

## FAUNISTIC STUDY OF THE AQUATIC BEETLES (COLEOPTERA) OF TRABZON PROVINCE (TURKEY)

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**ABSTRACT:** In this study, we established the presence of 26 aquatic beetle species belonging to 16 genera and 5 families from the Trabzon province in the Black Sea region of Turkey. Specimens were collected between 2005 and 2006. Distributions of species within Turkey are presented as a catalogue of provincial records. Ten species are here recorded for the first time from the Black Sea region of Turkey. Several species known previously from only a few localities in Turkey have been shown to have much wider distributions in the country. In addition, the habitats and the phenologies of these species found in the area were given.

**KEY WORDS:** Coleoptera, Gyrinidae, Noteridae, Dytiscidae, Hydrophilidae, Helophoridae, fauna, Trabzon, Turkey.

Aquatic beetle fauna of Trabzon province is only partly known. Twenty four species of aquatic beetles have been recorded from the studied region in the following published works: Balfour–Browne (1963), Gentili & Chiesa (1975), Guéorguiev (1968; 1981), Angus (1988; 1992), Brancucci (1988), Gentili (1981; 2000) and Fery & Petrov (2005).

The aim of this study was to make a contribution to Turkish aquatic beetles fauna.

### MATERIALS AND METHOD

This study is based on 495 specimens of aquatic beetles and all the specimens were collected by the first author from Trabzon province (Map 1) between June – September in 2005 and 2006. Specimens were collected from a spring water area, with a sieve, ladle and net having a 1 mm mesh size. The beetles were killed with 70% alcohol and in the laboratory were cleaned of muddy remnant on their surfaces with a small paintbrush. Aedeagophore was dissected under the stereo-microscope and on to add 10% KOH solution for about 1–2 hours. Materials have been deposited in the Gazi University Zoological Museum (=ZMGU), Ankara, Turkey.

A list of localities is given in Table 1. The ‘List of species’ gives the sampling locations for each species. The dates of sampling and total number of individuals are also noted. Species new for Trabzon are marked with an asterisk, species new for Black Sea Region of Turkey with two asterisks.

Table 1. List of sampling sites in Trabzon Province (Abbreviations: No. = number, Abbr. = abbreviations of the site).

No.	Sampling site	coordinates	habitat	Abbr.
1.	Akçaabat (Anay Stream)	40°.86'N 39°.46'E	stream	T1
2.	Arsin (Kendirlik Stream)	40°.95'N 39°.95'E	stream	T2
3.	Arsin (Yolüstü village)	40°.90'N 39°.98'E	puddle	T3
4.	Akçaabat (Kale Stream)	40°.83'N 39°.35'E	stream	T4
5.	Sürmene (Mirandüz village)	40°.90'N 40°.13'E	puddle	T5
6.	Akçaabat (Enginoba Plateau Uçarsu Stream)	40°.78'N 39°.62'E	stream	T6
7.	Hayrat	40°.90'N 40°.36'E	lake	T7
8.	Çaykara (Uzungöl)	40°.61'N 40°.28'E	lake	T8
9.	Zigana Mountain	40°.66'N 39°.63'E	stream	T9
10.	Araklı (Küçükdere, Üzümlü village)	40°.77'N 40°.03'E	puddle	T10
11.	Araklı (Küçükdere)	40°.77'N 40°.03'E	puddle	T11
12.	Arsin (Çubuklu village)	40°.90'N 40°.07'E	puddle	T12
13.	Akçaabat (Akçakale Çatalzeytin place)	41°.00'N 39°.60'E	stream	T13
14.	Arsin (Kendirlik)	40°.95'N 39°.95'E	puddle	T14
15.	Akçaabat (Üçpınar Plateau Uçarsu Stream)	40°.83'N 39°.46'E	stream	T15
16.	Araklı (Opposite of Anadolu Öğretmen High School)	40°.93'N 40°.06'E	puddle	T16
17.	Kaşıstü (Cumhuriyet ward)	40°.95'N 39°.83'E	puddle	T17
18.	Çaykara (Solaklı Stream)	40°.63'N 40°.33'E	stream	T18
19.	Maçka (Sümela Monastery road Altındere valley)	40°.80'N 39°.60'E	stream	T19
20.	Arsin (Kendirlik ward, greenhouses)	40°.95'N 39°.95'E	puddle	T20
21.	Çaykara	40°.76'N 40°.25'E	puddle	T21
22.	Arsin (Gölcük coast road)	40°.94'N 39°.92'E	puddle	T22
23.	Yomra (Kömürcü village)	40°.96'N 39°.95'E	puddle	T23
24.	Arsin (Yanbolu Stream 1. stone mine)	40°.90'N 40°.00'E	puddle	T24
25.	Yalıncak	40°.98'N 39°.80'E	puddle	T25
26.	Kaşıstü (Cumhuriyet ward)	40°.93'N 39°.98'E	puddle	T26
27.	Zigana Mountain (by the side of 14. bridge)	40°.70'N 39°.48'E	puddle	T27
28.	Arsin (Yalı ward old fountain depot belong to Beşiroğlu Family)	40°.95'N 39°.93'E	old fountain pool	T28
29.	Arsin (Yalı ward)	40°.96'N 39°.90'E	puddle	T29
30.	Arsin (Yanbolu Stream)	40°.90'N 40°.00'E	stream	T30
31.	Arsin (Harmanlı)	40°.91'N 39°.90'E	stream	T31
32.	Arsin (Kendirlik Stream coasts puddles)	40°.95'N 39°.95'E	puddle	T32
33.	Akçaabat (Kireçhane Stream)	41°.01'N 39°.56'E	stream	T33
34.	Arsin, Yeşilyalı (Falkoz Stream)	40°.95'N 39°.98'E	stream	T34

