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Apecholinus septentrionalis sp.n. from North Korea (Coleoptera: Staphylinidae: Staphylininae)

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Abstract

A new staphylinid species, *Apecholinus septentrionalis* sp.n. (Coleoptera: Staphylinidae: Staphylininae), is described from Mt. Paektu-san, DPR Korea (= North Korea). Illustrations of the taxonomically important characters and photographs of the habitus, as well as a key to the species of *Apecholinus* BERNHAUER, 1933 is provided.

Key words: Coleoptera, Staphylinidae, Staphylinae, Staphylinina, *Apecholinus*, taxonomy, new species, biodiversity, East Asia, Korean Peninsula.

Introduction

More than 600 species of staphylinid beetle have been recorded from the Korean Peninsula (AHN et al. 2017), but most species have been recorded from South Korea (= Republic of Korea) only. In other words, the staphylinid fauna of DPR Korea (= North Korea) has not yet been satisfactorily elucidated.

The genus *Apecholinus* BERNHAUER, 1933 is a member of the subtribe Staphylinina, distributed in East Asia, and includes six species (SMETANA 2018, SMETANA & HU 2019). However, no species of this genus has so far been recorded from the Korean Peninsula. Recently, the first author examined a specimen of an unknown *Apecholinus* collected in North Korea by the second author. After a close examination, this specimen turned out to belong to a new species, which is described below.

Material and methods

This study was based on dried specimens preserved in the Ehime University Museum, Matsuyama, Japan (EUMJ). The methods of observation and morphological terms used in this study were the same as those explained in SENDA & HAYASHI (2022). Distributional maps were created with the files downloaded from "Natural Earth" (https://www.naturalearthdata.com/) using QGIS 3.12.3. All figures were edited and assembled using Adobe Photoshop® CS5.1.

Abbreviations for morphological measurements used in this paper are as follows: AL, antennal length; BL, body length (approximate whole length); EL, elytral maximum length; EW, elytral maximum width; FBL, forebody length (HL + PL + EL); HL, head length (from apex of clypeus to posterior margin of head capsule); HW, head maximum width without eyes; PL, pronotal maximum length; PW, pronotal maximum width.

Taxonomy

Apecholinus septentrionalis sp.n.

TYPE LOCALITY: Paektusanmiryong-dong, Samjiyon, Ryanggang Prov., North Korea.

TYPE MATERIAL: **Holotype** ♂ (EUMJ): "DPR. KOREA / RyangGang-Do / SanJiYon-Gun / PekToSanMiRyong-Gu / alt. ca. 1500 m / 15.VII.2012 / Han Chang-do leg." [printed on white label], "HOLOTYPE / *Apecholinus septentrionalis* / Det. Y. Senda, 2022" [printed on red label with black border].

Fig. 1: *Apecholinus septentrionalis*, holotype: A) habitus, dorsal view, B–D) close up of punctation (and microsculpture) of head (B), pronotum (C), scutellar shield and elytra (D), E) abdominal ventrite VIII, F–G) aedeagus in parameral view (F) and lateral view (G).

DIAGNOSIS: This new species is similar to *Apecholinus liui* (HE & ZHOU, 2017) and *A. fraternus* (FAIRMAIRE, 1891), but is different from them by the following characteristics: 1) elytra short, EL<PL; 2) medioapical emargination of male abdominal ventrite VIII wide and shallow; 3) male abdominal ventrite IX without medioapical emargination, 4) aedeagal paramere almost reaching the apex of the median lobe.

DESCRIPTION: Habitus as in Fig. 1A. Coloration: Black, slightly shining; mouth parts black, but barely reddish; antennae black, but last five segments (antennomeres VI–XI) becoming gradually paler; protarsi reddish black.

