same collector as for the holotype, 29–V–1993.

Distribution. Japan (central Honshu).

Bionomics. The type specimens were obtained by sifting dead leaves in a deciduous broadleaved forest at an altitude of 1,520 m.

Etymology. The specific epithet of this new species is given after the type locality “Kanayama-daira” in Yamanashi Prefecture.

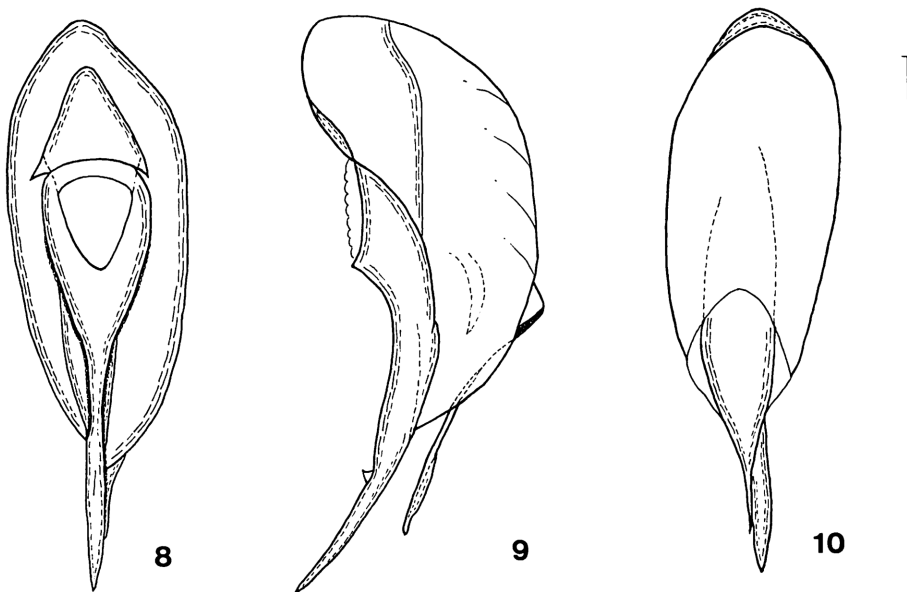
***Lathrobium* (s. str.) *nidoagense* Y. WATANABE, sp. nov.**

[Japanese name: Nidoage-chibi-kobanenaga-hanekakushi]

(Figs. 8–19)

Body length: 3.7–3.8 mm (from front margin of head to anal end); 1.9–2.1 mm (from front margin of head to elytral apices).

Male and female. Closely similar in facies and colour to *L. kanayamaense*, but can be distinguished from it by the somewhat smaller body and the following points: head slightly longer than broad (length/width=1.02), widest at basal third and somewhat less narrowed anteriorly than in *L. kanayamaense*, postocular part relatively short, about 3.5 times as long as the longitudinal diameter of eye, lateral sides more distinctly arcuate, surface covered with similar punctures to though much weaker coriaceous ground sculpture than in *L. kanayamaense*; pronotum oblong, less narrowed posteriorly than in *L. kanayamaense*, surface less coarsely punctured except for a narrow median smooth space through the length of pronotum; elytra more transverse (width/length=1.08) and a little broader than pronotum (elytra/pronotum=1.08), posterior margin nearly truncate, surface sparingly and obtusely punctured as in *L. kanayamaense*; abdomen with 8th sternite triangularly excised at the middle of posterior margin and provided with a short longitudinal carina before the excision, each side of the carina somewhat depressed above, 7th sternite shallowly and broadly emarginate at the middle of posterior margin and subtriangularly depressed in front of the emar-



Figs. 8–10. Male genital organ of *Lathrobium* (s. str.) *nidoagense* Y. WATANABE, sp. nov.; dorsal view (8), lateral view (9), and ventral view (10). Scale: 0.5 mm.

gination.

Male genital organ spindle-shaped and well sclerotized except for membranous ventral side of median lobe. Median lobe broader except for apical part and distinctly shorter than fused paramere, with ventral sclerotized piece apparently narrowed towards the apex which is slightly curved ventrad in profile. Fused paramere elongate, constricted near the middle and strongly dilated basad, with the apical half forming a spearhead in dorsal view.

