

Three New Apterous *Lathrobium* (Coleoptera, Staphylinidae) from Hiroshima Prefecture in Western Honshu, Japan

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Abstract Three new apterous staphylinid species of the group of *Lathrobium* (*Lathrobium*) *shingon* are described under the names *L. (L.) itsukushmanum*, *L. (L.) okamotoi* and *L. (L.) taishakuense*. They are obtained from Hiroshima Prefecture in western Honshu, Japan.

As far as I know, only two species of apterous *Lathrobium* have hitherto been recorded by OKAMOTO (1989) from Hiroshima Prefecture in western Honshu, Japan. They are, however, not determined to the species level.

Through the courtesy of Mr. I. OKAMOTO, I had an opportunity to examine many specimens of apterous *Lathrobium* obtained from Hiroshima Prefecture in western Honshu, Japan. These specimens are classified into three species, all of which seem to belong to the group of *L. shingon* Y. WATANABE (2005, p. 313) on account of similar configuration of secondary sexual characters of the abdominal sternites and complicated fused paramere of the genital organ in the male.

After a close examination, it has become clear that they are new to science for reason of disagreement in configuration of the secondary sexual characters of abdominal sternites and genital organ in the male with those of previously known species of this species-group. They will be described in the present paper.

Before going further, I wish to express my hearty thanks to Dr. Shun-Ichi UÉNO, Visiting Professor at Tokyo University of Agriculture, for his kind advice on the present study. Deep gratitude is also due to Mr. Iwao OKAMOTO, Kure-shi, for his kindness in supplying me with the specimens used in this study, and to Mr. Itsuo KAWASHIMA, Yokosuka-shi, for his assistance in drawing the secondary sexual characters of abdominal sternites in the male and Mr. Junnosuke KANTOH, Laboratory of Entomology, Tokyo University of Agriculture, for taking the photograph inserted in this paper.

Lathrobium (Lathrobium) itsukushmanum Y. WATANABE, sp. nov.

[Japanese name: Itsukushima-kobane-nagahanekakushi]

(Figs. 1, 2, 5–7)

Body length: 7.2–8.8 mm (from front margin of head to anal end); 3.5–3.7 mm (from front margin of head to elytral apices).

Body elongate, moderately depressed above and nearly parallel-sided. Colour blackish brown to reddish brown and moderately shining, with antennae, and sutural and apical parts of elytra brownish red, palpi and legs brownish yellow.

The present new species is similar in general appearance to the previously known apterous species of *Lathrobium* from Japan, though clearly different from them in peculiar configuration of male genital organ.

