

New Brachypterous *Lathrobium* (Coleoptera, Staphylinidae) from the Island of Awaji-shima in Hyôgo Prefecture, Japan

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Abstract Three new brachypterous *Lathrobium* belonging to the family Staphylinidae are described under the names *L. (L.) yuzuruhaense*, *L. (L.) awajiense* and *L. (L.) masarui*. They were obtained from under dead leaves accumulated in broadleaved forest on the Island of Awaji-shima in West Japan.

As the member of brachypterous *Lathrobium* only one species, *L. awajishimanum*, has hitherto been reported by WATANABE (2001) from the Island of Awaji-shima in Hyôgo Prefecture. Through the courtesy of Mr. M. MORI, Dr. M. NISHIKAWA, Mr. S. TANAKA and Mr. M. YOSHIDA, I had an opportunity to examine short series of interesting specimens of brachypterous *Lathrobium* obtained on this island. As the result of careful examination, they are classified into three species belonging to two different species-groups. Of these two species belong to the group of *L. (L.) pollens/shingon* and the remaining one species belongs to the group of *L. (L.) brachypterum/monticola*. All species, however, are new to science on account of different configuration of the secondary sexual characters of abdominal sternites and genital organ in the male of the previously known species. I am therefore going to describe the new species in the present paper.

Before going further, I wish to express my hearty thanks to Dr. Shun-Ichi UENO, Visiting Professor at the Tokyo University of Agriculture, for his advice on the present study. Deep gratitude is also due to Mr. Masato MORI, Nishinomiya-shi, Dr. Masaru NISHIKAWA, Aizumi-chô, Tokushima, Mr. Shôtarô TANAKA, Shirahama-chô, Wakayama, and Mr. Masataka YOSHIDA, Tokushima-shi, in giving me the specimens used in this study, and to Dr. Toshiharu MITA, Laboratory of Entomology, Tokyo University of Agriculture, for taking the photographs inserted in this paper.

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

[Japanese name: Yuzuruha-kobane-nagahanekakushi]

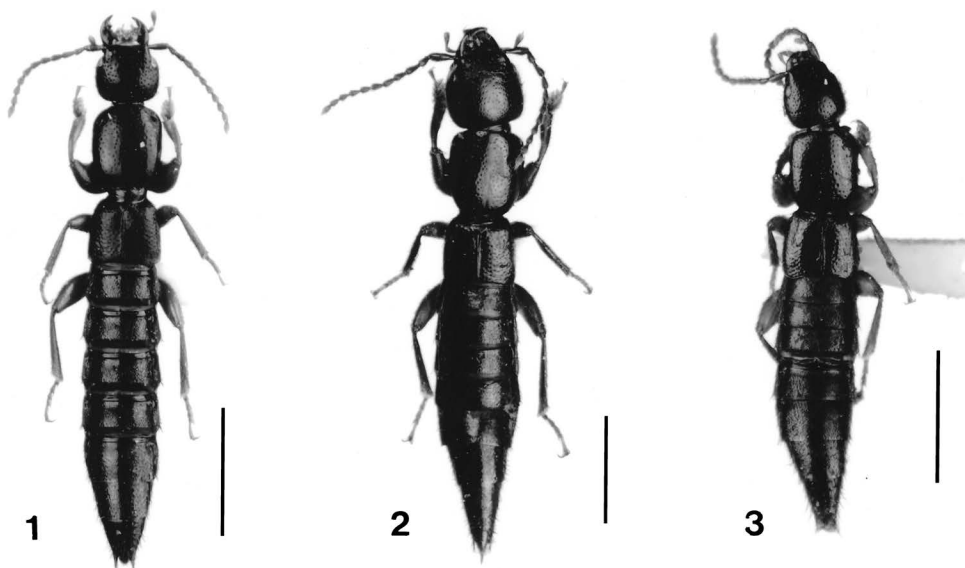
(Figs. 1, 4, 7–9)

Body length: 8.2–8.9 mm (from front margin of head to anal end); 3.4–3.8 mm (from front margin of head to elytral apices).

Body elongate, nearly parallel-side and subdepressed above. Colour black to blackish brown and shining.