Type series. Holotype: ♂, allotype: ♀, near Nidoage, Gunma Pref., Honshu, Japan, 12-VIII-1962, Y. WATANABE leg. Paratypes: 1 ♂, 1 ♀, same data as for the holotype; 3 ♂♂, 2 ♀♀, same locality and collector as for the holotype, 11-VIII-1962; 1 ♂, same locality and collector as for the holotype, 13-VIII-1962.

Distribution. Japan (central Honshu).

Bionomics. All the type specimens were obtained by sifting dead leaves in a deciduous broadleaved forest at an altitude of 1,160 m.

Etymology. The specific name of the present new species is given after the type locality "Nidoage" on the Asama Plateau.

***Lathrobium* (s. str.) *nikkoense* Y. WATANABE, sp. nov.**

[Japanese name: Nikkô-chibi-kobanenaga-hanekakushi]

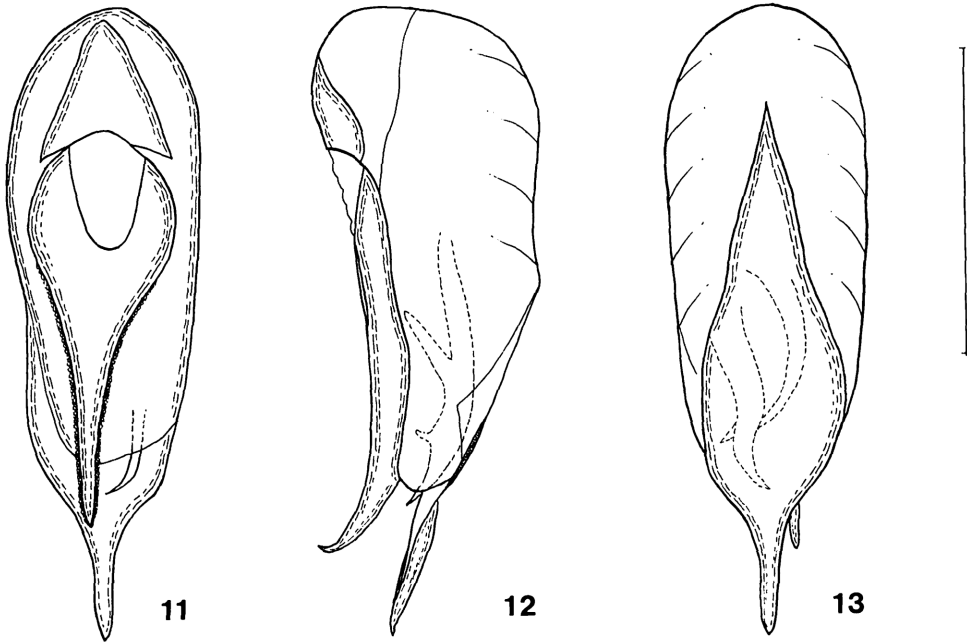
(Figs. 11-16)

Body length. 4.6-5.1 mm (from front margin of head to anal end); 2.0-2.4 mm (from front margin of head to elytral apices).

Male and female. Similar in general appearance to the two preceding species, but markedly different from them in the configuration of male genital organ.

Head as long as broad, less narrowed anteriorly and more convex medially than in *L. kanayamaense*, lateral sides less arcuate than in *L. nidoagense*, surface more coarsely and somewhat more numerous punctured though covered with microscopic ground sculpture as in the two preceding species. Antennae similar in configuration to those of the two preceding species. Pronotum more distinctly narrowed posteriorly than in the two preceding species, distinctly longer than broad (length/width=1.38), as broad as though apparently longer than head (pronotum/head=1.38), surface similarly punctured as in *L. kanayamaense*. Elytra subtrapezoidal, more similar in configuration to those of *L. kanayamaense* than to those of *L. nidoagense*, and similarly punctured on the surface as in *L. kanayamaense*. Abdomen with 8th sternite triangularly excised at the middle of posterior margin and provided with a narrow, shallow and longitudinal depression in front of the excision, 7th sternite subtruncate or slightly emarginate at the middle of posterior margin and slightly depressed before the emargination.

