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Taxonomy of the subgenus *Burlinius* Lopatin (Coleoptera, Chrysomelidae, Cryptocephalinae) from China and description of three new species

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Abstract

This study revises the subgenus *Burlinius* Lopatin, 1965 of the genus *Cryptocephalus* Geoffroy, 1762 (Coleoptera, Chrysomelidae, Cryptocephalinae, Cryptocephalini) and reports three new species, namely, *Cryptocephalus* (*Burlinius*) *longchiensis* **sp. nov.**, *C. (Burlinius)* *baowenzhengi* **sp. nov.**, and *C. (Burlinius)* *tomurensis* **sp. nov.**. The species *C. (Burlinius)* *yangweii* Chen, 1942 is revalidated and treated as a distinct species. Another four species are transferred to this subgenus from the subgenus *Cryptocephalus* s. str., 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) are moved out of this subgenus, namely, *C. (Burlinius)* *nigrolimbatus* Jacoby, 1890, *C. (Burlinius)* *pallidipes pallidipes* Pic, 1927, and *C. (Burlinius)* *pallidipes nakatae* Gressitt & Kimoto, 1961; they are the members of the subgenus *Cryptocephalus* s. str.. Thus, the subgenus *Burlinius* Lopatin includes now a total of 25 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 drawing for general habitus and genital structures.

Key words: *Cryptocephalus*, key to Chinese species, leaf beetles, sp. nov., taxonomic revision

Introduction

The subgenus *Burlinius* Lopatin, 1965 is a special leaf beetle group within the megadiverse genus *Cryptocephalus* Geoffroy, 1762 (Coleoptera, Chrysomelidae, Cryptocephalinae, Cryptocephalini). The subgenus *Burlinius* was erected by Lopatin (1965), based on the type species *Chrysomela fulva* Goeze, 1777 and included then 52

species which were originally in the genus *Cryptocephalus* Geoffroy but had not yet designed to any subgenus.

Before this study, the subgenus *Burlinius* Lopatin included 128 species which were distributed mainly in the Palaearctic region (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) increased the number to 94 species and subdivided them into four different species groups in his well-qualified book, titled "The Palaearctic Chrysomelidae: identification keys". In the book series "Catalogue of Palaearctic Coleoptera" (edited by L.öbl & Smetana), Lopatin *et al.* (2010) catalogued a number of 121 species and another 10 subspecies in this subgenus.

Of the Chinese fauna, Chen (1942) studied the Chinese *Cryptocephalus* and Gressitt & Kimoto (1961) revised the whole leaf beetles of China and Korea; there were 13 *Burlinius* species reported to occur in China, but they were not designed to any subgenus yet. Before this study, a total of 19 species of *Burlinius* were found to occur in China (Lopatin *et al.*, 2010).

This study revises the Chinese *Burlinius* including the description of three new species. Moreover, a key to all Chinese species of *Burlinius* is given and color illustrations and line drawing are provided for general habitus and genital structures.

Material and methods

The dried specimens were relaxed and softened in hot water at 70°C for almost 1.5 hours. The softened specimens were moved to petri dish, abdomen was separated with insect pins, then soaked in 10% KOH solution and combining hot water bathing for 10 minutes to accelerate the process, and then transferred in fresh water to rinse the KOH solution off. Aedeagus and spermatheca were dissected from the abdomen and then placed into glycerin for observation and measurement with an apochromatic stereomicroscope Zeiss SteREO V12. Color photos were captured with an Axio Zoom V16 fluorescence stereo zoom microscope, and photomontage was performed in Zen 2012 (blue edition) imaging software. Adobe Photoshop CS6 was used in digital post-processing of the color pictures, and Adobe Illustrator 2020 and the PC equipped with Creative Pen & Touch Tablet (INTUOS Pen & Touch Medium CTH-680/S0-F, WACOM) were used to make the line drawings.

For species with less than five specimens available, measurements were acquired from all the available specimens; otherwise it was done from five randomly chosen specimens. The following abbreviations are used in the measurements and description parts:

AL (aedeagus length)—Length from the apex of the aedeagal lobe to the basal margin, maximal aedeagus length;

AW (aedeagus width)—Distance of the tegmens, the maximal width of aedeagal lobe;

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;

EL (elytral length)—Length of the maximal elytral length in dorsal view;

HL (head length)—Length from occiput to the front apex of mandible;

HW (head width)—Distance between the eyes, maximal head width;

PL (pronotal length)—Length from the basal margin to anterior-margin, maximal longitudinal length of pronotum;

PW (pronotal width)—Distance of the widest portion of the pronotum;

SL (spermathecal length)—Length of the maximal spermathecal length, without duct.

Type specimens of the new species and other specimens included in this study are preserved at the Institute of Zoology, Chinese Academy of Science, Beijing, China (IZ-CAS). The following abbreviations list out the institutions of specimens used in this study:

BMNH—The Natural History Museum, London, UK;

ICRI—Zhongshan (Sun Yat-Sen) University, Research Institute of Entomology, Guangzhou, Guangdong, China;

IZ-CAS—Institute of Zoology, Chinese Academy of Sciences, Beijing, China;

MNHN—National Museum of Natural History, Paris, France;

NHMB—Naturhistorische Museum Basel, Switzerland;

USNM—National Museum of Natural History, Washington D.C., U.S.A

ZIN—Russia Academy of Sciences, Zoological Institute, St. Petersburg, Russia;

ZMHB—Stiftung Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung, Berlin, Germany.

Taxonomy

Subgenus *Burlinius* Lopatin, 1965

Lopatin, 1965: 455; Warchałowski, 2010; Lopatin *et al.*, 2010: 584.

Type species: *Chrysomela fulva* Goeze, 1777

Diagnosis. Body cylindrical and oblong, blunt at the ends, length of body usually 2.0–3.5 mm. Upper side glabrous, the color is varied. Head and eyes relatively small, lower margin of eyes lies above the anterior angles of the pronotum or at the same level, the inner margin of eyes is slightly notched. Antennae filiform, thin and long, usually longer than half of the body. Pronotum transverse, with slightly rounded sides, widest at hind angles, lateral margins narrow, basal part simultaneously visible in dorsal view. Scutellum triangular, longer than broad, apically sometimes elevated, without any punctures. Elytra regularly punctured, longer than width, with an interception behind the humeral tubercles, and then widest behind the middle, usually slightly rounded at apex; elytra in lateral view with a weak epipleural lobe. Underside usually clothed with sparsely short pubescence and distinct punctures; prosternum

varies, sometimes apical margin drawn out into denticle visible in lateral view; mesosternum usually broad; pygidium usually with dense punctures and slightly long pubescence. The claw segment of the hind tarsus is short, only 1/2 or less than 1/2 of its length protruding from the lobes of the 3rd segment. Lobe of aedeagus apically prolonged into three (rarely into two) processes, its opening situated not dorsally, but apically.

Key to species of the subgenus *Burlinius* from China

1. Upper side entirely blue with metallic luster; or entirely black, sometimes only basal part or sutural margin reddish or yellowish brown2
- Upper side without above characters12
2. Upper side entirely blue with metallic luster3
- Upper side entirely black, sometimes only basal part or sutural margin reddish or yellowish brown5
3. Pronotum with densely distinct punctures*C. confusus* Suffrian
- Pronotum smooth and shiny, without punctures4
4. Elytra coarsely punctured, and puncture-rows grooved ... *C. baowenzhengi* **sp. nov.**
- Elytra finely punctured, and puncture-row without groove
.....*C. aphthonoides* Chen
5. Upper side entirely black6
- Upper side not entirely black9
6. Pronotum smooth and shiny, without punctures, yellow with variable black markings7
- Pronotum with distinct punctures8
7. Elytra puncture rows with deep groove; legs yellow
.....*C. elegantulus* Gravenhorst
- Elytra puncture rows without groove; legs yellowish red, hind femora darkened
.....*C. norensis* Pic
8. Pronotum finely punctured*C. exiguus amicus* Baly
- Pronotum coarsely and distinctly punctured
.....*C. pusius* Schöller
9. Elytra entirely black, pronotum with apical margin red
.....*C. sichuanicus* Lopatin
- Elytra not entirely black, pronotum black10
10. Elytra with sutural and apical margins pitchy brown, scutellum pitchy black
.....*C. hohuanshanus* Kimoto
- Elytral apical region reddish or yellowish brown11
11. Elytral apical region yellowish brown, disc of scutellum yellow
.....*C. tomurensis* **sp. nov.**
- Elytra apical region reddish brown, disc of scutellum yellowish black
.....*C. kabaki* Lopatin
12. Elytra mostly darkish red13
- Elytra without above character15
13. Pronotum darkish red, same as elytra*C. nebulo* Weise

- . Pronotum without above character	14
14. Pronotum black	<i>C. nigrorufus</i> Gressitt
- . Pronotum yellowish brown.....	<i>C. scutemaculatus</i> 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	<i>C. petulans</i> Weise
- . Elytra black, apical region yellow; pronotum yellow, with two black spots.....	<i>C. pallidoapicalis</i> Pic
17. Upper side entirely yellowish brown, except the margins of pronotum, elytra and scutellum	18
- . Upper side without above character	19
18. Prosternum width longer than length, basal margin with big and broad teeth	<i>C. longchiensis</i> sp. nov.
- . Prosternum width shorter than length, basal margin with smaller teeth.....	<i>C. fulvus fuscolineatus</i> Ch û ô
19. Elytra yellowish brown, pronotum yellowish brown with a M-shaped brown marking	<i>C. potanini</i> Lopatin
- . Without above characters.....	20
20. Pronotum yellowish brown	21
- . Pronotum yellow and black	24
21. Pronotum smooth, without punctures	<i>C. vividus</i> Lopatin
- . Pronotum with punctures.....	22
22. Pronotum with fine punctures	<i>C. nigrofasciatus</i> Jacoby
- . Pronotum with distinct and coarse punctures	23
23. Head pale yellowish brown; elytra pale yellow with a yellowish brown band	<i>C. shaowuanus</i> Gressitt & Kimoto
- . Head pitchy brown; elytra yellowish brown with a darkish brown vertical stripe.....	<i>C. flavolimbatus</i> Pic
24. Pronotum longitudinally wrinkled, color yellow, with a black marking	<i>C. bilineatus</i> (Linnaeus, 1767)
- . Pronotum punctured, not wrinkled, black, apical and lateral margins yellow	<i>C. yangweii</i> Chen

1. *Cryptocephalus (Burlinius) longchiensis* Duan & Zhou, sp. nov. (Figs 1; 2-1; 2-2)

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

Type material examined. Holotype male, **CHINA: Sichuan** Province: E'meishan City, Longchi Town, 23.IV.1983, coll. Yinheng Han (IZ-CAS). **Paratype:** 1 female, same data as holotype (IZ-CAS).

Measurements. 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, SL = 0.47 mm.

Description. Body (Fig 2-1A) elongate cylindrical; above smooth, testaceous. Head reddish brown, antennae with basal 5 segments reddish brown, the rest ones darkish brown; clypeus reddish brown, labrum yellowish brown and mandibles black. Pronotum reddish brown, darker than elytra, with basal margin black. Scutellum black, disc with a small reddish-brown spot. Elytra basal margin and sutural margin black, humeri region tinged with brown. Legs reddish brown, and body beneath darkish brown.

Head dull, frons in between eyes with a shallow and short longitudinal groove, sparsely and finely punctured. Eyes kidney-shaped, blunt. Clypeus triangular, finely and transversely wrinkled, anterior margin slightly arched emarginated, posterior margin concave. Antennae reaching 2/3 region of elytra, 1st segment clubbed, 2nd oblong, about half as long as 1st, 3rd - 5th slender, 3rd as long as 2nd, 4th longer than 3rd, shorter than 5th, from 6th segment on somewhat broadened and flatted, last segment pointed apically.

Pronotum (Fig 2-1A) with shallow and dense punctures, distinctly vaulted, base much broader than apex, basal width about 1.8 times of length of lateral margins. Anterior margin nearly straight. Lateral margins slightly wide, in dorsal view half basal part can be seen, widest at hind angles. Posterior margin slightly serrate and undulated. Scutellum triangular, longer than broad, apically not elevated, without any punctures.

Elytra (Fig 2-1A) oblong, almost parallel-sided, slightly more than 2 times as long as broad, rounded apically, slightly sinuate at sides in dorsal view. Humerus very distinct, slightly elevated. Disc with regular rows of punctures, getting slightly finer towards apex, interspaces flat, with scattered minute punctures between rows, epipleura oblique and visible in lateral view.

Prosternum (Figs 1: 1A-1B) width longer than length, prosternal process broad, apical margin drawn out into a broad denticle, visible in lateral view. Mesosternum (Figs 1: 1A-1B) broad, twice as wide as long, basal margin forms a pair of teeth. Metasternum with coarse punctures. Pygidium with dense punctures and slightly long pubescence.

Aedeagus (Figs 2-1D-F; 2-2A-C) elongate, about 4.8 times as long as wide, strongly bend. Apex prolonged into three processes, dorsal process short and small; ventral processes broad and nearly triangular, strongly bend in lateral view. Laterally with sparse punctures. In the middle part of ventral processes with dense long pubescence. Tegmen Y-shaped, weakly sclerotized, almost translucent, bifurcate at basal 1/5.

Female. Body more robust than in male. **Spermatheca** (Figs 2-1C; 2-1D) hook-shaped, moderately acute at apex, slightly dilated at basal third. **Rectal sclerites** moderately sclerotized, not connected between two rectangular sclerites on ventral side.

Distribution. China (Sichuan).

Diagnosis. This new species is similar to *C. (Burlinius) nigrofasciatus* Jacoby, but can be distinguished by the broad pronotum and the black scutellum; it is also similar to *C. (Burlinius) fulvus* (Goeze), but can be distinguished by the following

characteristics: prosternum (Fig 1: 1A-1B) wider than long, with bigger and broader denticles on basal margin; aedeagus (Figs 2-1D-F; 2-2A-C) strongly bended, and aedeagus apex with the three lobes nearly equal in length.

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

2. *Cryptocephalus (Burlinius) baowenzhengi* Duan & Zhou, sp. nov. (Figs 1; 3-1; 3-2)

Type locality: China, Sichuan Province: Northeast of Lushan County, Longmencun.

Type material examined. Holotype male, CHINA: Sichuan Province: Northeast of Lushan County, Longmencun, 15.X.2005, coll. Haifeng Chen (IZ-CAS).
Paratype: CHINA: Shaanxi Province: 1 female, Taibai Mountain, 1800-2000 m, 31.V.2004, coll. Hongzhang Zhou (IZ-CAS).

Measurements. 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, SL = 0.34 mm.

Description. Body (Fig 3-1A) elongate cylindrical; above smooth and shining, steel-blue colored. Head mostly yellow, vertex pitchy brown, antennae with basal 5 segments yellowish brown, the rest ones darkish brown; clypeus yellowish brown, and mandibles darkish brown. Scutellum black blue, darker than pronotum and elytra. Legs reddish brown, and body beneath mostly dark steel-blue colored, prosternum yellowish brown and mesosternum reddish brown.

Head nearly round, frons in between eyes with a very shallow and short longitudinal groove, and without any punctures. Eyes kidney-shaped, deeply emarginated. Clypeus triangular, anterior margin slightly arched emarginated, posterior margin concave. Antennae long and thin, reaching 3/4 region of elytra, 1st segment clubbed, 2nd oblong, about half as long as the 1st, 3rd - 5th slender, 3rd as long as 2nd, 4th longer than 3rd, shorter than 5th, from 6th segment on somewhat broadened and flatted, last segment pointed apically.

Pronotum (Fig 3-1A) smooth and shining, much broader basely than apically, basal width about 1.8 times of length of lateral margins. Anterior margin slightly convex, nearly straight. Lateral margins slightly wide, in dorsal view 2/3 basal part can be seen, widest at hind angles. Disc slightly convex, with very fine shallow and sparse punctures. Scutellum triangular, longer than broad, apically elevated, without any punctures.

Elytra (Fig 3-1A) oblong, with humeri prominent and glabrous, widest slightly behind humerus. Disc with regular rows of punctures, and puncture-row slightly grooved, punctures partly confuse on apical slope, interspaces nearly impunctate, epipleura weakly and obliquely placed and visible in lateral view.

Underside nearly without punctures. Prosternum (Figs 1: 2A-2B) width shorter than length, with small and nearly round protrusions, apical margin concave, hind angles nearly round. Mesosternum (Figs 1: 2A-2B) long, 1.5 times as long as wide, with denser protrusions, basal margin slightly concave and hind angles acute.

Metasternum nearly without punctures, wrinkled. Pygidium with dense punctures and long pubescence.

Aedeagus (Figs 3-1D-F; 3-2A-C) elongate, about 3.3 times as long as wide, slightly bend. Apex prolonged into three processed, dorsal process arched, laterally with fine and sparse punctures, ventral processes thin and long, longer than dorsal processes, moderately bend in lateral view. Tegmen Y-shaped, moderately sclerotized, bifurcate at basal 1/4.

Female. Body more robust than in male. **Spermatheca** (Figs 3-1C; 3-2D) dull hook-shaped, weakly acute at apex, strongly dilated at basal 2/3; duct absent. **Rectal sclerites** weakly sclerotized, not connected between two rectangular sclerites on ventral side.

Distribution. China (Sichuan, Shaanxi).

Diagnosis. This new species is similar to *C. (Burlinius) pallifrons* Gyll, but can be distinguished from the aedeagus (Figs 3-1D-F; 3-2A-C) with three separate lobes of the equal length in dorsal view; similar to *C. (Burlinius) frontalis* Marsh, but differs with the upper side displaying metallic blue shining; its pronotum is larger and the aedeagus with different form; also similar to *C. (Burlinius) aphthonoides* Chen, but can be distinguished by the elytra with coarse punctures and groove-formed puncture rows.

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

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

(Figs 1; 4-1; 4-2)

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

Type material examined. **Holotype** male, **CHINA: Xinjiang:** Aksu Prefecture, Wensu County, Tomur Peak, 20.VI.1977, coll. Yinheng Han (IZ-CAS). **Paratypes:** 4 males, 6 females same data as holotype (IZ-CAS). **CHINA, Xinjiang:** Zhaosu Alasan, 1 female, 24.VII.1978, coll. Yinheng Han (IZ-CAS).

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

Description. Body (Fig 4-1A) elongate cylindrical; above smooth, largely black. Head mostly yellow, vertex darkish brown, between antennal insertions with two darkish brown marking; antennae with basal 5 segments lightly yellowish brown, the rest ones brown; clypeus reddish brown, labrum yellowish brown and mandibles darkish brown. Pronotum with anterior margin tinged with yellow. Scutellum pale yellow, margins black. Elytra with apical region yellow. Legs pale reddish brown, and body beneath black except prosternum yellow.

Head round, frons in between eyes with a distinct and short longitudinal groove coarsely and densely punctured. Eyes kidney-shaped, blunt. Clypeus prominent, vertically wrinkled, anterior margin heal with gena, posterior margin strongly concave and pubescent. Antennae slightly short, sparsely pubescent, reaching 1/2 region of elytra, 1st clubbed, 2nd slightly oblong, about half as long as 1st, 3rd - 5th slender, 3rd as

long as 2nd, 4th longer than 3rd, shorter than 5th, from 6th segment on somewhat broadened and flatted, last segment pointed apically.

Pronotum (Fig 4-1A) slightly concave, smooth and shining, base much broader basally than apically, basal width about 2 times of length of lateral margins. Anterior margin nearly straight. Lateral margin a little wide, in dorsal view 1/4 basal part can be seen, widest at hind angles. Posterior margin slight undulated. Scutellum trapezoid, longer than broad, apically elevated, can be seen in lateral view, without any punctures.

Elytra (Fig 4-1A) oblong, as broad as prothorax at base, humeri somewhat prominent, wider from humerus, glabrous. Disc very finely punctured, arranged regular rows, partly confused on apical slope, interspaces flat, with scattered very minute and fine punctures between rows, hardly detectable, epipleura weak, obliquely placed and visible in lateral view.

Prosternum (Figs 1: 3A-3B) width shorter than length, prosternal process weak, apical margin drawn out into a broad and small denticle. Mesosternum (Figs 1: 3A-3B) slightly oblong, 1/2 as wide as long, basal margin nearly straight. Metasternum with sparse punctures. Pygidium with dense punctures and slightly long pubescence.

Aedeagus (Figs 4-1D-F; 4-2A-C) elongate, about 5.1 times as long as wide, weakly bend. Apex prolonged into three processes, dorsal process oblong, inner side with fine and sparse punctures; ventral processes thin and long, as long as dorsal process, slightly bend in lateral view, ventral side with a mouth. Tegmen Y-shaped, weakly sclerotized, bifurcate at basal 1/3.

