

A survey of the family Buprestidae (Coleoptera) of Jiulianshan National Nature Reserve in Jiangxi Province with descriptions of three new species

Zhongliang PENG¹①, Hongzheng LI¹, Zongren WU¹, Zhenping ZHU¹, Guandi PENG¹, Wuyun SONG¹, Hui WANG²

1. Bureau of Forestry Pest Control and Quarantine of Jiangxi, Nanchang, Jiangxi 330038, China

2. Jiulianshan National Nature Reserve Administration of Jiangxi, Longnan, Jiangxi 341700, China

Abstract: This paper reports the results of a survey of members of the family Buprestidae of Jiulianshan National Nature Reserve in Jiangxi Province, China. Altogether, 27 species and subspecies were collected and identified. Three of them are new species and are described and illustrated herein: *Habroloma (Parahabroloma) longnanicum* sp. nov., *H. (P.) jiulianshanense* sp. nov., and *H. (P.) tenuisculum* sp. nov., all in the subgenus *Parahabroloma*. Detailed distribution data are presented for all species and subspecies recorded.

Key words: Polyphaga; Buprestoidea; taxonomy

江西九连山国家级自然保护区吉丁虫科种类调查及三新种记述（鞘翅目）

彭忠亮¹①, 李红征¹, 吴宗仁¹, 朱振平¹, 彭观地¹, 宋武云¹, 王辉²

1. 江西省林业有害生物防治检疫中心, 江西 南昌 330038; 2. 江西九连山国家级自然保护区, 江西 龙南 341700

摘要: 对中国江西九连山国家级自然保护区吉丁虫科种类作了全面采集调查, 从所获大量标本中共鉴定出该科 25 个种及亚种, 归属于 4 亚科, 其中包括 3 新种: 龙南角吉丁 *Habroloma (Parahabroloma) longnanicum* sp. nov., 九连山角吉丁 *H. (P.) jiulianshanense* sp. nov. 及小角吉丁 *H. (P.) tenuisculum* sp. nov.。对所有种类采集资料作了记录, 对新种作了详尽描述并提供了正反面全图及必要的特征图。

关键词: 多食亚目; 吉丁甲总科; 分类

Introduction

Jiulianshan National Nature Reserve is located at coordinates 24°29'–30°04'N, 113°34'–118°28'E in Longnan County of Jiangxi Province, China. It borders Guangdong Province to the south and is situated in the center of the Nanling Mountains, covering an area of 13,411.6 hectares, with a length of 17.5 kilometers and a width of 15 kilometers. The Reserve belongs in the subtropical zone, and is rather mountainous, with over 93% forest coverage and a rich insect fauna. In previous years, one of the authors conducted several expeditions in the area resulting the discovery and description of new species belonging to the genus *Habroloma* and

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① Corresponding author, E-mail: pengzhongliangchina@outlook.com

the genus *Trachys* in the family Buprestidae (Peng 2022a, b). Recently a more comprehensive beetle survey was organized in the reserve, with particular focus on the family Buprestidae. During this survey, a large number of samples were collected. After careful identification, we found 25 species, three of which are confirmed to be new species. We provide detailed data for all mentioned species, as well as descriptions and illustrations of the three new species.

Material and methods

The material studied was collected and accumulated from the Reserve through multiple expeditions in the past three years. Holotypes of new species described in this paper are deposited at the Bureau of Forestry Pest Control and Quarantine of Jiangxi. Other specimens are deposited in the collection of Zhongliang PENG, Nanchang, China.

The specimens were examined and dissected under a binocular stereoscope (Motic, Model SMZ-168) with a maximum magnification of 200 \times .

All photos were obtained using a Canon 65-mm MP-E macro lens. Adobe Photoshop CS6 was used to adjust photo brightness and remove unnecessary parts from the final picture without affecting any important diagnostic characters.

Measurements are defined as follows: pronotal width — widest width of pronotum; pronotal length — measured from the point before scutellum to anterior margin in middle; widest width — widest width of elytra; elytral length — longest length of elytra; prosternal process length — longest length of prosternal process; prosternal process width — widest width of prosternal process; aedeagal length — measured from apices of parameres to base along the median line; aedeagal width — widest span between lateral margins of the parameres.

Terminology mostly follows that suggested by Lawrence *et al.* (2011) while some terminology applying to genitalia laid out by Sharp & Muir (1912) is used.

Abbreviations of institutional and private collections cited in the text are as follows: BPCQ — Bureau of Forestry Pest Control and Quarantine of Jiangxi, China; ZLPN — Collection of Zhongliang PENG, Nanchang, China.

Taxonomy

Subfamily Polycestinae Lacordaire, 1857

Ptosima chinensis Marseul, 1867

Specimens examined. 2♂ (ZLPN), respectively labeled: “Huangkeng, 24°33'N, 114°36'E, Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”.

Distribution. China: Jiangxi (Longnan, Nanchang, Nancheng, Jiujiang), Beijing, Hebei, Shanxi, Henan, Shaanxi, Gangsu, Jiangsu, Shanghai, Hubei, Hunan, Fujian, Taiwan, Guangdong, Guangxi, Guizhou, Yunnan; Laos; Vietnam (Hoa Binh).

