

Taxonomy of the genus *Leptusa* Kraatz in Korea (Coleoptera: Staphylinidae: Aleocharinae)

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한국산 짧은나래반날개속의 분류학적 연구

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ABSTRACT: A taxonomic study of Korean *Leptusa* Kraatz is presented. Two species—*L. (Drepanoleptusa) deplanata* (Sawada) and *L. (Eospisalia) kitazawai kitazawai* (Sawada)—are recognized. The genus and species are recorded for the first time in Korea. A key, diagnoses, habitus photographs and illustrations of diagnostic characters are provided.

Key words: Coleoptera, *Leptusa*, Staphylinidae, Taxonomy, Korea.

초 록: 한국산 미기록속인 짧은나래반날개속(*Leptusa* Kraatz) (신칭)에 속한 두 종—짧은나래반날개 [*L. (Drepanoleptusa) deplanata* (Sawada)] (신칭)와 붉은짧은나래반날개 [*L. (Eospisalia) kitazawai kitazawai* (Sawada)] (신칭)—를 국내에 처음으로 보고한다. 두 종에 대한 검색표, 진단형질 기재와 성충의 사진 및 주요 형질에 대한 그림을 함께 제시한다.

검색어: 딱정벌레목, 짧은나래반날개속, 반날개과, 분류학, 한국

Leptusa Kraatz is one of the species rich aleocharine genera containing 410 species from the World (Newton and Thayer, 2005) and more than 350 species in the Palearctic region (Assing, 2009). Many species of this genus are found in leaf litters, under mosses and stones, but some live under bark of trees or fungi (Klimaszewski et al., 2004).

While working on the taxonomy of the Korean Homalotini, we identified the genus *Leptusa* and two species—*L. (Drepanoleptusa) deplanata* (Sawada) and *L. (Eospisalia) kitazawai kitazawai* (Sawada)—for the first time in the Korean fauna. These two species have been thoroughly described previously by Sawada (1970) and Pace (1989) and their taxonomy was documented in Smetana's checklist (2004). Therefore, we only provide a key,

diagnoses, habitus photographs and line drawings of diagnostic characters. The specimens used in this study are deposited in the Chungnam National University Insect Collection (CNUIC), Daejeon, Korea.

Taxonomic accounts

Genus *Leptusa* Kraatz 짧은나래반날개속(신칭)

Leptusa Kraatz, 1856: 60; Fenyès, 1920: 120; Lohse, 1974: 42; Seevers, 1978: 164; Pace, 1989: 25; Smetana, 2004: 428.

Type species. *Bolitochara pulchella* Mannerheim, 1830.

See Pace (1989) for additional synonymies and references.

Diagnosis. Body (Fig. 1) more or less round at the sides, sometimes parallel, or restricted in half, more or less widely dilated posteriorly, rarely winged. Head slightly larger than

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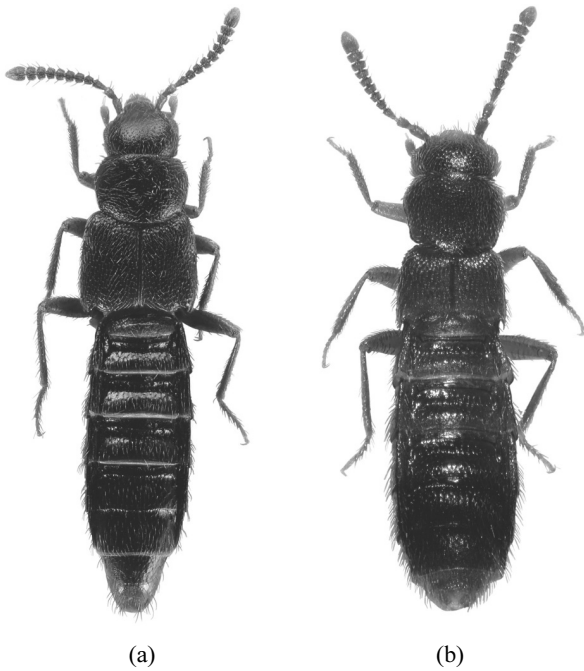


