

Linzer biol. Beitr.	45/1	155-170	31.7.2013
---------------------	------	---------	-----------

On the *Lathrobium* fauna of China IV. Six new species from Sichuan (Coleoptera: Staphylinidae: Paederinae)

V. ASSING

A b s t r a c t : Six species of the paederine genus *Lathrobium* GRAVENHORST from the Chinese province Sichuan are described, illustrated, and distinguished from closely related and/or geographically close congeners: *L. bisuditum* nov.sp. (Xiling Xue Shan), *L. bivirgatum* nov.sp. (Luoji Shan), *L. diffissum* nov.sp. (Luoji Shan), *L. formidabile* nov.sp. (SW-Sichuan), *L. hamulatum* nov.sp. (Luoji Shan), and *L. verminatum* nov.sp. (Xiling Xue Shan). Their phylogenetic affiliations are discussed. *Lathrobium formidabile* is the first subanophthalmous and presumably hypogean *Lathrobium* species to be recorded from China. Three additional, probably undescribed species from the Xiling Xue Shan remain unnamed, since only females or teneral males are currently available. The depository of the holotype of *Lathrobium coniunctum* ASSING & PENG 2013 is rectified. The total number of described *Lathrobium* species from Sichuan now stands at 31, that of mainland China at 117.

Key words : Coleoptera, Staphylinidae, Paederinae, *Lathrobium*, Palaearctic, China, Sichuan, taxonomy, new species, emendation of holotype depository.

Introduction

The speciose Holarctic genus *Lathrobium* GRAVENHORST is currently represented in the Palaearctic region by approximately 430 described species. As many as 111 described species, the vast majority of them micropterous and locally endemic, had been recorded from mainland China. With a total of 26 described species, the *Lathrobium* fauna of Sichuan is currently more diverse than that of any of the other Chinese provinces, followed by Shaanxi (20 species), Yunnan (18 species), and Zhejiang (17 species) (ASSING in press a, b; ASSING et al. 2013). These figures, however, are still strongly biased. They do not reflect real diversities, but are undoubtedly a result of imbalanced collecting and study activity. For instance, there is little doubt that the true *Lathrobium* diversity of Yunnan will eventually turn out to be significantly greater than that of any of the other provinces (ASSING in press c).

In Sichuan, *Lathrobium* species, aside from one widespread wing-dimorphic species all of them micropterous and locally endemic, have been recorded from the Emei Shan (6 species), the Gongga Shan (3 species), the Erlang Shan (3 species), the Labahe Nature Reserve (2 species), the Daxue Shan in the region to the northwest of Kangding (1 species), Daxiang Ling (1 species), the Min Shan and adjacent mountain ranges in northern Sichuan (4 species), the Daba Shan at the border with Shaanxi (5 species), and the region to the north of Jinyang in southern Sichuan (1 species). The latter is the only *Lathrobium* species that has been reported from southern Sichuan. No species have been

recorded from the Luoji Shan (southern Sichuan) and the Xiling Xue Shan (western Sichuan) (ASSING in press b; ASSING et al. 2013).

The present study represents the fourth contribution of a series of articles aiming at a more comprehensive understanding of the *Lathrobium* fauna of mainland China. Previous contributions have addressed the fauna of the Qinling Shan, the Daba Shan, and adjacent ranges (ASSING in press a), that of the Emei Shan in Sichuan (ASSING et al. 2013), and the fauna of other regions except Yunnan (ASSING in press b). A subsequent study will deal with the fauna of Yunnan (ASSING in press c). The present paper is primarily based on material from the Xiling Xue Shan and the Luoji Shan found among unidentified Paederinae from the Muséum d'Histoire Naturelle, Genève. This material was discovered only after the previous contribution had been submitted and was consequently not treated in ASSING (in press b).

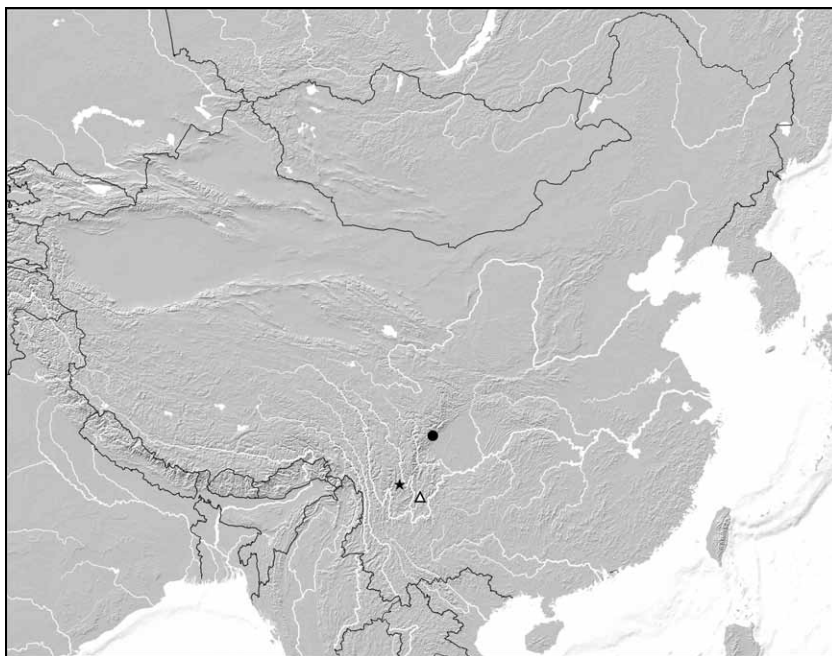
Material and methods

The material treated in this study is deposited in the following collections:

MHNG Muséum d'Histoire Naturelle, Genève (G. Cuccodoro)

cAss..... author's private collection

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). A digital camera (Nikon Coolpix 995) was used for the photographs. The map was created using MapCreator 2.0 (primap) software. The geographic position of the Luoji Shan and the Xiling Xue Shan are illustrated in Map 1.



Map 1: Geographic position of the Xiling Xue Shan (filled circle), the Luoji Shan (open triangle), and the type locality of *L. formidabile* nov.sp. (star) in China.

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, head length from the anterior margin of the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

Species descriptions

Lathrobium diffissum nov.sp. (Figs 1-8)

Type material: Holotype ♂: "China S Sichuan, S Xichang Mt. Luoji, 2300-2500 litter, 16.-24.07.96 Kurbatov / Holotypus ♂ *Lathrobium diffissum* sp.n. det. V. Assing 2013" (MHNG). Paratypes: 2♂♂, 2♀♀: same data as holotype (MHNG, cAss).

Etyymology: The specific epithet is the past participle of the Latin verb *diffindere* (to split) and alludes to the conspicuous fissure on the female tergite IX.

