



Three new species and a new record of *Anacaena* Thomson, 1859 from China, with taxonomic revision to two species (Coleoptera: Hydrophilidae: Chaetarthriinae)

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Abstract

Three new species of *Anacaena* Thomson, 1859 from China are described: *Anacaena ringenbungisiana* sp. nov. (Xizang), *A. robertangusi* sp. nov. (Sichuan) and *A. zhangdandanae* sp. nov. (Guangxi). *Anacaena jaegeri* Komarek, 2007 is recorded from China for the first time (Xizang). The identity of two Chinese *Anacaena* species are clarified: *Anacaena bulbifera* Pu, 1964 is synonymized with *Paracymus orientalis* Orchymont, 1925 and *Anacaena lushanensis* Pu, 1964 with *Paracymus atomus* Orchymont, 1925. Detailed morphological descriptions and illustrations of the new species are provided, along with an updated checklist of *Anacaena* species recorded from China.

Key words: *Anacaena*, Hydrophilidae, Chaetarthriinae, Oriental region, China, taxonomy

Introduction

Anacaena Thomson, 1859 is one of the largest genera within the family Hydrophilidae. Species of this genus are distributed worldwide and have small body size (2–3 mm in length). They inhabit a wide range of aquatic and semi-aquatic environments and can occasionally be found in forest leaf litter (Komarek 2012). The genus was established by Thomson (1859) for *Anacaena globulus* (Paykull, 1798). By 1942, only 40 species had been described (d'Orchymont 1942), and no comprehensive taxonomic revision was conducted until the early 21st century. Since then, a series of revisions by Albrecht Komarek has significantly clarified the taxonomy of *Anacaena* of many continents (Komarek 2004, 2005, 2006, 2007, 2009, 2010a, b, 2011, 2012, 2013a, b, 2014, 2021a, b; Komarek & Freitag 2014). A total of 153 species have been described globally until now (Hansen 1999; Short & Fikáček 2011; Komarek 2011, 2012, 2013a, b, 2014; Komarek & Freitag 2014; Sánchez *et al.* 2022; Minoshima *et al.* 2023; Bilton & Komarek 2016; Bilton *et al.* 2025).

Two species, *Anacaena yunnanensis* Orchymont and *A. gerula* Orchymont, were described from Yunnan, China by d'Orchymont (1942), marking the first record of *Anacaena* from China. Subsequently, Pu (1963, 1964) and Jia (1997) described nine additional species from China. Among these, *A. bulbifera* Pu and *A. lushanensis* Pu were later transferred to *Paracymus* Thomson, 1867 (Komarek 2012), while *A. hunanensis* Pu was synonymized with *A. yunnanensis* Orchymont, and *A. pseudoyunnanensis* Jia with *A. maculata* Pu (Komarek 2014). Two species, *A. lutescens* (Stephens, 1829) and *A. limbata* (Fabricius, 1972), were reported from Xinjiang by Jia & Zhao (2008); these are the only known species occurring in the Chinese part of the Palearctic region. The Chinese *Anacaena* fauna was revised by Komarek (2011, 2012). Currently, a total of 19 species are known from China, with 17 species recorded from the mainland and two from Taiwan.

Material and methods

Representative specimens were dissected. After 10 min in 10% KOH at 70°C, dissected male genitalia were transferred to a drop of distilled water, and the cleaned genitalia were subsequently mounted in a drop of soluble resin (fish glue after transparent treatment) on a piece of paper card attached below the respective specimen. For taking photographs, the cleaned and relaxed male genitalia were placed in a drop of glycerine. Photographs of genitalia were taken using a Zeiss AxioCam HRc camera mounted on a Zeiss AX10 microscope with the Axio Vision SE64 software. These images were then stacked in Helicon focus (v7.0.2). Habitus photographs were taken using a Nikon DS-Ri2 mounted on a Nikon SMZ25; layers were captured and stacked in the NIS-Elements software. Specimens are deposited in the following collections:

- NACRC** National Animal Collection Resource Center, Chinese Academy of Sciences, Institute of Zoology, Beijing, China (J. Chen);
NMP National Museum, Prague, Czech Republic (M. Fikáček, J. Hájek, L. Sekerka);
NMW Naturhistorisches Museum Wien, Vienna, Austria (M. Jäch, M. Seidel);
SYSU Sun Yat-sen University, Guangzhou, China (F.-L. Jia, W.-C. Xie).

Taxonomy

Description of the new species

Anacaena ringenbungsiana sp. nov.

(Figs 1A–C, 4B)

Type material. HOLOTYPE: CHINA: ♂ (SYSU), Xizang, Nyingchi City (=Linzhi), Mêdog County, Forest behind the Rinqênbung Temple (仁青崩寺后山), 2104 m, 29.3086°N, 95.3471°E, 18.VI.2023, Zu-Qi Mai & Wen-Kai Kou leg. **PARATYPES: CHINA:** 2♀♀ (SYSU), same data as holotype; 1♂ (NACRC), Xizang, Mêdog County, Mêdog town, Rinqênbung temple (西藏墨脱县墨脱镇仁青崩庙), 1982.01 m, 29.30564°N 95.35326°E, 2021.VI.9D1, Yu-Chen Zhao & Zhong-Min Ma (赵宇晨, 马忠民) leg., (IOZ(E)2058436).

Diagnosis. Length 2.3–2.4 mm. Body broadly oval and moderately convex. Dorsum black and shiny, yellowish on labrum, preocular patches, marginal portion of pronotum and lateral margins of elytra (Fig. 1A). Ventral surface yellowish brown with lighter legs (Fig. 1B). Antennomere 9 without distinct subapical constriction. Maxillary palpomere 4 almost symmetrical, swollen apically, apex dark and truncate. Punctuation on head and pronotum very fine and obsolete. Mesoventrite with a sharply pointed protuberance. Procoxae without spine-like setae; ventral face of meso- and metafemora pubescent on proximal 0.75 on anterior margin and 0.50 on posterior margin, with oblique hairline. **Aedeagus** (Fig. 4B) with median lobe as long as parameres, lateral margins of median lobe straight, apex rounded; parameres widest basally, lateral margins straight or slightly curved, apex rounded with a stout apical seta. Phallobase ca 2.3× as long as paramere, not forming a continuous outline with parameres; manubrium gradually converging, extended into a long narrow lobe with parallel or slightly converging margins.

