



Water Scavenger Beetles (Coleoptera: Hydrophilidae) from Bingöl Province of Turkey

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ABSTRACT

Twenty nine species and 2 subspecies belonging to 10 genera of water scavenger beetles (Coleoptera: Hydrophilidae) collected from Bingöl province between May 2003–October 2004 have been described.

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Authors' Contributions

Both the author designed the study, performed experimental work, statistically analyzed the data and wrote the article.

Key words

Water Scavenger Beetles, Coleoptera, Hydrophilidae.

INTRODUCTION

The water scavenger beetles (Hydrophilidae) represent one of the most ecologically diverse groups of Coleoptera, containing nearly 2900 species distributed worldwide (Short and Fikáček, 2013). Zoogeographically hydrophilids have a wide range of distribution and are classified into six subfamilies including Hydrophilinae, Chaetarthriinae, Enochrinae, Acidocerinae, Rygmodinae and Sphaeridiinae (Yılmaz and Aslan, 2014). Five of them inhabit the Palearctic region. Uptill now 19 genera, 95 species and 4 subspecies within five subfamilies of Hydrophilids have been recorded from Turkey (Mart, 2009; Mart *et al.*, 2014b).

Bingöl province is located in the southwest of Eastern Anatolia Region, in North Euphrate part between 38° 27' and 40° 27' East longitude and 41° 20' and 39° 54' North latitude. It is quite rugged and high landform within provincial boundaries, where altitude exceeds 1250 meters above sea level. Four sides of Bingöl Plain are surrounded by mountains, which occupies the highest parts of the mountains of glacial lakes, the remnants of the moraine occupies foothills of the mountains.

MATERIALS AND METHODS

The specimens of beetles were collected by means of a sieve and net with 1 mm pores from shallow areas of various springs, streams, brackish water ponds and wet habitats near the water in Bingöl province between May 2003 and October 2004. The beetles were killed using ethyl acetate or 70% alcohol solution. Diagnosis of beetles was carried out using

male genitalia (aedeagophores) and some other important morphological characters. All the specimens were identified to species using keys and figures given by Hansen (1987), (1991), (1999), Shatrovskiy (1984), Gentili (1975), (1979), (2000), Gentili and Chiesa (1975), Schödl (1991), (1993), Hebauer (1994) and (1998). Aedeagophores were dissected out under a stereo microscope and cleared in 10% KOH solution for 1-2 h. Photographs of the main diagnostic characters and male genitalia were made using Olympus SZX16 microscope. All samples have been deposited in the Zoological Museum, Atatürk University, Erzurum, Turkey.

RESULTS

A total of 29 species and 2 subspecies belonging to 5 subfamilies of the family Hydrophilidae were identified and are listed below. Three species are here recorded for the first time from Bingöl province of Turkey. In addition, the new locality records for the species has been known previously from Turkey.

Family Hydrophilidae

The water scavenger beetles (family Hydrophilidae) are the largest group of the superfamily Hydrophiloidea, comprising about 2500 known species. The family is known for its aquatic representatives, which are often abundant in most kinds of stagnant waters, but also commonly inhabit streams, rivers and seepage habitats. Besides these aquatic species, the family also contains terrestrial taxa that inhabit mostly leaf litter and other kinds of decaying organic material. Within the Palearctic region, most terrestrial species inhabit excrements of various herbivorous or omnivorous mammals (*e.g.* cows, goats, deer, bears *etc.*). Most aquatic species are classified in the subfamily Hydrophilinae and most terrestrial

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ones in the subfamily Sphaeridiinae, but there are many exceptions in both subfamilies. Adult beetles are mostly saprophagous, feeding on different kinds of decaying organic matter, whereas larvae are predaceous, preying on various invertebrates (Fikáček *et al.*, 2010).

Subfamily Hydrophilinae

Tribe Hydrophilini

Genus *Hydrochara* (Berthold, 1827)

Hydrochara dichroma (Fairmaire, 1892)

Material examined

Bingöl: Çayağzı, 26.VI.2003, 1 ♂ 5 ♀♀; Köklü, 10.X.2004, 2 ♀♀. Adaklı: Akbinek, 14.V.2003, 1 ♂ 4 ♀♀; Bağlarpınarı, 16.V.2003, 1 ♂, 1 ♀. Karlıova: Sertmekaya, 14.V.2003, 3 ♀♀. Kiğı: Eşme, 22.VIII.2003, 1 ♂; Kiğı-Yayladere road 17. km., 22.VIII. 2003, 3 ♂♂, 2 ♀♀; Kiğı-Yayladere road 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 ♀.

Tribe Berosini

Genus *Berosus* (Leach, 1817)

Subgenus *Enoplurus* (Hope, 1838)

Berosus (Enoplurus) spinosus (Steven, 1808)

Material examined

Genç: Çayağzı, 7.X.2003, 1 ♂, 2 ♀♀. Yayladere: Kiğı-Yayladere road 40. km., 16.V.2003, 2 ♂♂, 3 ♀♀.

