

Turkish hydrophilidae (Coleoptera) III. genus *Hydrochara* Berthold 1827 with the description of a new species, *Hydrochara major* sp. n.

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Abstract: A new species of hydrophilid beetle, *Hydrochara major* sp. n., is described from sea level in northern Anatolia (Asiatic Turkey). The key and list of *Hydrochara* spp. known from Turkey are presented with additional distributional data.

Key words: Coleoptera, Hydrophilidae, *Hydrochara*, distribution, new species, Turkey

Türkiye hidrofilitleri (Coleoptera) üzerine çalışmalar III. *Hydrochara* Berthold 1827 cinsi ve yeni bir türü: *Hydrochara major* sp. n.

Özet: Yeni bir hidrofilit türü olan *Hydrochara major* sp. n. Kuzey Anadolu'nun (Asiyatik Türkiye) deniz seviyesinden tanımlanmıştır. Türkiye'den bilinen *Hydrochara* türlerinin teşhis anahtarı ve listesi, ilave dağılım bilgileriyle birlikte sunulmuştur.

Anahtar sözcükler: Coleoptera, Hydrophilidae, *Hydrochara*, dağılım, yeni tür, Türkiye

Introduction

The genus *Hydrochara* comprises 22 species that occur in the Nearctic, Palearctic, Ethiopian, and Oriental regions (Smetana, 1980; Hansen, 1999). There are 9 species known in the Palearctic region (*H. affinis* Sharp, 1873, *H. caraboides* Linnaeus, 1758, *H. dichroma* Fairmaire, 1829, *H. flavipalpis* Boheman, 1851, *H. flavipes* Steven, 1808, *H. libera* Sharp, 1884, *H. semenovi* Zaitzev, 1908, *H. similis* d'orchymont, 1919, and *H. vicina* Bameul, 1996). Of these, *H. caraboides*, *H. dichroma*, and *H. flavipes* have been recorded from Turkey (Smetana, 1980; Hansen, 1999; Darılmaz and Kıyak, 2006).

Materials and methods

Specimens were collected during surveys of the aquatic Coleoptera in different Anatolian regions since 1998. A distribution map (Figure 1) was composed based on the literature and additional material examination (additional material examination entirely based on private collections). The beetles were killed by using ethyl acetate or 96% ethanol. Beetle aedeagophores were cleaned with brushes, dissected under a stereo microscope, and left in 10% KOH for 1-2 h at room temperature. Photographs of the main diagnostic characters were taken with a SMZ-U 1500 Nikon 104 microscope. Some old records are presented without coordinates.

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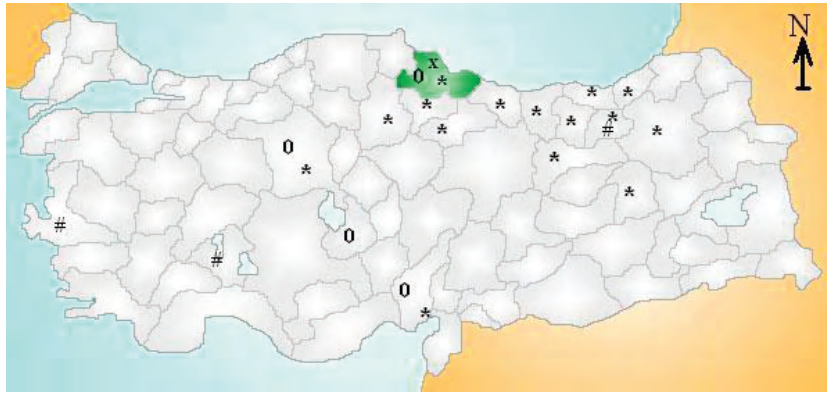


Figure 1. Distribution of *Hydrochara* spp. in Turkey. X: *H. major* sp. n.; #: *H. caraboides*; *: *H. dichroma*; 0: *H. flavipes*.

Results

Key to *Hydrochara* spp. known from Turkey

1. Smaller, body length 11.0-18.0 mm. Parameres without acute spine at the tip . . . 2
- Larger, length 20.0 mm. Parameres with acute spine at the tip (Figure 2a) . . . *H. major* sp. n.
2. Prosternum without long acute spine posteriorly *H. flavipes*
- Prosternum with long acute spine posteriorly 3
3. Aedeagophore elongate, parameres long and moderately curved medially . . . *H. caraboides*
- Aedeagophore shorter, parameres shorter and strongly curved medially *H. dichroma*

List of *Hydrochara* spp. Known from Turkey

Hydrochara caraboides Linnaeus, 1758

Material examined: Bayburt: Dikmetaş, 03.V.2008, 40°21'59"N, 40°17'00"E, 1700 m, 1 .

Distribution in Turkey: İzmir and Isparta (İncekara et al., 2003).

