



Two new species and additional records of the genus *Lathrobium* Gravenhorst (Coleoptera: Staphylinidae: Paederinae) from the Huaping Natural Reserve, Guangxi, southern China

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Abstract

Material of the paederine genus *Lathrobium* Gravenhorst, 1802 from the Huaping Natural Reserve, southern China, is examined. Three species are identified, one of them described previously and two undescribed. Two species are described and illustrated for the first time, all of them micropterous: *L. duanfeiyui* Peng & Tang, **sp. nov.** and *L. huapingense* Peng & Tang, **sp. nov.** Including the new taxa, 229 *Lathrobium* species are currently known from mainland China.

Key words: Coleoptera, Staphylinidae, *Lathrobium*, new species, Huaping, China

Introduction

Up to the present, 227 species of the genus *Lathrobium* Gravenhorst have been reported from mainland China (Lin *et al.* 2022). Fifteen species from Guangxi and all of them locally endemic (Lin *et al.* 2022). Three species were previously known from the Huaping Natural Reserve: *L. damingense* Peng & Li, 2013, *L. dayaoshanense* Peng & Li, 2012 and *L. zhangdinghengi* Peng, Li & Zhao, 2012 (Peng *et al.* 2012; Lin *et al.* 2022).

Covering an area of 151.3 km², the Huaping Natural Reserve is strongly influenced by subtropical monsoon rains. The highest peak is the Weiqingling at 1,807.5 m, which forms the southwestern part of the Nanling range (Zhang 2019).

In recent years, we conducted several collecting trips to Huaping Natural Reserve and obtained some *Lathrobium* specimens. Three species were identified, two of which are described for the first time.

Material and methods

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 posterior margin of abdominal segment IX; forebody length (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 of the ventral process to the base of the aedeagal capsule.

The type material is deposited in the Insect Collection of Shanghai Normal University, Shanghai, China (SNUC).

Results

Lathrobium duanfeiyui Peng & Tang, new species

(Figs 1, 3, 5–11)

Type material. HOLOTYPE: CHINA: ♂, labeled ‘China: Guangxi Prov., Longsheng County, Huaping N.R., 25°32'22"N 109°52'34"E, 600–700 m, 02.VI.2023, Duan, Peng & Zhou leg.’ (SNUC). **PARATYPES: CHINA:** 3 ♂♂, 2 ♀♀, same label data as holotype (SNUC).

Description. Measurements (in mm) and ratios: BL 10.44–10.67, FL 4.78–5.22, HL 1.30–1.34, HW 1.38–1.49, AnL 2.60–2.64, PL 1.75–1.86, PW 1.41–1.49, EL 0.89–0.98, AL 1.74–1.76, HL/HW 0.90–0.94, HW/PW 0.97–1.00, HL/PL 0.72–0.74, PL/PW 1.24–1.26, EL/PL 0.50–0.53.

Habitus as in Fig. 1. Body blackish brown with paler apex (segments IX–X, posterior portion of segment VIII), legs and antennae dark brown to light brown.