Subgenus *Berosus* (Leach, 1817)

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

Material examined

Bingöl: Kızıyaylası, 15.V.2003, 7 ♂♂, 10 ♀♀. Adaklı: Akbinek, 16.V.2003, 8 ♂♂, 12 ♀♀; Hasbağlar, 15.V.2003, 2 ♂♂, 6 ♀♀. Karlıova: Boncukgöze, 6.X.2003, 9 ♂♂, 18 ♀♀; 9.X.2004, 5 ♂♂, 6 ♀♀; Toklular, 14.V.2003, 2 ♂♂, 5 ♀♀; 6.X.2003, 11 ♂♂, 10 ♀♀. Kiğı: Kiğı-Adaklı parting of the ways, 16.V.2003, 3 ♂♂, 7 ♀♀. Yedisu: Geldi plateau, 13.V.2003, 1 ♂, 1 ♀.

Tribe Laccobiini

Genus *Laccobius* (Erichson, 1837)

Subgenus *Microlaccobius* (Gentili, 1974)

Laccobius (Microlaccobius) gracilis (Motchoulsky, 1855)

Material examined

Bingöl: Ağaçeli, 25.VI.2003, 6 ♂♂, 8 ♀♀; Alatepe parting of the ways, 24.VIII.2003, 5 ♂♂, 18 ♀♀; Çavuşlar, 23.VIII.2003, 8 ♂♂, 4 ♀♀; Çevrimpınarı, 22.VIII.2003, 12 ♂♂, 21 ♀♀; Köklü, 24.VIII.2003, 4 ♂♂, 5 ♀♀; Kös hot spring, 17. IX. 2004, 5 ♂♂, 8 ♀♀; Sudüğünü, 21.VIII.2003, 20 ♂♂, 14 ♀♀; Yenibaşlar, 24.VIII.2003, 8 ♂♂, 9 ♀♀; Yeşilmazı, 23.VIII.2003, 15 ♂♂, 25 ♀♀; Yeşilova,

21.VIII.2003, 6 ♂♂, 8 ♀♀. Adaklı: Hasbağlar, 15.V.2003, 5 ♂♂, 10 ♀♀; 21.VIII.2003, 12 ♂♂, 9 ♀♀; Sütluçe plateau, 27.VI.2003, 15 ♂♂, 8 ♀♀. Genç: Evciler, 26.VI.2003, 12 ♂♂, 10 ♀♀; Gümüşlü, 26.VI.2003, 4 ♂♂, 4 ♀♀. Karlıova: Çatak, 6.IX.2003, 7 ♂♂, 3 ♀♀; Çiftlik, 6.IX.2003, 7 ♂♂, 5 ♀♀; 9.X.2004, 1 ♂, 6 ♀♀; Kantarkaya, 6.IX.2003, 5 ♂♂, 7 ♀♀; Karlıova-Çat road 20. km., 6.IX.2003, 9 ♂♂, 6 ♀♀; Kızılçubuk, 20. VIII.2003, 12 ♂♂, 8 ♀♀; 24.VIII.2003, 12 ♂♂, 24 ♀♀; Toklular, 24.VIII.2003, 10 ♂♂, 9 ♀♀, 17.IX.2004, 7 ♂♂, 4 ♀♀. Kiğı: Kiğı-Yayladere road 17. km., 22.VIII.2003, 2 ♂♂, 6 ♀♀; Kiğı-Yayladere road 20. km., 22. VIII. 2003, 8 ♂♂, 6 ♀♀; Kiğı-Yayladere road 30. km., 27.VI.2003, 2 ♂♂, 6 ♀♀; 22. VIII.2003, 3 ♂♂, 7 ♀♀. Solhan: Düz, 26.VI.2003, 5 ♂♂, 7 ♀♀; Masalla stream, 23. VIII.2003, 2 ♂♂, 4 ♀♀; Oymapınar, 25.VI.2003, 15 ♂♂, 25 ♀♀; Yenibaşak, 25.VI.2003, 8 ♂♂, 12 ♀♀; Yüzenada, 25.VI.2003, 6 ♂♂, 9 ♀♀; 24.VIII.2003, 7 ♂♂, 4 ♀♀. Yayladere: Haktanlar, 28. VI.2003, 4 ♂♂, 2 ♀♀; Sarıtosun, 22.VIII. 2003, 2 ♂♂. Yedisu: Düşengi, 24.VI.2003, 4 ♂♂, 3 ♀♀; Eskibalta, 24.VI.2003, 2 ♂♂, 6 ♀♀; Kabayel, 24.VI.2003, 4 ♂♂, 4 ♀♀; 28.VIII.2003, 8 ♂♂, 10 ♀♀; Kaşıklı, 13.V.2003, 10 ♂, 12 ♀; Üçevler, 24.VI.2003, 12 ♂♂, 20 ♀♀.

