

Original araştırma (Original article)

A faunistic study on the Helophoridae, Hydrophilidae and Hydrochidae (Coleoptera) in Samsun and Tokat provinces (Turkey)¹

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Summary

In this study, it was attempted to describe 48 species which were determined to belong to the family Hydrophiloidea. Of all these species, 27 were from Helophoridae, 19 species were from Hydrophilidae, and 2 species were from Hydrochidae. Six of them were new records for the Black Sea Region of Turkey and one for Turkey. The female of the *Hydrochara major* Incekara, Mart, Polat & Karaca, 2009 (Coleoptera: Hydrophilidae); was described for the first time. Distributions of *Helophorus nevadensis* Sharp, 1916 (Coleoptera: Hydrophilidae) and *H. major*, 2009 in Turkey and worldwide were presented.

Keywords: Coleoptera, Helophoridae, Hydrophilidae, Hydrochidae, faunistic, Turkey.

Anahtar sözcükler: Coleoptera, Helophoridae, Hydrophilidae, Hydrochidae, faunistik, Türkiye

Introduction

The Hydrophilidae is a large family represented with 172 genera and about 2716 known species in all parts of the world. Only 2 subfamilies (Hydrophilinae and Sphaeridiinae) are recorded from the Palearctic and Oriental regions (Hansen, 2004; Fikacek, 2006; Mart, 2009).

Hydrochidae is a rather small family comprising only one genus represented in all the major zoogeographical regions (Hansen, 1987, 1991, 2004; Mart, 2009).

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The Helophoridae is a family comprising only a single genus, *Helophorus*. This genus comprises about 200 species about 150 of which occur in the Palearctic. There are 41 species known in the Nearctic, 10 of which are Holarctic in distribution. There are about four species in the Ethiopian region (Smetana, 1985; Angus, 1992; Hebauer, 1994; Mart & Erman, 2001; İncekara et al., 2002, 2005 a; Hansen, 2004; Mart, 2009).

Faunistically, the families treated here were well studied in especially eastern provinces of Turkey (Kırpık, 1993; Mart, 1999, 2005; İncekara, 2001, 2004; İncekara et. al, 2002, 2003, 2005 b). Similarly, middle and eastern provinces of Black Sea Regions were studied by Karaca (2009). There is only one paper (İncekara et al., 2009 a), which compared two sister plain fauna in Samsun province, deal with our research area, therefore, we investigated these provinces.

Aim of this study is make a contribution to the Turkish aquatic Coleoptera fauna.

Material and Methods

Specimens of aquatic Coleoptera were collected in Samsun and Tokat provinces of Turkey in different surveys in summer seasons in 2007 and 2008 (Figure 1). The beetles were killed by ethyl acetate or within 70% alcohol solution. Aedeagophores of the beetles cleaned with brush were dissected under a stereo microscope and left to be exposed in 10% KOH solution for 1-2 hours. Material were deposited in the Zoology Museum of Ataturk University, Science Faculty, Department of Biology, Erzurum, Turkey.



Figure 1. Map of the research area in Turkey.