Subfamily Chrysochroinae Laporte, 1835

Chalcophora japonica chinensis Schaufuss, 1879

Specimens examined. 2♂2♀ (ZLPN), respectively labeled: Daqiling, 24°34'N,

114°26'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”.

Distribution. China: Jiangxi (Longnan, Nanchang, Jiujiang, Fuzhou, Ganzhou, Pingxiang, Ji'an, Shangrao, Jingdezhen, Xingyu, Yingtan, Yichun), Hunan, Anhui.

Lamprodila (Lamprodila) pretiosa (Mannerheim, 1852)

Specimen examined. 1 ♀ (ZLPN), labeled: “Huangkeng, 24°33'N, 114°36'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”.

Distribution. China: Jiangxi (Longnan), Hunan, Anhui.

Lamprodila (Palmar) cupreosplendens cupreosplendens (Kerremans, 1895)

Specimen examined. 1 ♀ (ZLPN), labeled: “Huangkeng, 24°33'N, 114°36'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”.

Distribution. China: Jiangxi (Longnan, Nanchang), Hubei, Hunan, Hainan, Guangxi, Sichuan, Guizhou; Vietnam; Cambodia.

Subfamily Buprestinae Leach, 1815

Anthaxia chinensis Kerremans, 1898

Specimen examined. 1 ♀ (ZLPN), labeled: “Xiagongtang, 24°31'N 114°27'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng, 19-X-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Nanchang, Longnan, Nancheng), Jiangsu, Shanghai, Zhejiang, Hunan, Taiwan, Fujian, Hongkong; Myanmar.

Chrysobothris indica Laporte & Gory, 1837

Specimen examined. 1 ♀ (ZLPN), labeled: “Xiagongtang, 24°31'N 114°27'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng, 19-X-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan, Nanchang), Shanghai, Guangxi, Hunan, Sichuan, Yunnan; Indonesia; Nepal; India; Myanmar.

Subfamily Agrilinae Leach, 1815

Agrilus auriventris Saunders

Specimens examined. 2 ♂3 ♀ (ZLPN), respectively labeled: “Shanghu, 24°32'N 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 13-VIII-2021, Leg. Z-L Peng & Y-Q Cai”; 1 ♂ (ZLPN), labeled: “Xiahualu, 24°37'N 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan, Jiujiang, Shangrao, Jingdezhen, Fuzhou, Yingtan, Ji'an, Yichun, Xingyu, Pingxiang, Ganzhou), Zhejiang, Hubei, Hunan, Fujian, Taiwan, Guangdong, Hongkong, Guangxi, Sichuan; Myanmar; Japan; Laos.

Agrilus pilosovittatus Saunders, 1873

Specimen examined. 1 ♂ (ZLPN), Xiahualu, 24°37'N 114°29'E. Jiulianshan National

Nature Reserve, Longnan County, Jiangxi, China, VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan), Gangsu, Hunan, Jiangsu, Zhejiang, Inner Mongolia; Japan; North Korea; North America.

***Agrilus plasoni plasoni* Obenberger, 1917**

Specimen examined. 1♀ (ZLP), labeled: “Xiahualu, 24°37'N 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan), Fujian, Guizhou, Guangxi, Hunan, Sichuan, Shaanxi, Yunnan, Zhejiang; South Korea; Vietnam; Laos.

***Agrilus sinensis sinensis* Thomson, 1879**

Specimens examined. 2♂1♀ (ZLPN), respectively labeled: “Xiagongtang, 24°31'N 114°27'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng, 19-X-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan, Nanchang, Ji'an), Heilongjiang, Beijing, Jiangsu, Fujian, Guizhou, Hainan, Guizhou, Hubei, Hunan, Sichuan, Shanghai, Xizang; Japan; India; Laos; Thailand; Vietnam.

***Coraebus acutus* Thomson, 1879**

Specimens examined. 2♂2♀, respectively labeled: “Xiahualu, 24°37'N 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, VIII-2021, Leg. Z-L Peng & Y-Q Cai; 1♀ (ZLPN), labeled: “Xiagongtang, 24°31'N 114°27'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng, 19-X-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan, Nanchang, Ji'an, Jingdezhen), Henan, Shaanxi, Shanxi, Linxia, Gangsu, Shanghai, Anhui, Hubei, Zhejiang, Hunan, Fujian, Guangdong, Guangxi, Sichuan, Guizhou, Yunnan; Vietnam.

***Coraebus cisseiformis* Obenberger, 1913**

Specimen examined. 1♂, labeled: “Shanghu, 24°32'N 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 13-VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan), Chongqing.

***Coraebus cloueti* Thery, 1895**

Specimens examined. 3♂ (ZLPN), respectively labeled: “Shanghu, 24°32'N 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 13-VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan, Gangzhou, Jiujiang, Shangrao, Pingxiang, Jingdezhen), Linxia, Anhui, Fujian, Hubei, Hunan, Taiwan, Guangdong, Guangxi, Guizhou, Sichuan, Yunnan, Xizang; Vietnam.

