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New Species of the Genus *Lathrobium* (Coleoptera, Staphylinidae) from the Wu-yan-ling Nature Protective Area in Zhejiang Province, East China[1)]

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Abstract Two new species of apterous *Lathrobium* are described and illustrated under the names of *L. imadatei* and *L. tamurai*. The former belongs to the group of *L. brachypterum* and the other to the group of *L. monticola*, both having been obtained from the litter zone of the Wu-yan-ling Nature Protective Area in Tai-shun County of Zhejiang Province, East China.

From the beginning to the middle of September, 1990, the authors had an opportunity of investigating the staphylinid fauna of the Wu-yan-ling Nature Protective Area in Tai-shun County of Zhejiang Province as members of the Sino-Japanese Cooperative Study on Soil Fauna of Subtropical Forests in China.

During the investigation, two species of *Lathrobium* were obtained from the litter zone of temperate mixed forest in the Wu-yan-ling Nature Protective Area at an altitude of about 800 m. One of them belongs to the group of *L. brachypterum* for the reason of having similar body size and transverse elytra, while the other to the group of *L. monticola* because of its small size.

After a careful examination, it became clear that these species did not agree with the known species of respective groups in secondary sexual charecter of abdomen and configuration of male genital organ. They seem to be new to science, and will be described in the present paper. The holo- and allotypes of the two new species to be described are deposited in the collection of the Shanghai Institute of Entomology, Academia Sinica, China, and the paratypes are preserved in the collection of the Laboratory of Entomology, Tokyo University of Agriculture, Tokyo.

Before going further, the authors wish to express their hearty thanks to Professor YIN Wen-ying of the Shanghai Institute of Entomology, Academia Sinica, and Pro-

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fessor Gentaro IMADATÉ of Tokyo Medical and Dental University for their kind help through the Sino-Japanese Cooperative Study. Deep gratitude is also due to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his advice on the present study, and to Professor Hiroshi TAMURA of Ibaraki University, Mito, and the members of the Sino-Japanese Cooperative Study, for their kind collaboration in searching for these new species in the field.

Lathrobium imadatei sp. nov.

(Figs. 1–6)

Body length: 8.7–9.0 mm (from front margin of head to anal end); 3.7–4.0 mm (from front margin of head to elytral apices).

Body elongate, nearly parallel-sided and subdepressed above. Colour reddish brown to reddish black and moderately shining, with antennae somewhat paler except for proximal five segments or so, mouth parts, terminal segment of abdomen and legs yellowish brown.

Head subtrapezoidal, gently convex in middle and a little broader than long (width/length=1.12), widest at the posterior fourth and more strongly narrowed anteriad than posteriad; lateral sides feebly arcuate; frontal area between antennal tubercles transversely flattened and impunctate, provided with a distinct setiferous puncture inside each antennal tubercle; surface covered with microscopic ground sculpture all over, rather coarsely and setiferously punctured, the setiferous punctures becoming closer on latero-posterior areas than on medio-frontal area; eyes small, the longitudinal diameter less than one-third as long as the postocular part. Antennae relatively slender, extending a little beyond the middle of pronotum and not thickened apicad, with two proximal segments polished and the remainings opaque; 1st segment robust, dilated apicad, more than 2.5 times as long as broad, 2nd constricted at the base, 1.5 times as long as broad, but much shorter (2nd/1st=0.38) and a little narrower (2nd/1st=0.67) than 1st, 3rd somewhat dilated apicad, twice as long as broad and a little longer than (3rd/2nd=1.34) but as broad as 2nd, 4th to 6th almost equal in both length and width to one another, each 1.5 times as long as broad, 7th to 10th more or less moniliform and equal in both length and width to one another, each about 1.25 times as long as broad, apicalmost fusiform, about twice as long as broad and 1.5 times as long as 10th, subacuminate towards the tip.

Pronotum moderately convex and distinctly longer than broad (length/width=1.19), slightly broader than head (pronotum/head=1.04), widest just behind anterior angles and gently narrowed posteriad; lateral sides almost straight as seen from above except near anterior and posterior angles, anterior margin feebly arcuate, posterior margin straight but slightly emarginate at the middle, anterior angles rounded but not visible from dorsal side, posterior ones obtuse; surface sparingly covered with rather coarse punctures except for a narrow longitudinal smooth area along the median line. Scutellum subtriangular, provided with a few superficial setiferous punctures on the