Description: Species of moderately large size and slender habitus; body length 7.8-9.0 mm; length of forebody 3.6-4.0 mm. Coloration: body dark-brown, with the elytra dark-reddish to reddish-brown; legs and antennae reddish.

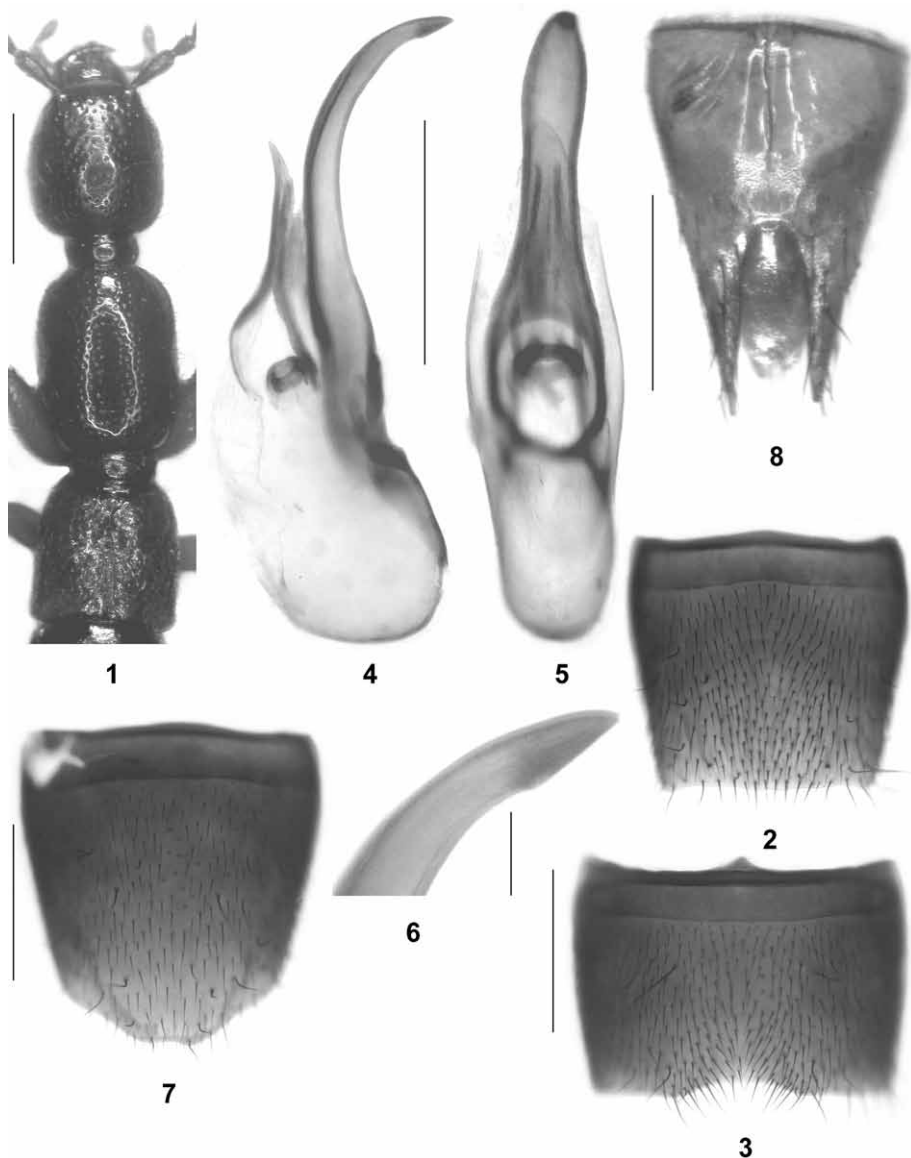
Head (Fig. 1) oblong, approximately 1.1 times as long as broad; punctuation moderately coarse and moderately dense; interstices with fine microreticulation. Eyes small, 0.15-0.20 times as long as postocular region in dorsal view, composed of approximately 40 small and weakly defined ommatidia. Antenna 1.9-2.2 mm long.

Pronotum (Fig. 1) slender, approximately 1.35 times as long as broad, approximately as broad as, or slightly broader than head; punctuation similar to that of head or slightly finer; impunctate midline rather narrow; interstices without microreticulation.

Elytra (Fig. 1) rather slender, approximately 0.55 times as long and 1.05-1.10 times as broad as pronotum; punctuation fine, shallow, and moderately dense. Hind wings completely reduced. Protarsi with pronounced sexual dimorphism.

Abdomen approximately 1.15 times as broad as elytra; punctuation fine and dense on all tergites; interstices with very shallow microsculpture; posterior margin of tergite VII without palisade fringe; tergite VIII with distinct sexual dimorphism.

♂: tergite VIII with weakly convex posterior margin; sternites III-VI unmodified; sternite VII (Fig. 3) moderately transverse, with shallow postero-median impression, pubescence very weakly modified, posterior margin concave in the middle; sternite VIII (Fig. 2) weakly transverse, pubescence dense, but not distinctly modified, posterior margin weakly convex, without median excision; aedeagus (Figs 4-6) approximately 1.3 mm long and symmetric; ventral process long, slender, strongly curved in lateral view, and apically acute, indistinctly spear-shaped; dorsal plate with lamellate, strongly sinuate (lateral view), and moderately long apical portion and with very short, lamellate and very weakly sclerotized basal portion; internal sac with pair of thin membranous structures and the usual ring-shaped structure.



Figs 1-8: *Lathrobium diffissum* nov.sp.: (1) forebody; (2) male sternite VIII; (3) male sternite VII; (4-5) aedeagus in lateral and in ventral view; (6) apex of ventral process of aedeagus in lateral view; (7) female sternite VIII; (8) female tergites IX and X. Scale bars: 1: 1.0 mm; 2-5, 7-8: 0.5 mm; 6: 0.05 mm.

♀: tergite VIII (Fig. 7) distinctly, somewhat triangularly produced posteriorly; sternite VIII approximately 1.1 mm long, posterior margin produced and in the middle weakly concave; tergite IX (Fig. 8) of distinctive morphology: antero-median portion long, with long fissure in the middle, but not completely divided, postero-lateral processes moder-

ately long and slender; tergite X (Fig. 8) weakly convex in cross-section anteriorly and flattened posteriorly, shorter than antero-median portion of tergite IX.

Comparative notes: *Lathrobium diffissum* is evidently closely related to an undescribed manuscript species from Yele Hydropower Station in Shimian County, which will be described in the near future (PENG et al. in prep). Both species share an aedeagus of similar morphology (ventral process long, slender, curved, and apically indistinctly spear-shaped; basal portion of dorsal plate very short; internal sac without sclerotized structures), a similar shape of the male sternite VII (posterior margin concave in the middle, a male sternite VIII with dense, but not distinctly modified pubescence, and a long and undivided antero-median portion of the female sternite IX. *Lathrobium diffissum* is distinguished, however, by the shape of the male sternite VIII (transverse and without posterior excision), the shape of the aedeagus (ventral process more strongly curved; dorsal plate shorter and more strongly sinuate), by the less oblong, posteriorly less distinctly produced, and weakly concave female sternite VIII, and by the conspicuous fissure on the antero-median portion of the female tergite IX.