Female. Body more robust than in male. **Spermatheca** (Figs 4-1C; 4-2D) thin hook-shaped, strongly acute at apex, not dilated at basal. **Rectal sclerites** strongly sclerotized, connected between two rectangular sclerites on ventral side.

Distribution. China (Xinjiang).

Diagnosis. This new species is similar to *C. (Burlinius) kabaki* Lopatin, but can be distinguished by the first 5 antennal segments yellowish brown, the elytral apical region yellowish brown; body beneath black except prosternum (Figs 1: 3A-3B) lightly yellow. Aedeagus of this species is also similar to *C. (Burlinius) nebulo* Weise, but can be distinguished by the aedeagus: the latter species is slightly wider, the three apical process takes a larger proportion of the whole; the shape and coloration of prosternum are totally different.

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

4. *Cryptocephalus (Burlinius) aphthonoides* Chen, 1942 (Fig 5)

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

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

Measurements. 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.

Distribution. China (Gansu).

5. *Cryprocephalus (Burlinius) bilineatus* (Linnaeus, 1767)

(Figs 1; 6-1; 6-2)

Linnaeus, 1767: 597 (orig.: *Chrysomela*; type locality: Europe); Warchalowski, Andrzej, 1991: 257; Warchalowski, Andrzej, 1999: 546; Lopatin *et al.*, 2010: 585 (catalogue).

Syn.: *Pachybrachis bilineatus* ab. *armeniacus* Faldermann, 1837: 382

Cryprocephalus bilineatus var. *bisbilineatus* Pic, 1904: 57

Cryprocephalus partitus Jaeoby, 1885: 200

Cryprocephalus bilineatus ab. *spitzyi* Suffrian, 1848: 59

Cryprocephalus bilineatus var. *moestus* Weise, 1882: 230

Material examined. CHINA: Qinghai Province: 1 male, Yushu Tibetan Autonomous Prefecture, 4000 m, 6.VII.1964, coll. Shuyong Wang (IZ-CAS); **Inner Mongolia**: 2 males, 3 females, Daur Autonomous Banner of Morin Dawa, 19-23.VII.1970, coll. Shuyong Wang (IZ-CAS); 3 males, 3 females, Greater Khingan Range, Daxiangshu, 23.VII.1970, coll. Shuyong Wang (IZ-CAS); **Heilongjiang** Province: 1 male, Tongjiang, 11.IX.1970, coll. unknown (IZ-CAS); 2 males, 3 females, Yichun, 27.VI.1971, coll. Shengqiao Jiang & Xuezhong Zhang (IZ-CAS); Nenjiang, 24.VII.196, coll. Hongxing Li (IZ-CAS).

Measurements. 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, SL = 0.47 mm.

Distribution. China (Heilongjiang, Inner Mongolia, Qinghai, Xinjiang); Russia (East Siberia, Far East); Mongolia; Japan; Europe.

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

(Fig 7-1; 7-2)

Suffrian, 1854: 140 (type locality: Daurien); Marseul, 1875: 192; Weise, 1882: 195; Clavareau, 1913: 140 (catalogue); Lopatin *et al.*, 2010: 585 (catalogue).

Syn.: *Cryptocephalus discretus* Baly, 1873: 97 (type locality: Chusan, Tsushima, Japan, type deposited: BMNH); Marseul, 1875: 189; Kraatz, 1879: 265 (Amur); Clavareau, 1913: 146 (catalogue); Ch ũ ģ , 1942: 53 (Kwantung); Chen, 1942: 118 (Suiyuan, Hupeh); Gressitt & Kimoto, 1961: 149 (Kiangsu, Kirin, Korea).

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

Material examined. CHINA: Beijing: 2 females, Baihuashan, 6.VII.1972, coll. Youwei Zhang (IZ-CAS); 1 female, Xiaolongmeng, forest station, 15.VI.2000, coll. Xiaodong Yu (IZ-CAS); 1 female, Xiaolongmeng, forest station, 20.VI.2000, coll. Xiaodong Yu (IZ-CAS); 2 females, Baihuashan, 6.VII.1972, coll. Youwei Zhang (IZ-CAS); **Hebei** province: 3 males, Wulingshan, 14.VI.1990, coll. Longlong Yong (IZ-

CAS); 1 male, Xiaowutaishan, Huichuan, 14.VII.1964, coll. Yinheng Han (IZ-CAS); 1 male, Xiaowutaishan, Huichuan, 16.VII.1964, coll. Yinheng Han (IZ-CAS); 1 female, Xiaowutaishan, Huichuan, 16.VII.1964, coll. Bingqian Li (IZ-CAS); 1 female, Xiaowutaishan, Nanshan, 2.VII.1964, coll. Yinheng Han (IZ-CAS); 1 female, Xiaowutaishan Nanshan, 14.VII.1964, coll. Chuanguang Wang (IZ-CAS); 2 females, Xiaowutaishan, 25.VI.1964, coll. Chuanguang Wang (IZ-CAS); 1 male, Weixian, Xiheyang, 25.VII.1964, coll. Yinheng Han (IZ-CAS); **Shanxi** Province: 1 male, Huoxian Qiliyu, 28.VII.1972, coll. Shuyong Wang (IZ-CAS); **Inner Mongolia**: 1 female, Wumeng, Tumuluertai, 30.VI.1971, coll. unknown (IZ-CAS).

Measurements. 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, SL = 0.45 mm.

Distribution. China (Beijing, Hebei, Shanxi, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Jiangsu, Zhejiang, Hubei, Guangdong); Mongolia; North Korea; Japan; Russia.

7. *Cryptocephalus (Burlinius) elegantulus* Gravenhorst, 1807

(Figs 1; 8-1; 8-2)

Gravenhorst, 1807: 152; Harold, 1873: 167; Weise, 1882: 231; Clavareau, 1913: 147 (catalogue);

Lopatin *et al.*, 2010: 585 (catalogue).

Syn.: *Cryptocephalus elongatulus* Olivier, 1808: 835.

Cryptocephalus elegantulus ab. *inadumbratus* Pic, 1904b: 57.

Cryptocephalus elegantulus ab. *jucundus* Faldermann, 1837: 396.

Cryptocephalus kuatunensis Pic, 1954: 56 (type locality: Fukien; type deposited: Stockholm);

Gressitt & Kimoto, 1961: 168 (as synonym of *Cryptocephalus yangweii*).

Cryptocephalus tessellatus Germar, 1813: 128.

Material examined. CHINA: Beijing: 2 females, Baihuashan, 6.VII.1972, coll.

Youwei Zhang (IZ-CAS); **Heilongjiang** province: 1 male, Fujing, Huama commune,

16.VIII.1970, coll. unknown (IZ-CAS); **Gansu** province: 1 female, Wenxian,

Liujiaping, 27.VI.1998, coll. chenjun (IZ-CAS); 1 female, Wenxian, Liujiaping, 27.

VI. 1998, coll. Shuyong Wang (IZ-CAS); 4 males, 2 females, Wenxian Qiujiaba, 29.

VI. 1998, coll. Shuyong Wang (IZ-CAS).

Measurements. 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, SL = 0.39 mm.

Remark. This species was determined as *C. yangweii* by Gressitt & Kimoto, but it is very different with the latter: upper side entirely black; prosternum (Figs 1: 6A-6B) longer than width, with small and nearly round protrusion; shape of prosternum is also totally different.

Distribution. China (Beijing, Heilongjiang, Gansu); Mongolia; North Korea; Russia; Turkey.

8. *Cryptocephalus (Burlinius) exiguus amicus* Baly, 1873

(Figs 9-1; 9-2)

Baly, 1873: 98 (orig.: *Cryptocephalus amicus*; type locality: Nagasaki; type deposited: BMNH); Marseul, 1875: 190 (Sibirien); Clavareau, 1913: 129 (catalogue); Ch û ô, 1940: 383 (Korea); 1941: 456 (*Cryptocephalus exiguus amicus*; Kankyo- Hokudo); Chen, 1942: 118 (*Cryptocephalus amicus*; Hopei, Shansi, Suiyuan); Gressitt & Kimoto, 1961: 144 (Kirin); Lopatin *et al.*, 2010: 585 (catalogue).

Syn.: *Cryptocephalus exiguus* var. *adocetus* Jacobson, 1901: 114 (type locality: Dauria); Clavareau, 1913: 148 (catalogue); Medvedev, 1978: 84 (as synonym of *Cryptocephalus exiguus amicus*).

Cryptocephalus kiyosatonus Kimoto, 1964: 153 (type locality: Kiyosata); Medvedev, 1978: 84 (as synonym of *Cryptocephalus exiguus amicus*).

Material examined. CHINA: Beijing: 2 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); 1 male, 3 females, Badaling, 28.VIII.1930, coll. known (IZ-CAS); 1 female, Baihuashan, 2.VIII.1972, coll. unknown (IZ-CAS); 3 females, Sanbu, 4.VII.1972, coll. Shengqiao Jiang (IZ-CAS); **Hebei** province: 1 female, Xiaowutaishan, Beishan, 14.VIII.1964, coll. Yinheng Cheng (IZ-CAS); 2 females, Xiaowutaishan, Beishan, 14.VIII.1964, coll. Bingqian Li (IZ-CAS); 1 female, Xiaowutaishan, 23.VI.1964, coll. Yinheng Han (IZ-CAS); **Shanxi** province: 1 female, Liuba temple, 2.VII.1999, coll. Chaodong Zhu (IZ-CAS); **Inner Mongolia:** 1 female, Humeng, Dongqi, 28.VII.1986, Wensheng Tang (IZ-CAS); **Heilongjiang** province: 2 females, Tongjiang, 11.VIII.1970, coll. unknown (IZ-CAS); 5 females, Tongjiang, 11.IV.1970, coll. unknown (IZ-CAS); **Anhui** province: 1 male, 1 female; 3.VII.1971, unknown; **Shandong** province, 2 females, 14.IX.1930, coll. unknown (IZ-CAS).

Measurements. 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, SL = 0.46 mm.

Distribution. China (Beijing, Hebei, Shanxi, Anhui, Inner Mongolia, Jilin, Heilongjiang, Shandong, Gansu); Mongolia; North Korea; Japan; Russia; Turkey.

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

(Figs 10-1; 10-2)

Pic, 1920: 25 (type locality: Yunnan; type deposited: MNHN); Chen, 1942: 122; Gressitt & Kimoto, 1961: 150 (Yunnan); Lopatin *et al.*, 2010: 594 (subg. *Cryptocephalus*).

Material examined. CHINA: Syntype: female, “Yunnan // 1.VIII.1944 / coll. Chung Lo Lin det. S. Kimoto // SYNTYPE”. (USNM); **Additional material examined:**

Yunnan province: 1 male, 1 female, Kunming, 25.VI. 1940, coll. unknown (IZ-CAS); 5 males, 1 female, Weixi, Pantiang, 25.VII.1981, coll. Shuyong Wang (IZ-CAS); 8 males, 11 females, Weixi, Pantiang, 27.VII.1981, coll. Shuyong Wang (IZ-CAS); 2 males, 1 female, Weixi, Pantiang, 28.VII.1981, coll. Shuyong Wang (IZ-CAS).

Measurements. 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 = 1.05 mm, AW = 0.26 mm, SL = 0.47 mm.

Remark: 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: length of body (Fig 10-1A) 2.5-2.8 mm; aedeagus (Figs 10-1D-F; 10-2A-C) apically prolonged into three processes.

Distribution. China (Yunnan).

10. *Cryptocephalus (Burlinius) fulvus* (Goeze, 1777)

(Figs 11-1; 11-2)

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 & Kimoto, 1961: 151; Lopatin *et al.*, 2010: 586 (catalogue).

Syn: *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.

Cryptocephalus fuscolineatus Chûjû, 1940: 385 (Kankyo-Nando, Korea); Gressitt & Kimoto, 1961: 151 (an synonym of *Cryptocephalus fulvus*).

Material examined. CHINA: Beijing: 3 males, 4 females, 28 exs, Xiangshan, 17.VII.1963, coll. Shuyong Wang (IZ-CAS); 1 male, Badaling, 3.VIII.1961, Shuyong Wang (IZ-CAS); 1 male, 1 female, Badaling, 24.VII.1963, Shengqiao Jiang (IZ-CAS); **Hebei** province: 1 male, Xinglong, Taqian, 3.VII.1963, Shuyong Wang (IZ-CAS); 2 females, Zunhua, Dongling, 8.VII.1963, coll. Shengqiao Jiang (IZ-CAS); 1 male, Wulingshan, 4.VII.1963, coll. Shengqiao Jiang (IZ-CAS); **Heilongjiang** province: 2 males, 3 females, Jingpohu, 8.VIII.1963, coll. Hongxing Li (IZ-CAS); 1 male, Suihua, 12.VII.1957, coll. unknown (IZ-CAS); **Shanxi** province: 4 males, 3 females, Baoji, 11.VII.1951, coll. unknown (IZ-CAS); **Gansu** province: 3 males, 2 females, Kangxian, Baiyunshan, 12.VII.1998, coll. Jun Chen (IZ-CAS); 2 males, 1 female, Kangxian, Heimaguan, 13.VII.1998, coll. Jian Yao (IZ-CAS); 1 male, Kangxian, Heimaguan, 13.VII.1998, coll. Jun Chen (IZ-CAS); 1 female, Wenxian, Fanba, 26.VI.1998, coll. Shuyong Wang (IZ-CAS).

Measurements. 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, SL = 0.40 mm.

Distribution. China (Beijing, Hebei, Heilongjiang, Shaanxi, Gansu), Russia (Far East); Korea; Japan.

Remark: According to Dr. M. Schöller (personal communication), currently the species *Cryptocephalus fulvus* Goeze, 1777 includes three subspecies: *C. fulvus fulvus* Goeze, 1777, *C. fulvus schatzmayri* Burlini, 1969 and *C. fulvus fuscolineatus* Chû ô 1940f: 385. The last one is distributed in the Eastern Palaearctic region (Japan, China, North Korea, Far East of Russia and South Korea). Thus, the Chinese part should be the last subspecies.

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

Kimoto, 1996: 29 (type locality: Hohuanshan); Lopatin *et al.*, 2010: 586 (catalogue).

Material examined. None.

Distribution. China (Taiwan).

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

(Fig 12)

Lopatin, 2002: 84 (type locality: Xinjiang); Lopatin *et al.*, 2010: 586 (catalogue).

Material examined. 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).

Measurements. BL = 3.29 mm, BW = 1.77 mm, HL = 1.07 mm, HW = 0.86 mm, PL = 0.87 mm, PW = 1.48 mm, EL = 2.42 mm.

Distribution. China (Xinjiang).

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

(Figs 1; 13-1; 13-2)

Weise, 1889: 588 (type locality: Kansu; type deposited: ZMHB); Jacobson, 1896: 534; Clavareau, 1913: 166 (catalogue); Chen, 1942: 118; Gressitt & Kimoto, 1961: 158 (catalogue); Lopatin *et al.*, 2010: 587 (catalogue).

Material examined. CHINA: Shanxi province: 1 male, 1 female, Jiangxian, Dahe, 5.VII.1972, coll. Shuyong Wang (IZ-CAS); 1 male, 1 female, Wutaishan, 24.VII.1972, coll. Xuezhong Zhang (IZ-CAS); **Gansu province:** 1 female, Dangchang, Dahebagou, 9.VII.1998, coll. Jian Yao (IZ-CAS); 2 males, Zhouqu, Beach forest station, 16.VII.1999, coll. Tongli He (IZ-CAS).

Measurements. 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, SL = 0.50 mm.

Distribution. China (Shanxi, Gansu).

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

(Figs 1; 14-1; 14-2)

Jacoby, 1885: 200 (type locality: Japan; type deposited: BMNH); Clavareau, 1913: 166 (catalogue); Chen, 1942: 122 (Hopei, Shensi, Shansi); Gressitt & Kimoto, 1961: 158 (Kirin, Kiangsu); Lopatin *et al.*, 2010: 587 (catalogue).

Syn.: *Cryptocephalus turpis* Chen, 1942: 121 (type locality: Kirin; type deposited: IZ-CAS); Gressitt & Kimoto, 1961: 167 (Sikang).

Material examined. CHINA: Holotype: male, “Jilin / time unknown / coll. unknown // HOLOTYPE”. (IZ-CAS); **Paratype:** Jilin Province: 1 female, “Jilin / 5.VI.1938 / coll. unknown // PARATYPE”. (IZ-CAS). **Additional material examined:** 1 male, 1 female, Hoy èping Chan, 14.VIII.1933, coll. unknown (IZ-CAS); 37 exs, Hoy èping Chan, 14.VIII.1933, coll. unknown; **Hebei** province: 1 female, Xiaowutaishan, Huichuan, 10.VII. 964, coll. Yinheng Han (IZ-CAS); 3 males, 1 female, Xiaowutaishan, Huichuan, 14.VII.1964, coll. Yinheng Han (IZ-CAS).

Measurements. 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, SL = 0.62 mm.

Distribution. China (Hebei, Shanxi, Jilin, Heilongjiang, Jiangsu, Yunnan, Shaanxi); Japan; Russia.

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

Gressitt, 1942: 348, pl. 20, Fig4 (type locality: Hainan; type deposited: ICRI); Gressitt & Kimoto, 1961: 159 (catalogue); Lopatin *et al.*, 2010: 587 (catalogue).

Material examined. None.

Distribution. China (Hainan).

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

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

Material examined. None.

Distribution. China (Xizang).

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

Pic, 1917: 10 (type locality: Yunnan; type deposited: MNHN); Gressitt, 1942: 349, pl. 19, Fig 9; Chen, 1942: 120; Gressitt & Kimoto, 1961: 160 (Liaoning); Lopatin *et al.*, 2010: 587 (catalogue).

Material examined. None.

Distribution. China (Liaoning, Yunnan); Russia.

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

(Figs 15-1; 15-2)

Weise, 1889: 587 (type locality: Kansu; type deposited: ZMHB); Clavareau, 1913: 173 (catalogue); Chen, 1942: 119; Gressitt & Kimoto, 1961: 161 (catalogue); Lopatin *et al.*, 2010: 587 (catalogue).

Material examined. CHINA: Syntypes: 1 female, Kanssu, Potanin (ZMHB).

Additional material examined: Shaanxi province: 1 female, Ningshan, Huotang pool, 29.VII.1979, coll. Yinheng Han (IZ-CAS); 1 male, 3 females, Liuba temple, Taizi, 21.VII.1998, coll. Xuezhong Zhang (IZ-CAS); 2 males, 2 females, Liuba, Weituogou, 21.VII.1998, coll. Xuezhong Zhang (IZ-CAS); 1 male, Liuba, Weituogou, 21.VII.1998, coll. Jun Chen (IZ-CAS); 1 female, Zhouzhi, Houzhenzi, 21.VI.1999, coll. Youwei Zhang (IZ-CAS); Gansu province, 2 males, Kangxian, Heimaguan, 13.VII.1998, coll. Jian Yao (IZ-CAS); 1 female, Kangxian, Heimaguan, 13.VII.1998, coll. Xuezhong Zhang (IZ-CAS); 1 male, 1 female, Yangchang, Huangjia street forest station, 8.VII.1998, coll. Xingke Yang (IZ-CAS); 1 female, Yangchang, Huangjia street forest station, 8. VII.1998; coll. Shuyong Wang (IZ-CAS); 1 female, Wenxian, Qiujiaba, 28.VI.1998, coll. Jian Yao (IZ-CAS); 1 female, Wenxian, Qiujiaba, 1.VII.1998, coll. Xingke Yang (IZ-CAS); 1 female, Wenxian, Qiujiaba, 1.VII.1998, coll. Jun Chen (IZ-CAS); 1 female, Wenxian, Tielouke, Qiaocun, 23.VI.1999, coll. Hongjian Wang (IZ-CAS).

Measurements. 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, SL = 0.51 mm.

Distribution. China (Shaanxi, Gansu).

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

(Fig 16)

Lopatin, 2001: 91 (type locality: Sichuan; type deposited: ZIN); Lopatin *et al.*, 2010: 588 (catalogue).

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

Measurements. 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, SL = 0.31 mm.

Distribution. China (Sichuan, Xizang).

20. *Cryptocephalus (Burlinius) pusus* Sch öller, 2009 (stat. nov.)

(Figs 17-1; 17-2)

Sch öller, 2009: 106 (replacement name of *Cryptocephalus nanus*); Lopatin *et al.*, 2010: 599 (subg. *Cryptocephalus*).

Syn.: *Cryptocephalus nanus* Tan, 1992: 791 (*nec* Fabricius, 1801; type locality: Xiaozhongdian,

Yunnan; type deposited: IZ-CAS).

Material examined. 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: Yunnan** Province: 37 males, 53 females, same data as holotype (IZ-CAS); 1 male, “Xiaozhongdian [Chinese letters] / Chinese Academy of Sciences [Chinese letters] // 2.VIII.1984 / coll. Jianguo Fan [Chinese letters] // PARATYPE”. (IZ-CAS).