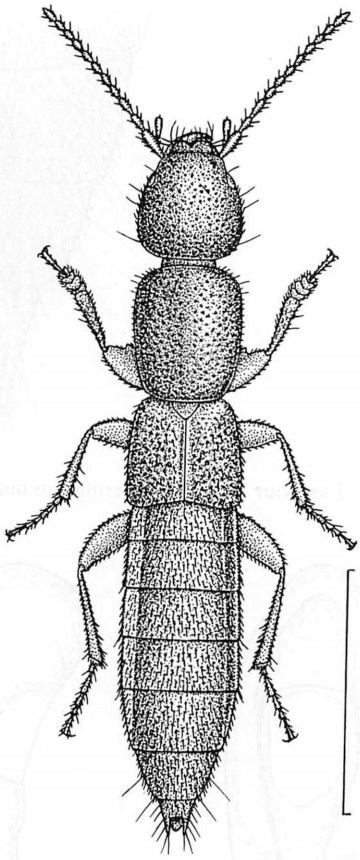


Fig. 1. *Lathrobium imadatei* sp. nov., ♂.
Scale: 3.0 mm.

surface. Elytra somewhat dilated posteriad and a little transverse (width/length= 1.18), as broad as but evidently shorter (elytra/pronotum=0.71) than pronotum; lateral sides feebly arcuate, posterior margin emarginate at the middle, posterior angles obliquely truncated; surface rather densely and roughly punctured, and covered with fine brownish pubescence decumbent backwards. Hind wings each degenerated to a minute lobe. Legs relatively short; profemur remarkably thickened, provided with a subtriangular tooth near apical third on the inner face; protibia dilated apicad, hollowed in basal half on the inner face and armed with five comb-like transverse rows of yellowish setae within the hollow; meso- and metatibiae not modified; 1st to 4th protarsal segments strongly dilated, meso- and metatarsi thin.

Abdomen elongate, parallel-sided in basal five visible segments but abruptly narrowed from 6th visible segment to anal end; basal four tergites each shallowly and transversely depressed along the base; surface of each tergite moderately closely, superficially punctured and finely pubescent; preapical sternite semicircularly and asymmetrically excised at the middle of posterior margin and long elliptically depressed

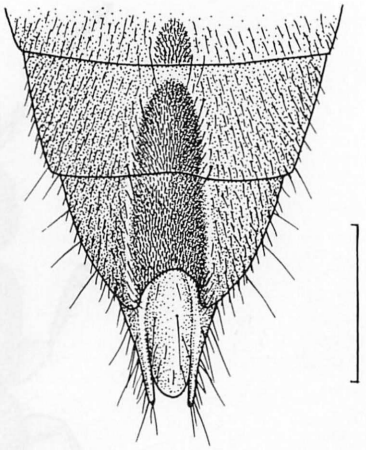
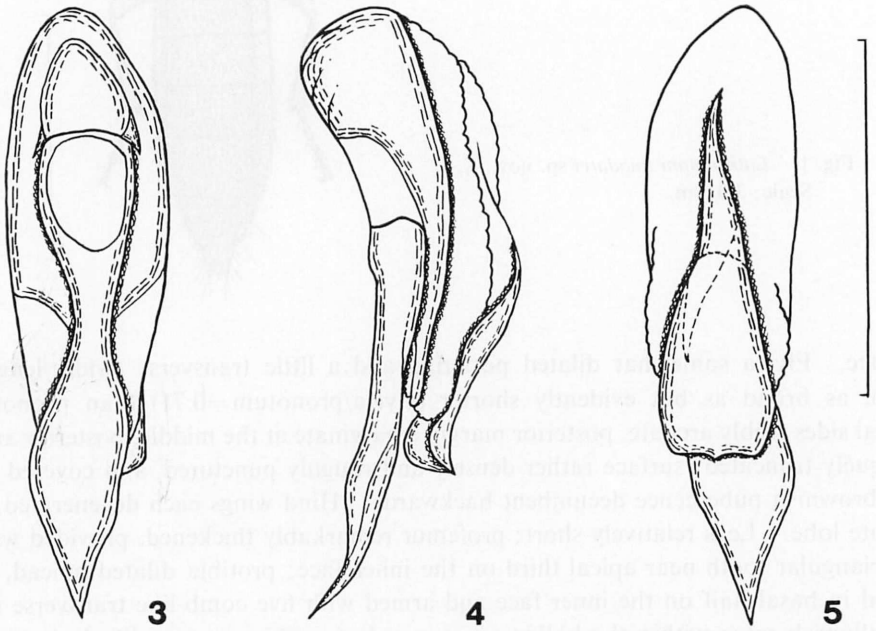


Fig. 2. Last four abdominal sternites in male of *Lathrobium imadatei* sp. nov. Scale: 1.0 mm.