Male genital organ long elliptical and slightly asymmetrical as seen from dorsal side, median lobe remarkably broader and longer than fused paramere, with ventral sclerotized piece spindle-shaped, widest near apical third and more strongly narrowed apically than basad, apical part forming a spearhead; fused paramere abruptly narrowed



Figs. 11–13. Male genital organ of *Lathrobium* (s. str.) *nikkoense* Y. WATANABE, sp. nov., from near Marunuma of Oku-Nikkô in Gunma Pref.; dorsal view (11), lateral view (12), and ventral view (13). Scale: 0.5 mm.

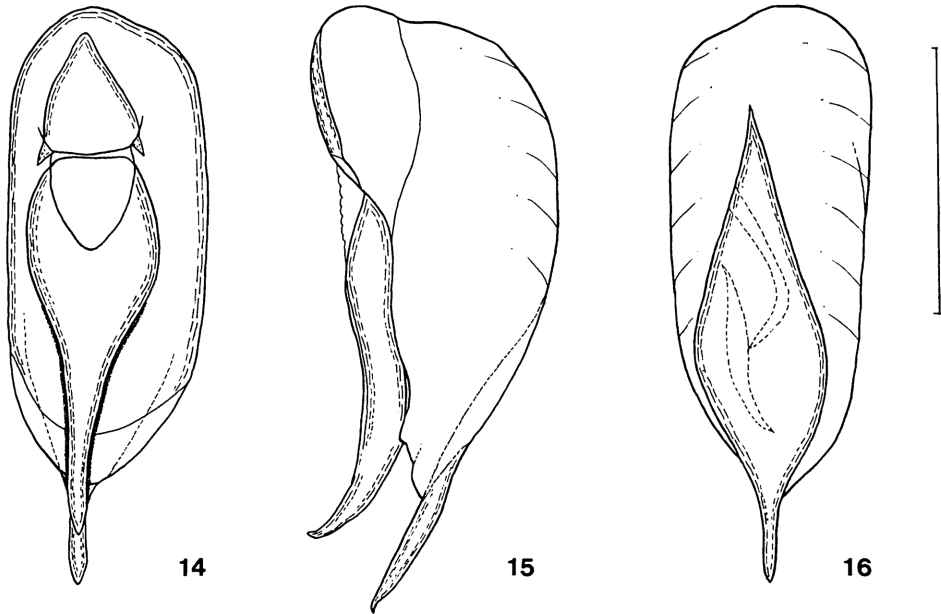
in apical three-fourths towards the apex which is acutely pointed and strongly curved ventrad in profile.

Type series. Holotype: ♂, allotype: ♀, near Marunuma, Oku-Nikkô, Gunma Pref., Honshu, Japan, 7–IX–1965, Y. WATANABE leg. Paratypes: 1 ♂, 2 ♀♀, same data as for the holotype; 2 ♂♂, 3 ♀♀, near Sugenuma, Oku-Nikkô, Gunma Pref., Honshu, Japan, 25–VIII–1964, Y. WATANABE leg.; 4 ♂♂, 4 ♀♀, Pass Konsei-tôge, Oku-Nikkô, Gunma Pref., Honshu, Japan, 26–VIII–1964, Y. WATANABE leg.

Further specimens examined. 1 ♂, 1 ♀, near Miike-goya, Fukushima Pref., Honshu, Japan, 27–VIII–1966, Y. WATANABE leg.; 2 ♂♂, near Oze-numa, Fukushima Pref., Honshu, Japan, 23–VI–1990, Y. & M. WATANABE leg.