Distribution and natural history: The type locality is situated in the Luoji Shan [27°26'N, 102°24'E], some 50 km to the south-southeast of Xichang (Map 1). The specimens were sifted at an altitude of 2300-2500 m.

***Lathrobium hamulatum* nov.sp.** (Figs 9-16)

Type material: Holotype ♂: "China S Sichuan, S Xichang Mt. Luoji, 2300-2500 litter, 16.-24.07.96 Kurbatov / Holotypus ♂ *Lathrobium hamulatum* sp.n. det. V. Assing 2013" (MHNG). Paratypes: 1 ♂, 1 ♀: same data as holotype (MHNG, cAss).

Etyymology: The specific epithet is an adjective derived from the diminutive of the Latin noun hamus (hook) and alludes to the hook-shaped apex of the ventral process of the aedeagus.

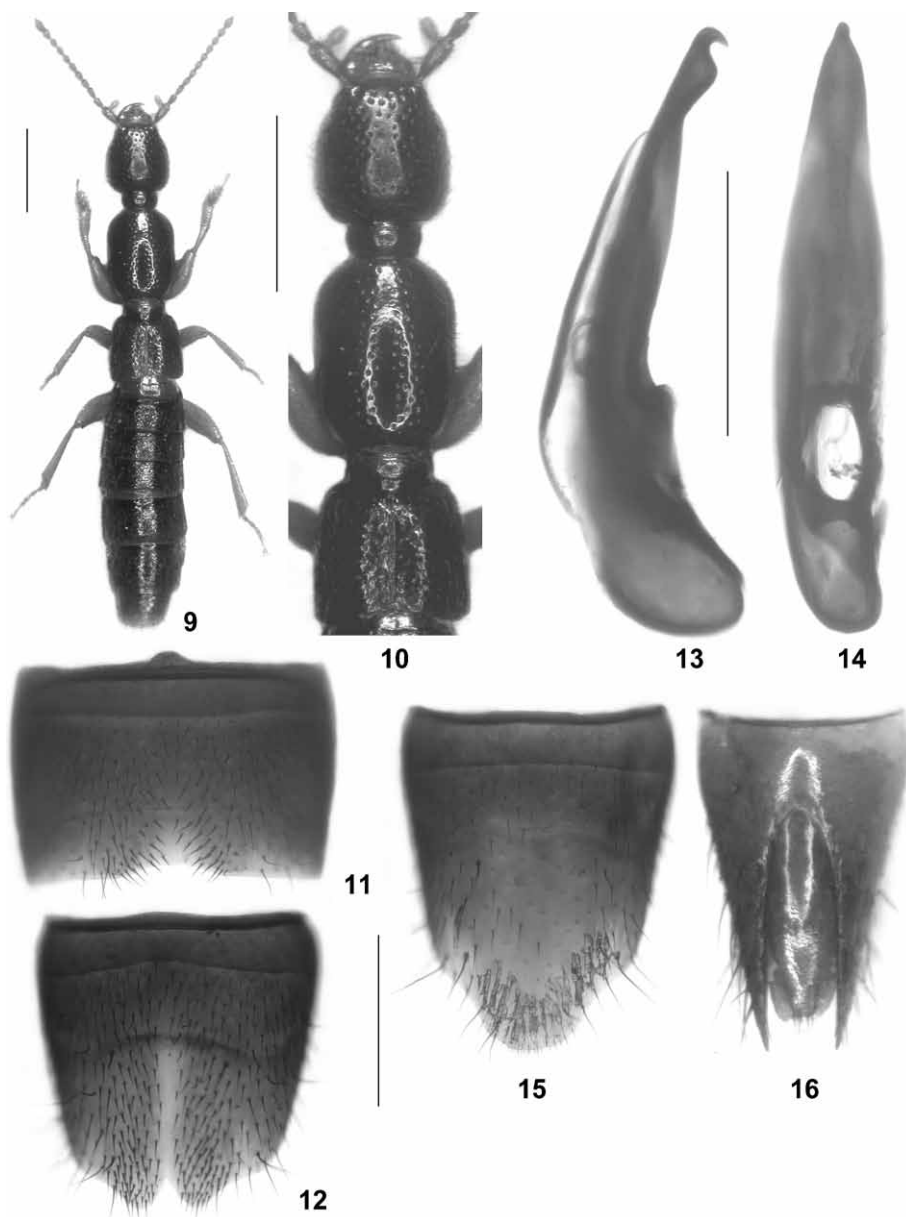
Description: Species of moderate size; body length 6.0-7.0 mm; length of fore-body 2.9-3.2 mm. Habitus as in Fig. 9. Coloration: body dark-brown; legs and antennae reddish.

Head (Fig. 10) oblong, approximately 1.05 times as long as broad; punctation moderately coarse and moderately dense; interstices with fine, but distinct microreticulation. Eyes small, approximately one fourth as long as postocular region in dorsal view, composed of approximately 25 moderately small and defined ommatidia. Antenna approximately 1.6 mm long.

Pronotum (Fig. 10) slender, 1.30-1.35 times as long as broad, approximately 1.05 times as broad as head; punctation similar to that of head; impunctate midline moderately broad; interstices without microreticulation.

Elytra (Fig. 10) short, approximately half as long as pronotum; punctation fine, shallow, and moderately dense. Hind wings completely reduced. Protarsi with moderately pronounced sexual dimorphism.

Abdomen approximately 1.1 times as broad as elytra; punctation fine and rather dense on tergites III-VI, distinctly sparser on tergites VII and VIII; posterior margin of tergite VII without palisade fringe; tergite VIII with moderate sexual dimorphism.



Figs 9-16: *Lathrobium hamulatum* nov.sp.: (9) habitus; (10) forebody; (11) male sternite VII; (12) male sternite VIII; (13-14) aedeagus in lateral and in ventral view; (15) female sternite VIII; (16) female tergites IX and X. Scale bars: 9-10: 1.0 mm; 11-16: 0.5 mm.

♂: tergite VIII with weakly convex posterior margin; sternites III-VI unmodified; sternite VII (Fig. 11) moderately transverse, with shallow and rather small postero-medial impression of triangular shape, middle of this impression without setae, peripheral region

with moderately modified black setae, posterior margin concave in the middle; sternite VIII (Fig. 12) indistinctly oblong, in the middle narrowly without setae, on either side of middle with moderately modified pubescence increasing in density posteriad, posterior excision V-shaped, small, but distinct, posterior margin produced on either side of posterior excision; aedeagus (Figs 13-14) 1.1 mm long and symmetric; ventral process basally almost straight and apically of distinctive shape in lateral view; dorsal plate with very long and lamellate apical portion, and with short basal portion; internal sac without sclerotized structures.

