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Cryptocephalus (*Burlinius*) *pseudopopuli* n.sp. from South Korea

(Coleoptera: Chrysomelidae: Cryptocephalinae)

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Abstract: A new species, *Cryptocephalus* (*Burlinius*) *pseudopopuli* **n. sp.** from South Korea is described, representing the first record of the subgenus from the country. The new species is similar to *C. populi* SUFFRIAN, 1848. The male and female genitalia are illustrated. *Cryptocephalus* (*Burlinius*) *exiguus amiculus* Baly, 1873 is recorded for the first time for South Korea. A key to the Korean species of *Burlinius* is given.

Key words: Coleoptera, Chrysomelidae, Cryptocephalinae, Cryptocephalini, *Cryptocephalus*, Palaearctic, Asia, South Korea, new species

Introduction

The subgenus *Burlinius* LOPATIN, 1965 of *Cryptocephalus* GEOFFROY, 1762 is distributed with 130 species in the Palaearctic. From the Korean peninsula seven species were recorded (LOPATIN et al. 2010). All of these Korean records were from the northern part. In this publication, a new species similar to *C. populi* SUFFRIAN, 1848 is described representing the first record of the subgenus from South Korea.

Materials and Methods

Included in this study are specimens located in the following collections:
MESC = Matthias SCHÖLLER personal collection, Berlin, Germany.
TKPC = Torben Kölkebeck personal collection, St. Augustin, Germany.
ZMHUB = Museum für Naturkunde der Humboldt-Universität, Berlin (J. FRISCH, M. UHLIG).

Results

Cryptocephalus (*Burlinius*) *pseudopopuli* n. sp.

Holotypus (male, ZMHUB): / Mudeungsan, Gwangju (Südkorea), 08.07.2010, leg. T. Kölkebeck [white] / Holotypus *Cryptocephalus* (*Burlinius*) *pseudopopuli* des. Matthias Schöller [red] /.

7 Paratypes: 1 male and 1 female (MESC), 2 males 1 female (TKPC), 1 female (ZMHUB): same label as holotype but 06.07.2010; 1 female (ZMHUB) / Ulleongdo, Gyeongsangbukdo (Südkorea), 14.07.2010, leg. T. Kölkebeck [white] / all with my label / Paratypus *Cryptocephalus* (*Burlinius*) *pseudopopuli* des. Matthias Schöller [red] /.

Type locality: South Korea, Mudeungsan, Gwangju (35°08’03″N, 126°59’20″E). Mudeungsan is a mountain, it extends partly over the district of Buk-gu in the city of Gwangju

Diagnosis

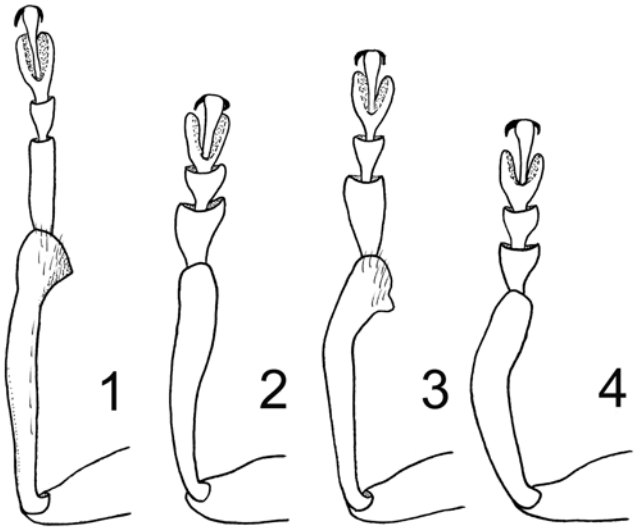
A medium sized yellowish ochraceous species with long antennae, prosternal process apically drawn out into a broad denticle and basally straight, some specimens with blurred brown markings on elytra, fore-tibia apically drawn out into a broad denticle and dorsal process of aedeagus short and narrow, size [mm] male: length 2.6, width of elytra at humeri 1.3, length of pronotum 0.7, width 1.2; female: length 2.9, width of elytra at humeri 1.4, length of pronotum 0.8, width 1.4.

Description of holotype (male)

Habitus: Body medium-sized, shape elongate cylindrical, size [mm]: length 2.6, width of elytra at humeri 1.3, length of pronotum 0.7, width 1.2.

