

1-1-2002

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ERMAN, ÖMER KÖKSAL and ERMAN, ORHAN (2002) "First records of *Oreodytes* Seidlitz, 1887 (Dytiscidae, Coleoptera) from Turkey: *Oreodytes septentrionalis* (Gyllenhal, 1826) and *Oreodytes davisii* (Curtis, 1831)," *Turkish Journal of Zoology*. Vol. 26: No. 3, Article 8. Available at: <https://journals.tubitak.gov.tr/zoology/vol26/iss3/8>

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First records of *Oreodytes* Seidlitz, 1887 (Dytiscidae, Coleoptera) from Turkey: *Oreodytes septentrionalis* (Gyllenhal, 1826) and *Oreodytes davisii* (Curtis, 1831)*

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Received: 28.06.2001

Abstract: *Oreodytes septentrionalis* (Gyllenhal, 1826) and *Oreodytes davisii* (Curtis, 1831) are recorded in Turkey for the first time and are reviewed according to our specimens and their distributions around the world.

Key Words: Coleoptera, Dytiscidae, *Oreodytes*, Taxonomy, First Records, Turkey.

Türkiye'den *Oreodytes* Seidlitz, 1887 (Dytiscidae, Coleoptera)'in İlk Kayıtları: *Oreodytes septentrionalis* (Gyllenhal, 1826) ve *Oreodytes davisii* (Curtis, 1831)

Özet: Türkiye faunası için yeni kayıt olan *Oreodytes septentrionalis* (Gyllenhal, 1826) ve *Oreodytes davisii* (Curtis, 1831)'nin tanımlı örneklerimiz üzerinden gözden geçirilmiş ve dünyadaki dağılımları verilmiştir.

Anahtar Sözcükler: Coleoptera, Dytiscidae, *Oreodytes*, Taksonomi, İlk kayıtlar, Türkiye.

Introduction

This Holarctic genus contains 29 species and 3 subspecies. In total there are 12 Palaearctic species, one being split into two subspecies: *O. alpinus*, *O. babai* (Neonectes), *O. dauricus*, *O. davisii*, *O. jakovlevi* (Neonectes), *O. kanoi*, *O. meridionalis*, *O. mongolicus*, *O. natrix* (Neonectes), *O. okulovi*, *O. sanmarkii sanmarkii*, *O. sanmarkii alienus*, and *O. septentrionalis*. Five of these species occur in Europe: *O. alpinus*, *O. davisii*, *O. meridionalis*, *O. sanmarkii sanmarkii*, *O. sanmarkii alienus*, and *O. septentrionalis* (2). In the past, three Asian species have been treated as belonging to the genus *Neonectes*, which is nowadays regarded as a subgenus of *Oreodytes* (*Neonectes*) *natrix*, *O. (N) jakovlevi* and *O. (N) babai*. The Nearctic species were revised by Zimmerman (1) and Larson et al. (2). The remaining seven species occur in Asia, but some of the European species occur in Asia (and even in America) (2,3). Most species occur in running water or at exposed lake margins, generally at high altitude or high latitude (3-7).

The species of *Oreodytes* prefer shallow, rapidly running, cool water (in mountains and in the north) with sandy and gravelly or solid bottom (3-9) corresponding to the colour of the bottom; if the bottom is light, coloration is light (black lines or spots more or less reduced); if the bottom is dark, the pattern of the dorsum is also darker (6,7,9).

Oreodytes has so far never been recorded from Turkey (3-7,9,10). Thus, *O. septentrionalis* and *O. davisii* are recorded from Turkey for the first time.

Materials and Methods

The samples were collected by means of a sieve, ladle and net having a diameter of 1 mm pore from shallow areas of various springs, streams and brooks. The beetles were fixed with ethyl acetate or within 70% alcohol solution and then the clayey and muddy substance on their surfaces was brushed off with a small paintbrush in the laboratory. Then the genitalia were dissected out

* Based partly on the Ph.D. thesis of Ö. Köksal ERMAN, supervised by O. ERMAN and supported by the research fund of Atatürk University (2000-32).

under the microscope. Figures of the genitalia, protarsal claws, epipleuron, metatibia and metatrochanter were drawn using a Nikon type SMZ-U stereomicroscope.

Findings and Discussion

Genus: *Oreodytes* Seidlitz, 1887

Body length 2.5-5.5 mm. Shape elongate to broadly oval; lateral outline continuous or not. Dorsal surface yellow to testaceous; pronotum maculate; elytron maculate or vittate. Ventral surface black. Pronotum with longitudinal lateral impressions; lateral beading narrow but well defined. Elytron ascending to humeral angle. Female elytron with or without a subapical expansion. Dorsal surface microreticulate; puncturation fine or obsolete. Ventral surface with microreticulation sometimes obsolete; puncturation fine in some species very coarse on metasternum and –coxae. Prosternal process with lateral beading; rather broad and of low convexity; neck without ridge or prominence. Metacoxae with hind margin conjointly incised at middle. Ventral surface of metafemur with sparse setiferous punctures. Penis simple; paramere with a subapical membraneous sac or prominent excavation.