Measurements. 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, SL = 0.58 mm.

Remark: 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* by the following reasons: the length of body (Fig 17-1A) 2.5-3.0 mm, nearly only 1/2 of last tarsomere free, and the aedeagus (Figs 17-1D-F; 17-2A-C) apically prolonged into three processes.

Distribution. China (Yunnan).

21. *Cryptocephalus (Burlinius) scutemaculatus* Tan, 1992 (stat. nov.) (Figs 18-1; 18-2)

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

Material examined. 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); **Paratypes: Yunnan** Province: 1 female, same data as holotype (IZ-CAS); 1 female, “Lijiang, Lameiying [Chinese letters] / Chinese Academy of Sciences [Chinese letters] // 10.VIII.1984 / coll. Shuyong Wang [Chinese letters] // PARATYPE”. (IZ-CAS); 1 female, “Weixi, Baijixun [Chinese letters] / Chinese Academy of Sciences [Chinese letters] // 10.VII.1981 / coll. Shuyong Wang [Chinese letters] // PARATYPE”. (IZ-CAS).

Measurements. 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, AW = 0.24 mm.

Remark: 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*: its length of body (Fig 18-1A) 2.3-2.8 mm; less 1/2 of last tarsomeron free; aedeagus (Figs 18-1C-E; 18-2A-C) apically prolonged into three process.

Distribution. China (Yunnan).

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

(Figs 19-1; 19-2)

Gressitt & Kimoto, 1961: 163 (type locality: Fukien; type deposited: NHMB (Frey)); Lopatin *et al.*, 2010: 601 (subg. *Cryptocephalus*).

Material examined. CHINA: Sichuan province: 1 male, Fuzhou, Kuiqi, 10.VII.1957, coll. unknown (IZ-CAS); 1 female, Chong'an, Xingcun, Caodun, 9.VII.1960, coll. Fuji Pu (IZ-CAS); Hubei province: 2 males, 4 females, Shennongjia, Guanmenshan, 23.VII.1998, coll. Junjian He (IZ-CAS); 1 male, Shennongjia, Guanmenshan, 23.VII.1998, coll. Chanjuan Ye (IZ-CAS); 2 females, Shennongjia, Guanmenshan, 23.VII.1998, coll. Tianhong Luo (IZ-CAS); 1 male, 1 female, Shennongjia, Guanmenshan, 30.VII.1998, coll. Hongzhang Zhou (IZ-CAS); 1 male, 1 female, Shennongjia, Pingqian, Gangou, 1.VIII.1998, coll. Hongzhang Zhou (IZ-CAS); Gansu province: 1 female, Huixian, Yuguan, 23.V.1981, coll. unknown (IZ-CAS).

Measurements. 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, SL = 0.33 mm.

Remark: This species was described by Gressitt & 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: length of body (Fig 19-1A) 2.7-3.2 mm; nearly less 1/2 of last tarsomeron free; the aedeagus (Figs 19-1D-F; 19-2A-C) apically prolonged into three processes.

Distribution. China (Fujian, Gansu, Hubei, Sichuan).

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

Lopatin, 1999: 89 (type locality: Sichuan); Lopatin *et al.*, 2010: 589 (catalogue).

Material examined. None.

Distribution. China (Sichuan).

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

(Figs 20-1; 20-2)

Lopatin, 1997: 369 (type locality: Shaanxi); Lopatin *et al.*, 2010: 589 (catalogue).

Material examined. CHINA: Hebei province: 1 female, Xiaowutaishan, 8.VIII.1964, coll. Yinheng Han (IZ-CAS); 2 females, Xiaowutaishan, 10.VIII.1964, coll. Yinheng Han (IZ-CAS); 1 female, Xiaowutaishan, 10.VIII.1964, coll. Bingqian Li (IZ-CAS); 1 male, Xiaowutaishan, Tatou, 12.VIII.1964, coll. Yinheng Han (IZ-CAS); 2 males, 1 female, Xiaowutaishan, Huichuan, 14.VII.1964, coll. Bingqian Li (IZ-CAS); 1 female, Xiaowutaishan, North mountain, 14.VIII.1964, coll. Bingqian Li

(IZ-CAS); 4 females, Xiaolongmen, North mountain, 16.VIII.1964, coll. Yinheng Han (IZ-CAS); 1 male, Xiaowutaishan, North mountain, 22.VIII.1964, coll. Yinheng Han (IZ-CAS).

Measurements. 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, SL = 0.37 mm.

Distribution. China (Hebei, Shaanxi).

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

(Figs 1; 21-1; 21-2)

Chen, 1942: 122 (type locality: Kiangsi; type deposited: IZ-CAS); Gressitt & Kimoto, 1961: 168 (Hupeh, Chekiang); Lopatin *et al.*, 2010: 585 (catalogue).

Material examined. CHINA: Holotype: female, “Jiangxi: Xingzi, / Chinese Academy of Sciences [Chinese letters] // HOLOTYPE”. (IZ-CAS); **Paratypes:** **Jiangxi** Province: 1 male, “Jiangxi: Xingzi, / Chinese Academy of Sciences [Chinese letters] // PARATYPE”. (IZ-CAS); 1 male, 1 female, “Jiangxi / Chinese Academy of Sciences [Chinese letters] // PARATYPE”. (IZ-CAS). **Additional material examined:** 1 male, 1 female, Chekiang, Chusan, 15.V.1931, coll. O. Piel (IZ-CAS); **Fujian** province, 1 male, 1 female, Chong’an, Xingcun, Tongmuguan, 30.V.1960, coll. Yong Zuo (IZ-CAS); 1 female, Dehua, Dadaiyun Mountain, 11.VI.1960, coll. Fuji Pu (IZ-CAS); **Hubei** province: Xingshan, Longmen river, 15.VII.1993, coll. Xingke Yang (IZ-CAS); 2 females, Xingshan, Longmen river, 16.VII.1993, coll. Xiaolin Chen (IZ-CAS); 1 male, Xingshan, Longmen river, 18.VI.1993, coll. Xingke Yang (IZ-CAS); 1 female, Xingshan, Longmen river, 23.VII.1993, coll. Wenzhu Li (IZ-CAS); 1 male, 2 females, Xingshan, Longmen river, 24.VII.1993, coll. Xiaolin Chen (IZ-CAS); 2 males, 3 females, Shennongjia, Guanmenshan, 23.VII.1998, coll. Junjian He (IZ-CAS); 3 females, Shennongjia, Guanmenshan, 23.VII.1998, coll. Tianhong Luo (IZ-CAS); 1 female, Shennongjia, Guanmenshan, 23.VII.1998, coll. Haisheng Zhou (IZ-CAS); 1 female, Shennongjia, Chegou, 24.VII.1998, coll. Chanjuan Ye (IZ-CAS); 1 male, 1 female, Shennongjia, Guanmenshan, 30.VII.1998, coll. Hongzhang Zhou (IZ-CAS); **Gansu** province: 1 male, Wenxian, 15.VIII.1992, coll. Hongjian Wang (IZ-CAS); 2 males, 1 female, Kangxian, Qinghe, forest station, 14.VII.1998. coll. Jun Chen (IZ-CAS).

Measurements. 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, SL = 0.30 mm.

Remark. This species was described by Professor S. Chen from Jiangxi and it was later erroneously synonymized under *C. (Burlinius) elegantulus*. After studying the holotype in IZ-CAS, we found that it is a valid species according to the following characteristics: its upper side with lightly yellow marking; pronotum with dense and

distinct punctures; prosternum (Figs 1: 8A-8B) wider and covered with coarse punctures, and its basal margin as curved as shown in Figure 1 (8A-8B); the aedeagus (Figs 21-1D-F; 21-2A-B) fusiform, more acute than in *C. elegantulus*. Moreover, this species was also considered by Medvedev, 1992 as a synonym of *C. bilineatus* (Linnaeus, 1767), but the latter has the pronotum without punctures, the prosternum (Figs 1: 4A-4B) tingled with a yellow mark and a nearly straight basal margin; and three processes of aedeagus (Figs 6-1D-F; 6-2A-C) are more separated.

Distribution. China (Zhejiang, Fujian, Jiangxi, Hubei, Gansu).

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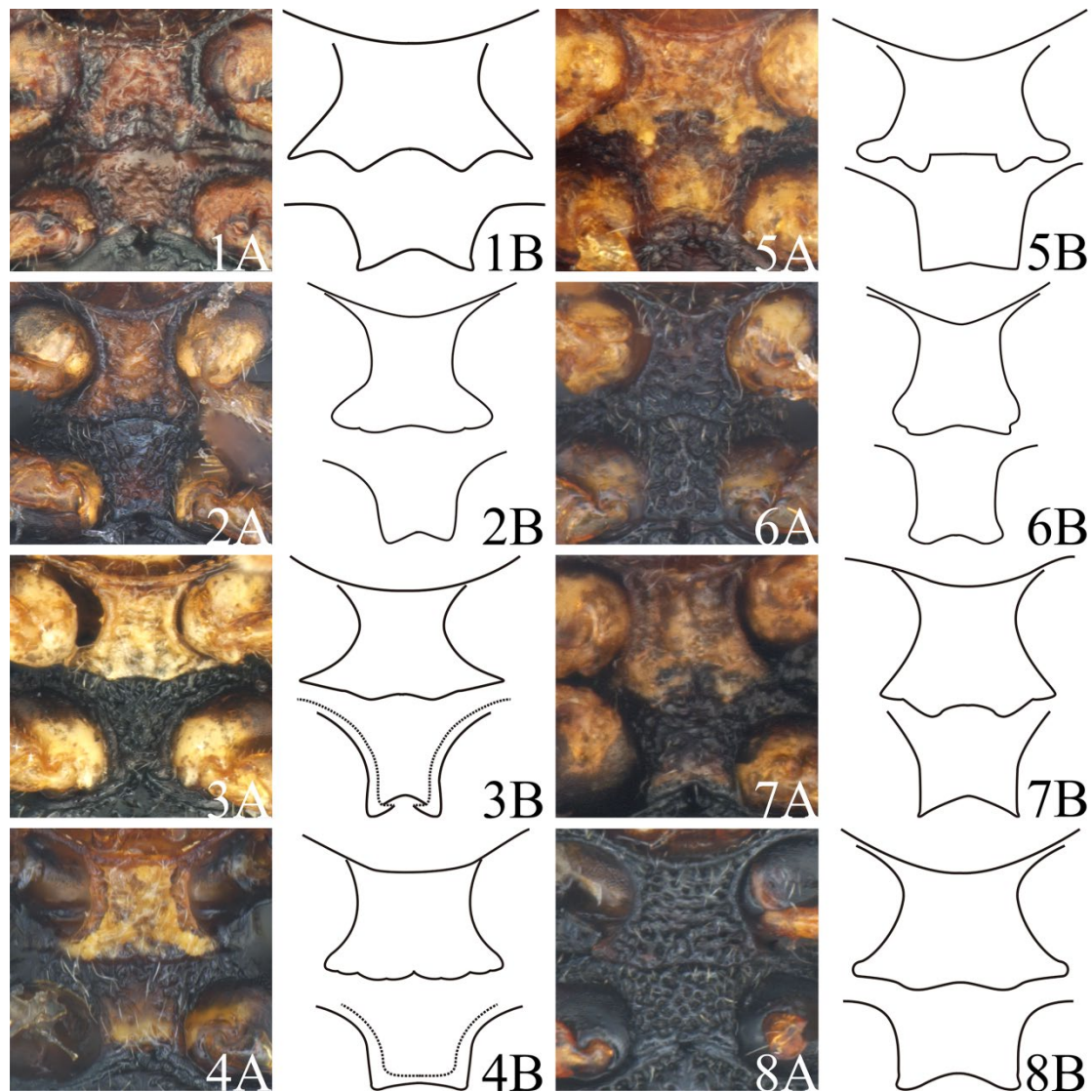


FIGURE 1. *Cryptocephalus (Burlinius)* prosternum and mesosternum: 1A, 1B. *C. (Burlinius) longchiensis* Duan & Zhou, **sp. nov.**; 2A, 2B. *C. (Burlinius) baowenzhengi* Duan & Zhou, **sp. nov.**; 3A, 3B. *C. (Burlinius) tomurennsis* Duan & Zhou, **sp. nov.**; 4A, 4B. *C. (Burlinius) bilineatus*; 5A, 5B. *C. (Burlinius) nigrofasciatus*; 6A, 6B. *C. (Burlinius) elegantulus*; 7A, 7B. *C. (Burlinius) nebulo*; 8A, 8B. *C. (Burlinius) yangweii*.

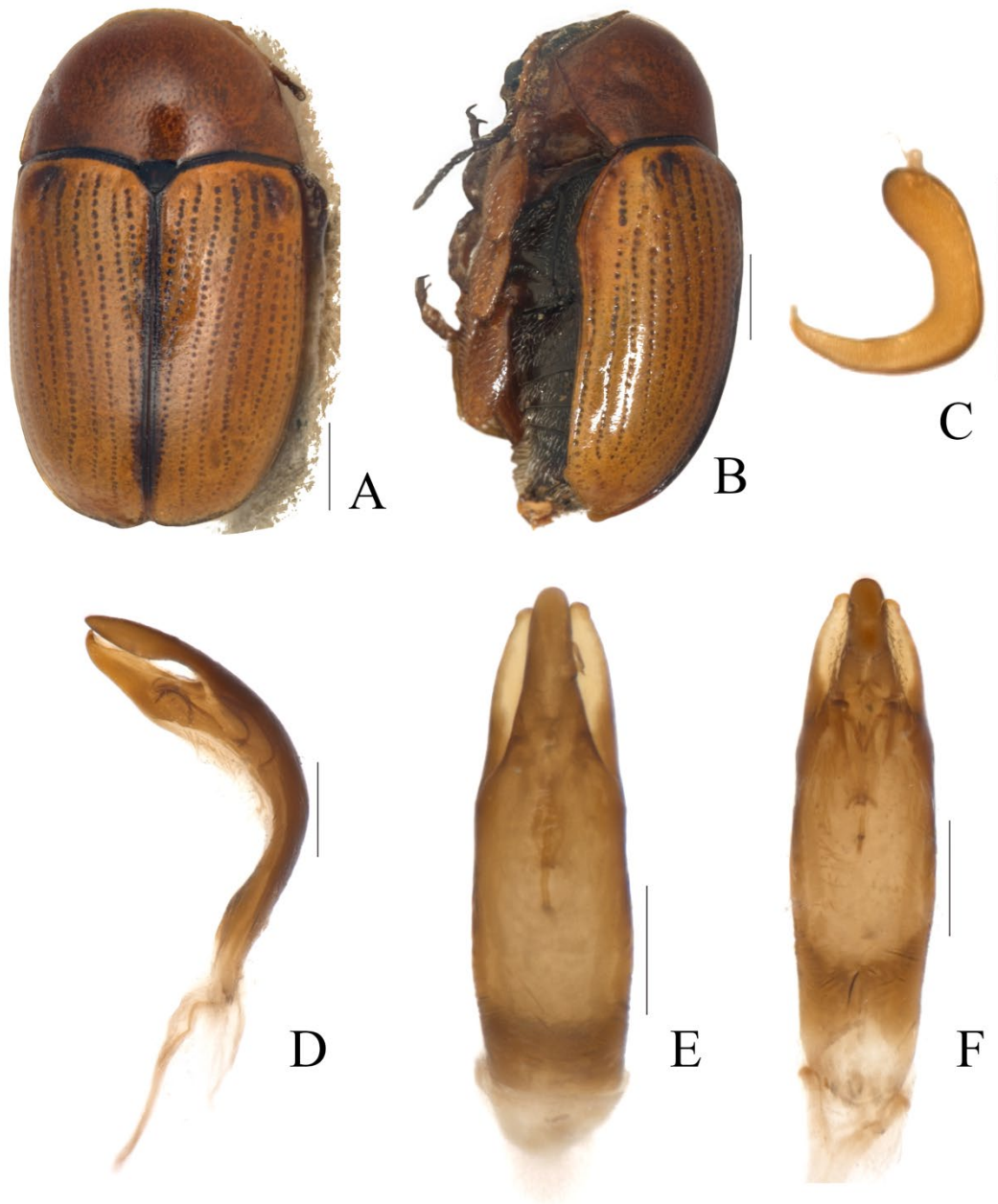


FIGURE 2-1. *Cryptocephalus (Burlinius) longchiensis* Duan & Zhou, **sp. nov.**: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

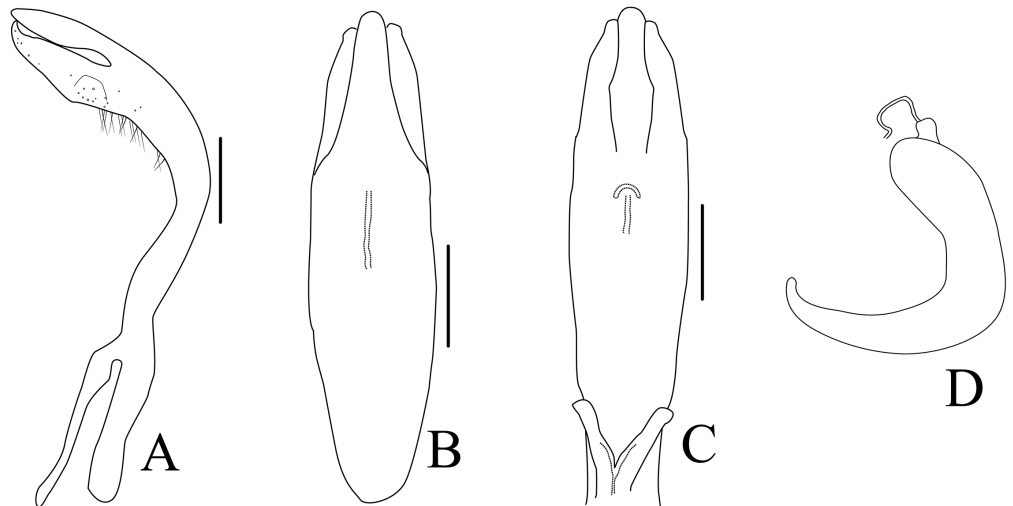


FIGURE 2-2. *Cryptocephalus (Burlinius) longchiensis* Duan & Zhou, **sp. nov.**: A. lateral view of aedeagus; B. dorsal view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: A-D = 0.2 mm).

