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Revision of the Subgenus *Burlinius* Lopatin (Coleoptera, Chrysomelidae, Cryptocephalinae) from China and Description of Four New Species †

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Abstract: This study revised the subgenus *Burlinius* Lopatin, 1965, of the genus *Cryptocephalus* Geoffroy, 1762 (Coleoptera, Chrysomelidae, Cryptocephalinae, Cryptocephalini), and describes four new species, namely, *Cryptocephalus* (*Burlinius*) *longchiensis* sp. nov., *C.* (*Burlinius*) *baowenzhengi* sp. nov., *C.* (*Burlinius*) *tomurensis* sp. nov., and *C.* (*Burlinius*) *glabrelegantulus* sp. nov. The species *C.* (*Burlinius*) *turpis* Chen, 1942, and *C. (Burlinius*) *yangweii* Chen, 1942, were revalidated and treated as distinct species. Another four species were transferred into this subgenus from the subgenus *Cryptocephalus*, namely, *C. (Burlinius) flavolimbatus* Pic, 1920 (stat. nov.), *C. (Burlinius) pusus* Schöller, 2009 (stat. nov.), *C. (Burlinius) scutemaculatus* Tan, 1992 (stat. nov.), and *C. (Burlinius) shaowuanus* Gressitt & Kimoto, 1961 (stat. nov.). Two species (including one more subspecies) were removed out of this subgenus, namely, *C. (Burlinius) nigrolimbatus* Jacoby, 1890, *C. (Burlinius) pallidipes* Pic, 1927, and *C. (Burlinius) pallidipes nakatae* Gressitt & Kimoto, 1961; they were transferred into the subgenus *Cryptocephalus*. Thus, the subgenus *Burlinius* Lopatin includes now a total of 26 species in China according to our revision. A key to all the Chinese species of this subgenus is provided as well as color illustrations and line drawings for the general habitus and genital structures.

Keywords: *Cryptocephalus*; key to Chinese species; leaf beetles; new species; taxonomic revision

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1. Introduction

The subgenus *Burlinius* Lopatin, 1965 [1], is a special leaf beetle group within the megadiverse genus *Cryptocephalus* Geoffroy, 1762 [2] (Coleoptera, Chrysomelidae, Cryptocephalinae, Cryptocephalini). It was created by Lopatin (1965), based on the type species of *Chrysomela fulva* Goeze, 1777 [3], which included 52 species at the time of its creation, which were originally included in the genus *Cryptocephalus* Geoffroy but had not yet been assigned to any subgenus. Before the present study, the subgenus *Burlinius* Lopatin included 128 species, which were distributed mainly in the Palearctic region [1,4,5] (Lopatin, 1965; Warchałowski, 2010; Lopatin et al., 2010). The species number of *Burlinius* Lopatin was growing along with taxonomic knowledge of the megadiverse genus *Cryptocephalus*. In addition to 52 species included originally in *Burlinius*, Warchałowski (2010) [5] increased the number to 94 species and subdivided them into four different species groups in his book, titled "The Palearctic Chrysomelidae: identification keys". In the book series "Catalogue of Palearctic Coleoptera" (edited by Löbl and Smetana), Lopatin et al. (2010) [4] catalogued a number of 121 species and another 10 subspecies in this subgenus. Regarding the Chinese fauna, Chen (1942) [6] studied the Chinese *Cryptocephalus* and Gressitt, and Kimoto (1961) [7] revised the entire leaf beetles' fauna of China and Korea; there were 13 *Burlinius* species reported to occur in China, but they were not assigned to any subgenus then. Before our study, a total of 19 species of *Burlinius* were found to occur in China

(Lopatin et al., 2010) [4]. The present study revised the Chinese *Burlinius* including the description of four new species. Moreover, a key to all Chinese species of *Burlinius* is given and color illustrations and line drawings are provided for general habitus and genital structures.

2. Materials and Methods

Dried specimens were relaxed in 70 °C water for 1.5 h. Softened specimens were moved to petri dish, the abdomen was separated with insect pins, they were soaked in 10% KOH solution, combining hot water bathing for 10 min to accelerate the process, and subsequently transferred into fresh water to rinse the KOH solution off. The aedeagus and spermatheca were removed from the abdomen and placed into glycerin for observation and measurement with an apochromatic stereomicroscope Zeiss SteREO V12 (Carl Zeiss AG, Jena, Germany). Color photos were prepared with an Axio Zoom V16 (Carl Zeiss AG, Jena, Germany) fluorescence stereo zoom microscope, and photomontage was performed in Zen 2012 (blue edition) imaging software. Adobe Photoshop CS6 was used in digital postprocessing of the color pictures, and Adobe Illustrator 2020 and a PC equipped with a Creative Pen & Touch Tablet (INTUOS Pen & Touch Medium CTH-680/S0-F, WACOM, Saitama, Japan) were used to make the line drawings.

The measurements are the average values calculated from the values of at least five specimens or all available specimens when fewer than five specimens were available. The following abbreviations are used in the text to indicate the measurements of the specimens:

BL: body length (length from the apex of pronotum to the apex of elytra in dorsal view);
BW: body width (distance between the humeri, maximal body width);
HL: head length (length from occiput to the front apex of mandibles);
HW: head width (distance between the eyes, width of maximal head width);
PL: pronotal length (length from the basal angle to anterior margin, maximal longitudinal length of pronotum);
PW: pronotal width (distance of the widest portion of the pronotum);
EL: elytral length (length of the maximal elytral length in dorsal view);
AL: aedeagus length (length from the apex of aedeagus to the basal margin, maximal aedeagus length);
AW: aedeagus width (the maximal width of aedeagus);
SL: spermathecal length (length of the maximal spermathecal length, without duct).

The type of specimens of the new species and other materials included in this study are preserved at the Institute of Zoology, Chinese Academy of Science, Beijing, China (IZ-CAS). The following abbreviations are used to refer to the institutions where specimens have been deposited:

BMNH: The Natural History Museum, London, UK;
ICRI: Zhongshan (Sun Yat-Sen) University, Research Institute of Entomology, Guangzhou, Guangdong, China;
MNHN: National Museum of Natural History, Paris, France.
NHMB: Naturhistorische Museum Basel, Switzerland;
USNM: National Museum of Natural History, Washington, DC, USA
ZIN: Russian Academy of Sciences, Zoological Institute, St. Petersburg, Russia;
ZMHB: Stiftung Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung, Berlin, Germany.

3. Results

3.1. Subgenus Burlinius Lopatin, 1965

Lopatin, 1965: 455; Warchałowski, 2010; Lopatin et al., 2010: 584 [1,4,5].

Type species: *Chrysomela fulva* Goeze, 1777 [3].

Diagnosis. The body is cylindrically oblong and blunt at the ends. The body length is 2.0–3.5 mm. The upper side is glabrous and the coloration varies. The head and eyes are relatively small. The lower margin of the eyes lies above the anterior angles of the

pronotum or at the same level and the inner margin of the eyes are slightly notched. The antennae filiform are thin and long, usually longer than half of the body. The pronotum is transversed, with slightly rounded sides and is widest at the hind angles. The lateral margins are narrow with the basal part simultaneously visible in the dorsal view. The scutellum is triangular, longer than it is broad, and apically occasionally elevated and impunctated. The elytra is regularly punctated, longer than it is wide, with an interception behind the humeral tubercles, widest behind the middle, and usually slightly rounded at the apex. The elytra in the lateral view has a weak, epipleural lobe. The underside is usually covered with a sparsely short pubescence and distinct punctures. The prosternum varies, sometimes with an apical margin drawn out into a denticle visible in the lateral view. The mesoventrite is usually broad. The pygidium is usually with dense punctures and a slightly long pubescence. The claw segment of the hind tarsus is short, with only half or less than half of its length protruding from the lobes of the third segment. The lobe of the aedeagus is apically prolonged into three (rarely into two) processes; its opening is situated not dorsally, but apically.

3.2. Key to Species of the Subgenus Burlinius from China

(1). Upper side entirely blue with metallic luster; or entirely black, sometimes only basal margin or part, sutural margins, and apical region of elytra reddish or yellowish brown……2
- Upper side not entirely black and not entirely metallic blue……12
(2). Upper side entirely blue with metallic luster……3
- Upper side entirely black, sometimes only basal part or sutural margin of elytra reddish or yellowish brown……5
(3). Pronotum densely and distinctly punctate, and males have pronotum with anterio-rand lateral margins yellow……*C. confusus* Suffrian
- Pronotum smooth and shiny, impunctate……4
(4). Elytra coarsely punctate, and puncture-rows grooved……*C. baowenzhengi* sp. nov.
- Elytra finely punctate, and puncture-row without groove……*C. aphthonoides* Chen
(5). Upper side entirely black……6
- Upper side not entirely black, tinged with reddish or yellowish brown……9
(6). Pronotum smooth and shiny, impunctate, yellow, with variable black markings……7
- Pronotum distinctly punctate……8
(7). Elytral puncture rows with deep groove; legs yellow……*C. glabrelegantulus* sp. nov.
- Elytral puncture rows without groove; legs yellowish red, hind femora darkened……*C. norensis* Pic
(8). Pronotum finely punctate……*C. exiguus amiculus* Baly
- Pronotum coarsely and distinctly punctate……*C. pusus* Schöller
(9). Elytra entirely black, pronotum with apical margin red……*C. sichuanicus* Lopatin
- Elytra not entirely black, pronotum black……10
(10). Elytra with sutural and apical margins pitchy brown, scutellum pitchy black……*C. hohuanshanus* Kimoto
- Elytral apical region reddish or yellowish brown……11
(11). Elytral apical region yellowish brown, disc of scutellum yellow……*C. tomurensis* sp. nov.
- Elytra apical region reddish brown, disc of scutellum yellowish blackElytral apical region yellowish brown, disc of scutellum yellow……*C. kabaki* Lopatin
(12). Elytra mostly darkish red……13
- Elytra not mostely darkish red……15
(13). Pronotum darkish red, same as elytra……*C. nebulo* Weise
- Pronotum black or yellowish brown, different color from elytra……14
(14). Pronotum black……*C. nigrorufus* Gressitt
- Pronotum yellowish brown……*C. scutemaculatus* Tan
(15). Elytra entirely black, sometimes apical region yellow……16

- Elytra not black……17
(16). Elytra entirely black; pronotum yellowish brown; disc of scutellum yellowish brown, margins black……*C. petulans* Weise
- Elytra black, apical region yellow; pronotum yellow, with two black spots ……*C. pallidoapicalis Pic*
(17). Upper side entirely yellowish brown, except pronotal elytral margins and scutellum……18
- Upper side not entirely yellowish brown……20
(18). Pronotum distinctly and densely punctate……*C. turpis* Chen
- Pronotum finely punctate……19
(19). Prosternum width longer than length, basal margin with big and broad teeth……*C. longchiensis* sp. nov.
- Prosternum width shorter than length, basal margin with smaller teeth……*C. fulvus* (Goeze)
(20). Pronotum yellowish red with a M-shaped brown marking; prosternum apical margin with two sharp teeth……*C. potanini* Lopatin
- Pronotum without a M-shaped brown marking; prosternum teeth of apical margina absent or not as sharp as above……21
(21). Pronotum yellowish brown, sometimes tinged with brown……22
- Pronotum yellow and black……25
(22). Pronotum smooth, impunctate……*C. vividus* Lopatin
- Pronotum punctate……23
(23). Lobe of aedeagus apically prolonged into three processes, three lobes long cylindrical and apex round in dorsal and ventral view……*C. nigrofasciatus* Jacoby
- Lobe of aedeagus apically prolonged into three processes, and three lobes not cylindrial and apex not round in dorsal and ventral view……24
(24). Head pale yellowish brown; elytra pale yellow with a yellowish brown band……*C. shaowuanus* Gressitt & Kimoto
- Head pitchy brown; elytra yellowish brown with a darkish brown vertical stripe……*C. flavolimbatus* Pic
(25). Pronotum longitudinally wrinkled, color yellow, with a black marking……*C. bilineatus* (Linnaeus)
- Pronotum punctate, not wrinkled, black, apical and lateral margins yellow……*C. yangweii* Chen

3.3. Burlinius Species of China

3.3.1. *Cryptocephalus* (*Burlinius*) *longchiensis* Duan & Zhou, sp. nov.

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Figures 1–3.

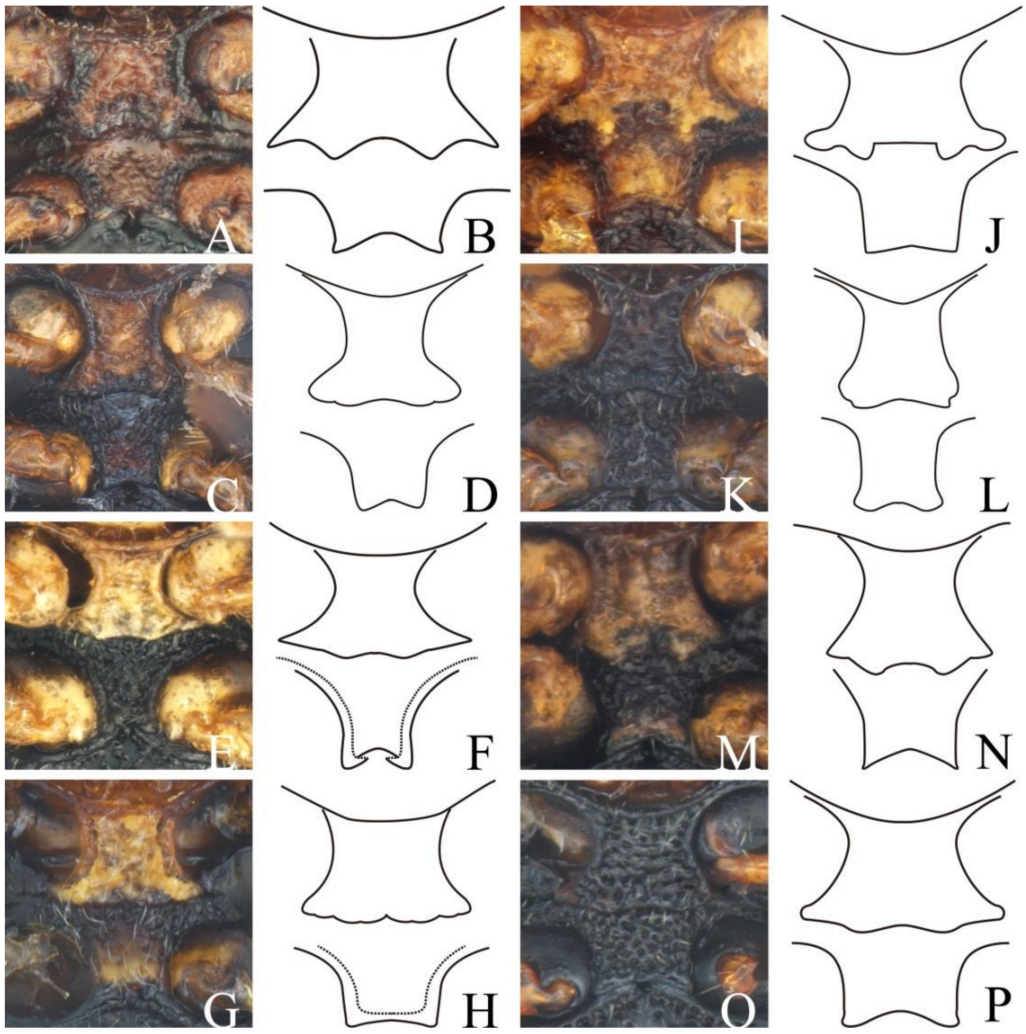

Figure 1. *Cryptocephalus (Burlinius)* prosternum and mesoventrite (**A**,**B**) *C.* (*Burlinius*) *longchiensis* Duan & Zhou, sp. nov. (**C**,**D**) *C.* (*Burlinius*) *baowenzhengi* Duan & Zhou, sp. nov. (**E**,**F**) *C.* (*Burlinius*) *tomurensis* Duan & Zhou, sp. nov. (**G**,**H**) *C.* (*Burlinius*) *bilineatus* (**I**,**J**) *C.* (*Burlinius*) *nigrofasciayus* (**K**,**L**) *C.* (*Burlinius*) *glabrelegantulus* Duan & Zhou, sp. nov. (**M**,**N**) *C.* (*Burlinius*) *nebulo* (**O**,**P**) *C.* (*Burlinius*) *yangweii*.

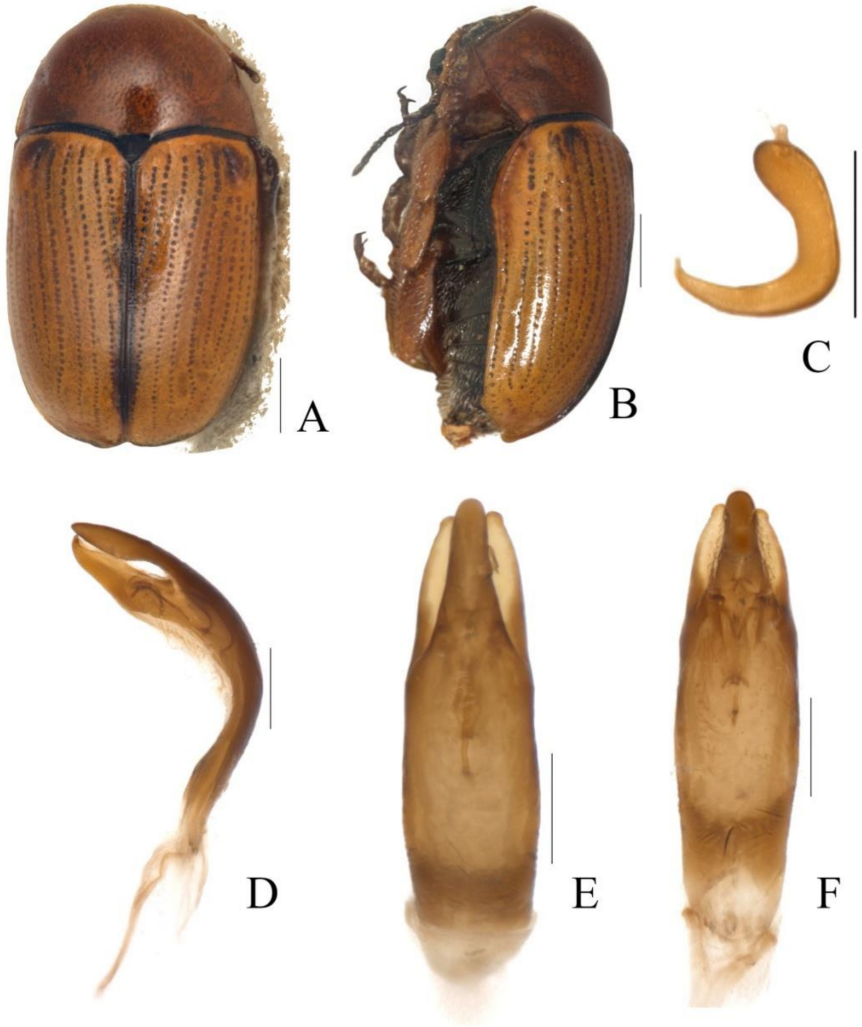

Figure 2. *Cryptocephalus* (*Burlinius*) *longchiensis* Duan & Zhou, sp. nov.: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**) holotype, male; (**C**) paratype, female).