Figs. 3–5. Male genital organ of *Lathrobium imadatei* sp. nov.; ventral view (3), lateral view (4), and dorsal vew (5). Scale: 1.0 mm.

along the median line in front of the excision, surface of the depression covered with short rigid blackish setae; 5th visible sternite shallowly emarginate at the middle of posterior margin, provided with a horseshoe-shaped depression shallower than that

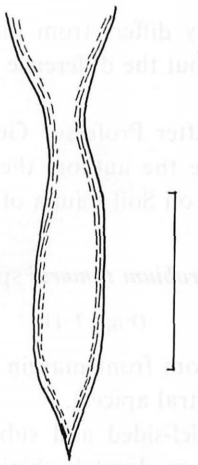


Fig. 6. Apical part of fused paramere of *Lathrobium imadatei* sp. nov. (paratype). Scale: 0.5 mm.

on preapical sternite before the emargination, surface of the depression covered with similar setae to those on 6th sternite; 4th visible sternite somewhat depressed at the middle just before posterior margin and covered with numerous blackish setae on the surface of the depression; 3rd visible sternite provided with a small lump of similar setae to those on 4th sternite at the middle in front of posterior margin, though sometimes wanting.

Genital organ well sclerotized except for each side of dorsum. Median lobe shorter than fused paramere. Fused paramere elongate and asymmetrical, distinctly constricted near the middle and more strongly widened apicad than basad, apical half spindle-shaped, ventral surface gently elevated near apical fourth in profile. Dorsal side of median lobe provided with a well sclerotized plate, which is strongly widened apicad, with the apex truncated though minutely and subtriangularly projecting at the middle.

Female. Similar to male in general appearance, though the 1st to 4th protarsal segments are less dilated, last visible abdominal sternite produced posteriad at the middle and narrowly rounded at the apex.

Type series. Holotype: ♂, allotype: ♀, Wu-yan-ling Nature Protective Area, Tai-shun County, Zhejiang Province, China, 11–IX–1990, Y. WATANABE leg. Paratypes: 3 ♂♂, same data as for the holotype; 2 ♀♀, same locality and collector as for the holotype, 10–IX–1990.

Distribution. East China.

Notes. In view of its build and size, the present new speices belongs to the group of *L. brachypterum* from Japan, but can be readily distinguished from the other members of the group by the configuration of secondary sexual character of abdomen and

genital organ in the male.

One of the paratypes slightly differs from the others in configuration of fused paramere of male genital organ, but the difference can be regarded as an infraspecific variation.

The specific name is given after Professor Gentaro IMADATÉ of Tokyo Medical and Dental University, who gave the authors the opportunity to participate in the Sino-Japanese Cooperative Study on Soil Fauna of Subtropical Forests in China.

Lathrobium tamurai sp. nov.

(Figs. 7–11)

Body length: 5.9–6.3 mm (from front margin of head to anal end); 2.6–2.8 mm (from front margin of head to elytral apices).

Body elongate, nearly parallel-sided and subdepressed above. Colour reddish brown to dark reddish brown and moderately shining, with antennae somewhat paler, mouth parts, terminal segment of abdomen and legs yellowish brown.

Head subquadrate, somewhat depressed above and transverse (width/length=1.08), gently narrowed anteriad, with lateral sides feebly arcuate; front area between antennal tubercles transversely flattened and glabrous, though provided with a setiferous puncture inside each antennal tubercle; disc sparsely scattered with rather coarse setiferous punctures except for impunctate vertexal area, latero-posterior area also covered extensively with setiferous punctures which are somewhat finer and more numerous than those on disc; eyes small, the longitudinal diameter about two-fifths as long as the postocular part. Antennae elongate, extending to the middle of pronotum and not thickened apicad; proximal two segments polished and the remainings more or less opaque, 1st segment robust, strongly dilated apicad, more than twice as long as broad, 2nd evidently longer than broad (length/width=1.28) but much shorter (2nd/1st=0.45) and distinctly narrower (2nd/1st=0.78) than 1st, 3rd equal in both length and width to 2nd, 5th to 10th more or less moniliform and equal in width to one another, 4th distinctly longer than broad (length/width=1.15) but somewhat shorter than 3rd (4th/3rd=0.90), 5th as long as 4th and equal in width to 4th, 6th to 9th equal in length to one another, 6th and 7th each as long as broad and a little shorter than 5th (6th/5th=0.89), 8th and 9th each slightly longer than broad (length/width=1.03), 10th longer than broad (length/width=1.25), somewhat longer (10th/9th=1.25) and slightly broader (10th/9th=1.03) than 9th, apicalmost fusiform, more than 1.5 times as long as broad and apparently longer than 10th (apicalmost/10th=1.25), subacuminate towards the tip.

