

**On the taxonomy and zoogeography of *Chinecallicerus* VIII.
New species and records, with the first record of the genus from
Laos and from outside China
(Coleoptera: Staphylinidae: Aleocharinae: Geostibini)**

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ASSING V. 2020: On the taxonomy and zoogeography of *Chinecallicerus* VIII. New species and records, with the first record of the genus from Laos and from outside China (Coleoptera: Staphylinidae: Aleocharinae: Geostibini). *Acta Musei Moraviae, Scientiae biologicae* **105(2)**: 183–205. – Four species of *Chinecallicerus* Assing, 2004 are described and illustrated: *Chinecallicerus dispersus* sp. nov. (China: West Sichuan, West Yunnan); *C. unituberculatus* sp. nov. (China: Sichuan: Gongga Shan); *C. dabaicus* sp. nov. (China: Hubei: Daba Shan); *C. laoticus* sp. nov. (Northwest Laos: Bokeo province). The previously unknown male sexual characters of *C. formidabilis* Assing, 2019 and the spermathecae of *C. serratus* Assing, 2009, *C. pinnatus* Assing, 2017, and *C. laevigatus* Assing, 2006 are illustrated for the first time. These species, all of them previously known only from their respective holotypes, are reported from additional localities in Sichuan and Yunnan. *Chinecallicerus laoticus* represents the first record of the genus from Laos, from outside China, and from the whole of the Oriental region, *C. dabaicus* the first record from the Chinese province Hubei and the easternmost record of the genus. Enormous intraspecific variation was observed for *C. dispersus*. Including the new species, the genus now includes 22 species, ten of which have been recorded from the Chinese province Yunnan, ten from Sichuan, one from Qinghai, one from Hubei, and one from Laos. As many as 17 species are known only from their respective type localities, twelve of them are represented exclusively by their respective holotypes. A checklist and a newly designed key to species are provided. The distributions of the genus as a whole and of seven individual species are mapped.

Keywords. Coleoptera, Staphylinidae, Aleocharinae, Geostibini, *Chinecallicerus*, taxonomy, new species, new records, Palaearctic region, Oriental region, China, Laos, intraspecific variation, checklist, key to species, distribution maps

Introduction

Chinecallicerus Assing, 2004, a genus whose known distribution was confined to China, previously included 18 species, nine of which have been recorded from the Chinese province Yunnan, eight from Sichuan, and one from Qinghai. All these species have been discovered only recently (since 2004) and are known solely from their respective type localities, fourteen of them are represented exclusively by their respective holotypes (ASSING 2019). These data suggest that collecting records are merely accidental, possibly confined to the dispersal period, and that *Chinecallicerus* species live and reproduce in a cryptic habitat of an unknown nature.

Unlike many other taxa of Geostibini, the genus appears to be subject to pronounced interspecific (intrageneric) variation, so that it was possible to design diagnostic keys to species mainly relying on external characters (ASSING 2015, 2017, 2018, 2019).

Staphylinidae material recently made available to me by Matthias Borer (Naturhistorisches Museum Basel), Andreas Pütz (Eisenhüttenstadt), and Michael Schülke (Berlin) included a remarkable number of specimens of *Chinecallicerus*. Unsurprisingly, an examination of this material revealed that the majority belonged to undescribed species. One of them was collected in Laos and consequently represents the first record of the genus from outside China and the Oriental region sensu SCHÜLKE & SMETANA (2015), and one species from China was – untypically – found in as many as six localities. Moreover, this material also included records of four previously described species from additional localities, with one of them now known from four localities.

Material and methods

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

MNB	Museum für Naturkunde Berlin (coll. Schülke; M. Schülke)
NHMB	Naturhistorisches Museum Basel (M. Borer)
cAss	author's private collection
cPüt	private collection Andreas Pütz, Eisenhüttenstadt

The morphological studies were conducted using Stemi SV 11 (Zeiss) and Discovery V12 (Zeiss) microscopes, and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using digital cameras (Axiocam ERc 5s, Nikon Coolpix 995), as well as Labscope and Picolay software.

Body length was measured from the anterior margin of the labrum to the abdominal apex, the length of the forebody from the anterior margin of the labrum to the posterior margin of the elytra, head length from the anterior margin of the clypeus (without anteclypeus) to the posterior constriction of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The “parameral” side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

Results

Including the newly described species, the genus *Chinecallicerus* now includes 22 species distributed in China (21 species) and Laos (one species) (Map 3). Most of the Chinese species are known from Yunnan (ten species) and Sichuan (ten), with only one of them recorded from both provinces. One species each has been recorded from Hubei and Qinghai provinces. As many as seventeen species are known only from their respective type localities and twelve species are represented solely by their respective holotypes. Three species have been recorded from two, one from four, and one from six localities (see checklist). The total number of *Chinecallicerus* specimens known at present amounts to 54.

Checklist of the species of *Chinecallicerus*

SPECIES	DISTRIBUTION (number of localities/specimens)
<i>carinatus</i> Assing, 2018	China: North Sichuan (1/3)
<i>dabaicus</i> sp. nov.	China: Hubei: Daba Shan (1/1)
<i>discrepans</i> Assing, 2019	China: North Sichuan (1/1)
<i>dispersus</i> sp. nov.	China: West Sichuan, West Yunnan (6/18)
<i>feldmanni</i> Assing, 2019	China: North Sichuan (1/1)
<i>formidabilis</i> Assing, 2019	China: Sichuan (2/2)
<i>glabriventris</i> Assing, 2019	China: West Yunnan (1/1)
<i>grandicollis</i> Assing, 2018	China: Northwest Yunnan (1/1)
<i>granulosissimus</i> Assing, 2018	China: East Qinghai (1/1)
<i>laevigatus</i> Assing, 2006	China: West Yunnan (4/5)
<i>laoticus</i> sp. nov.	Northwest Laos (1/3)
<i>orbiculatus</i> Assing, 2018	China: South Sichuan (1/1)
<i>pinnatus</i> Assing, 2017	China: West Sichuan (2/2)
<i>reticulatus</i> Assing, 2015	China: Southeast Yunnan (1/1)
<i>reuteri</i> Assing, 2019	China: North Sichuan (1/1)
<i>schuelkei</i> Assing, 2004 = <i>sinicus</i> (Pace, 2011)	China: West Yunnan (1/2)
<i>serratus</i> Assing, 2009	China: West Yunnan (2/2)
<i>subater</i> Assing, 2015	China: Northeast Yunnan (1/1)
<i>trituberculatus</i> Assing, 2018	China: Northwest Yunnan (1/1)
<i>transversus</i> Assing, 2018	China: North Sichuan (1/2)
<i>unituberculatus</i> sp. nov.	China: West Sichuan: Gongga Shan (1/1)
<i>wrasei</i> Assing, 2006	China: Northwest Yunnan (1/3)

***Chinecallicerus formidabilis* Assing, 2019**

(Figs 1–3, Map 1)

Material examined. China: Sichuan: 1♂ [in poor condition], road Meigu–Leibo, pass 15 km NE Meigu, 28°25'N, 103°17'E, 27.VII.1997, leg. Turna (MNB).

The original description is based on a unique female from North Sichuan, while the above male was collected in South Sichuan (Map 1).

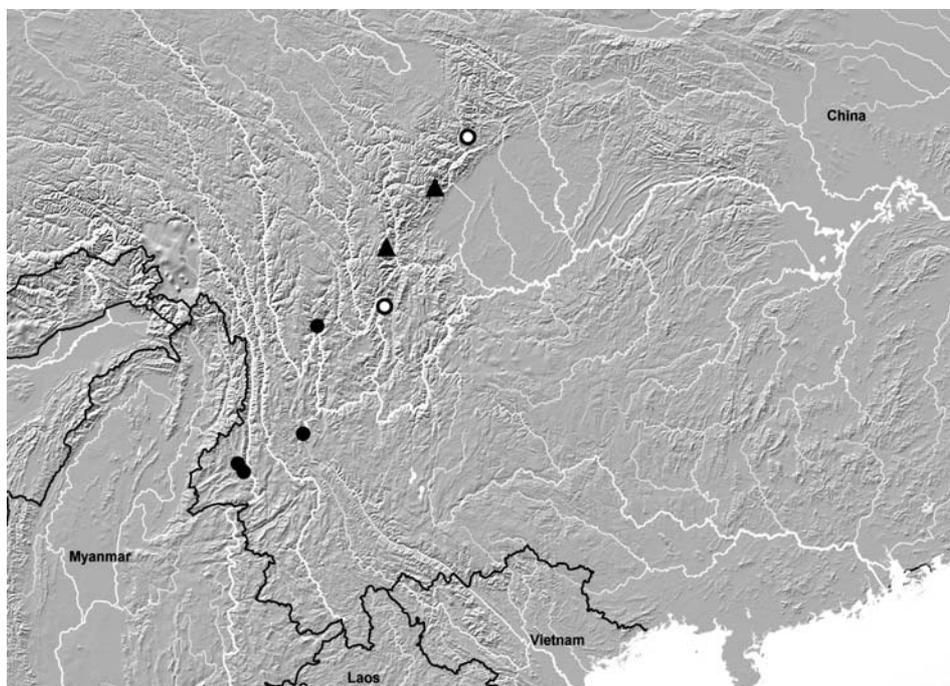
The previously unknown male sexual characters are as follows: tergite VIII with a subcircular tubercle in postero-median portion (Fig. 1); posterior margin of tergite VIII truncate in the middle; median lobe of aedeagus (Figs 2–3) 0.85 mm long, with basally broad, subapically abruptly narrowed, and apically acute ventral process in ventral view.