♀: posterior margin of tergite VIII obtusely angled in the middle; sternite VIII (Fig. 15) 1.0 mm long, distinctly oblong, posteriorly distinctly, convexly produced; tergite IX (Fig. 16) with moderately long and undivided antero-median portion, and with moderately long and slender postero-lateral processes; tergite X (Fig. 16) weakly convex in cross-section, approximately twice as long as antero-median portion of tergite IX.

Comparative notes: *Lathrobium hamulatum* is characterized particularly by the distinctive shape of the aedeagus and additionally by the shape and chaetotaxy of the male sternite VIII, as well as by the shapes of the female sternite VIII and tergites IX-X. Based on the sexual characters, closer affiliations with other *Lathrobium* species are not evident. Aside from the sexual characters, it differs from the sympatric *L. diffissum* by smaller body size, less slender habitus, the fewer and larger ommatidia of the eyes, and the sparser punctuation of the abdominal tergites VII and VIII, and from the similarly sympatric *L. bivirgatum* by larger body size, darker coloration, and a more slender pronotum.

Distribution and natural history: The type locality and other data are identical to those of *L. diffissum*.

***Lathrobium bivirgatum* nov.sp.** (Figs 17-21)

Type material: Holotype ♂: "China S Sichuan, S Xichang Mt. Luoji, 2300-2500 litter, 16.-24.07.96 Kurbatov / Holotypus ♂ *Lathrobium bivirgatum* sp.n. det. V. Assing 2013" (MHNG).

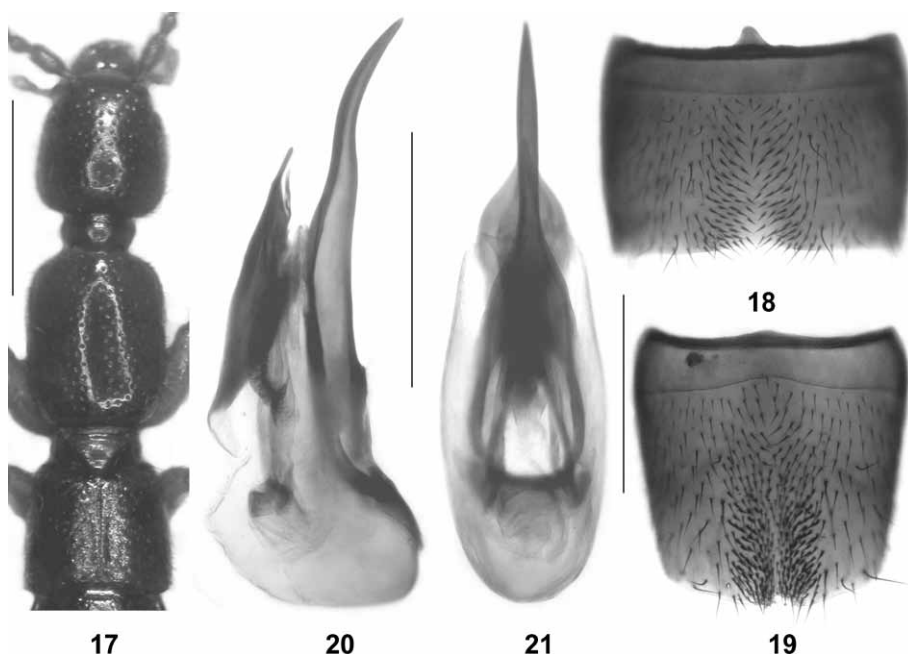
Etymology: The specific epithet is composed of the Latin prefix bi- (two) and an adjective derived from the Latin noun virga (rod). It refers to the presence of a pair of long spines in the internal sac of the aedeagus.

Description: Small species; body length 6.2 mm; length of forebody 2.8 mm. Coloration: body reddish-brown; legs and antennae pale-reddish.

Head (Fig. 17) oblong, 1.09 times as long as broad; punctuation moderately coarse and moderately dense; interstices with fine, but distinct microreticulation. Eyes small, approximately one fifth as long as postocular region in dorsal view, composed of approximately 20 moderately small and moderately defined ommatidia. Antenna 1.5 mm long.

Pronotum (Fig. 17) slender, 1.25 times as long as broad and approximately 1.05 times as broad as head; punctuation similar to that of head; impunctate midline moderately broad; interstices without microreticulation.

Elytra (Fig. 17) 0.53 times as long as pronotum; punctuation fine, shallow, and moderately dense. Hind wings completely reduced.



Figs 17-21: *Lathrobium bivirgatum* nov.sp.: (17) forebody; (18) male sternite VII; (19) male sternite VIII; (20-21) aedeagus in lateral and in ventral view. Scale bars: 17: 1.0 mm; 18-21: 0.5 mm.

Abdomen approximately 1.1 times as broad as elytra; punctation fine and moderately dense on tergites III-VI, sparser on tergites VII and VIII; posterior margin of tergite VII without palisade fringe.

♂: protarsomeres I-IV strongly dilated; tergite VIII with weakly convex posterior margin; sternites III-VI unmodified; sternite VII (Fig. 18) moderately transverse, with shallow and rather extensive postero-median impression, this impression with distinctly modified stout black setae, posterior margin weakly concave; sternite VIII (Fig. 19) approximately as long as broad, in posterior median portion with dense and distinctly modified stout black setae, posterior excision very small and broadly V-shaped; aedeagus (Figs 20-21) 1.2 mm long and symmetric; ventral process long and very slender, subapically weakly bisinuate in lateral view and apically acute; dorsal plate with apical portion long, boat-shaped in cross-section, and apically acute in dorsal view, basal portion minute, very short and very thin both in lateral and in dorsal view; internal sac with pair of long, rather weakly sclerotized spines.

♀: unknown.

Comparative notes: Based on the similarly derived morphology of the aedeagus, particularly the presence of a pair of long spines in the internal sac, and on the shapes and chaetotaxy of the male sternites VII and VIII, *Lathrobium bivirgatum* belongs to the *L. bibaculatum* group, which was previously represented in Sichuan by five species from the Erlang Shan, the Daxiang Ling, and the Labahe Natural Reserve (ASSING in press b). From the sympatric *L. diffissum* and *L. hamulatum*, it is readily distinguished

not only by the different male sexual characters, but also by smaller body size, paler coloration, a less slender pronotum, and the less numerous ommatidia of the eyes.

