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Abstract: Two newly recorded *Hydrochus* Leach, 1817 (Coleoptera, Hydrochidae) species for the Turkish fauna, *Hydrochus ignicollis* (Motschulsky, 1860) and *H. brevis* (Herbst, 1793), are described and some ecological notes and their distribution in Turkey and worldwide are presented.

Key Words: Coleoptera, Hydrochidae, *Hydrochus*, Systematics, Turkey.

Türkiye Faunası İçin Yeni İki Hydrochidae (Coleoptera) Türü ve Bazı Ekolojik Notlar

Özet: Türkiye faunası için yeni kayıt olan *Hydrochus ignicollis* (Motschulsky, 1860) ve *H. brevis* (Herbst, 1793)'in tanımları örneklerimiz üzerinden gözden geçirilmiş, bazı ekolojik özellikleri ile Türkiye ve dünyadaki dağılımları verilmiştir.

Anahtar Sözcükler: Coleoptera, Hydrochidae, *Hydrochus*, Sistematik, Türkiye.

Introduction

Hydrochidae is a rather small family, comprising only 1 genus, represented in all the major zoogeographical regions (Hansen, 1987, 1991). These are mainly aquatic, elongate beetles. Recently, many new *Hydrochus* species and records have been introduced to science (especially by Dewanand Makhan). So far, only 1 *Hydrochus* species (*H. megaphallus*) has been recorded from Turkey (Hansen, 1991). This study makes only a small contribution to the Turkish aquatic Coleoptera fauna.

Materials and Methods

The samples were collected by means of a sieve, ladle and net with 1 mm pores from shallow areas of various springs, streams and ponds in May 1999-October 2002. The beetles were killed by ethyl acetate or in 70% alcohol solution. Aedeagophores were dissected out under a stereo microscope and exposed in 10% KOH solution for 1-2 h. The figures of aedeagophores were drawn using a Nikon type 104 microscope. The photographs of the head, pronotum and apex of the elytra were taken with an electron microscope because it present more information about the taxonomy of the *Hydrochus* species.

Systematics

Hydrochus brevis (Herbst, 1793)

Body length 3-3.3 mm. Head black, granulate, with metallic greenish reflections (Figure 1a). Maxillary palpi reddish brown, apex of the last segments more darker. Antennae 7-segmented, club loose and darker. There is a narrow green band between head and pronotum. Pronotum granulate, reddish, sometimes with metallic reflections. Pronotal pits rather distinct (Figure 1b). Elytra dark brown, striae distinct 1st intersitice not ridged, continued almost to apex. Elytral apex as in (Figures 1c,d). Scutellum oval, darker than pronotum and elytra. Ventral surface dark reddish. Legs reddish, claw segments not darker than others. Aedegaphore rather simple and asymmetrical.