***Chinecallicerus serratus* Assing, 2009**

(Figs 4–6)

Material examined. China: Yunnan: 1♀, Zhongdian Co., pass 28 km ESE Zhongdian, 27°43.9'N, 99°58.2'E, 3700–3750 m, degraded primary forest, 22.VIII.2003, leg. Schülke (MNB).

The original description is based on a unique male from Cang Shan near Dali, Northwest Yunnan. The above female represents the second record and specimen of this species. The



Map 1. Distributions of *Chinecallicerus laevigatus* (black circles), *C. formidabilis* Assing (white circles), and *C. pinnatus* Assing (black triangles).

previously unknown female sexual characters are as follows: posterior margin of tergite VIII somewhat truncate in the middle; posterior margin of sternite VIII broadly concave, not distinctly concave in the middle; spermatheca (Fig. 6) with very broad proximal and relatively small distal portion.

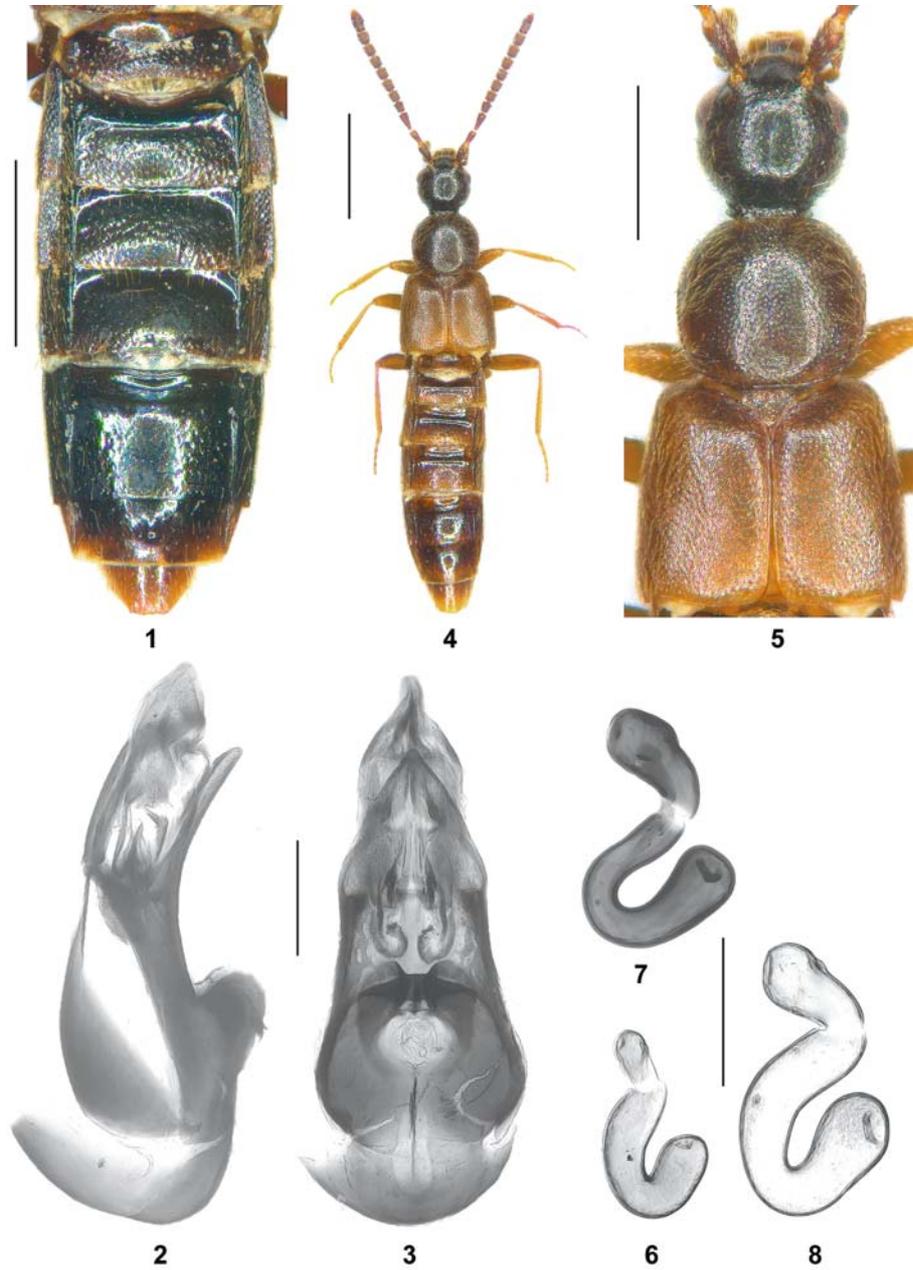
The external characters of the newly recorded female are illustrated in Figs 4–5.

***Chinecallicerus pinnatus* Assing, 2017**

(Fig. 7, Map 1)

Material examined. China: Sichuan: 1♀ [in poor condition: antennomeres VII–XI of both antennae, most tarsi, and one elytron missing], Gongga Shan, 29°41'N, 101°58'E, 2600–3200 m, 23.IV.–15.V.2001, leg. Plutenko (MNB).

The original description is based on a unique male from Wolong National Nature Reserve, Sichuan (ASSING 2017). Aside from its somewhat larger size, the above female is practically identical to the holotype. It represents the second record and specimen of this species; the currently known distribution is shown in Map 1. The previously unknown spermatheca is illustrated in Fig. 7.



Figs 1–8. *Chinecallicerus formidabilis* Assing (1–3), *C. serratus* Assing (4–6), *C. pinnatus* Assing (7), and *C. laevigatus* Assing (8). 1 – male abdomen; 2–3 – median lobe of aedeagus in lateral and in ventral view; 4 – female habitus; 5 – female forebody; 6–8 – spermatheca. Scale bars: 1, 4: 1.0 mm; 5: 0.5 mm; 2–3, 6–8: 0.2 mm.

***Chinecallicerus laevigatus* Assing, 2006**

(Fig. 8, Map 1)

Material examined. **China: Yunnan:** 2♂♂, Baoshan Pref., Gaoligong Shan, 35 km SE Tengchong, Xiaoheishan N.R. env., 24°50'N, 98°46'E, 2110 m, deciduous forest, litter sifted, 30.V.2007, leg. Schülke & Wrase (MNB, cAss); 1♀, Baoshan Pref., mountain range 14 km E Tengchong, 25°00'N, 98°38'E, secondary mixed forest, litter sifted, 1.VI.2007, leg. Schülke (cAss); 1♀, Shanzhi env., Jizu Shan, path to summit, 27°58'N, 100°22'E, 2180–2580 m, dense mixed forest, litter and debris near stream sifted, leg. Hájek & Růžička (MNB).

The above specimens represent the first records since the original description, which is based on a unique male from Diancang Shan in Northwest Yunnan. This is the first previously described species to be recorded from as many as four localities (Map 1). The spermatheca is illustrated in Fig. 8 for the first time.

***Chinecallicerus dispersus* sp. nov.**

(Figs 9–42, Map 2)

