



Three new species and additional records of *Lobrathium* Mulsant & Rey (Coleoptera: Staphylinidae: Paederinae) from China

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Abstract

Material of the genus *Lobrathium* Mulsant & Rey, 1878 from the Chinese provinces of Zhejiang, Jiangxi, Hubei, Hunan, Guangdong, Guangxi, Chongqing, Guizhou, Yunnan, Xizang, Shaanxi and Gansu is examined. Eleven species were identified, eight of them described previously and three are newly described: *L. gai* Huang & Peng, **sp. nov.** (Gansu: Dangchang County), *L. medogense* Huang & Peng, **sp. nov.** (Xizang: Mêdog County), and *L. xiang* Huang & Peng, **sp. nov.** (Yunnan: Yun County). New provincial records are provided for *L. bispinosum* Assing, 2012 from Guangxi and for *L. duplex* Assing, 2012 from Xizang. Including the new taxa, 71 *Lobrathium* species are currently known from China.

Key words: Coleoptera, Staphylinidae, *Lobrathium*, new species, additional records, taxonomy, China

Introduction

The speciose paederine genus *Lobrathium* Mulsant & Rey, 1878 can be distinguished from similar genera by the following diagnostic characters: head with rounded posterior angles; pronotum with narrow impunctate midline; elytra with rather dense and usually defined punctuation, as well as distinct supramarginal line; male sternites VII and VIII strongly modified; and aedeagus without parameres, sometimes with strongly sclerotized spines in internal sac.

Lobrathium is represented in China by 68 known species, with approximately one third of them (22 species) from Taiwan (Assing 2017, 2021; Lin *et al.* 2022). The diversity of *Lobrathium* in southwestern China remains underexplored, with Mêdog and nearby regions being among the most poorly known areas in terms of species richness and natural history. This paper presents taxonomic and faunistic data for eleven Chinese species, including three new species and additional records of *L. ablectum* Assing, 2012, *L. biaculeatum* Assing, 2012, *L. bispinosum* Assing, 2012, *L. chengzhifeii* Lin & Peng, 2022, *L. duplex* Assing, 2012, *L. hongkongense* Bernhauer, 1931, *L. tortile* Zheng, 1988, and *L. tortuosum* X.-Y. Li, Solodovnikov & H.-Z. Zhou, 2013.

Material and methods

The specimens were killed with ethyl acetate and then dried. Materials were stored in 75% ethanol; genitalia and small parts were embedded in Euparal on plastic slides that were attached to the same pin with the specimens. Morphological studies were carried out using an Olympus SZX 16 stereoscope. A digital camera Canon EOS 50D with MP-E 65 mm Macro Photo Lens was used for the habitus photos. An Olympus CX21 microscope and a digital camera Canon G9 were used for the photos of small structures.

The following abbreviations are used in the text, with all measurements in millimeters:

Body length (BL) from the anterior margin of the mandibles (in resting position) to the abdominal apex; length of forebody (FL) from the anterior margin of the mandibles to the posterior margin of the elytra; head length (HL) from the anterior margin of the frons to the posterior margin of the head; head width (HW): maximum width of head; length of antenna (AnL); length of pronotum (PL) along midline; maximum width of pronotum (PW); elytral length (EL) at the suture from the apex of the scutellum to the posterior margin of the elytra (at the sutural angles); length of aedeagus (AL) from the apex to the base of the aedeagus.

All material treated in this paper is deposited in the Insect Collection of Shanghai Normal University, Shanghai, China (SNUC). The type labels are cited using the original spelling; different labels are separated by slashes.

Taxonomy

Lobrathium ablectum Assing, 2012

Lobrathium ablectum Assing, 2012: 106. Type locality: “China: W-Hubei (Daba Shan), creek valley 8 km NW Muyuping, 31°29’N, 110°22’E, 1550–1650 m.”

Material examined. China: Hubei: 1 ♂, 2 ♀♀, Wufeng County, Houhe N. R., 30°04’53’’N, 110°32’38’’E, 1200 m, 21.VII.2018, Jiang, Hu & Zhang leg. (SNUC).

Comment. *Lobrathium ablectum* was previously known from Hubei, Guizhou and Shaanxi (Assing 2012; Li *et al.* 2013a; Lin *et al.* 2022).

Lobrathium biaculeatum Assing, 2012

Lobrathium biaculeatum Assing, 2012: 81. Type locality: “Nepal Khandbari Distr. Pass NE Mangmaya 2300 m.”

Material examined. China: Xizang: 1 ♂, Mêdog County, Renqingbeng Temple, 29°18’55’’N, 95°20’39’’E, 2000 m, 6–7.VIII.2022, Peng, Song, Yin & Zhang leg. (SNUC); 2 ♂♂, 2 ♀♀, Dingjie County, Chentang Town, Nadang Village, 27°51’26’’N, 87°26’59’’E, 2500 m, 31.VII.2022, Peng, Song, Yin & Zhang leg. (SNUC).

Comment. Previously, this species was known from Nepal, the Chinese province of Xizang (Assing 2012; Lin *et al.* 2022).

Lobrathium bispinosum Assing, 2012

Lobrathium bispinosum Assing, 2012: 97. Type locality: “China: Guizhou, Leishan Co., SE Kaili, 15 km E Leishan, Leigong Shan, S-slope, 26°22.40’N, 108°08.83’E, 1000 m.”

Material examined. China: Guangxi: 1 ♂, 1 ♀, Guilin, Longsheng County, Liushuiyan Village, 25°33’42’’N, 109°57’33’’E, 1290 m, 29.V.2023, Duan, Peng & Zhou leg. (SNUC).

Comment. The previously known distribution of *L. bispinosum* included the Chinese provinces of Jiangxi and Guizhou (Assing 2012; Li *et al.* 2013a). The above specimens (1 male and 1 female) from Guangxi represent new provincial records.

Lobrathium chengzhifeii X.-B. Lin & Z. Peng, 2022

Lobrathium chengzhifeii Lin & Peng, 2022: 244. Type locality: “China: Yunnan, Xishuangbanna, Menglong Town, Mengsong, 21°28’37’’N, 100°32’07’’E, 1570 m.”

Material examined. China: Yunnan: 1 ♂, 1 ♀, Xishuangbanna, Jinghong, Jinuo Mt., 22°0’36’’N, 100°58’48’’E, 1060 m, 1.IV.2025, Chen & Peng leg. (SNUC).

Comment. This species was only recently described from Xishuangbanna, Yunnan (Lin *et al.* 2022).

***Lobrathium duplex* Assing, 2012**

(Figs 1, 5)

Lobrathium duplex Assing, 2012: 111. Type locality: “China (Yunnan), Dali Bai Auton. Pref., Diancang Shan W Dali, 25°41’49”N, 100°06’24”E, 2970 m.”

Material examined. China: Xizang: 4 ♂♂, 3 ♀♀, Mêdog County, 52K, 29°44’17”N, 95°40’38”E, 3425 m, 23.VI.2023, Peng *et al.* leg. (SNUC); 3 ♀♀, same data but 13.VIII.2022, Peng, Song, Yin & Zhang leg. (SNUC).

