

First Record of *Hydaticus histrio* Clark, 1864 (Coleoptera, Dytiscidae) From Turkey

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Abstract: *Hydaticus histrio* Clark, 1864 is newly recorded from Turkey. Its description and general distribution are reviewed. Photographs of dorsal habitus and male genitalia are included.

Keywords: Coleoptera, Dytiscidae, *Hydaticus histrio*, First record, Turkey.

Introduction

The tribe Hydaticini Sharp, 1882 constitutes a part of the subfamily Dytiscinae. Most species occur in ponds with dense vegetation, but many occur also in areas with mineral substrates, and some prefer slow lotic habitats. Hydaticini has a long history of consistent recognition since Sharp (1882) erected it to include two genera, *Hydaticus* Leach and *Prodaticus* Sharp and there have been a lot of works in this topic (Sharp, 1882; Miller et al., 2009).

Miller et al. (2009) presented a phylogenetic analysis of the diving beetle tribe Hydaticini (Coleoptera: Dytiscidae: Dytiscinae) based on data from adult morphology, two nuclear (histone III and wingless) and two mitochondrial (cytochrome c oxidase I and II) protein-coding genes, with *Hydaticus* and *Prodaticus* each recognized as valid genera. However, Nilsson and Hájek (2018a, b) lists only one genus (*Hydaticus*), with *Hydaticus* (s. str.) and *Prodaticus* as subgenera. We followed Nilsson and Hájek (2018a, b)'s arrangement in this work. *Hydaticus* is distributed worldwide with most of its 143 species found in the Old World tropics.

In Turkey, four *Hydaticus* taxa are known so far. These are *H. transversalis laevisculptus*, *H. grammicus*, *H. leander*, and *H. ponticus* (Nilsson and Hájek, 2018b). Here, we add *Hydaticus histrio* to the Turkish fauna and the total number reaches to five.

Material and Methods

The specimens were collected from the Siverek and Hilvan districts of Şanlıurfa province in 2014 (Fig. 1). Samples were collected by means of a sieve, ladle and net with a 0.5 mm mesh, in ponds with vegetation. Beetles were killed in 70% alcohol solution and any muddy substance on them removed with a small paint brush in the laboratory. Genitalia were dissected under the microscope. Photos of adults and genitalia were taken with Canon EOS 70D DSLR digital camera attached to a microscope Leica Z16APO with a ring LED light using EOS Utility software. Materials examined have been deposited in the private collection of the first author at Atatürk University, Erzurum, Turkey.

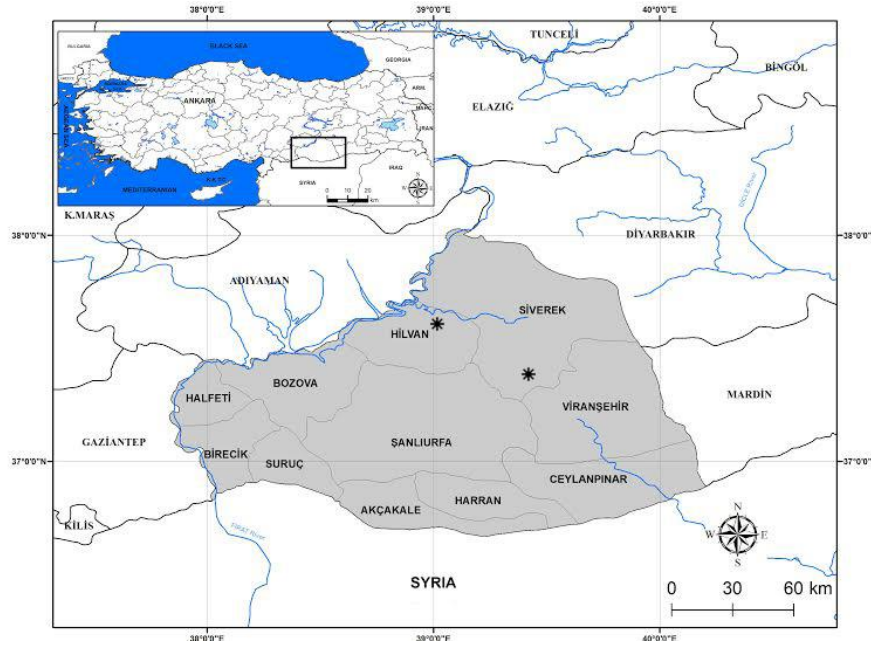


Figure 1. Map of Şanlıurfa province showing the sampling sites.

All species are the first record for the study field. The species *Aleiodes (Neorhogas) fortipes*

Results

Hydaticus (Prodaticus) histrio Clark, 1864

Hydaticus histrio Clark, 1864:221; TL: India >N part; Holotype BMNH; DESCR.: Vazirani 1969b:258.