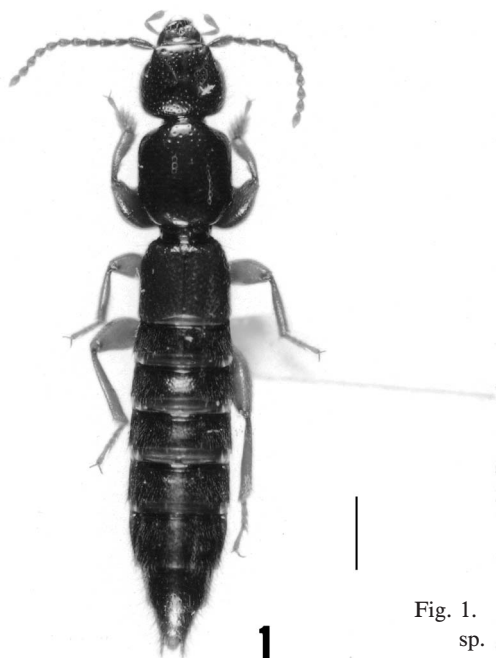
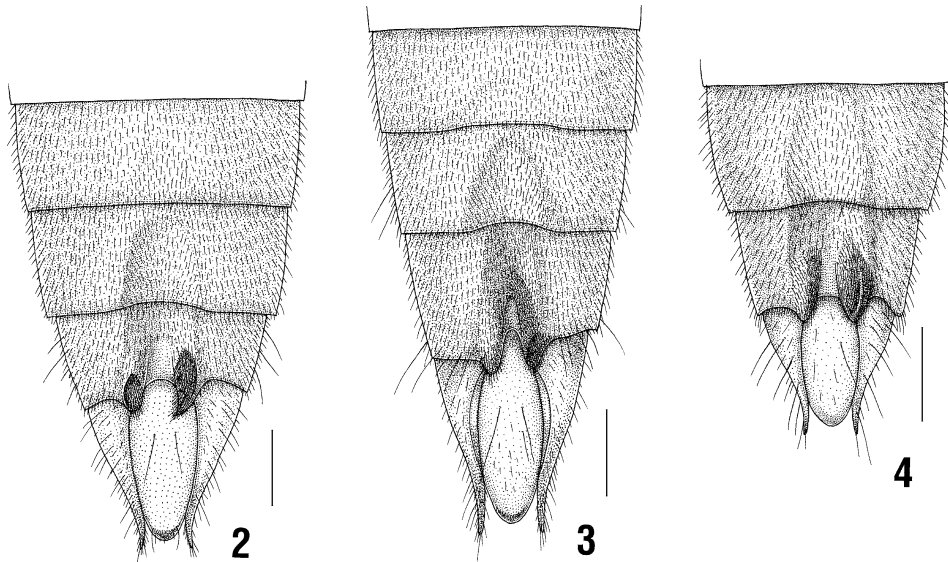


Fig. 1. *Lathrobium (Lathrobium) itsukushimaenum* sp. nov., ♂, from Itsuku-shima, Hiroshima Pref., Japan. Scale: 1.0 mm.

Male. Head subtrapezoidal and narrowed anteriorly, slightly convex medially and a little transverse (width/length=1.17); lateral sides gently arcuate; frontal area between antennal tubercles transversely flattened and glabrous along frons, provided with a large setiferous puncture inside each antennal tubercle; surface sparingly, coarsely and setiferously punctured except for vertexal area, and covered with extremely fine coriaceous ground sculpture only visible under high magnification; eyes small and nearly flat, their longitudinal diameter one-third as long as postocular parts. Antennae moderately long and relatively slender, extending to the middle of pronotum, and not thickened towards the extremity, two proximal segments polished and the remainings opaque, 1st segment robust and dilated apically, about twice as long as width, 2nd twice as long as width, but apparently shorter (2nd/1st=0.60) and narrower (2nd/1st=0.67) than 1st, 3rd 1.5 times as long as width, equal in length to though apparently wider (3rd/2nd=1.33) than 2nd, 4th distinctly longer than wide (length/width=1.43), but somewhat shorter (4th/3rd=0.83) and slightly narrower (4th/3rd=0.88) than 3rd, 5th to 10th more or less moniliform and equal in both length and width to one another, each apparently longer than wide (length/width=1.67), equal in length to though slightly narrower than 4th (each of 5th to 10th/4th=0.88), 11th fusiform, twice as long as wide and distinctly longer (11th/10th=1.40) than though as wide as 10th, subacuminate at the apex.

Pronotum more strongly elevated medially than head, subtrapezoidal and distinctly narrowed posteriorly, a little longer than wide (length/width=1.12), apparently longer (pronotum/head=1.40) and slightly wider (pronotum/head=1.07) than head; lateral sides almost straight in anterior two-thirds and slightly arcuate in posterior third, anterior margin gently rounded,



Figs. 2-4. Secondary sexual characters of abdominal sternites in the male; *L. (L.) itsukushmanum* sp. nov. (2), *L. (L.) okamotoi* sp. nov. (3), and *L. (L.) taishakuense* sp. nov. (4). Scale: 0.5 mm.