Fig. 1. Habitus. (a) *Leptusa (Drepanoleptusa) deplanata*, 2.5 mm; (b) *L. (Eospisalia) kitazawai kitazawai*, 2.2 mm.

pronotum, eye size highly variable, mostly very small or rudimentary. Labrum transverse, slightly sinuate at anterior margin. Mandibles short, right mandible with median tooth. Maxilla with lacinia longer or shorter than galea, finely pubescent, apex membranous, maxillary palpus with four palpomeres, 3 moderately elongated, longer than 2, more or less dilated and more or less elongated 4. Labium with ligula narrow, moderately long, entire, labial palpus with two palpomeres, mentum transverse and trapezoidal, weakly emarginate in anterior margin. Antenna short, more or less thickened towards the apex. Pronotum shape variable, transverse to elongate, often distinctly narrowed posteriorly, hypomeron broadly visible in lateral aspect, elytra very variable in length and shape. Mesocoxae narrowly separated by narrow and pointed mesoventral process. Legs usually short, tarsal formula 4-4-5.

Key to the species of the genus *Leptusa* Kraatz in Korea

1. Eyes moderate in size, length ratio of eye to tempora 0.89; hind wings well developed; metaventrite longer than mesoventrite (Fig. 2a); male tergites VII-VIII with a tubercle (Figs. 2b-c); aedeagus and spermatheca as in Figs. 2d-f; inhabitants of under bark of dead trees

- *L. (Drepanoleptusa) deplanata*
- Eyes small in size, length ratio of eye to tempora 0.75; hind wings absent; metaventrite distinctly shorter than mesoventrite (Fig. 3a); male tergites VII-VIII without tubercle (Fig. 3b); aedeagus and spermatheca as in Figs. 3c-e; inhabitants of leaf litters or flood debris
- *L. (Eospisalia) kitazawai kitazawai*

Leptusa (Drepanoleptusa) deplanata (Sawada, 1970) 짧은나래반날개(신칭)

(Figs. 1a, 2)

Sipalia (Leptusa) deplanata Sawada, 1970: 40.

Leptusa (Drepanoleptusa) deplanata: Pace, 1989: 126; Smetana, 2004: 431.

Diagnosis. Length about 2.0-2.8 mm. Body (Fig. 1a) brown to dark brown, elytra reddish brown to dark brown, antennomeres 1-3 and legs light brown. Body parallel-sided, dorsoventrally slightly flattened. Eyes moderate in size, length ratio of eye to tempora 0.89. Antennomeres 4-5 subquadrate, 6-10 transverse, 5-10 slightly increase in relative length and width from base to apex. Pronotum transverse, about 1.4 times wider than long, widest at apical third, slightly narrowed posteriorly. Hind wings fully developed, row of marginal setae present. Metaventrite longer than mesoventrite (Fig. 2a). Postero-median margin of male tergite VII (Fig. 2b) with a tubercle. Male tergite VIII (Fig. 2c) with a tubercle, posterior margin emarginate and slightly serrate at middle. Median lobe (Fig. 2d) bulbous at base, apical process elongate and slightly narrowed at apex, shorter than basal bulb, a pair of geniculate processes present, curved ventrally and dilated apically, fan shaped. Paramere (Fig. 2e) with apical lobe, elongate and subcylindrical with four setae at apex, 2 setae distinctly short. Spermatheca (Fig. 2f) simple and round at base with long, filamentous, curved duct.