Comment. The known distribution of *L. duplex* is confined to central China, where it was found at altitudes of 2500–3000 m (Assing 2012). However, since the species is wing-dimorphic it may be widespread in the Himalaya. The above-mentioned material is a subject to considerable intraspecific variation of characters such as body size, punctuation, as well as the shape of the elytra, but the chaetotaxy of the male sternite VIII and the morphology of the aedeagus is constant (Fig. 1). The above specimens (4 males and 6 females) from Xizang represent new provincial records. Most of the specimens were collected from under stones in a stream valley at the altitude of 3425 m (Fig. 5).

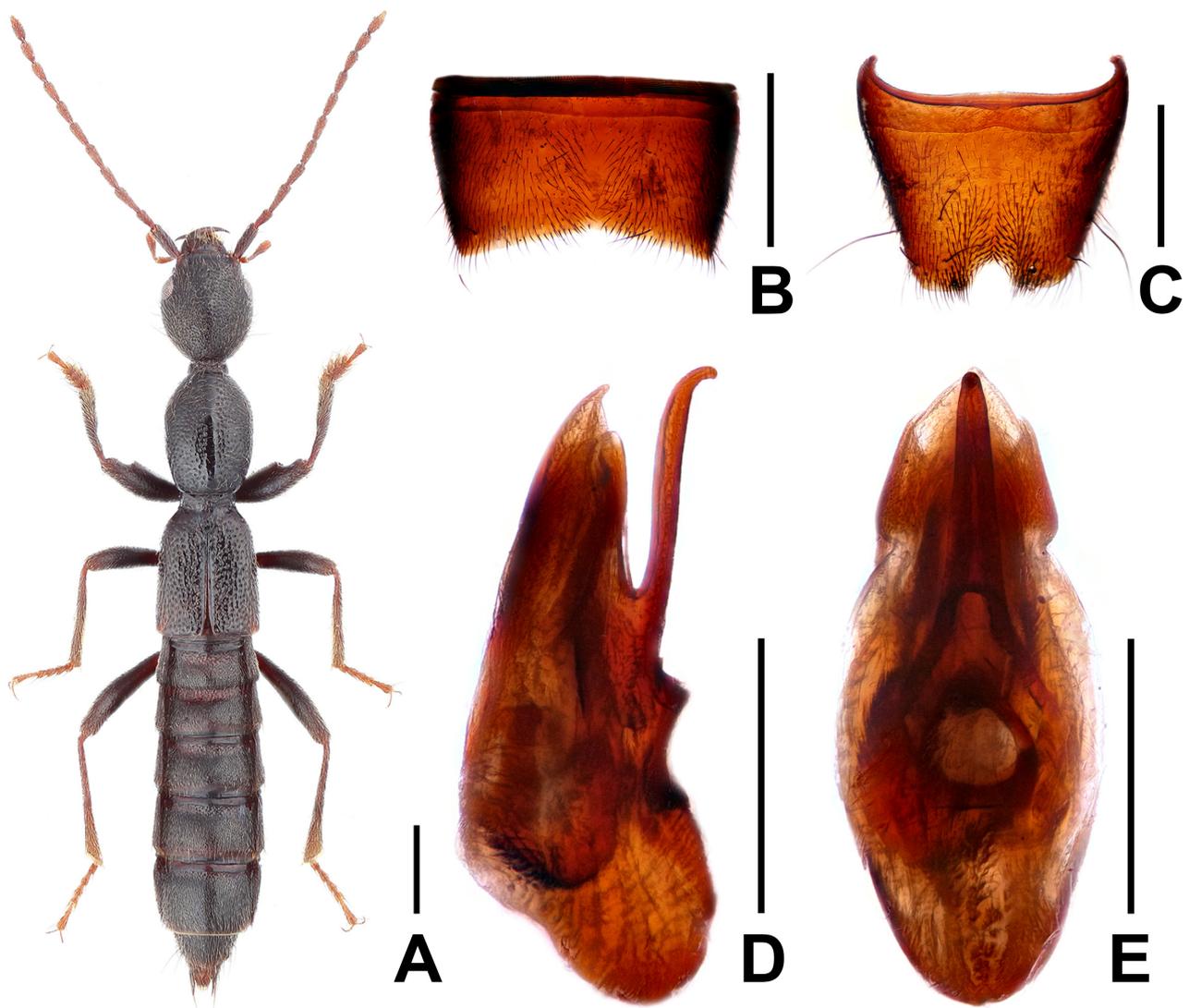


FIGURE 1. *Lobrathium duplex*. A. Habitus. B. Male sternite VII. C. Male sternite VIII. D. Aedeagus in lateral view. E. Aedeagus in ventral view. Scale bars: 1 mm in A, 0.5 mm in B–E.

Lobrathium gai L. Huang & Z. Peng, sp. nov.

(Figs 2, 6)

Type material. HOLOTYPE: CHINA: ♂, labeled ‘China: Gansu, Dangchang County, Guanegou N. R., 33°55’44”N, 104°18’13”E, 2250–2300 m, 19.VII.2022, Peng & Cheng leg.’ / HOLOTYPE (red), *Lobrathium gai* sp. nov., det. Huang & Peng, 2025 (SNUC).

Description. Measurements (in mm) and ratios: BL 7.67, FL 3.61, HL 1.07, HW 1.02, AnL 2.55, PL 1.20, PW 0.93, EL 0.83, AL 1.01, HL/HW 1.05, HW/PW 1.10, HL/PL 0.89, PL/PW 1.30, EL/PL 0.69.

Habitus as in Fig. 2A. Body dark brown; legs brown with paler tarsi; antennae brown to reddish brown.

Head approximately as long as wide, widest behind eyes; posterior angles broadly rounded; punctuation very dense and coarse, sparser in median dorsal portion; interstices without microsculpture. Eyes small, approximately 0.4 times as long as distance from posterior margin of eye to neck in dorsal view.

Pronotum distinctly longer than wide, punctuation much sparser than that of head, but with impunctate midline, interstices glossy.