posterior margin truncate though slightly emarginate at the middle, anterior angles obtuse and invisible from dorsal side, posterior ones narrowly rounded, surface sparsely scattered with much coarser punctures than those on head except for a narrow smooth median space throughout the length of pronotum. Scutellum small and subtriangular, surface provided with a few minute setiferous punctures and obscure ground sculpture. Elytra nearly trapezoidal, only just slightly dilated posteriad and subdepressed above, somewhat transverse (width/length=1.13), distinctly shorter (elytra/pronotum=0.76) and slightly narrower (elytra/pronotum=0.96) than pronotum; lateral sides almost straight except in anterior fourth, where they are feebly arcuate; posterior margin emarginate at the middle, posterior angles rounded; surface more closely though much more shallowly and roughly punctured than on pronotum, and covered with fine brownish pubescence. Hind wings degenerated to minute lobes which are about one-third as long as elytra. Legs moderately long, profemora, protibiae and protarsi similar in structure to those of the other members of the group of *L. shingon*.

Abdomen elongate, nearly parallel-sided from 3rd to 6th segments, and then abruptly narrowed towards the anal end; 3rd to 7th tergites each not so closely, somewhat coarsely and apiculately punctured, and more closely covered with brownish pubescence than in elytra, 8th and 9th tergites each more sparingly, more finely punctured and pubescent than in the preceding tergites; 8th sternite somewhat asymmetrically projected at each side of the middle of posterior margin, the right projection slightly longer and wider than left one, surface of these projections depressed and covered with short rigid blackish cilia, interspace between these projections broadly and longitudinally depressed, surface of the depression sparingly provided with fine brownish pubescence, except for smooth and glabrous space before posterior margin; 7th sternite shallowly emarginate at the middle of posterior margin and U-shapedly depressed in front of the emargination, surface of the depression with similar punctures and pubescence to those of other parts; 6th sternite simple.

Genital organ elliptical. Median lobe widest near the middle and somewhat more strongly narrowed apicad than basad, ventral sclerite widest at the middle and much more strongly narrowed basad than apicad, apical part divided into two parts by broad and deep excision, right lobe distinctly longer and wider than left one as seen from ventral side. Fused paramere relatively broad and strongly asymmetrical, not extending to the apex of median lobe, apical part divided into two lobes by a small notch, right lobe much broader than left one as seen from dorsal side.

F e m a l e. Similar in general appearance to the male, though the 8th abdominal sternite is somewhat produced at the median part of posterior margin and slightly rounded at the apex, 7th sternite not modified.

Type series. Holotype: ♂, allotype: ♀, Itsukushima, Miyajima, Hiroshima Pref., Japan, 25–VIII–1990, I. OKAMOTO leg. Paratypes: 18 ♂♂, 7 ♀♀, same data as for the holotype.

Type depository. All the type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (Hiroshima Pref. in western Honshu).

Remarks. This new species is similar in body size and facies to *L. tadaorum* Y. WATANABE (2008, p. 187) from Hyōgo Prefecture, but differs from it in configuration of secondary sexual characters of abdominal sternites and genital organ in the male. Also, similar in configuration of fused paramere of male genital organ to *L. susamiense* Y. WATANABE (2005, p. 317) from Wakayama Prefecture, but clearly different from it in configuration of ventral sclerite of median lobe in male genital organ.

Bionomics. All the type specimens were obtained by sifting dead leaves accumulated in a deciduous broadleaved forest on Itsukushima.

Etymology. The specific epithet of this new species is given after “Itsuku-shima”, the type locality.

***Lathrobium (Lathrobium) okamotoi* Y. WATANABE, sp. nov.**

[Japanese name: Kure-kobane-nagahanekakushi]