Material examined. Total 12 specimens. **KOREA:** *Gangwon Prov.*, 5♂♂ ♀♀ (2♂♂ 1♀, on slides), Hongcheon-gun, Nae-myeon, Mt. Gyeongbongsan, Unduryeong, N37°42'49.9"E 128°26'40.3" 1100 m, 15 V 2007, TK Kim, YH Kim, ex under bark; 1♀, Inje-gun, Jindong-ri, Mt. Jeombongsan, Gombaeryeong, 29 VII 2000, US Hwang, SJ Park; 1♂, Jeongsun-gun, Gohan-up, Hambaeksan, 13 VIII 1999, HJ Kim, ex under bark;

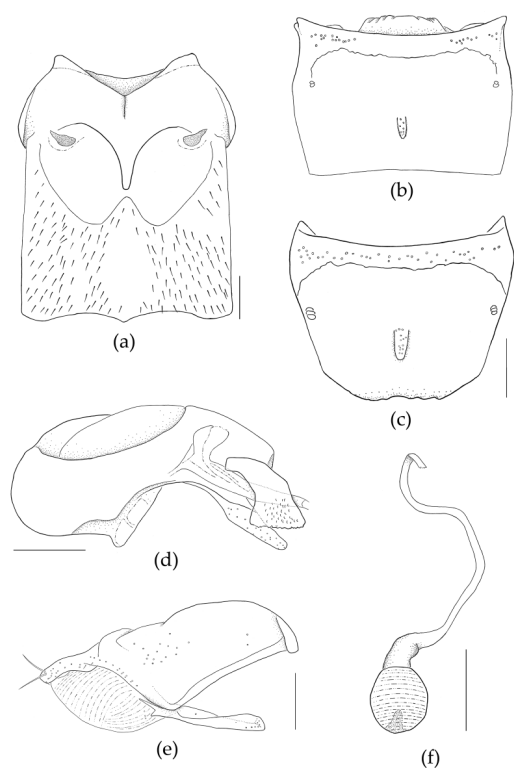


Fig. 2. *Leptusa (Drepanoleptusa) deplanata*. (a) meso-metaventrites, ventral aspect; (b) male tergite VII, dorsal aspect; (c) male tergite VIII, dorsal aspect; (d) median lobe, lateral aspect; (e) paramere, lateral aspect; (f) spermatheca. Scales = 0.1 mm.

1 ♀, Pyeongchang-gun, Jinbu, Mt. Odaesan, Sangwonsa, 8 V 2004, SJ Park, ex under bark; 1 ♀, Pyeongchang-gun, Mt. Odaesan, 25 V 2004, SJ Park, JS Park, ex sifting; 2 ♀ ♀, Pyeongchang-gun, Jinbu-myeon, Mt. Odaesan, 29 III 2007, TK Kim, under bark; *Jeju Prov.*, 1 ♂, Seogwipo-city, Hawon-dong, Seogwipo natural forest, N33°18'37.6"E126°27'24.9", 22 V 2006, HW Kim, TK Kim, ex under bark.

Distribution. Korea and Japan.

Remarks. The species was collected from under bark of dead trees.

Leptusa (Eospisalia) kitazawai kitazawai (Sawada, 1970) 붉은짧은나래반날개(신칭)

(Figs. 1b, 3)

Sipalia (Sipalia) kitazawai Sawada, 1970: 41.

Leptusa (Eospisalia) kitazawai kitazawai: Pace, 1989: 128; Smetana, 2004: 432.

Diagnosis. Length about 1.5-2.3 mm. Body (Fig. 1b) reddish

brown to light brown, head and abdominal tergites V-VIII dark brown to black. Body parallel-sided, slightly robust. Eyes small in size, length ratio of eye to tempora 0.75. Antennomere 4 subquadrate, 5-10 transverse, increase in relative width from base to apex. Pronotum transverse, about 1.3 times wider than long, widest at apical forth and distinctly narrowed posteriorly. Hind wings absent. Metaventrite distinctly shorter than mesoventrite (Fig. 3a). Tergite VIII (Fig. 3b) postero-medially truncate, slightly emarginate at middle. Median lobe (Fig. 3c) bulbous at base, apical process elongate and subcylindrical, shorter than basal bulb, a pair of geniculate processes present, curved ventrally and slightly narrowed apically. Paramere (Fig. 3d) with apical lobe elongate and subcylindrical with four setae at apex, one of them distinctly short. Spermatheca (Fig. 3e) simple and subquadrate at base, duct long and curved.