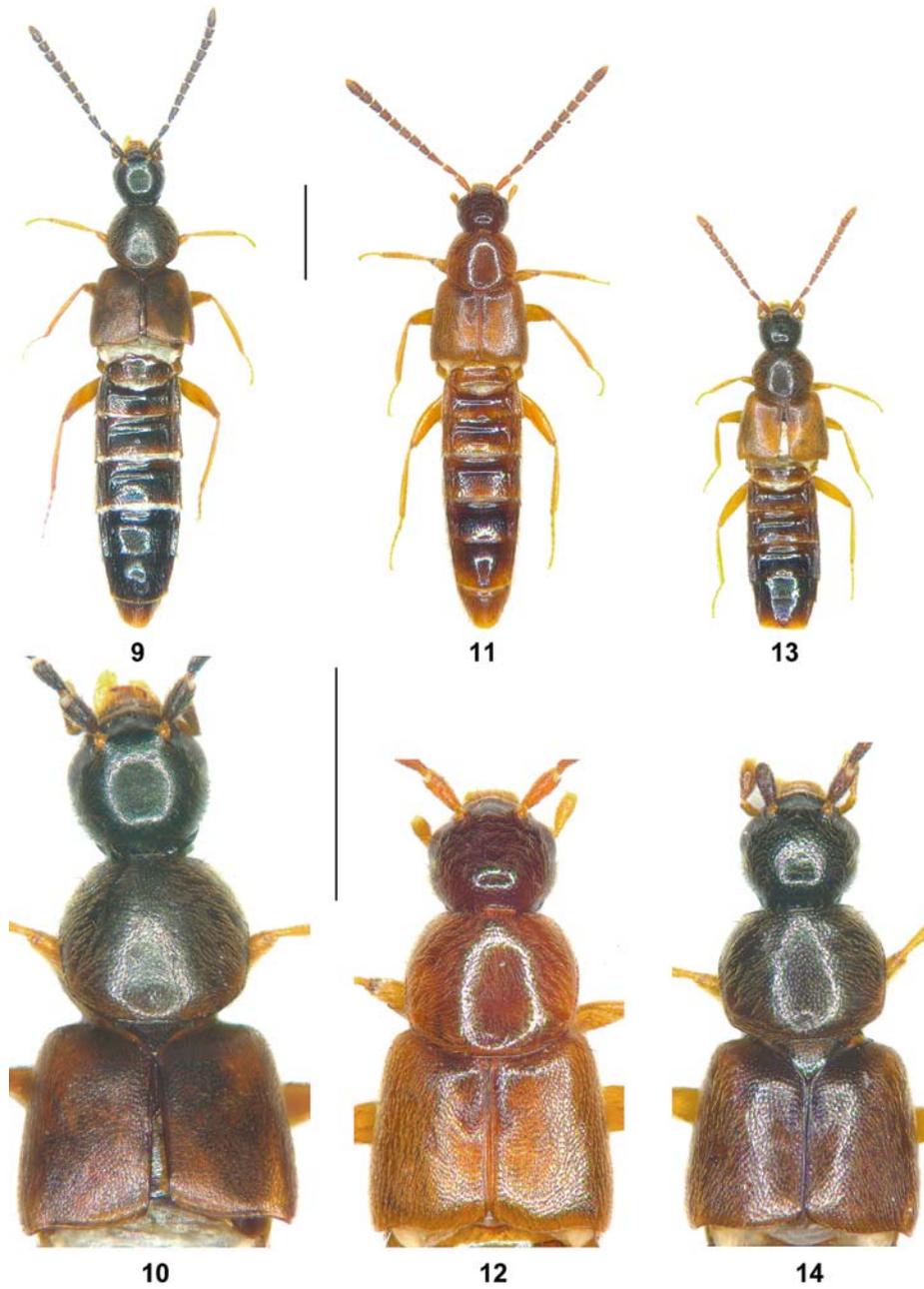
Type material examined. Holotype ♂: “CHINA: W-Sichuan (3), Erlang-Shan, E Ssutaokiao -Pass, 3000 m, 29.52.13N, 102.17.08E, 19.05.1997, M. Schülke / Holotypus ♂ *Chinecallicerus dispersus* sp. n., det. V. Assing 2020” (MNB). Paratypes: 6♂♂, 1♀: same data as holotype (MNB, cAss); 1♂: same data, but leg. Wrase (MNB); 2♂♂: “CHINA: Yunnan [CH07-02], Dali Bai Auton. Pref., Diancang Shan W Dali, 25°41'20"N, 100°06'12"E, 3160 m, small creek valley, litter and debris sifted, 27.V.2007, M. Schülke” (MNB, cAss); 1♂, 1♀: “CHINA: Yunnan [CH07-08], Dali Bai Auton. Pref., Diancang Shan 43 km NW Dali, 3078 m, 25°59'35"N, 99°52'06"E, W pass, Rhodod., oaks, bamboo, sifted, 29.V.2007, leg. A. Pütz” (cPüt, cAss); 1♂: same data, but leg. Schülke (MNB); 1♂: “CHINA: N-Yunnan [C2005-12], Nujiang Lisu Aut. Pref., Gongshan Co., Gaoligong Shan, 2500 m, 27°45.404'N, 98°35.749'E, litter & debris [sic] at snowfield sifted during rain, 19.VI.2005, M. Schülke” (cAss); 2♂♂: “CHINA: Yunnan [CH07-21], Nujiang Lisu Aut. Pref., Gaoligong Shan, pass 22 km W Gongshan, N-slope, 3350–3400 m, 27°46'27"N, 98°26'50"E, fern, moss, litter, sifted, 6.VI.2007, M. Schülke” (MNB, cAss); 1♂, 1♀: “CHINA: Yunnan, Nujiang Lisu Pref., Gaoligong Shan, W ‘Cloud Pass’, 24 km NW Liuku, 25°59'02"N, 98°39'56.5"E, 2940 m, small cleft, wet moss & litter sifted, 3.IX.2009, leg. M. Schülke [CH09-24]” (MNB, cAss).

Description. Highly variable species. Body length 3.8–5.5 mm; length of forebody 1.7–2.4 mm. Habitus as in Figs 9, 11, 13. Coloration: head dark-brown to black; pronotum reddish-brown to black; elytra dark-yellowish to blackish-brown; abdomen reddish with tergites VI–VII extensively infuscate to nearly uniformly blackish; legs yellow; antennae reddish to blackish; maxillary palpi dark-yellowish to nearly black with the apical palpomere yellow.

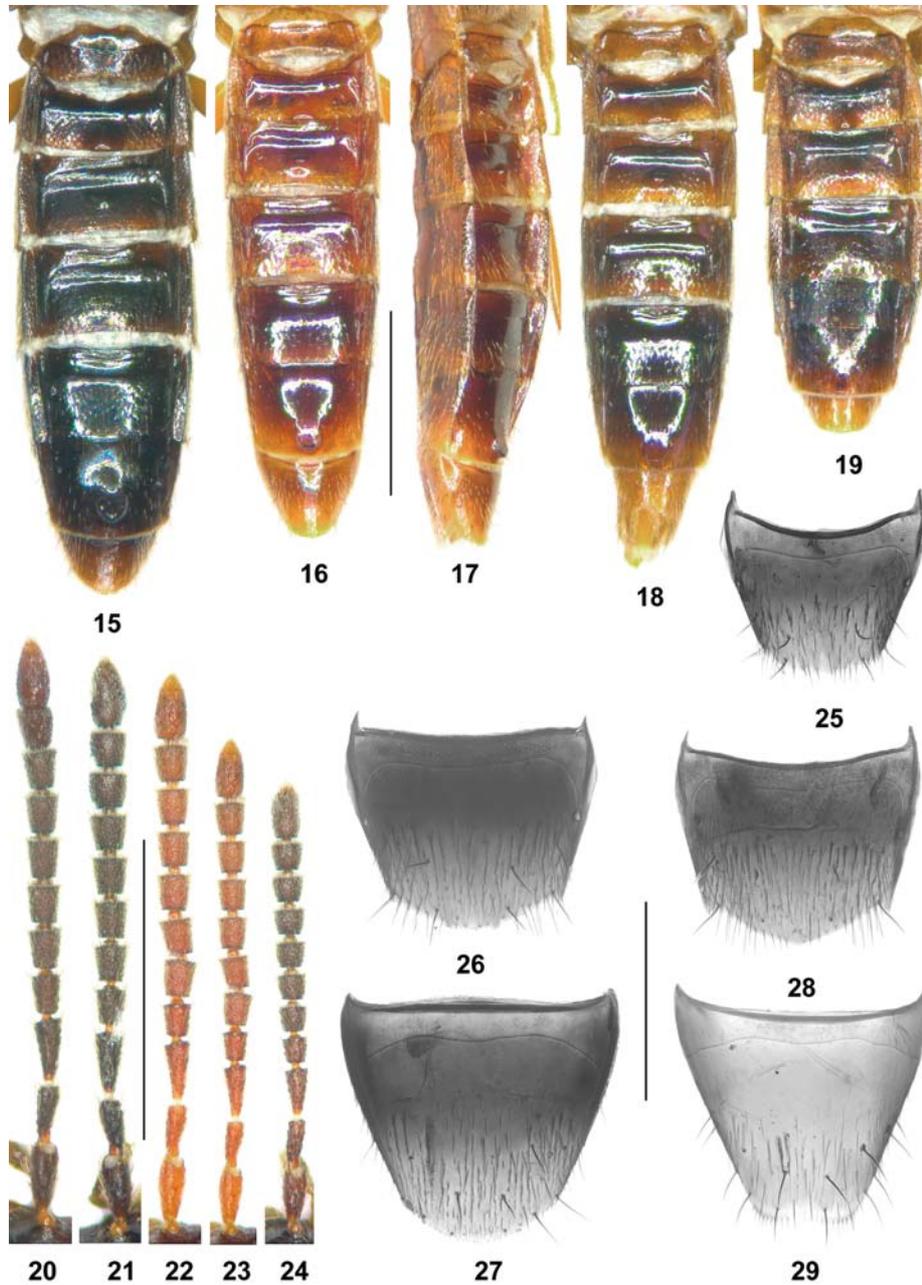
Head (Figs 10, 12, 14) transverse, approximately 1.1 times as broad as long; punctuation extremely to moderately fine and moderately sparse to dense; microsculpture absent to distinct. Eyes large, as long as, or slightly longer than postocular region in dorsal view. Antenna (Figs 20–24) 1.5–2.1 mm long and slender; antennomeres IV–X of variable shape. Maxillary palpomere III moderately slender and unmodified.

Pronotum (Figs 10, 12, 14) weakly to distinctly transverse, 1.06–1.24 times as broad as long and 1.27–1.40 times as broad as head; punctuation variable, extremely to moderately fine and more or less dense; interstices with or without shallow to distinct microreticulation.