Description. Form and Colour (Fig. 1A–C). Total length 2.3–2.4 mm, maximum width 1.4 mm. Body broadly oval and moderately convex. Dorsum shiny; labrum yellow, clypeus yellowish brown, with big and distinct preocular patches; pronotum black with distinct and wide yellow marginal portion; elytra black with lateral margins yellowish brown. Antenna and maxillary palpi yellowish brown; antennal club and maxillary palpomere 4 darker. Ventral surface almost uniformly yellowish brown, with lighter legs.

Head. Dorsal surface with sparse, obsolete and fine punctures; interstices between punctures smooth. Clypeus with distinct anterior angles. Frontoclypeal suture distinct. Eyes not constricted; dorsal portion almost circular, about as large as ventral portion; eyes of moderate size, separated by ca 4× the width of one eye. Gular sutures narrowed anteriorly. Antennae with 9 antennomeres; pedicellus 2× as long as wide; antennomere 3 slightly elongate, about as long as antennomeres 4 and 5 combined, club (antennomeres 7–9) about 3× as long as wide, apical antennomere slightly ovoid, without distinct subapical constriction. Maxillary palpomeres stout; palpomere 2 distinctly swollen; palpomere 3 almost symmetrical, mesal and lateral margins straight; palpomere 4 elongate, almost symmetrical, with slightly convex lateral and mesal margins, apex truncate. Labial palpi moderately slender; palpomere 3 about

as long as palpomere 2. Mentum ca 1.5× as wide as long, rather flat, with sparse and fine setiferous punctures; interstices between punctures smooth. Lateral margins slightly projecting, loosely fringed with setae, with rather indistinct anterior angles; anterior margin arched.

Thorax. Pronotum with punctures as on head. Lateral margins of pronotum very narrowly rimmed, weakly convex; posterolateral corners rounded. Prosternum slightly bulged, without carina; anterior margin slightly convex. Scutellum in shape of equilateral triangle, longer than wide, surface with punctures as on pronotum. Elytra with punctures slightly coarser than those on pronotum, denser and coarser towards lateral margins, interstices smooth; punctation with a few obsolete series of punctures, particularly towards lateral portions. Sutural stria deeply impressed, almost reaching basal fourth of elytra. Mesoventrite with a sharply pointed protuberance. Central area of metaventrite slightly convex and completely pubescent.

Legs. Procoxa without spine-like setae. Femoral hairlines distinct. Profemora pubescent on basal 0.75, hairline oblique. Ventral face of meso- and metafemora pubescent on proximal 0.75 on anterior margin and 0.50 on posterior margin, with oblique hairline. Metatibia with rather weak spines on lateral margin; metatibial spurs moderately strong, longer mesal spur not reaching half-length of tarsomere 2. Protarsomeres 1–5 with dense and fine setae. Metatarsomeres shorter than metatibia; tarsomere 2 about 4× as long as tarsomere 1, 2× as long as tarsomere 5.