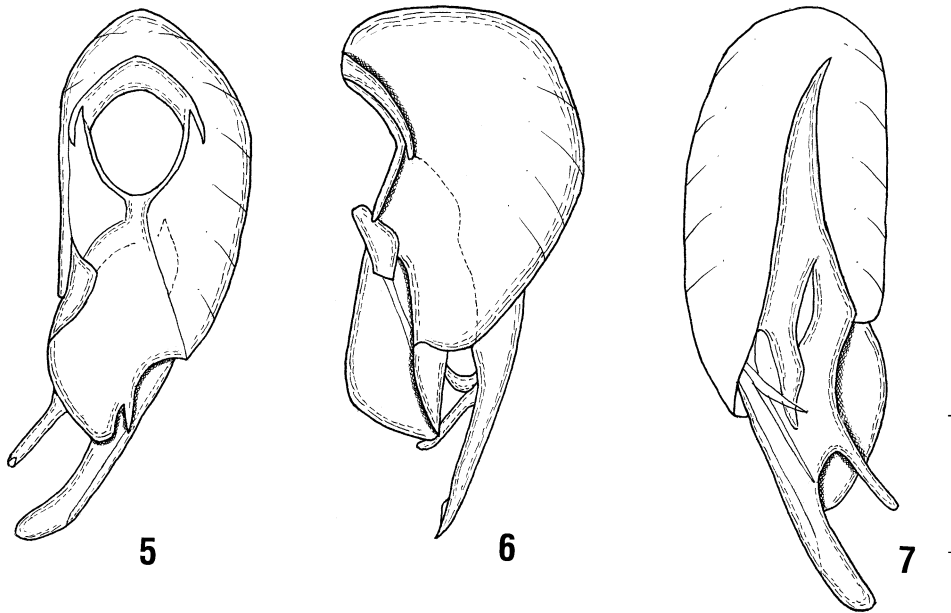
(Figs. 3, 8–10)

Body length: 7.1–7.9 mm (from front margin of head to anal end); 3.4–3.5 mm (from front margin of head to elytral apices).

Similar in body size and external feature to the preceding species, but clearly different from it in configuration of male genital organ and the following points:

M a l e. Head similar in configuration to that of the preceding species though slightly less elevated and less transverse (width/length=1.09); lateral sides arcuate as in the preceding species; surface slightly more sparingly and less coarsely punctured than in the preceding species; eyes small and almost flat, their longitudinal diameter less than one-fourth as long as postocular parts. Antennae moderately long and relatively slender, extending to the middle of pronotum and similar articulation to those of the preceding species.

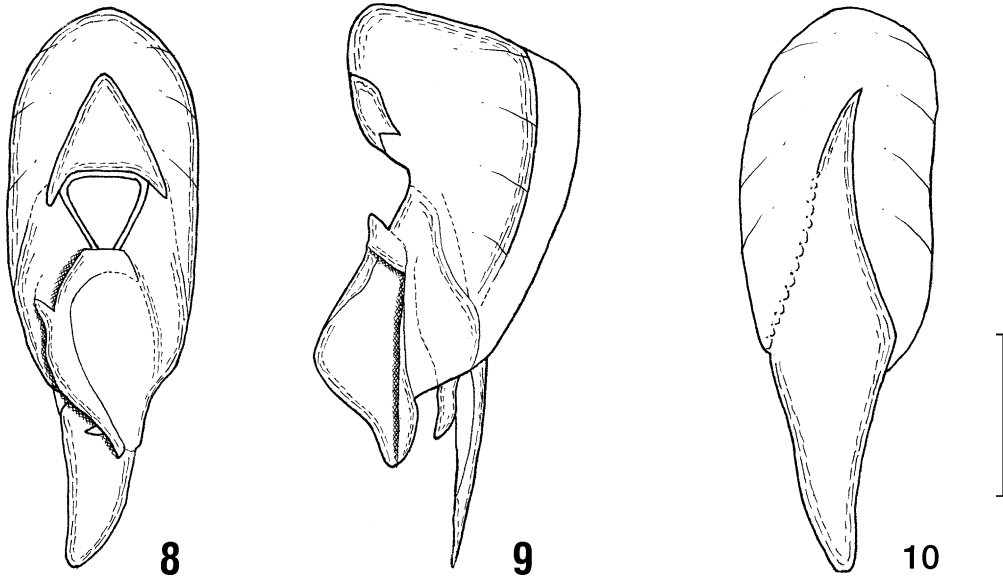
Pronotum similar in configuration to that of the preceding species though slightly longer (length/width=1.16) than that of the preceding species, distinctly longer (pronotum/head=1.34) and slightly wider (pronotum/head=1.06) than head; lateral sides, anterior and posterior margins similar to those of the preceding species, anterior angles obtuse and posterior ones narrowly rounded as in the preceding species; surface sparingly covered with slightly less coarse