***Coraebus diminutus* Gebhardt, 1928**

Specimens examined. 2♀ (ZLPN), respectively labeled: “Huangkeng, 24°33'N 114°36'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”.

Distribution. Jiangxi (Longnan, Dingnan, Nanchang), Shaanxi, Shanxi, Zhejiang, Hubei, Jiangsu, Shanghai, Hunan, Taiwan, Guangdong, Guangxi, Sichuan, Taiwan, Guizhou, Yunnan; Japan; Laos; Vietnam; Thailand.

***Meliboeus chinensis* Obenberger, 1927**

Specimen examined. 1♀, labeled: “Shanghu, 24°32'N 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 13-VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan, Nanchang), Hebei, Sichuan, Zhejiang; Japan; North Korea; South Korea; Far East of Russia.

***Habroloma anchiale* (Obenberger, 1929)**

Specimen examined. 1♀ (ZLPN), labeled: “Vill. Rundong, 24°35'N, 114°31'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 06–09-IX-2023, Leg. Z-L Peng *et al.*”; 1♂, labeled: “Shanghu, 24°32'N 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 13-VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan), Fujian, Hunan, Zhejiang, Yunnan; India.

***Habroloma atronitidum* (Gebhardt, 1929)**

Specimen examined. 1♂ (ZLPN), labeled: “Vill. Rundong, 24°35'N. 114°31'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 06–09-IX-2023, Leg. Z-L Peng *et al.*”

Distribution. Jiangxi (Longnan), Fujian, Hunan, Zhejiang, Yunnan; Japan.

***Habroloma pulchrum* Peng, 2021**

Specimens examined. 2♂, respectively labeled: “Shanghu, 24°32'N, 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 13-VIII-2021, Leg. Z-L. Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan, Dingnan), Hunan, Fujian.

***Habroloma lewisii* (Saunders, 1873)**

Specimen examined. 1♂, labeled: “Shanghu, 24°32'N, 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 13-VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan, Gangzhou, Jiujiang, Yichun, Shangrao, Pingxiang, Ji'an, Xingyu), Hunan, Fujian, Zhejiang, Guangdong, Hubei, Jiangsu, Guangxi, Guizhou, Yunnan, Chongqing, Shaanxi, Hainan; North Korea; South Korea; Japan.

***Habroloma subbicorne* (Motschulsky, 1860)**

Specimens examined. 1♂ (ZLPN), labeled: “Vill. Rundong, 24°35'N, 114°31'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 06–09-IX-2023, Leg. Z-L Peng *et al.*”; 3♂3♀, (ZLPN): Shanghu, 24°32'N, 114°29'E, Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 13-VIII-2021, Leg. Z-L Peng & Y-Q Cai”; 3♂2♀ (ZLPN): “Huangkeng, 24°33'N, 114°36'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”; 5♂2♀ (ZLPN): “Xiahualu, 24°37'N, 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, VIII-2021, Leg. Z-L Peng & Y-Q Cai”; 3♂2♀ (ZLPN): “Xiagongtang, 24°31'N 114°27'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021,

Leg. Z-L Peng & X-Q Sheng, 19-X-2021, Leg. Z-L Peng & Y-Q Cai"; 3♂8♀ (ZLPN): "Daqiuling, 24°34'N 114°26'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng".

Distribution. Jiangxi (Longnan, Gangzhou, Jiujiang, Yichun, Shangrao, Pingxiang, Ji'an, Xingyu, Jingdezheng, Nanchang), Fujian, Hunan, Zhejiang, Sichuan, Hubei, Yunnan; Japan; North Korea; South Korea.

***Habroloma (Parahabroloma) longnanicum* sp. nov.** (Fig. 1)

Description of male holotype. Habitus (Fig. 1A). Body length 3.5 mm, width 2.2 mm; dorsal side brown bronze with slightly golden reflections, ventral side brown with bronze tinges, with a long and rather attenuate species.

