



Original article (Orijinal araştırma)

***Anomognathus ispartaensis* sp. n. (Coleoptera: Staphylinidae: Aleocharinae) from Turkey¹**

Türkiye'den yeni bir tür: *Anomognathus ispartaensis* sp. n. (Coleoptera: Staphylinidae: Aleocharinae)

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Abstract

The genus *Anomognathus* Solier, 1849 (Coleoptera: Staphylinidae: Aleocharinae) comprises 10 species in the Palearctic Region. In the present study, a new species of the genus *Anomognathus* is described from Isparta Province of southwestern Anatolia and illustrated: *Anomognathus ispartaensis* sp. n. The new species is distinguished from all its congeners by the different body proportions, differently shaped tergite VIII of male, and by the completely different aedeagus. Three species of this genus are now known from Turkey. Specimens of this unknown species were collected from damaged cones of *Pinus brutia* Tenore by larvae of the Turkish red pine cone moth *Dioryctria mendacella* (Staudinger, 1859) (Lepidoptera: Pyralidae: Phycitinae) on 10 May 2016. The adult specimens emerged between 17 and 25 May 2016. This new species is probably a predator of *D. mendacella*.

Keywords: Aleocharinae, *Anomognathus*, cones of *Pinus brutia*, new species, Staphylinidae, Turkey

Öz

Anomognathus Solier, 1849 (Coleoptera: Staphylinidae: Aleocharinae) cinsi Paleartik Bölgede 10 tür ile temsil edilmektedir. Bu çalışmada, Güneybatı Anadolu'daki Isparta ilinden *Anomognathus* cinsine bağlı yeni bir tür tanımlanmış ve şekillendirilmiştir: *Anomognathus ispartaensis* sp. n. Bu yeni tür, bütün yakın türlerden farklı vücut oranları, erkek 7. tergitinin değişik biçimi ve tamamen farklı aedeagus yapısı ile ayrılmaktadır. Böylece, bu cinse bağlı olarak Türkiye'de bilinen tür sayısı üç olmuştur. Bu bilinmeyen türün örnekleri kızılçam kozalak kelebeği *Dioryctria mendacella* (Staudinger, 1859) (Lepidoptera: Pyralidae: Phycitinae) larvaları tarafından zarar verilmiş olan *Pinus brutia* Tenore ağaçlarının kozaklarından 10 Mayıs 2016 tarihinde toplanmıştır. Ergin bireyler 17-25 Mayıs 2016 tarihleri arasında çıkmıştır. Bu yeni tür muhtemelen, *D. mendacella* türünün bir predatörüdür.

Anahtar sözcükler: Aleocharinae, *Anomognathus*, *Pinus brutia* kozalağı, yeni tür, Staphylinidae, Türkiye

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Introduction

Anomognathus Solier, 1849 (Coleoptera: Staphylinidae: Aleocharinae) is a genus of the tribe Homalotini Heer, 1839 belonging to the subfamily Aleocharinae Fleming, 1821. The genus contains 10 species in the Palearctic Region (Schülke & Smetana, 2015). *Anomognathus* species live mostly under tree bark, but the biology and ecology of the species are unknown. According to Anlaş (2009) and Assing (2009), *Anomognathus cuspidatus* (Erichson, 1839) has been found in Bitlis, Karabük and Konya Provinces and *Anomognathus tricuspis* (Eppelsheim, 1884) in Adana and Mersin Provinces (Assing, 2006, 2009). In the Palearctic Region, *A. cuspidatus* is widespread in Europe and is known from China, also this species is distributed in the Nearctic Region. The known distribution of *A. tricuspis* is confined to Greece, Italy, Ukraine and Turkey.

Dioryctria mendacella (Staudinger, 1859) (Lepidoptera: Pyralidae: Phycitinae) is a moth and one of the several important harmful species on *Pinus* spp. The Turkish red pine cone moth, *D. mendacella* attacks the cones of several pine species, such as *Pinus pinea* L., *Pinus halepensis* Miller, *Pinus brutia* Tenore and *Pinus pinaster* Aiton, around the Mediterranean Region. The larvae feed within the cones, causing the cones to disintegrate before reaching maturity and thereby preventing seed production. It is commonly found in the pine forests of the Mediterranean, Aegean and Marmara Regions of Turkey. The pest reduces tree reproductive success, impacting on the quality of seed supply for regeneration and reforestation, and affecting abundance, distribution and dynamics of tree populations (Özek & Avcı, 2017). Can & Özçankaya (2006) and Özçankaya et al. (2013) observed specimens of *Carpelimus* spp. (Staphylinidae: Oxytelinae) abundantly in cones of *P. pinea* as a natural enemy of *D. mendacella*. Specimens of the new species were collected from *P. brutia* cones damaged by *D. mendacella* larvae. Thus, this is the second staphylinid natural enemy species of this pest found in Turkey.