Table 1. List of sampling sites in provinces research area

Sampling site and Coordinates	Abbreviation	Sampling site and Coordinates	Abbreviation
SAMSUN			
40°56'07N 35°54'09E, 910m	S1	Belbaşı pass, 40°31'22N 37°06'16E, 1315m	T12
40°59'03N 35°40'19E, 670m	S2	Benli, 40°37'07N 36°34'40E, 452m	T13
40°59'52N 35°45'55E, 724m	S3	Bereketli, 40°31'47N 37°17'44E, 1304m	T14
40°59'53N 35°53'17E, 785m	S4	Bozçalı, 40°32'23N 37°17'33E, 1295m	T15
41°27'46N 35°30'18E, 993m	S5	Canpolat, 40°32'02N 36°40'41E, 956m	T16
Acemköyü, 41°29'47N 35°34'01E, 966m	S6	Çamiçi, 40°38'15N 36°59'34E, 1174m	T17
Ahmetsaray, 40°59'55N 35°53'16E, 787m	S7	Çamlıbel Pass, 40°05'30N 36°18'15E, 1122m	T18
Akgöl, 41°16'54N 36°56'14E, 0m	S8	Çayıravcı, 40°23'59N 37°17'08E, 465m	T19
Balık Lake, 41°35'21N 36°06'43E, 0m	S9	Çengeli plateau, 40°38'14N 37°02'44E, 1359m	T20
Balkanlı ward, Göllyazi, 41°15'18N 36°57'49E, 0m	S10	Dereboğazi, 40°10'16N 35°51'55E, 852m	T21
Balkanlı ward, Göllyazi, 41°15'15N 36°57'54E, 0m	S11	Hasanköy, 40°31'13N 37°04'30E, 880m	T22
Büyükkızıoğlu, 40°54'34N 35°56'14E, 878m	S12	İşikli, 40°32'00N 37°00'24E, 630m	T23
Duraya road, 41°14'14N 35°15'02E, 230m	S13	İverönü, 40°36'30N 36°36'03E, 531m	T24
Havza road, 40°55'39N 35°51'32E, 823m	S14	Karçalı plateau, 40°34'57N 37°18'08E, 1584m	T25
Kumköy, 41°05'35N 36°40'29E, 26m	S15	Kaz Lake, 40°16'17N 39°09'27E, 532m	T26
Yenice, 41°36'37N 35°41'52E, 16m	S16	Koruca, 48°16'56N 35°57'38E, 632m	T27
Yörüklükler, 41°31'36N 36°04'50E, 0m	S17	Ordu city boundary, 40°35'19N 37°17'52E, 1552m	T28
TOKAT			
40°09'39N 36°18'06E, 1136m	T1	Ormanbeyli, 40°29'26N 36°46'16E, 852m	T29
40°16'08N 36°07'45E, 549m	T2	Sulugöl, 40°33'38N 36°58'06E, 382m	T30
40°16'10N 36°00'07E, 536m	T3	Taşlık, 40°17'19N 36°19'04E, 554m	T31
40°16'38N 36°09'27E, 535m	T4	Taşova, 40°41'04N 36°24'29E, 194m	T32
40°16'47N 30°09'27E, 541m	T5	Üçköy, 40°14'00N 35°43'43E, 254m	T33
40°17'12N 36°18'22E, 557m	T6	Ütük, 40°15'51N 36°03'14E, 565m	T34
40°22'15N 36°47'30E, 1075m	T7	Yağamusa, 40°08'54N 36°18'25E, 1287m	T35
40°25'26N 37°19'27E, 677m	T8	Yelmikköy, 40°39'56N 37°05'59E, 273m	T36
Akgüney, 40°41'05N 37°08'34E, 1152m	T9	Yozgat city boundary, 39°59'13N 35°58'41E, 1040m	T37
Avınlılar, 40°29'45N 36°43'52E, 814m	T10	Yünlü, 40°23'14N 35°51'48E, 1212m	T38
Başçiftlik, 40°31'30N 37°08'28E, 1403m	T11		

Results

Helophoridae

Helophorus aquaticus (Linnaeus, 1758)

Material examined: Samsun: Alaçam: S6, 30.V.2007, 4♂♂, 5♀♀. Tokat: Centrum: T29, 03.VI.2008, 3♂♂, 2♀♀. Artova: T35, 10.VII.2007, 2♂♂, 2♀♀.

Remark: Newly recorded from Tokat province.

Helophorus arvernicus Mulsant, 1846

Material examined: Samsun: Ondokuzmayıs: S17, 26.VI.2007, 7♂♂, 5♀♀. Tokat: Erbaa: T13, 28.V.2007, 5♂♂, 3♀♀.

Remark: Newly recorded from the research area.

Helophorus brevipalpis Bedel, 1881

Material examined: Samsun: Alaçam: S16, 30.V.2007, 3♂♂, 3♀♀. Ayvacık: S15, 29.V.2007, 5♂♂, 2♀♀. Tokat: Artova: T35, 10.VII.2007, 2♂♂, 8♀♀; T1, 01.VI.2007, 5♂♂, 11♀♀. Erbaa: T27, 06.V.2008, 8♂♂, 3♀♀.

Remark: Newly recorded from Tokat province.

Helophorus croaticus Kuwert, 1886

Material examined: Tokat: Erbaa: T27, 06.V.2008, 3♂♂.

Remark: Newly recorded from the Black Sea Region.

Helophorus daedalus d'Orchymont, 1932

Material examined: Samsun: Ladik: S4, 29.VII.2007, 3♂♂, 2♀♀. Terme: S8, 04.VI.2008, 3♂♂, 7♀♀. Tokat: Centrum: T18, 28.VI.2007, 2♂♂, 7♀♀. Reşadiye: T11, 03.VI.2008, 5♂♂, 1♀; T14, 25.VI.2007, 3♂♂.