The present new species is similar in general appearance to *L. (L.) taichii* WATANABE (2008) from Mt. Maya-san in Hyôgo Prefecture, but is distinguishable from it by somewhat larger body, different sexual characters of abdominal sternites and genital organ in the male, and the following points:

Male. Head subtrapezoidal and slightly elevated medially, somewhat more strongly narrowed anteriorly and clearly more transverse (width/length=1.15) than in *L. taichii*; lateral sides more distinctly arcuate than in *L. taichii*; surface more closely and more coarsely punctured than in *L. taichii* except for slightly elevated vertexal area, and covered with similar fine coriaceous ground sculp-

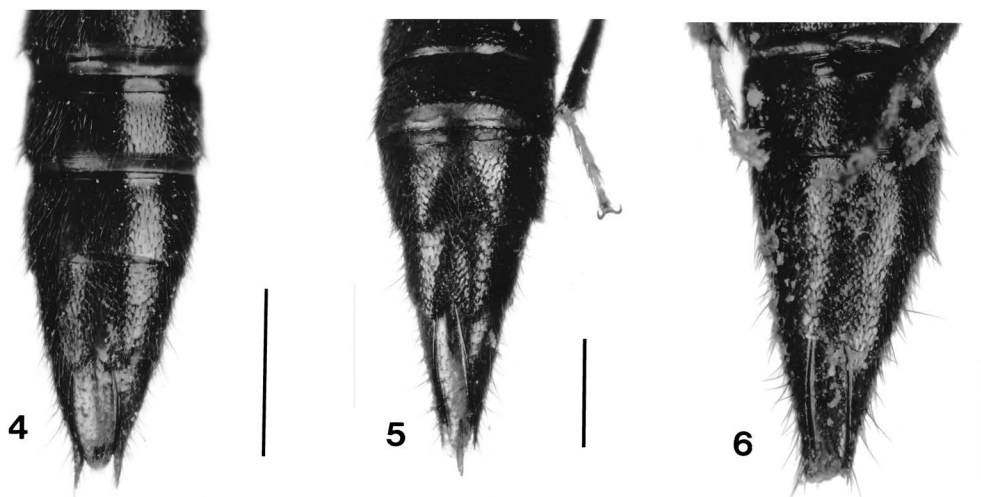


Figs. 1–3. *Lathrobium (Lathrobium)* spp. from Awaji-shima Is. in West Japan. — 1, *L. (L.) yuzuruhaense* sp. nov., male; 2, *L. (L.) awajiense* sp. nov., male; 3, *L. (L.) masarui* sp. nov., male. Scale: 2.0 mm.

ture to that of *L. taichii*; eyes small and nearly flat, their longitudinal diameter about one-third as long as postocular part. Antennae long and somewhat slender, extending a little beyond the middle of pronotum and not thickened towards the extremity, and similar in articulation to those of *L. taichii*.

Pronotum similar in configuration to that of *L. taichii*, a little longer than wide (length/width=1.17), distinctly longer (pronotum/head=1.40) and slightly wider (pronotum/head=1.04) than head; lateral sides nearly straight except near anterior and posterior angles as in *L. taichi*, anterior and posterior margins each similar to that of *L. taichi*; surface more closely and more coarsely punctured than in *L. taichii* except for a median longitudinal smooth space. Elytra subtrapezoidal, slightly dilated posteriad and subdepressed above as in *L. taichii*, somewhat transverse (width/length=1.14), apparently shorter (elytra/pronotum=0.79) though slightly wider (elytra/pronotum=1.04) than pronotum, posterior margin slightly emarginate at the middle as in *L. taichii*; surface more closely and more coarsely punctured than in *L. taichii*, and covered with fine brownish pubescence as in *L. taichii*. Hind wings reduced to minute lobes as in *L. taichii*. Legs moderately long, profemora, protibiae and protarsi similar in structure to those of *L. taichii*.

Abdomen elongate and nearly parallel-sided from 3rd to 7th segments, and then abruptly narrowed towards the anal end as in *L. taichii*, 3rd to 7th tergites each more closely and more coarsely punctured than in *L. taichii*, and closely covered with fine brownish pubescence as in *L. taichii*, 8th and 9th tergites each more sparingly and more finely punctured and pubescent than in the preceding tergites; secondary sexual characters of 8th and 7th sternites each similar in basal conformation to those of *L. taichii*, 8th sternite shallowly emarginate at the middle of posterior margin, both sides of the emargination slightly projected posteriad and forming asymmetrical part, left part subtriangular, shorter and somewhat wider than that of *L. taichii*, and provided with sparse short blackish rigid setae than those of *L. taichii*, right part apparently shorter and wider than left part, sparsely provided with similar rigid setae at the apex to those of left part, interspace between those project parts longitudinally depressed, surface of the depression smooth and glabrous as in *L. taichii*; 7th sternite broadly and