Key to species of *Oreodytes*

1. Length 3.4-3.6 mm. Epipleuron not visible to base in lateral view (Fig. 1A) *O. septentrionalis*
2. Length 4.2-4.5 mm. Epipleuron visible to base in lateral view (Fig. 2A) *O. davisii*

Oreodytes septentrionalis (Gyllenhal, 1826)

Body elongate-oval; lateral outline with an obvious constriction at level of pronotal base. Head light brown; piceous black basally and on 2 interocular spots. Pronotum with more punctures and finer reticulation than in elytra; with 4 black maculae on disc. Elytron yellowish, with 8 black vittae (Fig. 1A); vittae 6-8 short; vittae 1-2 and 6-7 more or less confluent. Elytral linear puncture series not obvious. Ventral surface black. Epipleuron not visible to base in lateral view (Fig. 1B). Metasternal wing narrow with coarse punctures along posterior margin. Metacoxa with coarse puncturation and not deeply impressed sublaterally. Metatrochanter with sparse puncturation ventrally and short setae (Fig. 1C). Ventral puncturation of metatibia restricted to a regular row (Fig. 1D). Male pro- and mesotarsomeres 1-3 only weakly dilated. Protarsal claws almost equal in length

(Fig. 1E). Female elytron without a subapical expansion. Penis medium in length; evenly tapered to apex (Fig. 1F, G). Paramere as in Fig. 1H.

Total length according to the literature 2.7-3.6 mm (3-7,9-11). Our specimens have a length of 3.4-3.6 mm.

Material examined: In brook with sandy and gravelly bottom, 12.7.1999, 1 ♂, 1 ♀, Teke brook, Erzurum.

Distribution: Austria, Czech Republic, Finland, France, Great Britain, Germany, Ireland, Italy, Norway, Poland, Portugal, Russia (Central European Territory), Slovenia, Spain, Sweden, Switzerland, Mongolia, Russia (East Siberia, West Siberia) (4,5,7-11).

Notes on biology: The species occurs in running water, and is largely confined to larger streams and rivers with a hard bottom. It is also often abundant in small sandy or gravelly pools adjacent to running water (3,4,6).

Our specimens were collected in a river with a sandy and gravelly bottom in summer and autumn. They differ from Zaitsev's specimens in having four black spots on the pronotum (6) and from Nilsson's specimens in the form of vittae (3) and elytral linear puncture series not being obvious in either Zaitsev (6) or Nilsson's specimens (3).

Oreodytes davisii (Curtis, 1831)

Oval, slightly oblong, weakly convex. Head yellow with a dark spot near the eyes; both spots fused posteriorly. The base of pronotum narrower than elytra, slightly narrower anteriorly, depressed near the base, lateral rim sharper in the posterior half, with 2 black spots on disc. Elytra yellow, brownish, with 8 long vittae; vittae 1-2 and 7-8 more or less confluent, vittae 7-8 short (Fig. 2A). Dorsum markedly shagreened, moderately shining. Elytra with fine, sparse dots; there is slight indentation near the apex in both sexes, but without denticles. Epipleuron visible to base in lateral view (Fig. 2B). Venter black densely and finely punctate with stronger dots. Legs yellowish brown. Ventral puncturation of metatibia restricted to a regular row (Fig. 2C). Metatrochanter ventrally with sparse puncturation and short setae (Fig. 2D). Male protarsal inner claw slightly shorter than the outer (Fig. 2E). Penis of medium length tapered to apex (Fig. 2F, G). Paramere as in Fig. 2H.

From the literature we have a total length of 4-4.7 mm (4-7,9,10). Our specimens range from 4.2 to 4.5 mm.