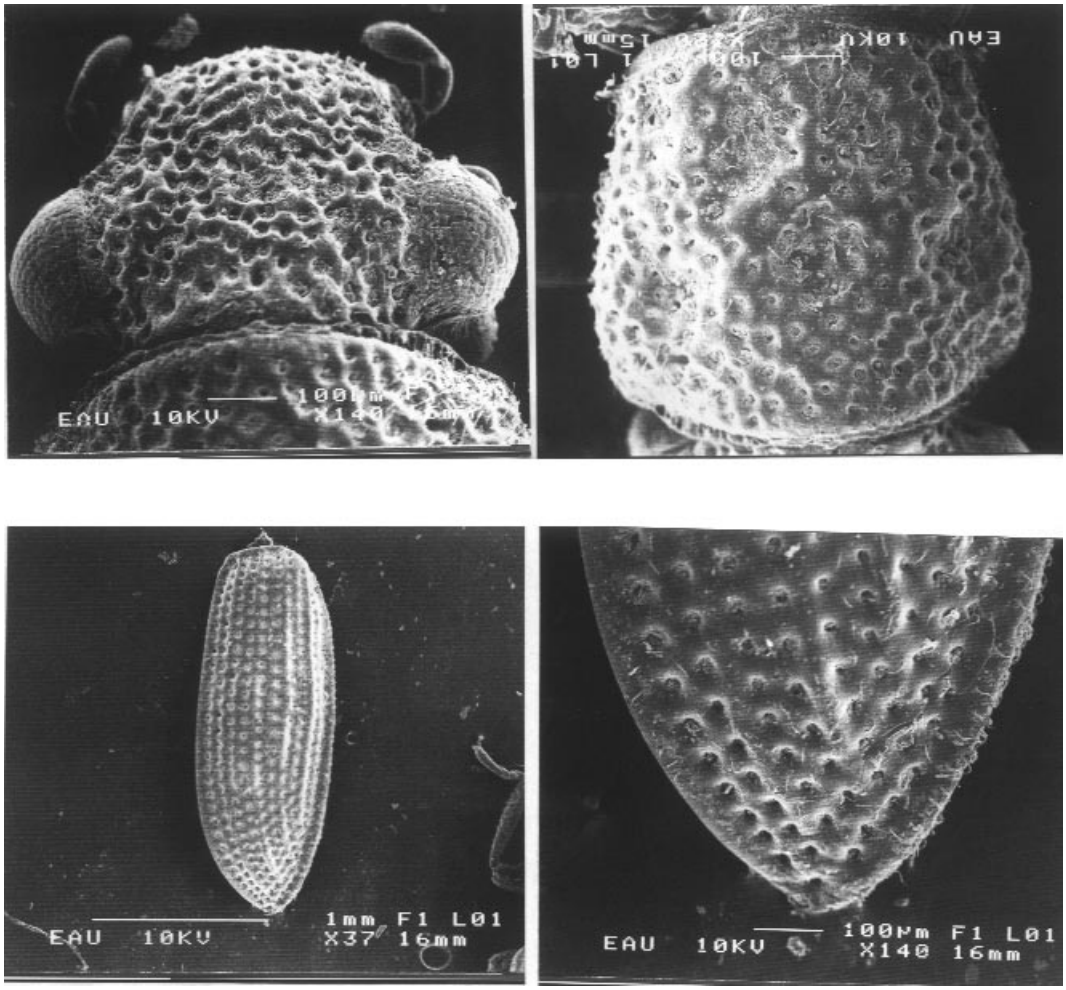

Figure 1. *Hydrochus brevis*; a) Head, b) Pronotum, c) Right elytron, d) Apex of right elytron.

Material Examined: Grassy pond, 26.IX.2000, 1♂, 1♀, Tuzluca village, Çat, Erzurum; 18.IX.2000, 1♂, Değirmenlidere, Oltu, Erzurum; Cankurtaran pass, 3.VII.1999, 1♂, 1♀, Artvin; 17.IX.2000, 1♂, Yukarıkoyunlu village, Şavşat, Artvin.

Distribution: Austria, Belgium, Britain, Czech Republic, Denmark, Estonia, Finland, France, Germany, ?Hungary, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Russia, Sweden, Switzerland (Hansen, 1999).

Hydrochus ignicollis (Motschulsky, 1860)

Body length 3-3.5 mm (20 specimens measured). Head black, covered with granules. Dorsal surface of granules distinct (Figure 2a), with metallic greenish reflections. Maxillary palpi reddish brown and asymmetrical. Antennae 7-segmented, brown, club loose and pale, not darker than base. Pronotum dark brown, all surface covered with granules having metallic reflections, lateral margins narrowed posteriorly (Figure 2b). Scutellum oval, darker. Elytra dark brown to brown. Elytral ridging variable, yet always distinct (Figure 2c). 1st, 5th and 7th interstices not ridged; 3rd interstices distinctly ridged at anterior half; 6th and 8th interstices continued almost to the apex. Elytral apex as in (Figure 2d). Ventral surface entirely dark. Legs reddish, femora and claw segments darker.

♂: Aedeagophore asymmetrical, 1.2 mm in length.