Worldwide distribution: Albania, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Greece, Hungary, Italy, Latvia, Lithuania, The Netherlands, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Sweden, Switzerland, Turkey, Ukraine, and Yugoslavia

(Smetana, 1980; Hansen, 1999; İncekara et al., 2003; Löbl and Smetana, 2004).

Hydrochara dichroma Fairmaire, 1829

Materials examined: Amasya: Artova, 01.VI.2007, 40°09'39"N, 36°18'06"E, 1136 m, 3♂♂. Bayburt: Center, 02.VI.2008, 40°14'53"N, 40°11'09"E, 1667 m, 1♀. Danişmet, 01.VI.2008, 40°14'49"N, 40°10'29"E, 1662 m, 1♀. Demirözü, Yelpınar, 02.VI.2008, 40°11'45"N, 39°58'57"E, 1670 m. Uluçayır, 40°15'30"N, 40°18'44"E, 1861 m, 23.VII.2007, 1♂. Oruçbeyli, 20.X.2007, 40°13'57"N, 40°02'48"E, 1651 m, 2♂♂, 4♀♀. Kop Pass, 01.VI.2008, 40°01'40"N, 10°29'29"E, 2324 m, 2♂♂, 1♀. Bingöl: Center, Çayağzı, 26.VI.2003, 1♂, 5♀♀. Kızıyaylası, 21.VIII.2003, 2♂♂, 2♀♀. Köklü, 10.X.2004, 2♀♀. Adaklı, Akbinek, 14.V.2003, 1♂, 4♀♀. Bağlarpınarı, 16.V.2003, 1♂, 1♀. Karlıova, center, 6.IX.2003, 1♂. Sertmekaya, 14.V.2003, 3♀♀. Near YİBO, 17.V.2003, 1♂. Kiğı, Eşmeköy, 22.VIII.2003, 1♂. Kiğı-Yayladere road 17 km, 22.VIII.2003, 3♂♂, 2♀♀; 20 km, 22.VIII.2003, 2♂♂, 5♀♀. Solhan, Buğlan Pass, 25.VI.2003, 3♂♂, 3♀♀. Yedisu, Kabayel, 24.VI.2003, 1♂. Kaşıklı, 13.V.2003, 3♂♂, 1♀. Yeşilgöl, 13.V.2003, 1♀. Çorum: Alaca, 02.VI.2007, 40°09'21"N, 34°44'58"E, 969 m, 3♀♀. Erzinan: Karakaya-Akyazı road 20 km, 25.IV.1999, 2♀♀. Karakaya, 16.IX.1998, 1♀. Erzurum road 30 km, 20.IV.1999, 2♂♂, 2♀♀. Ekşisu, 25.IV.1999, 1♂, 4♀♀; Bölükova, 25.V.2003, 3♂♂, 6♀♀. Gözeler, 25.V.2003, 1♀; Mecidiyeköy Plain, 26.V.2003, 1♂; Kelkit road, big pond, 27.V.2003, 1♂; Beytahtı Lake, 25.V.2003, 1♀. Yollarüstü, 30.V.2003, 3♂♂, 2♀♀.



Figure 2. A) *H. flavipes*, aedeagophore. B) *H. major* sp. n., aedeagophore. C) *H. major* sp. n., prosternal carina in lateral view.

Kelkit road, 5 km, 27.V.2003, 3♂♂, 7♀♀; 10 km, 26.V.2003, 11♂♂, 5♀♀. Çayırılı road, 17 km, 03.VII.2003, 2♀♀. Spikör Pass, 26.V.2003, 6♂♂, 6♀♀. Çayırılı, Başköy, 02.VII.2003, 1♂, 2♀♀. Harmantepe, 27.VIII.2003, 4♂♂, 5♀♀. Yeşilyaka, 02.VII.2003, 8♂♂, 1♀. Refahiye, Sakaltutan, Beşgöze, 27.V.2003, 4♂♂, 5♀♀. Sakaltutan, exit, 27.V.2003, 2♂♂, 2♀♀. Küçük Otlukbeli, 02.VII.2003, 5♂♂, 1♀. Tercan, Topoğlu, 02.VII.2003, 3♂♂, 3♀♀. Kurukol, 28.VIII.2003, 1♂. Erzurum: Dumlu, 11.VI.2000, 2♂♂, 13♀♀. Çat, 24.VIII.2001, 7♂♂, 2♀♀, 26.IX.2001, 2♂♂, 1♀. Giresun: Şebinkarahisar, Alişar, 11.VII.2008, 40°19'02"N, 38°34'56"E, 1454 m, 1♂. Ekencek, 11.VII.2008, 40°17'21"N, 38°22'36"E, 1718 m, 1♀. Şiran, Kavakpınarı, 13.VII.2008, 40°10'11"N, 39°15'17"E, 1564 m, 1♂, 1♀. Gümüşhane: Kelkit, Doğanca, 20.VI.2007, 40°10'12"N, 39°16'08"E, 1603 m, 1♂ 1♀. Öbektaş, 13.VII.2008, 40°09'23"N, 39°36'28"E, 1490 m, 1♀. Köse, Yuvacık, 02.VI.2008, 46°10'40"N, 39°41'02"E, 1538 m, 1♀. Ordu: Aybastı, Perşembe Plateau, 27.V.2007, 40°37'15"N, 37°18'44"E, 1422 m, 1♂, 4♀♀. Güneyce, 13.VII.2008, 40°24'41"N, 37°47'43"E, 1587 m, 1♀. Rize: Ayder, 20.VI.2000, 1560 m, 1♂. Samsun: Çarşamba, İhmal Lake, 26.VI.2007, 41°21'01"N, 36°36'47"E, 0 m, 1♀. Ondokuzmayıs, Fish Lake, 41°33'08"N, 36°04'52"E, 0 m, 1♂. Karaboğaz Lake, 29.VII.2007, 41°20'24"N, 35°48'48"E, 0 m, 1♂. Tokat: Zile, Ütük, 03.VI.2008, 40°16'10"N, 36°00'07"E, 536 m, 1♂. Trabzon: Hamsiköy, 30.V.2003, 3♂♂, 1♀.

