

## **A New Record for The Turkish Fauna (Coleoptera: Hydrophilidae), with Further Notes on The *Laccobius Sinuatus* Motschulsky, 1849 and *Coelostoma Transcaspicum* Reitter, 1906**

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### **Abstract**

A new record of hydrophilid beetle, *Helochares sharpi* Kuwert, 1890 is presented. Distribution of *Laccobius siniatus* Motschulsky, 1849 in Turkey was confirmed. However, *Coelostoma transcaspicum* Reitter, 1906 was recorded secondly from Turkey. General description, distributional data and photos of its aedeagophores have also been presented.

**Keywords:** Coleoptera, Hydrophilidae, New Record, Confirmation, Turkey.

## **Türkiye Faunası için Yeni Bir Kayıt (Coleoptera: Hydrophilidae) ve *Laccobius sinuatus* Motschulsky, 1849 ile *Coelostoma transcaspicum* Reitter, 1906 Üzerine İlave Notlar**

### **Özet**

Hidrofilidlerden Türkiye faunası için yeni kayıt olan *Helochares sharpi* Kuwert, 1890 sunuldu. *Laccobius siniatus* Motschulsky, 1849'un Türkiye'deki dağılışı doğrulandı. *Coelostoma transcaspicum* Reitter, 1906 Türkiye'den ikinci defa kaydedildi. Genel deskripsiyon, dağılım bilgileri ve bu türlere ait aedeagofor fotoğrafları birlikte sunuldu.

**Anahtar Kelimeler:** Coleoptera, Hydrophilidae, Yeni Kayıt, Doğrulama, Türkiye.

### **1. Introduction**

The Hydrophilidae is a large family, represented in all parts of the world and consisting of 172 genera and about 2716 known species. Of the four subfamilies recognized only two (Hydrophilinae, Sphaeridiinae) are recorded from the Palearctic region [1, 2]. Considering the previous studies on the Turkish aquatic Coleoptera fauna; it is easily said that the Genera *Helochares*, *Laccobius* and *Coelostoma* are widely distributed in Turkey, but these statements are not validate at species level. New studies should therefore conducted on this group of insects. The aim of this study is to make a contribution to Turkish aquatic Coleoptera fauna.

### **2. Materials and Methods**

The specimens of the Hydrophilidae were collected by means of a sieve, ladle and net with 3x1 mm pores from the shallow areas of various springs, streams, lakes and ponds in Gaziantep, Hatay, Kahramanmaraş, Kilis and Osmaniye provinces of Turkey (Figure 1) between 2011-2013. Firstly collected samples were killed by ethyl acetate in the research area and then aedeagophores of the beetles were dissected under a stereo microscope in the laboratory. Photographs of the main diagnostic characters were taken using Olympus SZX16 microscope. All samples were deposited in the Zoological Museum, Atatürk University, Science and Art Faculty, Department of Biology, Erzurum, Turkey.



Figure 1. Research area

### 3. Results

#### Hydrophilidae

##### *Helochares sharpi* Kuwert, 1890

Description: The body has a width of 4.1 to 4.3 mm in length from 2.8 to 2.9 mm. Head is yellowish. Antennae with nine segments, club is brownish, and other segments are yellow. Maxillary palpi are yellow. Legs are yellowish brown, femur is covered with stiff bristles. Tarsi have five-segments, yellowish brown color with quotes. Aedeagophore is about 1.2-1.3 mm in length and yellowish color. The end of the parameter can have characteristics specific approach shaped roof with a right angle to each other, mid-rounded and short. Struts extends from the basal portion, and is extended parallel to each other. Basal part is long (Figure 2.a).

Materials examined: Osmaniye: Merkez: 3♂♂, 1♀ Tecirli (Bird Paradise); 37°09'47"N 36°07'19"E, 54m, 16.V.2013.

Remark: It was recorded for the first time from Turkey.

##### *Laccobius sinuatus* Motschulsky, 1849

Description: the body has a width of 3.5 to 3.6 mm and an average length of 2.0 to 2.1 mm. The head is black. Maxillary palpi are yellow and its apex are dark. The last part of the antennae is brown, the others are yellow. Legs are reddish yellow. The last part of tarsi are dark. Aedeagophore is 0.6-0.7 mm in length. Parameres are shorter than the base part are estranged from each other, the ends appear sharp form. Parameres both the top section has the shape of two clamps facing each other's and it is shorter than the middle lobe. Struts are considerably shorter. Basal rectangular piece

ends by showing a sharp contraction downward (Figure 2b).

Materials examined: Hatay: Hassa: 1♂, Dört Yol Pathway; 36°59'42"N 36°24'03"E 1332m 27.VI.2012; Yayladağ: 1♂, Narlıtopper; 36°39'21"N 36°27'30"E, 220m, 23.IV.2012.

Remark: Distribution in Turkey was confirmed with this study.

##### *Coelostoma (Lachnocoelostoma) transcaspicum* Reitter, 1906

Description: All morphological characters are the same as in [3] except body size.

Materials examined: Hatay: Antakya: 1♂, 1♀, Serinyol; 36°35'00"N 36°21'01"E, 130m, 03.X.2012.

Remark: This is the second record for Turkey and also the first record for Hatay province.

### 4. Discussion

*H. sharpi* is distributed in both Afrotropic (Ghana, Madagascar, Tanzania, Zambia) and Palearctic (Egypt, Israel) regions [1]. It has been determined that Turkey is the northernmost limit of the distribution of species. Aedeagophore of species (Figure 2a) are very characteristic. Overall body size is similar to previously found samples. Female specimens are slightly larger and a little darker than males.

According to Darılmaz and İncekara [4], Distribution of *L. sinuatus* in Turkey is needed confirmation. With this study, Distribution of this species in Turkey was confirmed. *L. sinuatus* is widespread in Europe, from the South of England, Fennoscandia and Baltic region of the Russia southwards to the Mediterranean (including Morocco, Algeria and Tunisia), towards the east apparently not ranging so far to the South (Central Balkans); widespread in Central Europe, eastwards to the European Russia (perhaps ranging further east than *L. striatulus*). According to Hansen [5], the species has been confused with *L. striatulus*, so its Palearctic distribution is still not known in details.

*C. (L.) transcaspicum* is very rare species in the Palearctic region. It has only been recorded from Oman, Saudi Arabia, Tajikistan and Turkey

[4, 6, 7]. Until 2016, only two species of *Coelostoma* had been recorded in Turkey. *C. transcaspicum* had been recorded from Turkey by Mart et al. [3] for the first time. With the present study, this rare species is secondly recorded. *C. transcaspicum* is similar to *C. orbiculare* externally, but it is easily

distinguishable by its body size and aedeagophore shape.

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Figure 2. Aedeagophores. a: *Helochares sharpi* Kuwert, 1890. b: *Laccobius sinuatus* Motschulsky, 1849. c: *Coelostoma transcaspicum* Reitter, 1906.

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