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

punctures than in the preceding species except for a narrow median smooth space through the length of pronotum. Scutellum small and subtriangular, provided with a few minute setiferous punctures on the surface as in the preceding species. Elytra subtrapezoidal, dilated posteriad and subdepressed above as in the preceding species, less transverse (width/length = 1.09) than in the preceding species, distinctly shorter (elytra/pronotum = 0.79) though almost as wide as pronotum; lateral sides nearly straight, posterior margin slightly more deeply emarginate at the middle than in the preceding species; surface sparsely covered with less coarse and much shallower punctures than those of the preceding species, and shallowly, longitudinally depressed on each side of suture in anterior third. Hind wings similarly degenerated to that of the preceding species. Legs moderately long, profemora, protibiae and protarsi similar in structure to those of the other members of the group of *L. shingon*.

Abdomen elongate, nearly parallel-sided from 3rd to 7th segments, and then abruptly narrowed towards the anal end as in the preceding species, 3rd to 7th tergites each slightly more sparingly and slightly less coarsely punctured than in the preceding species and covered with fine brownish pubescence; 8th and 9th tergites each more sparingly and more finely punctured and pubescent than in the preceding tergites; 8th sternite more narrowly and more deeply excised at the middle of posterior margin than in the preceding species, and narrowly, longitudinally depressed in front of the excision, surface of the depression glabrous, each side of the excision distinctly and asymmetrically projected posteriad, surface of these projections depressed above, the right projection somewhat wider than left one and more densely covered with short rigid blackish cilia on the surface than that of left one; 7th sternite much more broadly and more shallowly emarginate at the middle of posterior margin than in 8th sternite and linguiformly depressed before the emargination, surface of the depression provided with closer and coarser punctures and pubescence than in other parts; 6th sternite almost simple.



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

Genital organ elliptical. Median lobe nearly asymmetrical, ventral sclerite widest at the middle and more strongly narrowed basad than apicad, apical part somewhat curved to the right and rounded at the apex as seen from ventral side. Fused paramere asymmetrical, not much extending to the apex of median lobe, narrowed towards the apex, which is minutely excised at the middle, surface divided into two parts by a fine longitudinal line, right part strongly expanded dorsad near the middle in profile.

F e m a l e. Similar in general appearance to male, though the 8th abdominal sternite is broadly produced posteriad at the median part of posterior margin and broadly rounded at the apex; 7th and 6th sternites each not modified.

Type series. Holotype: ♂, allotype: ♀, Mt. Norosan, Yasuura, Hiroshima Pref., Honshu, Japan, 24-X-1989, I. OKAMOTO leg. Paratypes: 2 ♂♂, 2 ♀♀, same data as for the holotype.

Type depository. All the type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (Hiroshima Pref. in western Honshu).

Bionomics. All the specimens were obtained from under dead leaves accumulated in a broadleaved forest at an altitude of 450 m.

Etymology. The specific epithet of this new species is given after Mr. Iwao OKAMOTO, who collected all the specimens of the type series.

Lathrobium (Lathrobium) taishakuense Y. WATANABE, sp. nov.

[Japanese name: Taishakukyô-kobane-nagahanekakushi]

(Figs. 4, 11–14)

Body length: 7.2–8.7 mm (from front margin of head to anal end); 3.2–3.5 mm (from front margin of head to elytral apices).