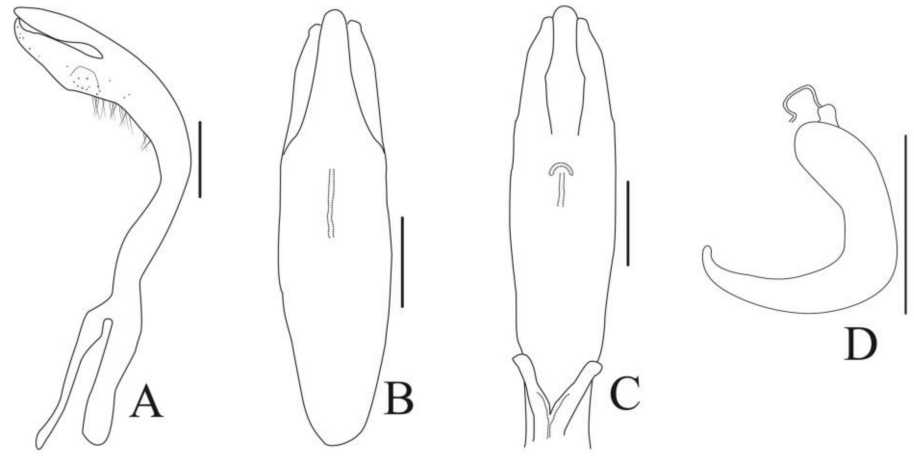

Figure 3. *Cryptocephalus* (*Burlinius*) *longchiensis* Duan & Zhou, sp. nov.: (**A**) lateral view of aedeagus; (**B**) dorsal view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca. (Scale bars: 0.2 mm).

Type of locality. is China: Sichuan Province: E'meishan City, Longchi Town.

The type material examined was holotype male, from CHINA, Sichuan Province, E'meishan City, Longchi Town, 23.IV.1983, coll. Yinheng Han (IZ-CAS). Paratype is one female, same data as holotype (IZ-CAS).

The measurements are BL = 2.21 mm, BW = 1.15 mm, HL = 0.68 mm, HW = 0.63 mm, PL = 0.66 mm, PW = 1.10 mm, EL = 1.60 mm, AL = 0.69 mm, AW = 0.19 mm, and SL = 0.47 mm.

Description. Body (Figure 2A) is elongated cylindrical, smooth, and testaceous. The head is reddish-brown with antennae with five basal segments that are reddish-brown; the remaining segments are darkish brown. The clypeus is reddish brown, the labrum is yellowish-brown, and the mandibles are black. The pronotum is reddish-brown, darker than the elytra, with a basal margin that is black. The scutellum is black and has a disc with a small, reddish-brown spot. The elytral base and suture are black, while the humeri is tinged with brown. The legs are reddish-brown and the venter is darkish brown.

Head is dull, with a frons that us is shallow and a short longitudinal groove that is sparsely and finely punctated. The eyes are kidney shaped. The clypeus is triangular, finely and transversely wrinkled, with an anterior margin that is slightly arcuately emarginated and a posterior margin that is concave. The antennae reach two-thirds of the region of the elytra. The first segment is clubbed, the second is oblong, about half as long as the first. The third through fifth are slender, with the third as long as the second, and the fourth longer than the third and shorter than the fifth. From the sixth segment on, a somewhat broadened and flattened terminal segment is pointed apically.

Pronotum (Figure 2A) is shallowly and densely punctated, distinctly vaulted, with a base much broader than the apex and a basal width about 1.8 times the length of the lateral margins. The anterior margin is nearly straight. Lateral margins are slightly wide. In the dorsal view, half the basal part is visible and widest at the hind angles. The posterior margin is slightly serrated and undulated. The scutellum is triangular, longer than it is broad, apically not elevated, and impunctated.

Elytra (Figure 2A) is oblong, almost parallel sided, slightly more than twice as long as broad, rounded apically, and slightly sinuated laterally in the dorsal view. The elytral humeri are very distinct and slightly elevated. There is a disc with regular rows of punctures, getting slightly finer towards the apex, with interspaces that are flat, with scattered minute punctures between the rows and epipleura that are obliquely visible in the lateral view.

Prosternum (Figure 1A,B) width is longer than the length, with a broad prosternal process and an apical margin that is drawn out into a broad denticle, visible in the lateral view.

Mesoventrite (Figure 1A,B) is broad, twice as wide as long, with a basal margin that forms a pair of teeth. The metaventrite has coarse punctures. The pygidium has dense punctures and a slightly long pubescence.

Aedeagus (Figure 2D–F and Figure 3A–C) is elongated, about 4.8 times as long as it is wide, and strongly bent. The apex is prolonged into three processes with a short, small dorsal process. The ventral processes are broad and nearly triangular, strongly bent in the lateral view. Laterally, they have sparse punctures. Medially of the ventral processes, there is a dense, long pubescence. The tegmen is Y-shaped, weakly sclerotized, almost translucent, and bifurcated at the basal fifth.

Female. Body more robust than male. The spermatheca (Figures 2C and 3D) is hook shaped, moderately acute at the apex, and slightly dilated at the basal third. The rectal sclerites are moderately sclerotized and not connected between two rectangular sclerites on ventral side.

The distribution is China (Sichuan).

Diagnosis. This new species is similar to *C.* (*Burlinius*) *nigrofasciatus* Jacoby [8], but can be distinguished by a broad pronotum and a black scutellum. It is also similar to *C.* (*Burlinius*) *fulvus* (Goeze) [3], but can be distinguished by the following characteristics: The prosternum (Figure 1A–B) is wider than it is long, with bigger and broader denticles on the basal margin; the aedeagus (Figure 2D–F and Figure 3A–C) is strongly bent, and the aedeagus apex with the three lobes is nearly equal in length.

Etymology. The specific epithet is derived from Longchi, the Chinese name (Pinyin) of the type of locality.

3.3.2. *Cryptocephalus* (*Burlinius*) *baowenzhengi* Duan & Zhou, sp. nov.

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Figure 1, Figure 4, and Figure 5.

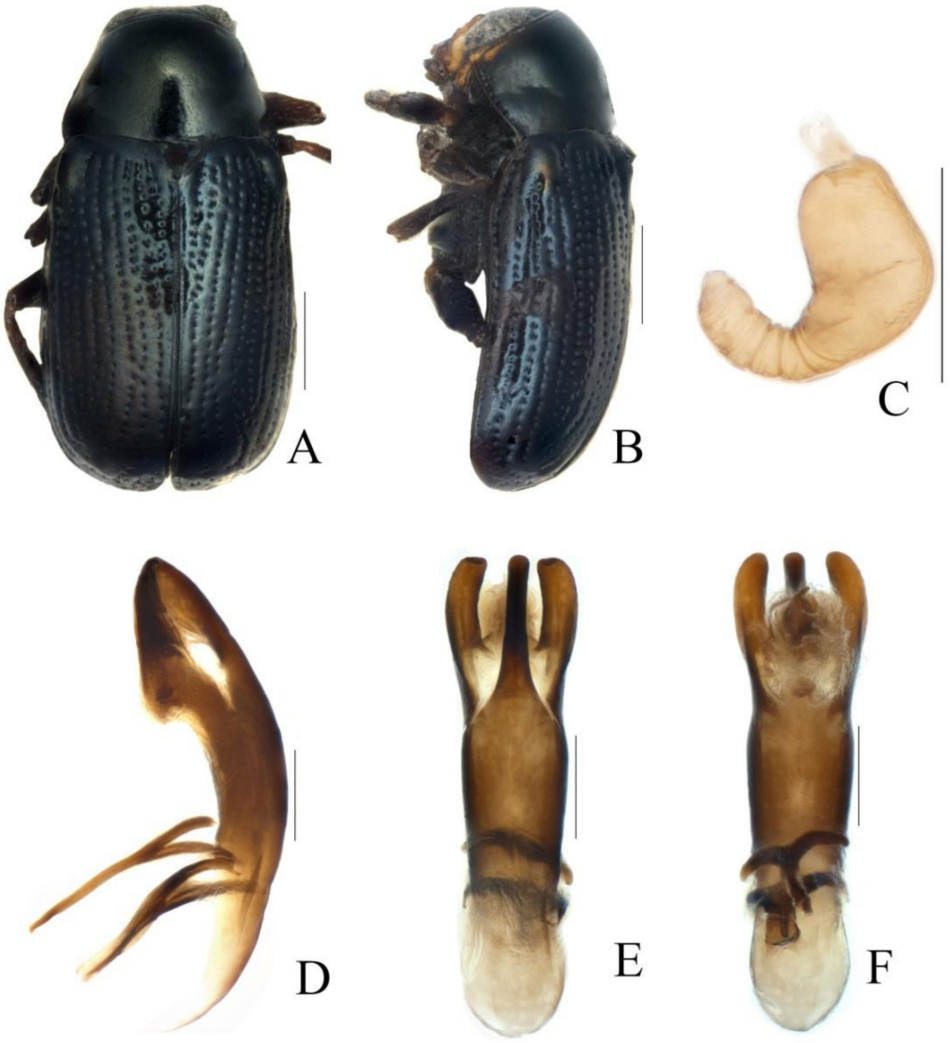

Figure 4. *Cryptocephalus* (*Burlinius*) *baowenzhengi* Duan & Zhou, sp. nov.: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): holotype, male; (**C**): paratype, female).

Type of locality is China, Sichuan Province, northeast of Lushan County, Longmencun.

The type material examined was holotype male from CHINA in Sichuan Province, Northeast of Lushan County, Longmencun, 15.X.2005, coll. Haifeng Chen (IZ-CAS). The paratype is from CHINA, Shaanxi Province, one female, Taibai Mountain, 1800–2000 m, 31.V.2004, coll. Hongzhang Zhou (IZ-CAS).

The measurements are BL = 2.30 mm, BW = 1.23 mm, HL = 0.72 mm, HW = 0.70 mm, PL = 0.61 mm, PW = 1.02 mm, EL = 1.69 mm, AL = 0.90 mm, AW = 0.25 mm, and SL = 0.34 mm.

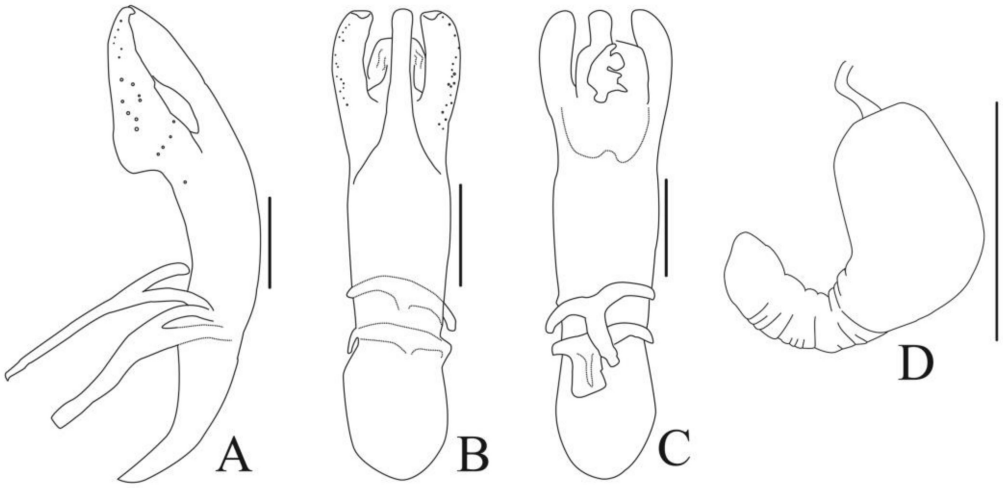

Figure 5. *Cryptocephalus* (*Burlinius*) *baowenzhengi* Duan & Zhou, sp. nov.: (**A**) lateral view of aedeagus; (**B**) dorsal view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca (Scale bars: 0.2 mm).

Description. Body (Figure 4A) is elongated cylindrical, smooth, shining, and steel-blue colored. The head is mostly yellow, with a vertex that is pitchy brown, antennae with basal five segments that are yellowish-brown, and remaining segments that are darkish brown. The clypeus is yellowish-brown and the mandibles are darkish brown. The scutellum is blackish-blue and darker than the pronotum and elytra. The legs are reddish-brown, the venter is mostly dark steel-blue colored, the prosternum is yellowish-brown, and the mesoventrite is reddish-brown.

Head is nearly round, with a frons in between the eyes with a very shallow and short longitudinal groove, and impunctated. The eyes are kidney shaped and deeply emarginated. The clypeus is triangular with an anterior margin that is slightly arcuately emarginated and a posterior margin that is concave. The antennae are long and thin, reaching three-fourths of the region of the elytra. The first segment clubbed, the second is oblong, about half as long as the first. The third through fifth are slender, with the third as long as the second, and the fourth longer than the third and shorter than the fifth. From the sixth segment on, they are somewhat broadened and flattened, with a terminal segment pointed apically.

Pronotum (Figure 4A) is smooth and shining, much broader basely than it is apically, with a basal width about 1.8 times the length of the lateral margins. The anterior margin is slightly convex and nearly straight. The lateral margins are slightly wide. In the dorsal view, two-thirds of the basal part is visible and widest at the hind angles. The disc is slightly convex and finely and sparsely punctated. The scutellum is triangular, longer than it is broad, apically elevated, and impunctated.

Elytra (Figure 4A) is oblong, with elytral humeri that are prominent and glabrous, and is widest slightly behind the humerus. There is a disc with regular rows of punctures, a puncture row that is slightly grooved, punctures that are partly confused on the apical slope, interspaces that are nearly impunctated, and epipleura that are weakly obliquely visible in the lateral view.

Venter is nearly impunctated. The prosternum's (Figure 1C–D) width is shorter than its length, with small and nearly round protrusions, an apical margin that is concave, and hind angles that are nearly round. The mesoventrite (Figure 1C–D) is long, 1.5 times as long as it is wide, with denser protrusions, a basal margin that is slightly concave and hind angles that are acute. The metaventrite is nearly impunctated and wrinkled. The pygidium has dense punctures and a long pubescence.

Aedeagus (Figure 4D–F and Figure 5A–C) is elongate, about 3.3 times as long as it is wide, and slightly bent. The apex is prolonged into three processes, with a dorsal process that is arched, laterally with fine and sparse punctures, and ventral processes that are thin

and long, longer than the dorsal processes, and moderately bent in the lateral view. The tegmen is Y-shaped, moderately sclerotized, and bifurcated at the basal fourth.

Female. Body more robust than male. The spermatheca (Figures 4C and 5D) is dull and hook shaped, weakly acute at the apex, and strongly dilated at the basal two-thirds, with an absent duct. The rectal sclerites are weakly sclerotized and not connected between the two rectangular sclerites on the ventral side.

The distribution is China (Sichuan, Shaanxi).

Diagnosis. This new species is similar to *C.* (*Burlinius*) *pallifrons* Gyllenhal [9], but can be distinguished with the aedeagus (Figure 4D–F and Figure 5A–C) with three separate lobes of equal length in the dorsal view. It is similar to *C.* (*Burlinius*) *frontalis* Marsham [10], but differs with the latter by the dorsal side displaying a metallic-blue shine. It is also similar to *C.* (*Burlinius*) *aphthonoides* Chen [6], but can be distinguished by the elytra with coarse punctures and groove-formed puncture rows.

Etymology. The specific epithet is dedicated to memorialize an historical figure in China, Bao Wen-Zheng (Song Dynasty).

3.3.3. *Cryptocephalus* (*Burlinius*) *tomurensis* Duan & Zhou, sp. nov.

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Figure 1, Figure 6, and Figure 7.

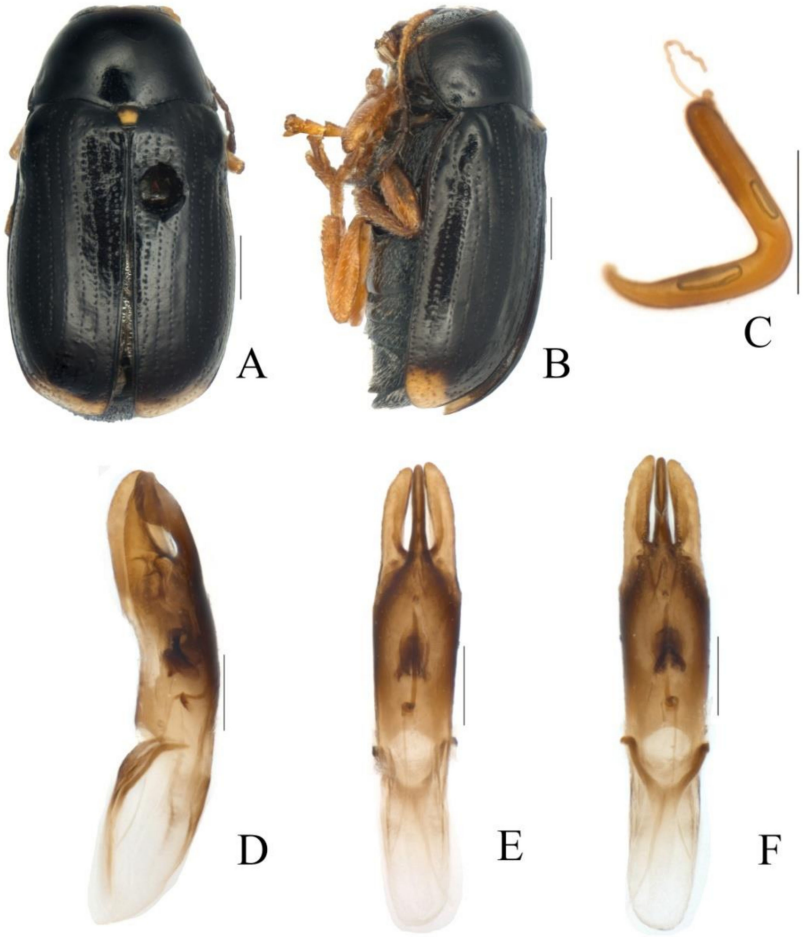

Figure 6. *Cryptocephalus* (*Burlinius*) *tomurensis* Duan & Zhou, sp. nov.: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): holotype, male; (**C**): paratype, female).

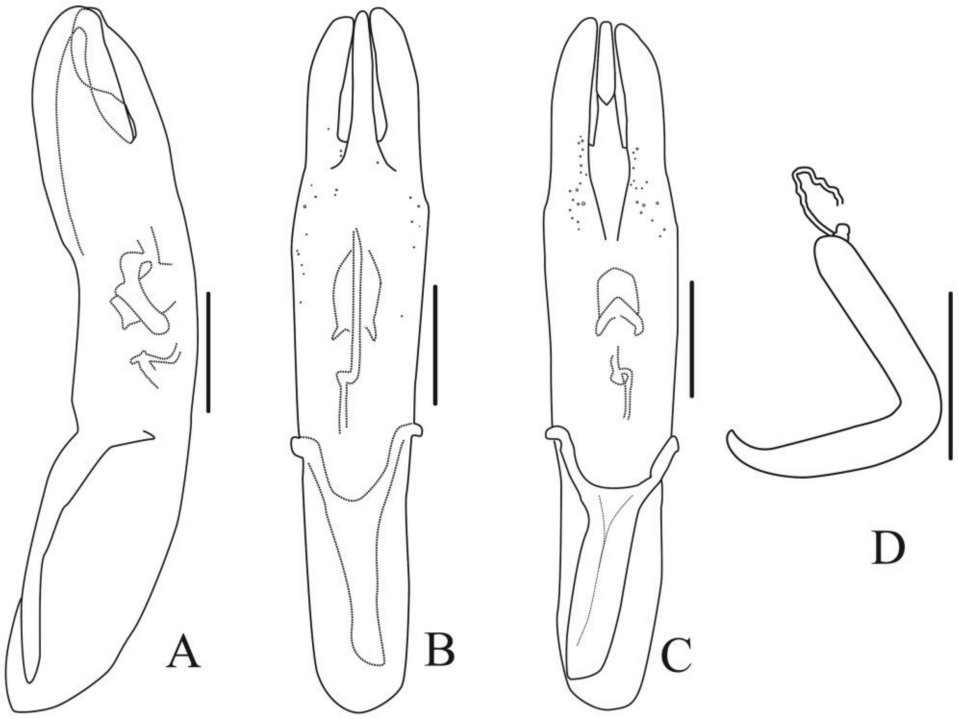

Figure 7. *Cryptocephalus* (*Burlinius*) *tomurensis* Duan & Zhou, sp. nov.: (**A**) lateral view of aedeagus; (**B**) dorsal view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca. (Scale bars: 0.2 mm.)