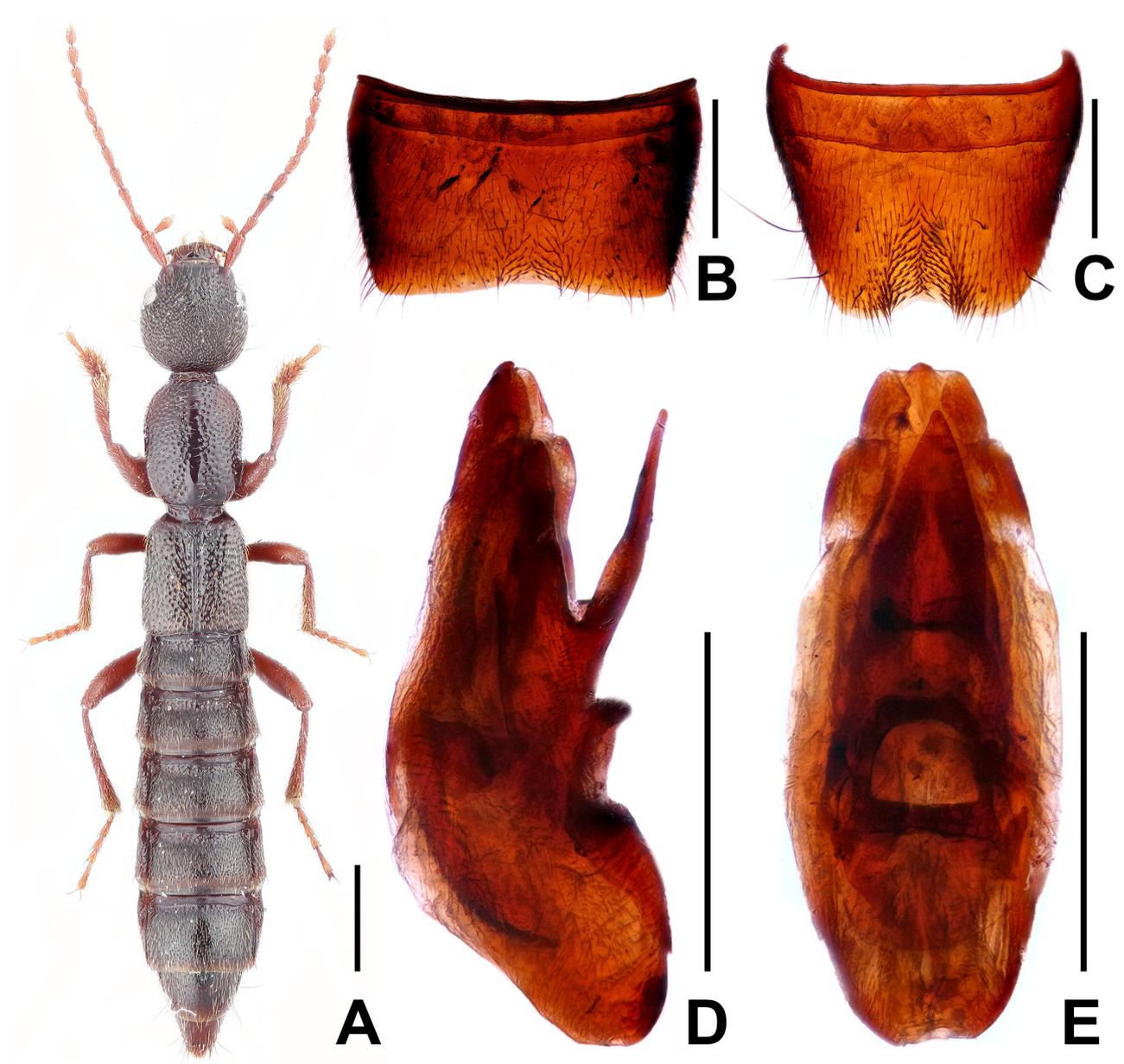


FIGURE 2. *Lobrathium gai*. A. Habitus. B. Male sternite VII. C. Male sternite VIII. D. Aedeagus in lateral view. E. Aedeagus in ventral view. Scale bars: 1 mm in A, 0.5 mm in B–E.

Elytral punctation coarse and dense, arranged in irregular series; interstices with microsculpture. Hind wings reduced.

Abdomen broader than elytra; punctation dense and fine; interstices with fine and shallow microsculpture; posterior margin of tergite VII without palisade fringe.

Male. Sternites III–VI unmodified; sternite VII (Fig. 2B) strongly transverse and with pronounced median impression, this impression with few distinctly modified, short and black setae, posterior excision shallow; sternite VIII (Fig. 2C) weakly transverse, median impression shallow and with numerous distinctly modified, short and stout black setae, posterior excision broad and not very deep, margins semi-membranous, on either side of excision with tuft of long black setae; aedeagus as in Figs 2D, 2E, ventral process blade-shaped; dorsal plate long and somewhat bisinuate apically in lateral view.

Female. Unknown

Comparative notes. *Lobrathium gai* belongs to a group of species distributed from Nepal to Sichuan and Yunnan, represented in China by *L. cholaicum* Assing, 2012, *L. daxuense* Assing, 2012, *L. domenoides* Assing, 2012, *L. bimembre* Assing, 2012, *L. lamellatum* Assing, 2012, *L. duplex* Assing, 2012, as well as *L. wittmeri* Assing, 2012, and characterised as follows: body small or of moderate size; coloration more or less uniformly blackish, elytral spots absent; elytra and hind wings reduced or dimorphic; eyes mostly of reduced size; sternite VII moderately transverse, relatively weakly modified, without distinctly modified setae; sternite VIII with small posterior excision, on either side of this excision with tuft of black setae; aedeagus symmetric and with more or less bladeshaped ventral process (Assing 2012).

L. gai can be distinguished from *L. lamellatum* by the slenderer ventral process of aedeagus in ventral view and the chaetotaxy of the male sternite VII; and from all other species in the group by ventral process being conspicuously shorter than dorsal plate of aedeagus. For illustrations of *L. cholaicum*, *L. daxuense*, *L. domenoides*, *L. bimembre*, *L. lamellatum*, *L. duplex* and *L. wittmeri* see Assing (2012: figs 90–95, 231–270).

Etymology. The specific name is the Chinese noun “gai” (grass root). It refers to the habitats of the type specimen.

Distribution. The species is currently known only from Guanegou National Forest Park in the northwest of Dangchang, northern Gansu.

Natural history. The specimen was collected from under grass root near a mountain road at altitudes of 2250–2300 m in July (Fig. 6).

Lobrathium hongkongense Bernhauer, 1931

Lobrathium hongkongense Bernhauer, 1931: 127. Type locality: “Hongkong.”