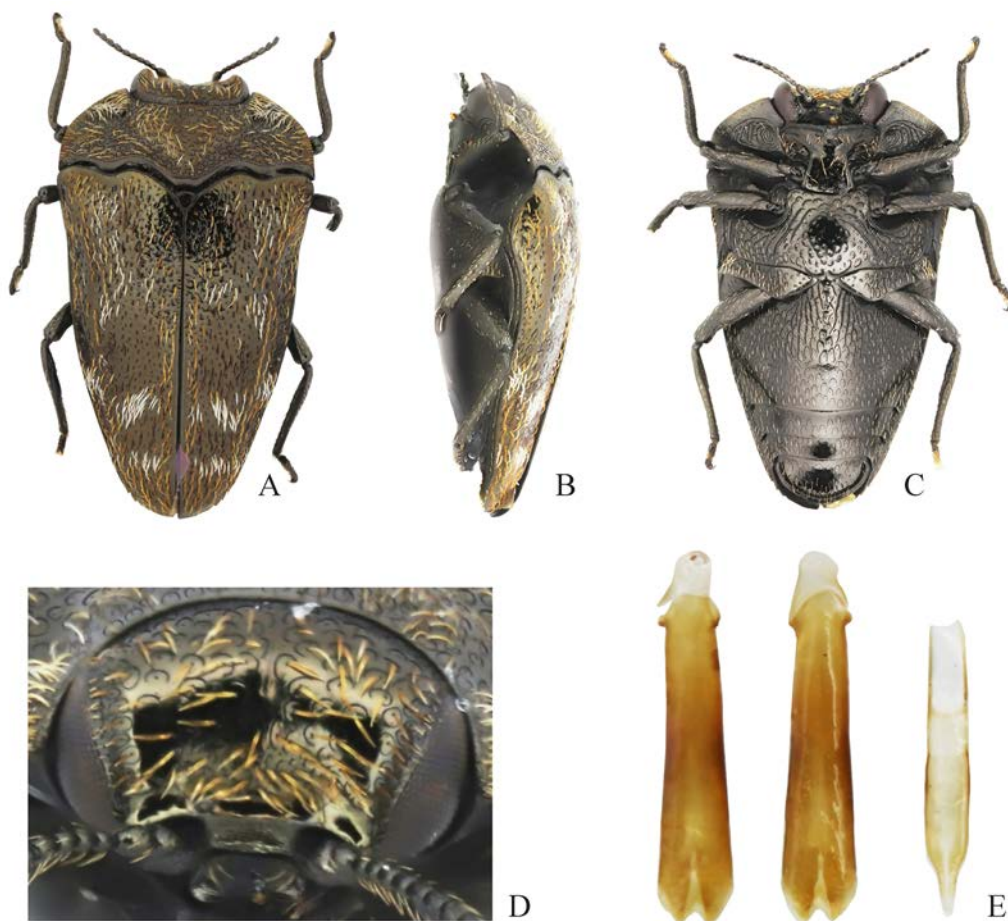


Figure 1. *Habroloma (Parahabroloma) longnanicum* sp. nov., holotype, ♂. A. Habitus, dorsal view; B. Habitus, lateral view; C. Habitus, ventral view; D. Head, frontal view; E. Aedeagus (fully dissected).

Head (Fig. 1D). Widely excavated between eyes; vertex narrow, arcuately flattened, uniformly covered with ocellate sculpture and some golden-yellow pubescence; frons brown with strong golden reflections, depressed along mid-line with an indistinct smooth groove, uniformly covered with ocellate sculpture and nearly uniformly clothed with golden-yellow

pubescence; eyes crescent-shaped, inner margins obliquely bisinuate and strongly carinate; antennal sockets situated at inner sides above lower margins of eyes, deep and slightly ovate, widely open near side; clypeus rectangular, brown-bronze, metallic and shiny, about 2.05 times as wide as long, both anterior margin and clypeal suture transversely straight and elevated, lateral sides slightly narrowed at midlength, surface covered with dense transverse wrinkles; two frontal holes very round and situated at each side above clypeus, between the two frontal holes with a strongly elevated transverse carina; antennae relatively short, covered with dense yellow pubescence, both antennal scape and pedicel large and swollen, scape short clavate, about 2.0 times as long as wide, pedicel ball-like, smaller than scape, as wide as long, antennomeres 3–6 moniliform, about 1.30 times as long as wide, much smaller than scape and pedicel and slightly smaller than remaining apical ones; antennomeres 7–10 serrate.

Pronotum about 3.1 times as wide as long, widest just before base, about 2.0 times as wide as anterior margin of pronotum, slightly wider than elytra at base but much narrower than at humeri; lateral margins from base to anterior strongly arcuate; basal angles rather sharp at tips; anterior margin biarcuate, median lobe slightly produced forward; posterior margin trisinate, median lobe emarginate, truncated at tip; disc convex, uniformly covered with ocellate sculpture and nearly uniformly clothed with brown yellow and pale pubescence, near anterior angle with a distinct white pubescent spot each side, disc with three small indistinct white pubescent spots.

Scutellum subtriangular, smooth.

Elytra about 1.45 times as long as wide, about 4.2 times as long as pronotum, widest at humeri; lateral margins from humeri slightly emarginate to about midlength, then arcuately converging to posterior third, rather sharply to apices; apices jointly arcuate, with sparse but sharp apical and lateral denticles; disc slightly convex; humeri distinct and strongly projected beyond elytral outline; humeral depressions wide and deep, along lateral sides from basal angles to posterior third slightly depressed; lateral carinae very feeble, from base arcuate to basal third, then slightly biarcuate extending to subapices but not reaching apices; entire surface nearly uniformly clothed with yellow pubescence but on posterior half near suture with two glabrous spots, ornamentation consisting of white pubescence, arranged on each elytron as follows: at basal depression with a spot, at midlength with oblique stripe, on apical third with two transverse bands, anterior one zigzag, apical one transverse.

Lateral view (Fig. 1B). Thickest point lying at basal third of elytra; maximal thickness barely exceeding length of head plus pronotum; curvature with angle of about 145° between pronotal margin and subhumeral lobe; lateral margin of pronotum slightly arcuate, lateral carina weak at base and arcuate, basal part of elytral margin obliquely biarcuate with obtuse angle above metaventricle.