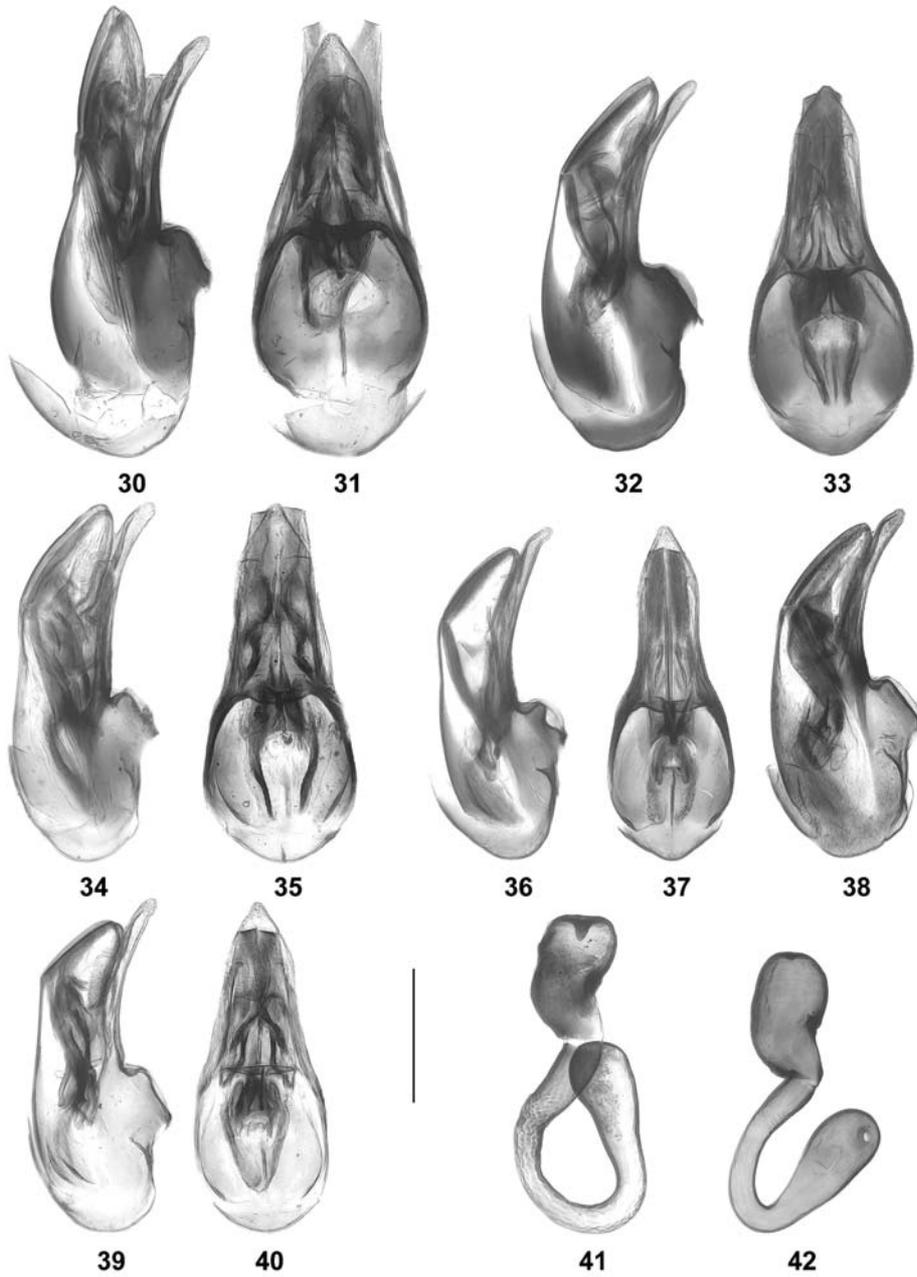
Elytra (Figs 10, 12, 14) approximately as long as pronotum or nearly so; punctuation dense and fine; interstices with or without microsculpture. Hind wings fully developed. Legs of moderate length; length of metatibia 0.6–0.9 mm.



Figs 9–14. *Chinecallicerus dispersus* sp. nov. from Diancang Shan (9–12) and Gaoligong Shan (13–14). 9, 11, 13 – male habitus; 10, 12, 14 – forebody. Scale bars: 1.0 mm.



Figs 15–29. *Chinecallicerus dispersus* sp. nov. from Erlang Shan (20, 26–28), Diancang Shan (15–17, 21–22, 29), and Gaoligong Shan (18–19, 23–25). 15–19 – male abdomen in dorsal and in dorso-lateral view; 20–24 – antenna; 25–26 – male tergite VIII; 27 – male sternite VIII; 28 – female tergite VIII; 29 – female sternite VIII. Scale bars: 15–24: 1.0 mm; 25–29: 0.5 mm.



Figs 30–42. *Chinecallicerus dispersus* sp. nov. from Erlang Shan (30–31, 41), Diancang Shan (32–35, 42), and Gaoligong Shan (36–40). 30–40 – median lobe of aedeagus in lateral and in ventral view; 41–42 – spermatheca. Scale bar: 0.2 mm.

Abdomen (Figs 15–19): tergites III–V with moderately deep, practically impunctate anterior impressions; tergite VI anteriorly not impressed, impunctate or nearly so; remainder of tergites III–VI with moderately dense to moderately sparse, more or less distinct punctation; punctation of tergite VII sparse; interstices with or without shallow transverse microsculpture visible only at high magnification (100×); posterior margin of tergite VII with palisade fringe.

♂: elytra (Figs 10, 12, 14) anteriorly with an oblong rugose, sometimes slightly elevated patch on either side of suture (shape, size, and distance of this patch from apex of scutellum variable); tergite III with a pronounced and usually apically sharp, transversely fold-shaped, rarely differently shaped tubercle in the middle of posterior margin; tergite IV with a usually similarly shaped (rarely subcircular), but much smaller tubercle in the middle; tergite VII with a pronounced, usually horseshoe-shaped tubercle in postero-median portion (Figs 15–19); posterior margin of sternite VIII convex, obtusely angled, or narrowly truncate in the middle (Figs 25–26); posterior margin of sternite VIII strongly convex (Fig. 27); median lobe of aedeagus (Figs 30–40) 0.5–0.6 mm long and with moderately long and slender ventral process.

♀: posterior margin of tergite VIII broadly convex or obtusely angled in the middle (Fig. 28); posterior margin of sternite VIII concave (Fig. 29); spermatheca large and moderately sclerotized, shaped as in Fig. 41–42.

Intraspecific variation. This species is subject to enormous variation not only of external (especially of size, coloration, punctation, microsculpture, shape of the pronotum, relative lengths and shapes of antennomeres), but also of the male secondary sexual characters (shapes of the tubercles on the abdomen) and of the median lobe of the aedeagus (shapes of apex of the ventral process and of crista apicalis) in lateral view. The extremes are linked by intermediate conditions and it was not possible to group different character combinations into discrete clusters. In consequence, this remarkable variation is attributed to intra- rather than interspecific variation.

Comparative notes. Owing to the remarkable variability, it was not possible to identify individual characters distinguishing *C. dispersus* from other *Chinecallicerus* species, aside from the modifications of the male elytra, the modifications of the male tergites III, IV, and V, and the shape of the median lobe of the aedeagus (see key to species).

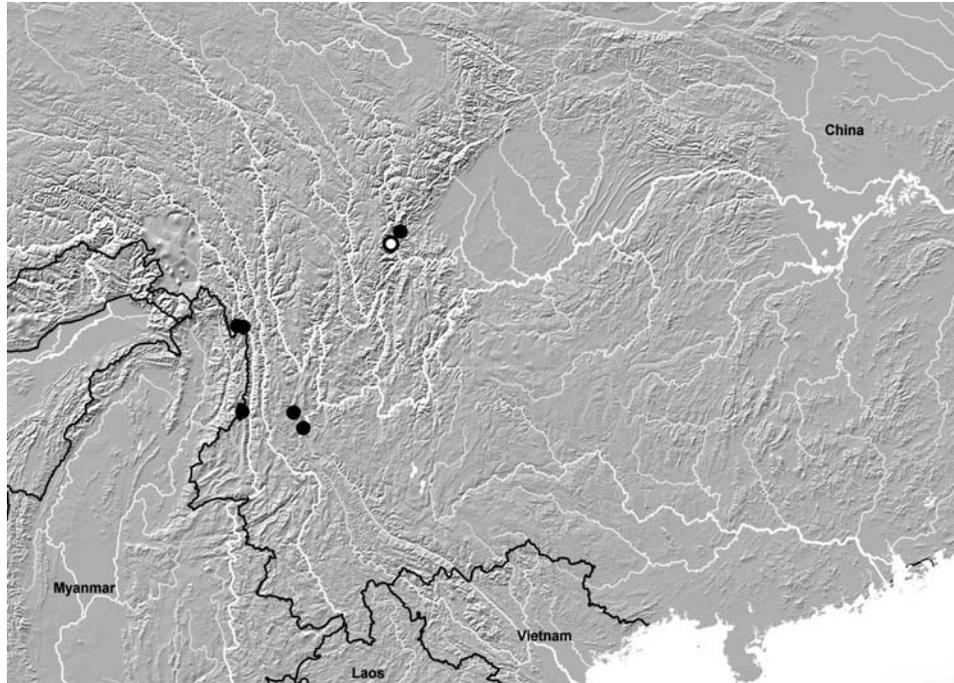
Distribution and natural history. Even though this species has not been described earlier, it is apparently the most common and most widespread species of the genus. The type material was collected in six localities in West Sichuan and West Yunnan (Map 2) by sifting litter and debris. The altitudes range from 2500 to approximately 3400 m.