Remark: Newly recorded from Tokat province.

Helophorus discrepans Rey, 1885

Material examined: Tokat: Reşadiye: T11, 03.VI.2008, 2♂♂, 7♀♀; T8, 03.VI.2008, 8♂♂, 11♀♀; T15, 03.VI.2008, 4♂♂, 3♀♀.

Remark: Newly recorded from the research area.

Helophorus faustianus Sharp, 1916

Material examined: Tokat: Niksar: T28, 27.V.2007, 3♂♂, 2♀♀.

Remark: Newly recorded from Samsun province.

***Helophorus flavipes* Fabricus, 1792**

Material examined: Tokat: Centrum: T10, 28.V.2007, 2♂♂.

Remark: Newly recorded from the research area.

***Helophorus frater* d'Orchymont, 1926**

Material examined: Samsun: Alaçam: S16, 30.V.2007, 3♂♂, 5♀♀.
Terme: S8, 04.VI.2008, 3♂♂, 7♀♀. Tokat: Almus: T7, 28.VI.2007, 3♂♂, 1♀.

Remark: Newly recorded from the research area.

***Helophorus fulgidicollis* Motschulsky, 1860**

Material examined: Samsun: Alaçam: S16, 30.V.2007, 4♂♂, 3♀♀. Havza: S2, 31.V.2007, 13♂♂, 4♀♀. Tokat: Almus: T7, 28.VI.2007, 2♂♂, 2♀♀. Erbaa: T32, 29.V.2007, 3♂♂, 2♀♀; T16, 28.V.2007, 5♂♂, 3♀♀; T24, 29.V.2007, 2♂♂, 1♀.

Remark: Newly recorded from the research area.

***Helophorus grandis* Illiger, 1798**

Material examined: Tokat: Centrum: T29, 03.VI.2008, 2♂♂, 11♀♀. Erbaa: T27, 06.V.2008, 6♂♂, 4♀♀. Pazar: T31, 05.V.2008, 1♂, 1♀.

Remark: Newly recorded from the Black Sea Region.

***Helophorus griseus* Herbst, 1793**

Material examined: Samsun: Ladik: S7, 04.VI.2008, 3♂♂, 2♀♀.
Vezirköprü: S13, 30.V.2007, 2♂♂, 2♀♀. Tokat: Niksar: T23, 27.V.2007, 6♂♂, 5♀♀.

Remark: Newly recorded from Tokat province.

***Helophorus hilaris* Sharp, 1916**

Material examined: Samsun: Terme: S8, 04.VI.2008, 4♂♂, 7♀♀. Tokat: Sulusaray: T37, 01.VI.2007, 5♂♂, 1♀. Zile: T33, 05.V.2008, 7♂♂, 6♀♀; T34, 05.V.2008, 5♂♂, 9♀♀; T27, 01.VI.2007, 2♂♂, 3♀♀; T2, 01.VI.2007, 5♂♂, 1♀.

Remark: Newly recorded from the research area.

***Helophorus lapponicus* Thomson, 1854**

Material examined: Samsun: Ayvacık: S15, 29.V.2007, 2♂♂. Terme: S10, 04.VI.2008, 3♂♂. Tokat: Niksar: T22, 27.V.2007, 3♂♂.

Remark: Newly recorded from the research area.

***Helophorus lewisi* Angus, 1985**

Material examined: Samsun: Ladik: S7, 04.VI.2008, 3♂♂, 1♀. Tokat: Reşadiye: T19, 05.V.2008, 3♂♂, 1♀; T11, 03.VI.2008, 2♂♂.

Remark: Newly recorded from the research area.

***Helophorus micans* Falderman, 1835**

Material examined: Tokat: Zile: T34, 05.V.2008, 1♂, 4♀♀.

Remark: Newly recorded from Tokat province.

***Helophorus montenegrinus* Kuwert, 1885**

Material examined: Samsun: Alaçam: S6, 30.V.2007, 3♂♂, 3♀♀; S26, 30.V.2007, 4♂♂, 2♀♀. Tokat: Niksar: T23, 4♂♂, 11♀♀; T9, 27.V.2007, 8♂♂, 13♀♀.

Remark: Newly recorded from the research area.

***Helophorus nanus* Sturm, 1836**

Material examined: Tokat: Erbaa: T27, 06.V.2008, 3♂♂.