For some remarkable species phenologies and additional distributional notes are given. Countries have been coded as follows after Nilsson (2003).

**E - Europe:** AB Azerbaijan, AL Albania, AN Andorra, AR Armenia, AU Austria, AZ Azores, BE Belgium, BH Bosnia Hercegovina, BU Bulgaria, BY Byelorussia, CR Croatia, CZ Czech Republic, DE Denmark, EN Estonia, FA Faeroe Islands, FI Finland, FR France, GB Great Britain, GE Germany, GG Georgia, GR Greece, HU Hungary, IC Iceland, IR Ireland, IT Italy, KZ Kazakhstan, LA Latvia, LS Liechtenstein, LT Lithuania, LU Luxembourg, MA Malta, MC Macedonia, MD Moldavia, NL The Netherlands, NR Norway, PL Poland, PO Portugal, RO Romania, RU Russia (CT Central European Territory, NT North European Territory, ST South European Territory), SK Slovakia, SL Slovenia, SP Spain, SR Svalbard, SV Sweden, SZ Switzerland, TR Turkey, UK Ukraine, YU Yugoslavia.

**N - North Africa:** AG Algeria, CI Canary Islands, EG Egypt (except Sinai), LB Libya, MO Morocco, MR Madeira Archipelago, TU Tunisia.

**A - Asia:** AE Arab Emirates, AF Afghanistan, AP Arunachal Pradesh, BA Bahrain, BT Bhutan, CH China [CE Central Territory (ANH Anhui, HUB Hubei, HUN Hunan, JIA Jiangsu, JIX Jiangxi, SHG Shanghai, ZHE Zhejiang), NE Northeastern Territory (HEI Heilongjiang, JIL Jilin, LIA Liaoning), NO Northern Territory (BEI Beijing, GAN Gansu, HEB Hebei, HEN Henan, NIN Ningxia, NMO Nei Mongol, SHA Shaanxi, SHN Shandong, SHX Shanxi, TIA Tianjin), NW Northwestern Territory (GAN Gansu, NMO Nei Mongol, XIN Xinjiang), SE Southeastern Territory (FUJ Fujian, GUA Guangdong, GUX Guangxi, HAI Hainan, HKG Hong Kong, MAC Macao, TAI Taiwan), SW Southwestern Territory (GUI Guizhou, SCH Sichuan, YUN Yunnan), WP Western Plateau (QIN Qinghai, XIZ Xizang)], CY Cyprus, HP Himachal Pradesh, IN Iran, IQ Iraq, IS Israel, JA Japan, JO Jordan, KA Kashmir, KI Kyrgyzstan, KU Kuwait, KZ Kazakhstan, LE Lebanon, MG Mongolia, NP Nepal, NC North Korea, OM Oman, PA Pakistan, QA Qatar, RU Russia (ES East Siberia, FE Far East, WS West Siberia), SA Saudi Arabia, SC South Korea, SD Sikkim, Darjeeling, SI Sinai (Egyptian part), SY Syria, TD Tadzhikistan, TM Turkmenistan, TR Turkey, UP Uttar Pradesh, UZ Uzbekistan, YE Yemen.

**AFR** Afrotropical region, **AUR** Australian region, **NAR** Nearctic region, **NTR** Neotropical region, **ORR** Oriental region.