Type of locality is China, Xinjiang, Aksu Prefecture, Wensu County, Tomur Peak.

The type material examined was holotype male, from CHINA, Xinjiang, Aksu Prefecture, Wensu County, Tomur Peak, 20.VI.1977, coll. Yinheng Han (IZ-CAS). The paratypes were four males and six females, with the same data as the holotype (IZ-CAS): CHINA, Xinjiang, Zhaosu Alasan, one female, 24.VII.1978, coll. Yinheng Han (IZ-CAS).

The measurements are BL = 3.12 mm, BW = 1.69 mm, HL = 0.87mm, HW = 0.90 mm, PL = 0.74 mm, PW = 1.40 mm, EL = 2.38 mm, AL = 1.15 mm, AW = 0.22 mm, and SL = 0.51 mm.

Description. Body (Figure 6A) is elongated cylindrical, smooth, and largely black. The head is mostly yellow, with a vertex that is darkish brown, with two darkish brown markings between the antennal insertions, antennae with basal five segments that are lightly yellowish-brown, and remaining segments that are brown. The clypeus is reddish-brown, the labrum is yellowish-brown, and the mandibles are darkish brown. The pronotum has an anterior margin that is tinged with yellow. The scutellum is pale yellow with margins that are black. The elytra has an apical region that is yellow. The legs are pale reddish-brown, and the venter is black, except for the prosternum, which is yellow.

Head is round, with a frons in between the eyes with a distinct and short longitudinal groove coarsely and densely punctated. The eyes are kidney shaped and blunt. The clypeus is prominent and vertically wrinkled, with an anterior margin on the gena, and a posterior margin that is strongly concaved and pubescent. The antennae are slightly short and sparsely pubescent, reaching half of the region of the elytra, with a first segment that is clubbed and a second segment that is slightly oblong, about half as long as the first. The third through fifth segments are slender, with the third as long as the second, and the fourth longer than the third and shorter than fifth. From the sixth segment on, they are somewhat broadened and flattened with a terminal segment that is pointed apically.

Pronotum (Figure 6A) is slightly concaved, smooth, and shining, with a base that is much broader basely than it is apically, and a basal width about two times the length of the lateral margins. The anterior margin is nearly straight. The lateral margin is a little wide. In the dorsal view, one-fourth of the basal part is visible and widest at the hind angles. The

posterior margin is slightly undulated. The scutellum is a trapezoid, longer than it is broad, apically elevated, visible in lateral view, impunctate.

Elytra (Figure 6A) is oblong, as broad as the prothorax at the base. The elytral humeri are somewhat prominent, wider from the humerus, and glabrous. The disc is very finely punctated, arranged in regular rows, partly confused on the apical slope, with interspaces are flat, and with scattered, very minute, and fine punctures between rows. It is hardly detectable. The epipleura are weak, obliquely placed, and visible in the lateral view.

Prosternum (Figure 1E,F) width is shorter than its length. The prosternal process is weak, with an apical margin drawn out into a broad and small denticle. The mesoventrite (Figure 1E,F) is slightly oblong, half as wide as it is long, with a basal margin that is nearly straight. The metaventrite is sparsely punctated. The pygidium has dense punctures and a slightly long pubescence.

Aedeagus (Figure 6D–F and Figure 7A–C) is elongated, about 5.1 times as long as it is wide, and weakly bent. The apex is prolonged into three processes. The dorsal process is oblong, with an inner side that has fine and sparse punctures. The ventral processes are thin and long, as long as the dorsal process, and slightly bent in the lateral view. The ventral side has a mouth. The tegmen is Y-shaped, weakly sclerotized, and bifurcate at the basal third.

Female. Body more robust than male. The Spermatheca (Figures 6C and 7D) is thin and hook shaped, strongly acute at the apex, and not dilated at the basal. The rectal sclerites are strongly sclerotized and connected between the two rectangular sclerites on the ventral side.

The distribution is China (Xinjiang).

Diagnosis. This new species is similar to *C.* (*Burlinius*) *kabaki* Lopatin [11], but can be distinguished by the first five antennal segments that are yellowish brown and the elytral apical region that is yellowish brown. He body beneath is black except for the prosternum (Figure 1E–F), which is lightly yellow. The aedeagus of this species is also similar to *C.* (*Burlinius*) *nebulo* Weise [12], but can be distinguished by the aedeagus: The latter species is slightly wider, the three apical processes take a larger proportion of the whole, and the shape and coloration of the prosternum are totally different.

Etymology. The specific epithet is derived from the name of the type of locality: Aksu, in Xinjiang, China.

3.3.4. *Cryptocephalus* (*Burlinius*) *glabrelegantulus* Duan & Zhou, sp. nov.

http://zoobank.org/urn:lsid:zoobank.org:act:64DE17E3-258C-4E99-9774-38FD8F426394

Figure 1, Figure 8, and Figure 9.

Type of locality is China, Gansu province, Wenxian Qiujiaba.

The type material examined was holotype male, from CHINA, Gansu province, Wenxian Qiujiaba, 29.VI.1998, coll. Shuyong Wang (IZ-CAS). The paratypes were three males and two females, with the same data as holotype (IZ-CAS). From CHINA, Gansu province there was one female, Wenxian, Liujiaping, 27.VI.1998, coll. chenjun (IZ-CAS); from Beijing there were two females, Baihuashan, 6.VII.1972, coll. Youwei Zhang (IZ-CAS); from Heilongjiang province there was one male, Fujing, Huama commune, 16.VIII.1970, coll. unknown (IZ-CAS).

The measurements are BL = 2.29 mm, BW = 1.21 mm, HL = 0.66 mm, HW = 0.69 mm, PL = 0.65 mm, PW = 1.08 mm, EL = 1.64 mm, AL = 0.72 mm, AW = 0.18 mm, and SL = 0.39 mm.

Description. Body (Figure 8A) is oblong, with a dorsum that is entirely black. The head is largely yellow and the vertex and antennal insertions are black. The frons has a black, longitudinal stripe. The margins of clypeus and mandibles are reddish brown. The antennae with basal five segments are reddish brown, and the remaining segments are black. The Legs are light yellow, with tarsi that are slightly tinged with black.

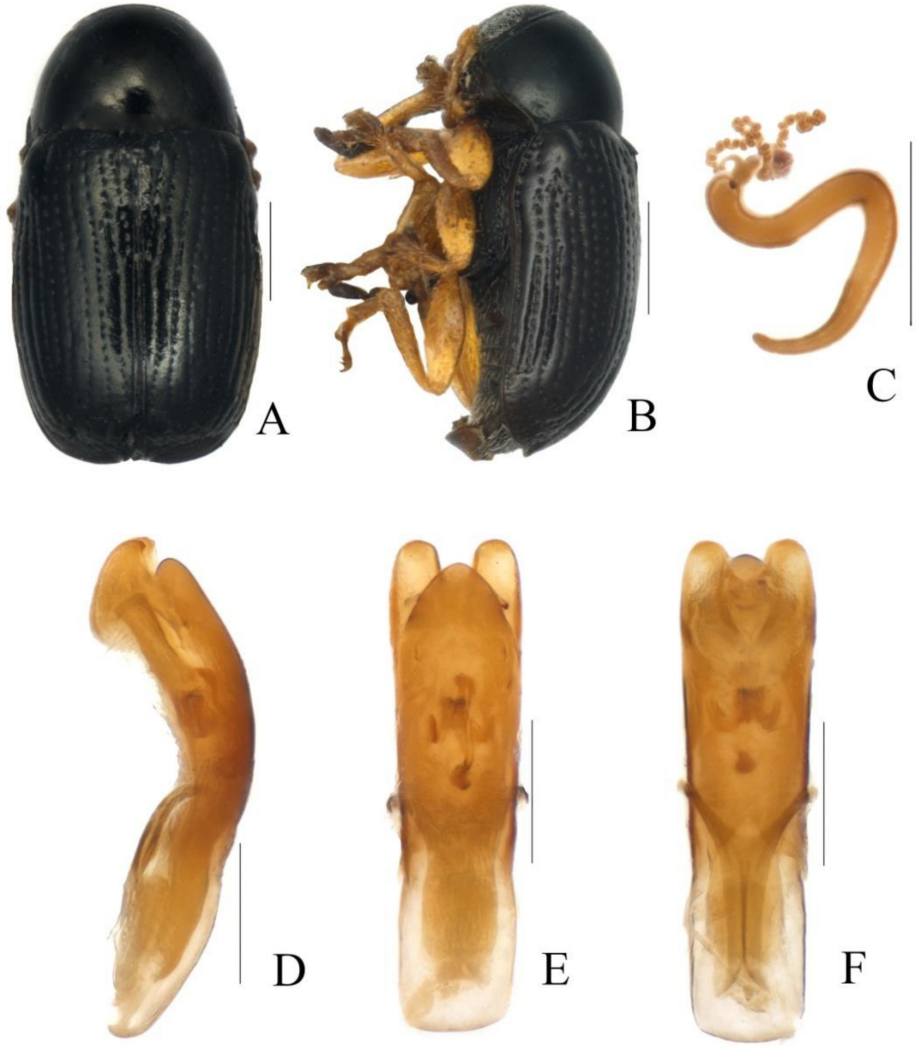

Figure 8. *Cryptocephalus* (*Burlinius*) *glabrelegantulus* Duan & Zhou, sp. nov.: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm.) ((**A**,**B**,**D**–**F**): holotype, male; (**C**): paratype, female).

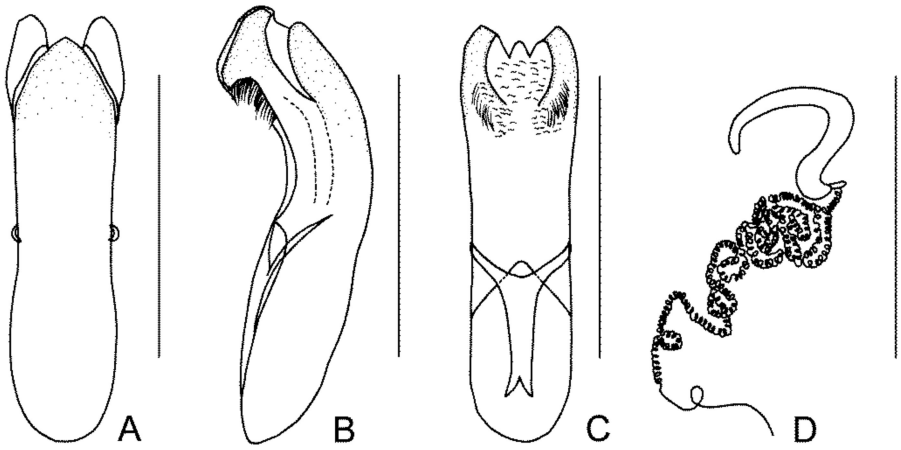

Figure 9. *Cryptocephalus* (*Burlinius*) *glabrelegantulus* Duan & Zhou, sp. nov.: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca. (Scale bars: 0.5 mm).

Head is smooth, with a frons with a shallow and short longitudinal groove, and sparsely and coarsely punctated. The eyes are kidney shaped. The Clypeus is triangular, finely and transversely wrinkled, with an anterior margin that is slightly arcuately emarginated and a posterior margin that is strongly concave. The antennae reach two-thirds of the region of the elytra. The first segment is clubbed and the second is oblong. The third through fifth are slender, with the third as long as the fourth, longer than the second, and shorter than the fifth. From the sixth 6th segment on, they are somewhat broadened and flattened, with a terminal segment that is pointed apically.

Pronotum (Figure 8A) is smooth and shining, distinctly vaulted, with a base that is broader than the apex. The basal width is about 1.6 times the length of the lateral margins. The anterior margin is slightly arcuate. The lateral are margins narrow. In the dorsal view, one-fourth of the basal part is visible. The posterior margin is weakly serrated and undulated. The scutellum is triangular, as broad as it is long, apically slightly elevated, and impunctated.

Elytra (Figure 8A) is oblong, with an apex that is slightly wider than the base, more than twice as long as it is broad, rounded apically, and weakly sinuated laterally in the dorsal view. The elytral humeri are distinct and slightly elevated. There is a Disc with regular rows of punctures: two lateral punctural rows with a groove, punctures that are getting slightly finer towards the apex, interspaces that are flat, with scattered, minute punctures between the rows, and epipleura that is weakly obliquely visible in the lateral view.

Prosternum (Figure 1K,L) is longer than it is wide, with small and nearly round protrusions, an apical margin that is concave, and hind angles that are nearly round. The mesoventrite (Figure 1K,L) is long, 1.3 times as long as it is wide, wrinkled, with a basal margin that is slightly concave and hind angles that are round. The metaventrite is coarsely and densely punctated and wrinkled. The pygidium has fine punctures and a short pubescence.

Aedeagus (Figure 8D–F and Figure 9A–C) is elongated, about 3.7 times as long as it is wide, and moderately bent. The apex is prolonged into three processes. The dorsal process is broadly triangular, with an apex that is slightly acute. The ventral processes are broad and oblong. They are medial of the ventral processes with a dense, long pubescence. The tegmen is Y-shaped, weakly sclerotized, almost translucent, and bifurcate at the basal three-sevenths.

Female. Body more robust than male. Spermatheca (Figures 8C and 9D) are hook shaped, slender, and strongly acute at the apex. The rectal sclerites are strongly sclerotized and not connected between the two clubbed sclerites on the ventral side.

The distribution is China (Sichuan).

Diagnosis. This new species is similar to *C.* (*Burlinius*) *elegantulus* Gravenhorst, but can be distinguished by the dorsum being entirely black, the pronotum being smooth and impunctated, and the dorsal process of the aedeagus being more broad.

Etymology. The specific epithet is derived from Latin words "*glabr-*" and "*elegantulus*", to indicate the new species with a glabrous pronotum and near to *C.* (*Burlinius*) *elegantulus*.

3.3.5. *Cryptocephalus* (*Burlinius*) *aphthonoides* Chen, 1942

Figure 10.

Chen, 1942: 118 (type locality: Kansu; type deposited: IZ-CAS); Gressitt & Kimoto, 1961: 144 (catalogue); Lopatin et al., 2010: 584 (catalogue) [4,6,7].

The material examined was CHINA, Holotype female, "Gansu: time unknown/coll. unknown//HOLOTYPE". (IZ-CAS).

The measurements are BL = 5.38 mm, BW = 3.04 mm, HL = 1.24 mm, HW = 1.26 mm, PL = 1.23 mm, PW = 2.38 mm, EL = 4.0 mm.

The distribution is China (Gansu).

3.3.6. *Cryptocephalus* (*Burlinius*) *bilineatus* (Linnaeus, 1767)

Figure 1, Figure 11, and Figure 12.

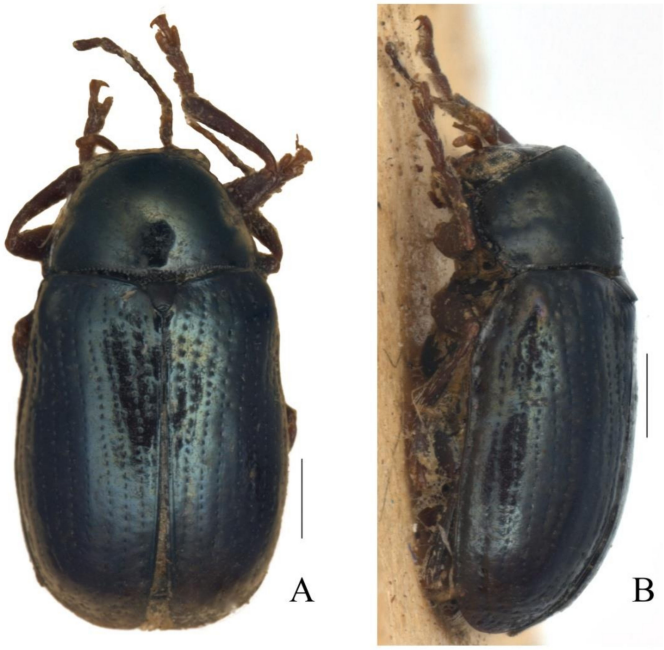

Figure 10. *Cryptocephalus* (*Burlinius*) *aphthonoides* Chen, 1942: (**A**) habitus; (**B**) lateral view of habitus; (Scale bars: 0.5 mm) (holotype, female).

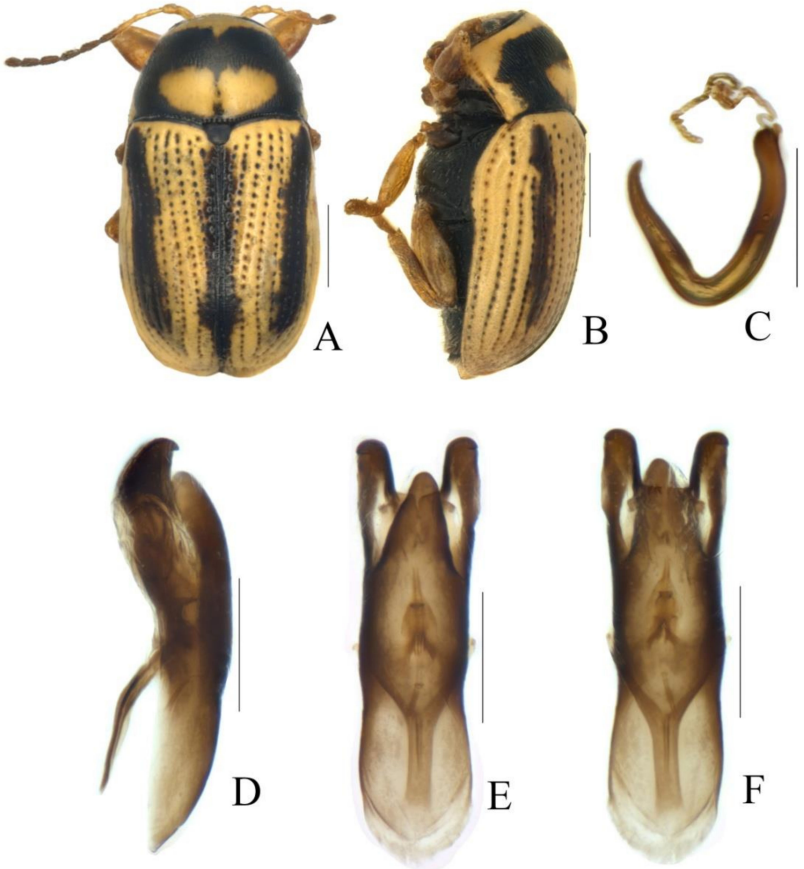

Figure 11. *Cryptocephalus* (*Burlinius*) *bilineatus* (Linnaeus, 1767): (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm.) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Inner Mongolia.)

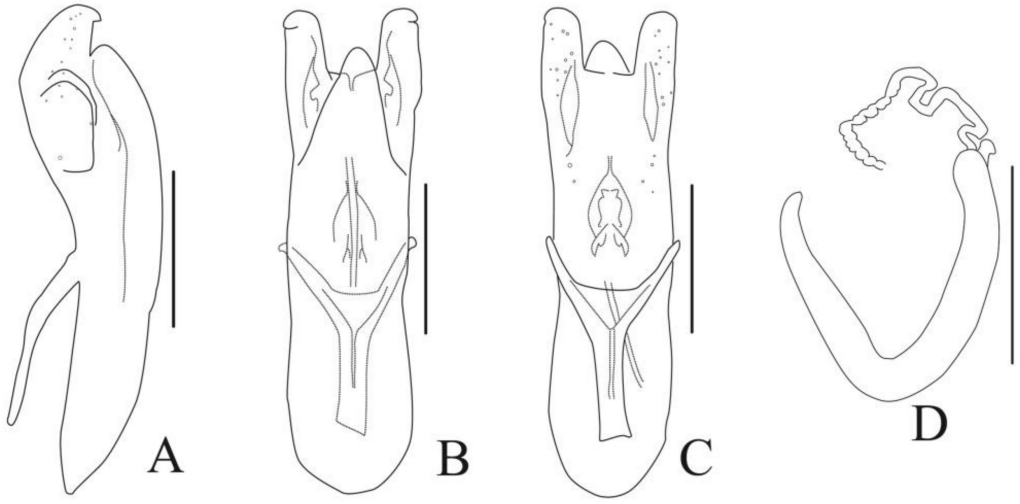

Figure 12. *Cryptocephalus* (*Burlinius*) *bilineatus* (Linnaeus, 1767): (**A**) lateral view of aedeagus; (**B**) dorsal view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca. (Scale bars: 0.2 mm).