Etymology. The specific epithet is the past participle of the Latin verb *dispergere* (to spread) and alludes to the fact that this is the first species to be recorded from two Chinese provinces.

***Chinecallicerus unituberculatus* sp. nov.**

(Figs 43–49, Map 2)

Type material examined. Holotype ♂ [left antennomeres II–XI, right antennomeres VIII–XI, and right hind-leg missing]: “CHINA (W Sichuan) (13), Daxue Shan, Hailuoguo Glacier Park (Gongga Shan), Camp 1, 2100



Map 2. Distributions of *Chinecallicerus dispersus* sp. nov. (black circles) and *C. unituberculatus* sp. nov. (white circles).

m, 29.36 N, 102.04 E, 27., 28., 31.V.'97 Wrase / Holotypus ♂ *Chinecallicerus unituberculatus* sp. n., det. V. Assing 2019" (MNB).

Description. Body length 4.8 mm; length of forebody 2.4 mm. Habitus as in Fig. 43. Coloration: body blackish with dark-brown elytra; legs reddish-yellow; antennae blackish.

Head (Fig. 44) approximately as broad as long, with practically obsolete posterior angles; punctuation very fine and dense; interstices with shallow microreticulation. Eyes large, approximately as long as postocular region in dorsal view. Antenna massive; antennomeres IV–VII noticeably oblong. Maxillary palpomere III moderately dilated, approximately 2.5 times as long as broad.

Pronotum (Fig. 44) 1.08 times as broad as long and 1.37 times as broad as head, broadest approximately in the middle; punctuation and microsculpture similar to those of head.

Elytra (Fig. 44) nearly as long as pronotum; punctuation dense and fine, but somewhat more distinct than that of head and pronotum; interstices with shallow traces of microsculpture only near posterior margins. Hind wings fully developed. Legs of

moderate length; length of metatibia approximately 0.85 mm; metatarsomere I significantly longer than metatarsomere II.

Abdomen (Fig. 45): tergites III–V with shallow and practically impunctate anterior impressions, punctation of remainder of tergal surfaces moderately fine and moderately dense on tergites III–VI, sparser on tergites VII–VIII; shallow traces of transverse microsculpture visible only at high magnification (100×); posterior margin of tergite VII with palisade fringe.

♂: tergite III with a short, stout, semi-erect, and apically acute tubercle (Fig. 45); tergites IV, VII, and VIII unmodified; posterior margin of sternite VIII convex (Fig. 46); median lobe of aedeagus 0.58 mm long and shaped as in Figs 48–49.

♀: unknown.

Comparative notes. This species is distinguished from dark-coloured and distinctly microsculptured specimens of the similar and variable *C. dispersus* only by unmodified male elytra and unmodified male tergites IV and VII, as well as by a longer ventral process of the aedeagus (in relation to the basal capsule).

Distribution and natural history. The type locality is situated in the Gongga Shan range (China: West Sichuan) (Map 2). The holotype was collected at an altitude of 2100 m. Additional data are not available.

Etymology. The specific epithet (Latin, adjective) alludes to the presence of a tubercle on the male tergite III.

***Chinecallicerus dabaicus* sp. nov.**

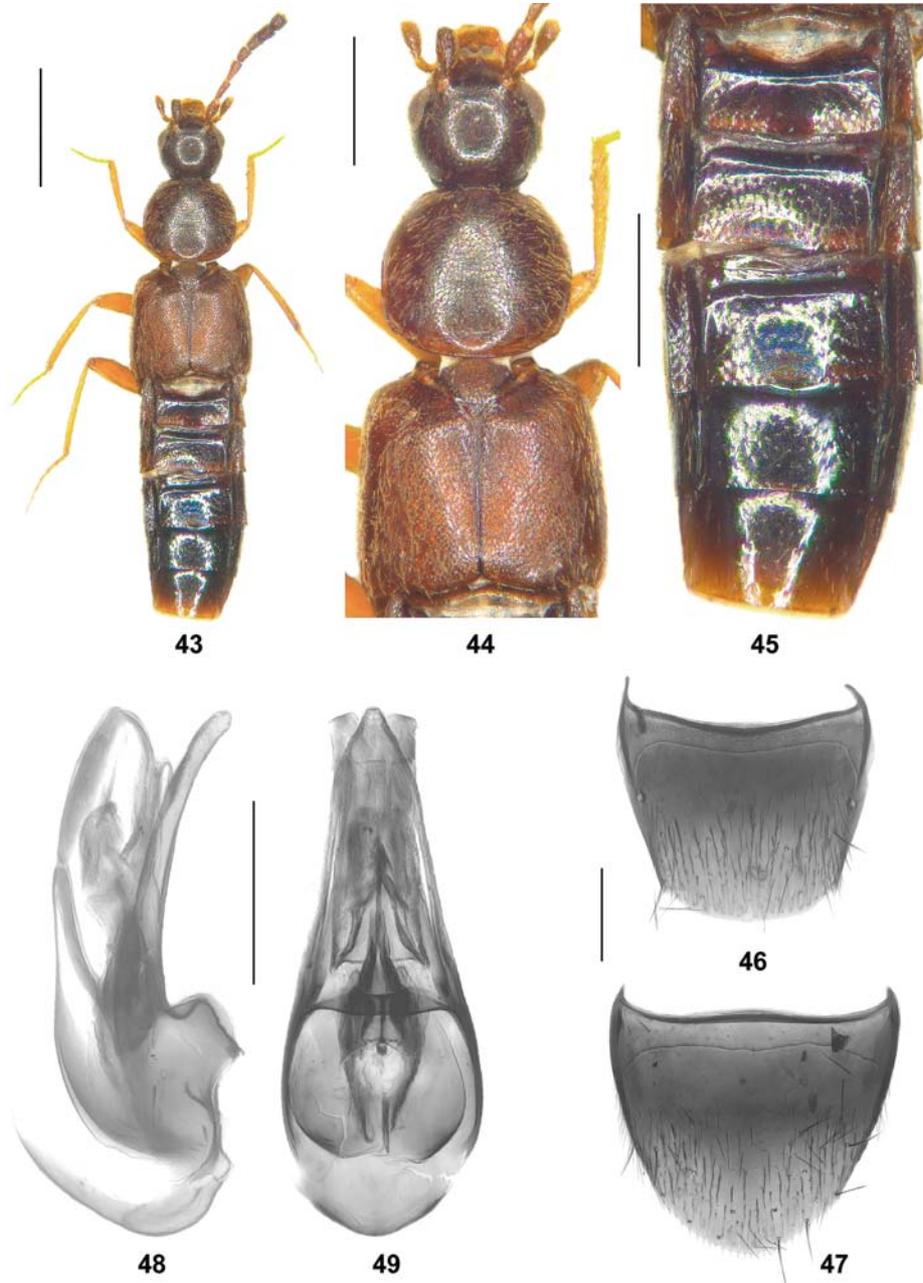
(Figs 50–53, 58–59, Map 3)

Type material examined. Holotype ♀ [dissected prior to present study; spermatheca broken]: “CHINA: W-Hubei (Daba Shan), pass E of Mt. Da Shennongjia, 12 km NW Muyuping, 31°30′N, 110°21′E, 19.VII.2001, leg. M. Schülke [C01-13C] / creek valley 1950–2050 m, mixed deciduous forest, moss, dead wood, mushrooms (sifted) [C01-13C] / Holotypus ♀ *Chinecallicerus dabaicus* sp. n., det. V. Assing 2020” (MNB).