Figs. 4–6. Secondary sexual characters of abdominal sternites in male of *Lathrobium* (*Lathrobium*) spp. from Awaji-shima Is. in West Japan. — 4, *L. (L.) yuzuruhaense* sp. nov.; 5, *L. (L.) awajiense* sp. nov.; 6, *L. (L.) masarui* sp. nov. Scale: 1.0 mm.

shallowly emarginate at the middle of posterior margin as in *L. taichii* and U-shapedly depressed before the emargination, surface of the depression more closely covered with fine setiferous punctures than in other part; 6th sternite simple.

Genital organ similar in basal conformation to that of *L. taichii*, median lobe somewhat narrowed towards constriction before the apical part which is strongly curved to the left side and forming a sickle-shaped part, the apical part of which clearly longer than that of *L. taichii*. Fused paramere remarkably shorter and slightly narrower than median lobe, somewhat asymmetrical, divided into two lobes by fine median longitudinal depression, right lobe somewhat wider and longer than left one as seen from dorsal side, apical part broadly rounded at the apex which is provided with a minute excision in profile as in *L. taichii*.

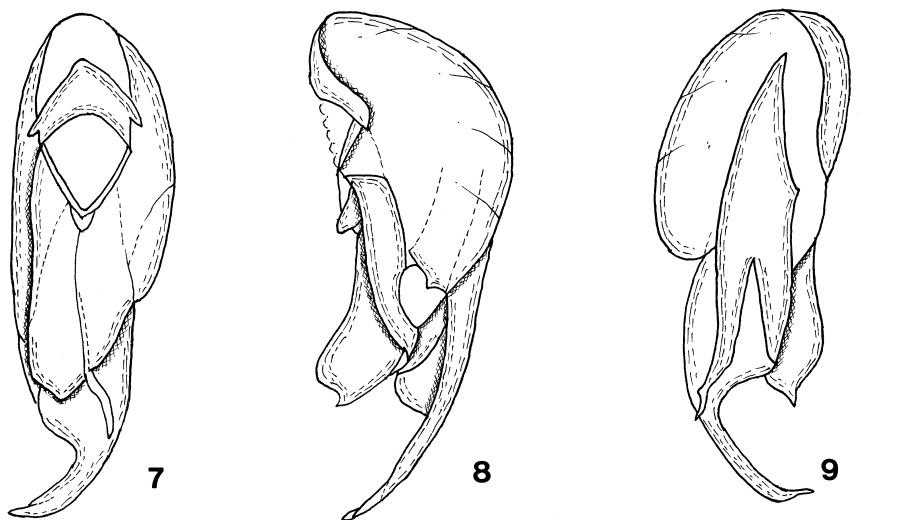
F e m a l e. Similar in facies to male, though 8th abdominal sternite is broadly produced posteriorly at the median part of posterior margin and broadly rounded at the apex; 7th sternite not modified.

Type series. Holotype: ♂, allotype: ♀, Mt. Yuzuruha-san, Minami-awaji City, Is. Awaji-shima, Hyôgo Pref., Japan, N3413'52.96" E13448'54.1", 29-IX-2006, M. YOSHIDA leg. Paratypes: 10 ♂♂, 9 ♀♀, same data as for the holotype; 2 ♂♂, same locality as above, 7-VI-2004, M. NISHIKAWA leg.; 4 ♂♂, same locality as above, 30-IV-2006, M. YOSHIDA leg.

Type depositories. The type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture, with the exception of two pairs of paratypes are deposited in the YOSHIDA's private collection.

Bionomics. Holo- and allotypes were obtained from under dead leaves accumulated in a broad-leaved forest at an altitude of 530 m. All the paratypes were obtained from the same locality as the holotype at an altitude of 600 m.

Etymology. The specific epithet of this new species is derived from "Yuzuruha-san", the type locality.



Figs. 7–9. Male genital organ of *Lathrobium (Lathrobium) yuzuruhaense* sp. nov. from Awaji-shima Is. in West Japan. — 7, Dorsal view; 8, lateral view; 9, ventral view. Scale: 0.5 mm.