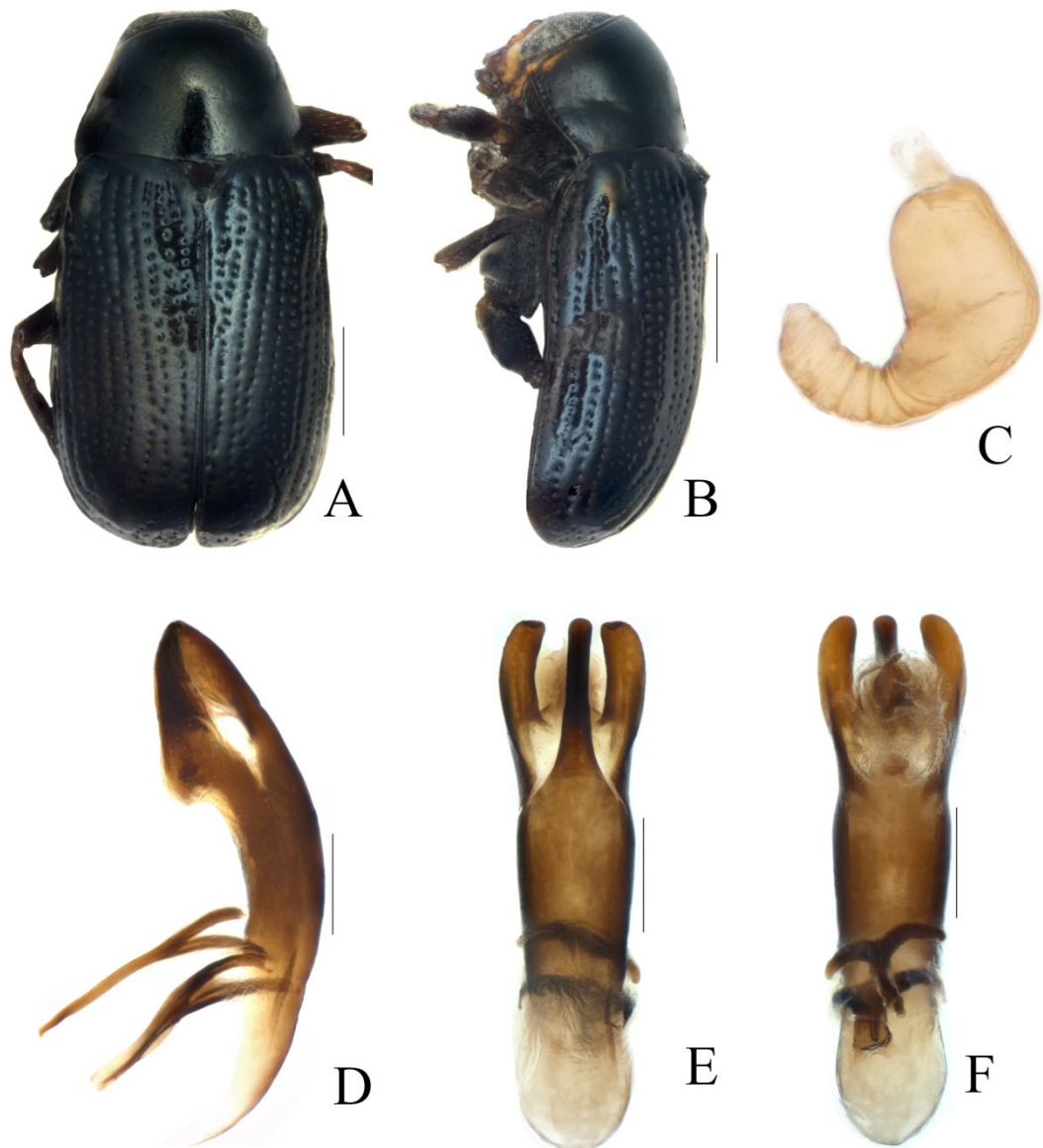


FIGURE 3-1. *Cryptocephalus (Burlinius) baowenzhengi* Duan & Zhou, **sp. nov.**: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

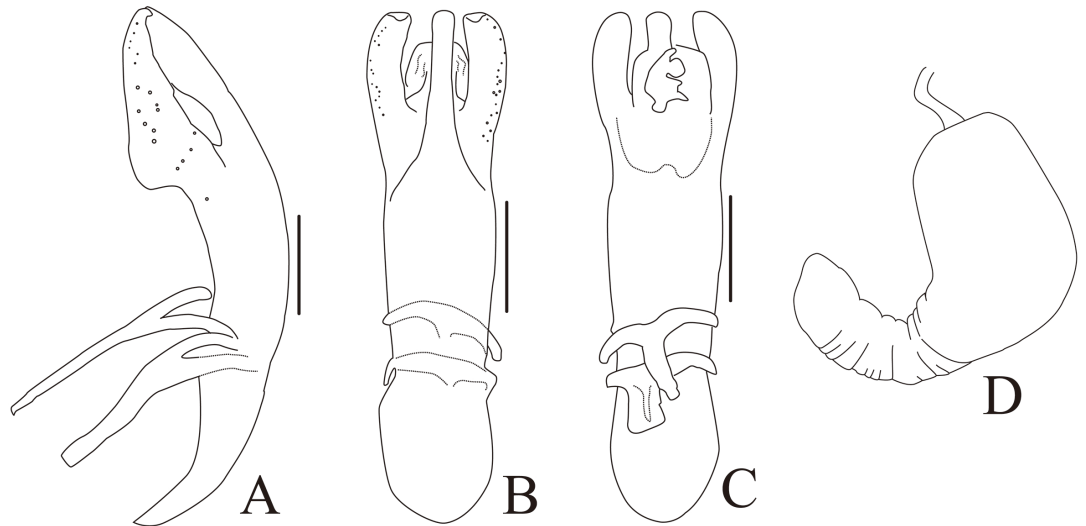


FIGURE 3-2. *Cryptocephalus (Burlinius) baowenzhengi* Duan & Zhou, **sp. nov.**: A. lateral view of aedeagus; B. dorsal view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: A-D = 0.2 mm).

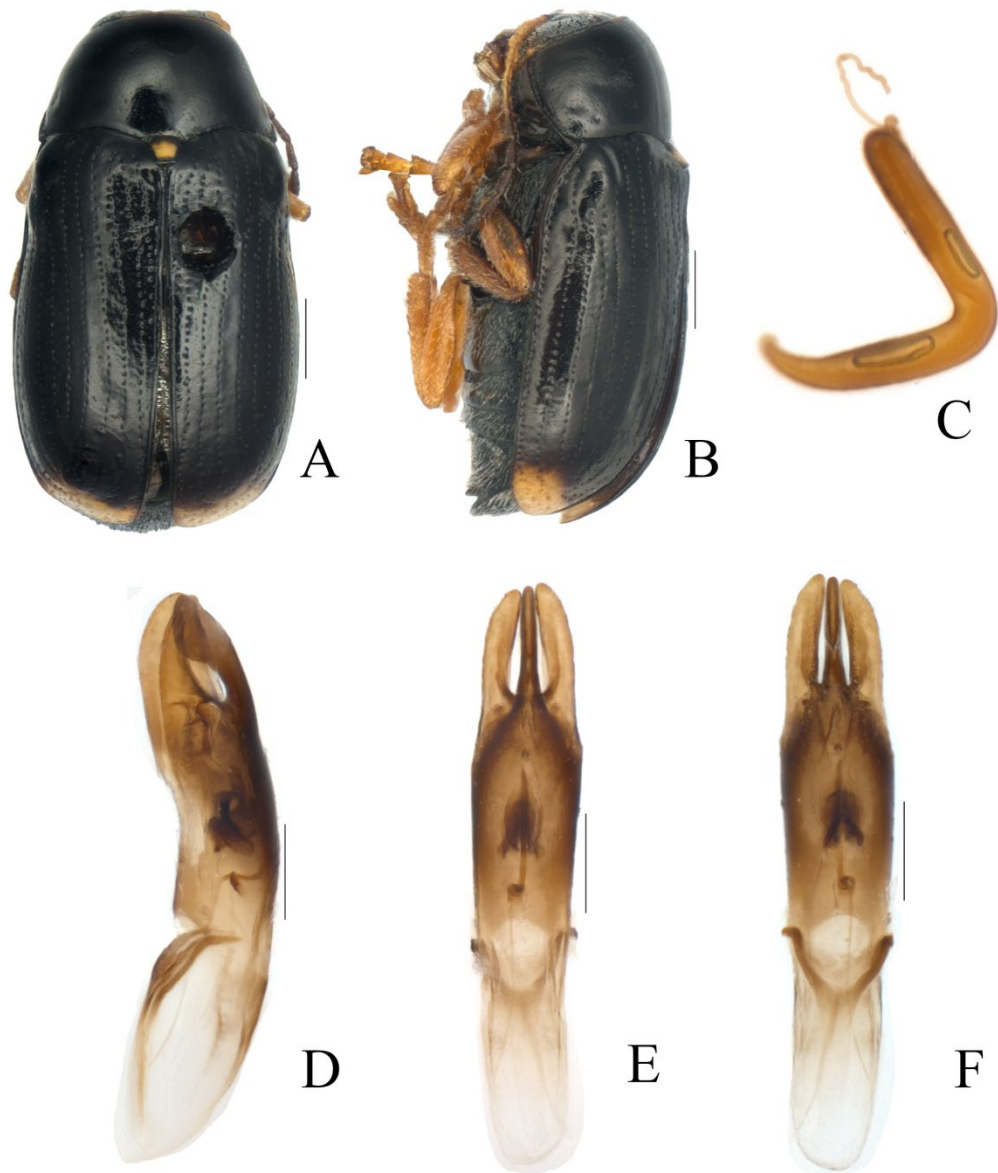


FIGURE 4-1. *Cryptocephalus (Burlinius) tomurennsis* Duan & Zhou, **sp. nov.**: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

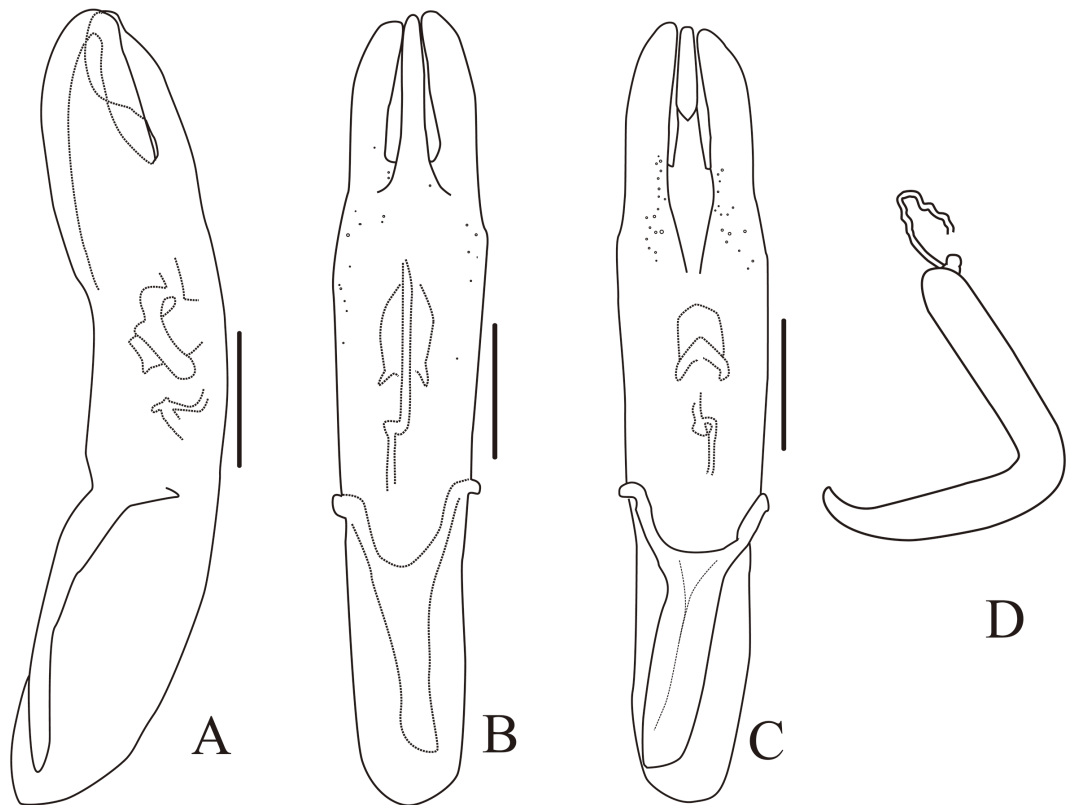


FIGURE 4-2. *Cryptocephalus (Burlinius) tomurennensis* Duan & Zhou, **sp. nov.**: A. lateral view of aedeagus; B. dorsal view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: A-D = 0.2 mm).

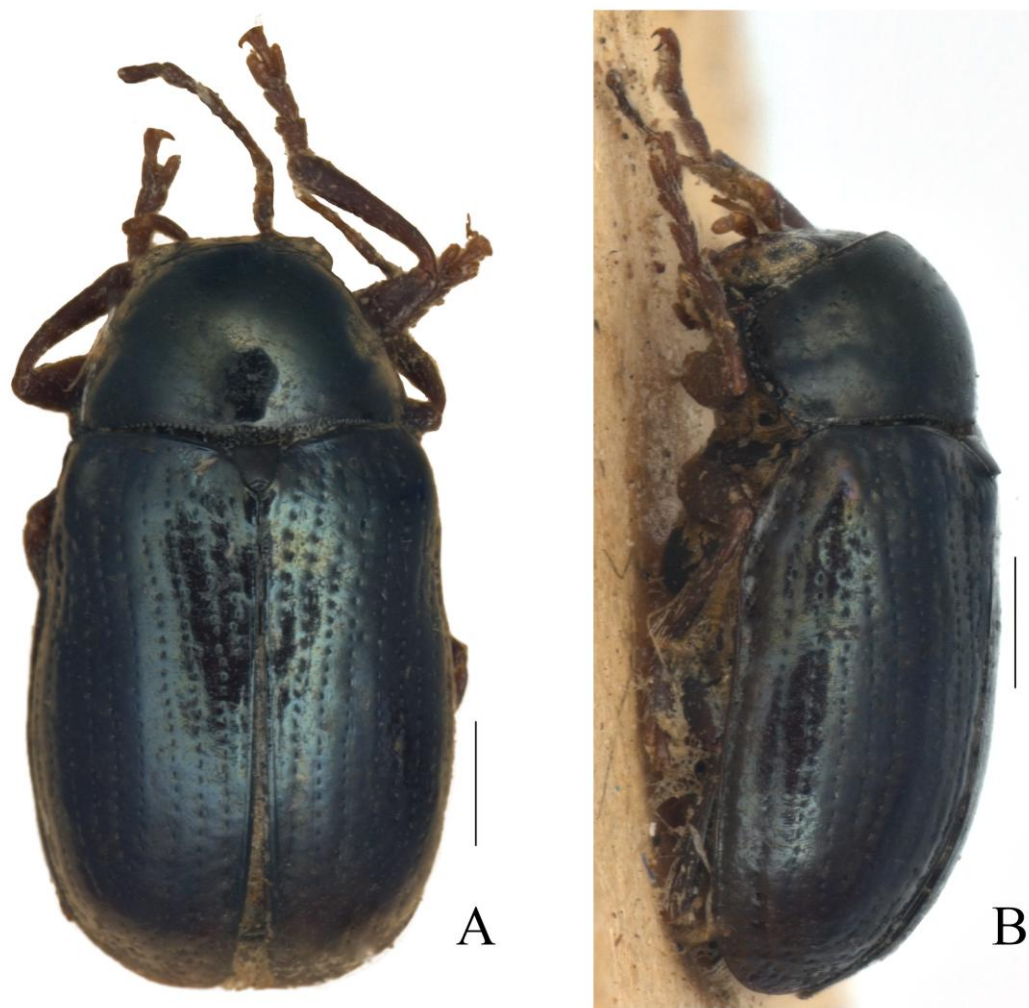


FIGURE 5. *Cryptocephalus (Burlinius) aphthonoides* Chen, 1942: A. habitus; B. lateral view of habitus. (Scale bars: A-B = 0.5 mm).

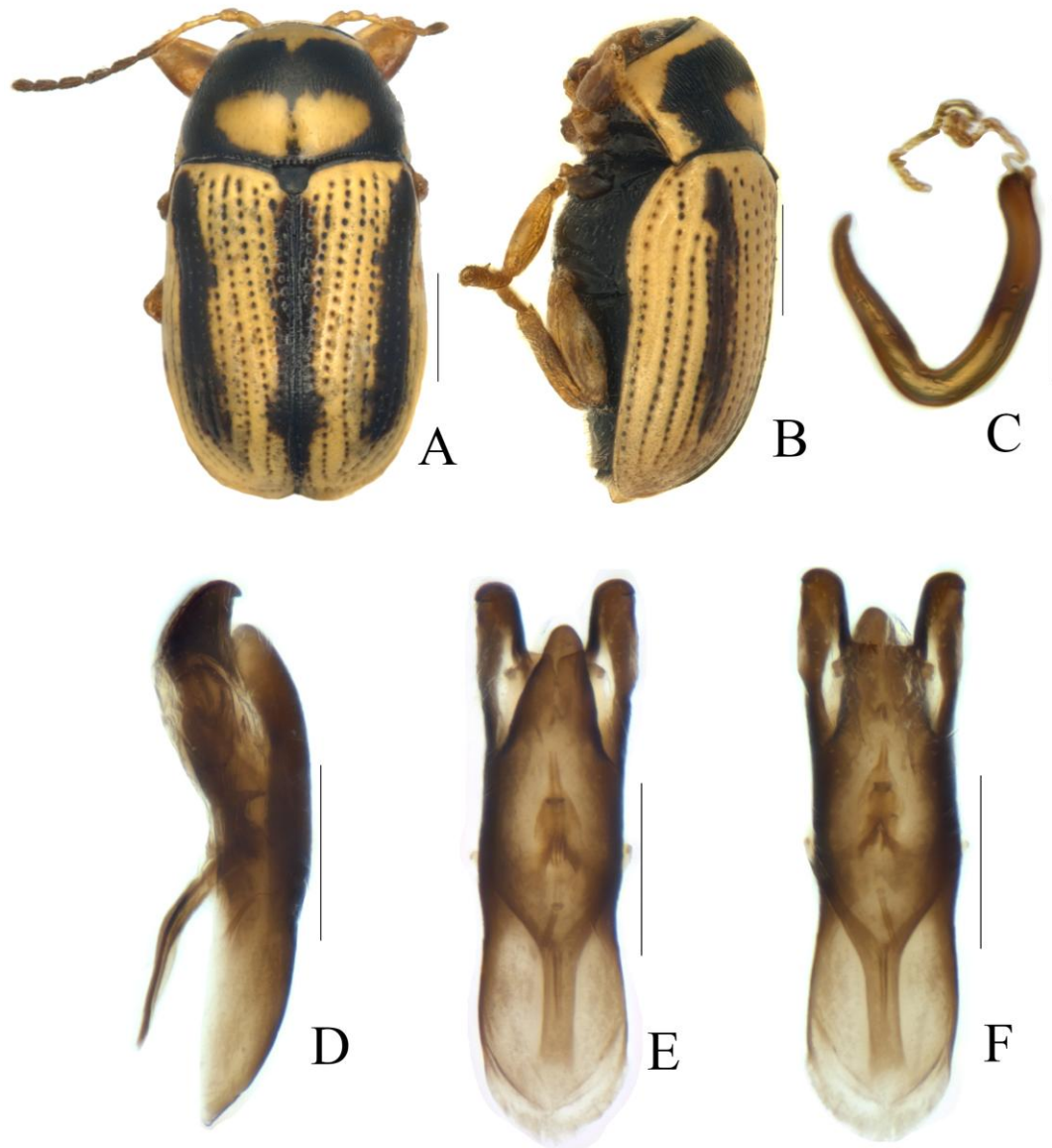


FIGURE 6-1. *Cryptocephalus (Burlinius) bilineatus* (Linnaeus, 1767): A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

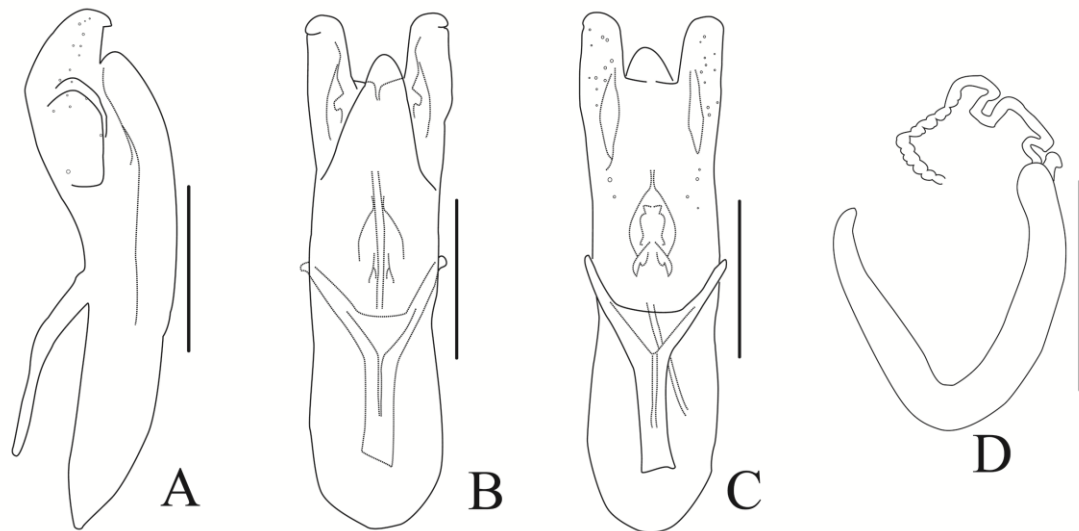


FIGURE 6-2. *Cryptocephalus (Burlinius) bilineatus* (Linnaeus, 1767): A. lateral view of aedeagus; B. dorsal view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: A-D = 0.2 mm).

