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DESCRIPTION OF ALOCONOTA ELONGATA SP. NOV. (COLEOPTERA: STAPHYLINIDAE: ALEOCHARINAE) IN KOREA

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ABSTRACT

A description, a habitus photograph and illustrations of the diagnostic characters of Aloconota elongata Lee & Ahn, sp. nov. are provided. Diagnostic characters of Aloconota Thomson are presented. Systematic position of Aloconota and Paraloconota Thomson are briefly discussed.

Key Words: Staphylinidae, Geostibini, Aloconota, Paraloconota, new species, Korea

RESUMEN

Se provee una descripción, fotografía del habitus e ilustraciones de los caracteres diagnósticos de Paraloconota koreana Lee y Ahn, sp. nov. Se transfiere el género Paraloconota Cameron de Athetini a Geostibini (Aleocharinae) y es registrado en la península de Corea por primera vez.

Palabras Clave: Staphylinidae, Geostibini, Paraloconota, nuevas especies, Corea

The genus Aloconota Thomson now contains 88 species worldwide, 78 of which occur in the Palearctic region. In eastern Asia, 5 and 3 species are recorded in China and in Japan, respectively (Smetana 2004; Newton & Thayer, 2005). Two species were reported in North Korea by Pašnik (2001), but one of which, Aloconota koreana Pašnik, was transferred to the genus Earota Mulsant & Rey by Lee & Ahn (2014). They have been known to inhabit niches near the water (Cameron 1939) and most Korean specimens have been also collected near streams.

While studying Korean Athetini and related taxa, a new species, Aloconota elongata Lee & Ahn, sp. nov., was discovered in the Korean Peninsula. The taxonomic characters of this new species are in agreement with the diagnostic characters of the genus Aloconota provided below. In this study we provide a description and illustrations of the diagnostic characters and a habitus photograph of new species.

MATERIAL AND METHODS

All specimens are deposited in the Chungnam National University Insect Collection (CNUIC), Daejeon, Korea. The first author also examined type specimens of many Aloconota species deposited in the Field Museum of Natural History (FMNH) Chicago, USA and the Natural History Museum (NHM), London, UK to identify Korean specimens more correctly. The terminology used here follows Sawada (1972), but we followed Ashe (1984) in some cases, particularly for mouthparts, to reduce confusion.

RESULTS

Genus Aloconota Thomson, 1858

Aloconota Thomson, 1858: 33 (as a genus); Cameron, 1939: 287 (Type species: Tachyusa immunita Erichson, 1839 = Homalota gregaria Erichson, 1839).

Glossola Fowler, 1888: 66 (as a genus) (Type species: Homalota gregaria Erichson, 1839).

Terasota Casey, 1906: 337 (as a genus); 1910: 84 (as a subgenus) (Type species: Terasota brunneipes Casey, 1906).

Taphrodota Casey, 1906: 338 (as a genus); 1910: 84 (as a subgenus) (Type species: Taphrodota ventralis Casey, 1906).

Diagnósticos

Members of the Aloconota can be distinguished from other aleocharine genera by the combination of the following characters: body parallel-sided; α-sensillum of epipharynx reduced; labium with ligula divided into 2 lobes at base; two medial setae widely separated; lateral pseudopores absent on prementum; pronotum more or less nar-
rowed basally, less than about 1.1 times as wide as long; metatarsomere 1 about as long as 2 and 3 combined or longer than 2; empodial seta distinctly longer than claw; abdominal tergites III-V impressed in basal region; most male tergite VII with tubercles; posterior margin of male tergite VIII modified, with process in most species (Cameron 1939; Benick & Lohse 1974, Yosii & Sawada 1976; Ashe 2001; per. obs.).

ALOCONOTA ELONGATA LEE & AHN, SP. NOV.
(Figs. 1-14)

Type Series

HOLOTYPE, male, labeled as follows: KOREA: Jeonnam prov., Gurye-gun, Sandong-myeon, Mt. Jirisan, Simwon-fall, N 35°19’ 24.8” E 127° 31’ 34.6” 850 m asl, 17 VI 2010, KJ Ahn, TK Kim, YH Kim, JG Lee, IS Yoo, JH Song, SG Lee, under stones near stream; Holotype, Aloconota elongata Lee and Ahn, Desig. S.-G. Lee and K.-J. Ahn 2013. Deposited in CNUIC, Daejeon. Paratypes, 17 exx. (total): 5 exx., same data as holotype; 8 exx., Chungnam prov., Gongju-city, Gyeryongsan, Gapsa, 19 VIII 2006, SJ Park, YH Kim, ex near stream; 4 exx., Gangwon prov., Pyeongchang-gun, Jirisan-myeon, 15 V 2006, T.-K. Kim, Y.-H. Kim, H.-W. Kim, ex near stream.