Remark: Newly recorded from the research area.

***Helophorus nevadensis* Sharp, 1916**

Material examined: Tokat: Niksar: T22, 27.V.2007, 2♂♂; T20, 27.V.2007, 1♂. Pazar: T26, 01.VI.2007, 1♂.

Distribution in world: Spain (Angus, 1985).

Remark: Newly recorded from Turkey.

***Helophorus nubilus* Fabricius, 1776**

Material examined: Tokat: Niksar: T28, 27.V.2007, 6♂♂, 2♀♀; T25, 27.V.2007, 3♂♂, 3♀♀; T12, 27.V.2007, 4♂♂, 2♀♀.

Remark: Newly recorded from the research area.

***Helophorus obscurus* Mulsant, 1844**

Material examined: Samsun: Terme: S8, 04.VI.2008, 3♂♂, 2♀♀. Vezirköprü: S13, 30.V.2007, 3♂♂, 4♀♀. Tokat: Reşadiye: T19, 05.V.2008, 9♂♂, 24♀♀.

Remark: Newly recorded from Tokat province.

***Helophorus oscillator* Sharp, 1915**

Material examined: Tokat: Niksar: T17, 27.V.2007, 1♂.

Remark: Newly recorded from the Black Sea Region. This species has been recorded from East Anatolian Region by Kirpik, 1993. This is the second record of the species from Turkey.

***Helophorus subarcuatus* Rey, 1885**

Material examined: Tokat: Niksar: T20, 27.V.2007, 2♂♂.

Remark: Newly recorded from the Black Sea Region.

***Helophorus minutus* Fabricius, 1775**

Material examined: Samsun: Ladik: S1, 27.VI.2007, 2♂♂. Terme: S10, 04.VI.2008, 1♂; S8, 04.VI.2008, 1♂.

Remark: Newly recorded from the Black Sea Region.

***Helophorus syriacus* Kuwert, 1885**

Material examined: Samsun: Alaçam: S5, 30.V.2007, 2♂♂. Tokat: Niksar: T23, 27.V.2007, 4♂♂, 7♀♀.

Remark: Newly recorded from Tokat province.

***Helophorus strigifrons* Thomson, 1868**

Material examined: Samsun: Ladik: S28, 04.VI.2008, 4♂♂, 4♀♀. Tokat: Sulusaray: T37, 01.VI.2007, 2♂♂, 2♀♀.

Remark: Newly recorded from Tokat province.

***Helophorus terminassianae* Angus, 1984**

Material examined: Tokat: Sulusaray: T37, 01.VI.2007, 3♂♂, 1♀.

Remark: Newly recorded from Tokat province.

Hydrophilidae

Hydrophilinae

***Anacaena rufipes* (Guillebeau, 1896)**

Material examined: Samsun: Ladik: S4, 29.VII.2007, 3♂♂, 2♀♀. Tokat: Pazar: T6, 03.VI.2008, 5♂♂, 3♀♀.

Remark: Newly recorded from the research area.

***Berosus luridus* (Linnaeus, 1761)**

Material examined: Samsun: Ondokuzmayıs: S9, 04.VI.2008, 3♂♂, 2♀♀. Terme: S11, 04.VI.2008, 3♂♂, 3♀♀. Tokat: Pazar: T5, 05.V.2008, 3♂♂, 4♀♀.

Remark: Newly recorded from Tokat province.

Berosus (s. str.) signaticollis (Charpentier, 1825)

Material examined: Tokat: Erbaa: T27, 06.V.2008, 3♂♂, 2♀♀.

Remark: Newly recorded from Tokat province.

Helochaeres (s.str.) lividus (Forster, 1771)

Material examined: Samsun: Havza: S3, 29.VII.2007, 1♂. S2, 31.V.2007, 3♂♂. Ladik: S12, 27.VI.2007, 3♂♂, 2♀♀; S18, 04.VI.2007, 2♂♂, 2♀♀. Tokat: Zile: T34, 05.V.2008, 4♂♂, 2♀♀; T3, 05.VI.2008, 5♂♂, 2♀♀.

Remark: Newly recorded from the research area.

Hydrobius fuscipes (Linnaeus, 1758)

Material examined: Tokat: Zile: T38, 03.VI.2008, 2♂♂, 2♀♀.

Remark: Newly recorded from Tokat province.