Linnaeus, 1767: 597 (orig.: *Chrysomela*; type locality: Europe); Warchalowski, 1991: 257; 1999: 546; Lopatin et al., 2010: 585 (catalogue) [4,13–15].

Synonym: *Pachybrachis armeniacus* Faldermann, 1837: 382
Cryprocephalus bilineatus var. *bisbilineatus* Pic, 1904: 57
Cryprocephalus partitus Jacoby, 1885: 200
Cryprocephalus bilineatus ab. *spitzyi* Suffrian, 1848: 59
Cryprocephalus bilineatus var. *moestus* Weise, 1882: 230 [8,16–19].

The Material examined was from CHINA, Qinghai Province, one male, Yushu Tibetan Autonomous Prefecture, 4000 m, 6.VII.1964, coll. Shuyong Wang (IZ-CAS); from Inner Mongolia, two males, three females, Daur Autonomous Banner of Morin Dawa, 19–23.VII.1970, coll. Shuyong Wang (IZ-CAS); three males, three females, from Greater Khingan Range, Daxiangshu, 23.VII.1970, coll. Shuyong Wang (IZ-CAS); from Heilongjiang Province, one male, Tongjiang, 11.IX.1970, coll. unknown (IZ-CAS); two males, three females, from Yichun, 27.VI.1971, coll. Shengqiao Jiang and Xuezhong Zhang (IZ-CAS); two females, Nenjiang, 24.VII.196, coll. Hongxing Li (IZ-CAS).

The measurements are BL = 2.21 mm, BW = 1.15 mm, HL = 0.68 mm, HW = 0.63 mm, PL = 0.66 mm, PW = 1.10 mm, EL = 1.60 mm, AL = 0.69 mm, AW = 0.19 mm, and SL = 0.47 mm.

The distribution is China (Heilongjiang, Inner Mongolia, Qinghai, Xinjiang), Russia (East Siberia, Far East), Mongolia, Japan, and Europe.

3.3.7. *Cryptocephalus* (*Burlinius*) *confusus* Suffrian, 1854

Figures 13 and 14 Suffrian, 1854: 140 (type locality: Daurien); Marseul, 1875: 192; Weise, 1882: 195; Clavareau, 1913: 140 (catalogue); Lopatin et al., 2010: 585 (catalogue) [4,19–22].

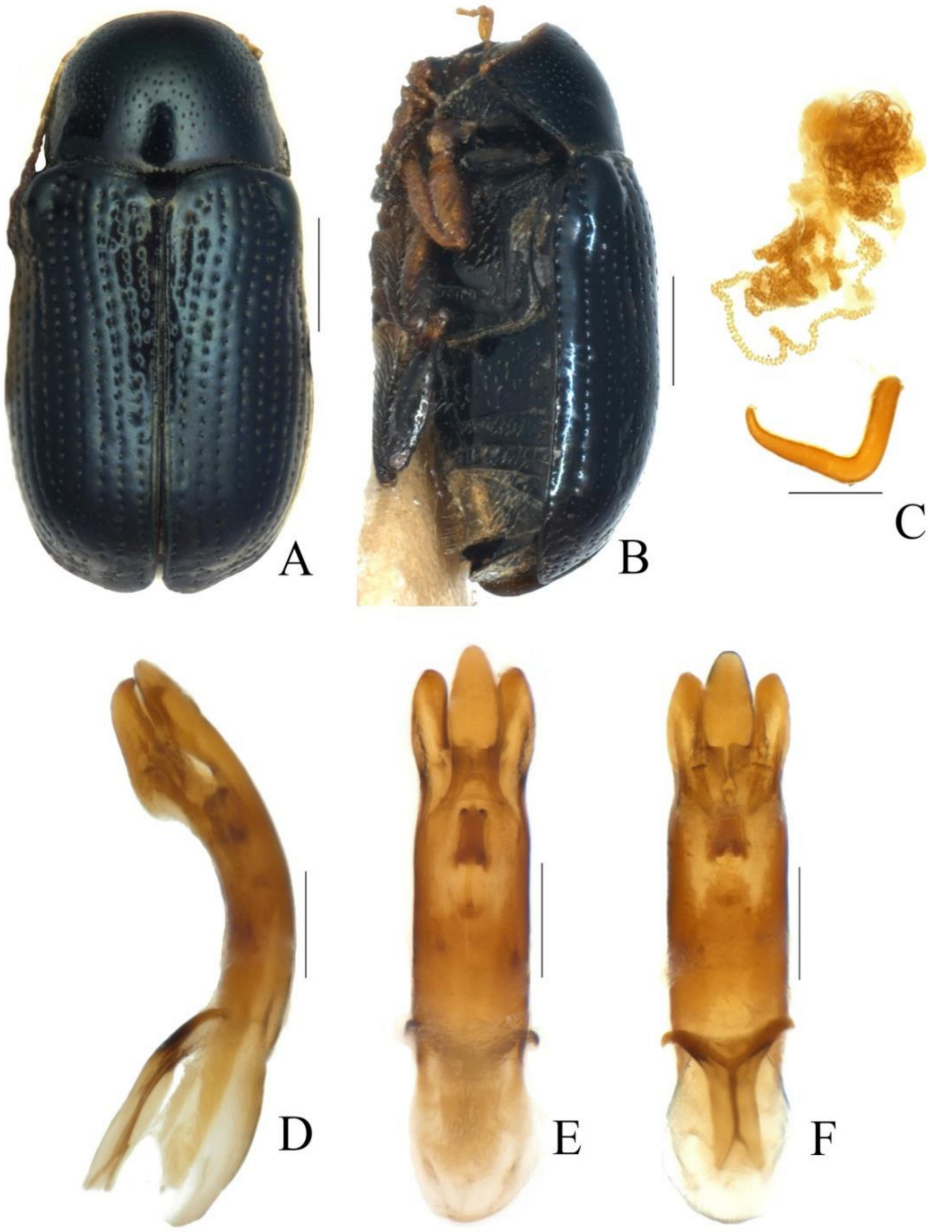

Figure 13. *Cryptocephalus* (*Burlinius*) *confusus* Suffrian, 1854: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**–**C**): female; (**D**–**F**): male; both from Hebei.)

Synonym: *Cryptocephalus discretus* Baly, 1873: 97 (type locality: Chusan, Tsushima, Japan, type deposited: BMNH); Marseul, 1875: 189; Kraatz, 1879: 265 (Amur); Clavareau, 1913: 146 (catalogue); Chûjô, 1942: 53 (Kwantung); Chen, 1942: 118 (Suiyuan, Hupeh); Gressitt and Kimoto, 1961: 149 (Kiangsu, Kirin, Korea) [6,7,20,21,23–25].

Cryptocephalus rectipennis Jacoby, 1890: 87 (type locality: Changyang; type deposited: MCZ); Clavareau, 1913: 180 (catalogue); Chen, 1942: 118 (as synonym of *Cryptocephalus discretus*) [6,20,26].

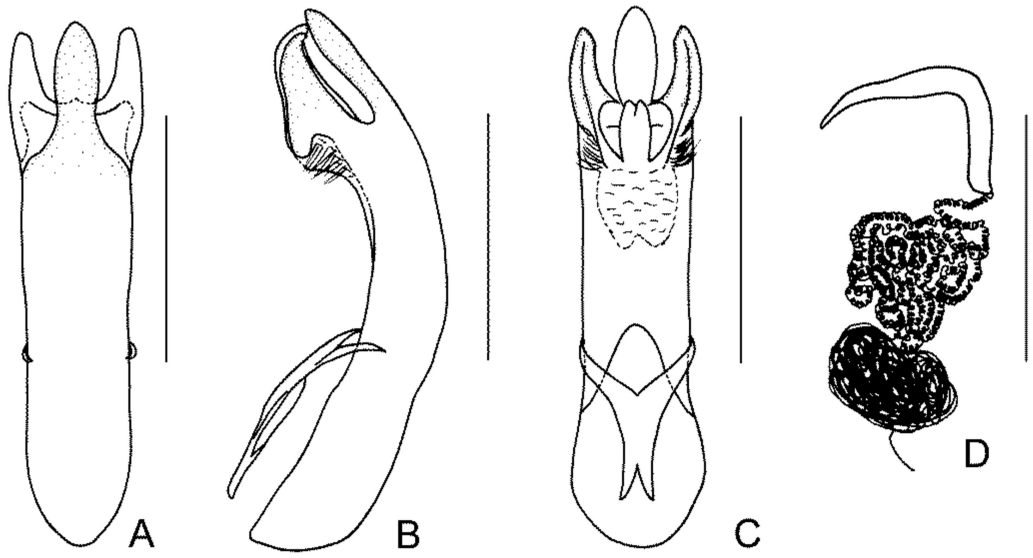

Figure 14. *Cryptocephalus* (*Burlinius*) *confusus* Suffrian, 1854: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca. (Scale bars: 0.5 mm).

The material examined was from CHINA, Beijing: two females, Baihuashan, 6.VII.1972, coll. Youwei Zhang (IZ-CAS); one female, from Xiaolongmeng, forest station, 15.VI.2000, coll. Xiaodong Yu (IZ-CAS); one female, from Xiaolongmeng, forest station, 20.VI.2000, coll. Xiaodong Yu (IZ-CAS); two females, from Baihuashan, 6.VII.1972, coll. Youwei Zhang (IZ-CAS); from Hebei province, three males, Wulingshan, 14.VI.1990, coll. Longlong Yong (IZ-CAS); one male, from Xiaowutaishan, Huichuan, 14.VII.1964, coll. Yinheng Han (IZ-CAS); one male, from Xiaowutaishan, Huichuan, 16.VII.1964, coll. Yinheng Han (IZ-CAS); one female, from Xiaowutaishan, Huichuan, 16.VII.1964, coll. Bingqian Li (IZ-CAS); one female, from Xiaowutaishan, Nanshan, 2.VII.1964, coll. Yinheng Han (IZ-CAS); one female, from Xiaowutaishan Nanshan, 14.VII.1964, coll. Chuanguang Wang (IZ-CAS); two females, from Xiaowutaishan, 25.VI.1964, coll. Chuanguang Wang (IZ-CAS); one male, Weixian, Xiheying, 25.VII.1964, coll. Yinheng Han (IZ-CAS); from Shanxi Province, one male, Huoxian Qiliyu, 28.VII.1972, coll. Shuyong Wang (IZ-CAS); from Inner Mongolia, one female, Wumeng, Tumuluertai, 30.VI.1971, coll. unknown (IZ-CAS).

The measurements are BL = 2.54 mm, BW = 1.38 mm, HL = 0.74 mm, HW = 0.76 mm, PL = 0.74 mm, PW = 1.12 mm, EL = 1.86 mm, AL = 0.96 mm, AW = 0.20 mm, and SL = 0.45 mm.

The distribution is China (Beijing, Hebei, Shanxi, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Jiangsu, Zhejiang, Hubei, Guangdong), Mongolia, North Korea, Japan, and Russia.

3.3.8. *Cryptocephalus* (*Burlinius*) *exiguus* amiculus Baly, 1873

Figures 15 and 16 Baly, 1873: 98 (orig.: *Cryptocephalus amiculus*; type locality: Nagasaki; type deposited: BMNH); Marseul, 1875: 190 (Sibirien); Clavareau, 1913: 129 (catalogue); Chûjô, 1940: 383 (Korea); 1941: 456 (*Cryptocephalus exiguus amiculus*; Kankyo-Hokudo); Chen, 1942: 118 (*Cryptocephalus amiculus*; Hopei, Shansi, Suiyuan); Gressitt and Kimoto, 1961: 144 (Kirin); Lopatin et al., 2010: 585 (catalogue) [4,6,7,20,21,23,27].

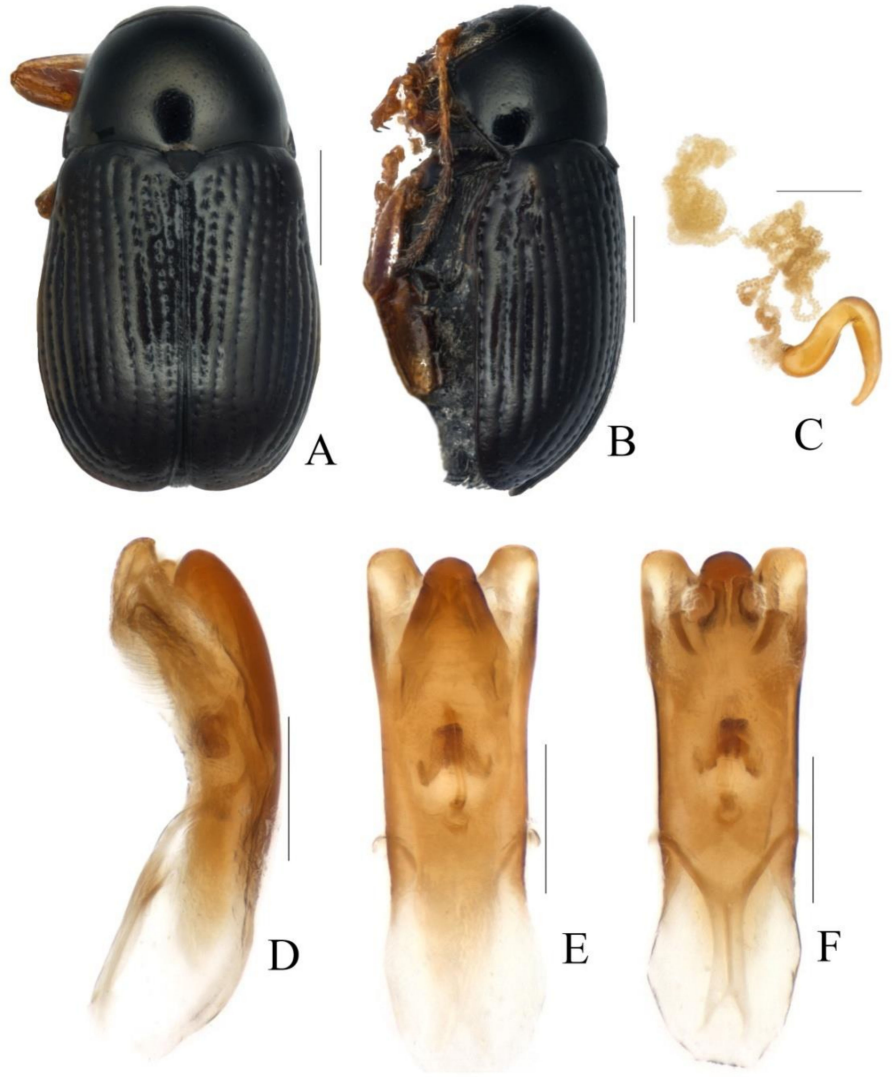

Figure 15. *Cryptocephalus* (*Burlinius*) *exiguus amiculus* Baly, 1873: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Beijing).

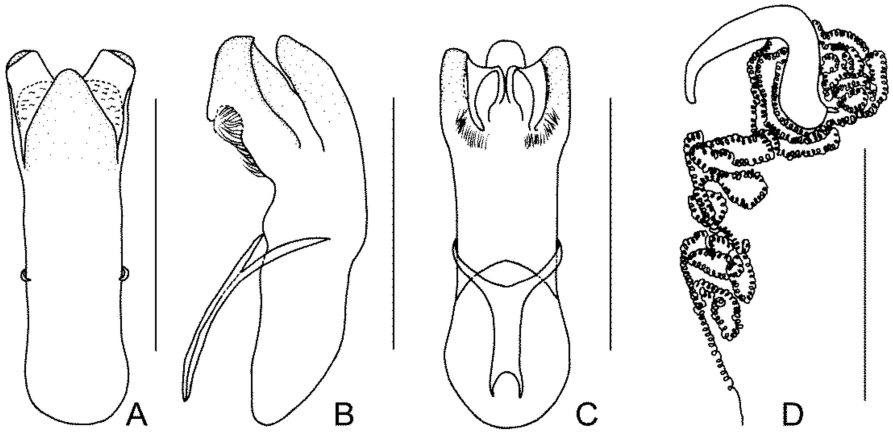

Figure 16. *Cryptocephalus* (*Burlinius*) *exiguus amiculus* Baly, 1873: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca. (Scale bars: 0.5 mm).

Synonym: *Cryptocephalus exiguus* var. *adocetus* Jacobson, 1901: 114 (type locality: Dauria); Clavareau, 1913: 148 (catalogue); Medvedev, 1978: 84 (as synonym of *Cryptocephalus exiguus amiculus*) [20,28,29].

Cryptocephalus kiyosatonus Kimoto, 1964: 153 (type locality: Kiyosata); Medvedev, 1978: 84 (as synonym of *Cryptocephalus exiguus amiculus*) [29,30].

The material examined was from CHINA, Beijing, two females, Baihuashan, 6.VII.1972, coll. Youwei Zhang (IZ-CAS); Badaling, 18.VI.1962, coll. Shuyong Wang (IZ-CAS); 3 females, Badaling, 6.VIII.1962, coll. Shuyong Wang (IZ-CAS); one male, three females, from Badaling, 28.VIII.1930, coll. known (IZ-CAS); one female, from Baihuashan, 2.VIII.1972, coll. unknown (IZ-CAS); three females, from Sanbu, 4.VII.1972, coll. Shengqiao Jiang (IZ-CAS); Hebei province: one female, from Xiaowutaishan, Beishan, 14.VIII.1964, coll. Yinheng Cheng (IZ-CAS); two females, from Xiaowutaishan, Beishan, 14.VIII.1964, coll. Bingqian Li (IZ-CAS); one female, from Xiaowutaishan, 23.VI.1964, coll. Yinheng Han (IZ-CAS); Shanxi province: one female, from Liuba temple, 2.VII.1999, coll. Chaodong Zhu (IZ-CAS); from Inner Mongolia, one female, Humeng, Dongqi, 28.VII.1986, Wensheng Tang (IZ-CAS); from Heilongjiang province, two females, Tongjiang, 11.VIII.1970, coll. unknown (IZ-CAS); five females, from Tongjiang, 11.IV.1970, coll. unknown (IZ-CAS); from Anhui province, one male, one female; 3.VII.1971, unknown; from Shandong province, two females, 14. IX.1930, coll. unknown (IZ-CAS).

The measurements are BL = 2.04 mm, BW = 1.18 mm, HL = 0.63 mm, HW = 0.62 mm, PL = 0.60 mm, PW = 0.97 mm, EL = 1.47 mm, AL = 0.71mm, AW = 0.22 mm, and SL = 0.46 mm.

The distribution is China (Beijing, Hebei, Shanxi, Anhui, Inner Mongolia, Jilin, Heilongjiang, Shandong, Gansu), Mongolia, North Korea, Japan, Russia, and Turkey.

3.3.9. *Cryptocephalus* (*Burlinius*) *flavolimbatus* Pic, 1920 (stat. nov.)

Figures 17 and 18.

Pic, 1920: 25 (type locality: Yunnan; type deposited: MNHN); Chen, 1942: 122; Gressitt and Kimoto, 1961: 150 (Yunnan); Lopatin et al., 2010: 594 (subg. *Cryptocephalus*) [4,6,7,31].