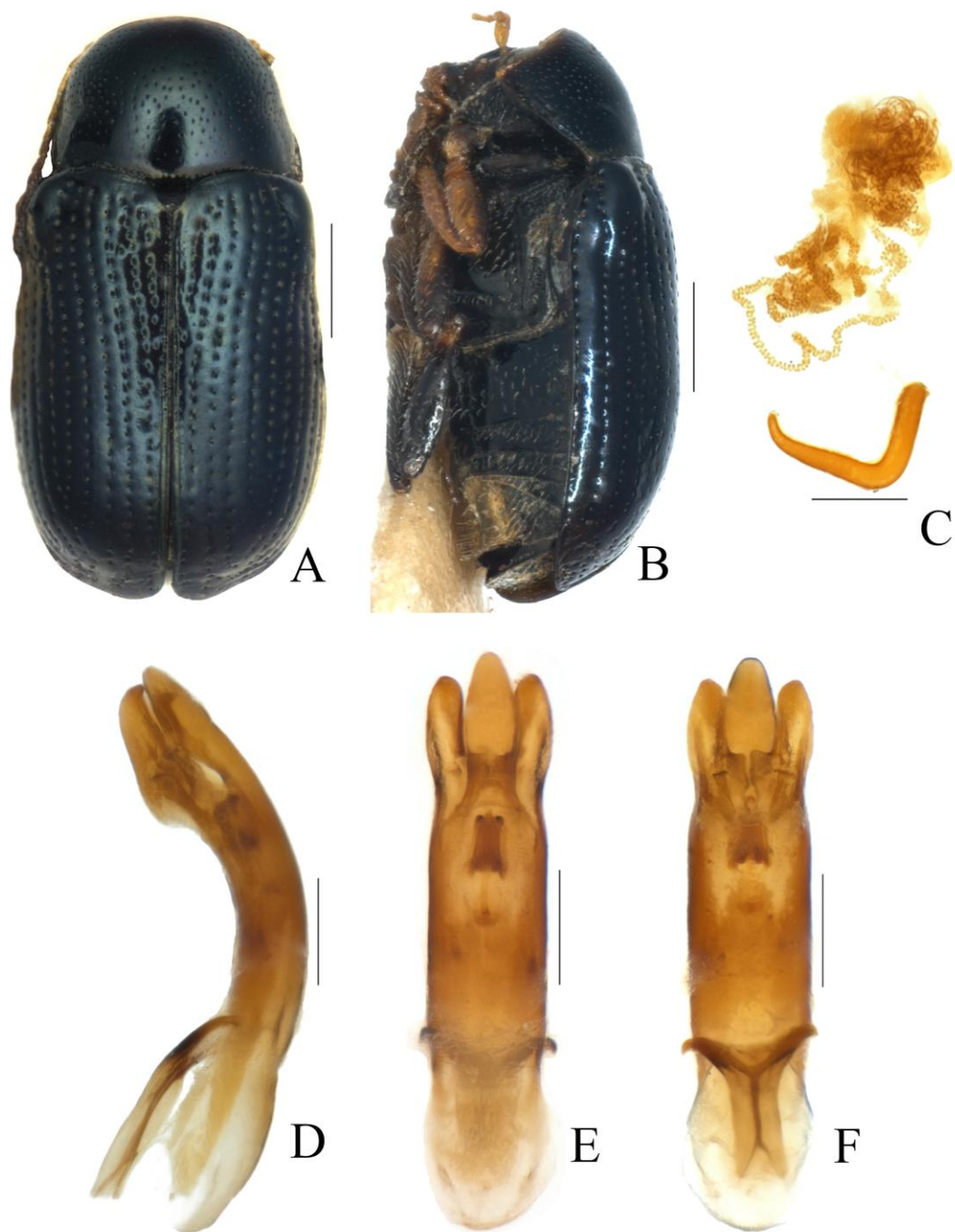


FIGURE 7-1. *Cryptocephalus (Burlinius) confusus* Suffrian, 1854: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

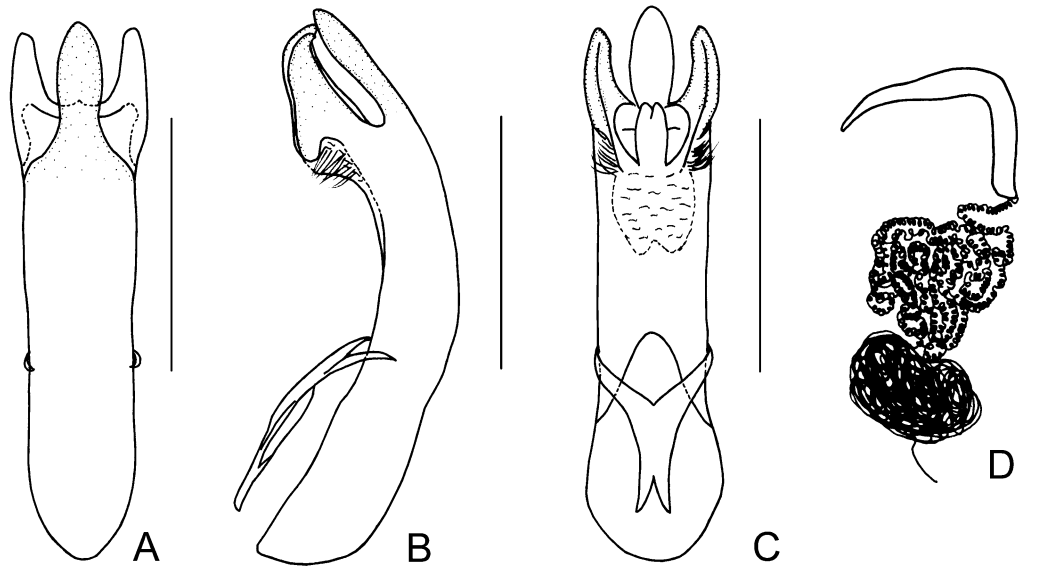


FIGURE 7-2. *Cryptocephalus (Burlinius) confusus* Suffrian, 1854: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars:= 0.5 mm).

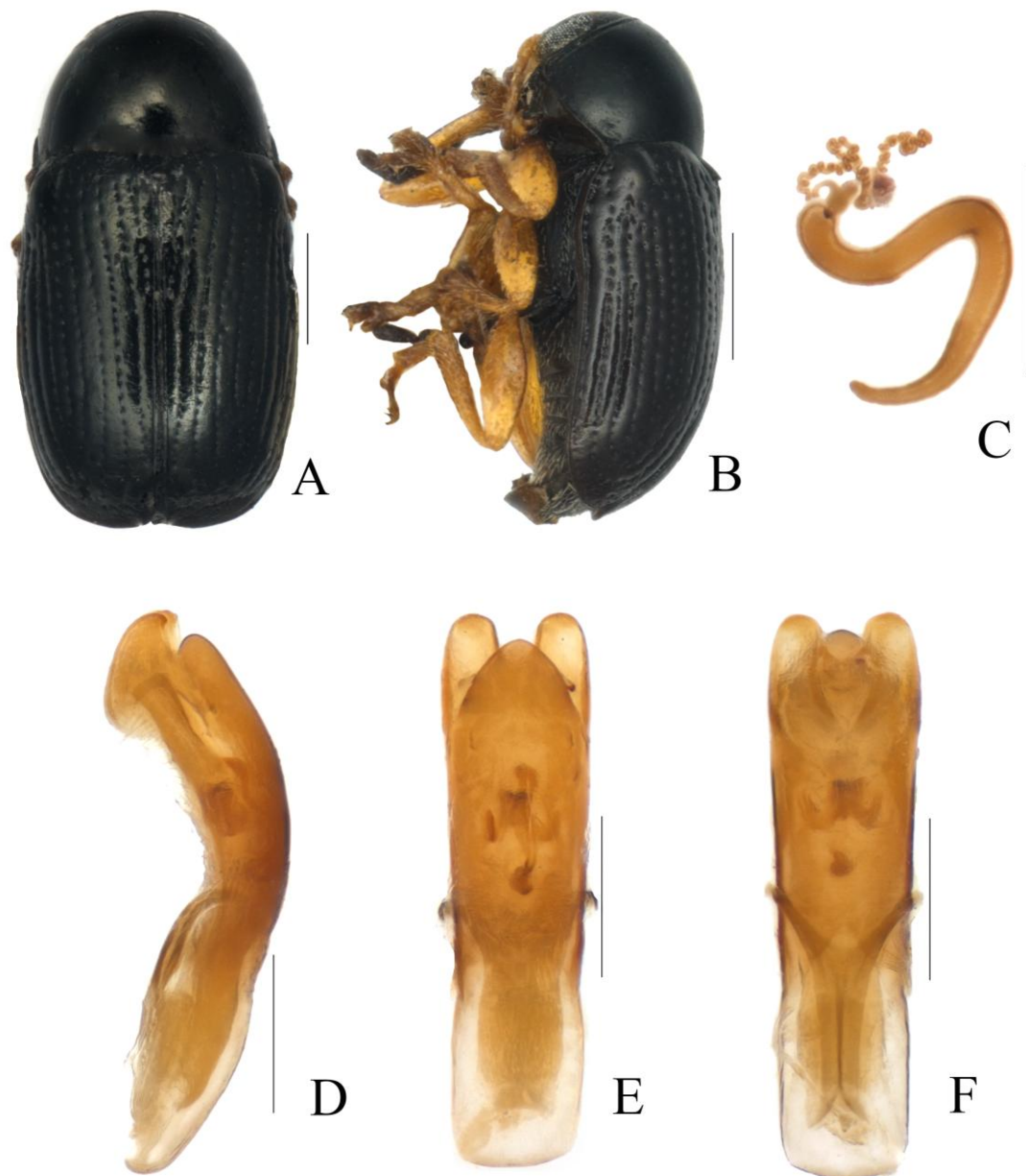


FIGURE 8-1. *Cryptocephalus (Burlinius) elegantulus* Gravenhorst, 1807: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

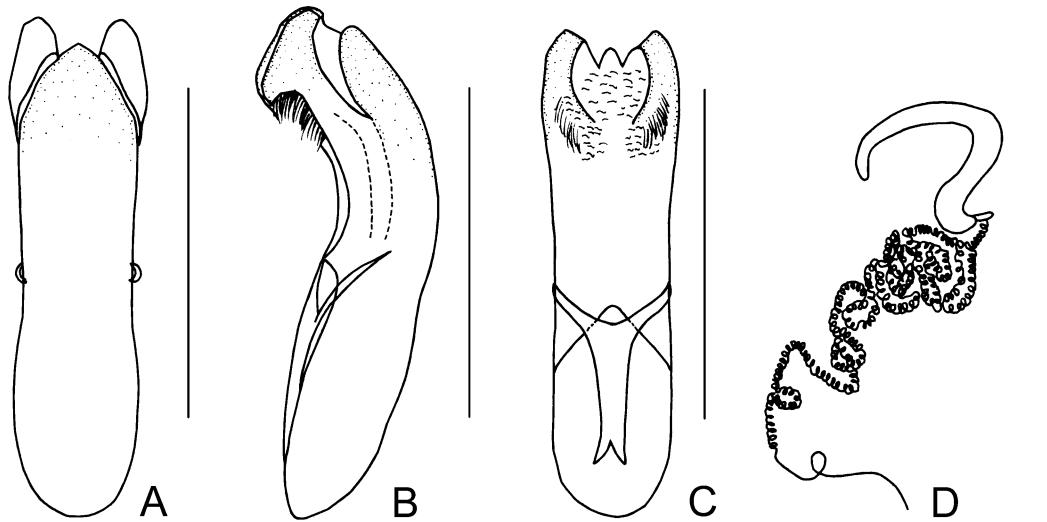


FIGURE 8-2. *Cryptocephalus (Burlinius) elegantulus* Gravenhorst, 1807: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

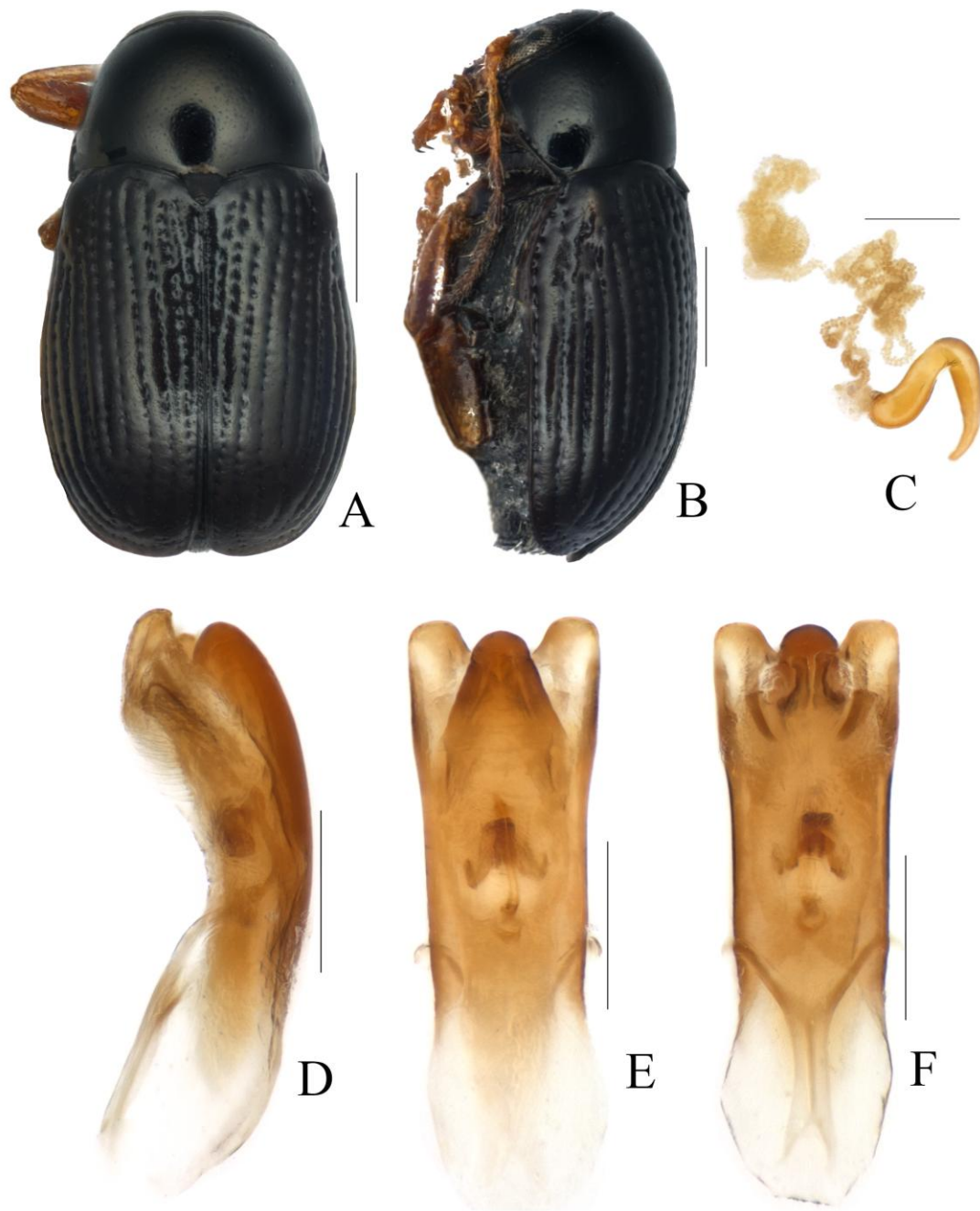


FIGURE 9-1. *Cryptocephalus (Burlinius) exiguus amicus* Baly, 1873: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

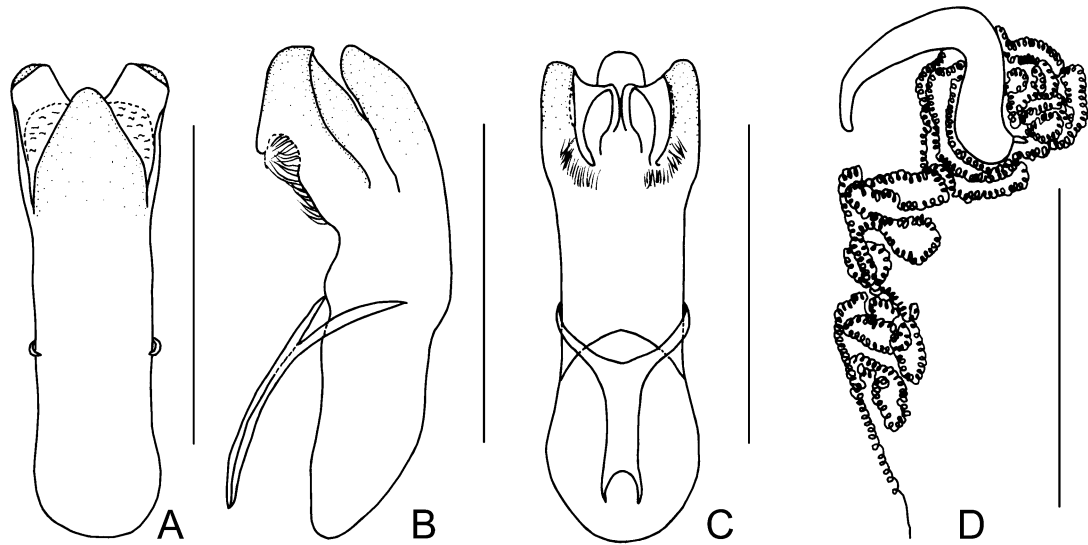


FIGURE 9-2. *Cryptocephalus (Burlinius) exiguus amicus* Baly, 1873: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

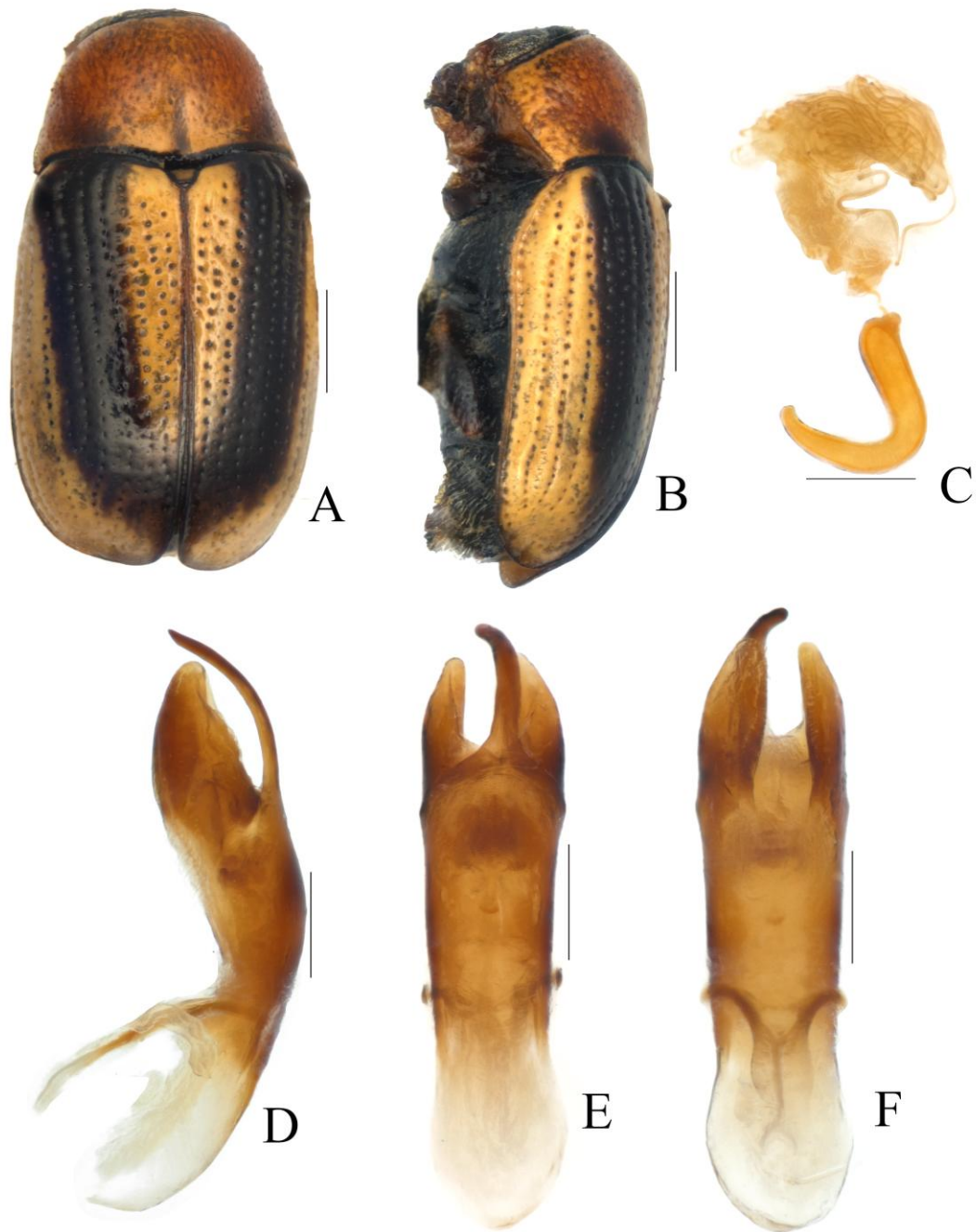


FIGURE 10-1. *Cryptocephalus (Burlinius) flavolimbatus* Pic, 1920: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