Distribution and natural history: The type locality and other data are identical to those of *L. diffissum* and *L. hamulatum*.

***Lathrobium bisuditum* nov.sp.** (Figs 22-27)

Type material: Holotype ♂: "China Sichuan, Xiling Mt. 1600-2400, litter 30.07.-4.08.96 leg. S. Kurbatov / Holotypus ♂ *Lathrobium bisuditum* sp.n. det. V. Assing 2013" (MHNG). Paratype ♂: same data as holotype (cAss).

Etymology: The specific epithet is composed of the Latin prefix bi- (two) and an adjective derived from the Latin noun sudis (pole). It refers to the presence of a pair of long spines in the internal sac of the aedeagus.

Description: Species of intermediate size; body length 7.8-8.7 mm; length of forebody 3.6-3.9 mm. Habitus as in Fig. 22. Coloration: body dark-brown; legs and antennae reddish.

Head (Fig. 23) approximately as long as broad; punctation moderately coarse and moderately dense; interstices with fine, but distinct microreticulation. Eyes moderately small, approximately one third as long as postocular region in dorsal view, composed of approximately 40 moderately small defined ommatidia. Antenna approximately 2.1 mm long.

Pronotum (Fig. 23) slender, 1.3 times as long as broad and approximately 1.05 times as broad as head; punctation similar to that of head; impunctate midline moderately broad; interstices without microreticulation.

Elytra (Fig. 23) approximately 0.53 times as long as pronotum; punctation fine, shallow, and moderately dense. Hind wings completely reduced.

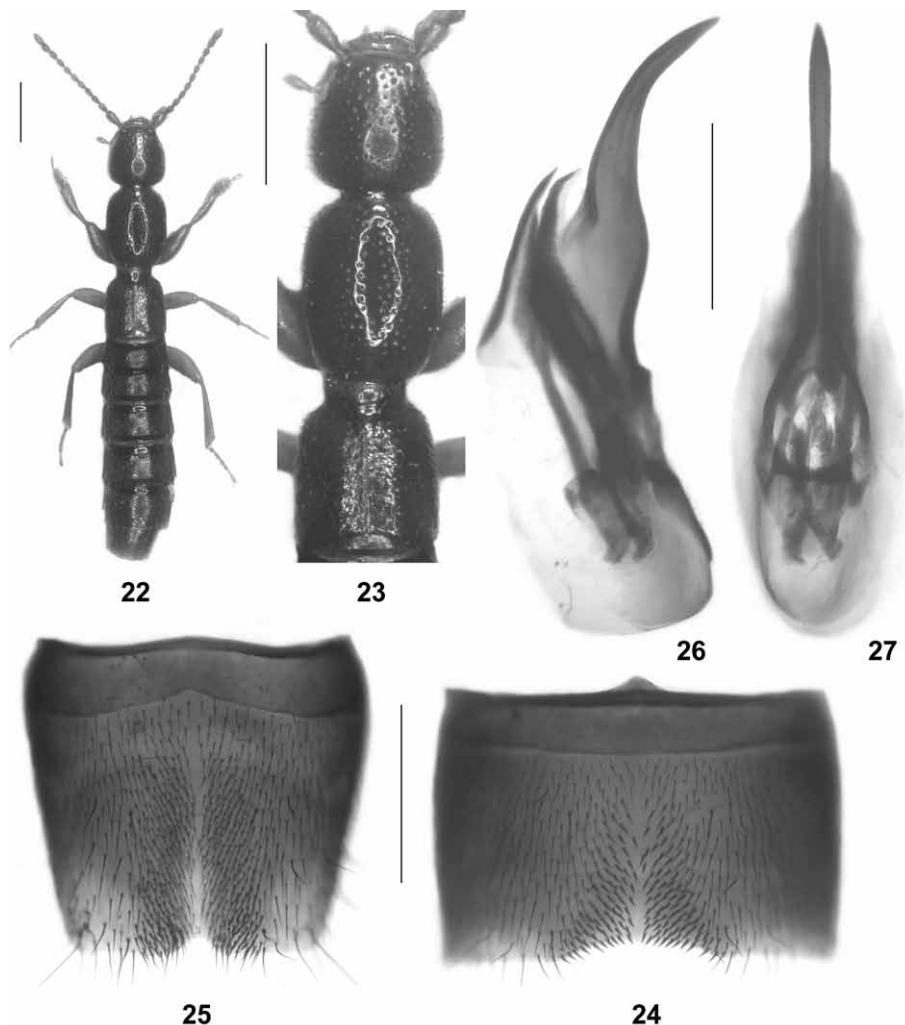
Abdomen 1.15-1.20 times as broad as elytra; punctation fine and dense; posterior margin of tergite VII without palisade fringe.

♂: protarsomeres I-IV strongly dilated; tergite VIII with weakly convex posterior margin; sternites III-VI unmodified; sternite VII (Fig. 24) distinctly transverse, with rather extensive postero-median impression, this impression with numerous distinctly modified stout black setae, posterior margin concave in the middle; sternite VIII (Fig. 25) weakly transverse, with oblong median impression, middle of this impression narrowly without setae, on either side of middle with numerous modified black setae; posterior excision small and broadly V-shaped; aedeagus (Figs 26-27) 1.7 mm long and symmetric, ventral process long, somewhat bisinuate, basally broad, and apically slender in lateral view; dorsal plate with rather long, flat, distinctly sclerotized, and apically acute apical portion, and with minute, barely noticeable basal portion; internal sac with two long sclerotized spines and an additional dark membranous structure.

♀: unknown.

Comparative notes: Like the preceding species, *L. bisuditum* belongs to the *L. bibaculatum* group, as can be inferred particularly from the presence of a pair of long sclerotized spines in the internal sac of the aedeagus. It is distinguished from all the species of this group, as well as from the sympatric *L. verminatum* by the male sexual characters, from the latter additionally by larger body size.