The specimens obtained near Miike-goya at an altitude of 1,500 m slightly differ from the type specimens in configuration of the median lobe of male genital organ, which is relatively short and the fused paramere more robust. On the contrary, the specimens obtained near Oze-numa at an altitude of 1,720 m are similar to the type specimens in configuration of the fused paramere, though similar to the specimens from near Miike-goya in configuration of the median lobe. However, these differences are considered to be an infraspecific variation.

Distribution. Japan (central Honshu).



Figs. 14–16. Male genital organ of *Lathrobium* (s. str.) *nikkoenese* Y. WATANABE, sp. nov., from near Miike-goya of Aizu in Fukushima Pref.; dorsal view (14), lateral view (15), and ventral view (16). Scale 0.5 mm.

Bionomics. The type series is obtained by sifting dead leaves in deciduous broadleaved forests of three different areas of Oku-Nikkô at an altitude from 1,500 to 2,000 m.

Etymology. The specific name of this new species is derived from Oku-Nikkô in which the type series was obtained.

要 約

渡辺泰明：本州中部から採集された後翅の退化した *Lathrobium* 属の4新種。—— 日本産の後翅が退化した *Lathrobium* 属を検討している過程において、体長が4mm内外の小型で、全体が黄褐色ないし赤褐色を呈する特長な1種群を見いだした。この種群は一見したところドウケツコバネナガハネカクシを思わせるが、形態的概観は *Lobrathium* 属のチビアカナガハネカクシに類似している。そして、詳細に検討した結果、この種群は4種に分けられ、いずれも未記載種であることが判明したので、下記のとおり命名・記載した。

1. *Lathrobium* (s. str.) *tahirai* Y. WATANABE タヒラチビコバネナガハネカクシ

本種は、静岡市三ッ峰の標高1,350m地点で、落葉広葉樹林の林床に堆積した落葉をふるって採集された。全体が黄褐色を呈し、体長が4mmほどの小型種で、コバネナガハネカクシ種群に含まれる既知の種からは一見して区別される。

2. *Lathrobium* (s. str.) *kanayamaense* Y. WATANABE カナヤマチビコバネナガハネカクシ

この種は、山梨県金山平の標高1,520m地点で、落葉広葉樹林の林床に堆積した落葉をふるって採集された。形態的概観は前種に類似しているが、全体赤褐色を呈し、体がやや大きいこと、また雄交尾器の形状が明らかに異なることによって容易に区別される。

3. *Lathrobium* (s. str.) *nidoagense* Y. WATANABE ニドアゲチビコバネナガハネカクシ

この種は、浅間高原の二度上で、標高1,160m地点の落葉広葉樹林の林床に堆積した落葉をふるって採集された。色彩および形態的概観は前種に類似しているが、やや小型で、頭部は幅よりわずかに長く、表面の微細構造がより弱いこと、前胸背板は後方への狭りがより弱く、表面の点刻がより粗くないこと、翅鞘はより強く横位で、前胸背板よりもいくぶん幅広いこと、そして雄の腹部第二次性徴および交尾器の形状が明らかに異なることで区別される。

4. *Lathrobium* (s. str.) *nikkoense* Y. WATANABE ニッコウチビコバネナガハネカクシ

奥日光の丸沼、菅沼および金精峠の標高1,500–2,000mにかけての落葉広葉樹林の林床に堆積した落葉をふるって採集された。本種は前記の2種に形態的概観が類似しているが、雄の腹部第二次性徴および交尾器の形状が異なることで容易に区別される。なお、会津の御池小屋附近で採集された個体は、雄交尾器の中葉が基準標本のものに比べてやや短く、側葉がより強壯であること、また尾瀬沼附近で採集された個体は、側葉は基準標本と同様な形状を呈するが、中葉は御池小屋附近で採集された個体のものに類似している。しかし、これらの差異は同一種内の変異と考えられる。

References

- WATANABE, Y., 1972. Some staphylinid beetles from the Hidaka Mountains in Hokkaido, Japan. *Mem. natn. Sci. Mus., Tokyo*, (5): 111–121.
- 1980. Two new *Lathrobium* (Coleoptera, Staphylinidae) found in limestone caves of Japan. *J. speleol. Soc. Japan*, 5: 21–28.