Material examined. China: Shaanxi: 1 ♀, Yan’an City, Fu County, Ziwuling, Shihuigou, 35°49’39”N, 108°39’33”E, 1215 m, 30.VI–2.VII.2019, Ding, Shen, Dang & Ke leg. (SNUC); 1 ♀, Yan’an City, Fu County, Ziwuling, Shihuigou, 35°49’39”N, 108°39’33”E, 1215 m, 25–27.VII.2019, Ding, Shen, Dang & Ke leg. (SNUC); Chongqing: 1 ♀, Chengkou County, Wuli Village, 32°7’12”N, 108°39’36”E, 1249 m, 17.V.2025, He, Huang, Gao & Wan leg. (SNUC); Guizhou: 1 ♂, Libo County, Maolan N. R., Bizuo, 25°16’59”N, 108°03’18”E, 587 m, 28.IV.2017, Jiang, Jiang, Hu, Liu & Zhang leg. (SNUC); Yunnan: 1 ♂, Fugong County, Shiyueliang, 27°08’24”N, 98°30’36”E, 2400–2600 m, 10.XI.2025, Bai-Jun Li leg. (SNUC); Hubei: 1 ♂, Wufeng County, Houhe N. R., 30°04’53”N, 110°32’38”E, 1200 m, 21.VII.2018, Jiang, Hu & Zhang leg. (SNUC); Hunan: 2 ♂♂, 3 ♀♀, Shaoyang City, Shiwangutian, 26°05’26”N, 110°22’19”E, 1720 m, 22.V.2023, Peng, Zhou & Duan leg. (SNUC); 1 ♂, Xinning County, Shunhuang Mt., Yangheping, 30°05’54”N, 111°00’08”E, 820 m, 2.V.2021, Yin, Zhang, Pan & Shen leg. (SNUC); Jiangxi: 3 ♂♂, Nanchang City, Jiangxi Agriculture University, 28°45’36”N, 115°50’24”E, 50 m, 19.XII.2020, Wu Song leg. (SNUC); Zhejiang: 1 ♂, 1 ♀, Longquan City, Fengyang Mt., Mihou Valley, 27°55’02”N, 119°11’37”E, 950 m, 08.V.2019, Tang & Zhao leg. (SNUC); 4 ♂♂, 1 ♀, Longquan City, Fengyang Mt., Sightseeing Stand, 27°56’14”N, 119°10’42”E, 640 m, 08.V.2019, Tang & Zhao leg. (SNUC); 1 ♂, Longquan City, West Tianmu Mt., 300 m, 25.IV.2019, Liang Tang leg. (SNUC); 1 ♀, Longquan City, Yinglongwu, Zhanlingwan, 30°09’11”N, 119°52’23”E, 652 m, 1.V.2018, Cheng & Shen leg. (SNUC); Guangdong: 1 ♂, Shaoguan, Guang Dong Di Yi Feng, 25°44’29”N, 112°59’31”E, 1538–1784 m, 28.VI.2020, Yin & Lin leg. (SNUC); 1 ♀, Shaoguan, Chebaling, 24°43’12”N, 114°11’18”E, 904–1004 m, 23.VI.2020, Xia, Zhang, Yin & Lin leg. (SNUC).

Comment. The above-mentioned material indicates that it is common and widespread in China.

Lobrathium medogense L. Huang & Z. Peng, sp. nov.

(Figs 3, 7)

Type material. HOLOTYPE: CHINA: ♂, labeled ‘China: Xizang, Mêdog County, Beibeng Village, 1000–1400 m, 2.VII.2014, Wen-Xuan Bi leg.’ / HOLOTYPE (red), *Lobrathium medogense* sp. nov., det. Huang & Peng, 2025 (SNUC).

Description. Measurements (in mm) and ratios: BL 7.35, FL 3.45, HL 0.93, HW 0.87, AnL 1.87, PL 1.00, PW 0.81, EL 0.74, AL 1.20, HL/HW 1.06, HW/PW 1.07, HL/PL 0.93, PL/PW 1.23, EL/PL 0.74.

Habitus as in Fig. 3A. Body blackish brown, elytra with distinct reddish spots in postero-lateral angles; legs yellowish-brown; antennae brown to light brown.

Head approximately as long as wide, widest at eyes; posterior angles broadly rounded; punctuation dense and coarse, anterior portion impunctate; interstices with microsculpture. Eyes large, half as long as distance from posterior margin of eye to neck in dorsal view.

Pronotum distinctly longer than wide, punctuation somewhat sparser than that of head, without impunctate midline, interstices glossy.

Elytral punctuation dense and coarse, arranged in regular series; interstices with microsculpture. Hind wings present.

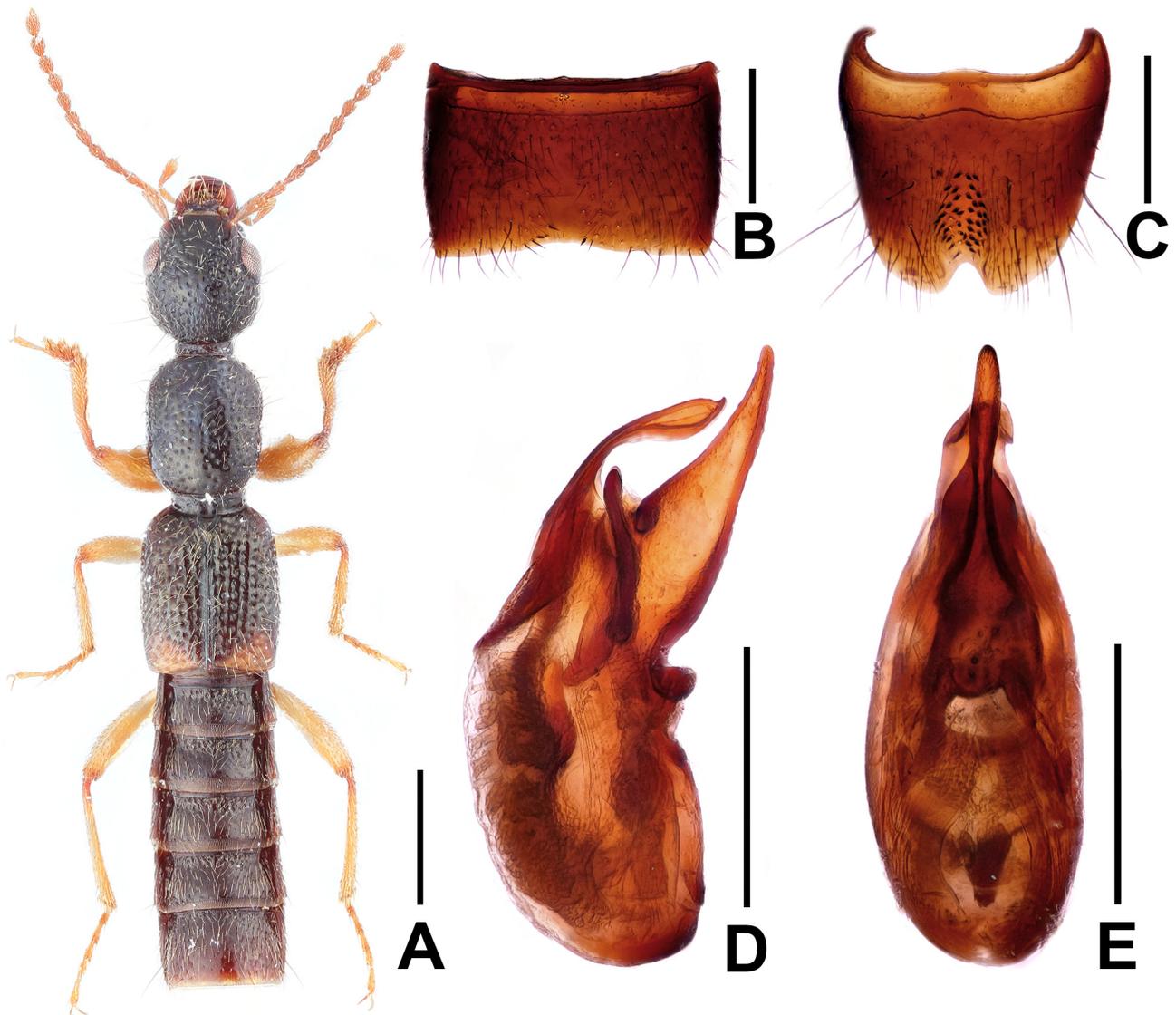


FIGURE 3. *Lobrathium medogense*. A. Habitus. B. Male sternite VII. C. Male sternite VIII. D. Aedeagus in lateral view. E. Aedeagus in ventral view. Scale bars: 1 mm in A, 0.5 mm in B–E.