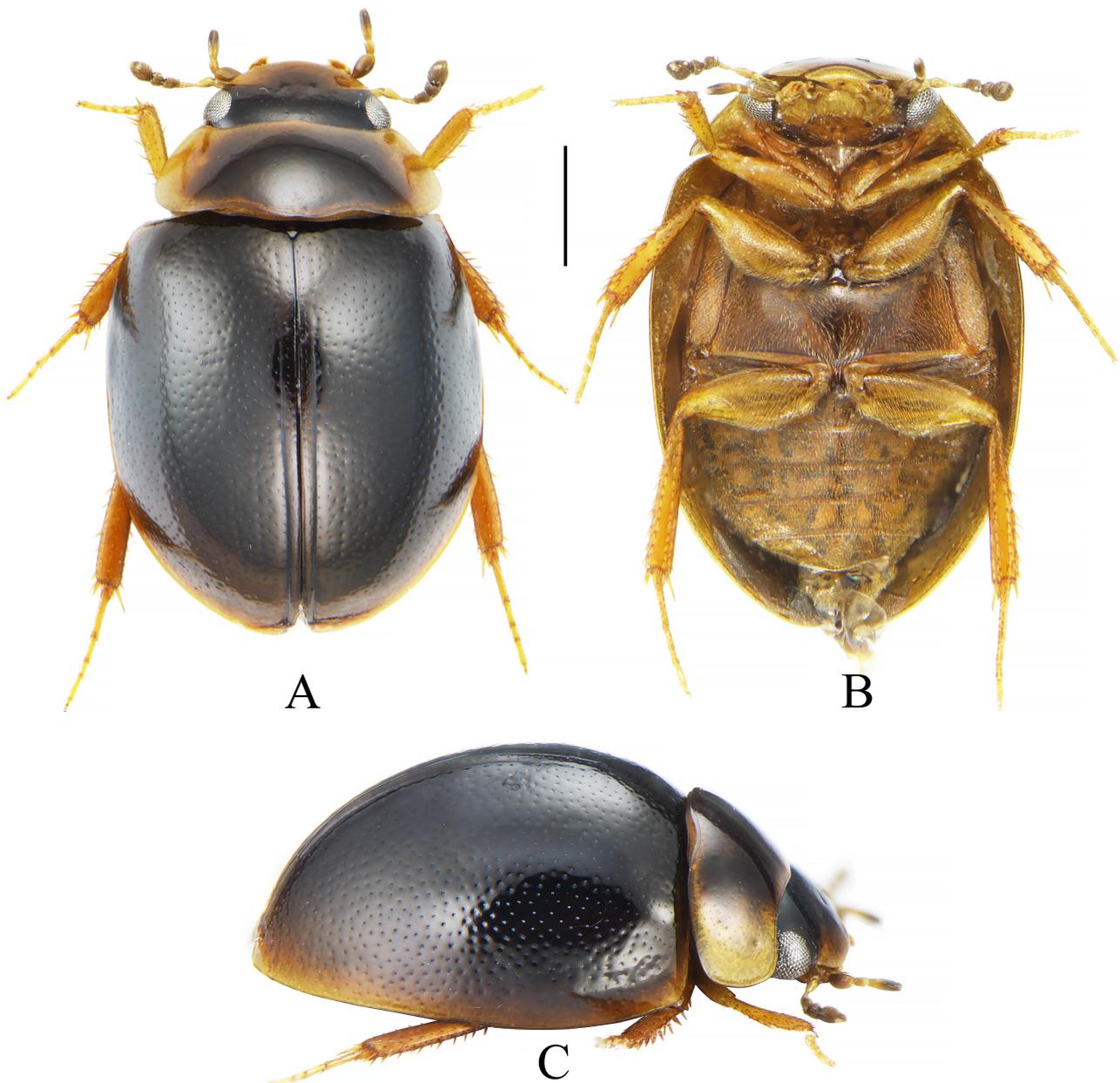


FIGURE 1. Habitus of *Anacaena ringenbungiana* sp. nov. **A.** Dorsal view. **B.** Ventral view. **C.** Lateral view. Scale bar: 0.5 mm.

Abdomen. Abdominal ventrites densely pubescent. Fifth ventrite not emarginate.

Aedeagus (Fig. 4B). Median lobe as long as parameres, widest basally, narrowed towards apex; lateral margins of median lobe straight, apex rounded; gonopore rounded, situated at top. Parameres widest basally, lateral margins straight or slightly curved, inner margins slightly sinuate, apex rounded with a stout apical seta. Phallobase ca 2.3× as long as paramere, not forming a continuous outline with parameres; manubrium gradually converging, extended into a long narrow lobe with parallel or slightly converging margins.

Remarks. This species similar to *Anacaena jaegeri* Komarek, 2007 in morphology, especially in form and colour. It can be distinguished from the latter by form of aedeagus: outline of aedeagus interrupted between parameres and phallobase (Fig. 4B) (parameres forming a continuous outline with phallobase in *A. jaegeri* (Fig. 4A)); parameres widest basally and narrowed apically (Fig. 4B) (parameres widest apically in *A. jaegeri* (Fig. 4A)); median lobe with a rounded apex (Fig. 4B) (apex of median lobe obtusely pointed in *A. jaegeri* (Fig. 4A)).

Biology. Three adults were collected by the flight intercept trap in the forest. Other information unknown.

Etymology. This species is named after the type locality, Rinqênbung temple, Mèdog County, Xizang, China.

Distribution. China (Xizang).

Anacaena robertangusi sp. nov.

(Figs 2A–C, 4C)

Type material. HOLOTYPE: CHINA: ♂ (SYSU), Sichuan Province, Hongya, Wawushan Mt., 29°38'N 102°55'E, 22–23.vi.2013, Living leg. **PARATYPES:** 3 exx. (SYSU, NMP, NMW), same data as holotype.

Diagnosis. Length 2.3–2.5 mm. Body oval and moderately convex. Dorsum yellowish brown, pronotum with vague medial patch (Fig. 2A). Ventral surface yellowish brown (Fig. 2B). Antennomere 9 with more or less distinct subapical constriction. Maxillary palpomere 4 almost symmetrical, not swollen or only slightly swollen, apex dark and truncate. Punctuation on head and pronotum fine and irregular. Mesoventrite with a sharply pointed protuberance. Procoxae without spine-like setae; ventral face of meso- and metafemora pubescent on proximal 0.75–0.8 basally, with rounded hairline. **Aedeagus** (Fig. 4C). Median lobe ca 0.7× as long as parameres, lateral margins of median lobe straight, apex obtusely pointed; parameres widest at basal third, gradually narrowing towards apex, apex rounded with a stout apical seta. Phallobase almost as long as paramere, outline continuous with parameres; manubrium gradually converging, extended into a rounded lobe.

Description. Form and Colour (Fig. 2A–C). Total length 2.3–2.4 mm, maximum width 1.2–1.4 mm. Body oval and moderately convex. Dorsum yellowish brown, pronotum with vague medial patch. Elytra with 10 rows of fine black spots around serial punctures. Antenna and maxillary palpi yellowish brown. Ventral surface almost uniformly yellowish brown.

Head. Dorsal surface with sparse, fine and irregular punctures; interstices between punctures smooth. Clypeus with distinct anterior angles. Frontoclypeal suture distinct. Eyes not constricted; dorsal portion almost circular, about as large as ventral portion; eyes of moderate size, separated by ca 4× width of one eye. Gular sutures narrowed anteriorly. Antennae with 9 antennomeres; pedicellus 2× as long as wide; antennomere 3 slightly elongate, about as long as antennomeres 4 and 5 combined, club (antennomeres 7–9) about 3× as long as wide, apical antennomere with more or less distinct subapical constriction. Maxillary palpomeres stout; palpomere 2 distinctly swollen; palpomere 3 almost symmetrical, mesal and lateral margins straight; palpomere 4 elongate, almost symmetrical, with slightly convex lateral and mesal margins, apex truncate. Labial palpi moderately slender; palpomere 3 about as long as palpomere 2. Mentum ca 1.6× as wide as long, rather flat, with sparse and fine setiferous punctures; interstices between punctures smooth. Lateral margins slightly projecting, with dense fringes of long setae, with rather indistinct anterior angles; anterior margin arched.

Thorax. Pronotum with punctures as on head. Lateral margins of pronotum very narrowly rimmed, weakly convex; posterolateral corners rounded. Prosternum slightly bulged, without carina; anterior margin slightly convex. Scutellum in shape of equilateral triangle, longer than wide, surface with punctures as on pronotum. Elytra with punctures slightly coarser than those on pronotum, denser and coarser towards lateral margins, interstices smooth; punctuation with a few obsolete series of punctures, particularly towards lateral portions. Sutural stria deeply impressed, almost reaching basal fourth of elytra. Mesoventrite with a sharply pointed protuberance. Central area of metaventrite slightly convex and completely pubescent.