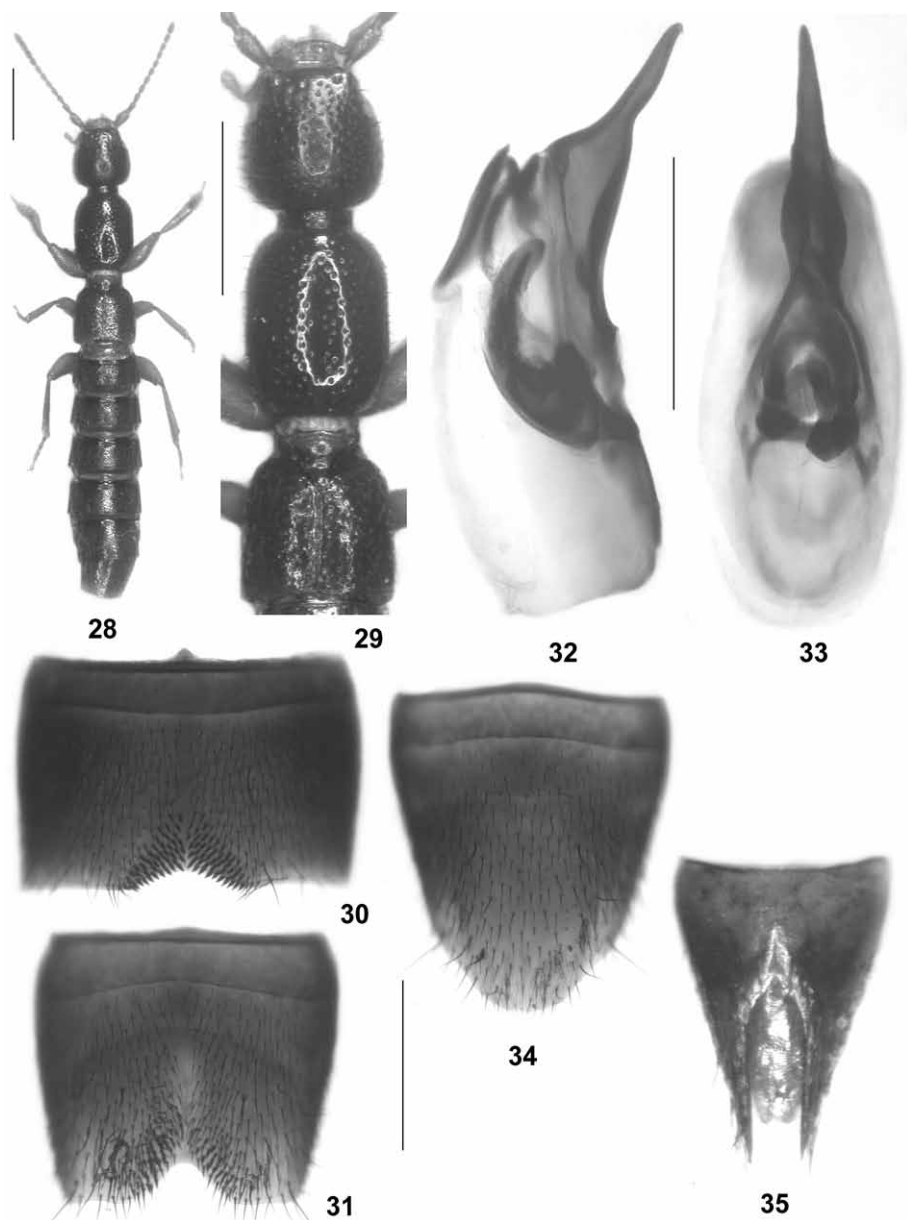
Distribution and natural history: The species is probably endemic to the Xiling Xue Shan [ca. 30°54'N, 103°14'E] (Map 1), where the two type specimens were sifted from litter.



Figs 22-27: *Lathrobium bisuditum* nov.sp.: (22) habitus; (23) forebody; (24) male sternite VII; (25) male sternite VIII; (26-27) aedeagus in lateral and in ventral view. Scale bars: 22-23: 1.0 mm; 24-27: 0.5 mm.

***Lathrobium verminatum* nov.sp. (Figs 28-35)**

Type material: Holotype ♂: "China Sichuan, Xiling Mt. 1600-2400, litter 30.07.-4.08.96 leg. S. Kurbatov / Holotypus ♂ *Lathrobium bisuditum* sp.n. det. V. Assing 2013" (MHNG). Paratype ♂: same data as holotype (cAss). Paratypes: 1 ♂, 1 ♀: same data as holotype (MHNG, cAss).



Figs 28-35: *Lathrobium verminatum* nov.sp.: (28) habitus; (29) forebody; (30) male sternite VII; (31) male sternite VIII; (32-33) aedeagus in lateral and in ventral view; (34) female sternite VIII; (35) female tergites IX and X. Scale bars: 28-29: 1.0 mm; 30-35: 0.5 mm.

E t y m o l o g y : The specific epithet (Latin, adjective: with worms, worm-shaped) refers to the shape of the internal structure of the aedeagus.

D e s c r i p t i o n : Small species; body length 6.8-7.8 mm; length of forebody 2.9-3.2 mm. Habitus as in Fig. 28. Coloration: body dark-brown with dark-reddish to reddish-brown elytra; legs and antennae reddish.

Head (Fig. 29) approximately as long as broad; punctation moderately coarse and moderately dense; interstices with fine, but distinct microreticulation. Eyes moderately small, approximately one third as long as postocular region in dorsal view, composed of approximately 40 defined ommatidia. Antenna approximately 1.7 mm long.

Pronotum (Fig. 29) slender, 1.30-1.35 times as long as broad and indistinctly broader than head; punctation similar to that of head; impunctate midline relatively narrow; interstices without microreticulation.

Elytra (Fig. 29) short, approximately 0.5 times as long as pronotum; punctation fine, shallow, and moderately dense. Hind wings completely reduced. Protarsomeres I-IV with pronounced sexual dimorphism.

Abdomen 1.10-1.15 times as broad as elytra; punctation fine and very dense on tergites III-VI, somewhat sparser on tergites VII and VIII; posterior margin of tergite VII without palisade fringe; tergite VIII with weakly pronounced sexual dimorphism.

♂: tergite VIII with weakly convex posterior margin; sternites III-VI unmodified; sternite VII (Fig. 30) moderately transverse, with moderately extensive postero-medial impression, this impression with numerous strongly modified stout black setae, posterior margin distinctly concave in the middle; sternite VIII (Fig. 31) distinctly transverse, with postero-medial impression, posterior portion of impression with distinctly modified short and stout black setae, posterior excision relatively large, nearly V-shaped; aedeagus (Figs 32-33) rather large in relation to body size, 1.2 mm long and symmetric; ventral process of distinctive shape, relatively long, slender, and apically acute; dorsal plate with short and broad, flat, distinctly sclerotized, and apically weakly convex (dorsal view) apical portion, basal portion completely reduced, not noticeable; internal sac with curved internal structure of distinctive shape.

♀: posterior margin of tergite VIII obtusely angled in the middle; sternite VIII (Fig. 34) 0.9 mm long, weakly oblong, posterior margin convexly produced; tergite IX (Fig. 35) with rather long and undivided antero-medial portion, and with moderately long and slender postero-lateral processes; tergite X (Fig. 34) nearly flat, somewhat longer than antero-medial portion of tergite X.

C o m p a r a t i v e n o t e s : The male sexual characters, particularly the derived morphology of the aedeagus (shapes of dorsal plate and of internal structure) do not suggest closer affiliations to any of the other described *Lathrobium* species from Sichuan. From the sympatric *L. bisuditum*, *L. verminatum* is readily distinguished by smaller body size, the greater number of ommatidia of the eyes, and by the completely different sexual characters.