Male. Body elongate, flattened dorsally. Head rounded quadrangular, widest at behind the eyes, gently convex medially, HL/HW ≈ 0.9; surface (Fig. 1B) clothed with blackish long pubescence, covered densely with simple and moderately coarse punctures and microsculpture, though punctures lacking along the midline and becoming gradually sparser toward the clypeus; temples sparsely covered with setae; postgena smooth, very sparsely clothed with long pubescence. Eye rather small, about 0.4 times as long as temple in lateral view, weakly convex, slightly shifted dorsally. Antennae moderately long, AL/FBL ≈ 0.6; antennomere I robust, slightly curved outwardly; antennomeres II to VII elongate, more or less thickened apically; antennomeres VIII to X subconical; antennomeres IV to XI (densely) pubescent; antennomere XI asymmetrically emarginate at the apex; the length/width ratio of each antennomere I to XI as follows: 4.0, 2.3, 2.7, 1.7, 1.7, 1.3, 1.2, 1.0, 1.0, 0.9, 1.3; relative lengths of antennomeres: 36.7 : 19.2 : 22.5 : 15.8 : 15.8 : 14.2 : 14.2 : 12.5 : 11.7 : 10.0 : 13.3, and relative widths: 11.0 : 10.0 : 10.0 : 11.0 : 11.0 : 13.5 : 14.0 : 14.5 : 14.0 : 13.0 : 12.0.

Pronotum subquadrate, widest at anterior corner, transversely convex, PL/PW ≈ 1.0, PL/HL ≈ 1.0, PW/HW ≈ 0.9; disk (Fig. 1C) clothed with pubescence as head, covered with punctures about same as head, with narrow impunctate line in posterior half; lateral sides weakly arcuate and narrowed posteriorly; posterior margin arcuate, but feebly emarginate at the middle. Scutellar shield with an acute and rounded apex; surface (Fig. 1D) clothed with pubescence as pronotum, covered with granulose microsculpture. Elytra subtrapezoid, dilated apically, with emarginate posterior margin, EL/EW ≈ 0.7, EL/PL ≈ 0.8, EW/PW ≈ 1.2; disk (Fig. 1D) clothed with pubescence as pronotum, covered with very fine punctures and granulose microsculpture; interspaces between punctures with fine microscopic punctures. Hind wing present, but probably non-functional. Meso- and metaventrites covered with granulose microsculpture, sparsely clothed with blackish long pubescence. Legs simple; foretarsal segments I to IV dilated, densely covered with adhesive setae ventrally.

Abdomen clothed with blackish (long) pubescence, and covered with superficial granulose microsculpture; ventrite VIII (Fig. 1E) with shallow and narrow, obtuse medioapical emargination; tergum IX setigerous, gently narrowed apically, rounded at apex; tergum X as long as about 3/4 of tergum IX, widest at basal corner, evenly narrowed toward arcuate apex, copiously setose anteriorly, and with numerous fine setae; ventrite IX rather narrow, as long as about 3/4 of tergum IX, with acute basal portion, setigerous in apical 3/4, widest at basal 1/4, thence gently narrowed apically, with rounded posterior margin.

Aedeagus (Fig. 1F–G) moderately elongate, well sclerotized except membranous basodorsal part; median lobe curved ventrally, with oblique truncate apex in ventral view; paramere long, reaching apex of median lobe, with several apical setae, internal face lacking black sensory peg setae; internal sac without sclerites.

Female. Unknown.

Measurements. Male (n = 1). BL: 19.35 mm; FBL: 9.05 mm; HL: 3.03 mm; HW: 3.40 mm; AL: 5.58 mm; PL: 3.02 mm; PW: 3.15 mm; EL: 2.82 mm; EW: 3.80 mm.