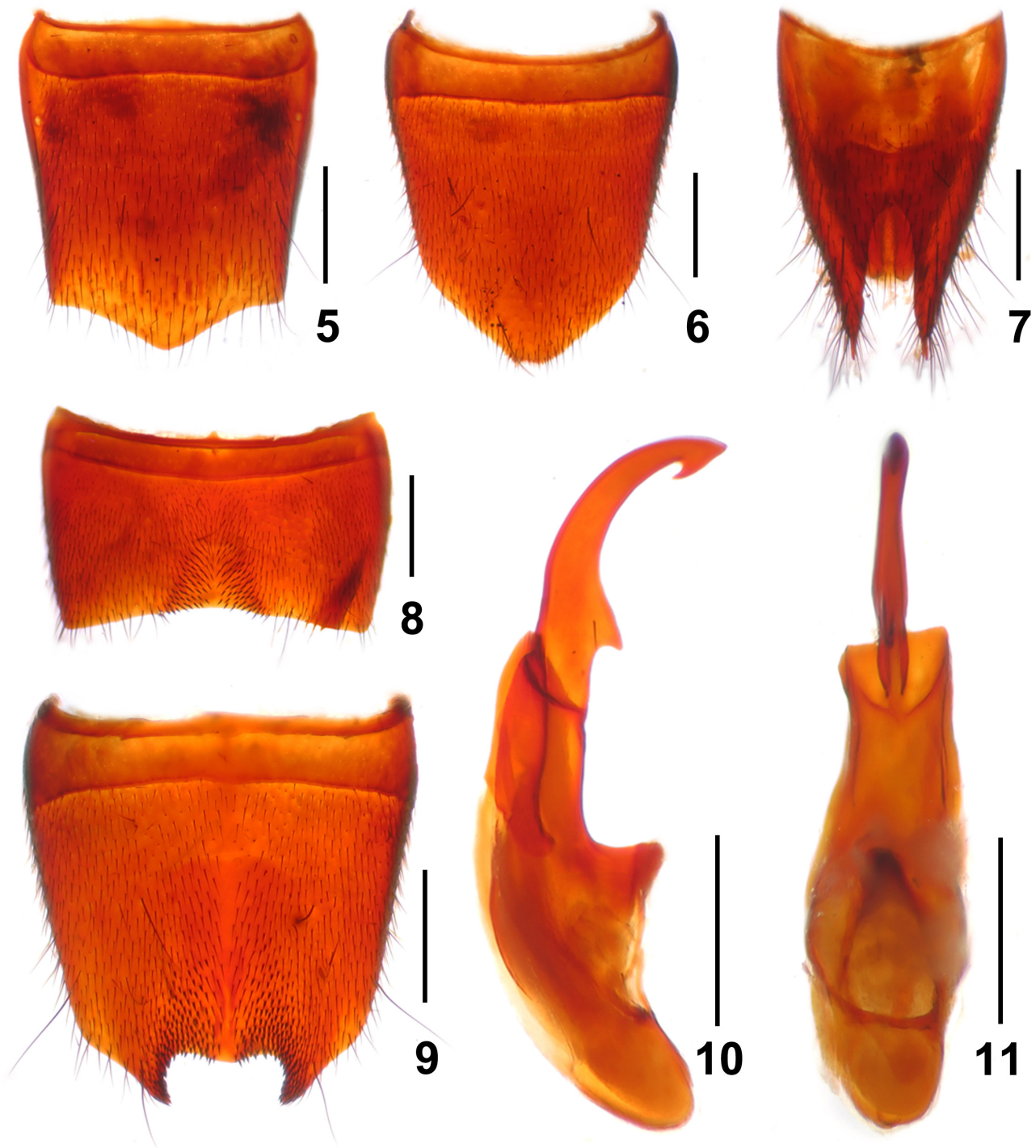
Head weakly transverse, weakly dilated posteriad; punctuation coarse and dense, somewhat sparser in median dorsal portion; interstices with distinct microreticulation, eyes of moderate size, 3/11 times as long as postocular region in dorsal view and composed of about 80 ommatidia.

Pronotum oblong; punctuation sparser than that of head; interstices without microsculpture; impunctate midline moderately broad.

Elytra short; punctuation fine and dense. Hind wings completely reduced.



FIGURES 1–4. 1. Habitus of *Lathrobium duanfeiyui*. 2. Habitus of *Lathrobium huapingense*. 3. Type locality of *Lathrobium duanfeiyui*. 4. Cheng-Lin Zhou (front) and Fei-Yu Duan (back) collecting *Lathrobium huapingense* at Guangfuding, Huaping.



FIGURES 5–11. *Lathrobium duanfeiyui*. **5.** Female tergite VIII. **6.** Female sternite VIII. **7.** Female tergites IX–X. **8.** Male sternite VII. **9.** Male sternite VIII. **10.** Aedeagus in lateral view. **11.** Aedeagus in ventral view. Scale bars: 0.5 mm.

Abdomen with fine and dense punctation; interstices with distinct microsculpture; posterior margin of tergite VII without palisade fringe.