Subgenus *Dimorpholaccobius* (Zaitzev, 1938)

Laccobius (Dimorpholaccobius) striatulus (Fabricius, 1801)

Material examined

Bingöl: Bingöl-Muş road 7. km., 25.VI. 2003, 1 ♂, 3 ♀♀; Yeşilmazı, 23.VIII.2003, 3 ♂♂, 4 ♀♀. Karlıova: Kantarkaya, 6.IX.2003, 3 ♂♂, 4 ♀♀; Kızılçubuk, 20.VIII.2003, 1 ♂, 2 ♀♀. Solhan: Yenidal, 26.V.2003, 8 ♂♂, 5 ♀♀.

Laccobius (Dimorpholaccobius) bipunctatus

(Fabricius, 1775)

Material examined

Bingöl: Ağaçeli, 25.VI.2003, 1 ♂; Balıklıçay, 21.VIII.2003, 8 ♂♂, 3 ♀♀; Çevrimpınarı, 22.VIII.2003, 1 ♂; Kös hot spring, 14.V.2003, 1 ♂, 2 ♀♀; Yenibaşlar, 24.VIII.2003, 4 ♂♂, 2 ♀♀; Yeşilmazı, 23.VIII.2003, 2 ♂♂, 3 ♀♀; Yeşilova, 21. VIII.2003, 5 ♂♂, 2 ♀♀. Genç: Evciler, 26.VI.2003, 2 ♂♂, 1 ♀. Karlıova: Çiftlik, 6. IX.2003, 4 ♂♂, 2 ♀♀, 9.X.2004, 1 ♂, 2 ♀♀; Kantarkaya, 6.IX.2003, 4 ♂♂, 2 ♀♀; Sertmekaya, 6.X.2003, 1 ♂, 3 ♀♀; Kalencik, 24. VIII.2003, 2 ♂♂, 7 ♀♀. Solhan: Oymapınar, 25.VI.2003, 1 ♂, 2 ♀♀; Yüzenada, 25.VI.2003, 1 ♂; 24.VIII.2003, 1 ♂. Kiğı: Kiğı-Yayladere road 17. km., 22.VIII.2003, 4 ♂♂, 7 ♀♀; Kiğı-Yayladere road 30. km., 22. VIII.2003, 12 ♂♂, 10 ♀. Yayladere: Haktanlar, 28.VI.2003, 1 ♂. Yedisu: Eskibalta, 24. VI. 2003, 1 ♂, 3 ♀♀.

Laccobius (Dimorpholaccobius) simulatrix

(d'Orchymont, 1932)

Material examined

Bingöl: Çatak, 6.IX.2003, 1 ♂, 1 ♀; Çiftlik, 17.IX.2004,

1 ♂, 2 ♀♀; Dörtöyol, 9.X.2004, 4 ♂♂, 4 ♀♀; Kantarkaya, 6.IX.2003, 1 ♂; Karlıova-Çat road 20. km., 6.IX.2003, 7 ♂♂, 4 ♀♀; Ortaköy, 20.VIII.2003, 2 ♂♂, 5 ♀♀; Toklular, 17.IX.2004, 1 ♂, 3 ♀♀. Yedisu: Kaşıklı, 13.V.2003, 3 ♂♂, 1 ♀; Yeşilgöl, 13.V.2003, 2 ♂♂, 3 ♀♀.

Laccobius (Dimorpholaccobius) sculptus
(d'Orchymont, 1936)

Material examined

Bingöl: Ağaçeli, 25.VI.2003, 7 ♂♂, 8 ♀♀; 23.VIII.2003, 9 ♂♂, 4 ♀♀; Aktoprak, 7.XI. 2003, 2 ♂♂, 5 ♀♀; Bingöl-Genç road 5. km., 7.X.2003, 9 ♂♂, 12 ♀♀; Bingöl-Solhan road 7. km., 23.VIII.2003, 3 ♂♂, 8 ♀♀; Çavuşlar, 25.VI.2003, 1 ♂; Ekinyolu, 10.X.2004, 1 ♂; Köklü, 24.VIII.2003, 8 ♂♂, 4 ♀♀, 10.X.2004, 2 ♂♂; Sudüğünü, 15.V.2003, 4 ♂♂, 15 ♀♀; 21. VIII.2003, 17 ♂♂, 25 ♀♀; Simsor pass, 7.X.2003, 2 ♂♂, 3 ♀♀; Şeyh Ahmet bridge, 26.VI.2003, 16 ♂♂, 34 ♀♀; 7.X.2003, 18 ♂♂, 30 ♀♀; Yeşilova, 21. VIII. 2003, 1 ♂, 2 ♀♀. Adaklı: Doğanakaya, 27.VI.2003, 1 ♂. Genç: Doğan bridge, 26.VI.2003, 1 ♂, 3 ♀♀. Karlıova: Boran bridge, 6.X.2003, 1 ♂, 1 ♀; Toklular, 17.IX.2004, 1 ♂. Solhan: Arakonak, 25.VI.2003, 3 ♂♂, 4 ♀♀; Dilektepe, 25.VI.2003, 5 ♂♂, 4 ♀♀; Düz, 26.VI.2003, 1 ♂, 4 ♀♀; Masalla stream, 26.VI.2003, 5 ♂♂, 9 ♀♀; Yenibaşak, 25.VI.2003, 2 ♂♂, 5 ♀♀; Yüzenada, 25. VI.2003, 5 ♂♂, 7 ♀♀.