Other Material Examined

KOREA: Chungnam prov.: 3 exx., Geumsan-gun, Mt. Daedunsan, 25 V 2001, SJ Park, MJ Jeon, HJ Yun, sifting; Gangwon prov.: 2 exx., Hongcheon-gun, Naecheon-myeon, Mt. Baekam- san, KJ Ahn, CW Shin, JS Park, near stream; 13 exx., Yangyang-gun, Mt. Seoraksan, Osaekyaktsu, 31 VII 2002, CW Shin, near stream; 4 exx., same data as the former except ‘22 VI 2002, JS Park’; Jeonnam prov.: 2 exx., Damyang-gun, Yong-my-eon, Wolgye-ri, Mt. Chuwolsan, 7 VI 2005, SM Choi, SI Lee, sifting.

Description

Length 4.0-4.5 mm. Body large, parallel-sided; surface glossy, densely pubescent with microsculpture (Fig. 1). Body usually dark brown to black; basal antennomeres, mouthparts and legs paler brown; head and abdomen slightly darker than pronotum and elytra. Head. Slightly elongate, approximately 1.1 times longer than wide, slightly narrower than pronotum; eyes slightly prominent, about 1.4-1.5 times as long as tempora; gular sutures moderately separated, dilated basally; infraorbital carina incomplete; cervical carina forked. Antennae (Fig. 7) long and slender; all antennomeres elongate, 1 longest, 3 slightly longer than 2, 11 about as long as pre-

Fig. 1. Habitus of Aloconota elongata sp. nov., 4.1 mm.
Lee and Ahn: *Aloconota elongata* sp. nov. (Staphylinidae) 1615

Mouthparts. Labrum (Fig. 2) transverse, anterior margin distinctly emarginate, with 2 lateral sensilla and about 8 macrosetae present on each side of midline; β- and γ-sensillum short, α-sensillum about as long as ε-sensillum. Mandibles asymmetrical, pointed apically, approximately 1.8 times as long as basal width, anterior margin serrulate; right one (Fig. 3) with internal tooth; prostheca well developed, distinctly composited three regions. Galea and lacinia of maxilla (Fig. 4) very long, lacinia with nine spines in distal comb region, isolated spines absent; maxillary palpus elongate, with pubescence and long setae; palpomere 1 smallest and 2.0-2.2 times as long as wide, 2 about 3.0 times longer than wide, 3 slightly longer than 2, 2.7-2.8 times as long as wide, 4 digitiform, filamentous sensilla reaching to basal half. Labium (Fig. 5) with ligula relatively broad, dilated apically; two medial setae widely separated; two basal pores widely distant, 5-6 times width of basal pore; many medial pseudopores, 3 real pores and 1 setal pore present on prementum; labial palpus elongate with many setulae; palpomere 1 largest, 1.5-1.6 times longer than wide, with γ-setula separating from b-setula, distance from setulae α to γ and setulae b to γ almost twice, 2 shortest, about 1.3-1.4 times longer than wide, 3 parallel-sided, slightly longer than 1, about 3.5-3.7 times longer than wide. Mentum (Fig. 6) trapezoidal, anterior margin emarginate; γ-seta very short.

Thorax. Pronotum subcordiform, approximately 1.1 times as wide as long, widest in apical third, narrowed apically, pubescence directed anteriorly in midline; hypomera developed, fully visible in lateral aspect; metanotal scutum with 8 setae on each side of midline; mesoventral process (Fig. 8) longer than metaventral process; isthmus longer than metaventral process; length ratio of mesoventral process, isthmus and metaventral

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Figs. 2-6. Mouthparts of *Aloconota elongata* sp. nov.: 2. labrum, dorsal aspect; 3. right mandible, ventral aspect; 4. left maxilla, ventral aspect; 5. labium, ventral aspect; 6. mentum, ventral aspect. Scales = 0.1 mm.
process 11:7:5; mesendosternite and Y-shaped metendosternite well developed. Elytra wider than pronotum; elytron relatively long, approximately 1.8 times as long as wide, pubescence directed postero-laterally; postero-lateral margins almost straight; hind wings fully developed; flabellum with 10-11 setose lobes. 