The present new species may be placed near *L. (L.) dozenense* Y. WATANABE et SHIMADA (2005, p. 604) because of similar configuration of male genital organ, but somewhat different from it by configuration of ventral sclerite of median lobe of male genital organ and the following points:

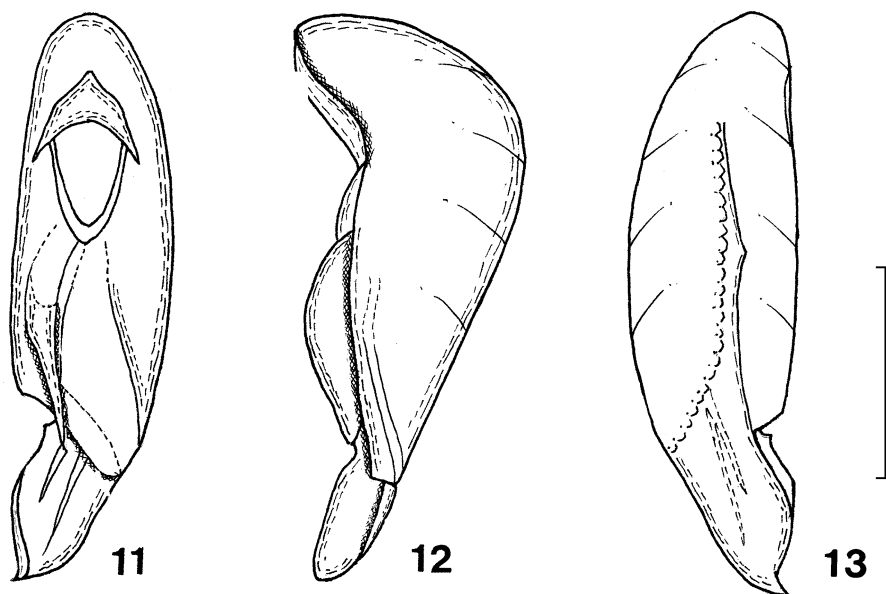
Male. Head somewhat similar in configuration to that of *L. dozenense* though slightly more transverse (width/length=1.13) and slightly more strongly narrowed anteriorly; lateral sides slightly more strongly arcuate; surface slightly more closely and coarsely punctured than in *L. dozenense*, and covered with coarser ground sculpture than that of *L. dozenense*. Antennae moderately long, extending to the middle of pronotum, and similar in articulation to those of *L. dozenense*. Pronotum similar in configuration to that of *L. dozenense*, a little longer than wide (length/width=1.11), distinctly longer (pronotum/head=1.37) and somewhat wider (pronotum/head=1.09) than head; lateral sides nearly straight except near anterior and posterior angles, anterior margin gently arcuate though subtruncate at the middle, posterior margin straight though slightly emarginate at the middle, anterior and posterior angles similar to those of *L. dozenense*, surface more closely and more coarsely punctured than in *L. dozenense*, except for a narrow smooth median space throughout the length of pronotum. Scutellum small and subtriangular, surface provided with a few minute setiferous punctures and microscopic ground sculpture as in *L. dozenense*. Elytra subtrapezoidal, somewhat dilated posteriorly and depressed above as in *L. dozenense*, more transverse (width/length=1.24) than in *L. dozenense*, distinctly shorter (elytra/pronotum=0.73) than though as wide as pronotum; lateral sides and posterior margin similar to those of *L. dozenense*, posterior angles more gently rounded than in *L. dozenense*; surface slightly more coarsely punctured than in *L. dozenense* and shallowly, longitudinally depressed on each side of suture. Hind wings similarly degenerated as in *L. dozenense*. Legs moderately long, profemora, protibiae and protarsi similar in structure to those of *L. dozenense*.

Abdomen elongate, nearly parallel-sided from 3rd to 7th segments, and then abruptly narrowed towards the anal end as in *L. dozenense*; each tergite only slightly more coarsely punctured than in *L. dozenense*, and covered with fine brownish pubescence as in *L. dozenense*; 8th sternite provided with similar secondary sexual characters to those of *L. dozenense* though left projection of the median part in posterior margin more broadly and more deeply excavated; 7th sternite slightly emarginate at the middle of posterior margin and with a U-shaped depression before the emargination though lacking in short blackish hairs on each side in posterior half; 6th sternite not modified.