Laccobius (Dimorpholaccobius) hauserianus
(Knisch, 1914)

Material examined

Bingöl: Bingöl-Muş road 7. km., 25.VI.2003, 1 ♂; 14.VIII. 2003, 1 ♂; Yenibaşlar, 7.X.2003, 2 ♂♂, 4 ♀♀. Yedisu: Kabayel, 24.VI.2003, 8 ♂♂, 6 ♀♀.

Remarks

This species was recorded for the first time in Bingöl.

Laccobius (Dimorpholaccobius) sulcatulus
(Reitter, 1909)

Material examined

Bingöl: Bingöl-Muş road 7. km., 14.VIII. 2003, 2 ♂♂, 3 ♀♀. Çavuşlar, 25.VI.2003, 1 ♂, 4 ♀♀; Kızıyaylası, 21.VIII.2003, 12 ♂♂, 10 ♀♀; Köklü, 24.VIII. 2003, 1 ♂, 2 ♀♀; Sudüğünü, 15.V.2003, 6 ♂♂, 9 ♀♀; 21.VIII.2003, 1 ♂, 2 ♀♀; Yeşilmazı, 23.VIII.2003, 1 ♂, 6 ♀♀. Adaklı: Hasbağlar, 21.VIII.2003, 5 ♂♂, 8 ♀♀. Karlıova: Aktaş, 20.VIII. 2003, 1 ♂, 3 ♀♀; Çatak, 6.IX.2003, 1 ♂, 4 ♀♀; Dörtöyol, 9.X.2004, 7 ♂♂, 9 ♀♀; Karlıova-Çat road 20. km., 6.IX.2003, 6 ♂♂, 2 ♀♀; Kızılcubuk, 24.VI.2003, 1 ♂, 4 ♀♀; 20. VIII.2003, 4 ♂♂, 3 ♀♀; Sudurağı, 24.VIII.2003, 4 ♂♂, 5 ♀♀; Toklular, 24.VIII.2003, 4 ♂♂, 7 ♀♀. Solhan: Arakonak, 25.VI.2003, 1 ♂; 23.VIII.2003, 1 ♂, 1 ♀; Yenidal, 26.V.2003, 2 ♂♂ 5 ♀♀. Yedisu: Kabayel, 24.VI.2003, 2 ♂♂, 5 ♀♀; Kaşıklı, 13.V.2003, 6 ♂♂, 10 ♀♀.

Laccobius (Dimorpholaccobius) syriacus
(Guillebeau, 1896)

Material examined

Bingöl: Ağaçeli, 25.VI.2003, 7 ♂♂, 9 ♀♀; Alatepe, 24.VIII. 2003, 7 ♂♂, 17 ♀♀; Çavuşlar, 23.VIII. 2003, 18 ♂♂, 40 ♀♀; Çevrimpınarı, 22.VIII.2003, 6 ♂♂, 4 ♀♀; Ekinyolu, 10.X. 2004, 2 ♂♂, 4 ♀♀; Köklü, 24.VIII.2003, 7 ♂♂, 5 ♀♀, 10. X. 2004, 1 ♂, 2 ♀♀; Kös hot spring, 17.IX.2004, 1 ♂, 4 ♀♀; Sudüğünü, 21.VIII.2003, 3 ♂♂, 2 ♀♀; Yenibaşlar, 24.VIII.2003, 3 ♂♂, 2 ♀♀; Yeşilmazı, 23.VIII.2003, 11 ♂♂, 6 ♀♀; Yeşilova, 21.VIII.2003, 3 ♂♂, 5 ♀♀. Adaklı: Danatepe, 27.VI.2003, 2 ♂♂, 8 ♀♀; Hasbağlar, 15.V.2003, 8 ♂♂, 14 ♀♀; 21.VIII.2003, 15 ♂♂, 24 ♀♀; Sütluçe plateau, 27. VI. 2003, 5 ♂♂, 11 ♀♀. Genç: Evciler, 26.VI.2003, 1 ♂, 3 ♀♀; Gümüşlü, 26.VI.2003, 2 ♂♂, 4 ♀♀. Karlıova: Çatak, 6.IX.2003, 5 ♂♂, 6 ♀♀; Çiftlik, 6.IX.2003, 5 ♂♂ 12 ♀♀; 17.IX.2004, 6 ♂♂, 10 ♀♀; 9.X.2004, 6 ♂♂, 8 ♀♀; Dörtöyol, 9.X.2004, 3 ♂♂, 4 ♀♀; Kantarkaya, 6.IX. 2003, 15 ♂♂, 11 ♀♀; Karlıova-Çat road 20. km., 6.IX.2003, 7 ♂♂, 4 ♀♀; Kızılcubuk, 20.VIII.2003, 1 ♂, 3 ♀♀; Merkez, 28.VI.2003, 1 ♂, 3 ♀♀; 24.VIII.2003, 22 ♂♂, 36 ♀♀; Toklular, 24.VIII.2003, 1 ♂, 5 ♀♀; 17.IX.2004, 5 ♂♂, 10 ♀♀. Kiğı: Kiğı-Yayladere road 17. km., 22.VIII.2003, 16 ♂♂, 19 ♀♀; Kiğı-Yayladere road 20. km., 22. VIII.2003, 19 ♂♂, 24 ♀♀; Kiğı-Yayladere road 30. km., 27.VI.2003, 5 ♂♂, 9 ♀♀; 22. VIII. 2003, 9 ♂♂, 17 ♀♀. Solhan: Dilektepe, 25.VI.2003, 1 ♂, 3 ♀♀; Düz, 26. VI.2003, 4 ♂♂, 2 ♀♀; Masalla stream, 23.VIII.2003, 10 ♂♂, 8 ♀♀; Oymapınar, 25.VI.2003, 12 ♂♂, 35 ♀♀; Yenibaşak, 25. VI.2003, 6 ♂♂, 12 ♀♀; Yüzenada, 25.VI. 2003, 3 ♂♂, 7 ♀♀; 24.VIII.2003, 17 ♂♂, 40 ♀♀. Yayladere: Haktanlar, 28.VI. 2003, 4 ♂♂; Sarıtosun, 22.VIII. 2003, 22 ♂♂, 50 ♀♀. Yedisu: Düşengi, 24.VI.2003, 3 ♂♂, 5 ♀♀; Eskibalta, 24.VI.2003, 6 ♂♂, 5 ♀♀; Kabayel, 24.VI. 2003, 6 ♂♂, 2 ♀♀; 28. VIII:2003, 7 ♂♂, 9 ♀♀; Kaşıklı, 13.V.2003, 1 ♂, 1 ♀; Üçevler, 24.VI.2003, 2 ♂♂, 2 ♀♀.