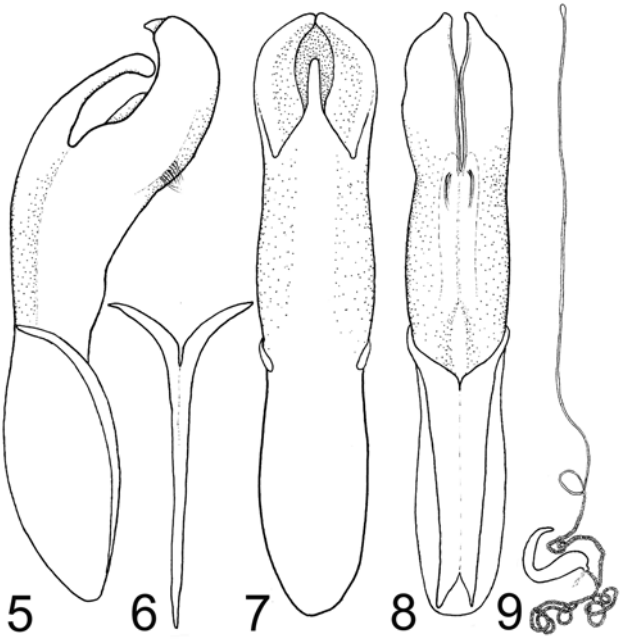
Head: Puncturation coarse and dense, frons with a poorly delimited longitudinal groove on upper half, but with ocular lines, with canthus blunt, broadly triangular, head yellowish brown, canthus and gena contrasting whitish yellow, clypeus yellow, antennae as long as body**,** antennomeres 1-5 yellowish brown, 6-11 dark brown, scape bend, pedicel globular, antennomeres relatively long, much more elongate in male compared to female, clypeus basally distinctly delimited, apically convex, labrum yellow; tip of mandibles blackish brown, labial palps and maxillary palps yellowish brown, spindle-shaped.

Thorax: Pronotum distinctly vaulted, with deep lateral transverse impressions, lateral margins relatively wide, in dorsal view simultaneously visible in whole length, widest at hind angles, above lateral carina a row of distinct coarse punctures, lateral margin straight in lateral view, basal angels acute, basal margin black, teeth of basal margin small and regular, pronotum shiny, puncturation sparse, shallow, hardly perceivable; scutellum triangular, with black margins, apically not elevated, with few fine punctures; elytra regularly vaulted, humerus very distinct, elytra almost parallel-sided, slightly widening in apical 1/3, basal margins black, puncturation in regular lines, coarse, deeply impressed, getting slightly finer towards apex, interstices shiny, increasingly vaulted towards lateral margin; prosternal light yellow, prosternal process broad, apically drawn out into a broad denticle well visible in lateral view, base of prosternal process straight, laterally with a pair of hardly detectable small teeth not overlapping mesothorax, prosternal process with a blunt longitudinal carina, mesothorax yellow with darkened lateral margins, metathorax pitchy black, fore- and mid-coxae whitish yellow, legs yellow, in male



Figs 1–4: *Cryptocephalus* spp., left fore leg. 1) male *C. pseudopopuli* n. sp.; 2) female *C. pseudopopuli* n. sp.; 3) male *C. populi*; 4) female *C. populi*.

first pro-tarsomere very long (Fig. 1), first mid-tarsomere thicker than first hind-tarsomere, fore-tibia straight, apically drawn out into a broad denticle.



Figs 5–9: *Cryptocephalus pseudopopuli* n. sp., 5) aedeagus, lateral; 6) tergalapodeme; 7) aedeagus, dorsal; 8) aedeagus, ventral; 9) spermatheca.

Abdomen: Ventrites pitchy black except for yellow hind margin of last ventrite, pygidium dark brown with yellow apex, puncturation of abdomen dense and coarse, covered with short white setae, tergites feebly sclerotized and pigmented only, sternite VII in male simple, length of aedeagus 1.20-1.25, aedeagus with dorsal process short and narrow (Fig. 7), ventral processes strongly bend in lateral view (Fig. 5), ca. 30% of total aedeagus length, area setulifera distinct (Fig. 8), tergalapodeme y-shaped with short apical branches (Fig. 6), in female egg dimple narrow, spermatheca with receptaculum as long as pump, spermathecal ductus very long, apically spiral, in basal part straight, base slightly expanded

(Fig. 9)., kotpresse as in subgeneric type species *C. fulvus* (Goeze), ventral sclerotized area weakly sclerotized..
Female: Antennae 0.62 times body length, yellow, apically only slightly darkened, clypeus whitish yellow, apical denticle of prosternal process less distinct, elytra unicolorous ochraceous, fore tibia simple (Fig. 2), dark parts of venter brownish ochraceous.