Laccobius (Microlaccobius) gracilis Motschulsky, 1855

Material examined: Tokat: Niksar: T28, 27.V.2007, 2♂♂, 5♀♀. Reşadiye: T19, 05.V.2008, 5♂♂, 6♀♀. Zile: T33, 05.V.2008, 3♂♂, 3♀♀.

Remark: Newly recorded from Tokat province.

Laccobius (Dimorpholaccobius) hindukuschi Chiesa, 1966

Material examined: Tokat: Zile: T21, 01.VI.2007, 3♂♂, 3♀♀.

Remark: Newly recorded from the research area.

Laccobius (Dimorpholaccobius) obscuratus aegaeus Gentili, 1974

Material examined: Samsun: Ladik: S18, 04.VI.2007, 3♂♂, 2♀♀. Tokat: Niksar: T30, 03.VI.2008, 2♂♂, 5♀♀. Sulusaray: T37, 01.VI.2007, 4♂♂, 5♀♀.

Remark: Newly recorded from Tokat province.

Laccobius (Dimorpholaccobius) simulatrix d'Orchymont, 1932

Material examined: Samsun: Vezirköprü: S13, 30.V.2007, 1♂, 2♀♀. Tokat: Niksar: T17, 27.V.2007, 5♂♂, 8♀♀.

Remark: Newly recorded from Tokat province.

Laccobius (Dimorpholaccobius) sipylus Orchymont, 1939

Material examined: Tokat: Reşadiye: T19, 05.V.2008, 1♂.

Remark: Newly recorded from Samsun province.

Laccobius (Dimorpholaccobius) striatulus (Fabricius, 1801)

Material examined: Samsun: Ladik: S7, 04.VI.2008, 1♂. Tokat: Niksar: T17, 27.V.2007, 3♂♂, 5♀♀; T36, 27.V.2007, 2♂♂, 3♀♀; T28, 27.V.2007, 4♂♂, 3♀♀.

Remark: Newly recorded from Tokat province.

Laccobius (Dimorpholaccobius) sulcatulus Reitter, 1909

Material examined: Samsun: Ladik: S14, 27.VI.2007, 1♂.

Remark: Newly recorded from research area.

Laccobius (Dimorpholaccobius) syriacus Guillebeau, 1896

Material examined: Samsun: Ayvacık: S19, 29.V.2007, 6♂♂, 5♀♀. Tokat: Sulusaray: T37, 01.VI.2007, 2♂♂, 1♀. Zile: T21, 01.VI.2007, 4♂♂, 2♀♀.

Remark: Newly recorded from Tokat province.

Limnoxenus niger (Gmelin, 1790)

Material examined: Samsun: Terme: S29, 04.VI.2008, 2♂♂.

Remark: Newly recorded from Tokat province.

Paracymus relaxus Rey, 1884

Material examined: Samsun: Ondokuzmayıs: S9, 04.VI.2008, 1♂.

Remark: Newly recorded from the Black Sea Region.

Paracymus scutellaris (Rosenhauer, 1856)

Material examined: Samsun: Terme: S11, 04.VI.2008, 1♂.

Remark: Newly recorded from the research area.

Hydrochara major Incekara, Mart, Polat & Karaca, 2009

Material examined: S9, 29.IX.2008, 2♀♀.

Description

Body 20.00 mm in length (2 females 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 (darker than male), 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. Prosternal carina smooth in lateral view, slightly sinuate posteriorly. Mesosternal portion of sternal keel entirely black, metasternal portion of sternal keel black and enlarged. Glabrous

portion of fifth sternum is large and campaniform. Femora black, tibiae and tarsi reddish. Swimming hairs fine yellowish brown. General aspect as in male.

Distribution in Turkey: Samsun (İncekara et al., 2009 b).

Distribution in world: TR (İncekara et al., 2009 b).

Remark: Females of this species are described for the first time with this study. Samples were collected about 100 km far from the holotype locality (locality is stagnant, with muddy bottom, moderately vegetated).

Sphaeridiinae

***Chaetarthria seminulum* (Herbst, 1797)**

Material examined: Samsun: Vezirköprü: S13, 30.V.2007, 1♂. Tokat: Reşadiye: T11, 03.VI.2008, 1♂, 3♀♀.

Remark: Newly recorded from the research area.

***Coelostoma (s.str.) orbiculare* (Fabricius, 1775)**

Material examined: Samsun: Alaçam: S5, 30.V.2007, 1♂. Ladik: S1, 27.VI.2007, 1♂. Terme: S29, 04.VI.2008, 2♂♂. Tokat: Pazar: T4, 03.VI.2008, 2♂♂, 2♀♀.