Laccobius (Dimorpholaccobius) halophilus
(Gentili, 1982)

Material examined

Bingöl: Bingöl-Solhan road 7. km., 23. VIII.2003, 3 ♂♂, 5 ♀♀; Simsor pass, 7.X.2003, 1 ♂, 4 ♀♀. Kiğı: Kiğı-Yayladere road 17. km., 22.VIII.2003, 1 ♂, 2 ♀♀.

Laccobius (Dimorpholaccobius) hindukuschi
(Chiesa, 1966)

Material examined

Bingöl: Ağaçeli, 25.VI.2003, 5 ♂♂, 4 ♀♀; Aktoprak, 7.X. 2003, 2 ♂♂, 5 ♀♀; Çavuşlar, 25.VI.2003, 1 ♂, 5 ♀♀; 23.VIII.2003, 1 ♂, 1 ♀; Çiçekdere, 26. VIII.2003, 1 ♂, 2 ♀♀; Ekinyolu, 10.X.2004, 1 ♂, 3 ♀♀; Şeyh Ahmet bridge, 26.VI.2003, 3 ♂♂, 4 ♀♀; 7.X.2003, 2 ♂♂, 3 ♀♀; Köklü, 24.VIII.2003, 10 ♂♂, 14 ♀♀, 10.X.2004, 3 ♂♂, 4 ♀♀; Kös hot spring, 17.IX.2004, 2 ♂♂, 4 ♀♀; Kurudere,

28.VI.2003, 4 ♂♂, 3 ♀♀; Yenibaşlar, 7.X.2003, 3 ♂♂, 3 ♀♀; 24.VIII.2003, 6 ♂♂, 12 ♀♀; Yeşilmazı, 23.VIII.2003, 4 ♂♂, 6 ♀♀. Adaklı: Danatepe, 27.VI.2003, 1 ♂, 2 ♀♀. Genç: Çaytepe, 26.VI.2003, 17 ♂♂, 8 ♀♀; Doğan, 26.VI. 2003, 1 ♂, 2 ♀♀. Karlıova: Aktaş, 20.VIII.2003, 3 ♂♂, 5 ♀♀; Kızılçubuk, 20.VIII.2003, 1 ♂, 3 ♀♀. Kiğı: Kiğı-Yayladere road 7. km., 22.VIII.2003, 11 ♂♂, 22 ♀♀; Kiğı-Yayladere road 30. km., 27.VI.2003, 5 ♂♂, 1 ♀. Solhan: Arakonak, 25.VI. 2003, 1 ♂, 4 ♀♀; Düz, 26.VI.2003, 1 ♂, 1 ♀; Masalla stream, 23.VIII.2003, 1 ♂; Yüzenada, 25.VI.2003, 1 ♂, 3 ♀♀. Yedisu: Kabayel, 24.VI.2003, 7 ♂♂, 10 ♀♀; Kaşıklı, 13.V.2003, 1 ♂, 1 ♀; Yeşilgöl, 13. V.2003, 1 ♂, 3 ♀♀.