The material examined was from CHINA, Yunnan province, one female, 1.VIII.1944 coll. Chung Lo Lin (USNM); one male, ne female, from Kunming, 25.VI.1940, coll. unknown (IZ-CAS); five males, one female, from Weixi, Pantiange, 25.VII.1981, coll. Shuyong Wang (IZ-CAS); eight males, 11 females, from Weixi, Pantiange, 27.VII.1981, coll. Shuyong Wang (IZ-CAS); two males, one female, from Weixi, Pantiange, 28.VII.1981, coll. Shuyong Wang (IZ-CAS).

The measurements are BL = 2.67 mm, BW = 1.43 mm, HL = 0.78 mm, HW = 0.72 mm, PL = 0.76 mm, PW = 1.48 mm, EL = 2.04 mm, AL = 1.05mm, AW = 0.26 mm, and SL = 0.47 mm.

Remarks. This species was described by M. Pic from Yunnan. After studying the syntype specimen from USNM and a lot of specimens kept in IZ-CAS, we believe it doubtlessly belongs to the subgenus *Burlinius* based on the following characteristics: The length of the body (Figure 17A) is 2.5–2.8 mm and the aedeagus (Figure 17D–F, Figure 18A–C) is apically prolonged into three processes.

The distribution is China (Yunnan).

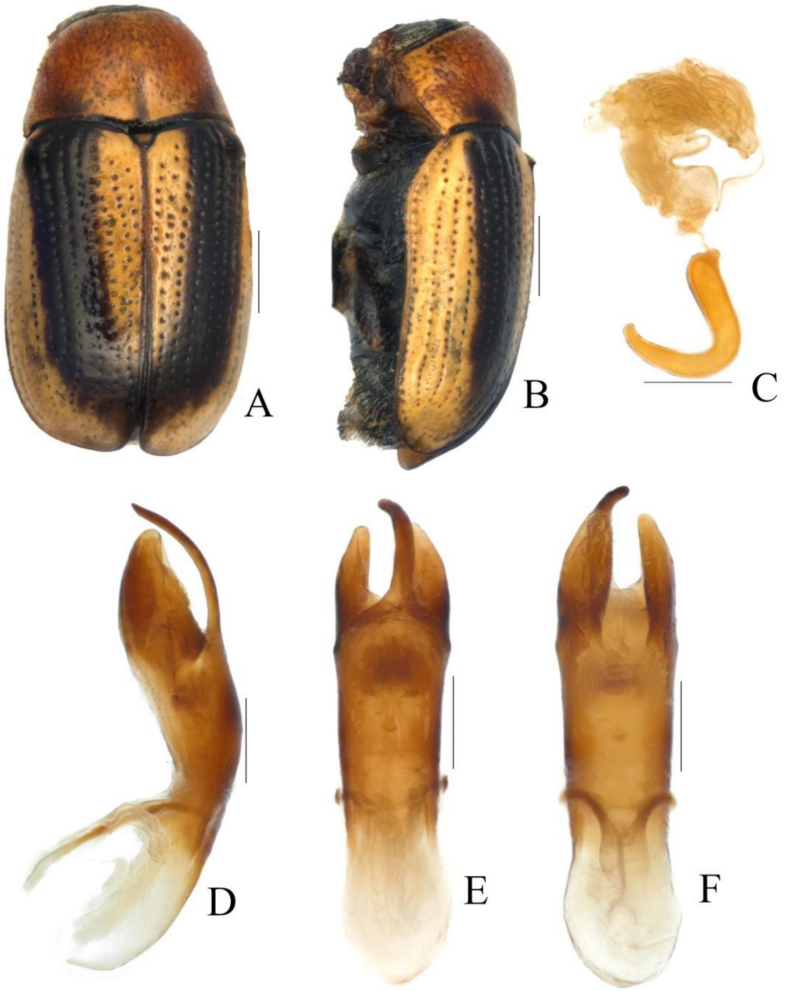

Figure 17. *Cryptocephalus* (*Burlinius*) *flavolimbatus* Pic, 1920: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Yunnan.)

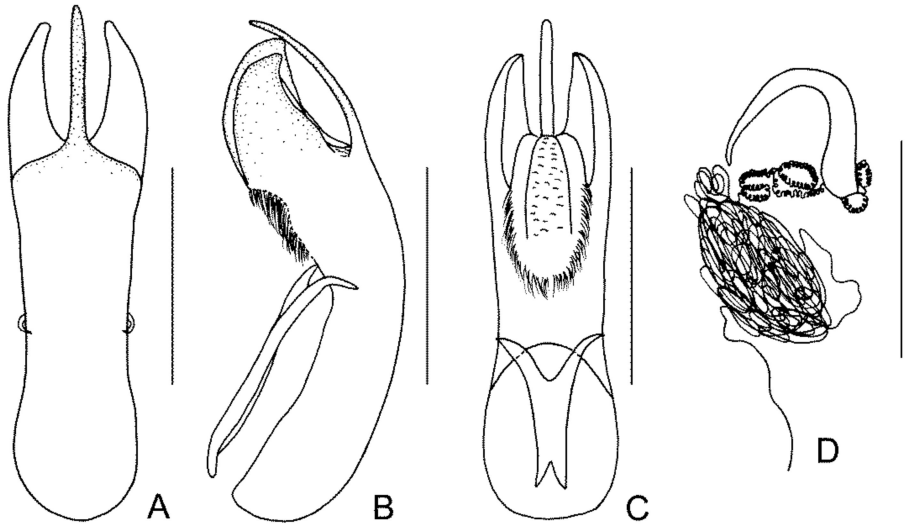

Figure 18. *Cryptocephalus* (*Burlinius*) *flavolimbatus* Pic, 1920: (**A**). dorsal view of aedeagus; (**B**). lateral view of aedeagus; (**C**). ventral view of aedeagus; (**D**). spermatheca. (Scale bars: 0.5 mm.)

3.3.10. *Cryptocephalus* (*Burlinius*) *fulvus* (Goeze, 1777) (New Country Record)

Figures 19 and 20.

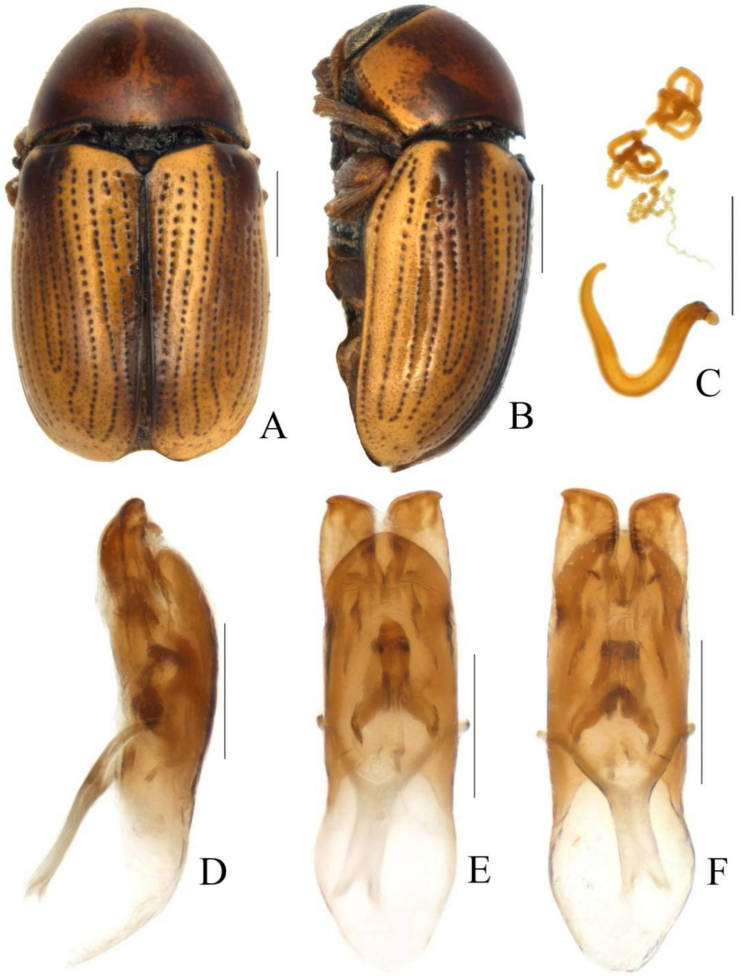

Figure 19. *Cryptocephalus* (*Burlinius*) *fulvus* (Goeze, 1777): (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus. (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Hebei).

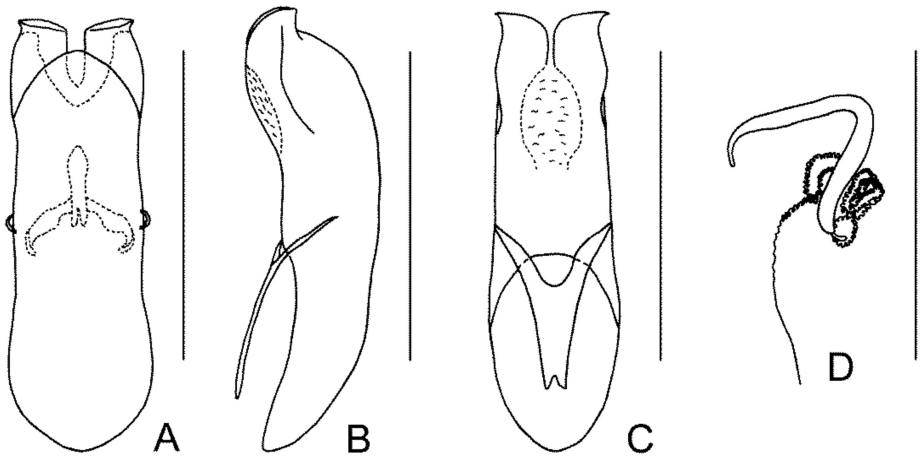

Figure 20. *Cryptocephalus* (*Burlinius*) *fulvus* (Goeze, 1777): (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca. (Scale bars: 0.5 mm).

Goeze, 1777: 321 (orig.: *Chrysomela fulvus*); Harold, 1873: 168 (*Cryptocephalus*); Weise, 1882: 236; Bedel, 1891: 132, u. 240; Everts, 1903: 423; Clavareau, 1913: 151 (catalogue); Chen, 1942: 121 (N. China); Gressitt and Kimoto, 1961: 150; Lopatin et al., 2010: 586 (catalogue) [3,4,6,7,19,20,32–34].

Synonym: *Cryptocephalus* fulvicollis Suffrian, 1848: 74

Cryptocephalus gozisi Pic, 1908: 94

Cryptocephalus ochraceus Stephens, 1831: 362

Cryptocephalus signaticollis Suffrian, 1848: 68

Cryptocephalus vittatus Gozis, 1907: 166 [18,35–37].

The material examined was from CHINA, Beijing, three males, four females, 28 exs., Xiangshan, 17.VII.1963, coll. Shuyong Wang (IZ-CAS); one male, from Badaling, 3.VIII.1961, Shuyong Wang (IZ-CAS); one male, one female, from Badaling, 24.VII.1963, Shengqiao Jiang (IZ-CAS); from Hebei province, one male, Xinglong, Taqian, 3.VII.1963, Shuyong Wang (IZ-CAS); two females, from Zunhua, Dongling, 8.VII.1963, coll. Shengqiao Jiang (IZ-CAS); one male, from Wulingshan, 4.VII.1963, coll. Shengqiao Jiang (IZ-CAS); from Heilongjiang province, two males, three females, Jingpohu, 8.VIII.1963, coll. Hongxing Li (IZ-CAS); one male, from Suihua, 12.VII.1957, coll. unknown (IZ-CAS); from Shanxi province, four males, three females, Baoji, 11.VII.1951, coll. unknown (IZ-CAS); from Gansu province, three males, two females, Kangxian, Baiyunshan, 12.VII.1998, coll. Jun Chen (IZ-CAS); two males, one female, from Kangxian, Heimaguan, 13.VII.1998, coll. Jian Yao (IZ-CAS); one male, from Kangxian, Heimaguan, 13.VII.1998, coll. Jun Chen (IZ-CAS); one female, from Wenxian, Fanba, 26.VI.1998, coll. Shuyong Wang (IZ-CAS).

The measurements are BL = 2.57 mm, BW = 1.48 mm, HL = 0.74 mm, HW = 0.71 mm, PL = 0.70 mm, PW = 1.26 mm, EL = 1.93 mm, AL = 0.67 mm, AW = 0.20 mm, and SL = 0.40 mm.

The distribution is China (Beijing, Hebei, Heilongjiang, Shaanxi, Gansu).

Note: According to our study, all the specimens of this species recorded in China belong to the subspecies *Cryptocephalus* (*Burlinius*) *fulvus fuscolineatus* Chûjô.

3.3.11. *Cryptocephalus* (*Burlinius*) *hohuanshanus* Kimoto, 1996

Kimoto, 1996: 29 (type locality: Hohuanshan); Lopatin et al., 2010: 586 (catalogue) [4,38].

There was no material examined.

The distribution is China (Taiwan).

3.3.12. *Cryptocephalus* (*Burlinius*) *kabaki* Lopatin, 2002

Figure 21.

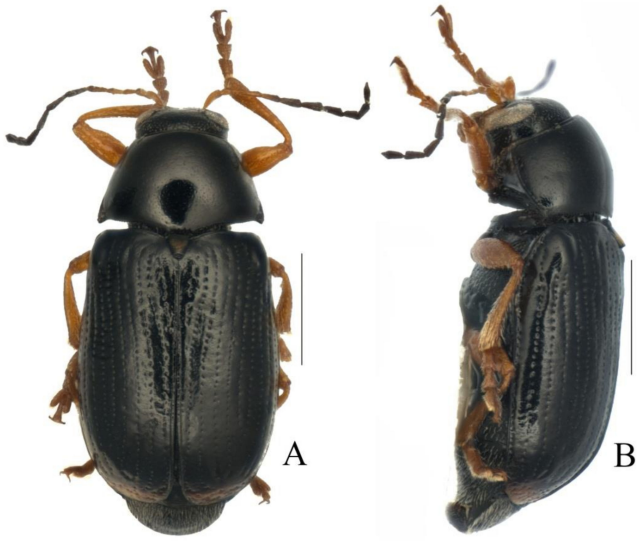

Figure 21. *Cryptocephalus* (*Burlinius*) *kabaki* Lopatin, 2002: (**A**). habitus; (**B**). lateral view of habitus (Scale bars: 0.5 mm) (holotype, male).

Lopatin, 2002: 84 (type locality: Xinjiang); Lopatin et al., 2010: 586 (catalogue) [4,11].

The material examined was from CHINA, Holotype male, "Xinjiang Province: W of Sarmin-Ula range, Ihe-Riben-Ula Mts., E of Bayan-Bulak//3000–3500 m//17.VII.2001//coll. I. Kabak leg//HOLOTYPE" (ZIN).

The measurements are BL = 3.29 mm, BW = 1.77 mm, HL = 1.07 mm, HW = 0.86 mm, PL = 0.87 mm, PW = 1.48 mm, and EL = 2.42 mm.

The distribution is China (Xinjiang).

3.3.13. *Cryptocephalus* (*Burlinius*) *nebulo* Weise, 1889

Figures 1, 22 and 23.

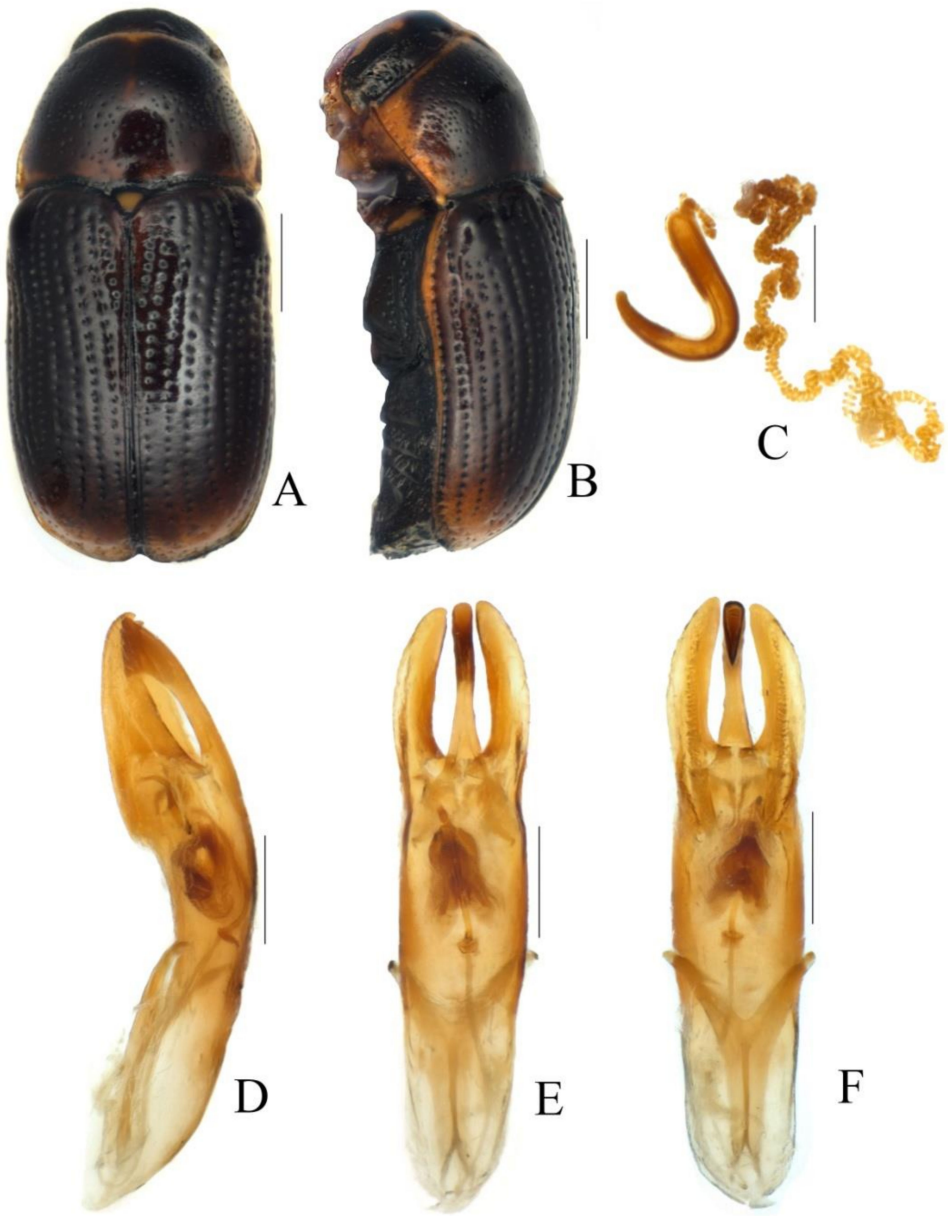

Figure 22. *Cryptocephalus* (*Burlinius*) *nebulo* Weise, 1889: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Shanxi).

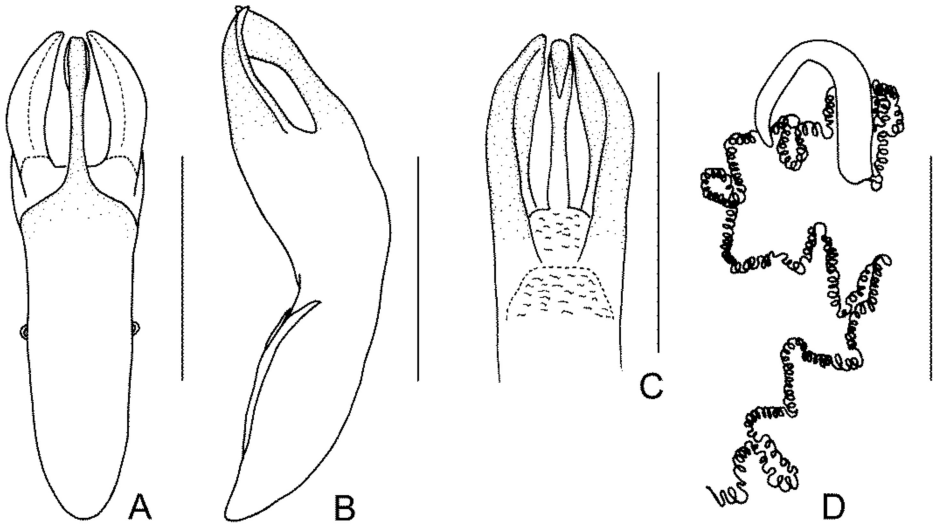

Figure 23. *Cryptocephalus* (*Burlinius*) *nebulo* Weise, 1889: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) part aedeagus of ventral view; (**D**) spermatheca (Scale bars: 0.5 mm).