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

[Japanese name: Awaji-kobane-nagahanekakushi]

(Figs. 2, 5, 10–12)

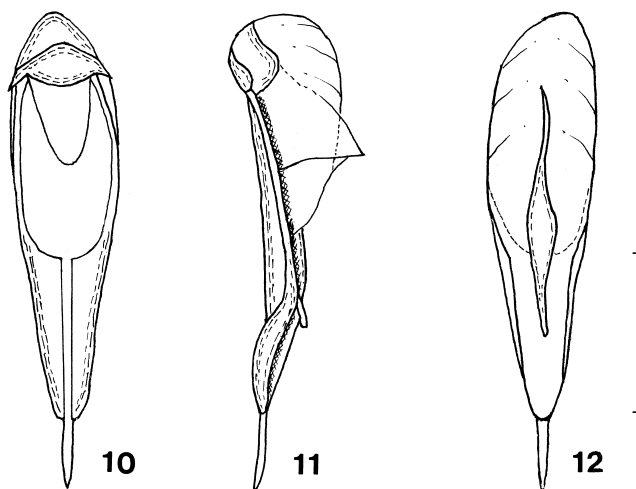
Body length: 10.2–11.3 mm (from front margin of head to anal end); 4.6–5.3 mm (from front margin of head to elytral apices).

Body elongate, nearly parallel-side and subdepressed above. Colour black to dark reddish brown and moderately shining, with antennae brownish red, labrum, labial and maxillary palpi, last abdominal segment and legs brownish yellow.

The present new species is similar in general appearance including basal conformation of male genital organ to *L. (L.) hisamatsui* Y. WATANABE et M. YOSHIDA (2009) from Mt. Ishizuchi-san in western Shikoku, but differs from it in the smaller body, structure of secondary sexual characters of abdominal sternites and genital organ in the male, and in the following external features:

M a l e. Head subtrapezoidal, narrowed anterior and subdepressed above, more transverse (width/length=1.13) than in *L. (L.) hisamatsui*, lateral sides gently arcuate and frontal area between antennal tubercles flattened and glabrous as in *L. (L.) hisamatsui*; surface somewhat more sparingly and slightly more coarsely punctured in medio-frontal area than in latero-basal area, the punctures and coriaceous ground sculpture similar to those of *L. (L.) hisamatsui*; eyes small and almost flat their longitudinal diameter slightly longer than one-fourth the length of postocular parts. Antennae moderately long and somewhat slender, extending slightly beyond the middle of pronotum and not thickened towards the extremity, all the segments longer than wide and similar in articulation to those of *L. (L.) hisamatsui*.

Pronotum elevated medially, distinctly longer than wide (length/width=1.22), clearly longer (pronotum/head=1.22) but slightly narrower (pronotum/head=0.92) than head; widest behind anterior angles and less strongly narrowed posterior than in *L. (L.) hisamatsui*, lateral sides almost straight with the exception of arcuate parts of anterior and posterior angles as in *L. (L.) hisamatsui*; anterior and posterior margins each similar to that of *L. (L.) hisamatsui*; surface similarly punctured as in



Figs. 10–12. Male genital organ of *Lathrobium (Lathrobium) awajiense* sp. nov. from Awaji-shima Is. in West Japan. — 10, Dorsal view; 11, lateral view; 12, ventral view. Scale: 0.5 mm.