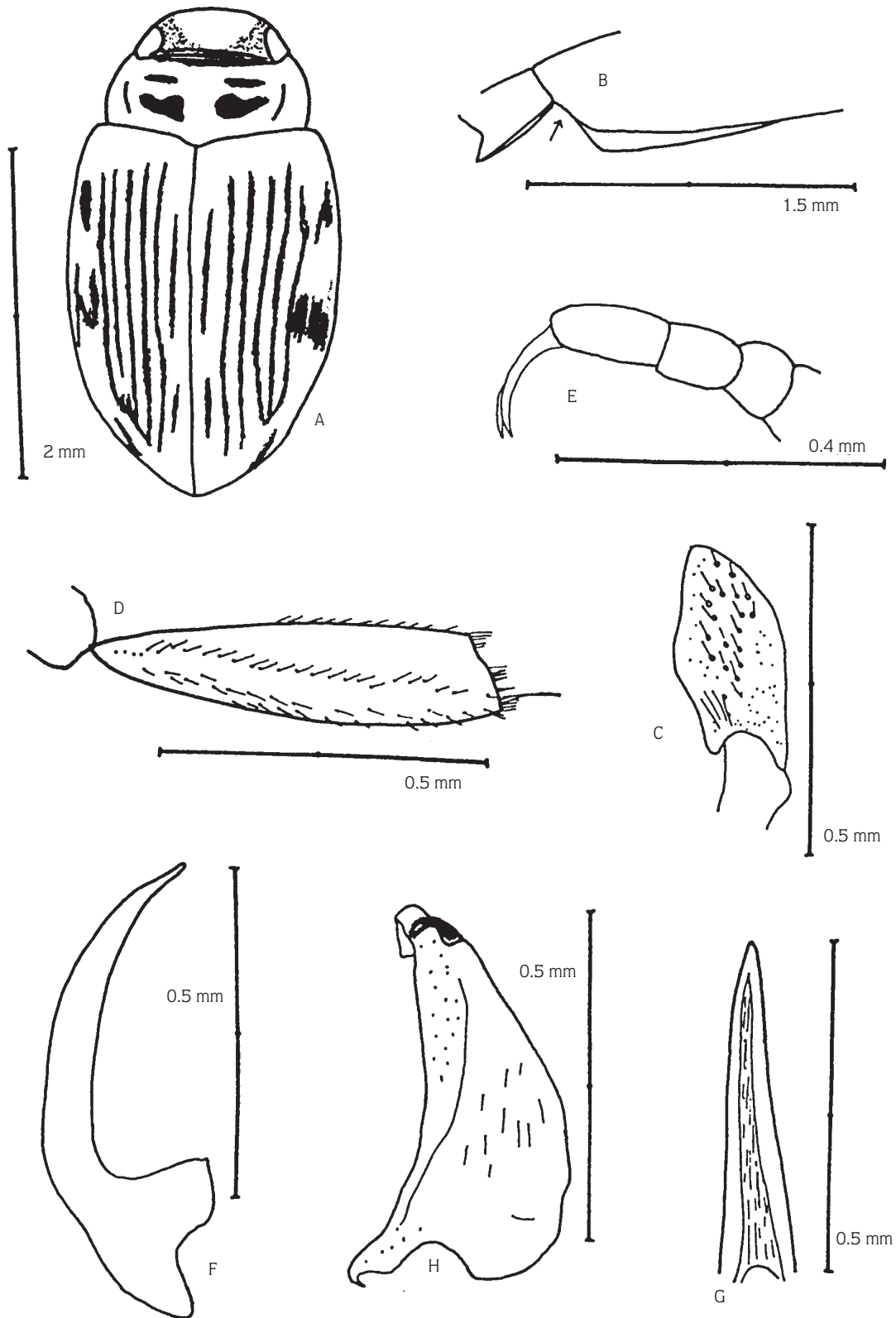


Figure 1. *Oreodytes septentrionalis*: Male: A) Habitus, B) Base of pronotum and elytron, lateral view, C) Metatrochanter, ventral view, D) Metatibia, ventral view, E) Protarsal claws, F) Aedeagus, lateral view, G) Aedeagus, dorsal view, H) Paramere.