### Family Gyrinidae

#### **\*\**Gyrinus (s.str.) distinctus* Aubé, 1836**

**Materials:** Trabzon: 5 females, 4 males, T1, 26.07.2005; 1 male, T2, 28.07.2005; 1 female, 1 male, T3, 31.08.2005; 1male, T4, 09.07.2006; 1 male, T5, 11.07.2006; 3 males, T6, 13.07.2006.

**Phenology:** July, August. **Distribution in Turkey:** Adana, Aksaray, Antalya, Bursa, Denizli, Isparta, İzmir, Konya (Zaitzev, 1972; Franciscolo, 1979; Guéorguiev, 1981; Kiyak et al., 2006a; Darılmaz & Kiyak, 2006a). **Distribution in the world:** E: AU AZ BE BH BU BY CR CT CZ DE FI FR GB GE GR HU IT MC NL NR NT PL PT SK SP ST SV SZ YU "Transcaucasia" N: EG LB A: AF CY IN IQ IS KA KI KZ LE MG NMO SY TR UZ XIN XIZ (Mazzoldi, 2003).

### Family Noteridae

#### **\*\**Noterus clavicornis* (De Geer, 1774)**

**Materials:** Trabzon: 1 male, T7, 24.07.2005.

**Phenology:** July. **Distribution in Turkey:** Aksaray, Ankara, Antalya, Aydın, Balıkesir, Bilecik, Bolu, Isparta, İzmir, Kayseri, Konya, Manisa (Balfour–Browne, 1963; Zaitzev, 1972; Guéorguiev, 1981; Darılmaz & Kiyak, 2006a; Kiyak et al., 2007). **Distribution in the world:** E: AB AL AR AU BE BH BU BY CR CT CZ DE EN FI FR GB GE GG GR HU IR IT LA LS LT LU MC MD NL NR PL PT SK SL SP ST SV SZ UK YU A: ES HEI IN IQ IS JO KA KZ LE MG SHA SY TM TR WS XIN (Nilsson, 2003).

### Family Dytiscidae

#### *Agabus (Gaurodytes) biguttatus* (Oliver, 1795)

**Materials :** Trabzon: 1 male, T8, 19.06.2005; 1 male, T3, 31.08.2005; 1 male, T9, 20.06.2006; 2 males, T10, 22.06.2006; 2 females, 1 male, T11, 22.06.2006; 1 male, T12, 11.07.2006; 1 male, T6, 13.07.2006; 1 male, T13, 13.07.2006.

**Phenology:** June-August. **Distribution in Turkey:** Adana, Afyon, Aksaray, Ankara, Bayburt, Bilecik, Bingöl, Bursa, Çankırı, Elazığ, Erzurum, Gaziantep, Gümüşhane, Hatay, Isparta, İzmir, Kastamonu, İçel, Sakarya, Trabzon, Yozgat (Franciscolo, 1979; Guéorguiev, 1981; Shaverdo, 2002; Darılmaz & Kiyak, 2006a; Kiyak et. al., 2007; Erman et. al., 2007). **Distribution in the world:** E: AB AL AR AU BE BH BU BY CR CZ FR GB GE GG GR HU IR IT LS LU MC NL PL PT RO RU (CT ST) SK SL SP SZ UK YU N: AG CI EG LB MO TU A: AF CH (SCH XIN) CY HP IN IQ IS JO KA KI LE PA RU (WS) SA SI SY TM TR UZ (Nilsson, 2003).

#### *Agabus (Gaurodytes) bipustulatus* (Linnaeus, 1767)

**Materials :** Trabzon: 5 females, 2 males, T14, 28.07.2005; 2 females, T15, 22.07.2005; 1 male, T16, 21.06.2006; 5 females, 5 males, T11, 22.06.2006; 3 females, T12, 23.06.2006; 1 male, T12, 11.07.2006; 1 male, T17, 22.07.2006.

**Phenology:** June, July. **Distribution in Turkey:** Adana, Ankara, Antalya, Bursa, Denizli, Erzurum, Isparta, İzmir, Kars, Kastamonu, Kayseri, Konya, Muğla, Trabzon, Van, Van Lake (Guéorguiev, 1981; Darılmaz & Kiyak, 2006a; Kiyak et. al., 2007; Erman et. al., 2007). **Distribution in the world:** E: AB AL AN AR AU AZ BE BH BU BY CR CZ DE EN FA FI FR GB GE GG GR HU IC IR IT LA LS LT LU MC NL NR PL PT RO RU (CT NT ST) SK SL SP SV SZ TR UK YU N: AG LB MO TU A: AF CH (XIN) CY IN IS KI KZ LE RU (WS) SY TD TR UZ "Manchuria" AFR (Nilsson, 2003).