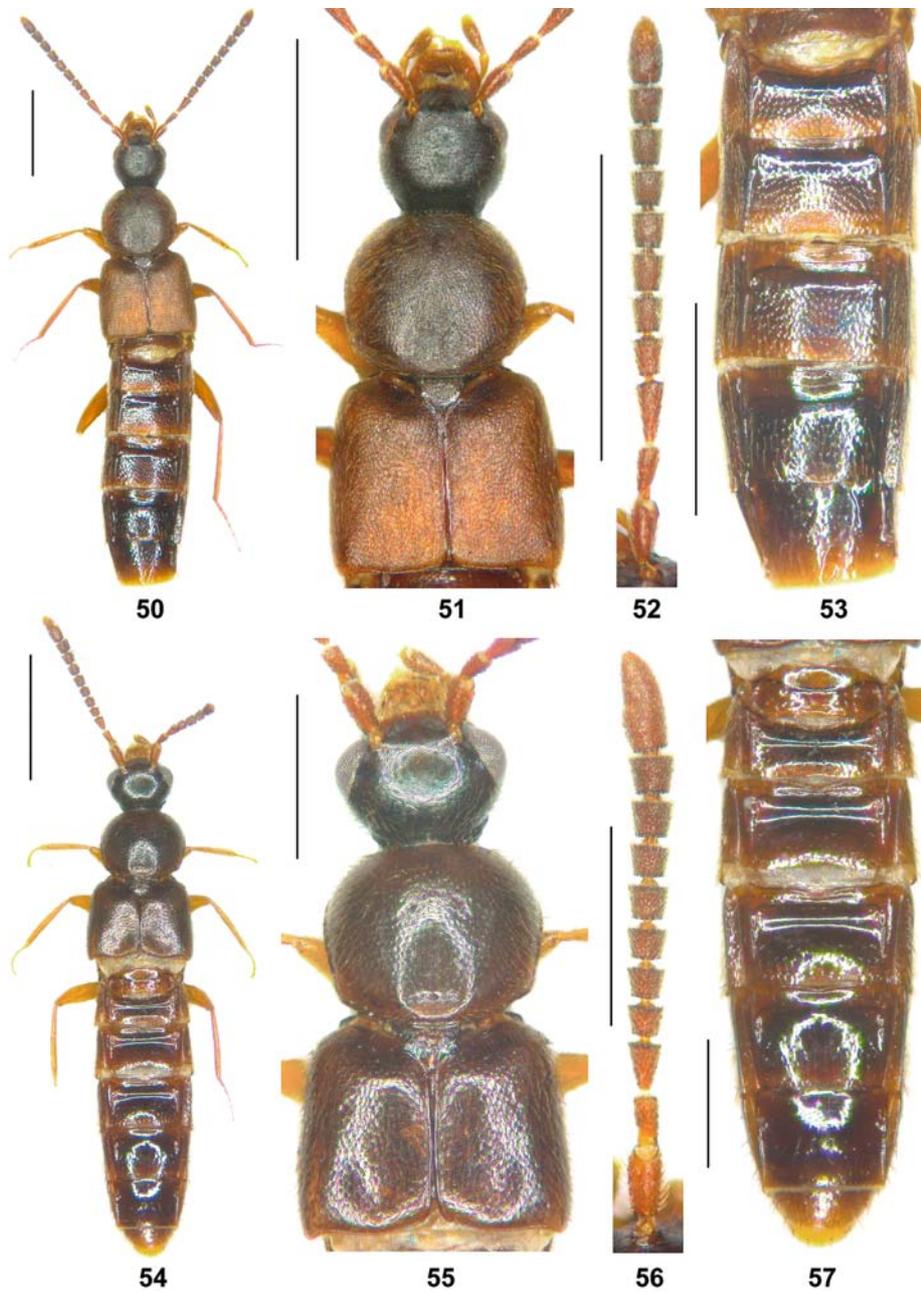
Description. Body length 5.5 mm; length of forebody 2.4 mm. Habitus as in Fig. 50. Coloration: head blackish; pronotum blackish-brown; elytra reddish-brown; abdomen blackish with the posterior margins of the segments reddish; legs yellowish-brown; antennae blackish-brown; maxillary palpi brown with the apical palpomere pale-yellow. Forebody completely matt.

Head (Fig. 51) approximately as broad as long, broadest across eyes; punctation moderately dense and very fine, visible in the pronounced microreticulation only at high magnification. Eyes moderately convex in cross-section, slightly shorter than distance from posterior margin of eye to posterior margin of head in dorsal view. Antenna (Fig. 52) 1.9 mm long and moderately slender; antennomeres IV distinctly oblong, V–IX decreasingly oblong, X approximately as broad as long, and XI shorter than the combined length of IX and X. Maxillary palpomere III slender and unmodified.

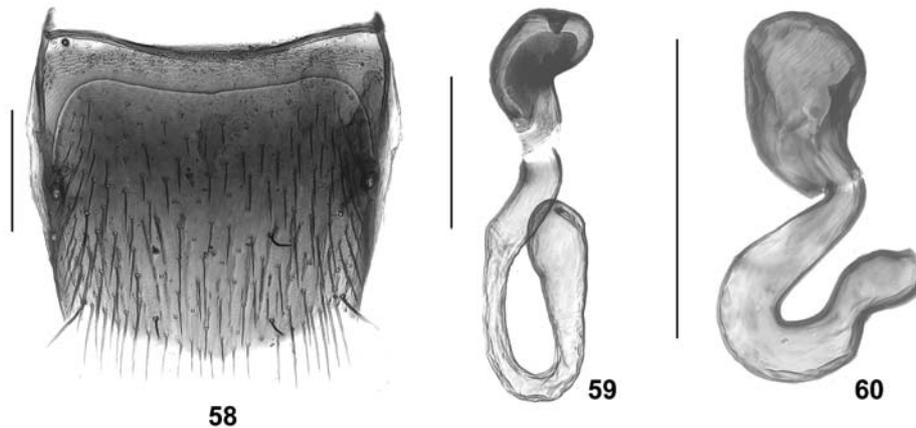
Pronotum (Fig. 51) large in relation to head, 1.08 times as broad as long and nearly 1.38 times as broad as head; punctation dense and fine, denser and more distinct than that of head, but visible in the pronounced microreticulation only at high magnification.



Figs 43–49. *Chinecallicerus unituberculatus* sp. nov. 43 – male habitus; 44 – forebody; 45 – male abdomen; 46 – male tergite VIII; 47 – male sternite VIII; 48–49 – median lobe of aedeagus in lateral and in ventral view. Scale bars: 43: 1.0 mm; 44–45: 0.5 mm; 46–49: 0.2 mm.



Figs 50–57. *Chinecallicerus dabaicus* sp. nov. (50–53) and *C. laoticus* sp. nov. (54–57). 50, 54 – female habitus; 51, 55 – female forebody; 52, 56 – antenna; 53, 57 – female abdomen. Scale bars: 50–54: 1.0 mm; 55–57: 0.5 mm.



Figs 58–60. *Chinecallicerus dabaicus* sp. nov. (58–59) and *C. laoticus* sp. nov. (60). 58 – female tergite VIII; 59–60 – spermatheca. Scale bars: 0.2 mm.

Elytra (Fig. 51) nearly as long as pronotum; punctuation very fine and very dense; interstices with pronounced microsculpture. Hind wings fully developed. Legs rather slender; length of metatibia 0.9 mm.

Abdomen (Fig. 53): tergites III–V with moderately deep and practically impunctate anterior impressions; remainder of tergal surfaces III–V with distinct, moderately fine, and dense punctuation; punctuation of tergite VI slightly, that of tergite VII much sparser than that of tergites III–V; interstices glossy, with extremely fine and shallow transverse microsculpture visible only at high magnification (100×); posterior margin of tergite VII with palisade fringe.

♂: unknown.

♀: posterior margin of tergite VIII obtusely pointed in the middle (Fig. 58); posterior margin of sternite VIII concave in the middle; spermatheca (Fig. 59) with long, medially very narrow proximal portion.

Comparative notes. This species is readily identified not only by the shape of the spermatheca, but also based on distinctive external characters alone: a completely matt forebody strongly contrasting with a glossy abdomen in combination with moderately large size and a large pronotum (in relation to the head).

Distribution and natural history. *Chinecallicerus dabaicus* is the first species of the genus to be recorded from Hubei and the Daba Shan ranges, and it represents the easternmost record of the genus as a whole (Map 3). The holotype was sifted from litter in a mixed deciduous forest at an altitude of approximately 2000 m.

Etymology. The specific epithet is an adjective derived from Daba, the name of the mountain range where the type locality is situated.

***Chinecallicerus laoticus* sp. nov.**

(Figs 54–57, 60, Map 3)

Type material examined. Holotype ♀: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♀ *Chinecallicerus laoticus* sp. n., det. V. Assing 2020” (NHMB). Paratypes: 2 ♀♀: same data as holotype (cAss).

Description. Body length 3.9–4.3 mm; length of forebody 1.6–1.8 mm. Habitus as in Fig. 54. Coloration: head black; pronotum dark-brown to blackish-brown; elytra brown to dark-brown; abdomen dark-brown with the posterior margins of the tergites paler; legs dark-yellow; antennae brown to dark-brown with antennomeres I–II more or less distinctly paler; maxillary palpi brown with the apical palpomere pale-yellow.

Head (Fig. 55) distinctly transverse, approximately 1.3 times as broad as long; punctation fine to moderately fine and moderately dense to dense; interstices with distinct fine microreticulation. Eyes large, at least approximately twice as long as postocular region in dorsal view. Antenna (Fig. 56) 1.3–1.4 mm long and slender; antennomeres IV–X weakly transverse; antennomere XI elongate, nearly as long as the combined length of antennomeres VIII–X. Maxillary palpomere III moderately slender and unmodified.

Pronotum (Fig. 55) 1.15–1.19 times as broad as long and approximately 1.25 times as broad as head; punctation dense, slightly more distinct than that of head; microsculpture less fine and more transverse than that of head.

Elytra (Fig. 55) approximately 0.8 times as long as pronotum; punctation very dense and fine, finer than that of pronotum; interstices with shallow traces of microsculpture. Hind wings fully developed. Legs of moderate length; length of metatibia approximately 0.6 mm.

Abdomen (Fig. 57): tergites III–V with moderately deep and impunctate anterior impressions, punctation of remainder of tergal surfaces moderately dense and fine; tergite VI–VII with sparser and very fine punctation in posterior half, impunctate in anterior half; interstices without microsculpture; posterior margin of tergite VII with palisade fringe.