Male. Sternites III–VI unmodified; sternite VII (Fig. 8) strongly transverse, with shallow median impression of triangular shape posteriorly, this impression with several short and stout dark setae, posterior margin broadly and weakly emarginate; sternite VIII (Fig. 9) nearly symmetric, with pair of posteriorly diverging, shallow impressions posteriorly, these impressions with modified short black setae; posterior margin bisinuate, i.e., deep median excision with weak projection in middle; aedeagus distinctly asymmetric (Figs 10, 11); ventral process long and apically

hooked (lateral view), with pronounced tooth-shaped process basally; dorsal plate sclerotized and truncate apically (ventral view).

Female. Posterior margin of tergite VIII (Fig. 5) strongly convex; sternite VIII (Fig. 6), oblong, posterior margin distinctly produced in middle, middle of posterior margin nearly truncate; tergite IX (Fig. 7) anteriorly broadly undivided, posterior processes long; tergite X (Fig. 7) distinctly shorter than tergite IX in middle.

Comparative notes. As can be inferred from the similarly derived shape and chaetotaxy of the male sternite VIII, and the similarly derived morphology of the aedeagus, *L. duanfeiyui* is closely allied to *L. hujiayaoi* Peng & Li, 2013. The new species differs from *L. hujiayaoi* by the slenderer pronotum, the shape of the male sternite VIII (posterior excision shallower), and particularly by the differently shaped ventral process the aedeagus (ventral process apically hooked). For illustrations of *L. hujiayaoi* see Peng *et al.* (2013). The species is readily separated from its congeners by the modifications of the male sternites VII–VIII (sternite VII with larger median impression posteriorly, sternite VIII with larger and deeper posterior excision), as well as by the slenderer ventral process of the aedeagus.

Distribution and natural history. The type locality is situated in the Huaping Natural Reserve to the south of Longsheng, northwestern Guangxi. The specimens were sifted from leaf litter and dead wood in a mixed forest at elevations of 600–700 m, together with *L. zhangdinghengi* (Fig. 3).

Etymology. The species is named after Fei-Yu Duan, who collected the type specimen.

Lathrobium huapingense Peng & Tang, new species

(Figs 2, 4, 12–18)

Type material. HOLOTYPE: CHINA: ♂, labeled ‘China: Guangxi Prov., Longsheng County, Huaping N.R., Yunxi Valley, 25°32′01″N 109°56′19″E, 1460–1550 m, 23.IV.2021, Yin, Zhang, Pan & Shen leg.’ (SNUC). **PARATYPES:** CHINA: 4 ♂♂, 2 ♀♀, same label data as holotype (SNUC); 1 ♂, 2 ♀♀, same data, except “25°33′47″N 109°55′40″E, ca. 1800 m, 22.IV.2021” (SNUC); 1 ♀, same data, except “25°33′45″N 109°56′17″E, 1350 m, 21.IV.2021” (SNUC); 1 ♀, same data, except “Guangfuding, 25.49°N 109.80°E, 1500 m, 26.V.2023, Duan, Peng & Zhou leg” (SNUC).

Description. Measurements (in mm) and ratios: BL 4.22–4.67, FL 2.00–2.11, HL 0.52–0.56, HW 0.48–0.52, AnL 0.97–1.08, PL 0.63–0.71, PW 0.48–0.52, EL 0.33–0.39, AL 0.89–0.93, HL/HW 0.99–1.08, HW/PW 0.97–1.01, HL/PL 0.79–0.83, PL/PW 1.31–1.37, EL/PL 0.52–0.56.

Habitus as in Fig. 2. Body yellowish brown, legs and antennae yellowish brown to yellow.

Head approximately as long as broad; punctuation moderately fine and sparse, distinctly sparser in median dorsal portion; interstices with shallow microsculpture. Eyes small, 2/9 times as long as postocular region in dorsal view and composed of approximately 30 ommatidia.