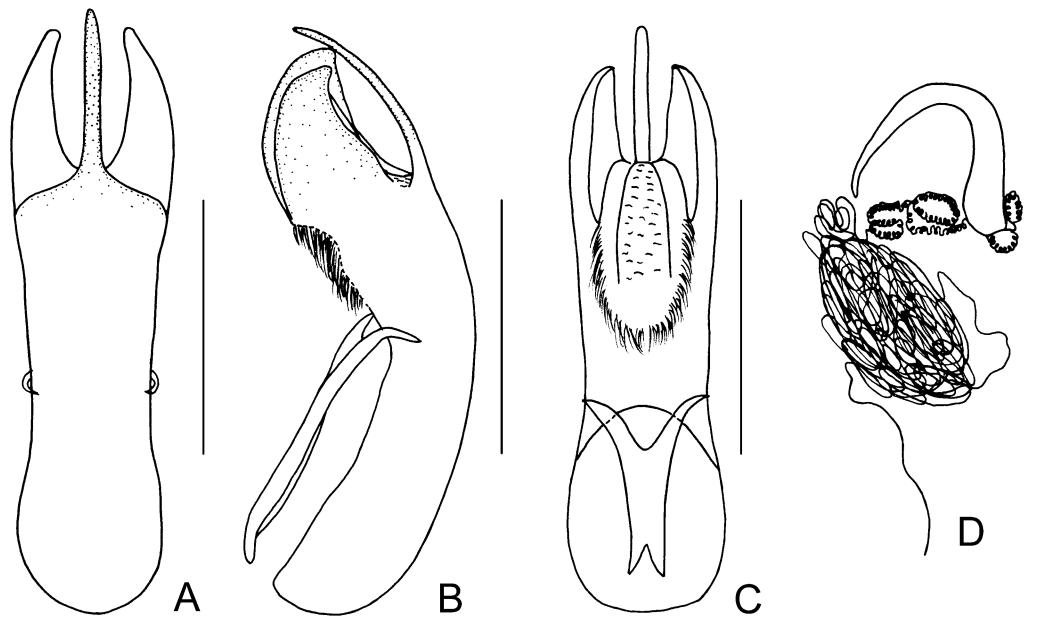


FIGURE 10-2. *Cryptocephalus (Burlinius) flavolimbatus* Pic, 1920: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

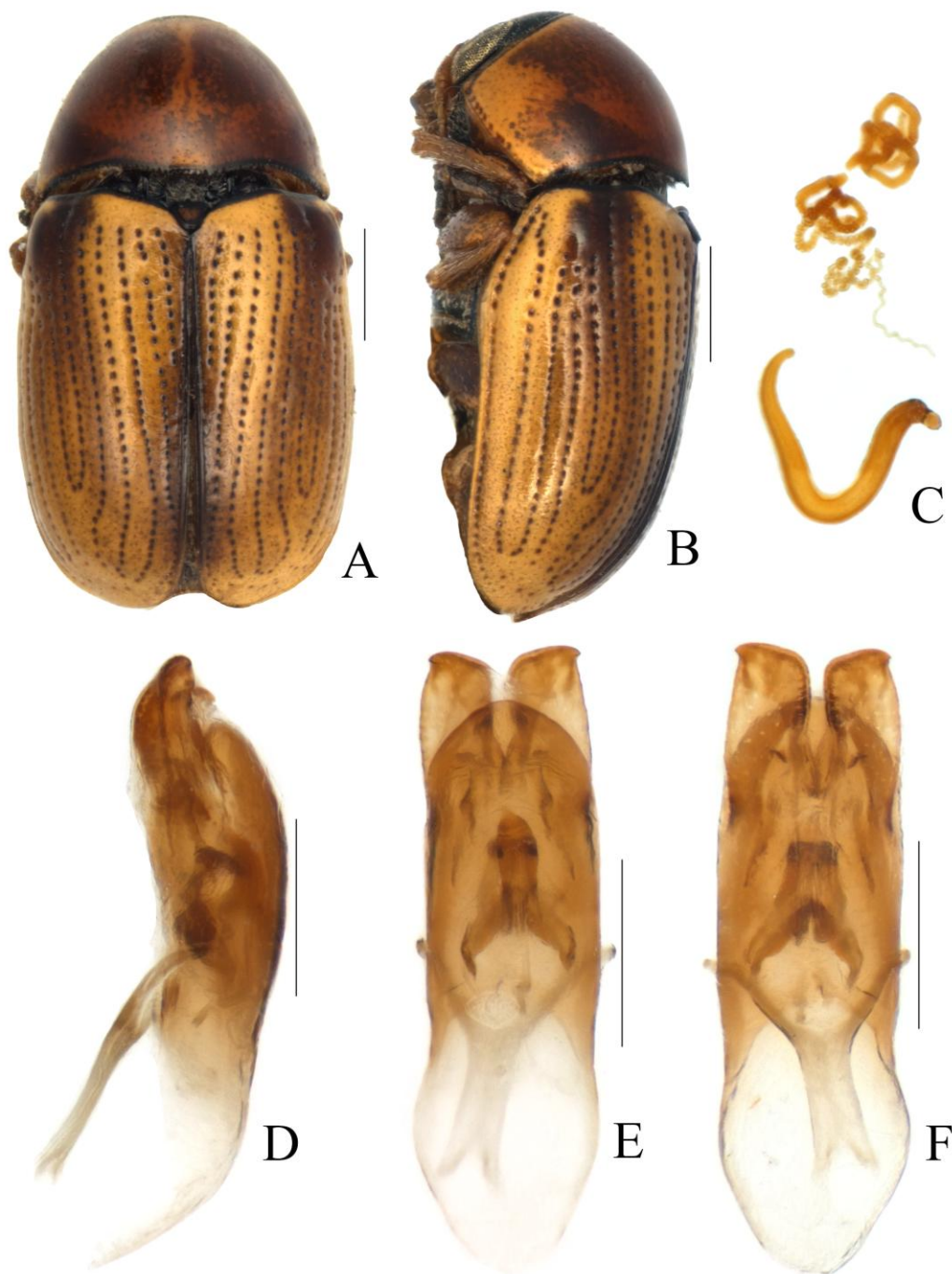


FIGURE 11-1. *Cryptocephalus (Burlinius) fulvus* (Goeze, 1777): A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

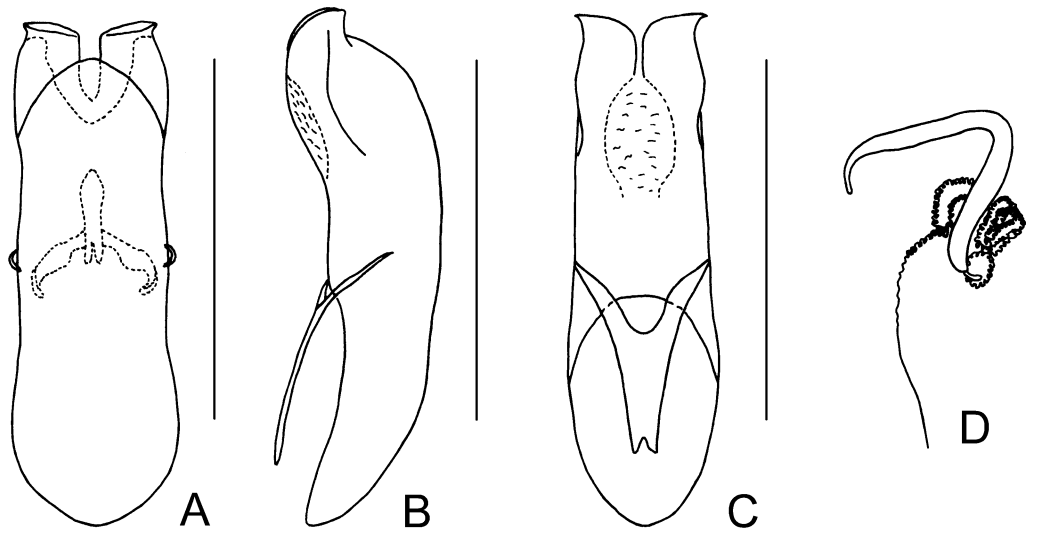


FIGURE 11-2. *Cryptocephalus (Burlinius) fulvus* (Goeze, 1777): A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

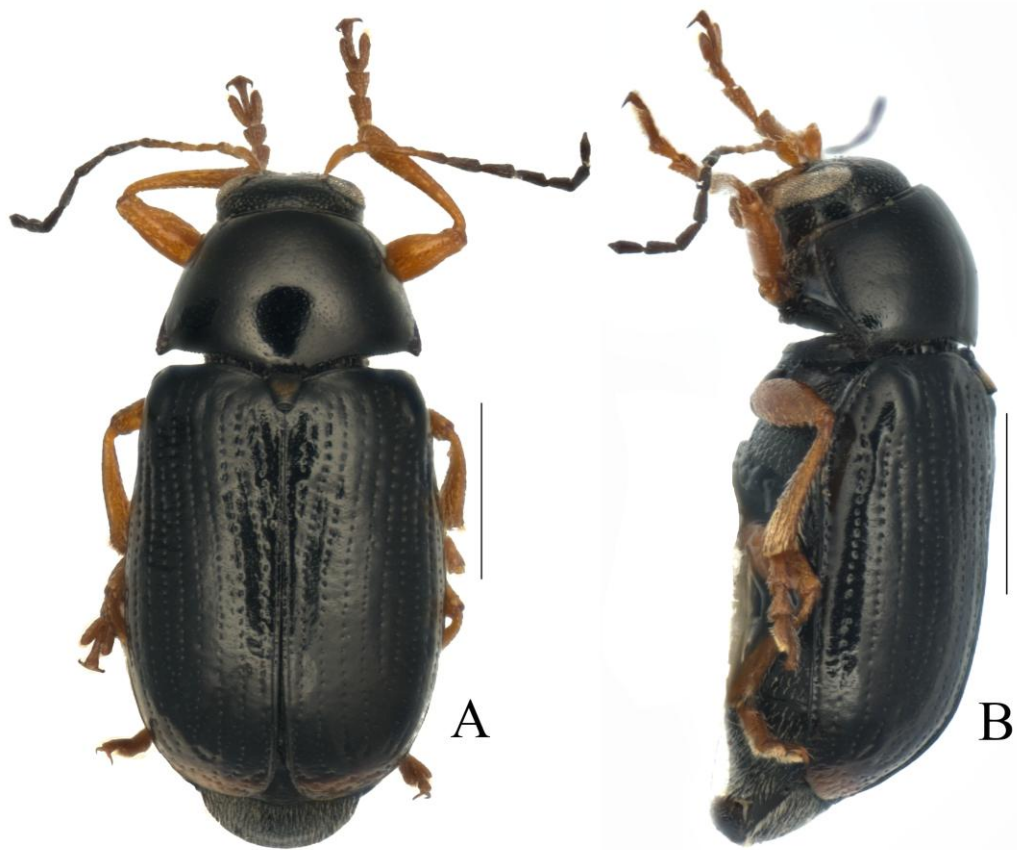


FIGURE 12. *Cryptocephalus (Burlinius) kabaki* Lopatin, 2002: A. habitus; B. lateral view of habitus (Scale bars: = 0.5 mm).

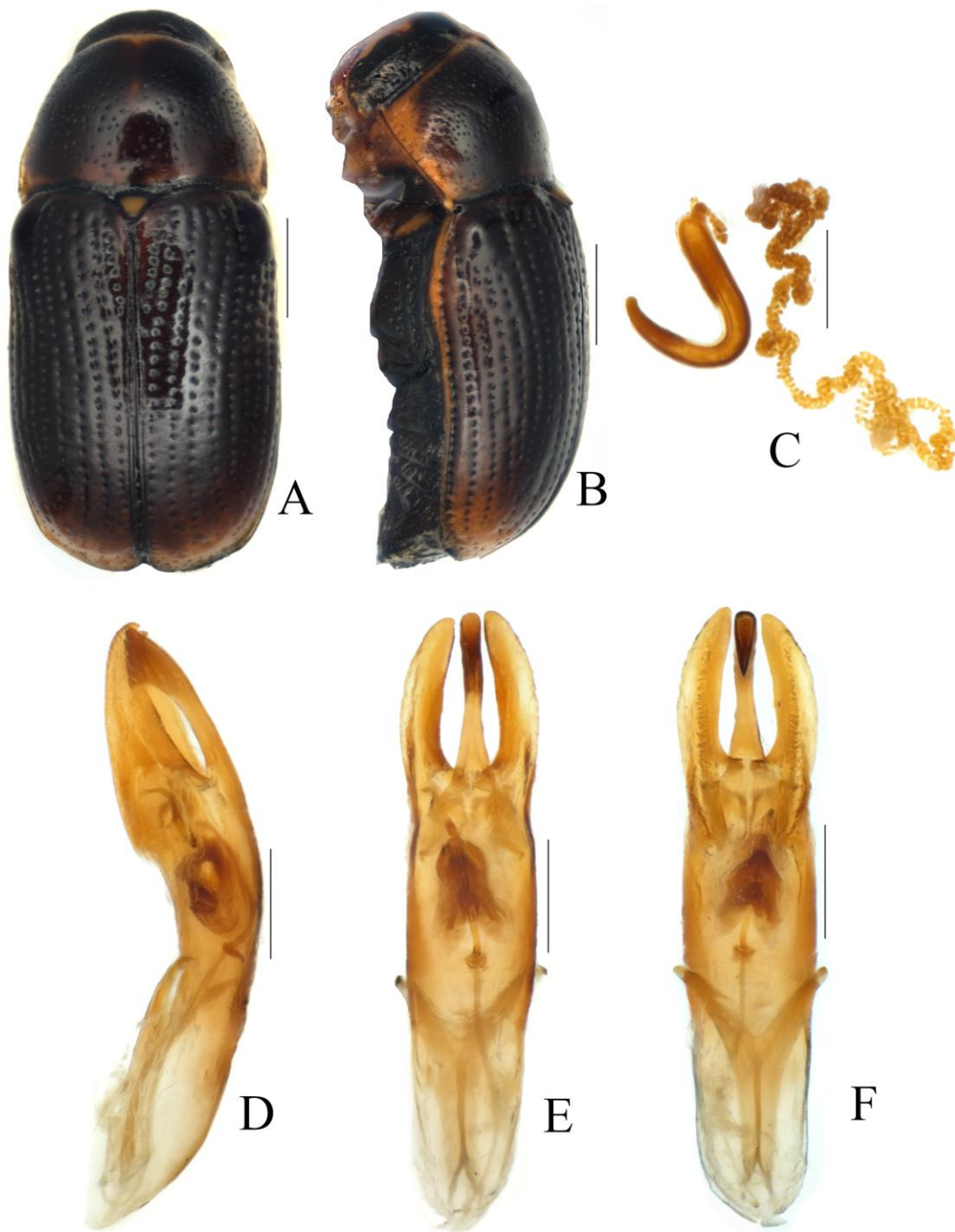


FIGURE 13-1. *Cryptocephalus (Burlinius) nebulo* Weise, 1889: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

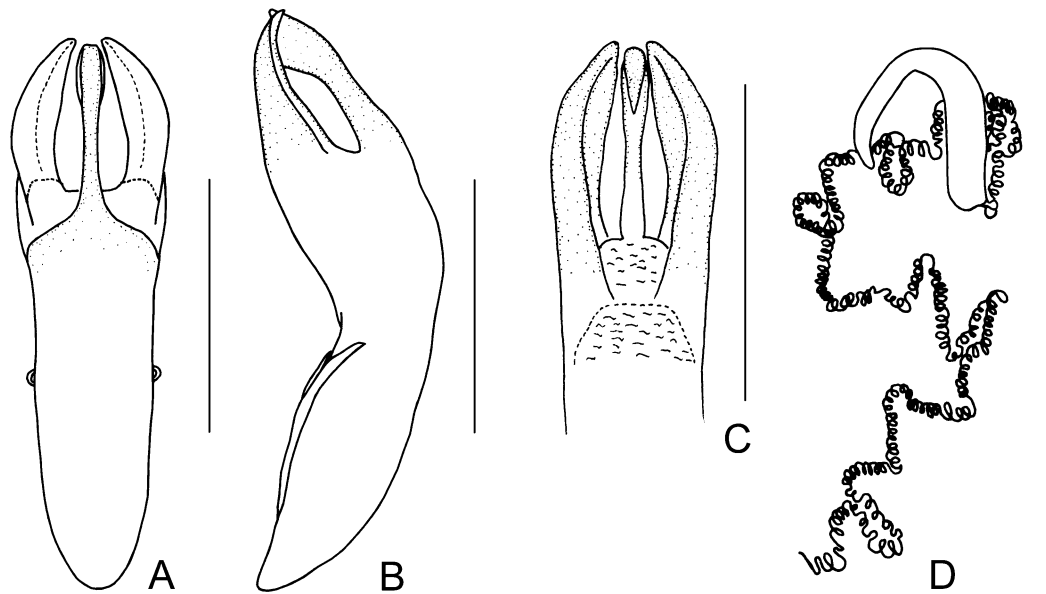


FIGURE 13-2. *Cryptocephalus (Burlinius) nebulo* Weise, 1889: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. part aedeagus of ventral view; D. spermatheca. (Scale bars: = 0.5 mm).

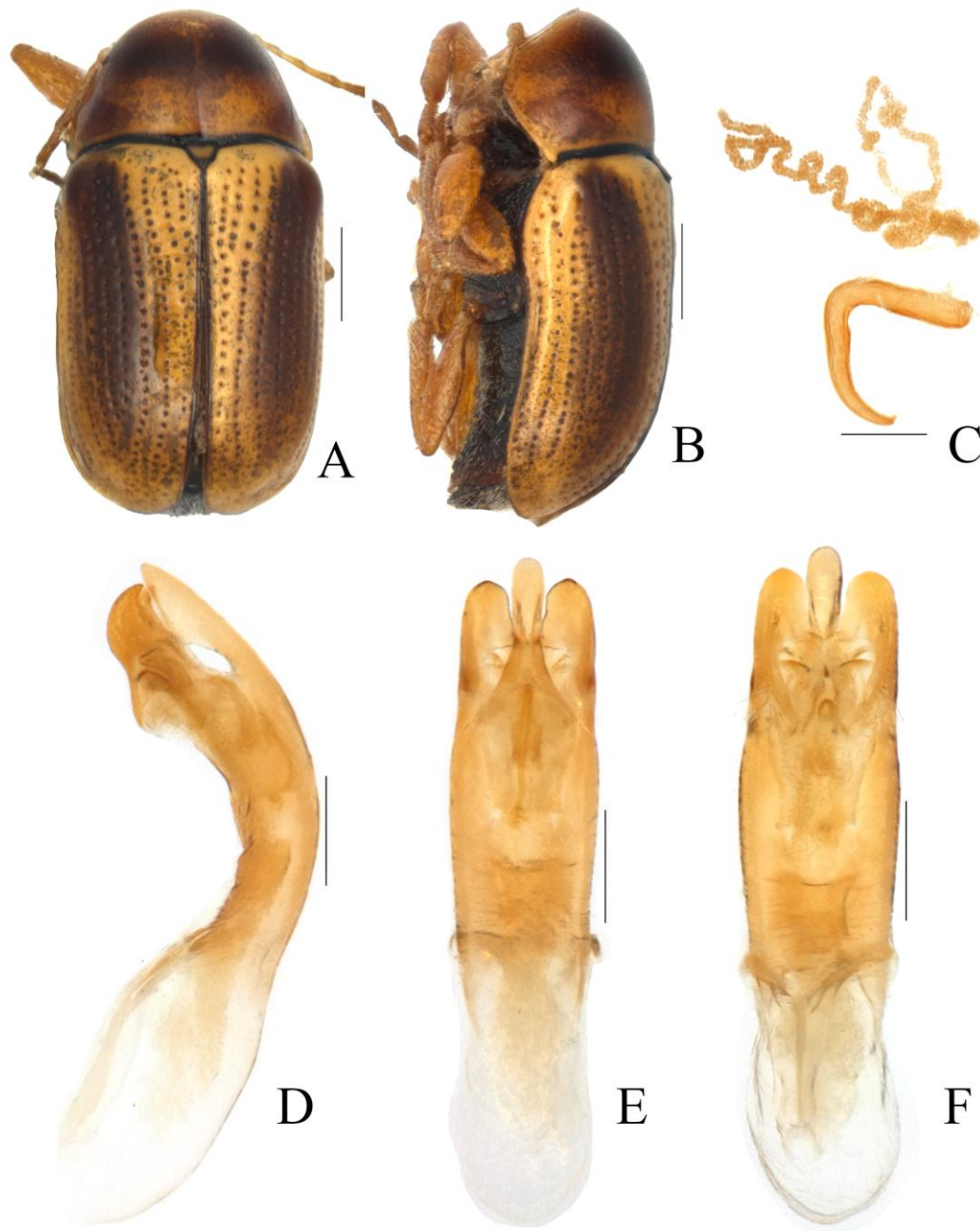


FIGURE 14-1. *Cryptocephalus (Burlinius) nigrofasciatus* Jacoby, 1885: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