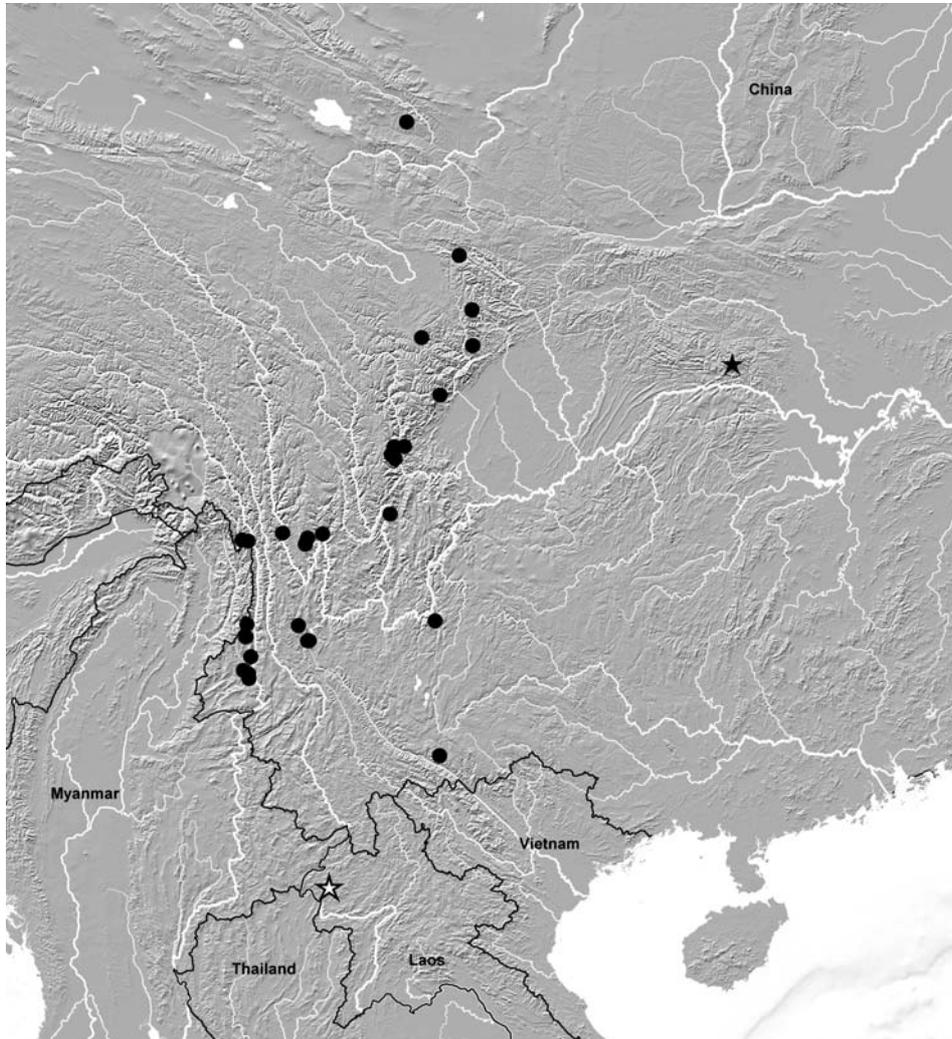
♂: unknown.

♀: posterior margin of sternite VIII broadly convex; spermatheca of robust shape, with rather short proximal portion (Fig. 60).

Comparative notes. *Chinecallicerus laoticus* is characterized by a strongly transverse head, large eyes, rather slender antennae, the presence of distinct microsculpture on the head and pronotum, an abdomen without microsculpture and with a characteristic distribution of the punctation, and by the shape of the spermatheca.

Distribution and natural history. The type locality is situated in Bokeo province in Northwest Laos (Map 3). The species is the first representative of the genus to be recorded from Laos, from outside China, and from the whole of the Oriental region. The specimens were collected at an altitude of 500–700 m, most likely with a Malaise trap.

Etymology. The specific epithet is an adjective derived from Laos.



Map 3. Distribution of *Chinecallicerus*. Black star – *C. dabaicus* sp. nov.; white star – *C. laoticus* sp. nov.; black circles – remaining species (all records pooled).

Key to species

- 1 Pronotum with extremely dense (interstices much narrower than diameter of punctures, barely noticeable) and rugose or granulose punctation. Elytra with extremely dense, mostly ill-defined, rugose punctation, practically matt. Large to very large (length of forebody >2.6 mm) species of slender habitus; pronotum

- oblong, as long as broad, or indistinctly transverse (less than 1.05 times as broad as long). Abdominal tergites III–V with dense to very dense and relatively coarse punctation. **2**
- Punctation of pronotum not extremely dense (interstices well visible), not rugose or granulose. Mostly smaller species. Pronotum often distinctly transverse. **4**
- 2** Smaller species; length of forebody <2.8 mm; width of pronotum approximately 0.8 mm. Pronotum more distinctly convex in cross-section. Male tergites III, IV, and VII with distinctive modifications (ASSING 2019: figures 19–20). Median lobe of aedeagus: ASSING (2019: figures 21–22). North Sichuan. ***reuteri***
- Larger species; length of forebody >3.0 mm; width of pronotum approximately 1.0 mm. Pronotum less convex in cross-section. **3**
- 3** Forebody bicoloured: elytra pitchy-red, distinctly contrasting with the black head and pronotum; legs reddish to reddish-brown. Punctation of pronotum granulose (ASSING 2018: figure 25), that of elytra ill-defined and confluent. Abdominal tergites III–V with conspicuously dense punctation (ASSING 2018: figures 13–14). Spermatheca smaller, maximal extension little more than 0.3 mm, and shaped as in ASSING (2018: figure 15). Qinghai. ***granulosissimus***
- Forebody uniformly blackish with the elytra partly indistinctly paler at most; femora and tibiae blackish-brown. Punctation of pronotum not granulose (ASSING 2019: figure 4), that of elytra defined and not confluent. Abdominal tergites III–V with less dense punctation. Spermatheca larger, maximal extension 0.44 mm, and shaped as in ASSING (2019: figure 7). Male tergite VII with small tubercle in postero-median portion (Fig. 1); anterior tergites unmodified. Median lobe of aedeagus shaped as in Figs 2–3. Sichuan. ***formidabilis***
- 4** Abdominal tergite VI with pronounced and in the middle punctate anterior impression similar to that of tergite V. **5**
- Abdominal tergite VI without, or with very shallow and impunctate anterior impression; if such an impression is present, it is much less pronounced than that of tergite V. **6**
- 5** Head and pronotum with pronounced microsculpture, matt, and with extremely fine, barely visible punctation (ASSING 2019: figure 31). Anterior impressions of abdominal tergites III–VI with a distinct cluster of punctures only in the middle, laterally impunctate (ASSING 2019: figure 34). Male tergite VII with pronounced, spine-shaped and erect tubercle in postero-median portion (ASSING 2019: figures 37–38). Posterior margin of male tergite VIII with three pronounced teeth on either side. Median lobe of aedeagus as in ASSING (2019: figures 35–36). North Sichuan. ***discrepans***
- Head and pronotum with distinct fine punctation and somewhat glossy (ASSING 2018: figure 21). Anterior impressions of abdominal tergites in the middle more

- broadly punctate (i.e., punctures not forming a distinct cluster). Spermatheca as in ASSING (2018: figure 16). North Sichuan. ***transversus***
- 6 Head matt or with subdued shine owing to distinct microsculpture; punctuation fine, often visible only at high magnification. 7
- Head with or without microsculpture, somewhat glossy. 14
- 7 Head (including eyes) distinctly transverse, >1.05 times as broad as long. 8
- Head oblong or approximately as broad as long. 10
- 8 Pronotum and elytra with pronounced microreticulation, practically matt. Pronotum weakly transverse, <1.1 times as broad as long. Antenna rather massive and >2.3 mm long; antennomeres IV–X distinctly oblong (ASSING 2015: figure 12). Spermatheca as in ASSING (2015: figure 15). Southeast Yunnan. ***reticulatus***
- Pronotum and elytra at least with subdued shine and with weakly pronounced microreticulation at most. Pronotum distinctly transverse, >1.1 times as broad as long. Antenna not massive and <2.0 mm long. 9
- 9 Larger species; length of forebody approximately 2.5 mm. Antennomeres IV–X oblong (ASSING 2019: figure 23). Head nearly matt owing to pronounced microsculpture (ASSING 2019: figure 24). Pronotum broadest approximately in the middle, weakly convex in cross-section, extensively depressed in postero-median portion, and with dense and distinct, well-defined punctuation (ASSING 2019: figure 24). Male tergites VII and VIII with conspicuous modifications (ASSING 2019: figures 26–27). Median lobe of aedeagus as in ASSING (2019: figures 28–29). North Sichuan. ***feldmanni***
- Smaller species; length of forebody 1.6–1.8. Antennomeres IV–X approximately as long as broad or weakly transverse (Fig. 56). Head with subdued shine (Fig. 55). Pronotum broadest anteriorly, distinctly convex in cross-section, not depressed, and with fine punctuation (Fig. 55). Spermatheca as in Fig. 60. Northwest Laos. ***laoticus***
- 10 Forebody practically matt, with pronounced microreticulation and extremely fine punctuation clearly visible only at high magnification (100×). 11
- Forebody with subdued shine and more distinct fine punctuation. 13
- 11 Larger species (Fig. 50); length of forebody 2.4 mm. Antennae (Fig. 52) more slender and less massive; antennomere IV distinctly oblong. Spermatheca as in Fig. 59. Hubei. ***dabaicus***
- Smaller species; length of forebody <2.0 mm. Antennae more massive; antennomere IV transverse. 12
- 12 Eyes smaller, distinctly shorter than distance from posterior margin of eye to posterior constriction of head. Elytra with somewhat asperate punctuation. Maxillary palpi yellowish. Antennae reddish to reddish-brown and approximately 1.5 mm long; antennomeres IV–X at least weakly transverse (ASSING 2018: figure 1). Male tergite VII with long median carina posteriorly