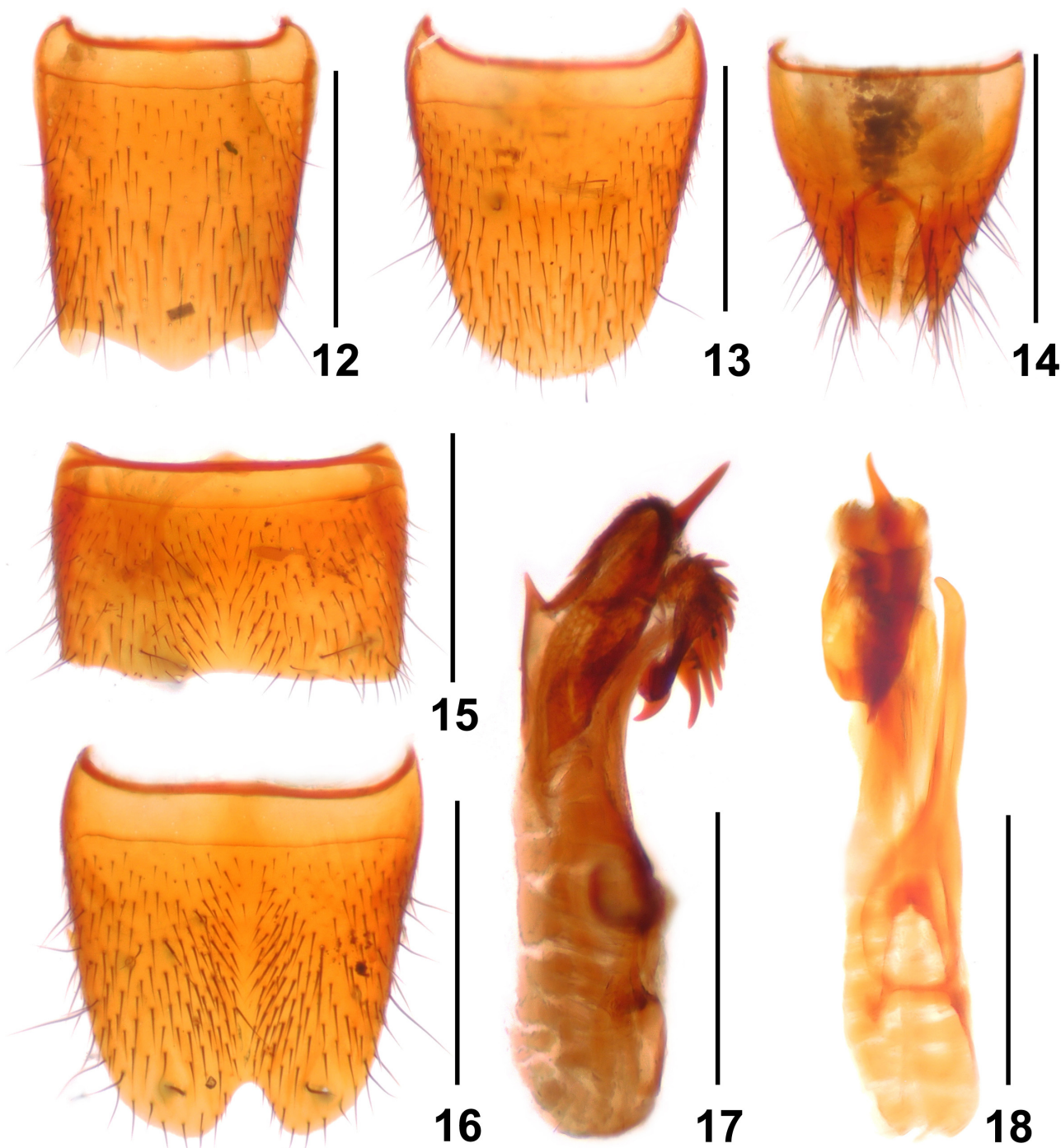
Pronotum nearly parallel-sided; punctuation similar to that of head; impunctate midline broad; interstices glossy and without microsculpture.

Elytral punctuation moderately sparse and shallow. Hind wings completely reduced. Protarsomeres I–IV with sexual dimorphism.