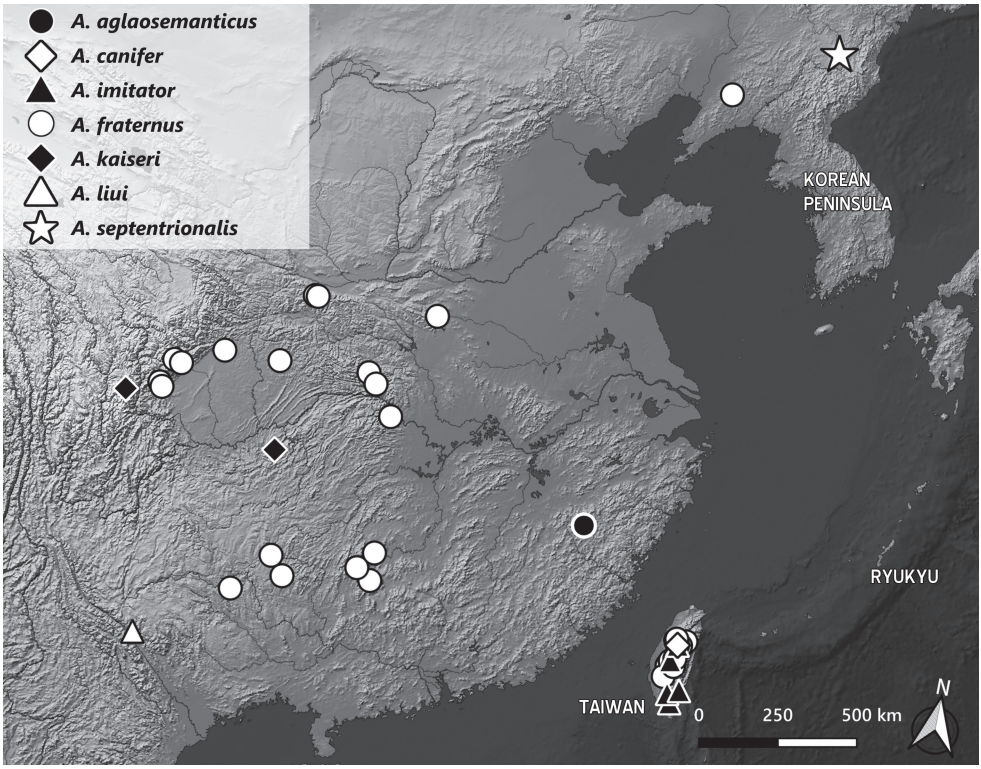

Fig. 2: Geographical distribution of *Apecholinus* spp.

COLLECTING CIRCUMSTANCES: The only specimen was collected from a trail in a woodland with conifers (*Larix gmelinii* var. *olgensis*, *Picea jezoensis*, *Abies nephrolepis*, etc.), shrubs and herbaceous plants.

DISTRIBUTION (Fig. 2): Korean Peninsula (known only from Mt. Paektu-san in the Chinese-North Korean border).

ETYMOLOGY: The epithet, a Latin adjective, refers to the fact that the new species is the northernmost representative of the genus *Apecholinus*.

Key to the species of the genus *Apecholinus*

1 Body (elytra and abdominal terga VI–VII) with patches of pubescence 2

– Body without patches 3

2 Body with patches of grey tomentose pubescence ..... *canifer* SMETANA & HU, 2019

– Body with patches of golden-yellow tomentose pubescence ..... *imitator* SMETANA & HU, 2019

3 Vertex of head and pronotal disc with coarse punctures intermixed with fine punctures ……. ..... *kaiseri* BERNHAUER, 1933

– Head and pronotum with dense and simple punctation 4

4 Head slightly wider than long; elytra distinctly shorter than pronotum; aedeagal paramere without sensory peg setae on inner face 5

– Head distinctly wider than long; elytra slightly longer than pronotum; aedeagal paramere with sensory peg setae on inner face 6

5 BL ≈ 19.5 mm; male abdominal ventrite IX without medioapical emargination; aedeagal paramere almost reaching the apex of the median lobe ..... *septentrionalis* sp.n.

– BL > 24.0 mm; male abdominal ventrite IX with distinct medioapical emargination; aedeagal paramere distinctly not reaching apex of median lobe ..... *liui* (HE & ZHOU, 2017)

6 Paramere almost reaching the apex of the median lobe ..... *fraternus* (FAIRMAIRE, 1891)

– Male aedeagal paramere distinctly not reaching apex of median lobe …….. ..... *aglaosemanticus* (HE & ZHOU, 2017)

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