Weise, 1889: 588 (type locality: Kansu; type deposited: ZMHB); Jacobson, 1896: 534; Clavareau, 1913: 166 (catalogue); Chen, 1942: 118; Gressitt and Kimoto, 1961: 158 (catalogue); Lopatin et al., 2010: 587 (catalogue) [4,6,7,12,20,39].

The material examined was from CHINA, Shanxi province, one male, one female, Jiangxian, Dahe, 5.VII.1972, coll. Shuyong Wang (IZ-CAS); one male, one female, from Wutaishan, 24.VII.1972, coll. Xuezhong Zhang (IZ-CAS); from Gansu province, one female, Dangchang, Dahebagou, 9.VII.1998, coll. Jian Yao (IZ-CAS); two 2 males, from Zhouqu, Beach forest station, 16.VII.1999, coll. Tongli He (IZ-CAS).

The measurements are BL = 2.61 mm, BW = 1.26 mm, HL = 0.82 mm, HW = 0.74 mm, PL = 0.74 mm, PW = 1.13 mm, EL = 1.80 mm, AL = 1.01 mm, AW = 0.24 mm, and SL = 0.50 mm.

The distribution is China (Shanxi, Gansu).

3.3.14. *Cryptocephalus* (*Burlinius*) *nigrofasciatus* Jacoby, 1885

Figures 1, 24 and 25.

Jacoby, 1885: 200 (type locality: Japan; type deposited: BMNH); Clavareau, 1913: 166 (catalogue); Chen, 1942: 122 (Hopei, Shensi, Shansi); Gressitt and Kimoto, 1961: 158 (Kirin, Kiangsu); Lopatin et al., 2010: 587 (catalogue) [4,6–8,20].

The material examined was from CHINA, Holotype: male, "Jilin/time unknown/coll. unknown//HOLOTYPE" (IZ-CAS); paratype was from Jilin Province, one female, "Jilin/5. VI.1938/coll. unknown//PARATYPE". (IZ-CAS). Additional material examined was one male, one female, from Hoyèping Chan, 14.VIII.1933, coll. unknown (IZ-CAS); 37 exs, Hoyèping Chan, 14.VIII.1933, coll. unknown; from Hebei province, one female, Xiaowutaishan, Huichuan, 10.VII. 964, coll. Yinheng Han (IZ-CAS); three males, one female, from Xiaowutaishan, Huichuan, 14.VII.1964, coll. Yinheng Han (IZ-CAS).

The measurements are BL = 2.61 mm, BW = 1.35 mm, HL = 0.61 mm, HW = 0.70 mm, PL = 0.69 mm, PW = 1.26 mm, EL = 1.91 mm, AL = 1.13 mm, AW = 0.27 mm, and SL = 0.62 mm.

The distribution is China (Hebei, Shanxi, Heilongjiang, Jiangsu, Yunnan, Shaanxi), Japan, and Russia.

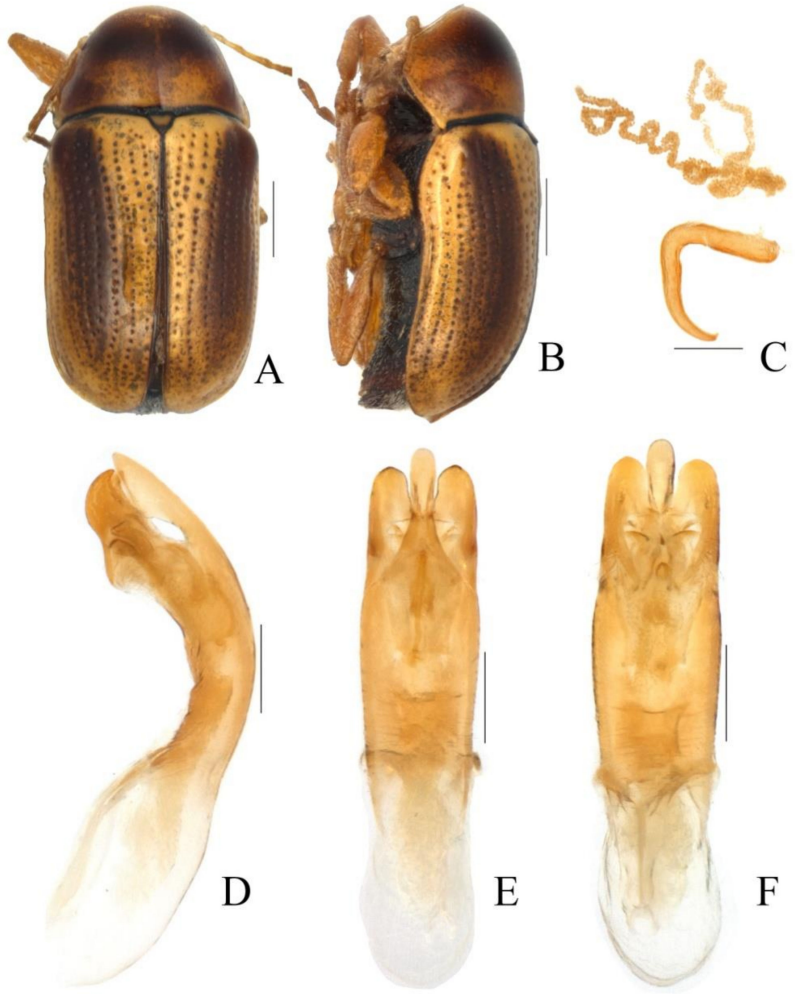

Figure 24. *Cryptocephalus* (*Burlinius*) *nigrofasciatus* Jacoby, 1885: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Hebei).

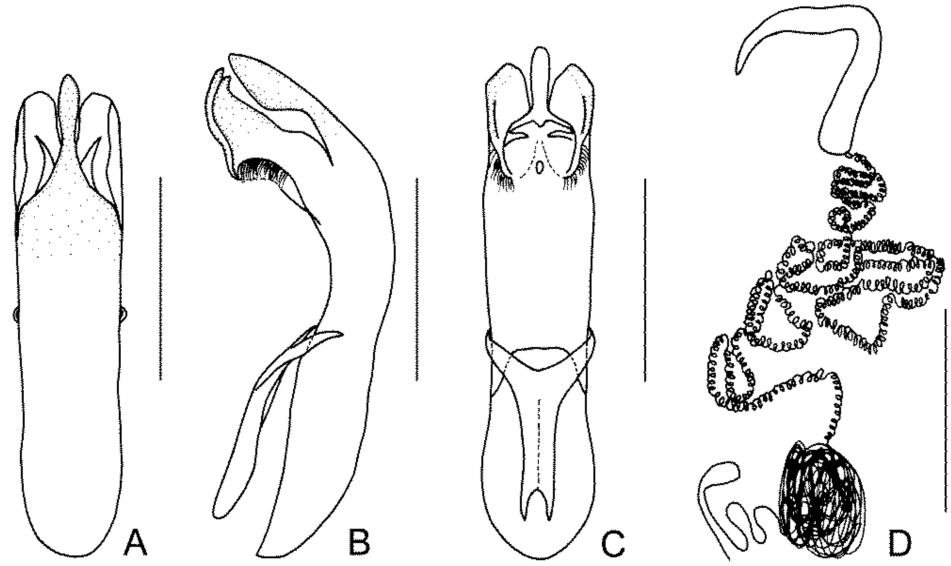

Figure 25. *Cryptocephalus* (*Burlinius*) *nigrofasciatus* Jacoby, 1885: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca (Scale bars: 0.5 mm).

3.3.15. *Cryptocephalus* (*Burlinius*) *nigrorufus* Gressitt, 1942

Gressitt, 1942: 348, pl. 20, Figure 4 (type locality: Hainan; type deposited: ICRI); Gressitt & Kimoto, 1961: 159 (catalogue); Lopatin et al., 2010: 587 (catalogue) [4,7,40].

There was no material examined.

The distribution is China (Hainan).

3.3.16. *Cryptocephalus* (*Burlinius*) *norensis* Pic, 1911

Pic, 1911: 107 (type locality: Tibet; type deposited: MNHN); Clavareau, 1913: 167 (catalogue); Gressitt and Kimoto, 1961: 159 (catalogue); Lopatin, 2001: 93 (as synonym of *Cryptocephalus* (*Burlinius*) *polymorphus parallelus*); Lopatin et al., 2010: 587 (catalogue) [4,7,20,41,42].

There was no material examined.

The distribution is China (Tibet).

3.3.17. *Cryptocephalus* (*Burlinius*) *pallidoapicalis* Pic, 1917

Pic, 1917: 10 (type locality: Yunnan; type deposited: MNHN); Gressitt, 1942: 349, pl. 19, Figure 9; Chen, 1942: 120; Gressitt and Kimoto, 1961: 160 (Liaoning); Lopatin et al., 2010: 587 (catalogue) [4,7,40,43].

There was no material examined.

The distribution is China (Liaoning, Yunnan); Russia.

3.3.18. *Cryptocephalus* (*Burlinius*) *petulans* Weise, 1889

Figures 26 and 27.

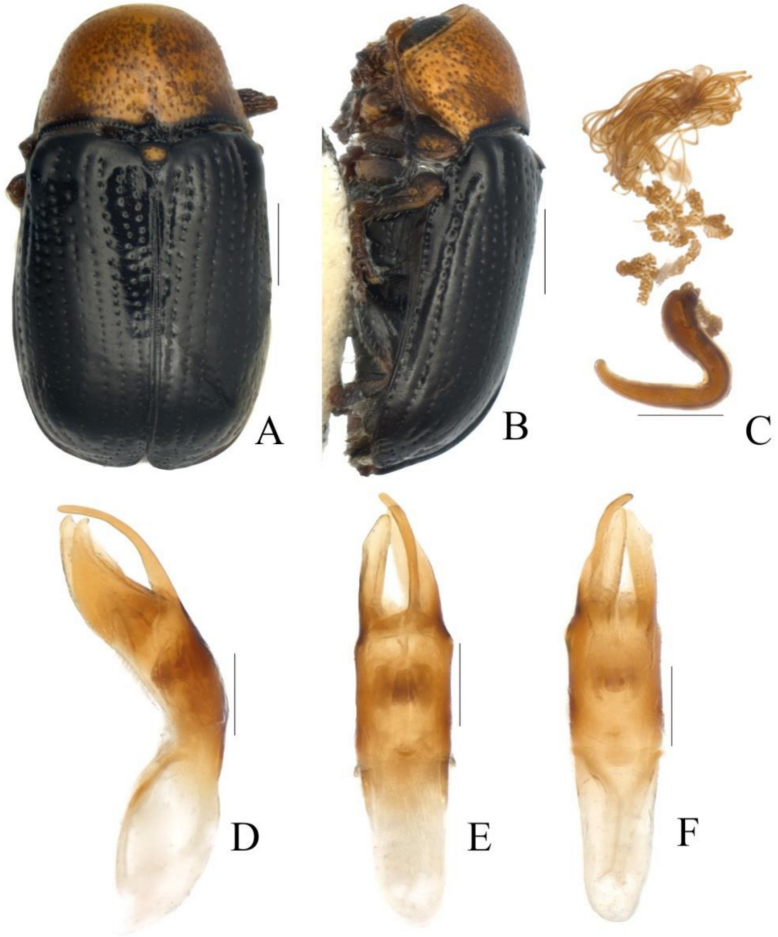

Figure 26. *Cryptocephalus* (*Burlinius*) *petulans* Weise, 1889: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Shaanxi).

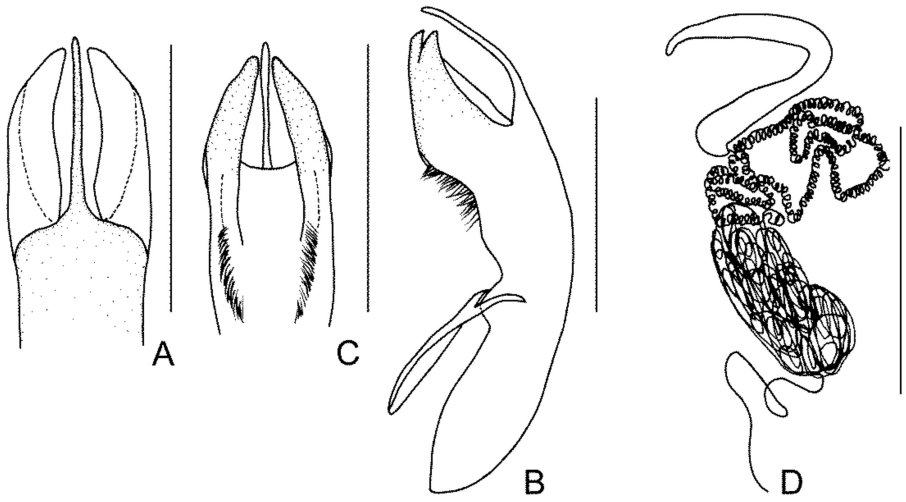

Figure 27. *Cryptocephalus* (*Burlinius*) *petulans* Weise, 1889: (**A**) part aedeagus of dorsal view; (**B**) part aedeagus of ventral view; (**C**) lateral view of aedeagus; (**D**) spermatheca (Scale bars: 0.5 mm).

Weise, 1889: 587 (type locality: Kansu; type deposited: ZMHB); Clavareau, 1913: 173 (catalogue); Chen, 1942: 119; Gressitt and Kimoto, 1961: 161 (catalogue); Lopatin et al., 2010: 587 (catalogue) [4,6,7,12,20].

The material examined was from CHINA: Syntypes: one female, Kanssu, Potanin (ZMHB). Additional material examined was from Shaanxi province, one female, Ningshan, Huotang pool, 29.VII.1979, coll. Yinheng Han (IZ-CAS); one male, three females, from Liuba temple, Taizi, 21.VII.1998, coll. Xuezhong Zhang (IZ-CAS); two males, two females, from Liuba, Weituogou, 21.VII.1998, coll. Xuezhong Zhang (IZ-CAS); one male, from Liuba, Weituogou, 21.VII.1998, coll. Jun Chen (IZ-CAS); one female, from Zhouzhi, Houzhenzi, 21.VI.1999, coll. Youwei Zhang (IZ-CAS); from Gansu province, two males, Kangxian, Heimaguan, 13.VII.1998, coll. Jian Yao (IZ-CAS); one female, from Kangxian, Heimaguan, 13.VII.1998, coll. Xuezhong Zhang (IZ-CAS); one male, one female, from Yangchang, Huangjia street forest station, 8.VII.1998, coll. Xingke Yang (IZ-CAS); one female, from Yangchang, Huangjia street forest station, 8. VII.1998; coll. Shuyong Wang (IZ-CAS); one female, from Wenxian, Qiujiaba, 28.VI.1998, coll. Jian Yao (IZ-CAS); one female, from Wenxian, Qiujiaba, 1.VII.1998, coll. Xingke Yang (IZ-CAS); one female, from Wenxian, Qiujiaba, 1.VII.1998, coll. Jun Chen (IZ-CAS); one female, from Wenxian, Tielouke, Qiaocun, 23.VI.1999, coll. Hongjian Wang (IZ-CAS).

The measurements are BL = 2.77 mm, BW = 1.52 mm, HL = 0.68 mm, HW = 0.81 mm, PL = 0.77 mm, PW = 1.34 mm, EL = 2.00 mm, AL = 1.30 mm, AW = 0.30 mm, and SL = 0.51 mm.

The distribution is China (Shaanxi, Gansu).

3.3.19. *Cryptocephalus* (*Burlinius*) *potanini* Lopatin, 2001

Figure 28.

Lopatin, 2001: 91 (type locality: Sichuan; type deposited: ZIN); Lopatin et al., 2010: 588 (catalogue) [4,41].

The material examined was from CHINA, Sichuan province, one female, Maerkang, 17.VIII.1983, coll. Shuyong Wang (IZ-CAS); from Tibet, one female, Milin, 1.VI.1984, coll. Tiaoqu (IZ-CAS); one female, from Milin, 2.VIII.1984, coll. Tiaoqu (IZ-CAS); one female, from Milin, 4.VII.1997, coll. Chaodong Zhu (IZ-CAS); one female, from Milin, 9.VI.1997, coll. Chaodong Zhu (IZ-CAS); one female, from Linzhi, 1.VII.2002, coll Junzhi Cui (IZ-CAS); one female, from Linzhi, 1.VII.2002, coll. Siqin Ge (IZ-CAS); one female, from Jiangda, 29.VII.1976, coll. Yinheng Han (IZ-CAS).

The measurements are BL = 2.60 mm, BW = 1.52 mm, HL = 0.81 mm, HW = 0.87 mm, PL = 0.79 mm, PW = 1.29 mm, EL = 1.77 mm, and SL = 0.31 mm.

The distribution is China (Sichuan, Xizang).

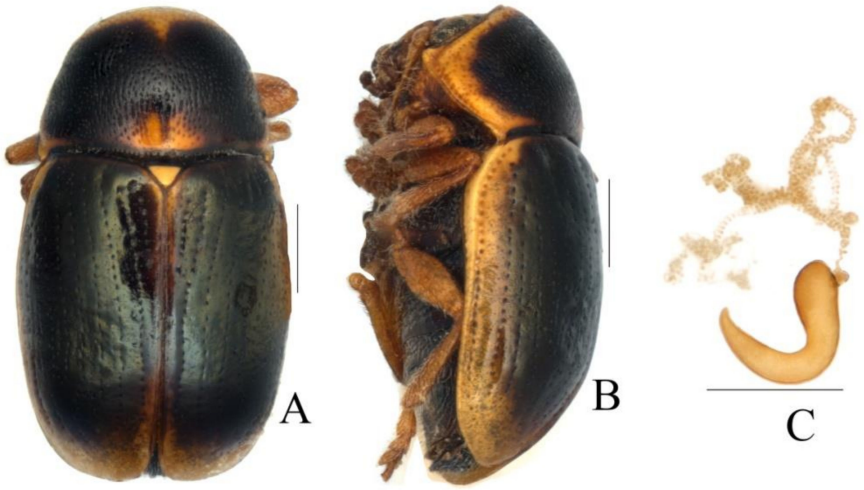

Figure 28. *Cryptocephalus* (*Burlinius*) *potanini* Lopatin, 2001: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca (Scale bars: (**A**,**B**) = 0.5 mm, (**C**) = 0.2 mm) (female, from Sichuan).

3.3.20. *Cryptocephalus* (*Burlinius*) *pusus* Schöller, 2009 (stat. nov.)