Laccobius (Dimorpholaccobius) sipylus
(Orchymont, 1939)

Material examined

Bingöl: Ağaçeli, 25.VI.2003, 1 ♂, 5 ♀♀; Bingöl-Solhan road 7. km., 23.VIII.2003, 1 ♂, 2 ♀♀; Köklü, 24.VIII.2003, 11 ♂♂, 10 ♀♀; Simsor pass, 7.X.2003, 1 ♂, 3 ♀♀. Adaklı: Hasbağlar, 21.VIII. 2003, 1 ♂, 3 ♀♀. Genç: Çayağzı, 7.X.2003, 1 ♂, 2 ♀♀. Karlıova: Kantarkaya, 6.IX.2003, 7 ♂♂, 10 ♀♀; Sudurağı, 24.VIII.2003, 1 ♂, 2 ♀♀. Kiğı: Güneyağıl, 22.VIII.2003, 1 ♂, 3 ♀♀; Kiğı-Yayladere road 7. km., 22.VIII.2003, 6 ♂♂, 9 ♀♀; Kiğı-Yayladere road 10. km., 16.V.2003, 1 ♂, 2 ♀♀; Kiğı-Yayladere road 20. km., 22. VIII.2003, 6 ♂♂, 5 ♀♀; Kiğı-Yayladere road 30. km., 27.VI.2003, 4 ♂♂, 6 ♀♀; 22.VIII. 2003, 16 ♂♂, 19 ♀♀. Yedisu: Gelinpertek, 24.VI.2003, 1 ♂, 3 ♀♀.

Laccobius (Dimorpholaccobius) obscuratus aegaeus
(Gentili, 1974)

Material examined

Bingöl: Ağaçeli, 25.VI.2003, 2 ♂♂, 5 ♀♀; Çavuşlar, 25.VIII.2003, 1 ♂, 1 ♀; Çiçekdere, 21.VIII.2003, 2 ♂♂, 2 ♀♀; Köklü, 24.VIII.2003, 6 ♂♂, 2 ♀♀; Kuruca pass, 23.VI.2003, 2 ♂♂, 7 ♀♀; Kurudere, 28.VI.2003, 1 ♂♂, 3 ♀♀; Uzundere plateau, 27.VI.2003, 9 ♂♂, 12 ♀♀; Yenibaşlar, 7.X.2003, 3 ♂♂, 2 ♀♀; Yeşilova, 21.VIII.2003, 1 ♂, 3 ♀♀. Adaklı: Dardere, 27.VI.2003, 6 ♂♂, 8 ♀♀; Doluçay, 27.VI.2003, 2 ♂♂, 4 ♀♀; Dolutezne, 27.VI.2003, 2 ♂♂, 6 ♀♀; Hasbağlar, 21.VIII.2003, 7 ♂♂, 10 ♀♀. Genç: Çaytepe, 26.VI.2003, 1 ♂. Karlıova: Aktaş, 20.VIII. 2003, 17 ♂♂, 25 ♀♀; Çiftlik, 9.X.2004, 1♂; Karlıova-Çat road 20. km., 6.IX.2003, 2 ♂♂, 5 ♀♀; Kızılçubuk, 20. VIII.2003, 1 ♂, 2 ♀♀. Kiğı: Kiğı-Yayladere road 7. km., 22.VIII.2003, 16 ♂♂, 9 ♀♀; Kiğı-Yayladere road 30. km., 22.VIII.2003, 5 ♂♂, 5 ♀♀. Solhan: Buğlan pass, 25.VI.2003, 2 ♂♂, 5 ♀♀; Düz, 26.VI.2003, 1 ♂, 3 ♀♀; Masalla stream, 23.VIII.2003, 3 ♂♂, 9 ♀♀; Yenibaşak, 25.VI.2003, 1 ♂, 5 ♀♀. Yayladere: Güneşli, 22.VIII.2003, 1 ♂, 2 ♀♀; Haktanlar, 28.VI.2003, 3 ♂♂, 2 ♀♀; Saritosun, 22.VIII. 2003, 2 ♂♂, 5 ♀♀. Yedisu: Düz, 24.VI.2003, 13 ♂♂ 11 ♀♀; Gelinpertek, 24.VI.2003, 3 ♂♂, 3 ♀♀; Kabayel, 24.VI.2003, 10 ♂♂, 8 ♀♀; 28.VIII.2003, 4 ♂♂, 2 ♀♀; Üçevler, 24.VI.2003, 1 ♂♂, 3 ♀♀; Yeşilgöl, 13.V.2003, 1 ♂, 3 ♀♀.

Laccobius (Dimorpholaccobius) obscuratus obscuratus
(Rottenberg, 1874)

Material examined

Bingöl: Bingöl-Muş road 7. km., 25.VI. 2003, 2 ♂♂, 4 ♀♀. Adaklı: Doğankaya, 27.VI.2003, 3 ♂♂, 5 ♀♀.

Remarks

This species was recorded for the first time in Bingöl.

Genus *Paracymus* (Thomson, 1867)
Paracymus chaldeolus (Solsky, 1874)

Material examined

Karlıova: Dört Yol, 9.X.2004, 2 ♂♂, 2 ♀♀; Karlıova-Çat road 20. km., 6.IX.2003, 1 ♂; Toklular, 17.IX.2004, 2 ♂♂, 3 ♀♀. Solhan: Dilektepe, 23.VIII.2003, 1 ♂.