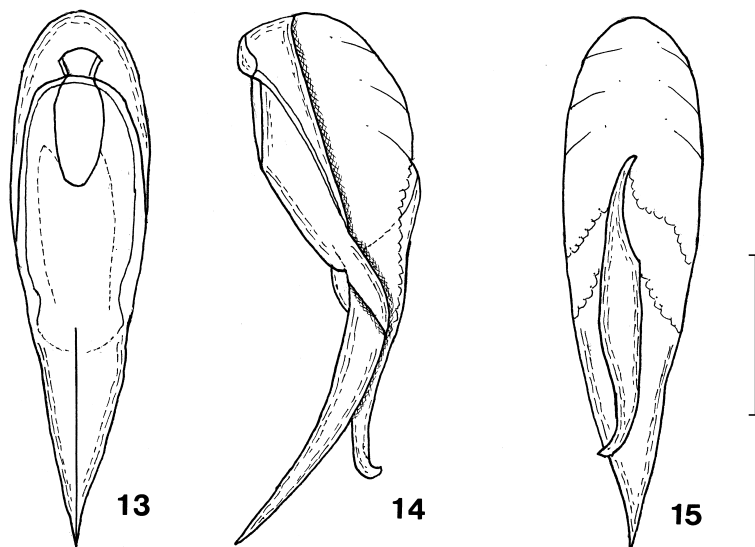
L. (L.) hisamatsui except for a narrow smooth median space through the length of pronotum. Scutellum subtriangular, surface provided with a few somewhat coarse setiferous punctures as in *L. (L.) hisamatsui*. Elytra subtrapezoidal, somewhat dilated posteriad and subdepressed above, somewhat transverse (width/length=1.14), distinctly shorter (elytra/pronotum=0.72) and slightly narrower (elytra/pronotum=0.97) than pronotum; lateral sides, anterior margin and posterior angles similar to those of *L. (L.) hisamatsui*; surface not so densely covered with somewhat coarse punctures as in *L. (L.) hisamatsui*. Hind wings reduced to minute lobes as in *L. (L.) hisamatsui*. Legs moderately long and similar in structure to those of *L. (L.) hisamatsui*.

Abdomen elongate, almost parallel-sided except for two apical segments which are abruptly narrowed towards the anal end as in *L. (L.) hisamatsui*, each tergite slightly more sparingly and slightly more coarsely punctured and pubescent than in *L. (L.) hisamatsui*; 8th sternite somewhat deeply emarginate at the middle of posterior margin and more narrowly depressed in front of the depression than in *L. (L.) hisamatsui*, surface of the depression more closely and more coarsely setiferously punctured than in *L. (L.) hisamatsui*; 7th sternite broadly, shallowly emarginate at the middle of posterior margin as in *L. (L.) hisamatsui*, and subtriangularly depressed in front of the emargination, surface of the depression covered with similar pubescence to that of *L. (L.) hisamatsui*; 6th sternite not modified.

Genital organ elongate and symmetrical, well sclerotized except for membranous ventral side of median lobe. Median lobe gradually narrowed towards the narrowly rounded apex as seen from ventral side, with ventral sclerite widest near the middle and more strongly narrowed basad than apicad. Fuse paramere gradually narrowed towards constricted part before the apex which is prolonged like a spearhead as in *L. (L.) hisamatsui*, surface provided with a pair of fine longitudinal keels at the middle.

F e m a l e. Unknown.

Type series. Holotype: ♂, Mt. Yuzuruha-san, Mihara-chô, Awaji-shima Is., Hyôgo Pref., Japan, 14–XI–1999, S. TANAKA leg. Paratypes: 1 ♂, same locality and collector as above, 17–XI–2001; 1 ♂, same locality as above, 17–VI–1999, M. MORI leg.; 2 ♂♂, same locality and collector as above, 21–



Figs. 13–15. Male genital organ of *Lathrobium (Lathrobium) masarui* sp. nov. from Awaji-shima Is. in West Japan. — 13, Dorsal view; 14, lateral view; 15, ventral view. Scale: 0.5 mm.

X-2001.

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

Distribution. Japan (Awaji-shima Is.).

Bionomics. The specimens taken by MORI were obtained from under dead leaves accumulated in a broadleaved forest at an altitude of 400 m.

Etymology. The specific epithet of the present new species is given after the Island of Awaji-shima.

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

[Japanese name: Masaru-himekobane-nagahanekakushi]

(Figs. 3, 6, 13–15).

Body length: 6.5–7.5 mm (from front margin of head to anal end); 3.3–3.5 mm (from front margin of head to elytral apices).

Body elongate, almost parallel-sided, and somewhat convex. Colour blackish brown and moderately shining, with antennae reddish brown, labial and maxillary palpi and antennae yellow.

The present new species is similar in facies to *L. (L.) tamotsui* Y. WATANABE (1994) from Omogokei in Shikoku, but distinguishable from it by slightly different secondary sexual characters of abdominal sternites and genital organ in the male.

Male. Head subquadrate and somewhat depressed above, almost as long as wide, widest before posterior angles and less distinctly narrowed anteriorly than in *L. (L.) tamotsui*, lateral sides feebly arcuate; surface somewhat more coarsely and more closely punctured than in *L. (L.) tamotsui*, the punctures much sparser in medio-frontal area than in latero-basal area as in *L. (L.) tamotsui*, and covered with less coarse coriaceous ground sculpture all over than in *L. (L.) tamotsui*; eyes small and flat, their longitudinal diameter somewhat shorter than the length of postocular part which is slightly

less expanded laterad than in *L. (L.) tamotsui*. Antennae moderately long, extending a little beyond the middle of pronotum and not thickened towards the apical segment, antennal articulation similar in that of *L. (L.) tamotsui*.