Figures 29 and 30

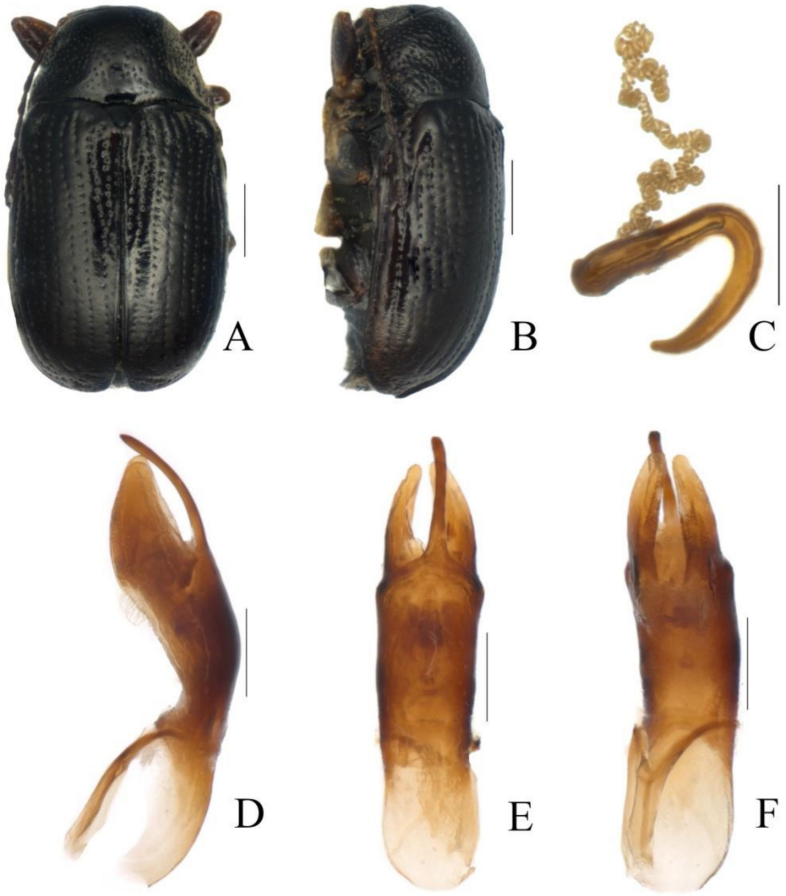

Figure 29. *Cryptocephalus* (*Burlinius*) *pusus* Schöller, 2009: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): paratype, male; (**C**): paratype, female; both from Yunnan).

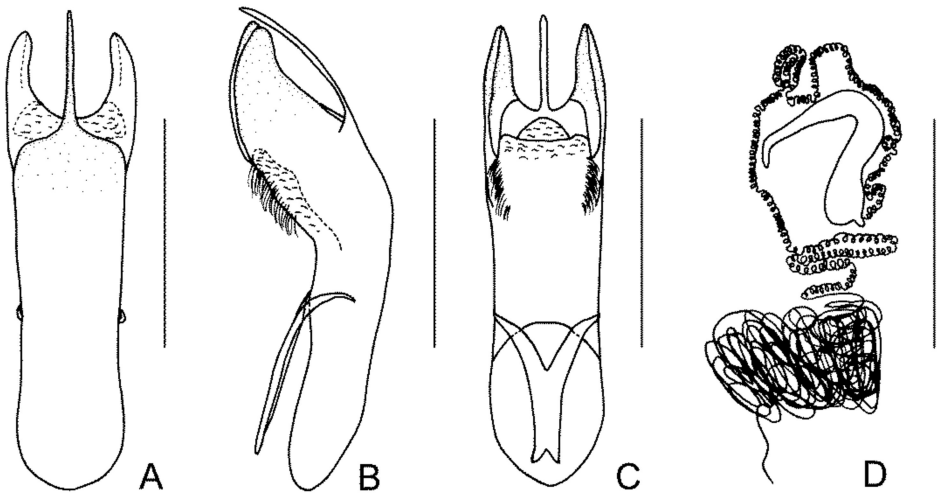

Figure 30. *Cryptocephalus* (*Burlinius*) *pusus* Schöller, 2009: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca. (Scale bars: 0.5 mm).

Schöller, 2009: 106 (replacement name of *Cryptocephalus nanus*); Lopatin et al., 2010: 599 (subg. *Cryptocephalus*) [4,44].

Synonym: *Cryptocephalus nanus* Tan, 1992: 791 (*nec* Fabricius, 1801; type locality: Xiaozhongdian, Yunnan; type deposited: IZ-CAS) [45,46].

The material examined was from CHINA, Holotype female, "Yunnan: Xiaozhongdian [Chinese letters]/Chinese Academy of Sciences [Chinese letters]//2.VIII.1984/coll. Shuyong Wang [Chinese letters]//HOLOTYPE". (IZ-CAS); paratypes were Yunnan Province, 37 males, 53 females, and the same data as holotype (IZ-CAS); one male, from "Xiaozhongdian [Chinese letters]/Chinese Academy of Sciences [Chinese letters]//2.VIII.1984/coll. Jianguo Fan [Chinese letters]//PARATYPE". (IZ-CAS).

The measurements are BL = 2.68 mm, BW = 1.53 mm, HL = 0.71 mm, HW = 0.80 mm, PL = 0.71 mm, PW = 1.29 mm, EL = 2.05 mm, AL = 1.03 mm, AW = 0.24 mm, and SL = 0.58 mm.

Remarks. This species was described originally by Professor J.J. Tan from Yunnan. After studying the holotype from IZ-CAS, we found that it definitely belongs to the subgenus *Burlinius,* for the following reasons: The length of body (Figure 29A) is 2.5–3.0 mm, nearly only half of last tarsomeron is free, and the aedeagus (Figure 29D–F, Figure 30A–C) is apically prolonged into three processes.

The distribution is China (Yunnan).

3.3.21. *Cryptocephalus* (*Burlinius*) *scutemaculatus* Tan, 1992 (stat. nov.)

Figures 31 and 32.

Tan, 1992: 794 (type locality: Yunnan; type deposited: IZ-CAS); Lopatin et al., 2010: 601 (subg. *Cryptocephalus*) [4,46].

The material examined was from CHINA, Holotype, male, "Yunnan: Lijiang, Shigu [Chinese letters]/Chinese Academy of Sciences [Chinese letters]//8.VII.1981/coll. Shuyong Wang [Chinese letters]//HOLOTYPE". (IZ-CAS); the paratypes were Yunnan Province, one female, the same data as holotype (IZ-CAS); one female, from "Lijiang, Lameiying [Chinese letters]/Chinese Academy of Sciences [Chinese letters]//10.VIII.1984/coll. Shuyong Wang [Chinese letters]//PARATYPE". (IZ-CAS); one female, from "Weixi, Baijixun [Chinese letters]/Chinese Academy of Sciences [Chinese letters]//10.VII.1981/coll. Shuyong Wang [Chinese letters]//PARATYPE". (IZ-CAS).

The measurements are BL = 2.44 mm, BW = 1.22 mm, HL = 0.69 mm, HW = 0.69 mm, PL = 0.68 mm, PW = 1.14 mm, EL = 1.76 mm, AL = 0.90 mm, and AW = 0.24 mm.

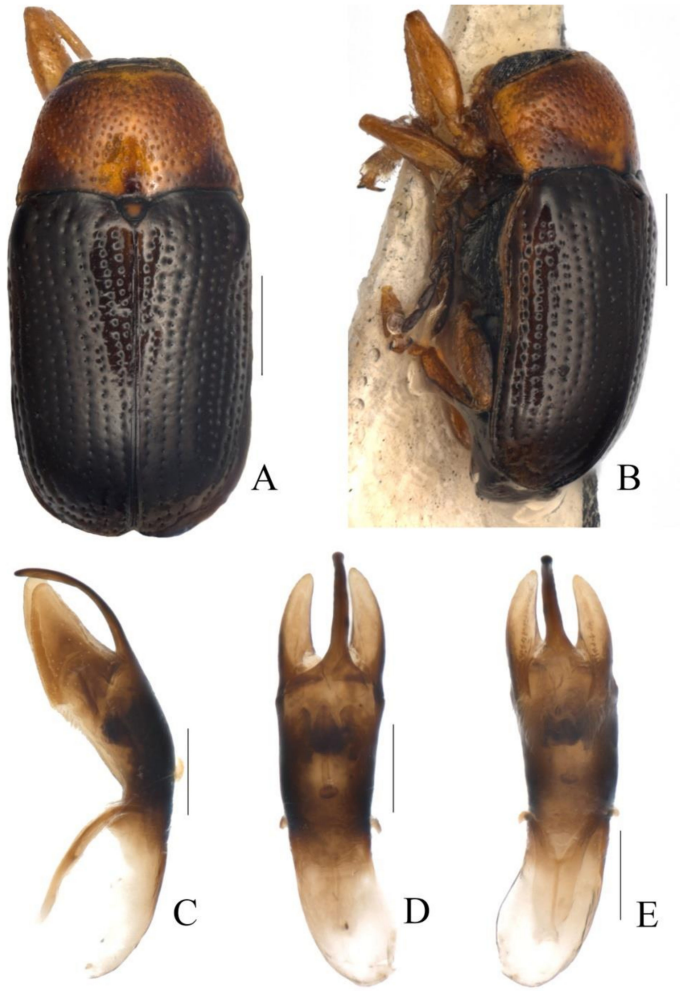

Figure 31. *Cryptocephalus* (*Burlinius*) *scutemaculatus* Tan, 1992: (**A**) habitus; (**B**) lateral view of habitus; (**C**) lateral view of aedeagus; (**D**) dorsal view of aedeagus; (**E**) ventral view of aedeagus (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**E**) = 0.2 mm) (holotype, male).

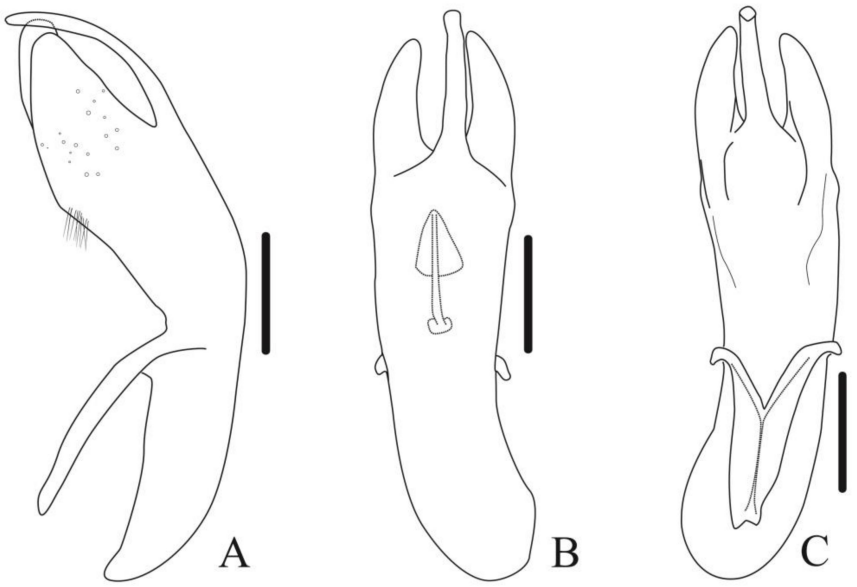

Figure 32. *Cryptocephalus* (*Burlinius*) *scutemaculatus* Tan, 1992: (**A**) lateral view of aedeagus; (**B**) dorsal view of aedeagus; (**C**) ventral view of aedeagus.

Remarks. This species was described by Professor J.J. Tan from Yunnan. After studying the holotype specimen in IZ-CAS, we concluded that it doubtlessly belongs to the subgenus *Burlinius*: The length of its body (Figure 31A) is 2.3–2.8 mm, less than half of the last tarsomeron is free, and the aedeagus (Figure 31C–E, Figure 32A–C) is apically prolonged into three processes.

The distribution is China (Yunnan).

3.3.22. *Cryptocephalus* (*Burlinius*) *shaowuanus* Gressitt & Kimoto, 1961 (stat. nov.)

Figures 33 and 34 Gressitt and Kimoto, 1961: 163 (type locality: Fukien; type deposited: NHMB (Frey)); Lopatin et al., 2010: 601 (subg. *Cryptocephalus*) [4,7].

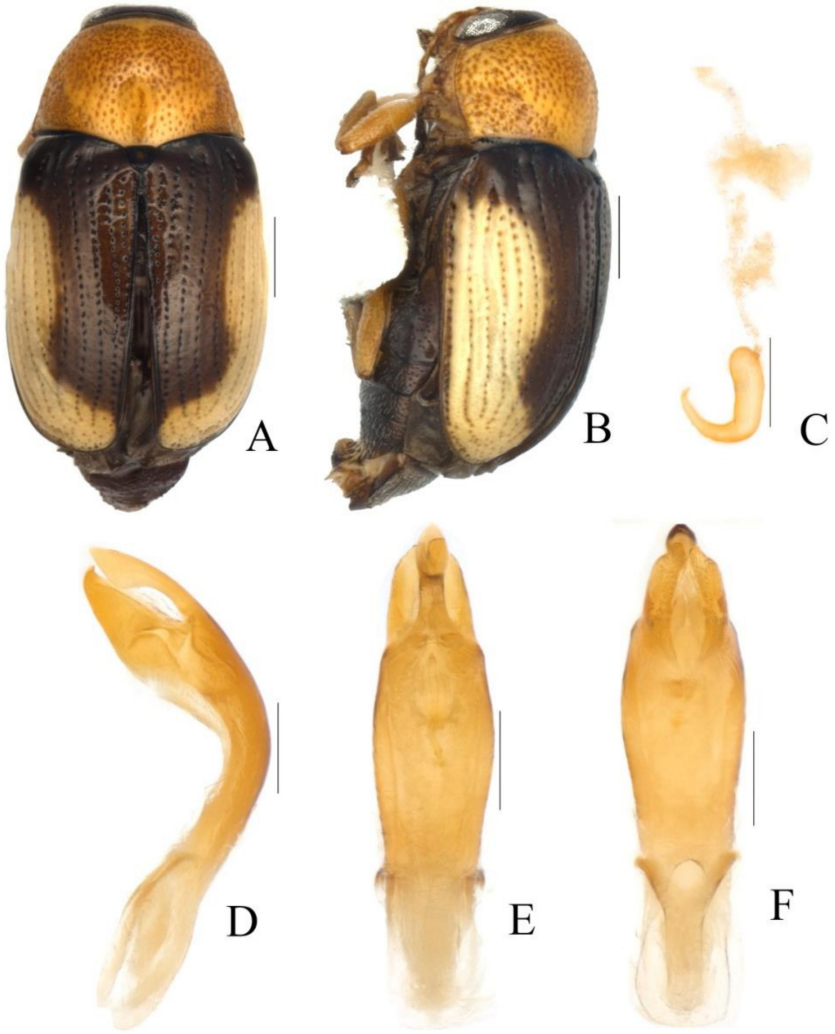

Figure 33. *Cryptocephalus* (*Burlinius*) *shaowuanus* Gressitt & Kimoto, 1961: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Hubei).

The material examined was from CHINA, Sichuan province, one male, Fuzhou, Kuiqi, 10.VII.1957, coll. unknown (IZ-CAS); one female, Chong'an, Xingcun, Caodun, 9.VII.1960, coll. Fuji Pu (IZ-CAS); from Hubei province, two males, four females, Shennongjia, Guanmenshan, 23.VII.1998, coll. Junjian He (IZ-CAS); one male, Shennongjia, Guanmenshan, 23.VII.1998, coll. Chanjuan Ye (IZ-CAS); two females, Shennongjia, Guanmenshan, 23.VII.1998, coll. Tianhong Luo (IZ-CAS); one male, one female, Shennongjia, Guanmenshan, 30.VII.1998, coll. Hongzhang Zhou (IZ-CAS); one male, one female, Shen-

nongjia, Pingqian, Gangou, 1.VIII.1998, coll. Hongzhang Zhou (IZ-CAS); Gansu province: 1 female, Huixian, Yuguan, 23.V.1981, coll. unknown (IZ-CAS).

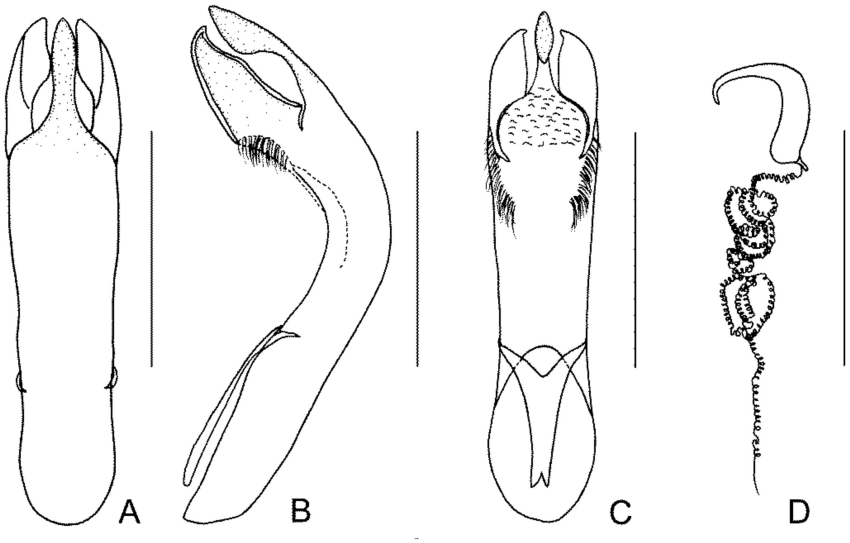

Figure 34. *Cryptocephalus* (*Burlinius*) *shaowuanus* Gressitt & Kimoto, 1961: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca (Scale bars: 0.5 mm).

The measurements are BL = 2.75 mm, BW = 0.63 mm, HL = 0.71 mm, HW = 0.73 mm, PL = 0.85 mm, PW = 1.38 mm, EL = 1.95 mm, AL = 1.01 mm, AW = 0.18 mm, and SL = 0.33 mm.

Remarks. This species was described by Gressitt and Kimoto from Fujian. After studying the specimens in IZ-CAS, we found that it doubtlessly belongs to the subgenus *Burlinius* based on the following characteristics: The length of its body (Figure 33A) is 2.7–3.2 mm, nearly less than half of the last tarsomeron is free and the aedeagus (Figure 33D–F, Figure 34A–C) is apically prolonged into three processes.

The distribution is China (Fujian, Gansu, Hubei, Sichuan).

3.3.23. *Cryptocephalus* (*Burlinius*) *sichuanicus* Lopatin, 1999

Lopatin, 1999: 89 (type locality: Sichuan); Lopatin et al., 2010: 589 (catalogue) [4,47].

There was no material examined.

The distribution is China (Sichuan).

3.3.24. *Cryptocephalus* (*Burlinius*) *turpis* Chen, 1942

Figure 35.

Chen, 1942: 121 (type locality: Kirin; type deposited: IZ-CAS); Gressitt and Kimoto, 1961: 167 (Sikang ?); Lopatin et al., 2010: 587 (catalogue; as synonym of *Cryptocephalus nigrofasciatus* Jacoby, 1885) [4,6,7].

The material examined was from CHINA, Holotype, male, "Jilin/time unknown/coll. unknown//HOLOTYPE". (IZ-CAS); paratype, Jilin Province, one female, "Jilin/5.VI.1938/coll. unknown//PARATYPE". (IZ-CAS).

The measurements are BL = 2.61 mm, BW = 1.35 mm, HL = 0.61 mm, HW = 0.70 mm, PL = 0.69 mm, PW = 1.26 mm, EL = 1.91 mm, AL = 1.13 mm, AW = 0.27 mm, and SL = 0.62 mm.

Remarks. This species, *Cryptocephalus* (*Burlinius*) *turpis* Chen, was once considered as a synonym of *Cryptocephalus nigrofasciatus* Jacoby. After carefully comparing the specimens of both species (see color photographs in Figures 24 and 35), we concluded that they are two different species.

The distribution is China (Jilin).