Paracymus scutellaris (Rosenhauer, 1856)

Material examined

Adaklı: Akbinek, 27.VI.2003, 3 ♂♂, 2 ♀♀. Kiğı: Eşmeköy, 22. VIII. 2003, 1 ♂. Solhan: Buğlan pass, 25.VI.2003, 6 ♂♂, 5 ♀♀.

Tribe Hydrobiusini

Genus *Hydrobius* (Leach, 1815)
Hydrobius fuscipes (Linnaeus, 1758)

Material examined

Bingöl: Çavuşlar, 25.VI.2003, 2 ♂♂, 4 ♀♀; Ekinyolu, 25. IV. 2004, 1 ♂; Elmalı, 24.VIII.2003, 1 ♂; Kuruca pass, 28.VI.2003, 1 ♂, 2 ♀♀; 30.VI.2004, 1 ♂. Sudüğünü, 21.VIII.2003, 2 ♂♂, 2 ♀♀; Yeşilova, 21.VIII.2003, 1 ♂. Karlıova: Boncukgöze, 24.VIII.2003, 1 ♂; Toklular, 14.V.2003, 2 ♂♂, 4 ♀♀. Solhan: Buğlan pass, 25.VI.2003, 5 ♂♂ 6 ♀♀. Yedisu: Düşengi, 24.VI.2003, 1 ♂; Kaşıklı, 13.V.2003, 1 ♂, 2 ♀♀.

Hydrobius arcticus (Kuwert, 1890)

Material examined

Karlıova: Karlıova-Bingöl road 2. km., 14.V.2003, 1 ♂.

Subfamily Chaetarthriinae

Tribe Anacaenini

Genus *Anacaena* (Thomson, 1859)
Anacaena rufipes (Guillebeau, 1896)

Material examined

Bingöl: Çevrimpinarı, 22.VIII. 2003, 1 ♂, 3 ♀♀. Adaklı: Akbinek, 16.V.2003, 3 ♂♂, 6 ♀♀; Kiğı-Adaklı parting of the ways, 16.V.2003, 8 ♂♂, 5 ♀♀. Kiğı: Eşmeköy, 22.VIII.2003, 9 ♂♂, 5 ♀♀; Güneyağıl, 22.VIII. 2003, 13 ♂♂, 8 ♀♀; Kiğı-Yayladere road 20. km., 22.VIII.2003, 4 ♂♂, 6 ♀♀. Yayladere: Seherstepe, 28.VI.2003, 1 ♂, 2 ♀♀. Yedisu: 20.VIII. 2003, 2 ♂♂, 3 ♀♀.

Anacaena limbata (Fabricius, 1792)*Material examined*

Kiğı: Kiğı-Yayladere road 17. km., 22.VIII. 2003, 1 ♂.
Yedisu: Kabayel, 28.VIII. 2003, 6 ♂♂, 3 ♀♀.

Anacaena lutescens (Stephens, 1829)*Material examined*

Bingöl: Çayağzı stream, 26.VI.2003, 5 ♂♂, 3 ♀♀.
Adaklı: Akbinek, 27.VI.2003, 4 ♂♂, 6 ♀♀. Karlıova: Kalencik, 24. VIII.2003, 1 ♂, 2 ♀♀; Sudurağı, 24.VIII.2003, 1 ♂, 5 ♀♀. Kiğı: Eşmeköy, 22. VIII.2003, 2 ♂♂, 4 ♀♀. Yayladere: 22.VIII. 2003, 3 ♂♂, 2 ♀♀. Yedisu: Kabayel, 28.VIII. 2003, 1 ♂.

Subfamily Enochrinae

Genus *Enochrus* (Thomson, 1859)Subgenus *Lumetus* (Zaitzev, 1908)*Enochrus (Lumetus) segmentinotatus* (Kuwert, 1888)*Material examined*

Adaklı: Akbinek, 27.VI.2003, 5 ♂♂, 3 ♀♀. Solhan: Dilektepe, 25.VI.2003, 3 ♂♂, 4 ♀♀.

Remarks

This species was recorded for the first time in Bingöl.

Enochrus (Lumetus) quadripunctatus (Herbst, 1797)*Material examined*

Adaklı: Akbinek, 16.V.2003, 6 ♂♂, 5 ♀♀. Karlıova: Kale, 14.V.2003, 4 ♂♂, 3 ♀♀; Toklular, 14.V.2003, 3 ♂♂, 1 ♀. Solhan: Yenidal, 26.VI.2003, 1 ♂, 2 ♀♀.

Enochrus (Lumetus) fuscipennis (Thomson, 1884)*Material examined*

Bingöl: Kös hot spring, 14.V.2003, 7 ♂♂, 6 ♀♀; Kuruca pass, 22.VIII.2003, 6 ♂♂, 8 ♀♀. Adaklı: Kozlu, 26.VI.2003, 2 ♂♂, 4 ♀♀. Genç: Gümüşlü, 26.VI.2003, 5 ♂♂, 4 ♀♀. Karlıova: Kalencik, 24.VIII.2003, 5 ♂♂, 5 ♀♀.