Ventral side (Fig. 1C). Nearly uniformly clothed with short and semi-recumbent pale-yellow pubescence; anterior part of prosternum butterfly-shaped, anterior margin transversely biarcuate, posterior margin slightly arcuate inwards on each side, surface smooth with a slight pale-yellow pubescence; prosternal process nearly as wide as long, apical angles slightly angulate, apical margin subtruncate, about 1.5 times as wide as basal margin; lateral margins from apical angles obliquely converging to base, surface smooth, covered with weak but coarse foveae and a few pale-yellow pubescence; hypomerall markings nearly ovate, about 1.7 times as long as wide, covered with strong and dense arcuate or concentric wrinkles, near

outer side with indistinct reticulate micro-wrinkles; mesoventrite completely penetrated by prosternal process, metaventrite smooth and covered with coarse but weak foveae centrally, near sides and anterior margin with strong reticulate or ocellate sculpture, anterior margin slightly emarginate; first ventrite covered with longitudinal wrinkles in the middle, all remaining area of abdomen nearly uniformly covered with ocellate sculpture; posterior margins of anal ventrite arcuate but the margin of pygidium rather acuminate medially.

Legs. Procoxa and mesocoxa small and globular, posterior coxa expanded as a transverse plate and covered with dense ocellate sculpture and pale-yellow pubescence, near inner lateral side rather smooth, near outer lateral side with a pale pubescent spot; protrochanters and mesotrochanters small but visible, nearly triangular, metatrochanter completely covered by metafemur plate; profemur and mesofemur moderately dilated but metafemur strongly dilated; all tibiae slender and arcuate with hard yellow pubescence but without distinct spines; all tarsi bright brown on dorsal sides but yellow on ventral sides, each claw with a short but sharp tooth at base.

Aedeagus (Fig. 1E). Length 0.8 mm, width 0.18 mm; brown-yellow, rather long and slender; phallobase slightly spoon-shaped, but slightly wider than parameres at base, about 0.2 times the total aedeagus; tegminal strut dilated and long, apical margin angulate; parameres gradually diverging from base to subapices, then sharply tapering to apices; apical apodeme of median lobe very short, cone-shaped, the latero-basal struts very long, about 4.3 times as long as apical apodeme.

Sexual dimorphism. Female unknown.

Holotype (BPCQ). ♂, labeled: “Vill. Rundong, 24°35'N 114°31'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 06–09-IX-2023, Leg. Z-L Peng *et al.*”.

Etymology. This species is named after the county name Longnan in the south part of Jiangxi Province, where the holotype was collected in the Jiulianshan Nature Reserve which is located within Longnan County.

Remarks. This species is similar to species such as *H. (P.) chishuiense*, *H. (P.) longipenne*, and *H. (P.) alphaxium* in terms of general appearance, the most distinguishing character to separate it from others is its significantly more attenuate shape in the posterior third of the elytra. Additionally the male aedeagus exhibits notable differences compared to the aforementioned species. This new species was collected in the heavy rain from the leaves of *Rubus* ssp.

***Habroloma (Parahabroloma) jiulianshanense* sp. nov.** (Fig. 2)

Description of female holotype. Habitus (Fig. 2A). Long and rather attenuate, length 2.8 mm, width 1.6 mm; dorsal side brown bronze with slightly golden reflections, ventral side brown with bronze tinges.

Head (Fig. 2D). Widely excavated between eyes; vertex relatively wide, arcuately flattened, uniformly covered with ocellate sculpture and some pale and yellow pubescence; frons depressed along mid-line with an indistinct smooth groove, uniformly covered with ocellate sculpture and sparsely clothed with pale and yellow pubescence; eyes crescent-shaped, inner margins generally arcuate and strongly carinate; antennal sockets situated at inner sides above lower margins of eyes, deep and slightly ovate, widely open near side; clypeus rectangular, brown-bronze, metallic and shiny, about 1.9 times wide as long,

anterior margin transversely straight and elevated, clypeal suture also elevated but slightly emarginate, lateral sides slightly narrowed at mid-length, surface smooth; two frontal holes very round and situated at each side above clypeus; antennae relatively short, covered with dense yellow pubescence, both antennal scape and pedicel large and swollen, scape short clavate, about 2.0 times long as wide, pedicel ball-like, smaller than scape, as wide as long, antennomeres 3–6 moniliform, about 1.30 times as long as wide, much smaller than scape and pedicel and slightly smaller than remaining apical ones; antennomeres 7–10 serrate.



Figure 2. *Habroloma (Parahabroloma) juliashanense* sp. nov., holotype, ♀. A. Habitus, dorsal view; B. Habitus, lateral view; C. Habitus, ventral view; D. Head, frontal view.

Pronotum. About 3.2 times wide as long, widest just before base, about 1.85 times as wide as anterior margin of pronotum, slightly wider than elytra at base but narrower than at humeri; lateral margins from base to anterior strongly arcuate, then converging to anterior angles; posterior angles rather sharp at tips; anterior margin biarcuate, median lobe slightly produced forwards; posterior margin trisinate, with median lobes truncate; disc convex, uniformly covered with ocellate sculpture and irregularly clothed with pale and pale-yellow

pubescence, near anterior angle with a distinct white pubescent spot each side, centrally slightly glabrous.