Pronotum elevated medially and subtrapezoidal, slightly more strongly narrowed posteriad than in *L. (L.) tamotsui*, a little longer than wide (length/width=1.25), distinctly longer (pronotum/head=1.35) and somewhat wider (pronotum/head=1.08) than head; lateral sides almost straight except near anterior and posterior angles which are similar to those of *L. (L.) tamotsui*; surface sparingly and coarsely punctured except for a narrow smooth median space through the length of pronotum as in *L. (L.) tamotsui*. Scutellum subtriangular, surface provided with a few minute setiferous punctures as in *L. (L.) tamotsui*. Elytra subtrapezoidal, somewhat dilated posteriad, slightly transverse (width/length=1.05), distinctly shorter (elytra/pronotum=0.80) and slightly wider (elytra/pronotum=1.05) than pronotum; lateral sides, posterior margin and posterior angles similar to those of *L. (L.) tamotsui*; surface more closely and more coarsely punctured than in *L. (L.) tamotsui*. Hind wings degenerated to minute lobe as in *L. (L.) tamotsui*. Legs relatively short, profemur, protibiae and protarsi similar in structure to those of *L. (L.) tamotsui*.

Abdomen elongate, widest at 6th segment and gradually narrowed both anteriorly and posteriorly; surface of each tergite closely covered with fine setiferous punctures; 8th sternite slightly, shallowly and subtriangularly emarginate at the middle of posterior margin and provided with shallow longitudinal depression in front of the emargination; 7th sternite not emarginate at the middle of posterior margin though longitudinally more strongly depressed at the middle before posterior margin; 6th sternite not modified.

Genital organ similar in basal conformation to that of *L. (L.) tamotsui*, but different from it by the following points: Median lobe slightly wider than that of *L. (L.) tamotsui*, with ventral sclerite widest near the middle and distinctly narrowed both basally and apically as in *L. (L.) tamotsui* though somewhat wider in apical half than that of *L. (L.) tamotsui* and distinctly curved to the right side in apical third. Fused paramere obviously extending beyond the apex of median lobe, nearly parallel-sided in basal half and then distinctly narrowed towards the acutely pointed apex, apical half distinctly curved to the ventral side in profile, ventral surface provided with a fine longitudinal carina in apical third.

F e m a l e. Similar in general appearance to male, but different from it by 8th abdominal sternite which is narrowed towards the rounded apex, gradually in basal three-fourths and abruptly so in apical fourth.

Type series. Holotype: ♂, allotype: ♀, Mt. Yuzuruha-san, Awaji-shima Is., Hyōgo Pref., Japan, 5–VI–2004, M. NISHIKAWA leg. Paratypes: 4 ♂♂, 2 ♀♀, same data as for the holotype; 1 ♂, same locality as above, 2–VI–2001, M. MORI leg.

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

Distribution. Japan (Awaji-shima Is.).

Bionomics. All the specimens of the type series were obtained from under dead leaves accumulated in a broadleaved forest at an altitude of 600 m.

Etymology. The specific epithet of the new species is given after Dr. Masaru NISHIKAWA, who collected a large number of type specimens.

要 約

渡辺泰明：淡路島から採集された短翅ナガハネカクシ類(コウチュウ目ハネカクシ科)3新種の記載。——これまで淡路島からは後翅が退化したナガハネカクシ属に含まれる種としてはアワジオオコバネナガハネカクシただ1種が知られていたに過ぎなかった。最近、私は森 正人、西川 勝、田中正太郎および吉田正隆諸氏によってこの島から採集されたこの類に含まれる種を検討する機会を得た。この結果、これらは3種に分類され、2種はコバネナガハネカクシ種群に、残りの1種はヒメコバネナガハネカクシ種群に含まれ、いずれも未記載種と判定したので、*Lathrobium (Lathrobium) yuzuruhaense* ユズルハコバネナガハネカクシ、*L. (L.) awajiense* アワジコバネナガハネカクシおよび *L. (L.) masarui* マサルヒメコバネナガハネカクシと命名・記載した。

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