Hydaticus rectangulus Sharp, 1882a:669; TL: India, Iran; Syntypes BMNH; N. SYN.: Régimbart 1899a:330.

Male: Length 13.2 mm. Head anteriorly yellowish-brown, black on the vertex and along the inner margins of the eyes, also a transverse narrow streak about the middle of the eyes. Punctuation dual, fine and close, large punctures with sparse (Fig. 2).

Pronotum largely black on the disk and yellowish-brown at the sides; with impressed longitudinal stria in the middle, punctuation like on head, delicate microreticulation between punctuation.

Elytra black with two broad longitudinal yellowish-brown stripes running from the base to the apex (Fig. 2); the internal stripe forming almost a straight line invaginating to the suture at the base; the outer one slightly curved along the border, anterolaterally touch it and joined to the inner stripe both near base and apex of elytra; punctuation and microreticulation like on pronotum.



Figure 2. Male general habitus.

Ventral surface mainly black; the antennae, palps yellowish, anterior legs, base of prosternal process yellowish-brown, last segments of antennae gradually becomes brown, epipleura dark-brown, testaceous, near shoulders yellowish-brown; middle legs yellowish-brown, with tibiae and tarsi dark brown, hind legs black, metatrochanter dark-brown. Anterior metatarsal claw less than half as long as posterior claw. Abdominal sternites with yellowish-brown irregular spots on the sides of each of visible sternites 3, 4 and 5, areas of irregular spots slightly impressed. Male protarsal claws relatively long, curved.

Aedeagus and parameres as in Figure 3.



Figure 3. Aedeagus and parameres.

Female: Length 12.7 mm. Female differs from male as follows: black mark on pronotum especially anteriorly slightly larger; microreticulation more evident; black longitudinal stripes between two longitudinal yellowish-brown stripes on elytra slightly narrower.

Material examined: Şanlıurfa, Siverek, (37° 22.333'N, 39° 26.724'E), 688m, 30.09.2014, 1 ♂, leg. G.E. Taşar, Hilvan, Faik village, (37° 36.492'N, 39° 00.631'E); 595 m, 05.05.2014, 1 ♀, leg. G.E. Taşar (Figs. 4, 5).

Distribution: Afghanistan, India (Himachal Pradesh, Uttar Pradesh), Iran, Iraq, Kashmir, Oman, Pakistan, Saudi Arabia, United Arab Emirates, Yemen (Bhagat, 2013; Hajek, 2006; Hajek and Brancucci, 2011; Hosseinie, 1978; Kazmi and Ramamurthy, 2004; Nilsson and Hajek, 2018a, b; Shaverdo et al., 2013; Ghosh and Nilsson, 2012; Nilsson and Hajek, 2018b).



Figure 4. Locality of male specimen.



Figure 5. Locality of female specimen.

Discussion

In the absence of more recent papers dealing with *H. histrio*, we have compared our specimens with Vazirani's (1969) description. In general, our specimens agree with morphological features of this species as indicated by Vazirani (1969), but differ as follows: antennae, palps yellowish, last segments of antennae infuscated towards the apex; longitudinal stripes on elytra yellowish brown; the outer longitudinal stripes anterolaterally touch the elytral border; anterior legs, base of prosternal process yellowish-brown; middle legs yellowish-brown, epipleura dark-brown, testaceous, near shoulders yellowish-brown; abdominal visible sternites 3, 4 and 5 with yellowish-brown irregular spots on the sides of each of them.

Most species of *Hydraticus* live in ponds and lakes, preferably with dense vegetation (Nilsson and Holmen, 1995). Most occur in ponds with dense vegetation, but many occur also in areas with mineral substrates, and some prefer slow lotic habitats (Miller et al., 2009). In our study the male specimen was collected in a slow running stream with dense vegetation. The female specimen was collected in a small pond, also with dense vegetation.

Şanlıurfa Plateau is bordered by the Fırat River on one side and the south-eastern Toros on the other. The plateau is crossed by mountains, some of which are collapsed and other forming a dome. The region experiences a continental climate with dry, hot summers and wet, temperate winters.

Hydraticus histrio occurs in both the Palearctic and Oriental regions, being reported from Afghanistan, India,

Iran, Kashmir, Pakistan and the Arabian Peninsula. Şanlıurfa Plateau forms the northern part of the Arabian platform, and *Hydaticus histrio* may have colonised Turkey from this area.

Vazirani T.G. 1969. Contribution to the Study of Aquatic Beetles (Coleoptera). A Review of the Subfamilies Noterinae, Laccophilinae, Dytiscinae and Hydroporinae (In part) from India. *Oriental Insect*, 2 (3-4), 221-341.

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