Pronotum oblong and moderately convex medially, evidently longer than broad (length/width=1.15), considerably longer (pronotum/head=1.43) and a little broader (pronotum/head=1.16) than head, widest behind anterior angles and slightly narrowed posteriad; lateral sides nearly straight except near anterior and posterior angles, anterior margin gently rounded but straight or slightly emarginate at the middle,

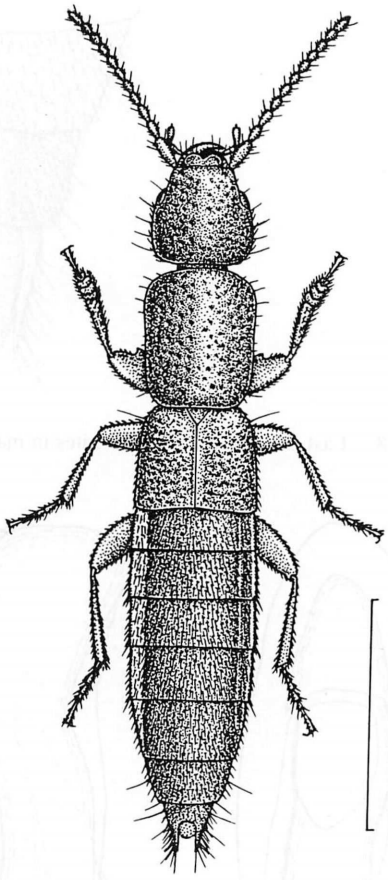


Fig. 7. *Lathrobium tamurai* sp. nov., ♂.
Scale: 2.0 mm.

posterior margin subtruncate, anterior angles obtuse and not visible from above, posterior ones narrowly rounded; surface sparsely, strongly and setiferously punctured with the exception of a narrow median smooth longitudinal part throughout the length of pronotum. Scutellum subtriangular, with a few minute superficial setiferous punctures on the surface. Elytra somewhat dilated posteriad and transverse (width/length=1.19), much shorter (elytra/pronotum=0.76) but somewhat broader than pronotum (elytra/pronotum=1.03); lateral sides feebly arcuate, posterior margin shallowly emarginate at the middle, posterior angles broadly rounded; surface setiferously punctured all over, the punctures much closer and much coarser than those on pronotum. Hind wings each degenerated to a minute lobe. Legs relatively stout, profemur remarkably thickened, provided with a subtriangular tooth near apical third on the inner face; protibia dilated apicad, hollowed in basal half on the inner face and armed with five comb-like transverse rows of fine brownish setae within the hollow; meso- and metatibiae normal; 1st to 4th protarsal segments strongly widened.

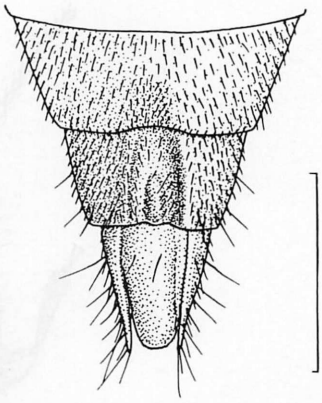
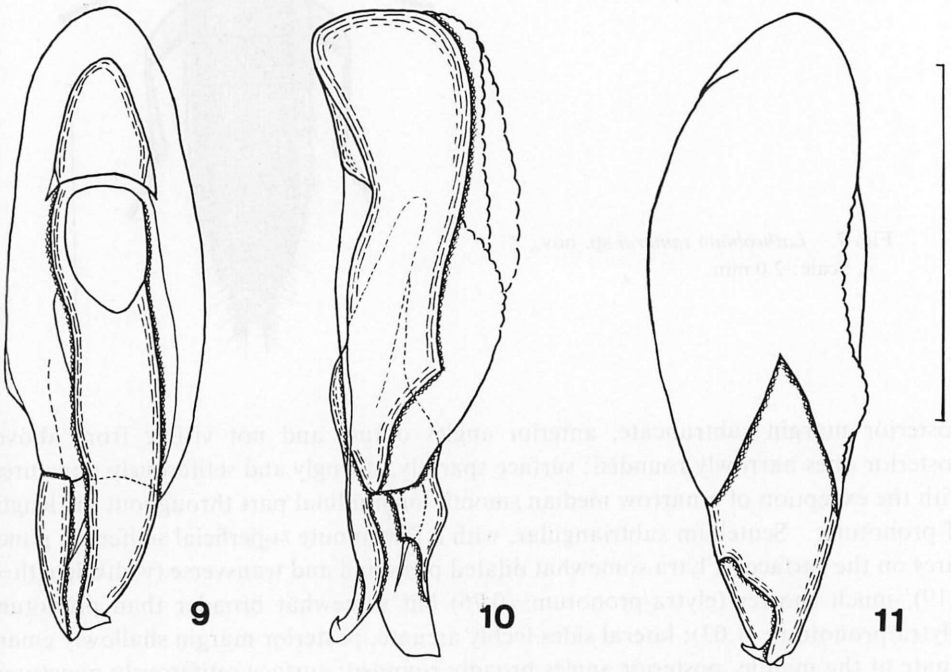