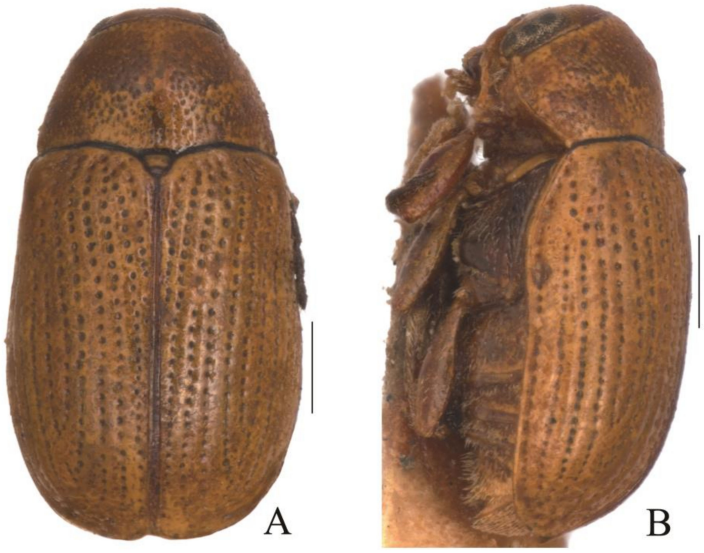

Figure 35. *Cryptocephalus* (*Burlinius*) *turpis* Chen, 1942: (**A**) habitus; (**B**) lateral view of habitus (Scale bars: 0.5 mm) (paratype, female).

3.3.25. *Cryptocephalus* (*Burlinius*) *vividus* Lopatin, 1997

Figures 36 and 37.

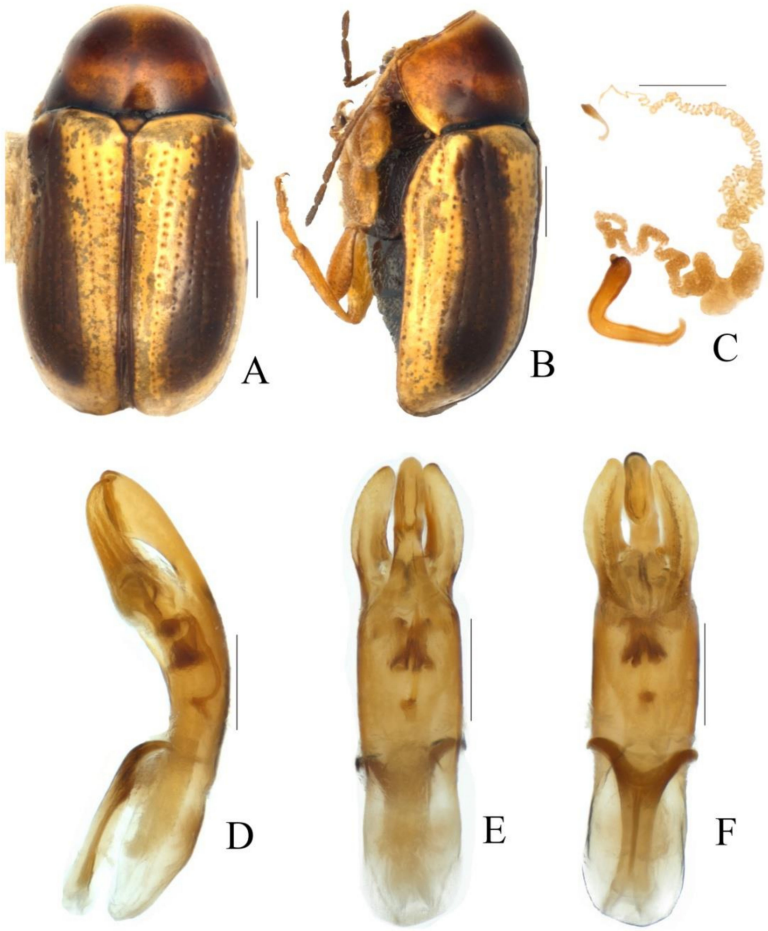

Figure 36. *Cryptocephalus* (*Burlinius*) *vividus* Lopatin, 1997: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): male; (**C**): female; both from Hebei).

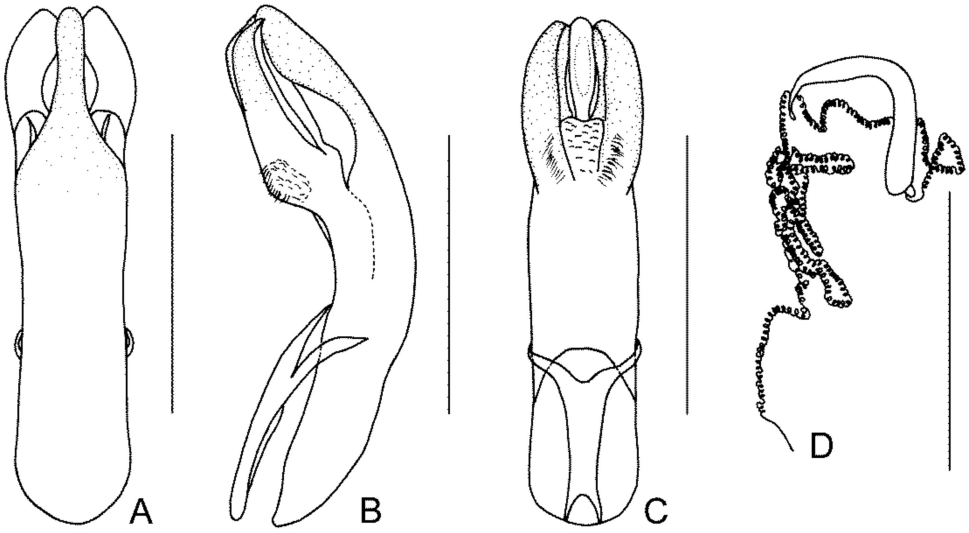

Figure 37. *Cryptocephalus* (*Burlinius*) *vividus* Lopatin, 1997: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca (Scale bars: 0.5 mm).

Lopatin, 1997: 369 (type locality: Shaanxi); Lopatin et al., 2010: 589 (catalogue) [4,48].

The material examined was from CHINA, Hebei province, one female, Xiaowutaishan, 8.VIII.1964, coll. Yinheng Han (IZ-CAS); two females, from Xiaowutaishan, 10.VIII.1964, coll. Yinheng Han (IZ-CAS); one female, from Xiaowutaishan, 10.VIII.1964, coll. Bingqian Li (IZ-CAS); one male, from Xiaowutaishan, Tatou, 12.VIII.1964, coll. Yinheng Han (IZ-CAS); two males, one female, from Xiaowutaishan, Huichuan, 14.VII.1964. coll. Bingqian Li (IZ-CAS); one female, from Xiaowutaishan, North mountain, 14.VIII.964, coll. Bingqian Li (IZ-CAS); four females, from Xiaolongmen, North mountain, 16.VIII.1964, coll. Yinheng Han (IZ-CAS); one male, from Xiaowutaishan, North mountain, 22.VIII.1964, coll. Yinheng Han (IZ-CAS).

The measurements are BL = 2.68 mm, BW = 1.52 mm, HL = 0.66 mm, HW = 0.74 mm, PL = 0.71 mm, PW = 1.34 mm, EL = 2.00 mm, AL = 1.91 mm, AW = 0.22 mm, and SL = 0.37 mm.

The distribution is China (Hebei, Shaanxi).

3.3.26. *Cryptocephalus* (*Burlinius*) *yangweii* Chen, 1942

Figures 1, 38 and 39.

Chen, 1942: 122 (type locality: Kiangsi; type deposited: IZ-CAS); Gressitt and Kimoto, 1961: 168 (Hupeh, Chekiang); Lopatin et al., 2010: 585 (catalogue) [4,6,7].

Synonym: *Cryptocephalus kuatunensis* Pic, 1954: 56 (type locality: Fukien; type deposited: Stocksholm).

The material examined was from CHINA, Holotype, female, "Jiangxi: Xingzi/Chinese Academy of Sciences [Chinese letters]//HOLOTYPE". (IZ-CAS); paratypes, Jiangxi Province, one male, "Jiangxi: Xingzi/Chinese Academy of Sciences [Chinese letters]//PARA TYPE". (IZ-CAS); one male, one female, from "Jiangxi/Chinese Academy of Sciences [Chinese letters]//PARATYPE". (IZ-CAS). Additional material examined was one male, one female, from Chekiang, Chusan, 15.V.1931, coll. O. Piel (IZ-CAS); from Fujian province, one male, one female, Chong'an, Xingcun, Tongmuguan, 30.V.1960, coll. Yong Zuo (IZ-CAS); one female, from Dehua, Dadaiyun Mountain, 11.VI.1960, coll Fuji Pu (IZ-CAS); Hubei province, Xingshan, Longmen river, 15.VII.1993, coll. Xingke Yang (IZ-CAS); two females, from Xingshan, Longmen river, 16.VII.1993, coll. Xiaolin Chen (IZ-CAS); one male, from Xingshan, Longmen river, 18.VI.1993, coll. Xingke Yang (IZ-CAS); one female, from Xingshan, Longmen river, 23.VII.1993, coll. Wenzhu Li (IZ-CAS); one male, two females, from Xingshan, Longmen river, 24.VII.1993, coll. Xiaolin Chen (IZ-CAS); two males, three females, from Shennongjia, Guanmenshan, 23.VII.1998, coll. Junjian He (IZ-CAS); three

females, from Shennongjia, Guanmenshan, 23.VII.1998, coll Tianhong Luo (IZ-CAS); one female, from Shennongjia, Guanmenshan, 23.VII.1998, coll. Haisheng Zhou (IZ-CAS); one female, from Shennongjia, Chegou, 24.VII.1998, coll. Chanjuan Ye (IZ-CAS); one male, one female, from Shennongjia, Guanmenshan, 30.VII.1998, coll. Hongzhang Zhou (IZ-CAS); Gansu province, one male, Wenxian, 15.VIII.1992, coll. Hongjian Wang (IZ-CAS); two males, one female, from Kangxian, Qinghe, forest station, 14.VII.1998. coll. Jun Chen (IZ-CAS).

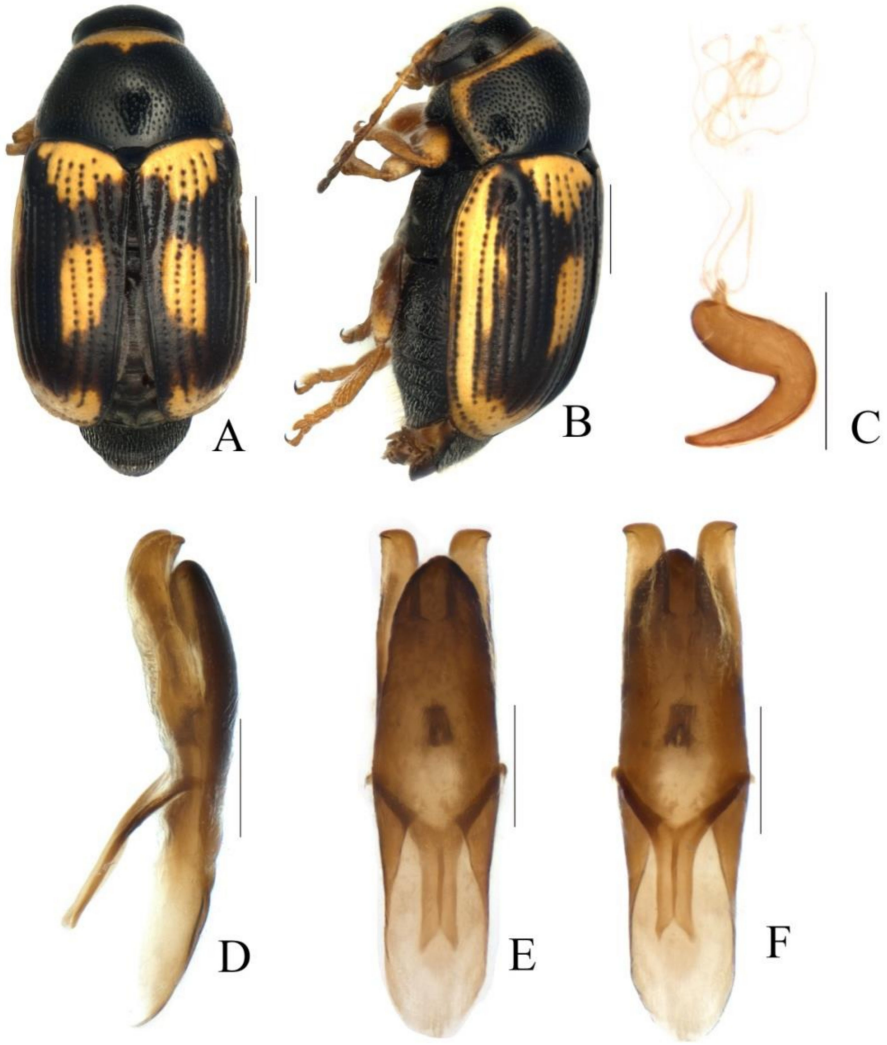

Figure 38. *Cryptocephalus* (*Burlinius*) *yangweii* Chen, 1942: (**A**) habitus; (**B**) lateral view of habitus; (**C**) spermatheca; (**D**) lateral view of aedeagus; (**E**) dorsal view of aedeagus; (**F**) ventral view of aedeagus (Scale bars: (**A**,**B**) = 0.5 mm, (**C**–**F**) = 0.2 mm) ((**A**,**B**,**D**–**F**): paratype, male; (**C**): paratype, female; both from Fujian).

The measurements are BL = 2.32 mm, BW = 1.39 mm, HL = 0.72 mm, HW = 0.67 mm, PL = 0.70 mm, PW = 1.71 mm, EL = 1.67 mm, AL = 0.79 mm, AW = 0.21 mm, and SL = 0.30 mm.

Remarks. This species was described by Professor S. Chen from Jiangxi and it was later erroneously synonymized under *C.* (*Burlinius*) *elegantulus* [6]. After studying the holotype in IZ-CAS, we found that it is a valid species according to the following characteristics: Its upper side has a lightly yellow marking, the prosternum (Figure 1O,P) is wider and covered with coarse punctures, and its basal margin is curved, as shown in Figure 1O,P, the aedeagus (Figure 37D–F and Figure 38A,B) is fusiform and more acute than in *C. elegantulus*. Moreover, this species was also considered by Medvedev, 1992 [49], as a synonym of

C. bilineatus (Linnaeus, 1767) [13], but the latter has the pronotum that is impunctated, the prosternum (Figure 1G–H) that is tinged with a yellow mark, a nearly straight basal margin, and three processes of the aedeagus (Figure 9D–F and Figure 10A–C) are more separated.

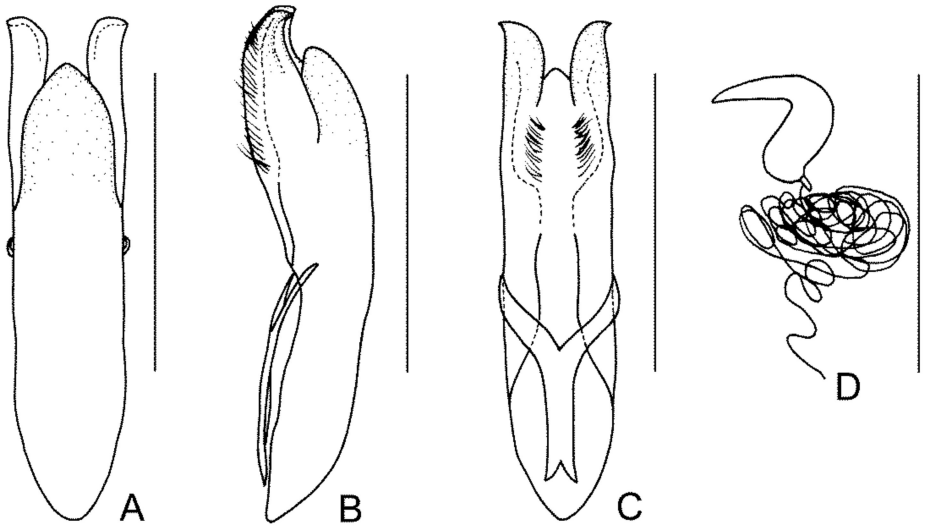

Figure 39. *Cryptocephalus* (*Burlinius*) *yangweii* Chen, 1942: (**A**) dorsal view of aedeagus; (**B**) lateral view of aedeagus; (**C**) ventral view of aedeagus; (**D**) spermatheca (Scale bars: 0.5 mm).

The distribution is China (Zhejiang, Fujian, Jiangxi, Hubei, Gansu).

4. Discussion

This study reports our results of the taxonomic study on the subgenus *Burlinius* Lopatin, 1965, a leaf beetle group of the megadiverse *Cryptocephalus* Geoffroy. The paper includes four new species and one revalidated species. Another four species were transferred to this subgenus and, thus, get a new taxonomic status. As an intensive taxonomic work, this study increases the number of species of the subgenus *Burlinius* to a total of 26 species in the territory of China. A key to all the Chinese species is provided. These results are, of course, the new contributions to the Chinese fauna of this and/or other leaf beetle taxa. This represents a definite and obvious progress, which may promote the advances in the investigations on systematics, phylogeny, and zoogeography of the large subfamily Cryptocephalinae in the future.

As we pointed out before, the subgenus *Burlinius* Lopatin, 1965 [1], is a special leaf beetle group within the megadiverse genus *Cryptocephalus* Geoffroy, 1762 [2] (Coleoptera, Chrysomelidae, Cryptocephalinae, Cryptocephalini). Two special difficulties challenged this study: It concerns genus-level taxa of megadiversity (ca. 2000 species in total) and the taxonomic history nested within each other [1–4,50]. Indeed, the subgenus *Burlinius* was created by Lopatin (1965), based on the type of species *Chrysomela fulva* Goeze, 1777 [3], and included merely 52 species then, which were originally in the genus *Cryptocephalus* Geoffroy but had not yet been assigned to any subgenus. Warchałowski (2010) increased the number to 94 species and subdivided them into four different species group [5]. Lopatin et al. (2010) catalogued a number of 121 species and another 10 subspecies in this subgenus [4]. Before this study, the subgenus *Burlinius* Lopatin included 128 species, which were distributed mainly in the Palearctic region [1,4,5] (Lopatin, 1965; Warchałowski, 2010; Lopatin et al., 2010). The new species' descriptions and other known species' revision we completed here provide new contributions to this megadiverse taxon.

Of the Chinese fauna, Chen (1942) [6] studied the Chinese *Cryptocephalus* and Gressitt and Kimoto (1961) [7] revised the whole leaf beetles of China and Korea. Thirteen Chinese species of the subgenus *Burlinius* were included in these studies, but they are not assigned to any subgenus yet. The subgenus-level designation was down most recently and a total of 19 species of *Burlinius* were found to occur in China (Lopatin et al., 2010) [4]. As a

matter of fact, there was no important species finding with respect to Chinese Fauna of the subgenus *Burlinius* in the last several decades; taxonomic contribution (if any) included merely categorizing known species to the right subgenus. In addition to new species' description, our study revises all the Chinese species of the *Burlinius*. Moreover, a key to all Chinese species of *Burlinius* is also given in the paper, as well as the well-prepared color illustrations and line drawings. The genital structures were based upon the specimen digestion provided in the paper, and these are especially important to this (and maybe most other) leaf beetle taxon, for the early publications did not provide genital characteristics.

Our study concentrated, of course, on the species-level taxonomy of the subgenus *Burlinius*, with its particular emphasis focused on the fauna of China, a country with a very large territory and high biodiversity in the world and of great importance to fill the gap in word species' inventories. Our results increase the species' number of the subgenus *Burlinius* to 26 in total of the Chinese species. This is surely an important taxonomic contribution and may be of biological and systematic significance in filling gaps in the faunistic composition of the genus *Cryptocephalus* Geoffroy in China. This study is also a new one of our series of studies on the leaf beetle subfamily Cryptocephalinae (including Cryptocephalini and Clytrini) [50–56].

Author Contributions: Conceptualization, W.D. and H.Z.; methodology, W.D.; software, W.D.; validation, W.D. and H.Z.; formal analysis, W.D.; investigation, W.D.; resources, H.Z.; data curation, W.D.; writing—original draft preparation, W.D.; writing—review and editing, H.Z.; visualization, W.D.; supervision, H.Z.; project administration, H.Z.; funding acquisition, H.Z. All authors have read and agreed to the published version of the manuscript.

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