Abdomen slightly narrower than elytra; punctation moderately dense and not particularly fine on tergites III–VI, somewhat finer on tergite VII; interstices with distinct microsculpture; posterior margin of tergite VII with palisade fringe.

Male. Sternites III–VI unmodified; sternite VII (Fig. 3B) strongly transverse and with shallow median impression, this impression with 4 distinctly modified, short and stout black setae, posterior margin weakly and broadly concave; sternite VIII (Fig. 3C) weakly transverse, with long median impression, this impression with numerous modified, short and stout black setae, posterior excision nearly V-shaped; aedeagus as in Figs 3D, 3E, ventral process long and slender in ventral view, falcate in lateral view; dorsal plate long and curved ventrally, dilated apically in lateral view.

Female. Unknown

Comparative notes. Based on the uniformly blackish brown body with distinct reddish spots on the elytra, this species may be allied to *L. ochreonotatum* (Champion, 1922) and *L. triste* (Cameron, 1924), from which it is distinguished by the smaller elytra, the longer aedeagus, male sternite VIII with smaller posterior excision and falcate ventral process as well as long and curved ventrally dorsal plate of aedeagus in lateral view. For illustrations of *L. ochreonotatum* see Assing (2012: figs 58–61) and *L. triste* see Assing (2012: figs 23, 29–35).

Etymology. The specific epithet is the Latin adjective derived from the name of the type locality: Mêdog County.

Distribution. The species is only known from Beibeng village in the southwest of Mêdog, southeastern Xizang.

Natural history. The specimen was collected from gravel in a stream valley at altitudes of 1000–1400 m in July (Fig. 7).

***Lobrathium tortile* F.-K. Zheng, 1988**

Lobrathium tortile Zheng, 1988; 187. Type locality: “Sichuan (Kangding), 2600–3000 m.”

Material examined. China: Hubei: 5 ♂♂, 2 ♀♀, Xinshan County, Shennongjia, Guanmen Shan, 31°25'57"N, 110°21'58"E, 1370 m, 18.VII.2021, Zhao, Cai & Miao leg. (SNUC); Shaanxi: 5 ♂♂, 7 ♀♀, Yanan City, Fu County, Ziwuling N. R., 25.VII.2019, Qing-Hao, Zhao leg. (SNUC).

Comment. *Lobrathium tortile* is widespread and common in central China.

***Lobrathium tortuosum* X.-Y. Li, Solodovnikov & H.-Z. Zhou, 2013**

Lobrathium tortuosum X.-Y. Li, Solodovnikov & H.-Z. Zhou, 2013: 574. Type locality: “CHINA: Zhejiang Province, Longquan, Mountain Fangyang, 1400 m.”

Material examined. China: Zhejiang: 2 ♂♂, Longquan City, Fengyang Mt., Oujiangyuan, 27°53'58"N, 119°09'31"E, 1850 m, 09.V.2019, Tang & Zhao leg. (SNUC).

Comment. *Lobrathium tortuosum* was previously known from Zhejiang (Li *et al.* 2013a; 2013b).

***Lobrathium xiang* L. Huang & Z. Peng, sp. nov.**

(Figs 4, 8)

Type material. HOLOTYPE: CHINA: ♂, labeled ‘China: Yunnan, Lingcang, Yun County, Masi Village, 1100 m, 11.VI.2014, Zi-Chun Xiong leg.’ / HOLOTYPE (red), *Lobrathium xiang* sp. nov., det. Huang & Peng, 2025 (SNUC). **PARATYPE: CHINA:** 1 ♀, same label data as holotype / PARATYPE (yellow), *Lobrathium xiang* sp. nov., det. Huang & Peng, 2025 (SNUC).

Description. Measurements (in mm) and ratios: BL 7.30–7.45, FL 3.95–4.06, HL 0.98–1.02, HW 1.02, AnL 2.29–2.35, PL 1.20–1.22, PW 0.94–0.98, EL 1.24–1.26, AL 1.23, HL/HW 0.96–1.00, HW/PW 1.04–1.08, HL/PL 0.82–0.83, PL/PW 1.25–1.27, EL/PL 1.03.