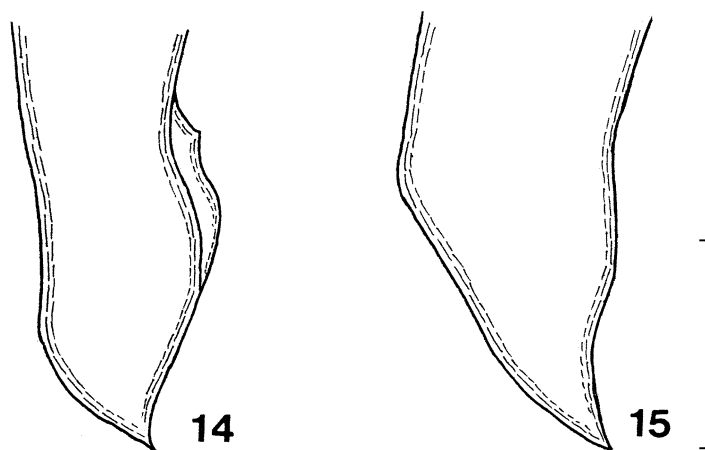
Genital organ spindle-shaped and asymmetrical. Similar in basal conformation to that of *L. dozenense*, but different from it in configuration of median lobe, of which ventral sclerite is not expanded to right side in apical part as seen from ventral side, and the apex takes the form of a small thorn.

Female. Similar in facies to male, but different from it in the configuration of 8th abdominal sternite which is broadly produced posteriorly at the median part of posterior margin and broadly rounded at the apex; 7th sternite simple.

Type series. Holotype: ♂, allotype: ♀, Taishakukyô, Tôjôchô, Hiroshima Pref., Honshu,



Figs. 11–13. Male genital organ of *Lathrobium (Lathrobium) taishakuense* sp. nov.; dorsal view (11), lateral view (12), and ventral view (13). Scale: 0.5 mm.



Figs. 14–15. Apical part of ventral sclerite in male genital organ; *L. (L.) taishakuense* sp. nov. (14), *L. (L.) dosenense* Y. WATANABE et SHIMADA (15). Scale: 0.25 mm.

Japan, 23–VI-1990, I. OKAMOTO leg. Paratypes: 10 ♂♂, 1 ♀, same data as for the holotype.

Type depository. The type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (Hiroshima Pref. in western Honshu).

Bionomics. All the specimens were obtained by sifting dead leaves accumulated in a broadleaved forest in Taishakukyô.

Etymology. The specific epithet of this new species is derived from “Taishakukyô”, the type locality.

要 約

渡辺泰明：広島県から採集されたコバネナガハネカクシ類（コウチュウ目）の3新種。——広島県からは、これまで種名不明種として2種のコバネナガハネカクシが記録されているに過ぎない。私は同県呉市在住の岡本巖氏から提供を受けたコバネナガハネカクシ類を検討した結果、これらは3種に分類され、いずれもシンゴンコバネナガハネカクシ種群に含まれる未記載種と判定したので、イツクシマコバネナガハネカクシ *Lathrobium (Lathrobium) itsukushimaense*, クレコバネナガハネカクシ *L. (L.) okamotoi* およびタイシャクコバネナガハネカクシ *L. (L.) taishakuense* と命名・記載した。

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- 2008. Two new species of *Lathrobium* (Coleoptera: Staphylinidae) from Mt. Maya-san of Hyôgo Prefecture in western Honshu, Japan. *Spec. Publ. Jpn. coleopt. Soc.*, (2): 183–190.
- & T. SHIMADA, 2005. More apterous *Lathrobium* (Coleoptera, Staphylinidae) from Nishi-no-shima of the Dôzen group of the Oki Islands off western Honshu, Japan. *Elytra, Tokyo*, **33**: 603–608.

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