Subfamily Acidocerinae

Genus *Helochaers* (Mulsant, 1844)Subgenus *Helochaers* (Mulsant, 1844)*Helochaers (s.str.) lividus* (Forster, 1771)*Material examined*

Bingöl: Ağaçeli, 25.VI.2003, 7 ♂♂, 10 ♀♀; Çem Ilıcalar, 24. VIII.2003, 8 ♂♂, 15 ♀♀; Çiçekdere, 15.V.2003, 7 ♂♂, 6 ♀♀, 21.VIII.2003, 4 ♂♂, 6 ♀♀; Çevrimpinarı, 22.VIII.2003, 6 ♂♂, 4 ♀♀; Kös hot spring, 24.VIII.2003, 4 ♂♂, 6 ♀♀; 30. VI. 2004, 1 ♂; 17.IX.2004, 6 ♂♂, 8 ♀♀; 10.X.2004, 1 ♂, 6 ♀♀; Köklü, 10.X.2004, 1 ♂, 3 ♀♀; Şeyh Ahmet bridge, 7.X.2003, 1 ♂; Yeşilmazı, 23.VIII.2003, 2 ♂♂, 6 ♀♀. Adaklı: Hasbağlar, 21.VIII.2003, 2 ♂♂, 8

♀♀; Kozlu, 27.VI.2003, 4 ♂♂, 6 ♀♀. Karlıova: Sudurağı, 21.VIII.2003, 7 ♂♂, 10 ♀♀, 24.VIII.2003, 12 ♂♂, 12 ♀♀. Solhan: Masalla stream, 23. VIII. 2003, 4 ♂♂; Solhan-Bingöl road 25. km., 23.VIII.2003, 7 ♂♂, 6 ♀♀. Yayladere: Sarıtosun, 22.VIII. 2003, 11 ♂♂, 15 ♀♀.

Helochaers (s.str.) obscurus (Müller, 1776)*Material examined*

Solhan: Yüzenada, 24.VIII.2003, 7 ♂♂, 10 ♀♀. Yayladere: Koruklu parting of the ways, 16.V.2003, 7 ♂♂, 3 ♀♀.

Subfamily Sphaeridiinae

Tribe Coelostomatini

Genus *Coelostoma* (Brullé, 1835)Subgenus *Coelostoma* (Brullé, 1835)*Coelostoma (s.str.) orbiculare* (Fabricius, 1775)*Material examined*

Bingöl: Ağaçeli, 25.VI.2003, 1 ♂, 4 ♀; Simsor pass, 7.X.2003, 2 ♂♂, 3 ♀♀. Karlıova: Kale, 14.V.2003, 3 ♀♀; Sudurağı, 24.VIII.2003, 11 ♂♂, 5 ♀♀. Kiğı: Güneyağıl, 22.VIII.2003, 2 ♂♂, 3 ♀♀. Yayladere: Sarıtosun, 22.VIII. 2003, 6 ♂♂, 7 ♀♀. Yedisu: Yeşilgöl, 13.V.2003, 1 ♂, 3 ♀.

Subgenus *Lachnocoelostoma* (Mauchamps, 1958)*Coelostoma (Lachnocoelostoma) transcaspicum*

Reitter, 1906

Material examined

Bingöl: Kös hot spring, 14.V.2003, 5 ♂♂ 4 ♀♀.

Tribe Megasternini

Genus *Cercyon* (Leach, 1817)Subgenus: *Dicyrtocercyon* (Ganglbauer, 1904)*Cercyon ustulatus* (Preyssl, 1790)*Material examined*

Kiğı: Güneyağıl, 22.VIII.2003, 1 ♂, 1 ♀.

DISCUSSION

In the present study, totally 31 taxa belonging to Hydrophilidae of aquatic Coleoptera were listed in Bingöl province. Of these, *Laccobius (Dimorpholaccobius) obscuratus obscuratus*, *Enochrus (Lumetus) segmentinotatus*, *Laccobius (Dimorpholaccobius) hauserianus* were recorded for the first time in Bingöl province.

The total number of Hydrophilidae species recorded from Bingöl is nearly 1/3 of the whole Turkish fauna. But, this number does not reflect the fauna of research area in real sense. Because, the high plateaus contains habitats for favorable conditions to all aquatic insects, while the higher parts of the mountains surrounding of the research area involves a number of different sizes glacial lakes. For determining the real sense of Hydrophilidae fauna of Bingöl

province, and to contribute to the coleopteran fauna of world, there is a need to collect a series of samples from aquatic habitats in the places which are quite difficult to reach.

Faunistic studies on Turkish Aquatic Coleoptera has been increased recently (Mart, 2009; Darılmaz and Incekara, 2011; Mart *et al.*, 2014a, b; Yılmaz and Aslan, 2014; Darılmaz *et al.*, 2015), but with further studies to improve our knowledge on Turkish water beetles, and filling gaps in our knowledge on diversity of water beetles more focus should be laid on little known and specific areas, places which are quite difficult to reach.

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Statement of conflict of interest

Authors have declared no conflict of interest.

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