#### *Agabus (Gaurodytes) dilatatus* (Brullé, 1832)

**Materials:** Trabzon: 1 male, T18, 24.07.2005.

**Phenology:** July. **Distribution in Turkey:** Adana, Ankara, Antalya, Bingöl, Bursa, Giresun, Gümüşhane, Isparta, İçel, İzmir, İzmit, Konya, Rize, Trabzon, Van (Guéorguiev, 1981; Kiyak et. al., 2007). **Distribution in the world:** E: BU GG GR IT MC RU (ST) TR UK N: AG EG MO TU A: CY IQ IS KI LE SI SY TR UZ (Nilsson, 2003).

#### \*\**Ilybius fuliginosus fuliginosus* (Fabricius, 1792)

**Materials:** Trabzon: 1 male, T7, 24.07.2005.

**Phenology:** July. **Distribution in Turkey:** Erzurum, Bingöl, Isparta, İçel, Kars, Konya (Guéorguiev, 1981; Kiyak et. al., 2007; Erman et. al., 2007). **Distribution in the world:** E: AB AN AR AU BE BH BU BY CR CZ DE EN FI FR GB GE GG GR HU IR IT LA LS LT LU MC MD NL NR PL PT RU (CT NT ST) SK SL SP SV SZ UK YU N: MO A: IN KZ MG RU (WS) TR (Nilsson, 2003).

#### *Platambus lunulatus* (Fischer von Waldheim, 1829)

**Materials:** Trabzon: 3 females, 5 males, T15, 22.07.2005; 1 male, T19, 12.07.2006; 6 females, 2 males, T6, 13.07.2006.

**Phenology:** July. **Distribution in Turkey:** Bursa, Erzurum, Giresun, Gümüşhane, İçel, İstanbul, Kayseri, Niğde, Trabzon, Tunceli (Guéorguiev, 1981; Balfour-Browne, 1963; Brancucci, 1988; Erman et. al., 2007). **Distribution in the world:** E: AB AR GG GR RU (ST) TR N: EG A: IN LE TR (Nilsson, 2003).

#### *Rhantus (s.str.) suturalis* (MacLeay, 1825)

**Materials:** Trabzon: 3 females, 1 male, T20, 15.07.2006.

**Phenology:** July. **Distribution in Turkey:** Aksaray, Erzurum, Konya, Manisa, Trabzon (Guéorguiev, 1981; Darılmaz & Kiyak, 2006a; Erman et. al., 2007). **Distribution in the world:** E: AB AR AU AZ BE BH BU BY CR CZ DE EN FI FR GB GE GG GR HU IR IT LA LS LT LU MA MC NL NR PL PT RU (CT ST) SK SL SP SV SZ UK YU N: EG LB MO A: AF CH (BEI FUJ GAN GUA GUI GUX HEB HEI HUB JIA JIL LIA MAC NMO QIN SCH SHN SHX

TAI XIZ YUN ZHE) CY HP IN IQ IS JA KA KI KU KZ MG NC NP PA RU (ES FE WS) SA SC SD SI TD TM TR UZ **AUR ORR** (Nilsson, 2003).

### ***Hydroglyphus geminus* (Fabricius, 1792)**

**Materials:** Trabzon: 5 females, 2 males, T21, 24.07.2005; 13 females, 4 males, T22, 31.07.2005; 12 females, 4 males, T14, 01.08.2005; 2 females, 1 male, T14, 30.08.2005; 1 male, T20, 26.08.2005; 10 females, 8 males, T20, 01.08.2005; 2 females, 2 males, T20, 30.08.2005; 6 females, 1 male, T20, 19.06.2006; 4 females, 4 males, T20, 15.07.2006; 1 male, T23, 12.07.2006; 1 male, T24, 17.07.2006; 2 females, T25, 22.07.2006; 2 males, T26, 22.07.2006; 2 males, T12, 01.09.2006.