Material examined. Total 142 specimens. **KOREA:** *Chungbuk Prov.*, 1 ex, Yeongdong-gun, Mt. Minjugi, Mulhan-valley, 11 V 2003, SJ Park, DH Lee, sifting; *Chungnam Prov.*, 1 ex, Nonsan-si, Mt. Daedungsan, 2 V 2000, US Hwang, SJ Park,

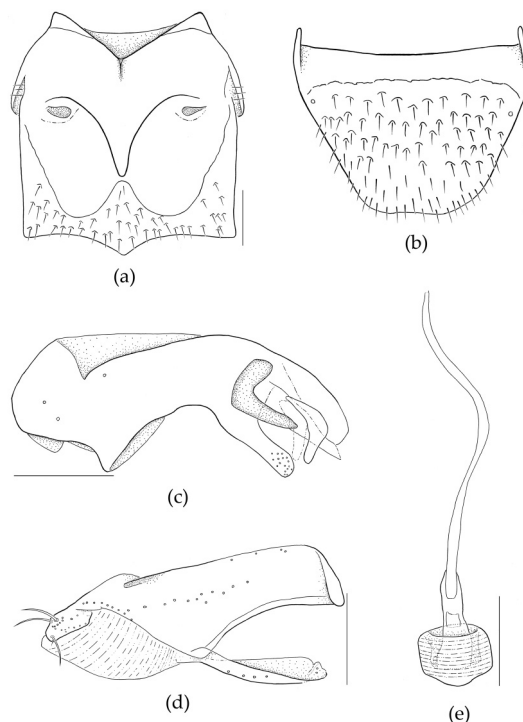


Fig. 3. *Leptusa (Eospisalia) kitazawai kitazawai*. (a) meso-metaventrites, ventral aspect; (b) male tergite VIII, dorsal aspect; (c) median lobe, lateral aspect; (d) paramere, lateral aspect; (e) spermatheca. Scales = 0.1 mm.

near streams; *Gangwon Prov.*, 1 ex, Gangneung-si, Yeongok-myeon, Samsan-ri, N37°48'38.6"E128°42'2.9" 256 m, 31 VIII 2006, TK Kim, YH Kim, leaf litters; 2 ex (1♂, on slide), Hoengsung-gun, Unduryeong, 9-10 IX 1998, HJ Lim, sifter; 3 ex, Hoengsung-gun, Unduryeong, 9-10 IX 1998, KJ Ahn, KL You, HJ Lim, leaf litter; 20 ex (1♂ 1♀, on slides), Inje-gun, Yongdaeri, 13 IX 1998, KJ Ahn, KL You, HJ Lim, leaf litter; 19 ex, Pyeongchang-gun, Odaesan, 28-30 VII 1998, KL You, HJ Lim, KJ Ahn, sifter; 19 ex, Pyeongchang-gun, Mt. Odaesan, 25 V 2004, SJ Park, JS Park, ex sifting; 20 ex, Pyeongchang-gun, Jinbu-myeon, Dongsan-ri, Mt. Odaesan, Sangwonsa, N37°47.074"E128°33.735", 15 V 2006, SJ Park, YH Kim, near stream; 56 ex (2♀, on slides), Pyeongchang-gun, Jinbu-myeon, Mt. Odaesan, Sangwonsa, N37°47'10"E128°33'57.2", 10 V 2007, TK Kim, sifting.

Distribution. Korea and Japan.

Remarks. This species was collected from leaf litters or flood debris.

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