Scutellum subtriangular, smooth.

Elytra about 1.35 times long as wide, about 4.35 times as long as pronotum, widest at humeri; lateral margins nearly parallel in anterior 1/3, then slightly attenuate to posterior 1/3, sharply to subapices and arcuately to apices, apices jointly arcuate, with sparse but distinct apical and lateral denticles; elytral surface slightly convex; humeri distinct and projected beyond elytral outline; humeral depressions wide, along lateral sides from humeri to posterior 1/3 widely depressed; lateral carinae filiform but distinct and strong, from basal angles arcuate to basal 1/3, then slightly biarcuately extending to subapices but not reaching apices; entire surface irregularly clothed with yellow pubescence, ornamentation consisting of white pubescence, arranged on each elytron as follows: at basal depression, at middle near suture and near lateral side with a spot respectively, on apical third with two transverse bands, anterior one zigzag, apical one transverse, near apex with some extra white pubescence.

Lateral view (Fig. 2B). Thickest point lying at basal 1/3 of elytra; maximal thickness slightly exceeding length of head plus pronotum; curvature with angle of about 135° between pronotal margin and subhumeral lobe; lateral margin of pronotum slightly biarcuate, lateral carina distinct at base and arcuate, basal part of elytral margin obliquely straight with obtuse angle above metaventricle.

Ventral side (Fig. 2C) Nearly uniformly clothed with short and semi-recumbent pale-yellow pubescence; anterior part of prosternum butterfly-shaped, anterior margin transversely biarcuate, posterior margin oblique on each side, surface smooth with a few pale-yellow pubescence; prosternal process nearly 1.33 times as wide as long, apical angles slightly angulate, apical margin subtruncate, about 1.5 times as wide as basal margin; lateral margins elevated and wide, from apical angles obliquely converging to base, surface smooth with slight pale pubescence; hypomerale marking nearly ovate, about 2.0 times long as wide, covered with strong and dense arcuate or concentric wrinkles, near outer side with indistinct reticulate micro-wrinkles; mesoventrite completely penetrated by prosternal process, metaventricle smooth and covered with coarse but weak foveae centrally, near sides and anterior margin with strong reticulate or ocellate sculpture, anterior margin emarginate; first ventrite covered with longitudinal wrinkles in middle, remaining area of abdomen nearly uniformly covered with ocellate sculpture; posterior margins of anal ventrite arcuate but the margin of pygidium rather accumulated medially.

Legs. Procoxa and mesocoxa small and globular, posterior coxa expanded as a transverse plate and covered with dense ocellate sculpture and pale-yellow pubescence, near inner lateral side rather smooth; protrochanters and mesotrochanters small but visible, nearly triangular, metatrochanter completely covered by metafemur plate; profemur and mesofemur moderately dilated but metafemur strongly dilated; all tibiae slender and arcuate with hard yellow pubescence but without distinct spines; all tarsi bright brown on dorsal sides but yellow on ventral sides, each claw with a short but sharp tooth at base.

Sexual dimorphism. Male unknown.

Holotype (BPCQ). ♀, labeled: "Vill. Rundong, 24°35'N, 114°31'E, Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 06-09-IX-2023, Leg. Z-L Peng *et al.*"

Etymology. This species is named after the Jiulianshan Nature Reserve in the south part

of Jiangxi Province where the holotype was collected.

Remarks. This species is rather peculiar, bearing only slight resemblance to *H. (P.) atronitidum* Gebhardt, 1929. However, this new species is noticeably broader and shorter, the lateral sides of elytra in the basal third are subparallel, the anterior half of the elytra are more quadrate, whereas in *H. (P.) atronitidum* they are more slender and attenuated. Additionally, in this new species the prosternal process is wider but shorter, featuring a more quadrate shape with straight oblique lateral sides. In contrast, *H. (P.) atronitidum* has a longer prosternal process with lateral sides narrowing at the basal 1/3 or base. This new species was collected in the heavy rain from the leaves of *Rubus* ssp.

***Habroloma (Parahabroloma) tenuisculum* sp. nov.** (Fig. 3)

Description of male holotype. Habitus (Fig. 3A). Length 2.3 mm, width 1.2 mm; both dorsal and ventral sides brown with slightly bronze reflections; a very small and slender species.

Head (Fig. 3D). Widely excavated between eyes; vertex wide and arcuately flattened, uniformly covered with ocellate sculpture and scattered with a few pale pubescent areas; frons depressed along midline with an indistinct smooth groove, irregularly clothed in a few white or pale pubescent areas, eyes crescent-shaped, inner margins slightly obliquely bisinuate and strongly carinate; antennal sockets situated at inner sides above lower margins of eyes, deep and slightly rounded, widely open near side; clypeus rectangular, brown-bronze, about 1.7 times wide as long, both anterior margin and clypeal suture transversely straight and elevated, lateral sides narrowed at midlength, surface covered with indistinct transverse wrinkles; two frontal holes very round and situated at each side above clypeus, between the two frontal holes, slightly concave; antennae relatively long, both antennal scape and pedicel large and swollen, scape short clavate, about 2.0 times as long as wide, pedicel also short clavate, smaller than scape, about 1.8 times wide as long, antennomeres 3–6 moniliform, about 1.30 times long as wide, much smaller than scape and pedicel and slightly smaller than remaining apical ones; antennomeres 7–10 serrate.