Remark: Newly recorded from Tokat province.

Hydrochidae

***Hydrochus brevis* (Herbst, 1793)**

Material examined: Samsun: Terme: S29, 04.VI.2008, 4♂♂, 1♀.

Remark: Newly recorded from the research area.

***Hydrochus flavipennis* Küster, 1852**

Material examined: Tokat: Erbaa: T27, 06.V.2008, 7♂♂, 3♀♀. Sulusaray: T37, 01.VI.2007, 4♂♂, 2♀♀.

Remark: Newly recorded from the research area.

Discussion

In the research area in freshwater habitats of Samsun and Tokat provinces, 48 species of aquatic Coleoptera belonging to three families and 11 genera were determined. Besides the newly recorded for the Turkish fauna (*Helophorus nevadensis* Sharp, 1916), six species are new for Black Sea Region (*Helophorus grandis* Illiger, 1798, *Helophorus oscillator* Sharp, 1915, *Helophorus croaticus* Kuwert, 1886, *Helophorus subarcuatus* Rey, 1885, *Helophorus minutus* Fabricius, 1775, *Paracymus relaxus* Rey, 1884, 19 species

are for the research area (*Helophorus nubilus* Fabricius, 1776, *Helophorus arvernicus* Mulsant, 1846, *Helophorus montenegrinus* Kuwert, 1885, *Helophorus lewisi* Angus, 1985, *Helophorus nanus* Sturm, 1836, *Helophorus frater* d'Orchymont, 1926, *Helophorus fulgidicollis* Motschulsky, 1860, *Helophorus hilaris* Sharp, 1916, *Helophorus lapponicus* Thomson, 1854, *Helophorus flavipes* Fabricius, 1792, *Helophorus discrepans* Rey, 1885, *Helochares lividus* Forster, 1771, *Laccobius hindukuschi* Chiesa, 1966, *Laccobius sulcatulus* Reitter, 1909, *Anacaena rufipes* Guillebeau, 1896, *Paracymus scutellaris* Rosenhauer, 1856, *Chaetarthria seminulum* Herbst, 1797, *Hydrochus flavipennis* Küster, 1852, *Hydrochus brevis* Herbst, 1793), 19 species are new for Tokat province (*Helophorus aquaticus* Linnaeus, 1758, *Helophorus syriacus* Kuwert, 1885, *Helophorus terminassianae* Angus, 1984, *Helophorus micans* Falderman, 1835, *Helophorus brevipalpis* Bedel, 1881, *Helophorus daedalus* d'Orchymont, 1932, *Helophorus strigifrons* Thomson, 1868, *Helophorus griseus* Herbst, 1793, *Helophorus obscurus* Mulsant, 1844, *Hydrobius fuscipes* Linnaeus, 1758, *Berosus luridus* Linnaeus, 1761, *Berosus signaticollis* Charpentier, 1825, *Laccobius syriacus* Guillebeau, 1896, *Laccobius obscuratus* Gentili, 1974, *Laccobius simulatrix* d'Orchymont, 1932, *Laccobius striatulus* Fabricius, 1801, *Laccobius gracilis* Motschulsky, 1855, *Limnoxenus niger* Gmelin, 1790, *Coleostoma orbiculare* Fabricius, 1775), two species are new for Samsun province (*Helophorus faustiaunus* Sharp, 1916, *Laccobius sipylus* Orchymont, 1939). The female of the *Hydrochara major* Incekara, Mart, Polat & Karaca, 2009 was also described for the first time with this study. Detailed examination of the female samples shows that general characteristics are as in male.

Considering the fact that the studies on Turkish aquatic Coleopteran fauna are limited, the number of Helophorid, Hydrophilid and Hydrochid species must be higher than recorded so far in the research area. So new studies should be conducted intensively on this group insects especially in western parts of Turkey.

Özet

Samsun ve Tokat illeri Helophoridae, Hydrophilidae ve Hydrochidae (Coleoptera) familyaları üzerine faunistik bir çalışma

Bu çalışmada, 27'si Helophoridae, 19'u Hydrophilidae ve ikisi Hydrochidae familyalarına ait olmak üzere, Hydrophiloidea'ye ait toplam 48 tür tespit edilmiştir. Bu türlerden biri Türkiye, altı tanesi de Karadeniz faunası için yeni kayıttır. *Hydrochara major* Incekara, Mart, Polat & Karaca, 2009 (Coleoptera: Hydrophilidae)'un dişisi ilk defa tanımlanmıştır. *Helophorus nevadensis* Sharp, 1916 (Coleoptera: Hydrophilidae) ve *H. major*'un Türkiye ve dünyadaki dağılımları verilmiştir.