Legs. Slender and long, with dense pubescence and setae; tibia with two spurs at apex; tarsal formula 4-5-5, length ratio of tarsomeres 30:34:36:82 (protarsus); 44:50:48:41:78 (mesotarsus); 72:69:52:47:97 (metatarsus) (mm, ×400); one empodial seta (Fig. 9) present. Abdomen. Subparallel-sided; surface glossy and densely pubescent, with transverse imbricate microsculpture; tergites II-IV macrochaetal arrangement 01-21-21; tergite VIII (Fig. 10) with 5 macrosetae on each side of midline; posterior margin of sternite VIII convex and more or less round, with long marginal setae. Secondary Sexual Characteristics. Male: posterior margin of abdominal tergite VIII truncate with four minute processes (see arrows in Fig. 10); abdominal sternite VII with a row of numerous pores in basal region; sternite VIII with 7 macrosetae on

Figs. 7-14. Diagnostic characters of *Aloconota elongata* sp. nov.: 7. antenna; 8. meso- and metaventrites, ventral aspect; 9. empodial seta, lateral aspect; 10. male tergite VIII, dorsal aspect; 11. median lobe, lateral aspect; 12. median lobe, ventral aspect; 13. paramere, lateral aspect; 14. spermatheca. Scales = 0.1 mm.
Lee and Ahn: *Aloconota elongata* sp. nov. (Staphylinidae)

Fig. 15. The type locality of *Aloconota elongata* sp. nov., mountain stream at Mt. Jirisan, Gurye-gun, Korea. This species were found under stones and flood debris near stream of this photograph.
each side of midline. Female: posterior margin of abdominal tergite VIII subtruncate; abdominal sternite VIII with 6 macrosetae on each side of midline, posterior margin with minute setae in median region. Aedeagus. Median lobe (Figs. 11, 12) elongate; apical process relatively convergent apically in ventral aspect; internal sac elongate. Apical lobe of paramerite (Fig. 13) with four setae; a-sesta longer, the other setae short, subequal in length. (a-d; see Sawada, 1972). Spermatsheca. Bursa and umbilicus conical shape; duct coiled (Fig. 14).

Distribution
Korea (South).

Remarks
This species can be distinguished from other Aloconota species by all antennomeres distinctly elongate, male tergite VII without tubercle and the shape and structure of aedeagus and spermatshecal duct. Usually, the species were collected in mountain streams with other athetine species (Fig. 15).

Etymology
Named from the Latin elongata meaning “elongate, long”.

DISCUSSION
The genus Aloconota was described by Thomson (1858) based on Tachyusa immunita Erichson (1839). Later, Cameron (1939) noted that it is similar to Paraloconota Thomson, but can be distinguished by the transverse impression of abdominal tergites III-V and presence of tubercle on male tergite VII. But some members of Aloconota are without the tubercle on male tergite VII including Korean species and has more flattened and slender body.

These 2 genera are hypothesized to be closely related as both share the same ecological character (habitat) and many morphological characters such as lacinia of maxilla without isolated spines in distal comb; labium with ligula divided into 2 lobes at base; 2 medial setae widely separated; lateral pseudopores absent on prementum; mesoventral process pointed at apex; legs relatively long; and empodial seta distinctly longer than claw.

Recently, Elven et al. (2012) raised the subtribe Geostibina of Athetini to tribal rank, including Aloconota but not Paraloconota. The genus Paraloconota was placed in the tribe Athetini by Pace (1991, 1998) and Smetana (2004) since Cameron (1939) described it as a subgenus of Atheta Thomson. However, it differs from the members of Athetini in having a tentative synapomorphy of Geostibini, the reduced a-sensillum of epipharynx.

The genus Paraloconota appears to share the synapomorphy and some morphological characters with Geostibini. Therefore, they probably should be placed in the tribe Geostibini rather than in Athetini. But it is premature to decide the formal classification until we conduct a thorough comparative and detailed study of additional species from broader distributional areas including type species.

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