The aim of this paper is to present a description of a new species of *Anomognathus* from southwestern Anatolia.

Material and Methods

The specimens of the new species were obtained from *P. brutia* cones, which were collected on 10 May 2016, with the Turkish red pine cone moth *D. mendacella*. The adult specimens emerged between 17 and 25 May 2016. Emerged specimens were individually preserved in 70% ethanol. Terminology of the primary and secondary sexual characters of the species described here follows Assing (2009). The morphological studies were conducted using a Stemi 2000-C microscope (Zeiss, Carl Zeiss AG, Oberkochen, Germany). For the photographs a digital camera (Zeiss Axiocam ERC5s) was used. Corel Draw X5 and Corel Photo-Paint X5 were used for editing the photos.

The following abbreviations are used for the measurements, which are given in mm: AL, length of antenna; AW, maximal width of abdomen; EL, length of elytra from apex of scutellum to posterior margin; EW, combined width of elytra; HL, head length from anterior margin of clypeus to posterior margin of head; HW, head width (including eyes); ML, length of aedeagus from apex of ventral process to base; PL, length of pronotum along median line; PW, maximal width of pronotum; and TL, total body length.

The material referred to in this study is preserved in the following collections: AZMM, Alaşehir Zoological Museum, Manisa, Turkey; and cAvc, private collection of the second author.

Results

Anomognathus ispartaensis sp. n. (Figure 1a-i)

Type material: Holotype: TURKEY: ♂ "TR – Isparta Province, Sütçüler, Yeşilyurt Village, Karadağ Forest Enterprise Depots, 890 m, 37°32'48" N, 30°53'24" E, 10-25.V.2016, leg. Avcı / Holotype ♂ *Anomognathus ispartaensis* sp. n. det. S. Örgel, M. Avcı & T. Özek 2018" (AZMM). Paratypes: TURKEY: 3♂♂, 2♀♀, same data as holotype (AZMM, cAvc).

Measurements (in mm) and ratios (range, n = 6): AL 0.56-0.59; HL 0.18-0.25; HW 0.29-0.36; PW 0.36-0.42; PL 0.25-0.31; EL 0.33-0.39; EW; 0.57-0.62; AW 0.42-0.48; ML 0.52 (n = 4); TL 1.78-2.40; HL/HW 0.62-0.69; PW/HW 1.17-1.24; PW/PL 1.35-1.44; EL/PL 1.26-1.32; EW/PW 1.48-1.58; AW/EW 0.75-0.77.

Type locality: Turkey, Isparta Province, Sütçüler District, Yeşilyurt Village.