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Table 1. List of sampling sites in provinces research area

Sampling site and Coordinates	Abbreviation	Sampling site and Coordinates	Abbreviation
SAMSUN			
40°56'07N 35°54'09E, 910m	S1		
40°59'03N 35°40'19E, 670m	S2	Belbaşı pass, 40°31'22N 37°06'16E, 1315m	T12
40°59'52N 35°45'55E, 724m	S3	Benli, 40°37'07N 36°34'40E, 452m	T13
40°59'53N 35°53'17E, 785m	S4	Bereketli, 40°31'47N 37°17'44E, 1304m	T14
41°27'46N 35°30'18E, 993m	S5	Bozçalı, 40°32'23N 37°17'33E, 1295m	T15
Acemköyü, 41°29'47N 35°34'01E, 966m	S6	Canpolat, 40°32'02N 36°40'41E, 956m	T16
Ahmetsaray, 40°59'55N 35°53'16E, 787m	S7	Çamiçi, 40°38'15N 36°59'34E, 1174m	T17
Akgöl, 41°16'54N 36°56'14E, 0m	S8	Çamlıbel Pass, 40°05'30N 36°18'15E, 1122m	T18
Balık Lake, 41°35'21N 36°06'43E, 0m	S9	Çayıravcı, 40°23'59N 37°17'08E, 465m	T19
Balkanlı ward, Gölyazı, 41°15'18N 36°57'49E, 0m	S10	Çengi plateau, 40°38'14N 37°02'44E, 1359m	T20
Balkanlı ward, Gölyazı, 41°15'15N 36°57'54E, 0m	S11	Dereboğazı, 40°10'16N 35°51'55E, 852m	T21
Büyükkızıoğlu, 40°54'34N 35°56'14E, 878m	S12	Hasanköy, 40°31'13N 37°04'30E, 880m	T22
Duraya road, 41°14'14N 35°15'02E, 230m	S13	Işıklı, 40°32'00N 37°00'24E, 630m	T23
Havza road, 40°55'39N 35°51'32E, 823m	S14	İverönü, 40°36'30N 36°36'03E, 531m	T24
Kumköy, 41°05'35N 36°40'29E, 26m	S15	Karçalı plateau, 40°34'57N 37°18'08E, 1584m	T25
Yenice, 41°36'37N 35°41'52E, 16m	S16	Kaz Lake, 40°16'17N 39°09'27E, 532m	T26
Yörükler, 41°31'36N 36°04'50E, 0m	S17	Korucu, 48°16'56N 35°57'38E, 632m	T27
TOKAT			
40°09'39N 36°18'06E, 1136m	T1	Ordu city boundary, 40°35'19N 37°17'52E, 1552m	T28
40°16'08N 36°07'45E, 549m	T2	Ormanbeyli, 40°29'26N 36°46'16E, 852m	T29
40°16'10N 36°00'07E, 536m	T3	Sulugöl, 40°33'38N 36°58'06E, 382m	T30
40°16'38N 36°09'27E, 535m	T4	Taşlık, 40°17'19N 36°19'04E, 554m	T31
40°16'47N 30°09'27E, 541m	T5	Taşova, 40°41'04N 36°24'29E, 194m	T32
40°17'12N 36°18'22E, 557m	T6	Üçköy, 40°14'00N 35°43'43E, 254m	T33
40°22'15N 36°47'30E, 1075m	T7	Ütük, 40°15'51N 36°03'14E, 565m	T34
40°25'26N 37°19'27E, 677m	T8	Yağamusa, 40°08'54N 36°18'25E, 1287m	T35
Akgüney, 40°41'05N 37°08'34E, 1152m	T9	Yelmikköy, 40°39'56N 37°05'59E, 273m	T36
Avlunlar, 40°29'45N 36°43'52E, 814m	T10	Yozgat city boundary, 39°59'13N 35°58'41E, 1040m	T37
Başçiftlik, 40°31'30N 37°08'28E, 1403m	T11	Yünlü, 40°23'14N 35°51'48E, 1212m	T38