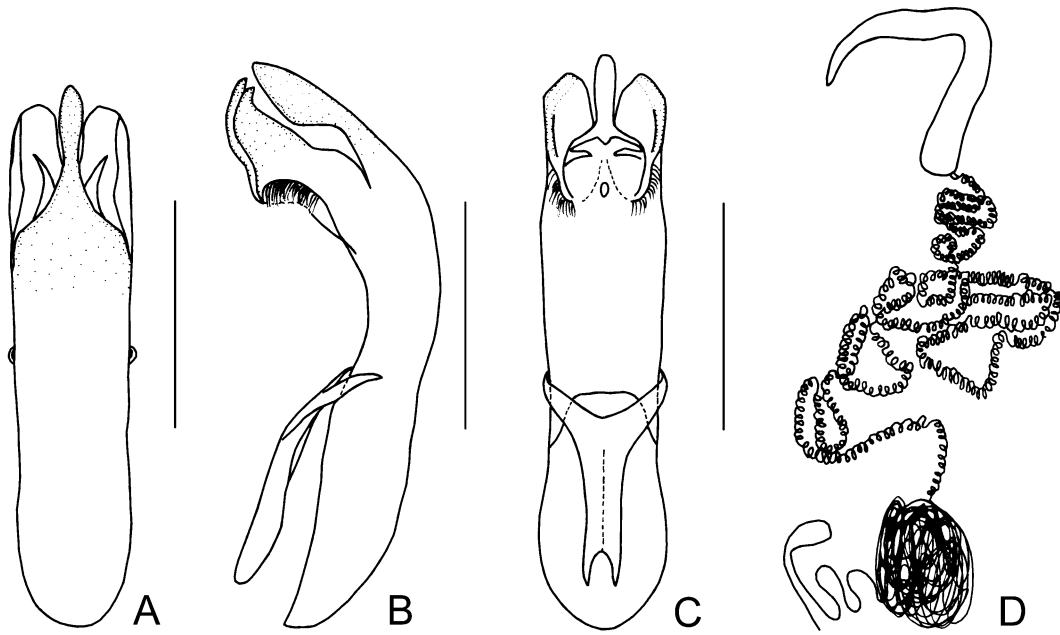


FIGURE 14-2. *Cryptocephalus (Burlinius) nigrofasciatus* Jacoby, 1885: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

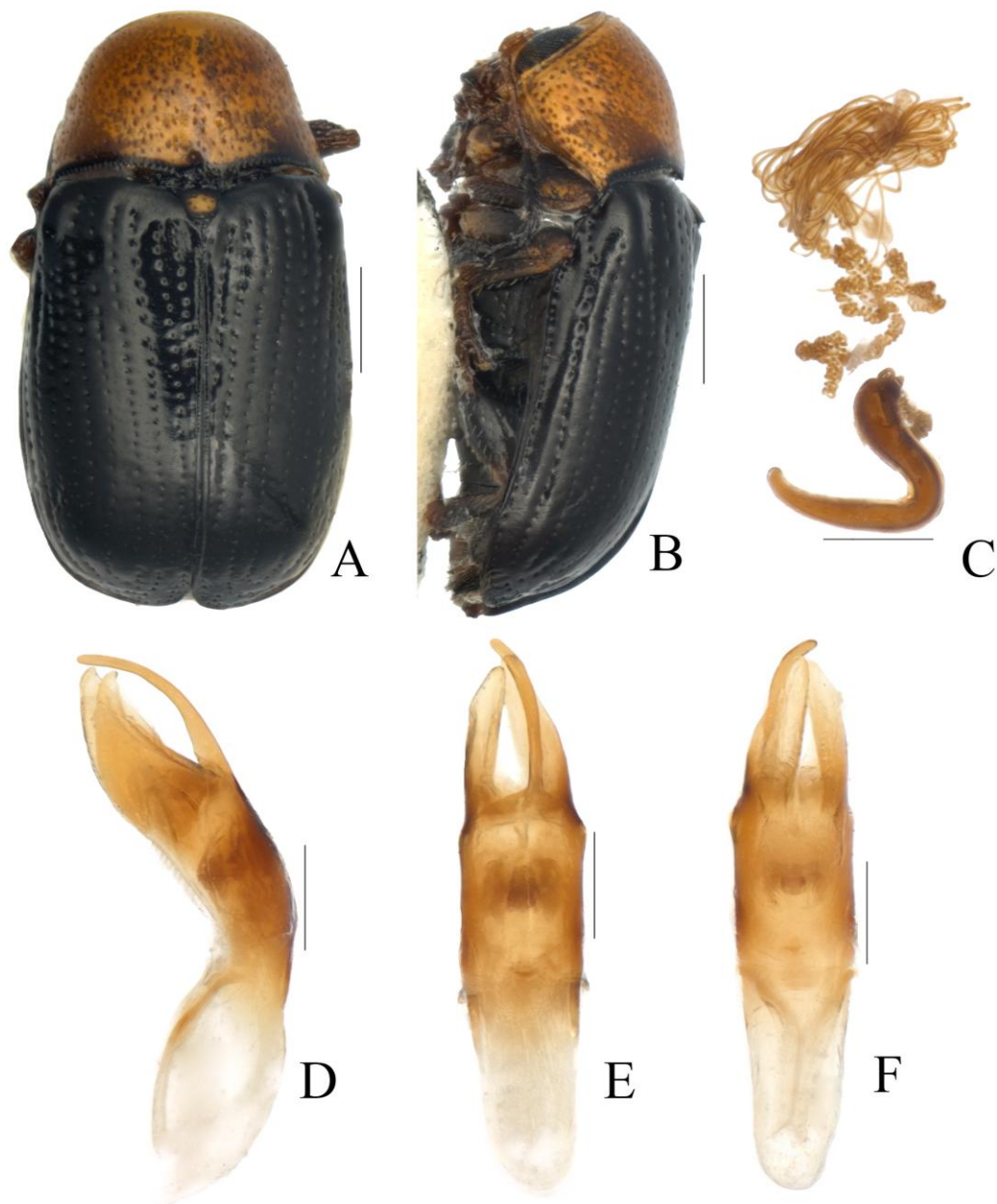


FIGURE 15-1. *Cryptocephalus (Burlinius) petulans* Weise, 1889: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

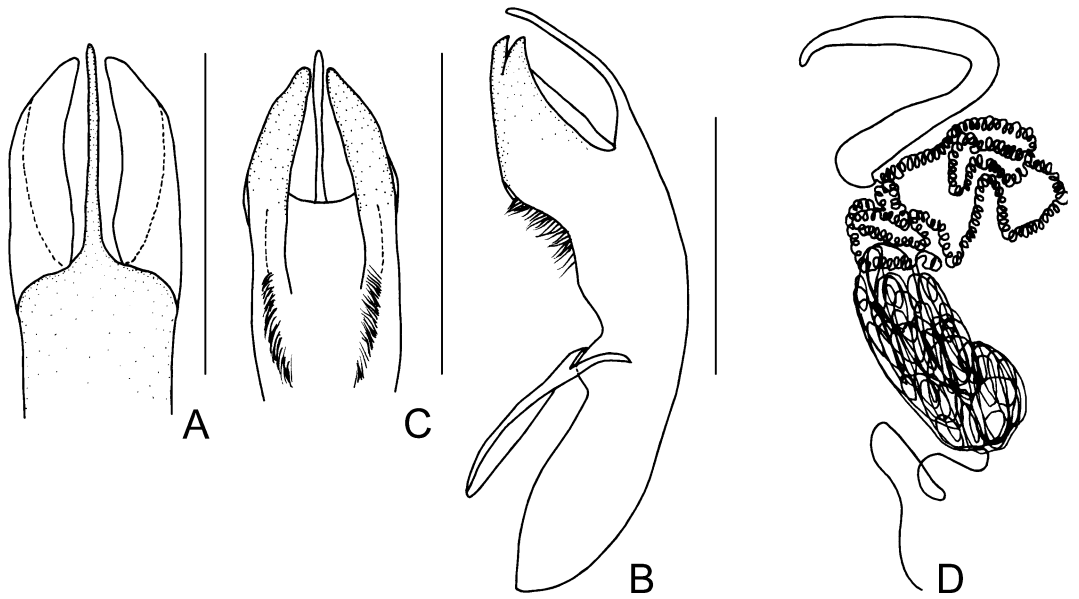


FIGURE 15-2. *Cryptocephalus (Burlinius) petulans* Weise, 1889: A. part aedeagus of dorsal view; B. part aedeagus of ventral view; C. lateral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

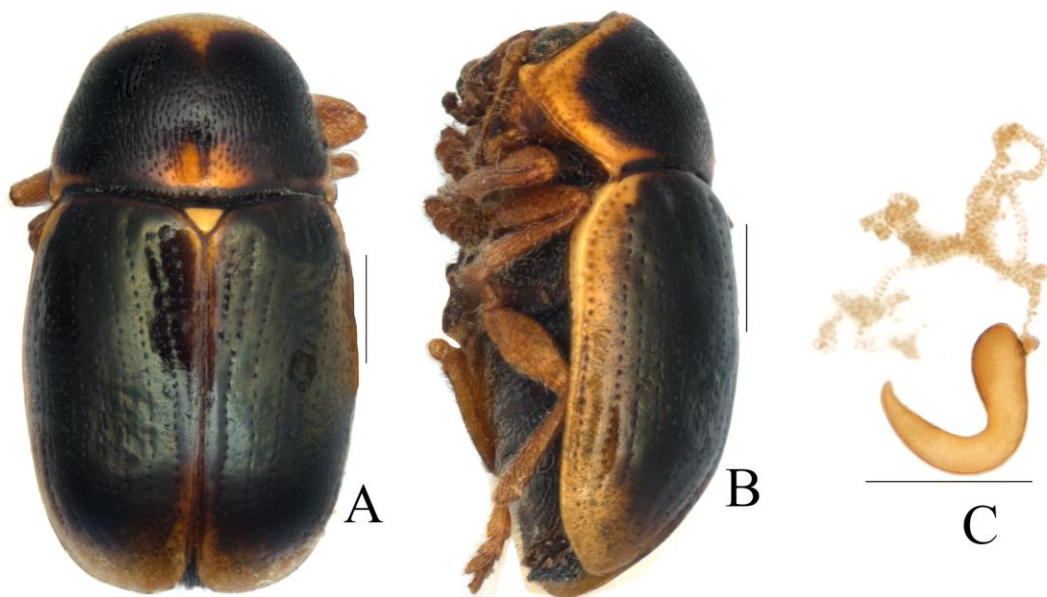


FIGURE 16. *Cryptocephalus (Burlinius) potanini* Lopatin, 2001: A. habitus; B. lateral view of habitus; C. spermatheca. (Scale bars: A-B = 0.5 mm, C = 0.2 mm).

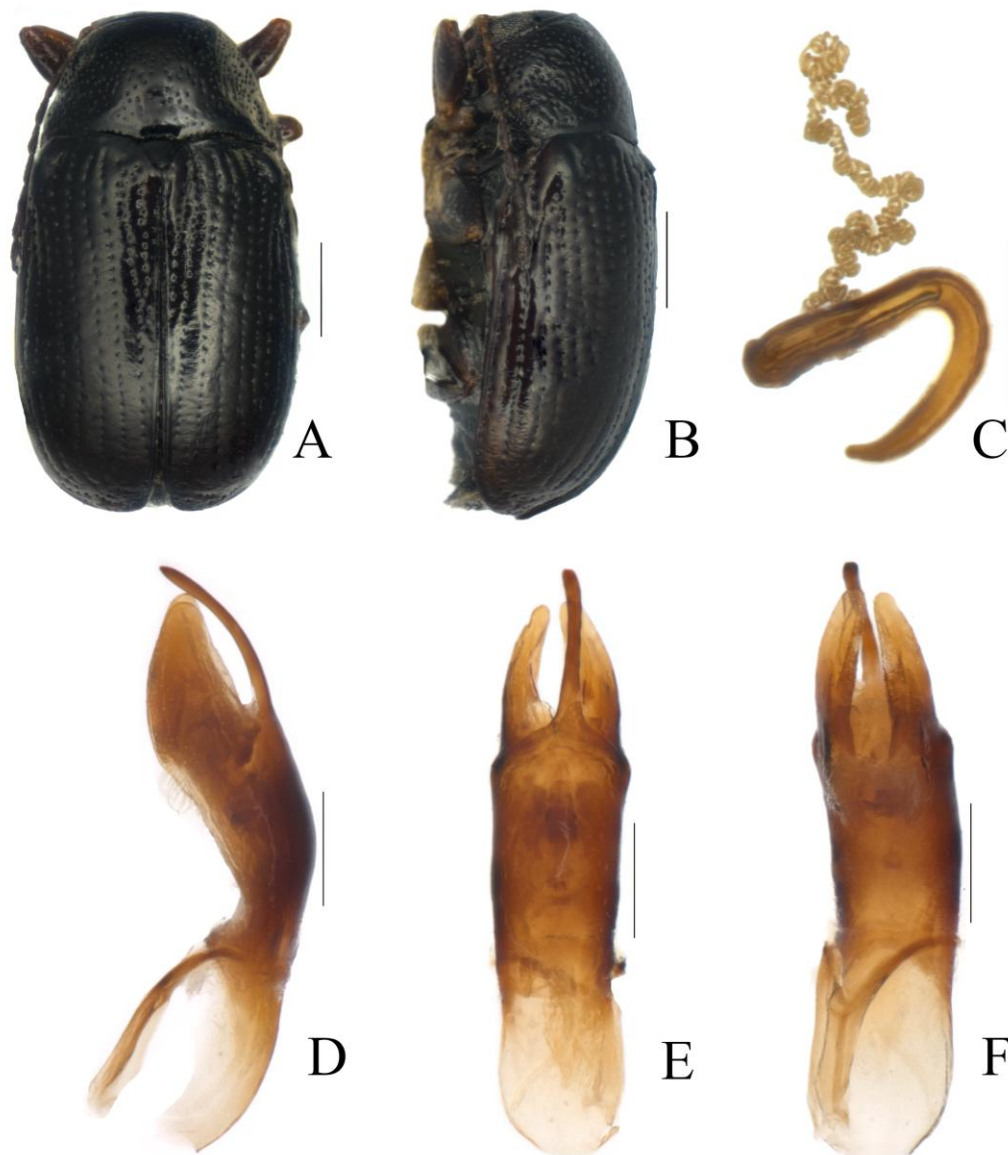


FIGURE 17-1. *Cryptocephalus (Burlinius) pusus* Schöller, 2009: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

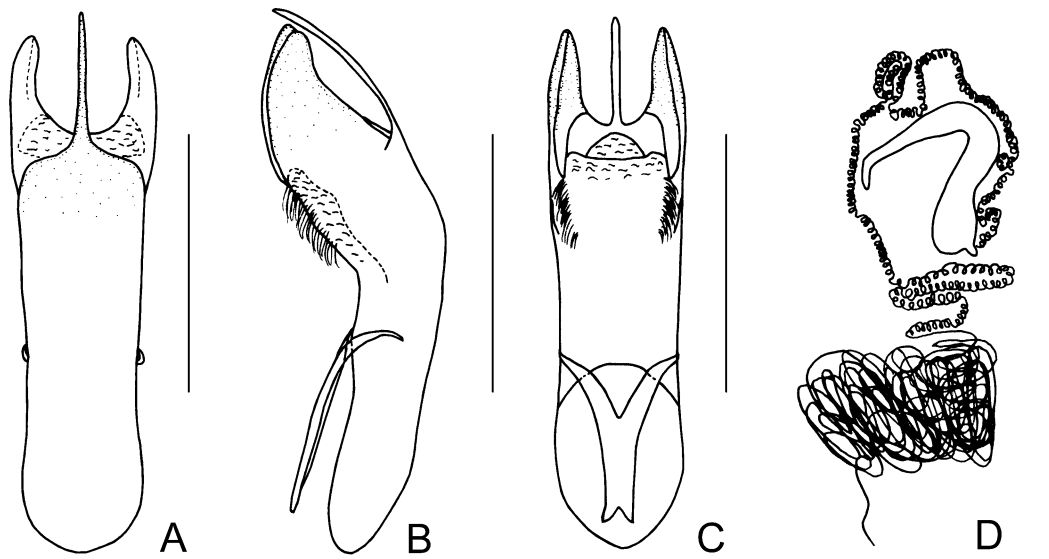


FIGURE 17-2. *Cryptocephalus (Burlinius) pusus* Schöller, 2009: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

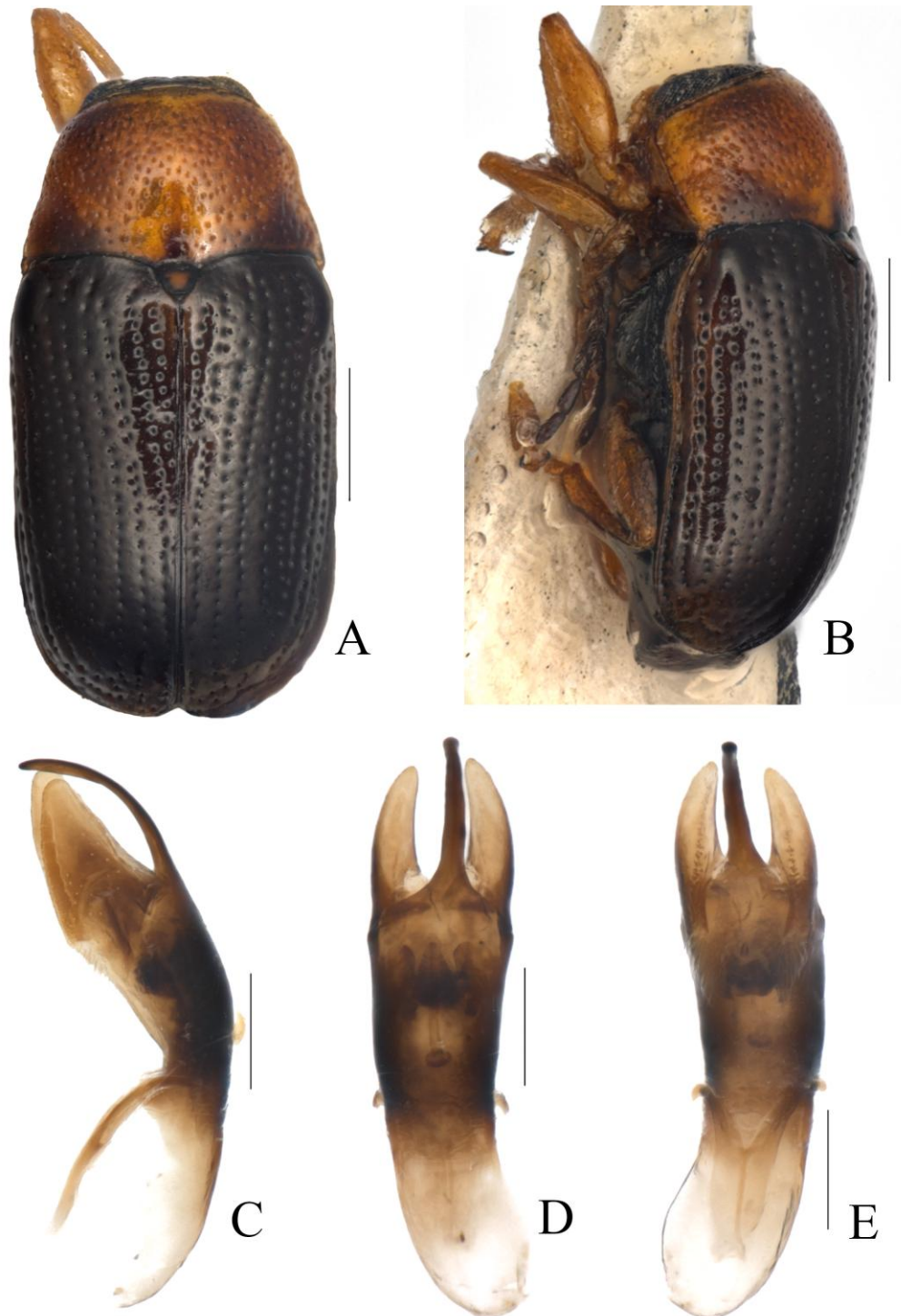


FIGURE 18-1. *Cryptocephalus (Burlinius) scutemaculatus* Tan, 1992: A. habitus; B. lateral view of habitus; C. lateral view of aedeagus; D. dorsal view of aedeagus; E. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-E = 0.2 mm).