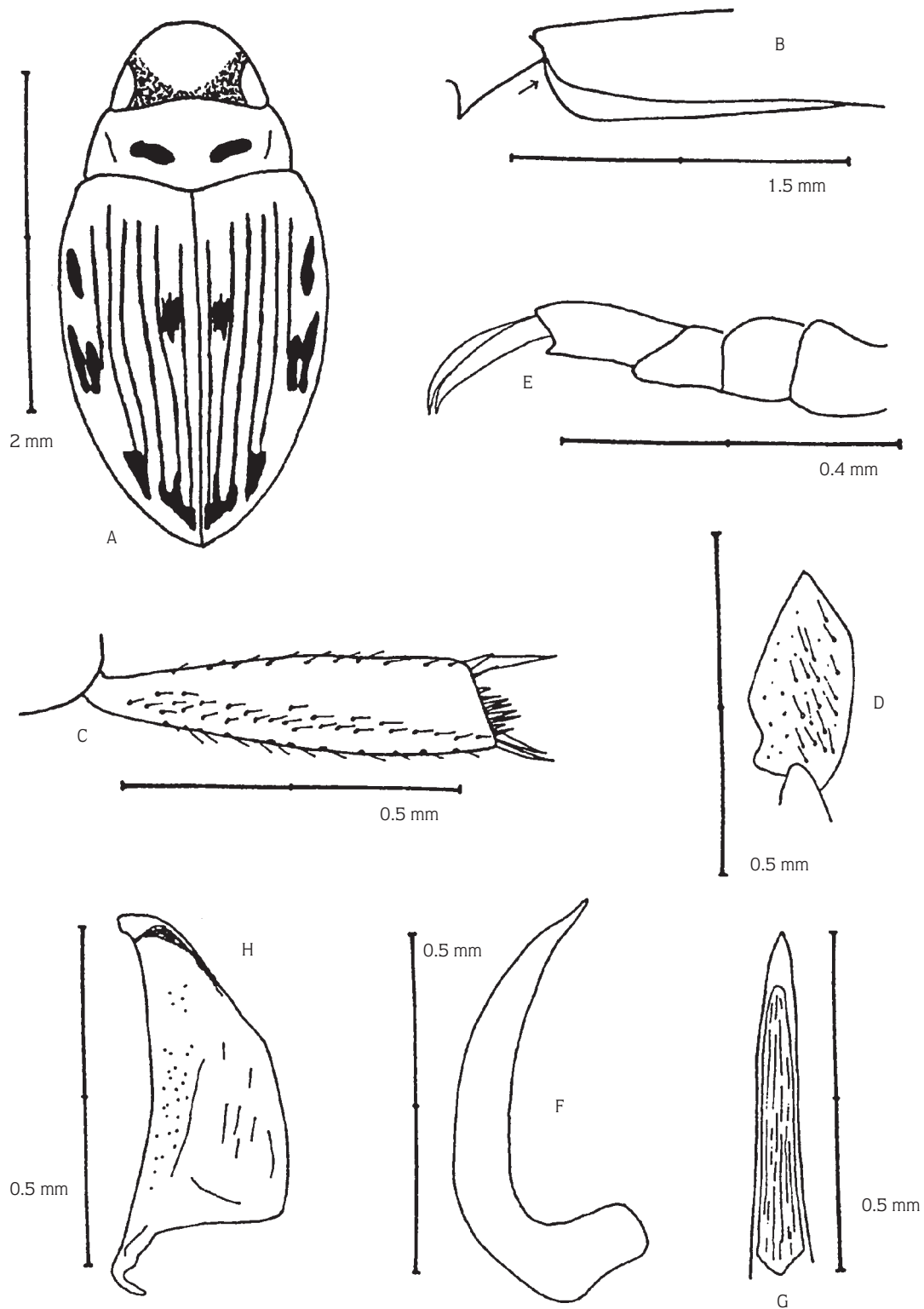


Figure 2. *Oreodytes davisii*: Male; A) Habitus, B) Base of pronotum and elytron, lateral view, C) Metatibia, ventral view, D) Metatrochanter, ventral view, E) Protarsal claws, F) Aedeagus, lateral view, G) Aedeagus, dorsal, H) Paramere.

Material examined: Streams and rivers with sandy and gravelly beds, 13.7.1999, 2 ♂♂, 4 ♀♀, Palandöken pond brook; 27.7.1999, 2 ♀♀, Demirdöğen dam brook, Pasinler; 5.9.1999, 5 ♂♂, 10 ♀♀, Yedigöller, Tortum; 13.10.1999, 1 ♂, 5 ♀♀, Çayırözü village, 30.6.1999, 15 ♂♂, 28 ♀♀, Moryayla village, 3.8.1999, 7 ♂♂, 11 ♀♀, Kuzgun dam brook, İspir, Erzurum.

Distribution: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, France, Great Britain, Germany, Georgia, Greece, Ireland, Italy, Poland, Slovakia, Slovenia, Spain, Switzerland, Ukraine (4,5,7,9-11).

Notes on biology: This species is found in streams and also in lakes (4).

Our specimens were collected in streams and brooks with gravelly and rocky beds. This species spreads in

summer and autumn. It is an alpine species. In general, our specimens agree with both the morphological and ecological features of this species indicated by other authors (4-7, 9-11), but they differ from Schaefflein's specimens in having 8 vittae on the elytra (9).

Acknowledgement

The authors want to express their sincere thanks to Dr. Hans FERY (Räuschstr. 73, D-13509 Berlin, GERMANY) for commenting on the manuscript and confirming our identification and to Prof. Garth FOSTER (Head of SAC Environment Division Auchincruive Ayr KA6 5HW, Scotland, UK) for checking the manuscript for use of English.

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