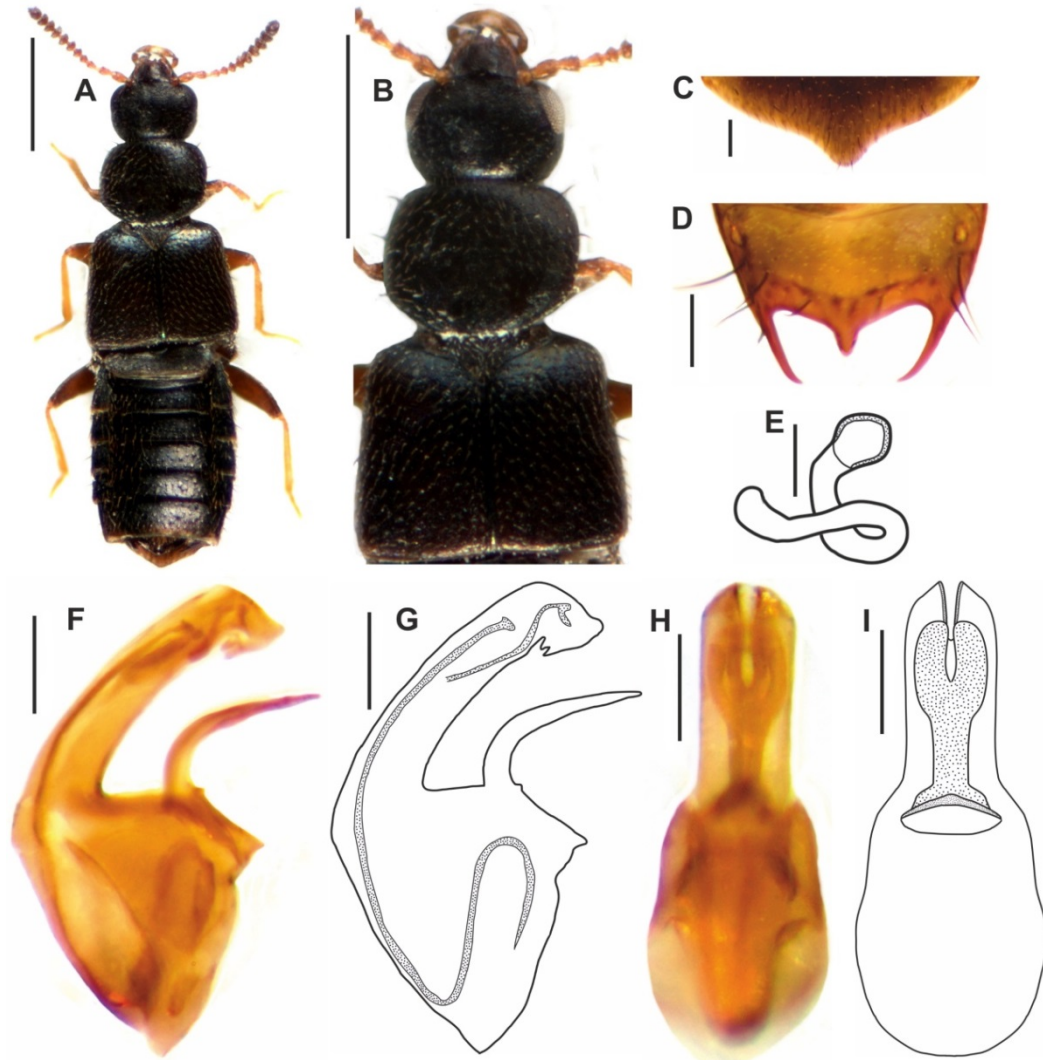


Figure 1. Details of *Anomognathus ispartaensis* sp. n. A) habitus; B) forebody; C) male sternite VIII; D) male tergite VIII; E) spermataeca; F & G) aedeagus in lateral view; H & I) aedeagus in ventral view. Scale bars: 0.5 mm (A-B) and 0.1 mm (C-I).

Description: Body length 1.8-2.4 mm. Coloration as Figure 1a: uniformly black with lighter posterior part of elytra; legs pale brown; antennae reddish brown with antennomeres I-IV yellowish.

Head 0.62-0.69 times as long as broad; narrower and shorter than pronotum (Figure 1A, B), with large eyes longer than postocular area in dorsal view; postocular area strongly converging basally and rounded posteriorly; antennae with articles I-III elongate and IV-X subquadrate (Figure 1A); punctuation sparse and barely visible, microreticulation explicit. Pronotum approximately 1.4 times as broad as long and 1.2 times as wide as head (Figure 1A, B), lateral margins parallel, posterior margin convex, punctuation and microreticulation similar to head, obviously noticeable in the microsculpture. Elytra longer and wider than pronotum (Figure 1A, B); microsculpture obviously noticeable and regular, punctuation and

microreticulation similar to pronotum. Abdomen subparallel (Figure 1A); slightly narrower than elytra, microsculpture distinct, shallower than that of elytra, microreticulation obviously noticeable.

♂: posterior margin of tergite VIII with three processes; two long and apically acute lateral teeth and one shorter and apically rotate median teeth (Figure 1D); posterior margin sternite VIII convex with median process (Figure 1C). Aedeagus 0.52 mm long, ventral process of distinctive shape in both lateral and ventral view (Figure 1F-I).

♀: tergite VIII with two long and apically acute lateral teeth, median part of tergite as long as lateral teeth and strongly converging basally; posterior margin of sternite VIII convex. Bulbus distalis of spermatheca wide, introflexio apicalis convex; manica interiecta strongly curved proximally, bulbus proximalis slightly curved as in Figure 1E.

Distribution and bionomics. The new species was collected in only one locality in the Yeşilyurt Village, Sütçüler District, Ispartaü Province in southwestern Anatolia, where it was collected from *P. brutia* cones damaged by larva of *D. mendacella* at an elevation of 890 m. According to Özek & Avcı (2017), this new species is a predator of *D. mendacella*.

Etymology. The name is derived from the Isparta Province, where the type locality is situated.

Comparative notes. The species is distinguished from its congeners (*A. cuspidatus* and *A. tricuspis*) by the different body proportions, by the differently shaped tergite VIII of male, with two large, acute and hooked apically lateral teeth, and also by the completely different aedeagus.

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