D i s t r i b u t i o n a n d n a t u r a l h i s t o r y : Like *L. bisuditum*, *L. verminatum* is probably endemic to the Xiling Xue Shan, where the specimens were sifted from litter.

***Lathrobium formidabile* nov.sp.** (Figs 36-43, Map 1)

Type material: Holotype ♂: "Ch- Sichuan, 24.7.1995, 28.07N 101.05E, 30 km NW MULI/BOWA, mixed forest, ca. 3500 m, Jaroslav Turna leg. / Holotypus ♂ *Lathrobium formidabile* sp. n., det. V. Assing 2013" (cAss).

Etymology: The specific epithet (Latin, adjective) alludes to the - in various respects - formidable appearance of this species.

Description: Body large; body length 14.0 mm; length of forebody 6.5 mm. Habitus as in Fig. 36. Coloration: whole body reddish-brown, with the antennae somewhat darker.

Head (Fig. 37) of subcircular shape, approximately as broad as long; posterior angles completely obsolete; punctation moderately fine and rather sparse, very sparse in median dorsal portion; interstices with fine and shallow microreticulation. Eyes (Fig. 38) reduced to minute rudiments, without ommatidia and without pigmentation; size of eye rudiments subequal to antennomere II in cross-section; Antenna long and slender, 4.5 mm long; all antennomeres longer than broad.

Pronotum (Fig. 37) approximately 1.3 times as long as broad and 0.88 times as broad as head; lateral margins weakly convex in dorsal view, broadly rounded towards posterior margin, posterior angles obsolete; punctation rather fine and moderately sparse; interstices without microsculpture.

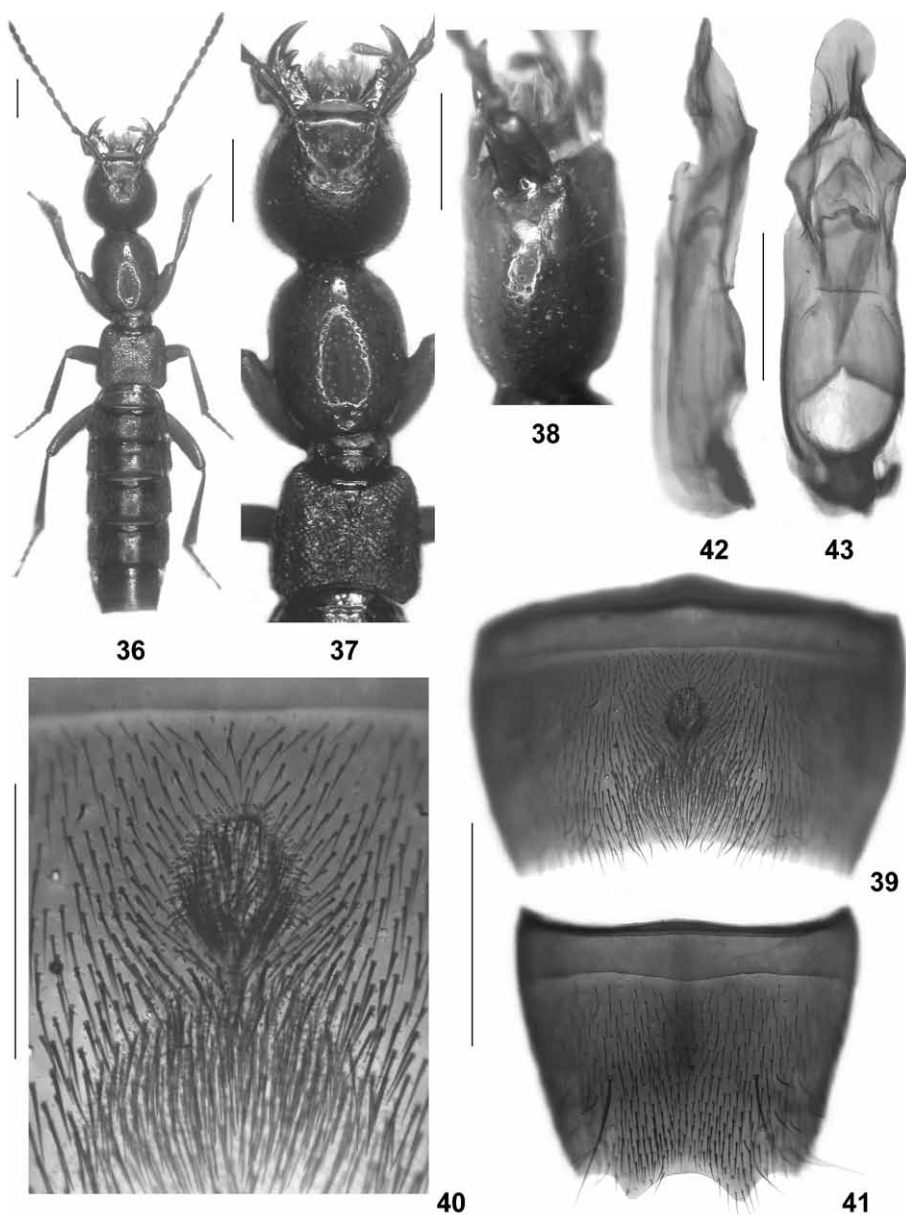
Elytra (Fig. 37) conspicuously short, 0.44 times as long as pronotum, and of weakly trapezoid shape, somewhat dilated posteriad; dorsal surface flat, lateral margins straight in dorsal view; humeral angles rather marked; combined posterior margins strongly concave; punctation dense, but weakly defined; interstices without microsculpture. Legs long and slender.

Abdomen approximately 1.1 times as broad as elytra; punctation extremely fine and dense; interstices with very shallow microsculpture; posterior margin of tergite VII without palisade fringe.

♂: protarsomeres I-IV moderately dilated; tergite VIII with weakly convex posterior margin; sternite VII (Fig. 39) moderately transverse, with shallow postero-median impression, this impression with a cluster of long and conspicuously dense black setae and with numerous presumable gland openings, anterior to impression with another cluster of gland openings and a tuft of long dense setae (Fig. 40), posterior margin broadly concave; sternite VIII (Fig. 31) distinctly transverse, posteriorly with somewhat denser, but not distinctly modified setae, and with two pairs of conspicuously long setae (posterior ones broken off in the holotype), posterior margin with angular projection on either side of middle; aedeagus (Figs 42-43) relatively small in relation to body size, 1.6 mm long, weakly asymmetric, and of derived morphology; ventral process apically rounded in ventral view, subapically with pronounced median carina; dorsal plate lamellate, relatively short, and apically convex in dorsal view, apical portion not delimited from basal portion.

♀: unknown.