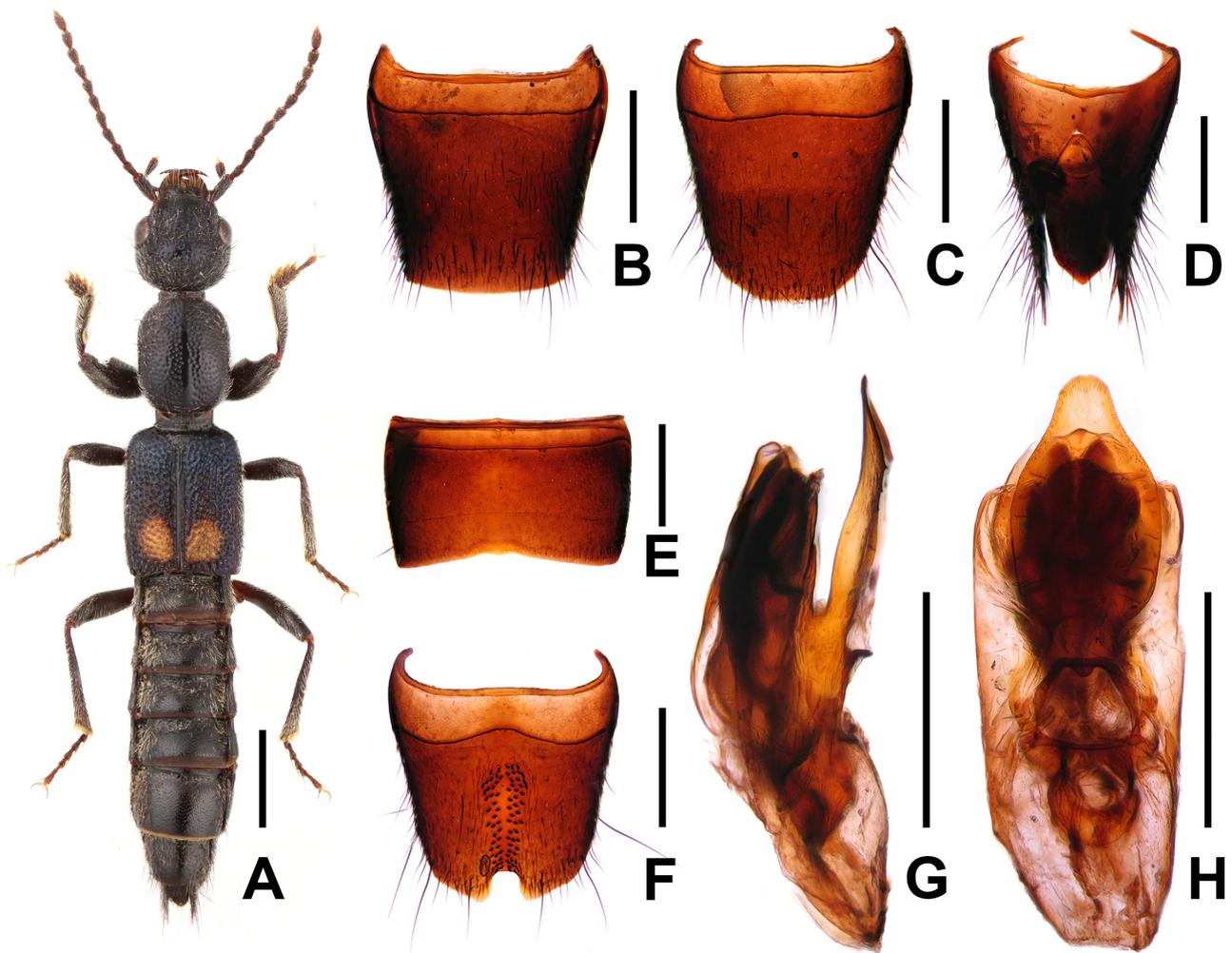


FIGURE 4. *Lobrathium xiang*. **A.** Habitus. **B.** Female tergite VIII. **C.** Female sternite VIII. **D.** Female tergites IX–X. **E.** Male sternite VII. **F.** Male sternite VIII. **G.** Aedeagus in lateral view. **H.** Aedeagus in ventral view. Scale bars: 1 mm in A, 0.5 mm in B–H.

Habitus as in Fig. 4A. Body black, elytra with weak blue hue and with small, circular yellowish spot posteriorly not reaching lateral and posterior margins, and suture; legs brown to black; antennae brown to dark brown.

Head approximately as long as wide, widest at eyes; posterior angles broadly rounded; punctuation of dorsal surface coarse and dense; vertex and frons less densely punctate; interstices without microsculpture. Eyes large, approximately 0.8 times as long as distance from posterior margin of eye to neck in dorsal view.

Pronotum distinctly longer than wide, punctuation somewhat sparser than that of head, but with impunctate midline, interstices glossy.

Elytral punctuation dense and coarse, punctuation coarse, dense, and not arranged in distinct series; interstices without microsculpture and glossy. Hind wings fully developed.

Abdomen slightly narrower than elytra; punctuation moderately fine and dense; interstices with distinct transverse microsculpture; posterior margin of tergite VII with palisade fringe.

Male. Sternites III–VI unmodified; sternite VII (Fig. 4E) strongly transverse and with shallow median impression, this impression without modified setae, posterior margin broadly concave; sternite VIII (Fig. 4F) approximately as long as broad, with pronounced, deep and oblong median impression, this impression with numerous distinctly modified, short and stout black setae, posterior excision relatively deep and almost U-shaped; aedeagus as in Figs 4G, 4H, ventral process symmetric, large and somewhat domed apically in ventral view; dorsal plate long and lamellate in lateral view.



FIGURES 5–8. Habitats of *Lobrathium* in China: **5.** Xiao-Bin Song collecting *Lobrathium duplex* at 52K, Mèdog County. **6** Guanegou, alt. 2250–2300 m (type locality of *Lobrathium gai*). **7.** Beibeng, alt. 1000–1400 m (type locality of *Lobrathium medogense*). **8.** Zi-Chun Xiong collecting *Lobrathium xiang* at Masi Village, Yun County.

Female. Posterior margin of tergite VIII (Fig. 4B) weakly convex; posterior margin of sternite VIII (Fig. 4C) strongly convex; tergite IX (Fig. 4D) with long postero-lateral processes; tergite X (Fig. 4D) 3.2 times as long as antero-median portion of tergite IX.

Comparative notes. As can be inferred from the similar external characters and the similar modifications of the male sternites VIII, *L. xiang* is closely related to *L. chengzhifeii* Lin & Peng, 2022, from which it is reliably distinguished by the larger body size, the slenderer pronotum, the chaetotaxy of the male sternite VII, and the large ventral process of the aedeagus. For illustrations of *L. chengzhifeii* see Lin *et al.* (2022: figs 2B, 4).

Etymology. The specific name is the Chinese noun “xiang” (light yellow). It refers to the coloration of spots on the elytra in dorsal view.

Distribution. The species is only known from Masi Village in the east of Yun County, southwestern Yunnan.

Natural history. The type specimens were collected from moss on rocks in a stream in June (Fig. 8).

Key to the *Lobrathium* species of Chinese mainland

The utility of Assing’s (2012) key is limited by ongoing taxonomic revisions, including the description of new species and notable interspecific variation in characters such as elytral coloration. To address these key taxonomic challenges, we present a revised key to the *Lobrathium* species of Chinese mainland. Two species are excluded from the key: *Lobrathium emeiense* Zheng, 1988, due to its description being based solely on a female holotype (Emei Shan, Sichuan); and *Lobrathium partitum* (Sharp, 1874), because of unverified records from China. *Lobrathium partitum* (Sharp, 1874) is provisionally reported from China and Japan (Assing 2010), though without cited source material or specific Chinese localities. By contrast, both the original description (Sharp noted it as “very local”) and

a later revision (Assing 2012) confirm its presence only in Japan. Given the unverified status of Chinese records, the species is therefore omitted from the present key.