Abdomen with fine and dense punctuation, punctuation of tergite VII slightly less dense than that of anterior tergites; interstices with shallow microsculpture; posterior margin of tergite VII without palisade fringe; tergite VIII with weakly pronounced sexual dimorphism.

Male. Protarsomeres I–IV moderately and rather variably dilated. Posterior margin of tergite VIII convex; sternites III–VI unmodified; sternite VII (Fig. 15) strongly transverse, with apical margin weakly concave, setae unmodified; sternite VIII (Fig. 16) weakly transverse, symmetric, with rather shallow, longitudinal median impression narrow, without setae in middle, either side of middle with weakly defined cluster of weakly modified and not particularly dense setae, posterior excision moderately deep and U-shaped; aedeagus (Figs 17, 18) with moderately long and slender ventral process, with thin and sclerotized dorsal plate; internal sac with eight sclerotized short spines and five tooth-like spines.

Female. Protarsomeres I–IV distinctly dilated, but at least slightly less so than in male. Posterior margin of tergite VIII (Fig. 12) strongly convex; sternite VIII as in Fig. 13, oblong, posterior margin convexly produced in middle; tergite IX (Fig. 14) with long undivided median portion and with rather short postero-lateral processes; tergite X (Fig. 7) approximately as long as tergite IX in middle.



FIGURES 12–18. *Lathrobium huapingense*. 12. Female tergite VIII. 13. Female sternite VIII. 14. Female tergites IX–X. 15. Male sternite VII. 16. Male sternite VIII. 17. Aedeagus in lateral view. 18. Aedeagus in ventral view. Scale bars: 0.5 mm.

Comparative notes. Based on the morphology of the aedeagus, this species may be allied to *L. guangdongense* Peng & Li, 2014, from which it is distinguished by lighter coloration of the body, the chaetotaxy of the male sternite VIII and a slenderer ventral process of the aedeagus. For illustrations of *L. guangdongense* see Peng *et al.* (2014). *Lathrobium huapingense* is distinguished from all its congeners particularly by the smaller size, the paler coloration, and the derived male sexual characters.

Distribution and natural history. *Lathrobium huapingense* is most likely endemic to the Huaping, where it is apparently confined to higher elevations. The specimens were sifted in several localities at elevations of 1350–1800 m (Fig. 4).

Etymology. The species is named for its type locality (Huaping Natural Reserve).

Lathrobium zhangdinghengi Peng, L.-Z. Li & M.-J. Zhao, 2012

Material studied: China: Guangxi: 3 ♂♂, 2 ♀♀, Longsheng County, Huaping N. R., 25°32'23"N 109°52'34"E, 800–1000 m, 01.VI.2023, Duan, Peng & Zhou leg. (SNUC); 1 ♀, Longsheng County, Huaping N. R., 25°32'22"N 109°52'34"E, 600–700 m, 02.VI.2023, Duan, Peng & Zhou leg. (SNUC); 5 ♂♂, 2 ♀♀, Longsheng County, Tianping Mt., 25°37'45"N 109°54'31"E, 900–1100 m, 03.VI.2023, Duan, Peng & Zhou leg. (SNUC).

Comment: This species was only recently described from the Huaping Natural Reserve, northwest Guangxi (Peng *et al.* 2012; Lin *et al.* 2022).

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广西花坪自然保护区隆线隐翅虫属*Lathrobium*研究及二新种记述（鞘翅目：隐翅虫科：毒隐翅虫亚科）

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摘要: 通过对广西花坪自然保护区隆线隐翅虫属*Lathrobium*的标本进行鉴定, 共发现该属缩翅型3种, 其中2个为新种, 即段氏隆线隐翅虫*L. duanfeiyui* Peng & Tang **sp. nov.**和花坪隆线隐翅虫*L. huapingense* Peng & Tang **sp. nov.**。本文提供了2新种详细描述和特征图。至此, 中国大陆隆线隐翅虫属已达229种。

关键词: 鞘翅目; 隐翅虫科; 隆线隐翅虫属; 新种; 花坪; 中国