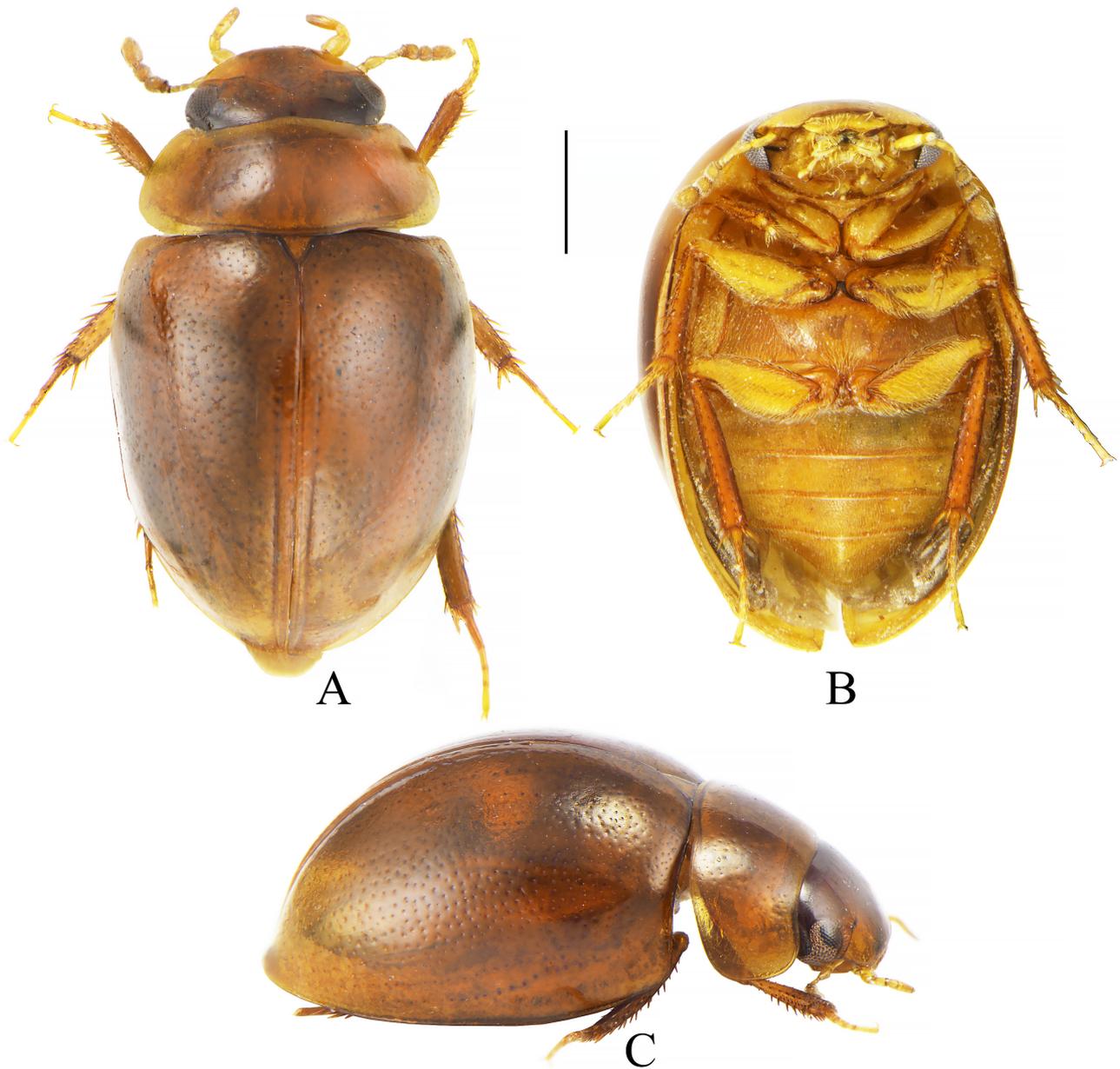


FIGURE 2. Habitus of *Anacaena robertangusi* sp. nov. A. Dorsal view. B. Ventral view. C. Lateral view. Scale bar: 0.5 mm.

Legs. Procoxa without spine-like setae. Femoral hairlines distinct. Profemora pubescent on basal 0.8, hairline rounded. Ventral face of meso- and metafemora pubescent on proximal 0.75–0.8 basally, with rounded hairline. Metatibia with rather weak spines on lateral margin; metatibial spurs moderately strong, longer mesal spur not reaching half-length of tarsomere 2. Protarsomeres 1–5 with dense and fine setae. Metatarsomeres shorter than metatibia; tarsomere 2 about 4× as long as tarsomere 1, 2× as long as tarsomere 5.

Abdomen. Abdominal ventrites densely pubescent. Fifth ventrite not emarginate.

Aedeagus (Fig. 4C). Median lobe ca 0.7× as long as parameres, widest basally, narrowed towards apex; lateral margins of median lobe straight, apex obtusely pointed; gonopore rounded, situated at top. Parameres widest basal third, gradually narrowing towards apex, lateral margins and inner margins slightly sinuate; apex rounded with a stout apical seta. Phallobase ca 2.3× as long as paramere, forming a continuous outline with parameres; manubrium gradually converging, extended into a rounded lobe.

Remarks. This species similar to *Anacaena pui* Komarek, 2012 in morphology, but differing from it by posterolateral corners of pronotum rounded (posterolateral corners angulate in *A. pui*); elytra without any trace of

bands (each elytron with 9–10 rows of dark brown longitudinal bands distinct in most individuals in *A. pui*) and different aedeagus (Fig. 4C) (for *A. pui* see Komarek 2012: figs 14–15). It also resembles *Anacaena yunnanensis* Orchymont, 1942 by clypeus with distinct preocular patches, absence of distinct elytral bands, maxillary palpomere 4 with swollen apex, extended metafemoral pubescence with rounded hairline. It can be distinguished from *A. yunnanensis* by antennomere 9 with more or less distinct subapical constriction (antennomere 9 without subapical constriction in *A. yunnanensis*); maxillary palpomere 4 almost symmetrical (maxillary palpomere 4 asymmetrical in *A. yunnanensis*); aedeagus with median lobe much shorter than parameres (median lobe slightly shorter than parameres in *A. yunnanensis*). *Anacaena robertangusi* **sp. nov.** can be separated from other species in China by the following characters combined: Clypeus with distinct large yellow preocular patches; elytra without longitudinal dark bands; ventral surface yellow; antennomere 9 with more or less distinct subapical constriction; apical maxillary palpomere almost symmetrical, with palpomere 3 only ca $1/3\times$ as long as palpomere 4; palpomere 4 with distinct dark apex, widest at about basal third; pronotum with posterolateral corners rounded; metafemoral pubescence extended, with rounded hairline; aedeagus with median lobe distinctly shorter than parameres, paramere slender than in most species, lateral margin sinuate (Fig. 4C).