Comparative notes: The external and sexual characters do not suggest closer phylogenetic affiliations to any of the previously known species groups from China. The species is characterized not only by the distinctive and derived male sexual characters, but readily distinguished from all other Chinese representatives of the genus



Figs 36–43: *Lathrobium formidabile* nov.sp.: (36) habitus; (37) forebody; (38) head in lateral view; (39) male sternite VII; (40) median portion of male sternite VII; (41) male sternite VIII; (42–43) aedeagus in lateral and in ventral view. Scale bars: 36–39, 41: 1.0 mm; 40, 42–43: 0.5 mm.

by various external characters, too, particularly the strongly reduced eyes without ommatidia and without pigmentation (unique), its large body size combined with reddish-brown coloration, the conspicuously large and subcircular head, the extremely

short elytra (unique), and the extremely dense and fine punctation of the abdomen. The structure and chaetotaxy of the male sternite VII is highly remarkable. Among *Lathrobium* species from China, similar clusters of gland openings are found only in the representatives of the *L. celere* group (distributed in Sichuan and in Yunnan; see ASSING in press b, c), which have such structures on the male sternite VIII (without associated tufts of long dense setae) and partly also, though less distinctly, on the male sternite VII.

Distribution and natural history: The type locality is situated in the Hengduan mountains to the northwest of Qiaowa (=Dawa) in western Sichuan (Map 1). The holotype was collected in a mixed forest at an altitude of 3500 m. Morphological adaptations such as the reduced eyes, the short elytra, the long legs and antennae, the relatively pale body coloration, and the long setae on the abdominal apex (tergite and sternite VIII) suggest a hypogean habitat.

Unnamed species

The following, probably undescribed species remain unnamed, since they are represented exclusively by females or teneral males.

Lathrobium sp. 1

Material examined: 1♀, China, S-Sichuan, Xiling Xue Shan, 1600-2400 m, 30.VII.-4.VIII.1996, leg. Kurbatov" (MHNG).

Comment: The above specimen probably represents an undescribed species distinguished from the other species described above, except *L. formidabile*, by larger body size (body length 9.3 mm; length of forebody 4.4 mm) alone.

Lathrobium sp. 2

Material examined: 1♀, China, S-Sichuan, Xiling Xue Shan, 1600-2400 m, 30.VII.-4.VIII.1996, leg. Kurbatov" (MHNG).

Comment: The above specimen is similar in size and many other characters to the preceding unnamed species, but distinguished by more slender and less densely punctured elytra, as well as by the female secondary sexual characters.

Lathrobium sp. 3

Material examined: 1♂ [teneral], China, S-Sichuan, Xiling Xue Shan, 1600-2400 m, 30.VII.-4.VIII.1996, leg. Kurbatov" (MHNG).

Comment: The above specimen is not conspecific with any of the other named and unnamed species from the Xiling Xue Shan. Although it is a male, it remains unnamed. The specimen is completely teneral, and important diagnostic characters, particularly the shape of the aedeagus, cannot be adequately illustrated.

Corrigendum

Al Newton, Chicago, kindly made me aware of an error in an article on the *Lathrobium* fauna of the Emei Shan. In the description of *Lathrobium coniunctum* ASSING & PENG

2013 in ASSING et al. (2013: p. 54), the acronym signifying the depository (SNUC) of the holotype is misplaced, thus rendering the name a nomen nudum. This lapsus is here rectified. The holotype of *L. coniunctum* is deposited in the Insect Collection of Shanghai Normal University, Shanghai (SNUC).

Acknowledgements

I am indebted to Giulio Cuccodoro (MHNG) for the loan of the material treated in this study, as well as to Harald Schillhammer (Wien) for most constructive and helpful suggestions pertaining to *L. formidabile*. Zhong Peng (Shanghai) kindly made an unpublished manuscript containing descriptions of *Lathrobium* species from Sichuan available to me and provided information on the type locality of *L. formidabile*. Lee H. Herman (New York) cross-checked the new names against his unpublished catalogue of Paederinae. Benedikt Feldmann (Münster) and Zhong Peng proof-read the manuscript.

Zusammenfassung

Sechs Arten der Gattung *Lathrobium* GRAVENHORST aus der chinesischen Provinz Sichuan werden beschrieben, abgebildet und von nahverwandten bzw. sympatrischen Arten unterschieden: *L. bisudutum* nov.sp. (Xiling Xue Shan), *L. bivingatum* nov.sp. (Luoji Shan), *L. diffissum* nov.sp. (Luoji Shan), *L. formidabile* nov.sp. (SW-Sichuan), *L. hamulatum* nov.sp. (Luoji Shan) und *L. verminatum* nov.sp. (Xiling Xue Shan). Ihre phylogenetischen Beziehungen werden untersucht. *Lathrobium formidabile* ist die erste subanophthalme und vermutlich hypogäische Art der Gattung, die aus China bekannt wird. Drei weitere, höchstwahrscheinlich unbeschriebene Arten vom Xiling Xue Shan werden nicht benannt, da ausschließlich Weibchen bzw. ein immatures Männchen verfügbar waren. Der Verbleib des Holotypus von *Lathrobium coniunctum* ASSING & PENG 2013 wird korrigiert. Die Zahl der derzeit aus Sichuan und China bekannten, beschriebenen *Lathrobium*-Arten erhöht sich auf 31 bzw. 117.

References

- ASSING V. (in press a): On the *Lathrobium* fauna of China I. The species of the Qinling Shan, the Daba Shan, and adjacent mountain ranges (Coleoptera: Staphylinidae: Paederinae). — Bonn Zoological Bulletin **62** (1) (2013).
- ASSING V. (in press b): On the *Lathrobium* fauna of China III. New species and additional records from various provinces (Coleoptera: Staphylinidae: Paederinae). — Beiträge zur Entomologie **63** (1) (2013).
- ASSING V. (in press c): On the *Lathrobium* fauna of China V. New species and additional records from Yunnan (Coleoptera: Staphylinidae: Paederinae). — Beiträge zur Entomologie **63** (1) (2013).
- ASSING V., PENG Z. & M.-J. ZHAO (2013): On the *Lathrobium* fauna of the Emei Shan, Sichuan, China (Coleoptera, Staphylinidae, Paederinae). — ZooKeys **277**: 47-67.

Author's address: Dr. Volker ASSING
 Gabelsbergerstr. 2
 D-30163 Hannover, Germany
 E-mail: vassing.hann@t-online.de

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Linzer biologische Beiträge](#)

Jahr/Year: 2013

Band/Volume: [0045_1](#)

Autor(en)/Author(s): Assing Volker

Artikel/Article: [On the Lathrobium fauna of China IV. Six new species from Sichuan \(Coleoptera: Staphylinidae: Paederinae\) 155-170](#)