Differential diagnosis: Similar to *C. populi* Suffrian, 1848, differs by the presence of a broad apical denticle and the absence of distinct lateral basal denticles of prosternal process, longer antennae, broader lateral pronotal margins, vaulted elytral interstices, shape of fore-tibiae in both sexes that are angulated in male (Fig. 3) and female (Fig. 4) *C. populi*, shape of male first pro-tarsomere that is widened in *C. populi* (Fig. 3), and shape of aedeagus.

Etymology: Pseudopopuli refers to the similarity with the species *C. populi* Suffrian, 1848.

Distribution and biology: So far known from two localities in South Korea only. The specimens from Mudeungsan were collected in a forest area, the specimen from Ulleongdo was collected on an island predominately covered by beech forest, *Fagus* sp. by sweeping vegetation in a stream valley (KÖLKEBECK, pers. com.).

***Cryptocephalus* (*Burlinius*) *exiguus amiculus* Baly, 1873**
1 male, 1 female, South Korea, Surisan/Ansan, Seoul, 01.07.2010; 1 male, 1 female, Surisan/Ansan, Seoul, 10.07.2010; 1 male, Mudeungsan, Gwangju, 08.07.2010; all leg. T. KÖLKEBECK.

New for South Korea

Key to the Korean species of *Burlinius*

1 Pronotum punctate or wrinkled, puncturation sometimes very fine, but distinct on whole surface 2
– Pronotum smooth and impunctate, at most laterally or basally with sparse and very fine puncturation 5
2(1) Upper side entirely yellowish to pale ochraceous, abdomen blackish except for apical part of last ventrite ..... *C. sagamensis* Tomov, 1982
– Pronotum and elytra entirely black, or pale with distinct dark pattern 3

3(2) Pronotum with longitudinal wrinkles, dorsally bicolorous, in melanotic specimens at least lateral and anterior margins of elytra yellowish .. .. *C. bilineatus* (Linnaeus, 1767)
– Pronotum punctured 4
4(3) Dorsally black with blue metallic shine, apical margin of pronotum narrowly yellow ..... *C. confusus* Suffrian, 1854
– Dorsally black with yellow pattern .... *C. elegantulus* Gravenhorst, 1807
5(1) Pronotum and elytra entirely black, pattern on head, basal antennomeres and fore legs yellow ..... *C. exiguus amiculus* Baly, 1873
– Dorsally entirely pale, sometimes with blurred markings on elytra ... 6
6(5) Body broader, dorsally ochraceous, legs coloured as pronotum, apical antennomeres brown, in male first segment of fore tarsi moderately broadened and much shorter than following tarsomeres combined, in male inner apical angle of hind tibiae simple, dorsal process of aedeagus broad .....*C. fulvus fuscolineatus* CHÛJÔ, 1940
– Body more slender, in male inner apical angle of either fore- or hind tibiae drawn out into a process 7
7(6) Larger, 2.5 – 2.8 mm, prosternal process apically drawn out into a broad denticle well visible in lateral view, pronotum reddish yellow and elytra ochraceous, sometimes with blurred brown markings, apical antennomeres brown, in male first segment of fore tarsi cylindriform and shorter than following tarsomeres combined, inner apical angle of fore tibiae drawn out into a process, hind tibiae simple .... *C. pseudopopuli* **n.sp.**
– Smaller, 2.1-2.2 mm, light yellow with reddish yellow antennae and legs, in male first segment of fore tarsi distinctly broadened and as long as following tarsomeres combined, inner apical angle of hind tibiae drawn out into a process, dorsal process of aedeagus narrow..... ..... *C. flavoscutellaris* Medvedev, 1973

Discussion

Generally the Palaearctic species of *Burlinius* can be determined with the help of the key in WARCHAŁOWSKI (2010), however, females cannot be determined for all species and *C. flavoscutellaris* is not included in this key, so a new key specifically for Korea was presented here.

The shape of the aedeagus of *C. pseudopopuli* n.sp. is most similar to *C. flavoscutellaris*, additionally the presence of modifications of the

male tibiae suggests a relationship of the two species. *C. flavoscutellaris* is known from the far east of Russia and the north of the Korean peninsula only (MEDVEDEV, 1973). There is generally little evidence for endemism of *Burlinius* spp. on the Korean peninsula. At present, *C. pseudopopuli* n.sp. and *C. sagamensis* are the only species of *Burlinius* known exclusively from the Korean peninsula, however, WARCHAŁOWSKI (2010) suggested the latter species might be conspecific with *C. gussakovskii* Lopatin, 1952 distributed in the far east of Russia. All other species known from Korea are present in the far east of Russia, too, or are widely distributed in the Palaearctic, like *C. elegantulus* and *C. bilineatus*.

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