Biology. Collected on iron handrail in cold rainy and cloudy weather.

Etymology. This species is dedicated to Dr Robert Angus (Department of Life Sciences, Entomology, The Natural History Museum, UK), a specialist in aquatic Coleoptera, a good friend of us, who has provided significant assistance in our beetle research.

Distribution. China (Sichuan).

Anacaena zhangdandanae sp. nov.

(Figs 3A–C, 4D)

Type material. HOLOTYPE: CHINA: ♂ (SYSU), Guangxi Province, Cenwanglaoshan Mt., 24°27'N 106°21'E, 5–6.v.2012, Living leg. **PARATYPES:** 15 specs. (SYSU, NMP, NMW): same data as holotype.

Diagnosis. Length 2.0–2.4 mm. Body oval and moderately convex. Dorsum yellowish brown; labrum yellowish brown to black; clypeus dark brown, without distinct preocular patches; pronotum with M-shaped medial patch; each elytron with 10 rows of dark brown longitudinal bands (Fig. 3A). Ventral surface dark brown (Fig. 3B). Antennomere 9 with distinct constriction. Maxillary palpomere 4 almost symmetrical, slender, apex dark and rounded. Punctuation on head and pronotum fine and irregular. Mesoventrite with a sharply pointed protuberance. Procoxae without spine-like setae; ventral face of meso- and metafemora pubescent on proximal 0.75–0.8 basally, with rounded hairline. **Aedeagus** (Fig. 4D). Median lobe ca $0.8\times$ as long as parameres, lateral margins of median lobe slightly convex, apex rounded; parameres widest basally, slightly narrowing towards subapex, apex rounded without distinct apical seta. Phallobase ca $1.3\times$ as long as paramere, outline continuous with parameres; manubrium gradually converging, extended into a rounded lobe.

Description. Form and Colour (Fig. 3A–C). Total length 2.0–2.4 mm, maximum width 1.2–1.3 mm. Body oval and moderately convex. Dorsum yellowish brown; labrum yellow; clypeus dark brown, without distinct preocular patches; pronotum with M-shaped medial patch; each elytron with 10 rows of dark brown longitudinal bands. Ventral surface dark brown. Antenna and maxillary palpi yellowish brown; with lighter legs.

Head. Dorsal surface with sparse, fine and irregular punctures; interstices between punctures smooth. Clypeus with distinct anterior angles. Frontoclypeal suture distinct. Eyes not constricted; dorsal portion almost circular, about as large as ventral portion; eyes of moderate size, separated by ca $4\times$ the width of one eye. Gular sutures narrowed anteriorly. Antennae with 9 antennomeres; pedicellus $2\times$ as long as wide; antennomere 3 elongate, slightly longer than antennomeres 4 and 5 combined, club (antennomeres 7–9) about $4\times$ as long as wide, apical antennomere distinct constriction. Maxillary palpomeres stout; palpomere 2 distinctly swollen; palpomere 3 almost symmetrical, mesal and lateral margins straight; palpomere 4 elongate, almost symmetrical, with slightly convex lateral and mesal margins, apex rounded. Labial palpi moderately slender; palpomere 3 about as long as palpomere 2. Mentum ca $1.5\times$ as wide as long, rather flat, with sparse and fine setiferous punctures; interstices between punctures smooth. Lateral margins slightly projecting, with dense fringes of long setae, with rather indistinct anterior angles; anterior margin arched.