Distribution in Turkey: Adana, Ankara, and Erzurum (İncekara et al., 2003).

Worldwide distribution: Bulgaria, China, Cyprus, Greece, Hungary, Iran, Israel, Russia, Syria, Tajikistan, Turkey, Turkmenistan, Ukraine, and Uzbekistan (Smetana, 1980; Hansen, 1999; İncekara et al., 2003; Löbl and Smetana, 2004).

***Hydrochara flavipes* Steven, 1808**

(aedeagophore: Figure 2a).

Material examined: Samsun: Ondokuzmayıs, Fish Lake, 7.V.2008, 41°29'51"N, 36°04'12"E, 0 m, 1♂, 41°35'10"N, 36°06'42"E, 0 m, 2♂.

Distribution in Turkey: Adana, Aksaray, and Ankara (İncekara et al., 2003; Darılmaz and Kıyak, 2006).

Worldwide distribution: Afghanistan, Austria, Azerbaijan, Bulgaria, China, Croatia, Egypt, France, Georgia, Germany, Greece, Hungary, Iran, Iraq, Italy, Kazakhstan, Latvia, Lithuania, Macedonia, Morocco, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Turkey, Turkmenistan, Ukraine, Uzbekistan, and Yugoslavia (Smetana, 1980; Hansen, 1999; İncekara et al., 2003; Löbl and Smetana, 2004).

***Hydrochara major* sp. n.**

Material examined: Type material: Holotype ♂ (Zoology Museum of Atatürk University): TR: Samsun, Ondokuzmayıs, Fish Lake, 0 m a.s.l. Leg. Ü. İncekara, 7.V.2008, 41°35'10"N, 36°06'42"E. The type locality is stagnant, with muddy bottom, moderately vegetated.

Paratype: from the Holotype locality, 1♂.

Description

Body 20.00 mm in length (2 males measured). Black, dorsal surface with greenish metallic reflections. Underside black. Head with anterolateral punctures on clypeus, punctures are rather coarse and irregularly arranged. Maxillary palps uniformly brown, long, basal segment about twice as long as last segment. Antennae yellowish, club loose and dark brown. Pronotum widest at posterior third, anterior angles distinctly rounded, anterior margin sinuate. Elytra with fine serial punctures. Aedeagophore 3.40 mm in length (Figure 2b), elongate, rather sclerotized. Apical portions of parameres curved medially, with characteristic sharply pointed spine at the tip. Median lobe stouter than all Turkish *Hydrochara* spp. treated here. Prosternal carina smooth in lateral view (Figure 2c). Mesosternal portion of sternal keel reddish brown (black at posterior third), metasternal portion of sternal keel black and enlarged. Glabrous portion of fifth sternum is large and campaniform. Femora reddish, tibiae and tarsi dark brown. Swimming hairs fine yellowish brown.

Etymology

The species was named according to its body length.

Discussion

Only 3 species of the *Hydrochara* genus have been previously recorded in Turkey (İncekara et al., 2003);

the number has now increased to 4 with the description of *H. major* sp. n.

The longest body length for *Hydrochara* spp. was reported by Smetana (1980). In his revision, the *H. elliptica* body length was reported as 19.5 mm. Females of *H. major* sp. n. were not collected and we treated only 2 male specimens. Both male specimens of the new species were 20.00 mm. Females are generally larger than males and we estimate that average size of *H. major* sp. n. females may be larger than mentioned above.

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- H. major* sp. n. most closely resembles *H. affinis*, but is easily distinguished by its characteristic aedeagophore shape, smooth prosternal carina, and distinctly larger average size.

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