♀: 5th visible abdominal sternite not excised laterally.

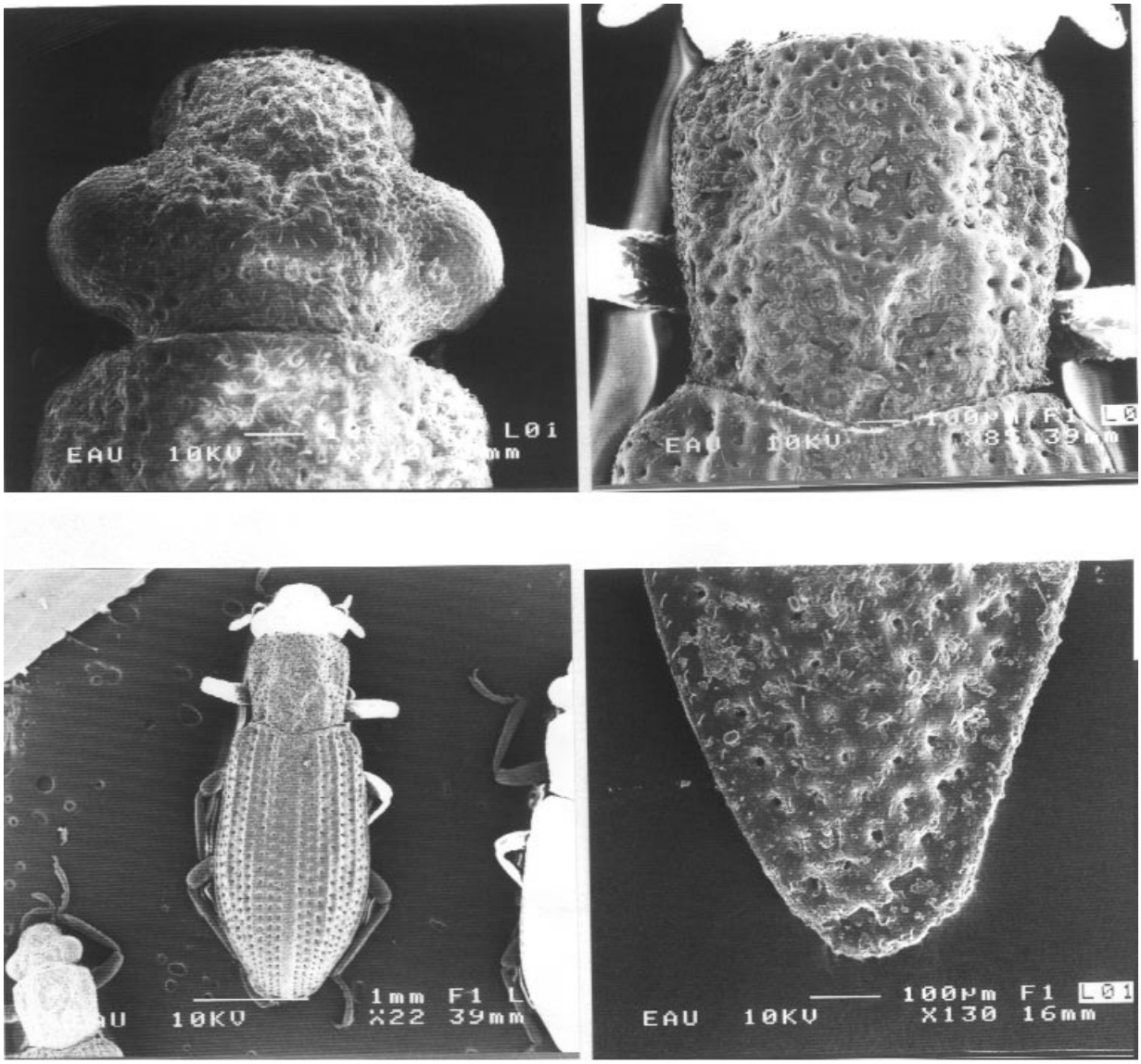

Figure 2. *Hydrochus ignicollis*; a) Head, b) Pronotum, c) Whole beetle from dorsal side, d) Apex of right elytron.