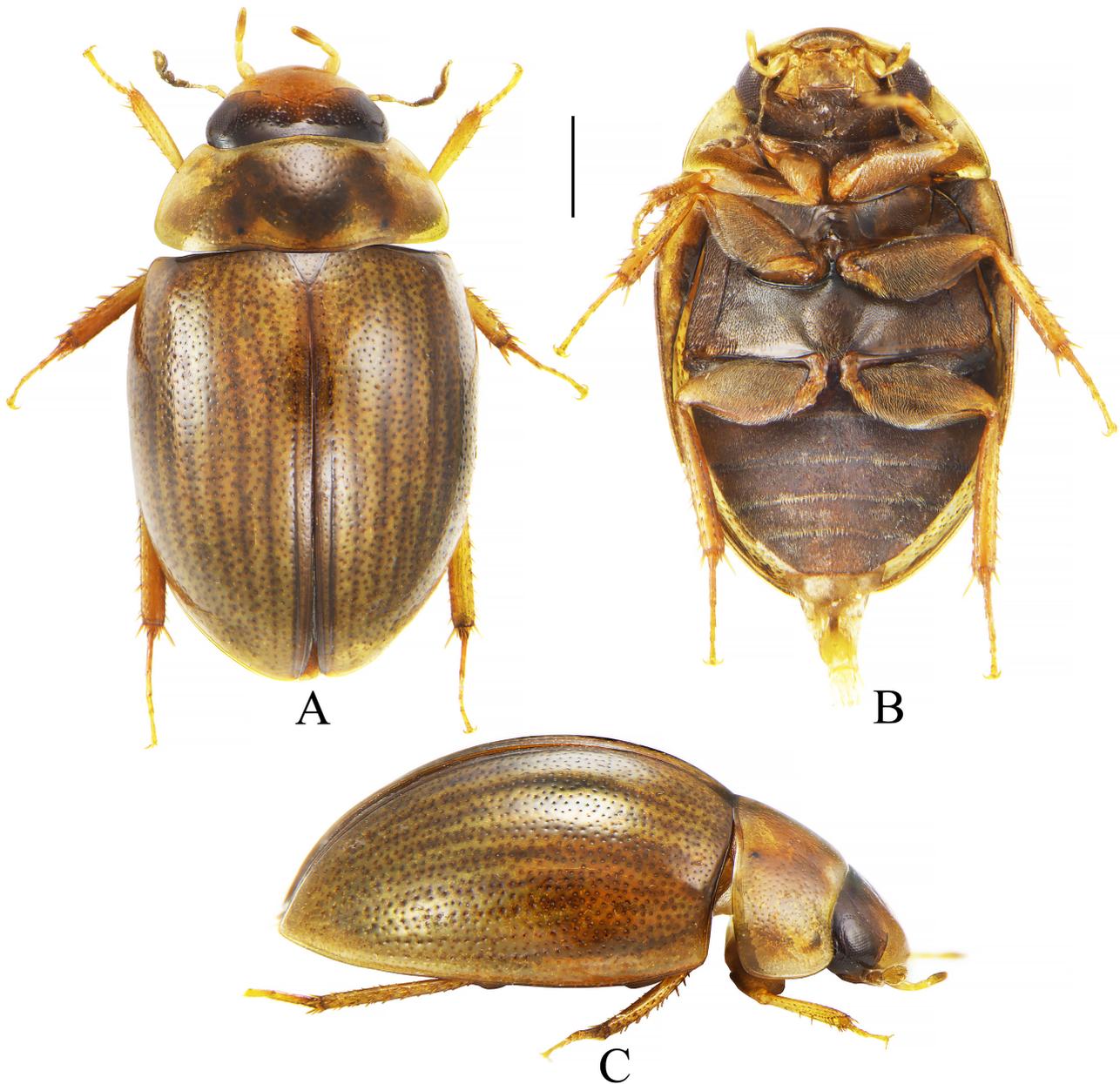


FIGURE 3. Habitus of *Anacaena zhangdandanae* sp. nov. **A.** Dorsal view. **B.** Ventral view. **C.** Lateral view. Scale bar: 0.5 mm.

Thorax. Pronotum with punctures finer than those on head. Lateral margins of pronotum very narrowly rimmed, weakly convex; posterolateral corners more or less angulate. Prosternum slightly bulged, without carina; anterior margin slightly convex. Scutellum in shape of equilateral triangle, longer than wide, surface with punctures as on pronotum. Elytra with punctures as on head, denser and coarser towards lateral margins, interstices smooth; punctation with a few obsolete series of punctures, particularly towards lateral portions. Sutural stria deeply impressed, almost reaching basal third of elytra. Mesoventrite with a sharply pointed protuberance. Central area of metaventrite slightly convex and completely pubescent.

Legs. Procoxa without spine-like setae. Femoral hairlines distinct. Profemora pubescent on basal 0.8, hairline rounded. Ventral face of meso- and metafemora pubescent on proximal 0.75–0.8 basally, with rounded hairline. Metatibia with rather weak spines on lateral margin; metatibial spurs moderately strong, longer mesal spur not reaching half-length of tarsomere 2. Protarsomeres 1–5 with dense and fine setae. Metatarsomeres shorter than metatibia; tarsomere 2 about 4× as long as tarsomere 1, 2× as long as tarsomere 5.

Abdomen. Abdominal ventrites densely pubescent. Fifth ventrite not emarginate.

Aedeagus (Fig. 4D). Median lobe ca 0.8× as long as parameres, widest basally, narrowed towards apex; lateral margins of median lobe slightly convex, apex rounded; gonopore rounded, situated at top. Parameres widest basally, slightly narrowing towards subapex, lateral margins straight from base to subapex; apex rounded without distinct apical seta. Phallobase ca 1.3× as long as paramere, forming a continuous outline with parameres; manubrium gradually converging, extended into a rounded lobe.

Remarks. This species is similar to *Anacaena gaoligongshana* Komarek, 2012, but differing from it by clypeus without distinct preocular patches (clypeus with distinct, yellow, triangular preocular patches in *A. gaoligongshana*); pronotal medial patch M-shaped (Fig. 3A) (for *A. gaoligongshana* see Komarek 2012: Fig. 57).

Biology. Aquatic, collected from a pool.

Etymology. This species is dedicated to Dr. Dan-Dan Zhang (张丹丹) (Biological Museum, School of Life Sciences, Sun Yat-sen University, China), a lepidopterist, in appreciation of her generous support for the senior author's research career.

Distribution. China (Guangxi).

New record

Anacaena jaegeri Komarek, 2007

(Fig. 4A)

Anacaena jaegeri Komarek, 2007: 289. Type locality: Kaski District, Gandaki Zone, Western Region, Nepal.

Material examined. 4♂♂, 5♀♀ (SYSU), China, Xizang Autonomous Region, Xigazê, Zhêntang Town, in a stream, 2330 m, 27.8483°N 87.4323°E, 2023.VII.10, Zu-Qi Mai leg.

Distribution. China (Xizang), Nepal.