Pronotum about 2.8 times wide as long, widest just before base, about 1.75 times as wide as anterior margin of pronotum, slightly wider than elytra at base but narrower than at humeri; lateral margins from base arcuate to anterior 1/3, then converging to acute anterior angles; posterior angles extend downwards and rather sharp at tips; anterior margin biarcuate, median lobe slightly produced forward; posterior margin trisinate, median lobes subtruncate; surface convex medially, uniformly covered with ocellate sculpture and irregularly clothed with brown yellow and pale pubescence, near anterior angle with a distinct white pubescent spot in each side, along the middle with a pubescent strip.

Scutellum subtriangular, smooth.

Elytra. about 1.40 times long as wide, 3.7 times longer than pronotum, widest at humeri; lateral margins from humeri nearly directly attenuate to apical 1/3, only slightly emarginate under humeri, then more sharply converging to subapices and arcuately to apices; apices jointly arcuate, with sparse but distinct apical and lateral denticles; elytral surface slightly convex; humeri distinct and slightly projected beyond elytral outline; humeral depressions wide but narrow, along lateral sides from basal angles to posterior 1/3 slightly depressed; lateral carinae very feeble, from base arcuate to basal 1/3, then slightly biarcuately extending

to subapices but not reaching apices; entire surface nearly uniformly clothed with brown-yellow and white pubescence, ornamentation consisting of white pubescence, arranged on each elytron as follows: at basal depression, at midlength near suture and outer side, with an indistinct spot respectively, on apical third with two transverse bands, anterior one zigzag, apical one transverse, at apex with some extra white pubescence.

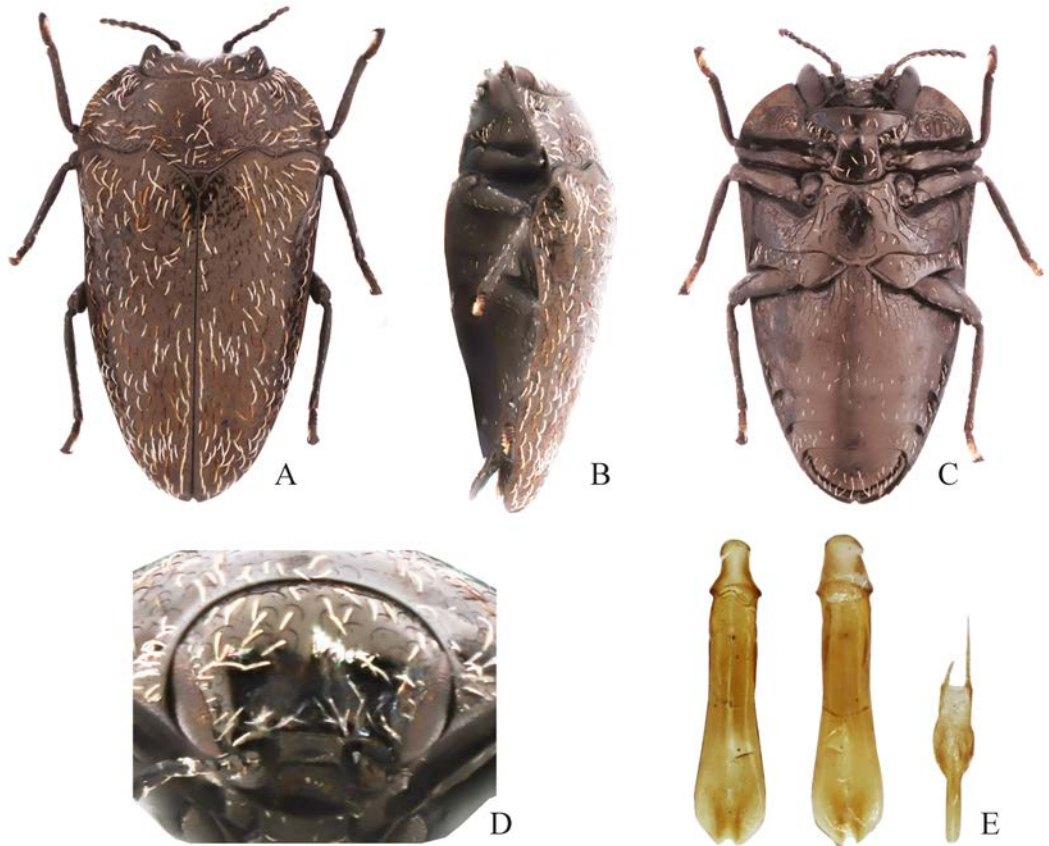


Figure 3. *Habroloma (Parahabroloma) tenuisculum* sp. nov., holotype, male. A. Habitus, dorsal view; B. Habitus, lateral view; C. habitus, ventral view; D. Head, frontal view; E. Aedeagus (fully dissected).