- (ASSING 2018: figures 2–3). Male tergite VIII with smoothly convex posterior margin (ASSING 2018: figure 2). Median lobe of aedeagus as in ASSING (2018: figure 4–5). Spermatheca as in ASSING (2018: figure 6). North Sichuan. *carinatus*
- Eyes larger, at least approximately as long as distance from posterior margin of eye to posterior constriction of head. Elytra with very fine, not asperate punctation. Maxillary palpi blackish-brown, except for the yellowish palpomere IV. Antennae blackish and longer, approximately 1.8 mm long; antennomeres VI–X not transverse, X even somewhat oblong (ASSING 2015: figure 3). Male tergite VII with small median tubercle (ASSING 2015: figure 5). Posterior margin of male tergite VIII truncate in the middle (ASSING 2015: figure 6). Median lobe of aedeagus as in ASSING (2015: figures 8–9). Northeast Yunnan. *subater*
- 13 Antennomere IV oblong (Figs 20–24). Eyes weakly convex, weakly projecting from lateral contours of head at most (Figs 10, 12, 14). Male elytra anteriorly with with an oblong, sometimes slightly elevated rugose patch on either side of suture (Figs 10, 12, 14). Male tergites III, IV, and VI with tubercles (Figs 15–19). Posterior margin of male tergite smoothly convex to indistinctly, obtusely pointed posteriorly (Figs 25–26). Median lobe of aedeagus 0.5–0.6 mm long; ventral process long and slender, with parallel lateral margins in basal half in ventral view (Figs 30–40). Spermatheca as in Figs 41–42. Extremely variable species. Widespread in Sichuan and Yunnan. *dispersus*
- Antennomere IV approximately as long as broad or weakly transverse (ASSING 2009: figure 3). Eyes distinctly convex and projecting from lateral contours of head (Fig. 5; ASSING 2009: figure 2). Male elytra unmodified. Male tergites III and IV unmodified; tergite VII with small smooth median tubercle. Posterior margin of tergite VIII strongly modified, serrate (ASSING 2009: figure 5). Median lobe of aedeagus smaller, 0.42 mm long, shaped as in ASSING (2009: figure 7). Spermatheca of completely different shape, with very broad proximal and small distal portion (Fig. 6). West Yunnan. *serratus*
- 14 Eyes small, less than one-third as long as distance from posterior margin of eye to posterior constriction of head in dorsal view, flat (not protruding from lateral contours of head), and situated antero-laterally (close to antennal insertions) (ASSING 2018: figure 9). Head of orbicular shape (ASSING 2018: figure 8). Elytra (ASSING 2018: figure 8) short, approximately 0.75 times as long as pronotum. Posterior margin of abdominal tergite VII only with narrow rudiment of a palisade fringe. Antennae (ASSING 2018: figure 10) slender; antennomeres IV–X all longer than broad. Spermatheca as in ASSING (2018: figure 12). Sichuan. *orbiculatus*
- Eyes larger and more convex. Head not of distinctly orbicular shape. **15**
- 15 Pronotum large, nearly as broad as elytra and at least 1.4 times as broad as head, broadest approximately in the middle. **16**
- Pronotum more slender, distinctly narrower than elytra and usually less than 1.4 times as broad as head, broadest in anterior half. **17**

- 16 Pronotum strongly transverse, approximately 1.2 times as broad as long, approximately 1.4 times as broad as head, and with smoothly convex posterior margin (ASSING 2018: figure 27). Antennomere IV distinctly smaller than antennomere V (ASSING 2018: figure 28). Eyes smaller, approximately as long as distance from posterior margin of eye to posterior constriction of head in dorsal view. Head and pronotum with distinct fine microsculpture and weak shine. Elytra with fine and unmodified punctation. Spermatheca as in ASSING (2018: figure 32). West Yunnan: Gaoligong Shan. ***grandicollis***
- Pronotum less transverse, <1.15 times as broad as long, and approximately 1.6 times as broad as head; posterior margin distinctly produced in the middle (ASSING 2018: figure 34). Antennomere IV of similar size and shape as antennomere V (ASSING 2018: figure 35). Eyes larger, longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Head and pronotum without distinct microsculpture and glossy; elytra with granulose punctation (ASSING 2018: figure 34). Male tergites III, IV, and VII each with a pronounced median tubercle posteriorly (ASSING 2018: figures 36–37). Median lobe of aedeagus as in ASSING (2018: figures 50–51). West Yunnan: Gaoligong Shan. ***trituberculatus***
- 17 Legs darker; at least femora and metibiae reddish-brown to brown. Pronotum in postero-median portion weakly convex in cross-section or even impressed, with obtusely marked posterior angles, approximately 1.1 times as broad as long and 1.3–1.4 times as broad as head. Abdomen with conspicuously sparse punctation and without noticeable microsculpture, very glossy. Head and pronotum glossy, with distinct and defined punctation, and without noticeable microsculpture at a magnification of 60×. **18**
- Legs usually yellow, rarely with yellowish-brown femora. Pronotum usually less broad in relation to head with weakly marked posterior angles at most. Abdomen with dense punctation at least on anterior tergites. **19**
- 18 Larger species; length of forebody 2.8–2.9 mm. Antennae more massive and 2.5 mm long; preapical antennomeres approximately as broad as long (ASSING 2006: figure 15). Pronotum with less fine and less dense punctation. Male tergite III with pronounced median tubercle, IV with small transverse median tubercle, and VII with horseshoe-shaped elevation in postero-median portion (ASSING 2006: figures 18–20). Median lobe of aedeagus approximately 0.7 mm long (ASSING 2006: figures 23–24). Spermatheca as in ASSING (2006: figure 27). Northwest Yunnan. ***wrasei***
- Smaller species; length of forebody 2.5 mm. Antennae more slender and 1.9 mm long; antennomeres IV–X oblong (ASSING 2019: figure 10). Pronotum with finer and denser punctation. Only male tergite III with median tubercle (ASSING 2019: figures 12–13); tergites IV and VII unmodified. Median lobe of aedeagus much smaller, 0.54 mm long (ASSING 2019: figures 15–16). West Yunnan. ***glabriventris***

- 19 Pronotum more slender, approximately as long as broad or indistinctly transverse, <1.05 times as broad as long. Antennae longer, approximately as long as the distance from anterior margin of eye to posterior margin of elytra. ... **20**
- Pronotum transverse, >1.05 times as broad as long. Antennae shorter than distance from anterior margin of eye to posterior margin of elytra. **22**
- 20 Eyes larger, approximately as long as distance from posterior margin of eye to posterior constriction of head in dorsal view. Pronotum with very fine, non-granulose punctation. Antennomere IV significantly shorter than antennomere V (ASSING 2006: figure 3). Posterior margin of male tergite VIII produced in the middle and somewhat truncate (ASSING 2006: figure 8). Median lobe of aedeagus 0.50–0.55 mm long, shaped as in ASSING (2006: figures 10–11). Spermatheca as in Fig. 8. West Yunnan. ***laevigatus***
- Eyes smaller, shorter than distance from posterior margin of eye to posterior constriction of head in dorsal view. Pronotum with granulose punctation. **21**
- 21 Antennomere IV as long as broad, only indistinctly shorter than antennomere V. Elytra with granulose punctation and weak longitudinal elevation on either side of suture (ASSING 2004: figure 8). Spermatheca as in ASSING (2004: figure 13). Northwest Yunnan. ***schuelkei***
- Antennomere IV transverse, shorter than antennomere V (ASSING 2017: figure 2). Elytra with non-granulose punctation and without elevation (ASSING 2017: figure 1). Male tergite VII (ASSING 2017: figures 3–4) with pronounced fin-shaped median tubercle. Male tergite VIII bicuspidate posteriorly (ASSING 2017: figure 4). Median lobe of aedeagus 10.6 mm long, and shaped as in ASSING (2017: figures 5–6). Spermatheca as in Fig. 7. Sichuan. ***pinnatus***
- 22 Male elytra anteriorly with an oblong cluster of rugose punctation on either side of suture (Figs 10, 12, 14). Male tergites III, IV, and VII with tubercles (Figs 15–19). Ventral process of aedeagus shorter in relation to basal capsule (Figs 30–40). Spermatheca as in Figs 41–42. Sichuan, Yunnan. ***dispersus***
- Male elytra unmodified (Fig. 44). Male tergites IV and VII unmodified (Fig. 45). Ventral process of aedeagus longer in relation to basal capsule (Figs 48–49). Sichuan: Gongga Shan. ***unituberculatus***

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