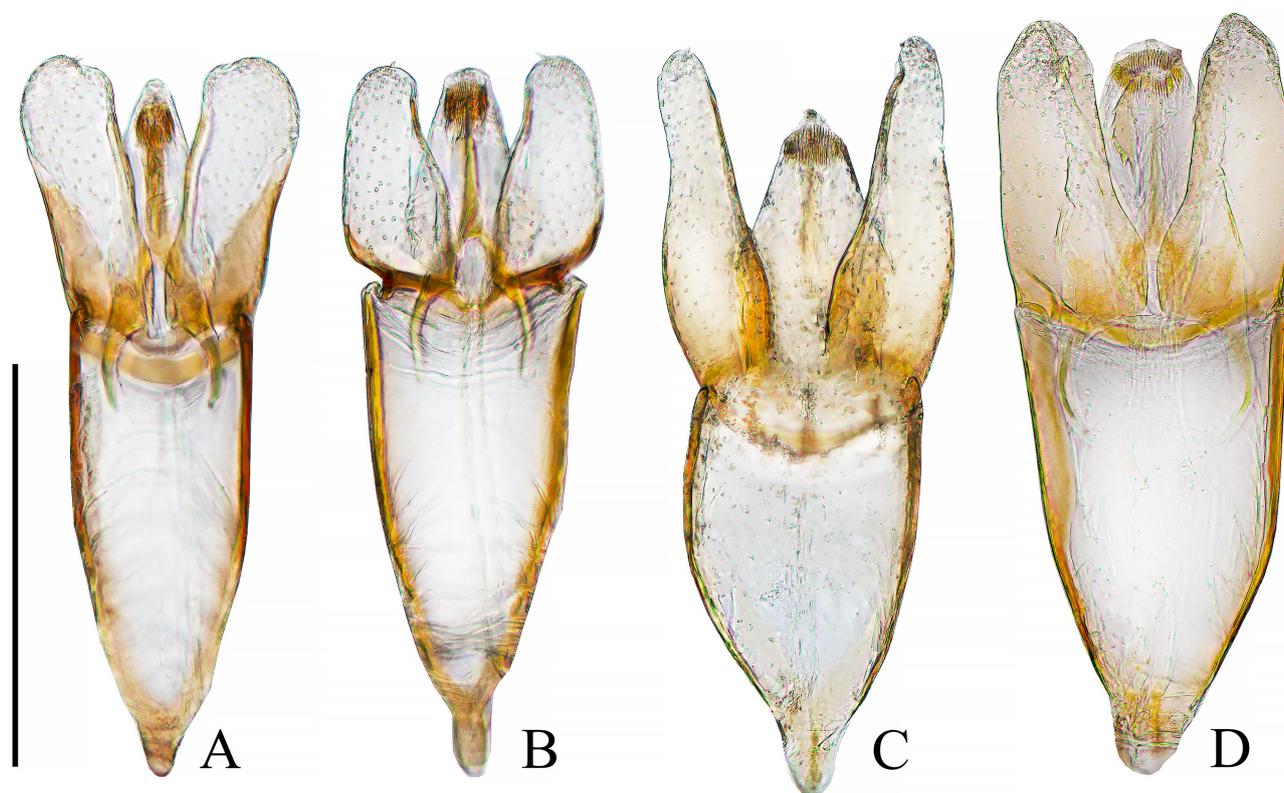


FIGURE 4. Aedeagus. **A.** *Anacaena jaegeri* Komarek, 2007 (specimen from Xizang) **B.** *A. ringenbungiana* sp. nov. **C.** *A. robertangusi* sp. nov. **D.** *A. zhangdandanae* sp. nov. Scale bar: 0.25 mm.

New synonymies

Anacaena bulbifera Pu, 1964 and *A. lushanensis* Pu, 1964 were transferred to *Paracymus* Thomson, 1867 by Komarek (2012). Based on our examination of the type specimens, we propose the following new synonymies:

Paracymus atomus d'Orchymont, 1925

(Fig. 5A–C)

Paracymus punctillatus-atomus d'Orchymont, 1925: 202. Type locality: Philippines, Luzon.

Anacaena lushanensis Pu, 1964: 398. **New synonym.**

Material examined. 1♂ (SYSU), China, Jiangxi, Lushan (江西庐山), 29°30'N 116°00'E, 400 m, 1963.VIII.10, Zhe-Long Pu leg. (蒲蛰龙), with label “*Anacaena lushanensis* Pu” (handwritten) and red label “HOLOTYPE”; 1♂, 1♀ (SYSU), China, Jiangxi, Lushan (江西庐山), 29°30'N 116°00'E, 400 m, 1963.VIII.10, Zhe-Long Pu leg. (蒲蛰龙), with labels “*Anacaena lushanensis* Pu” (handwritten) and “PARATYPE”.

Paracymus orientalis d'Orchymont, 1925

(Fig. 5D–F)

Paracymus evanescens-orientalis d'Orchymont, 1925: 201. Type locality: Philippines, Luzon.

Anacaena bulbifera Pu, 1964: 397. **New synonym.**

Material examined. 1♂ (SYSU), China, Guangzhou Kangle (广州康乐), 1958.IV.1, 23°05'N 113°17'E, Xiang-De Gu (古德祥), “*Anacaena bulbifera* Pu” (handwritten), with red label “HOLOTYPE”; 1♂ (SYSU), China, Guizhou, Dushan (贵州独山), 25°40'N 107°34'E, 1940.X.10, Zhe-Long Pu leg. (蒲蛰龙), with labels “*Anacaena bulbifera* Pu” (handwritten) and “PARATYPE”; 1♂ (SYSU), China, Guangzhou (广州), 1958.VII.20, Xi-Wen Chen leg. (陈熙雯), with labels “*Anacaena bulbifera* Pu” (handwritten) and “PARATYPE”; 1 ex. (SYSU), China, Hainan, Sanya (海南三亚), 1958.XII.17, Cui-Ying Li leg. (利翠英), with labels “*Anacaena bulbifera* Pu” (handwritten) and “PARATYPE”.

Updated checklist of the species of *Anacaena* Thomson from China

1.	<i>A. atriflava</i> Jia, 1997	Anhui, Fujian, Guangdong, Guizhou, Jiangxi, Zhejiang
2.	<i>A. brachypenis</i> Komarek, 2012	Yunnan
3.	<i>A. bushiki</i> Pu, 1963	Hainan, Yunnan
4.	<i>A. gaoligongshana</i> Komarek, 2012	Yunnan
5.	<i>A. gerula</i> d'Orchymont, 1942	Guizhou, Yunnan
6.	<i>A. hainanensis</i> Jia, 1997	Hainan
7.	<i>A. jaegeri</i> Komarek, 2007	Xizang
8.	<i>A. jengi</i> Komarek, 2011	Taiwan
9.	<i>A. jiafenglongi</i> Komarek, 2012	Yunnan
10.	<i>A. lancifera</i> Pu, 1963	Anhui, Fujian, Guangdong, Hunan, Jiangxi, Sichuan, Yunnan
11.	<i>A. lanzhujii</i> Komarek, 2012	Hainan
12.	<i>A. limbata</i> (Fabricius, 1792)	Xinjiang
13.	<i>A. lutescens</i> (Stephens, 1829)	Xinjiang
14.	<i>A. maculata</i> Pu, 1964	Fujian, Guangdong, Hunan, Jiangxi, Yunnan
15.	<i>A. pui</i> Komarek, 2012	Guizhou, Hubei, Jiangxi, Sichuan, Yunnan
16.	<i>A. ringenbungsi</i> sp. nov.	Xizang
17.	<i>A. robertangusi</i> sp. nov.	Sichuan
18.	<i>A. schoenmanni</i> Komarek, 2012	Yunnan
19.	<i>A. sichuana</i> Komarek, 2012	Sichuan
20.	<i>A. smetanai</i> Komarek, 2011	Taiwan
21.	<i>A. wangi</i> Komarek, 2012	Hubei, Sichuan
22.	<i>A. yunnanensis</i> d'Orchymont, 1942	Yunnan
23.	<i>A. zhangdandanae</i> sp. nov.	Guangxi