Lateral view (Fig. 3B). Thickest point lying at basal 1/3 of elytra; maximal thickness greatly exceeding length of head plus pronotum; curvature with angle of about 145° between pronotal margin and subhumeral lobe; lateral margin of pronotum biarcuate, lateral carina at base indistinct with only a smooth trace, basal part of elytral margin obliquely arcuate with obtuse angle above metaventrite.

Ventral side (Fig. 3C). Nearly uniformly clothed with short and semi-recumbent pale-yellow pubescence; anterior part of prosternum butterfly-shaped, anterior margin transversely biarcuate, posterior margin oblique in each side, surface smooth with some pale-yellow pubescence; prosternal process nearly as wide as long, apical angles arcuate, apical margin subtruncate, about 1.25 times wide as basal margin; lateral margins from apical angles converging to base, slightly narrowed at basal 1/3, surface smooth, covered with a few

weak foveae and pale-yellow pubescence; hypomerall marking nearly ovate, about 1.8 times wider than long, covered with strong and dense arcuate or concentric wrinkles, near outer side with indistinct reticulate micro-wrinkles; mesoventrite completely penetrated by prosternal process, metaventrite smooth and covered with coarse but weak foveae centrally, near sides and anterior margin with sparse reticulate or ocellate sculpture, anterior margin arcuately emarginate; first ventrite covered with longitudinal wrinkles in the middle, and longitudinally-arranged ocellate sculpture, all remaining area of abdomen nearly uniformly covered with ocellate sculpture; both margins of anal ventrite and pygidium rather accumulated medially.

Legs. Procoxa and mesocoxa small and globular, posterior coxa expanded as a transverse plate and covered with dense ocellate sculpture and pale-yellow pubescence, near inner lateral side rather smooth, near outer lateral side with a pale pubescent spot; procoxae and mesotrochanters small but visible, nearly triangular, metatrochanter completely covered by metafemur plate; profemur and mesofemur moderately dilated but metafemur strongly dilated; all tibiae slender and arcuate with hard yellow pubescence but without distinct spines; all tarsi bright brown on dorsal sides but yellow on ventral sides, each claw with a short but sharp tooth at base.

Aedeagus (Fig. 3E). Length 0.9 mm, width 0.25 mm; gray-yellow; phallobase slightly spoon-shaped, but wider at base than parameres at base, about 0.18 times the total tegmen; tegminal strut short, apical margin arcuate; parameres in basal half nearly parallel, but at midlength slightly shrunk, then gradually diverging to subapices, and sharply tapering to apices; apical apodeme of median lobe column-shaped, apex round, latero-basal struts about 2.75 times longer than apical apodeme, and arcuately swollen in basal fourth.

Sexual dimorphism. Female unknown.

Holotype (BPCQ). ♂, labeled: “Vill. Rundong, 24°35'N, 114°31'E, Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 06–09-IX-2023, Leg. Z-L Peng *et al.*”.

Etymology. This species epithet is derived from the Latin adjective “*tenuisculus*” meaning small and slender, which refers to the small size of this new species.

Remarks. This species resembles the common species *H. (P.) subbicorne* in general appearance. Compared to *H. (P.) subbicorne*, this new species is much smaller in size, the elytra are more slender, longer, and more attenuate; the prosternal process in this new species is wider, its anterior margin is nearly as wide as posterior margin, with lateral sides obliquely straight, whereas in *H. (P.) subbicorne* the anterior margin of the prosternal process is greatly wider than its posterior one with lateral sides shrunk at midlength. This new species was collected in the heavy rain from the leaves of *Rubus* ssp.

***Trachys abeillei* Obenberger, 1940**

Specimens examined. 2♂2♀: “Xiahualu, 24°37'N, 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, VIII-2021, Leg. Z-L Peng & Y-Q Cai”.

Distribution. China: Jiangxi (Longnan), Fujian.

***Trachys auricollis* Saunders, 1873**

Specimens examined. 2♂2♀, (ZLPN), respectively labeled: “Xiahualu, 24°37'N, 114°29'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, VIII-2021, Leg. Z-L Peng & Y-Q Cai”; 1♂1♀ (ZLPN), respectively labeled: “Daqiuling, 24°34'N,

114°26'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”.

Distribution. China: Jiangxi (Longnan, Yichuan), Fujian, Zhejiang, Hunan, Yunnan, Taiwan; Japan; Vietnam.

***Trachys koshunensis* Obenberger, 1940**

Specimens examined. 2♀ (ZLPN): respectively labeled: “Huangkeng, 24°33'N, 114°36'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”.

Distribution. China: Jiangxi (Longnan, Nanchang), Sichuan, Taiwan, Hunan.

***Trachys tsushimae* Obenberger, 1922**

Specimens examined. 1♂1♀ (ZLPN), respectively labeled: “Daqiuling, 24°34'N, 114°26'E. Jiulianshan National Nature Reserve, Longnan County, Jiangxi, China, 20-IX-2021, Leg. Z-L Peng & X-Q Sheng”.

Distribution. China: Jiangxi (Longnan, Nanchang), Taiwan, Shandong, Fujian, Hunan; Japan; South Korea.

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