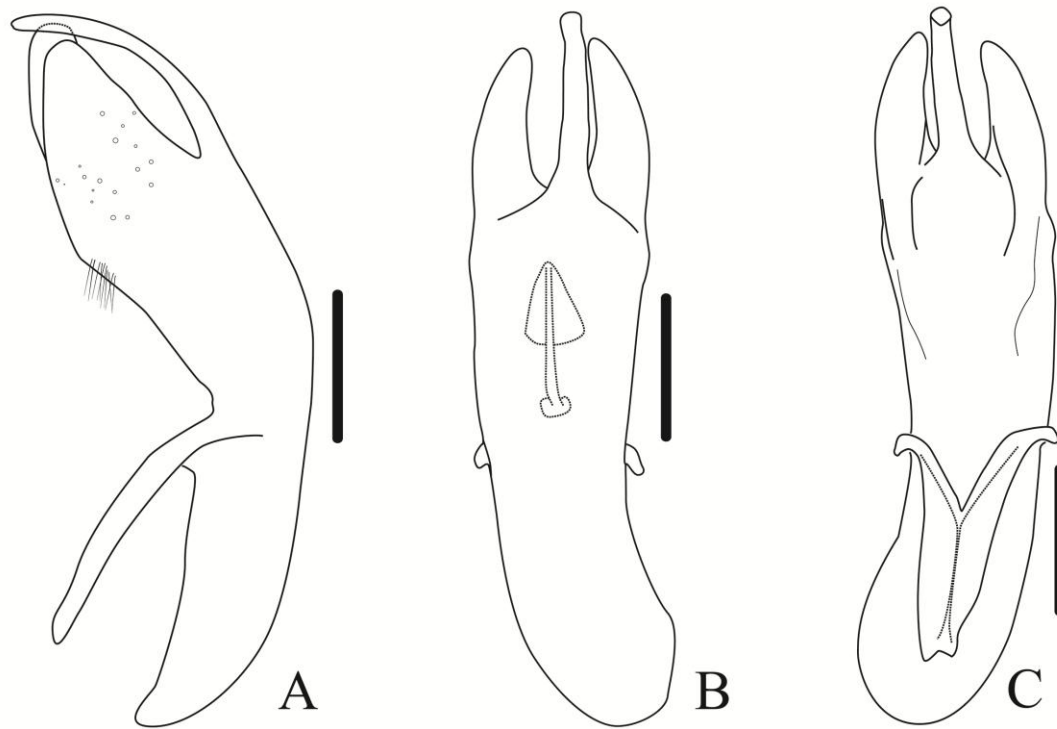


FIGURE 18-2. *Cryptocephalus (Burlinius) scutemaculatus* Tan, 1992: A. lateral view of aedeagus; B. dorsal view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

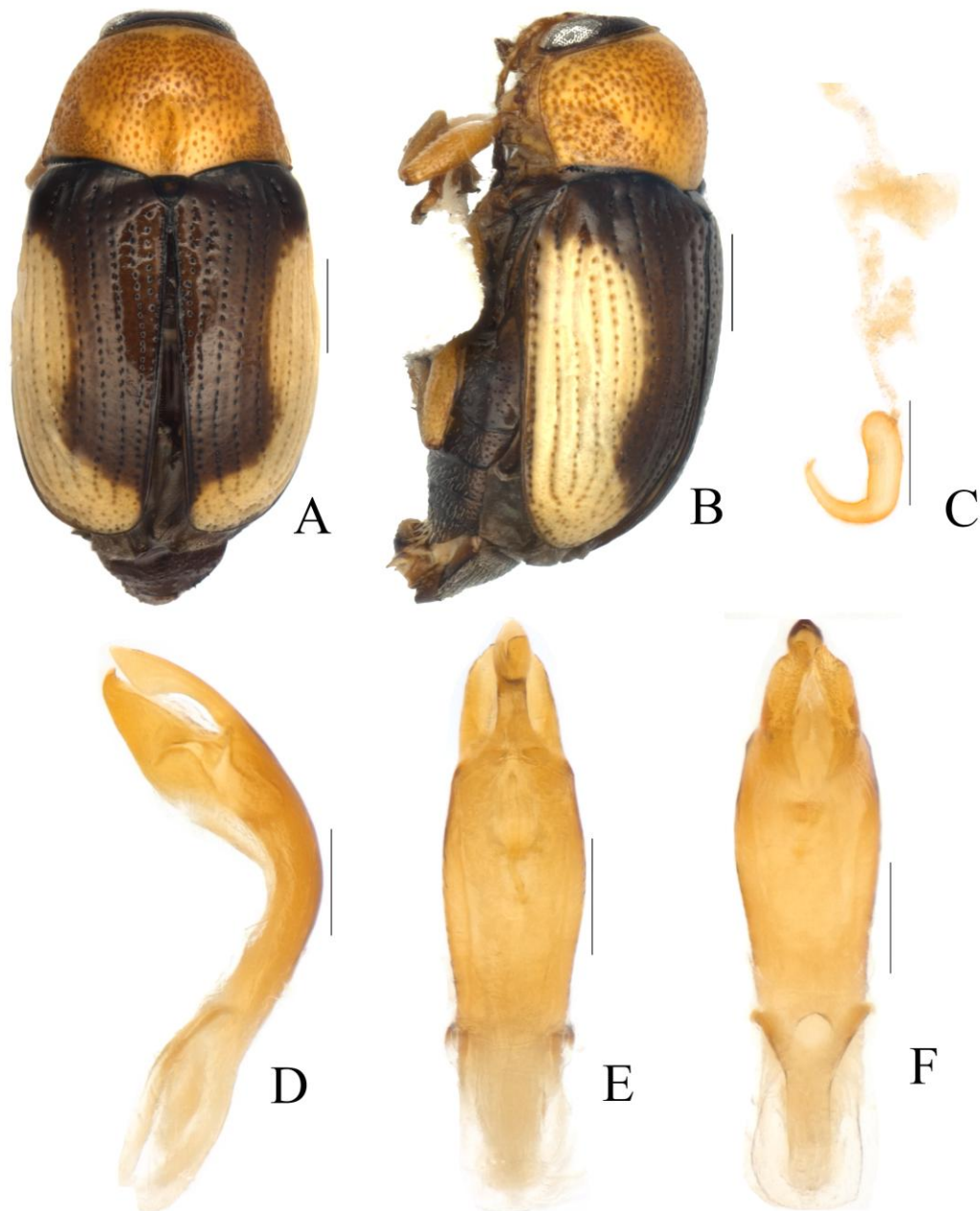


FIGURE 19-1. *Cryptocephalus (Burlinius) shaowuanus* Gressitt & Kimoto, 1961: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-F = 0.2 mm).

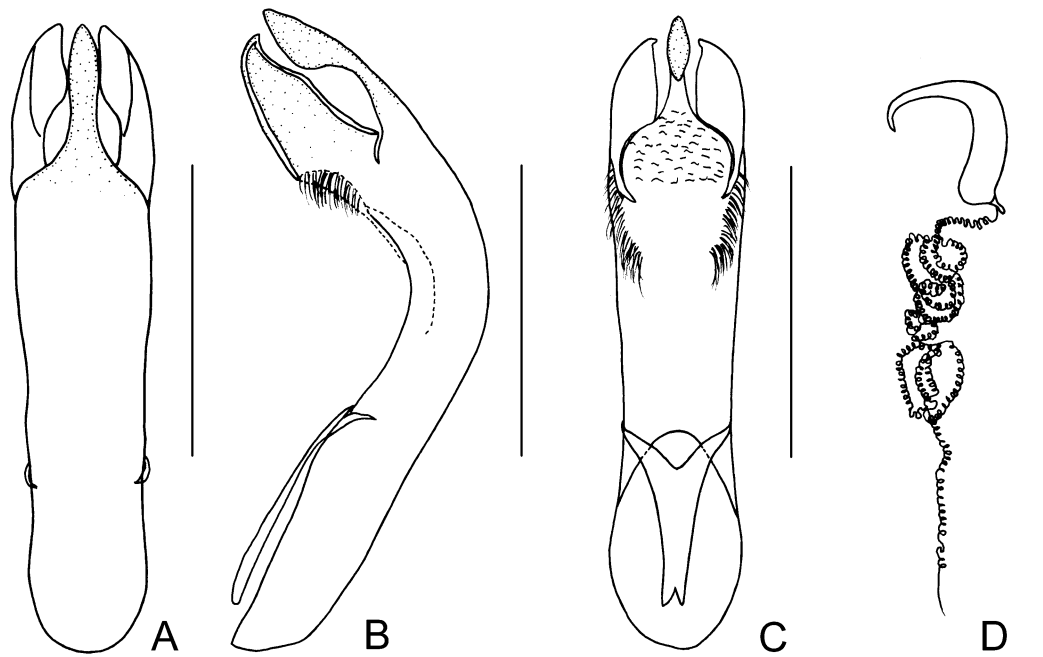


FIGURE 19-2. *Cryptocephalus (Burlinius) shaowuanus* Gressitt & Kimoto, 1961: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

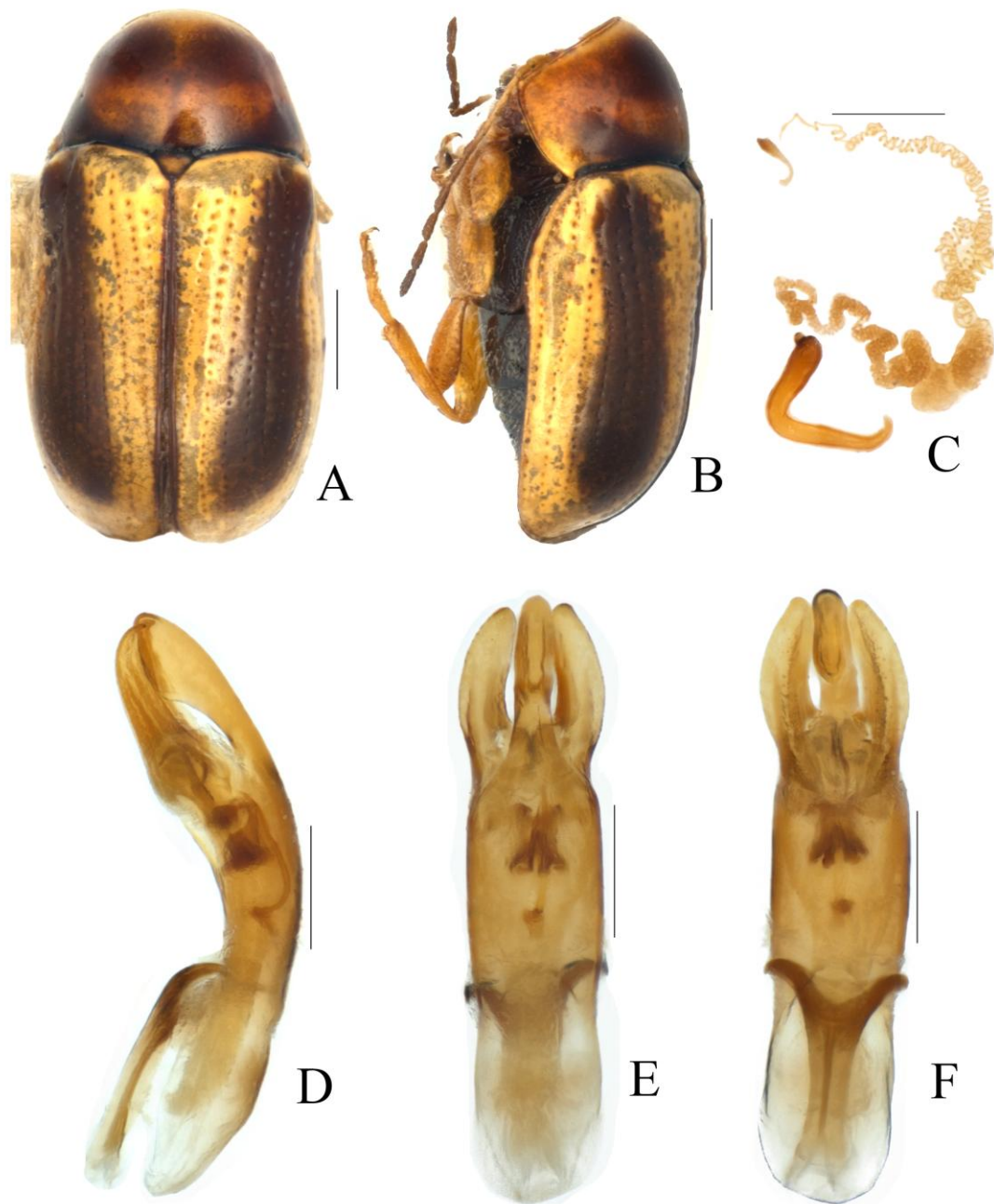


FIGURE 20-1. *Cryptocephalus (Burlinius) vividus* Lopatin, 1997: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-F = 0.2 mm).

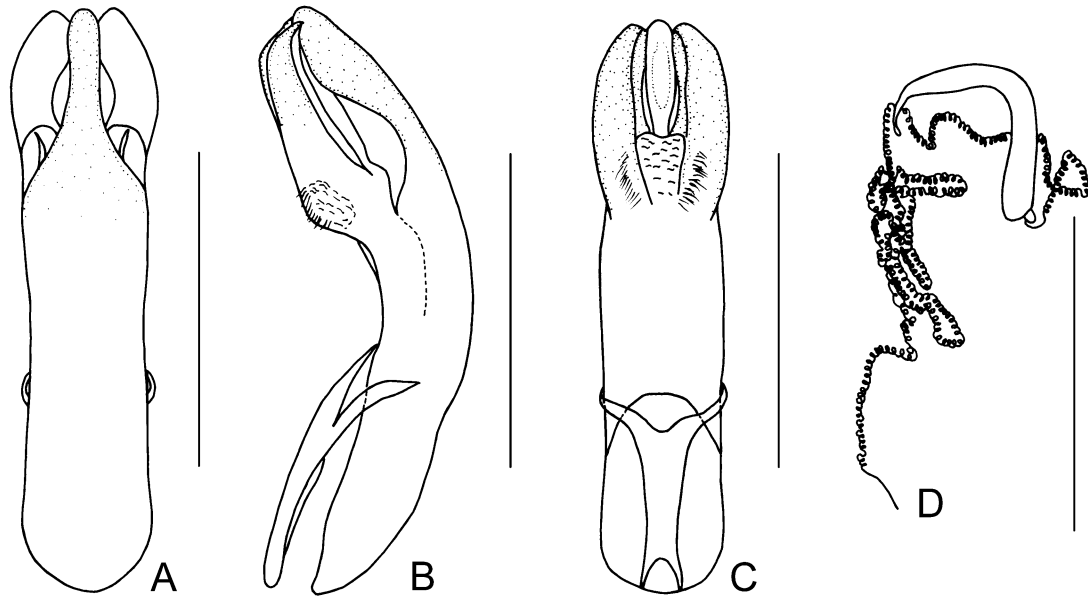


FIGURE 20-2. *Cryptocephalus (Burlinius) vividus* Lopatin, 1997: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).

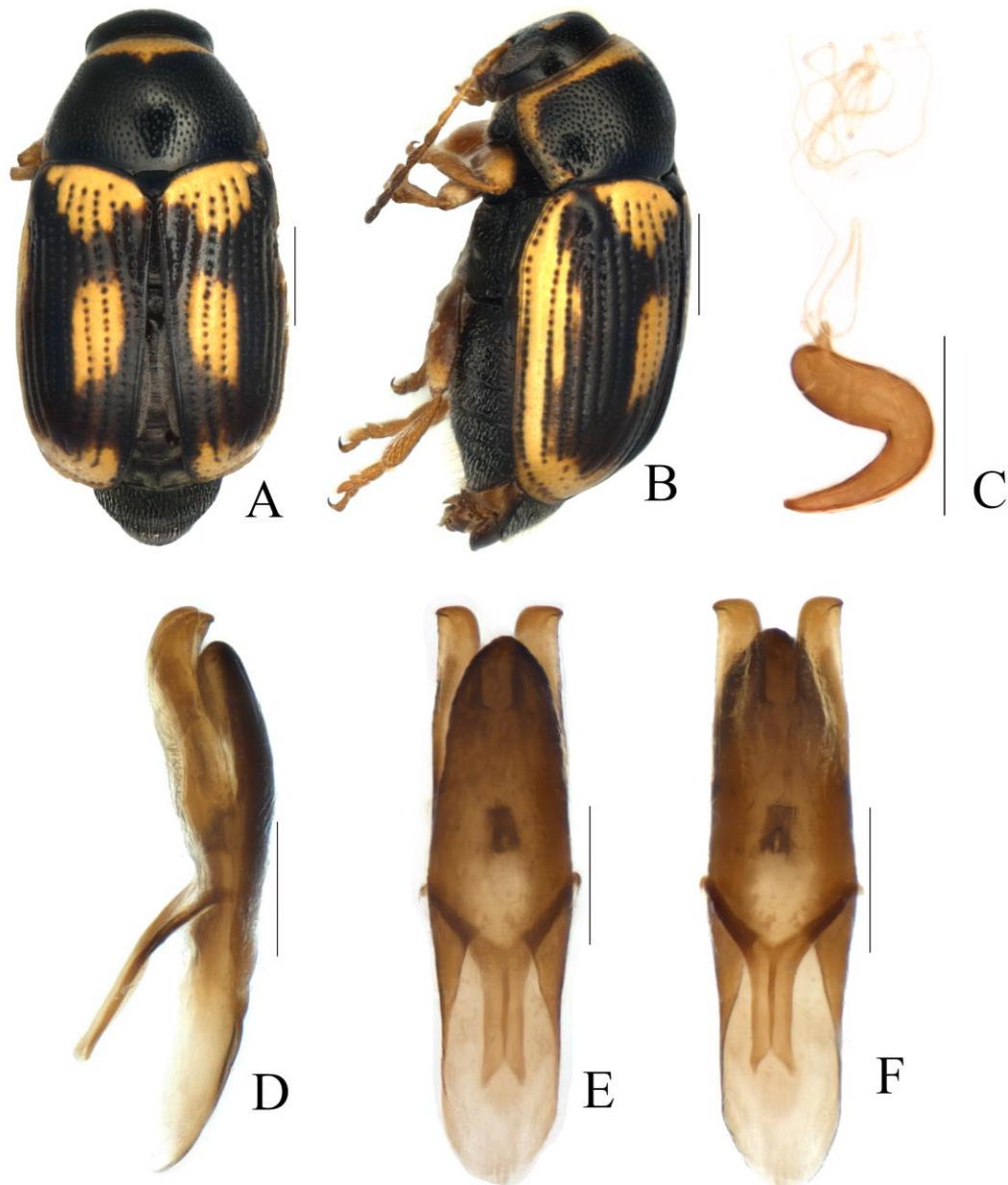


FIGURE 21-1. *Cryptocephalus (Burlinius) yangweii* Chen, 1942: A. habitus; B. lateral view of habitus; C. spermatheca; D. lateral view of aedeagus; E. dorsal view of aedeagus; F. ventral view of aedeagus. (Scale bars: A-B = 0.5 mm, C-F = 0.2 mm).

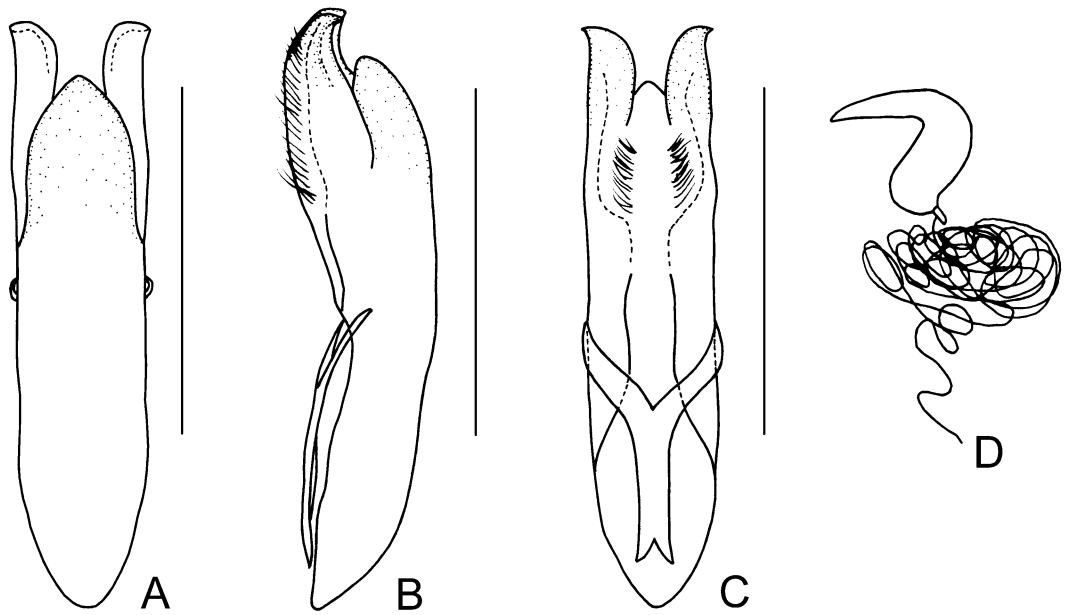


FIGURE 21-2. *Cryptocephalus (Burlinius) yangweii* Chen, 1942: A. dorsal view of aedeagus; B. lateral view of aedeagus; C. ventral view of aedeagus; D. spermatheca. (Scale bars: = 0.5 mm).