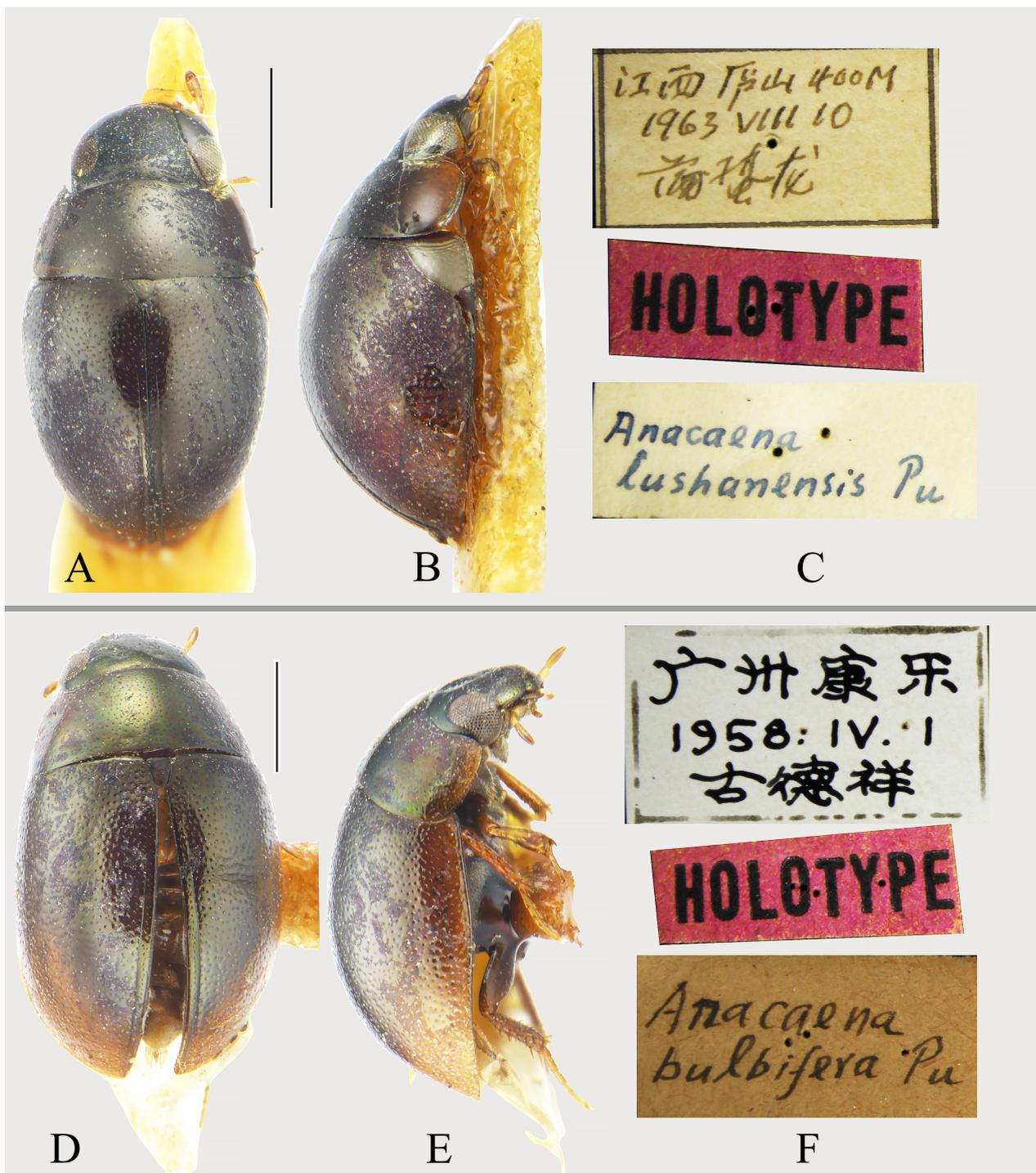


FIGURE 5. Type specimens of *Anacaena bulbifera* Pu, 1964 and *A. lushanensis* Pu, 1964. **A–C.** *Anacaena lushanensis* Pu, 1964 (= *Paracymus atomus* Orchymont, 1925). **D–F.** *Anacaena bulbifera* Pu, 1964 (= *Paracymus orientalis* Orchymont, 1925). **A.** Dorsal view. **B.** Lateral view. **C.** Labels. **D.** Dorsal view. **E.** Lateral view. **F.** Labels. Scale bars: 0.5 mm.

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中国毛腿牙甲属*Anacaena*三新种、一新记录种及二种修订（鞘翅目：牙甲科：凯牙甲亚科）

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摘要: 描述中国毛腿牙甲属三新种, 即仁青崩寺毛腿牙甲*Anacaena ringenbungsiana* **sp. nov.** (西藏), 昂氏毛腿牙甲*A. robertangusi* **sp. nov.** (四川) 和丹丹毛腿牙甲*A. zhangdandanae* **sp. nov.** (广西); 耶氏毛腿牙甲*Anacaena jaegeri*为中国新记录种(西藏); 两个新异名被修订: 球形毛腿牙甲*Anacaena bulbifera*为东方隆胸牙甲*Paracymus orientalis*的次异名, 庐山毛腿牙甲*Anacaena lushanensis*为小隆胸牙甲*Paracymus atomus*的次异名; 提供了三个新种的鉴定信息和特征图; 更新了毛腿牙甲属的名录。

关键词: 毛腿牙甲属, 牙甲科, 凯牙甲亚科, 东洋区, 中国, 分类