Material examined: Yukarı Koyunlu village, upper lake, 4.VII.2000, 9♂♂, 5♀♀, 21.VI, 2001, 6♂♂, 2♀♀, Şavşat, Artvin; 1 km before Meşeli village, 19♂♂, 12♀♀, 6.VII.1999, 5♂♂,7♀♀, 8.VI.2001, Şavşat, Artvin.

Distribution: Austria, Belgium, Britain, Czechoslovakia, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Norway, Poland, Russia, Sweden (Balfour-Browne, 1958; Pirisinu, 1981; Hansen, 1999).

Ecology

H. ignicollis specimens were collected from stagnant or slowly running water, especially very cold even in summer, eutrophic and well vegetated. The samples were collected from pools both entirely surrounded by pines and open to the sun, but no *H. brevis* samples could be collected at the same habitat. *H. brevis* specimens were collected from sunny, eutrophic, well vegetated and temporary pools.

Discussion

It is reported that *H. ignicollis* avoids shaded areas. It israrely found in deciduous woodlands and is generally found together with *H. brevis* (Hansen, 1987). Generally, our samples were collected from areas entirely surrounded by pines. *H. ignicollis* specimens were very abundant in their habitat where no other Hydrochid species were present.

H. brevis species were very rare in the research area (Erzurum, Artvin and Rize provinces). During the collecting period from 1999 to 2002 only 5 *H. brevis* specimens were obtained in 1999 and 2000. Therefore it is not possible to provide any information about they habitat preference of *H. brevis*.

In respect of morphological characters (especially aedeagophores for both species) (Figures 3a,b), our findings are in accordance with the results obtained from previous studies.

Up to 2004, only 1 species of *Hydrochus* has been recorded from Turkey (Balfour-Browne, F. 1958; Hansen, 1991). The number of *Hydrochus* species, together with these 2 new records, is now increased to the 3. In Turkey, with its various geographical regions and different climates, the number of *Hydrochus* species is doubtless much higher than that recorded so far. New studies should therefore conducted on this group of insects.

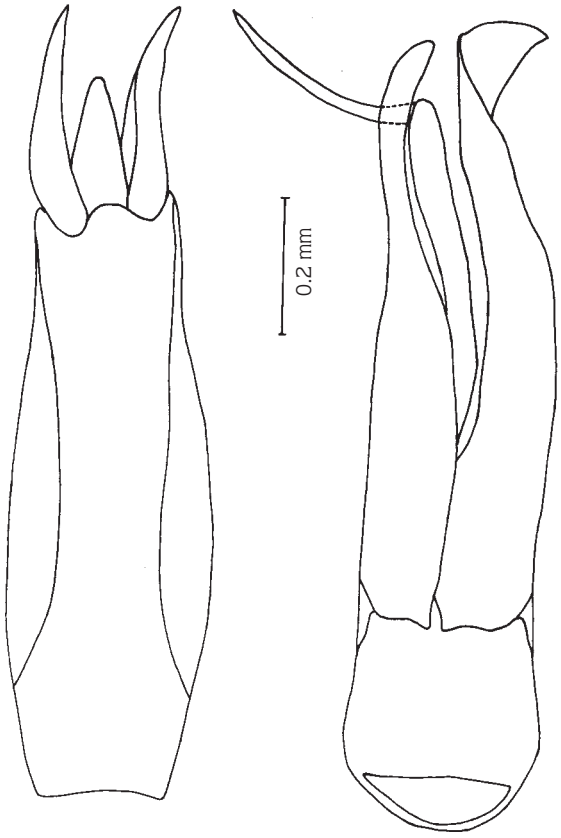

Figure 3. Aedeagophore. a) *Hydrochus brevis*. b) *Hydrochus ignicollis*.

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