1	Male sternites III–VI with long, narrow, and glossy median keel. (Shaanxi, Sichuan, Yunnan, Henan, Ningxia)	<i>L. hebeatum</i> F.-K. Zheng, 1988
–	Male sternites III–VI without median keel	2
2	Male sternites IV–VI with small sharp median tubercle; male sternite VII with tubercle anteriorly. (Jiangxi)	<i>L. tuberosum</i> Assing, 2012
–	Male sternites IV–VII without tubercle	3
3	Male sternite VI with numerous distinctly modified, short and stout black setae posteriorly. (Qinghai)	<i>L. uncinatum</i> W.-R. Li & L.-Z. Li, 2013
–	Male sternite VI without conspicuous modified setae	4
4	Ventral process of aedeagus not longer than dorsal plate or slightly longer in lateral view (at most one-sixth its length)	5
–	Ventral process of aedeagus distinctly longer than dorsal plate in lateral view (at least one-fourth its length)	21
5	Posterior margin of male sternite VII truncate and without conspicuous modifications.	6
–	Posterior margin of male sternite VII more or less concave and with modified setae or impression	7
6	Smaller species (BL ≤ 5 mm); male sternite VIII without conspicuous modified setae posteriorly. (Japan, China: Jiangsu, Hong Kong)	<i>L. scabripenne</i> (Sharp, 1874)
–	Larger species (BL ≥ 6.0 mm); male sternite VIII with numerous distinctly modified, short and stout black setae posteriorly. (Japan, China: Jiangsu, Zhejiang, Fujian, Jiangxi, Sichuan, Guizhou, Yunnan, Hubei, Hunan, Guangdong, Guangxi, Shaanxi, Chongqing, Taiwan, Hong Kong)	<i>L. hongkongense</i> (Bernhauer, 1931)
7	FL ≥ 5.4 mm; meso- and metafemora distinctly bicolorous. (Guangxi)	<i>L. kedian</i> Z. Peng & L.-Z. Li, 2016
–	FL ≤ 5.0 mm; legs uniformly brown to blackish	8
8	Ventral process of aedeagus with fissure and bifid apically in ventral view. (Hubei)	<i>L. dufui</i> W.-R. Li & L.-Z. Li, 2013
–	Ventral process of aedeagus acute or hooked and without fissure apically in ventral view.	9
9	Macropterous species; body black and with bluish to purple hue; elytra with yellowish or reddish spots.	10
–	Wing-dimorphic or micropterous species; body brown to blackish-brown and without metallic luster; coloration of elytra uniform except <i>L. dabaicum</i>	13
10	Male sternite VIII with weakly modified long setae posteriorly; ventral process of aedeagus with one rhombic structure apically in ventral view. (Sichuan)	<i>L. quadrum</i> X.-Y. Li, Solodovnikov & H.-Z. Zhou, 2013
–	Male sternite VIII with several strongly modified, short and stout black setae posteriorly; ventral process of aedeagus acute and without rhombic structure apically in ventral view.	11
11	Median impression of male sternite VIII with dense modified, short and stout black setae posteriorly; ventral process of aedeagus more or less blade-shaped in lateral view. (Yunnan)	<i>L. atanggei</i> Z.-K. Lü & L.-Z. Li, 2014
–	Median impression of male sternite VIII without setae and pubescence posteriorly; ventral process of aedeagus spine-shaped in lateral view.	12
12	Antenna longer (AnL 2.6 mm); aedeagus larger (AL 1.1 mm), and with longer, slenderer ventral process. (Jiangxi, Hunan)	<i>L. flexum</i> Assing, 2014
–	Antenna shorter (AnL 2.0–2.17 mm); aedeagus smaller (AL 0.82–0.87 mm), and with shorter, stouter ventral process. (Guangxi)	<i>L. fuscoguttatum</i> W.-R. Li, C.-C. Dai & L.-Z. Li, 2013
13	Median impression of male sternite VII with few distinctly modified, short and black setae posteriorly	14
–	Median impression of male sternite VII without modified short and black setae posteriorly.	15
14	EL/PL ≤ 0.7; ventral process of aedeagus shorter and stouter in ventral view. (Gansu)	<i>L. gai</i> L. Huang & Z. Peng, sp. nov.
–	EL/PL ≥ 0.85; ventral process of aedeagus longer and slenderer in ventral view. (Yunnan)	<i>L. bimembre</i> Assing, 2012
15	Aedeagus smaller (AL 0.75 mm), with stouter ventral process in ventral view; EL/PL ≤ 0.80. (Sichuan)	16
–	Aedeagus larger (AL ≥ 0.9 mm), with slenderer ventral process in ventral view; EL/PL ≥ 0.85	17
16	Elytra blackish brown and without reddish spots; ventral process of aedeagus longer and weakly bent basally in lateral view. (Sichuan)	<i>L. domenoides</i> Assing, 2012
–	Elytra brown and with reddish spots posteriorly; ventral process of aedeagus shorter and straight in lateral view. (Hubei)	<i>L. dabaicum</i> Assing, 2013
17	Posterior margin of male sternite VII broadly concave; ventral process of aedeagus with hooked apically in lateral view. (Sichuan, Yunnan, Xizang)	<i>L. duplex</i> Assing, 2012
–	Posterior margin of male sternite VII weakly concave; ventral process of aedeagus acute apically in lateral view.	18
18	Larger species (BL 9.2 mm); head distinctly longer than pronotum in dorsal view. (Hubei)	<i>L. rutilum</i> X.-Y. Li, Solodovnikov & H.-Z. Zhou, 2013
–	Smaller species (BL ≤ 7.5 mm); head shorter than pronotum in dorsal view	19
19	Wing-dimorphic species; male sternite VII with strongly modified short black setae posteriorly. (Yunnan)	<i>L. bimembre</i> Assing, 2012
–	Micropterous species; male sternite VII without modified setae posteriorly	20
20	Male sternite VIII with denser setae in median impression; ventral process of aedeagus longer and apically less acute. (Sichuan)	<i>L. daxuense</i> Assing, 2012
–	Male sternite VIII with sparser setae in median impression; ventral process of aedeagus shorter and apically more acute. (Xizang)	<i>L. cholaicum</i> Assing, 2012