Fig. 8. Last three abdominal sternites in male of *Lathrobium tamurai* sp. nov. Scale: 1.0 mm.



Figs. 9–11. Male genital organ of *Lathrobium tamurai* sp. nov.; ventral view (9), lateral view (10), and dorsal view (11). Scale: 0.5 mm.

Abdomen elongate, nearly parallel-sided in basal five visible segments, but abruptly narrowed from 6th visible segment to anal end; surface of each tergite densely covered with fine superficial punctures and fine brownish pubescence; 6th visible

sternite shallowly emarginate at the middle of posterior margin and long elliptically depressed at the middle in front of the emargination, surface of the depression provided with a number of short blackish setae on each side of the median part which is longitudinally elevated in apical half; 5th visible sternite slightly emarginate at the middle of posterior margin and horseshoe-shapedly depressed before the emargination, surface of the depression covered with short brownish setae which are coarser than those on the other parts.

Genital organ long elliptical and well sclerotized except for the dorsal side of median lobe. Median lobe broader but shorter than fused paramere. Fused paramere asymmetrical and elongate, gradually narrowed in basal half and abruptly so in apical half towards apex and terminated in a small projection which is ventrally curved as seen from lateral side; ventral surface broadly and longitudinally depressed. Dorsal side of median lobe provided with a well sclerotized plate which is strongly narrowed apicad, left margin of the plate gently arcuate and right margin bisinuate, with the apex obliquely truncate but feebly emarginate at the middle.

Female. Similar in general appearance to male, but the 1st to 4th segments of protarsi are not so widened and the last visible abdominal sternite is produced backwards at the middle.

Type series. Holotype: ♂, allotype: ♀, near Bai Yun Falls on Wu-yan-ling Nature Protective Area, Tai-shun County, Zhejiang Province, China, 10–IX–1990, Y. WATANABE leg. Paratypes: 1 ♂, 3 ♀♀, same data as for the holotype.

Distribution. East China.

The present new species may be placed in the group of *L. monticola* from Japan for reason of its small body size, but can be easily distinguished from the other species of the group by having a distinct secondary sexual character of the abdomen.

The specific name is given after Professor Hiroshi TAMURA of Ibaraki University, Mito, who kindly collaborated with the authors in searching for this new species in the field.

要　　約

渡辺泰明・罗 志义: 中国浙江省烏岩嶺自然保護地域で採集された *Lathrobium* 属の2新種. —— 1990 年に実施された中日共同学術調査によって，浙江省南部の烏岩嶺自然保護地域から採集された *Lathrobium* 属の2種を検した結果，いずれも新種と判定されたので下記のとおり命名記載した.

Lathrobium imadatei Y. WATANABE et LUO

本種は，体長および外部形態から判断すると，日本から記載された *L. brachypterum* 群に一致するが，雄の腹部腹板にあらわれる第二次性徴および交尾器の形状によって，既知のいずれの種からも区別することができる. 種名は中日共同学術調査研究代表の東京医科歯科大学の今立源太良教授に献名した.

Lathrobium tamurai Y. WATANABE et LUO

本種は小型で，体長から判断すると日本から記載された *L. monticola* 群に含まれるが，雄は腹部

腹板の第二次性徴が顕著にあらわれること，および交尾器の癒合した側片先端部分が上反していることなどの点で，他種から容易に区別することができる．なお，種名は今回の調査においてハネカクシの採集にご協力いただいた茨城大学の田村浩志教授に献名した．

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