21	Head slightly longer and distinctly wider than pronotum. (Guizhou)	<i>L. lirunyii</i> W.-R. Li & L.-Z. Li, 2013	22
–	Head shorter than pronotum, and as wide as or weakly wider than pronotum		
22	Elytra with seriate punctation; male sternite VII with long process on either side of posterior incision; ventral process of aedeagus trifold basally. (Nepal, China: Xizang)	<i>L. biaculeatum</i> Assing, 2012	
–	Elytral punctation dense and not arranged in distinct series (except <i>L. chengzhifeii</i>); posterior margin of male sternite VII concave and without long process; ventral process of aedeagus of different shape		23
23	Male sternite VIII without modified setae in median impression		24
–	Male sternite VIII with distinctly modified, short and black setae in median impression.		26
24	Coloration of legs lighter; posterior excision of male sternite VIII rather narrow; ventral process of aedeagus furcate apically in lateral view. (Guangxi)	<i>L. pengi</i> W.-R. Li & L.-Z. Li, 2013	
–	Coloration of legs darker; posterior excision of male sternite VIII broad; ventral process of aedeagus bisinuate or acute apically in lateral view		25
25	Aedeagus larger (AL 1.5 mm), with apically rounded ventral process in ventral view. (Guizhou, Guangxi)	<i>L. bispinosum</i> Assing, 2012	
–	Aedeagus smaller (AL 0.9–1.0 mm), with apically acute ventral process in ventral view. (Sichuan)	<i>L. gladiatum</i> F.-K. Zheng, 1988	
26	Ventral process of aedeagus bifid apically or divided into two long processes in ventral view		27
–	Ventral process of aedeagus acute or rounded apically in ventral view.		29
27	Body brown; antenna longer (AnL 3.50–3.78 mm); elytra nearly as long as pronotum. (Zhejiang)	<i>L. rotundiceps</i> (Koch, 1939)	
–	Body black; antenna shorter (AnL ≤ 2.5 mm); elytra longer than pronotum.		28
28	Head approximately as wide as pronotum; elytra with more extensive coloration posteriorly; ventral process of aedeagus stouter in lateral view and with two long processes in ventral view. (Beijing, Hubei, Shanxi, Gansu)	<i>L. taureum</i> Assing, 2012	
–	Head weakly wider than pronotum; elytra with small subcircular spots; ventral process of aedeagus slenderer in lateral view and bifid apically in ventral view. (Hubei, Guizhou, Shaanxi)	<i>L. ablectum</i> Assing, 2012	
29	Male sternite VII with modified, short and stout black setae postero-medially		30
–	Male sternite VII with unmodified pubescence and without strongly modified setae postero-medially.		33
30	Larger species (FL ≥ 4.5 mm); aedeagus larger (AL ≥ 1.5 mm), ventral process with pronounced ventral teeth.		31
–	Smaller species (FL ≤ 4.0 mm); aedeagus smaller (AL ≤ 1.2 mm), ventral process without tooth-like processes on ventral surface		32
31	Pronotum slightly stouter (PL/PW 1.10–1.15); posterior excision of male sternite VIII extremely deep, reaching well beyond middle of sternite; ventral process of aedeagus stoutly blade-shaped apically in ventral view. (Yunnan)	<i>L. excisissimum</i> Assing, 2012	
–	Pronotum slenderer (PL/PW 1.15–1.20); posterior excision of male sternite VIII less deep, approximately reaching middle of sternite; ventral process of aedeagus slenderer and more acute apically in ventral view. (Guizhou)	<i>L. radens</i> Assing, 2012	
32	Elytra with reddish spots in postero-lateral angles; posterior excision of male sternite VIII shallower and nearly V-shaped; dorsal plate of aedeagus long and dilated apically in lateral view. (Xizang)	<i>L. medogense</i> L. Huang & Z. Peng, sp. nov.	
–	Elytra with yellowish spot posteriorly not reaching lateral and posterior margins, nor suture; posterior excision of male sternite VIII deeper and nearly U-shaped; dorsal plate of aedeagus short and lamellate apically in lateral view. (Yunnan)	<i>L. retrocarinatum</i> Assing, 2012	
33	Elytra uniformly reddish to dark-brown		34
–	Elytra with yellowish or reddish posterior portion or spots posteriorly		35
34	Larger species (BL 8.6 mm, FL 4.8 mm); antenna much longer (AnL 3.2 mm); aedeagus larger (AL 1.8 mm), ventral process slender in ventral view. (Sichuan)	<i>L. feldmanni</i> Assing, 2012	
–	Smaller species (BL 7.2 mm, FL 3.8 mm); antenna shorter (AnL 2.4 mm); aedeagus smaller (AL 1.45 mm), ventral process massive in ventral view. (Shanxi)	<i>L. wutaium</i> Assing, 2014	
35	Posterior margin of male sternite VIII distinctly asymmetric; ventral process of aedeagus nearly rhombic apically in ventral view. (Hubei, Chongqing, Sichuan, Guizhou, Shaanxi, Gansu)	<i>L. tortile</i> F.-K. Zheng, 1988	
–	Posterior margin of male sternite VIII symmetric; ventral process of aedeagus of different shape		36
36	Male sternite VIII with few distinctly modified setae anteriorly and posteriorly; ventral process of aedeagus with short median spine on ventral surface. (Zhejiang, Hubei)	<i>L. demptum</i> Assing, 2012	
–	Male sternite VIII with numerous distinctly modified setae posteriorly; ventral process of aedeagus without spine on ventral surface		37
37	Elytral punctation arranged in series; male sternite VIII with shallower posterior incision; aedeagus of characteristic shape, widest across basal portion of ventral process. (Yunnan)	<i>L. chengzhifeii</i> X.-B. Lin & Z. Peng, 2022	
–	Elytral punctation not arranged in distinct series; male sternite VIII with deeper posterior incision; aedeagus of different shape, widest across median or basal portion of capsule.		38
38	Head weakly transverse (HL/HW 0.78–0.81); elytra distinctly broader than pronotum; ventral process of aedeagus spear-shaped apically in ventral view. (Guangxi)	<i>L. jianqingi</i> Z.-K. Lü & L.-Z. Li, 2014	
–	Head weakly oblong or approximately as broad as long (HL/HW 0.90–1.04); elytra slightly broader than pronotum; ventral process of aedeagus of different shape.		39

39	Male sternite VIII with broad and moderately deep posterior excision, with distinctly modified setae on either side of this excision and in postero-median impression.	40
–	Male sternite VIII with small and almost V-shaped or U-shaped posterior excision, with unmodified pubescence on either side of this excision, and with distinctly modified setae in postero-median impression.	43
40	Pronotum slightly longer than elytra (EL/PL 0.91–0.94); ventral process of aedeagus somewhat domed apically in ventral view. (Guangxi)	<i>L. anatinum</i> W.-R. Li & L.-Z. Li, 2013
–	Pronotum nearly as long as elytra (EL/PL 1.0–1.1); ventral process of aedeagus acute apically in ventral view.	41
41	Aedeagus ventral process broader in ventral view, and evenly bent in lateral view. (Hubei)	<i>L. quyuani</i> W.-R. Li & L.-Z. Li, 2013
–	Aedeagus ventral process slenderer in ventral view, and bisinuate in lateral view	42
42	Aedeagus shorter (AL 1.3–1.5 mm), ventral process weakly asymmetric and evenly slender in ventral view. (Zhejiang, Hubei, Sichuan, Yunnan, Shaanxi, Qinghai)	<i>L. configens</i> Assing, 2012
–	Aedeagus longer (AL 1.6–1.8 mm), ventral process distinctly asymmetric and apically distinctly dilated in ventral view. (Zhejiang, Jiangxi, Hubei, Guangxi, Sichuan, Shaanxi, Shanxi)	<i>L. spathulatum</i> Assing, 2012
43	Male sternites V–VI or only VI with shallow median impression posteriorly	44
–	Male sternites III–VI unmodified	45
44	Antenna longer (AnL 2.66 mm); aedeagus longer (AL 1.3 mm), with very slender ventral process. (Zhejiang)	<i>L. tortuosum</i> X.-Y. Li, Solodovnikov & H.-Z. Zhou, 2013
–	Antenna shorter (AnL 2.0–2.3 mm); aedeagus shorter (AL 1.1 mm), with stouter ventral process. (Shaanxi)	<i>L. schuelkei</i> Assing, 2012
45	Elytral spots smaller; postero-median impression of male sternite VIII shorter; aedeagus longer (AL 1.42 mm) and slenderer in ventral view. (Jiangxi)	<i>L. luoxiaoense</i> W.-R. Li & L.-Z. Li, 2013
–	Elytral spots slightly larger, postero-median impression of male sternite VIII longer; aedeagus shorter (AL 1.23 mm) and stouter in ventral view. (Yunnan)	<i>L. xiang</i> L. Huang & Z. Peng, sp. nov.

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中国双线隐翅虫属*Lobrathium*三新种及补充记录（鞘翅目：隐翅虫科：毒隐翅虫亚科）

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摘要：检视浙江、江西、湖北、湖南、广东、广西、重庆、贵州、云南、西藏、陕西和甘肃产双线隐翅虫属*Lobrathium*标本，共鉴定11种，含8已知种3新种，即菱双线隐翅虫*Lobrathium gai* **sp. nov.**（甘肃宕昌县）、墨脱双线隐翅虫*L. medogense* **sp. nov.**（西藏墨脱县）和緬双线隐翅虫*L. xiang* **sp. nov.**（云南云县）；棘突双线隐翅虫*L. bispinosum* Assing, 2012和异翅双线隐翅虫*L. duplex* Assing, 2012分别为广西和西藏新纪录种。至此，中国双线隐翅虫属已知种达71种。

关键词：鞘翅目；隐翅虫科；双线隐翅虫属；新种；补充记录；分类学；中国