**Phenology:** June-September. **Distribution in Turkey:** Adana, Afyon, Aksaray, Ankara, Antalya, Aydın, Bahkesir, Bolu, Bursa, Edirne, Erzurum, Eskişehir, Gümüşhane, Isparta, İzmir, Kastamonu, Konya, Kilis, Manisa, İçel, Muğla, Trabzon (Franciscolo, 1979; Guéorguiev, 1981; Darılmaz & Kiyak, 2006a; Erman et. al., 2007). **Distribution in the world:** E: AB AL AR AU BE BH BU BY CR CZ DE EN FI FR GB GE GG GR HU IT LA LS LT LU MC MD NL NR PL PT RO RU (CT NT ST) SK SL SP SV SZ UK YU N: AG CI EG LB MO TU A: AF BT CH (GUI GUX HEI HEN JIL LIA SCH YUN) CY HP IN IQ IS KA KI KZ LE MG NC NP PA RU (ES) SA SI SY TD TM TR UP UZ **ORR** (Nilsson, 2003).

### **\**Scarodytes halensis halensis* (Fabricius, 1787)**

**Materials:** Trabzon: 1 male, T27, 20.06.2006.

**Phenology:** June. **Distribution in Turkey:** Aksaray, Ankara, Antalya, Bursa, Erzurum, Eskişehir, Gümüşhane, Isparta, İçel, İzmir, Kayseri, Van, Yozgat (Franciscolo, 1979; Guéorguiev, 1981; Kiyak et. al., 2007; Erman et. al., 2007). **Distribution in the world:** E: AL AR AU BE BH BU BY CR CZ DE EN FI FR GB GE GG GR HU IT LA LT LU MC MD NL NR PL PT RO RU (CT NT ST) SK SL SP SV SZ UK YU N: AG EG MO TU A: IN IS LE SI SY TR (Nilsson, 2003).

### ***Hydroporus marginatus* (Duftschmid, 1805)**

**Materials:** Trabzon: 4 males, T10, 22.06.2006; 1 male, T16, 21.06.2006; 1 male, T27, 20.06.2006.

**Phenology:** June. **Distribution in Turkey:** Ankara, Erzurum, Kars, Konya, Muğla, Sivas, Trabzon (Guéorguiev, 1981; Fery & Petrov, 2005; Kiyak et. al., 2007; Erman et. al., 2007). **Distribution in the world:** E: AL AR AU BE BH BU CR CZ FR GB GE GG GR HU IT MC NL PL RU (ST) SK SL SP SV SZ TR UK YU N: AG MO A: IN IS TR (Nilsson, 2003).

### **\*\**Hydroporus palustris* (Linnaeus, 1761)**

**Materials:** Trabzon: 1 female, 1 male, T12, 23.06.2006; 1 male, T12, 01.09.2006.

**Phenology:** June, September. **Distribution in Turkey:** Erzurum (Guéorguiev, 1981; Erman et. al., 2007). **Distribution in the world:** E: AB AN AR AU BE BH BU BY CR CZ DE EN FA FI FR GB GE GG GR HU IR IT LA LS LT LU MC NL NR PL RU (CT NT ST) SK SL SP SV SZ UK YU A: IN RU (ES WS) TR (Nilsson, 2003).

### **\*\**Stictotarsus griseostriatus* (De Geer, 1774)**

**Materials:** Trabzon: 1 male, T18, 24.07.2005.

**Phenology:** July. **Distribution in Turkey:** Van Gölü, Erzurum (Guéorguiev, 1981; Erman et. al., 2007). **Distribution in the world:** E: AR AU BH BU EN FI FR GE GG GR IT NR PT RU (NT) SL SP SV SZ YU N: MO A: KA MG PA TR NAR (Nilsson, 2003).

### **\*\**Laccophilus hyalinus hyalinus* (DeGeer, 1774)**

**Materials:** Trabzon: 1 female, T20, 01.08.2005; 4 females, 1 male, T20, 26.08.2005; 1 male, T25, 22.07.2006.

**Phenology:** July, August. **Distribution in Turkey:** Adana, Antalya, Aydın, Bolu, Burdur, Erzurum, Isparta, İçel, İzmir, Kırşehir, Kilis, Konya, Manisa (Zaitzev, 1972; Franciscolo, 1979; Guéorguiev, 1981; Darılmaz & Kiyak, 2006a; Erman et. al., 2007). **Distribution in the world:** E: AB AR AU BE BH BU BY CZ DE EN FI FR GB GE GG GR

HU IR IT LA LT LU MC MD NL NR PL RU (NT) SK SL SV SZ UK YU **A:** CY IN IQ IS LE RU (ES WS) SY TM TR UZ (Nilsson, 2003).

### ***Laccophilus minutus* (Linneaus, 1758)**

**Materials:** Trabzon: 2 males, T24, 11.07.2006; 2 males, T24, 17.07.2006.

**Phenology:** July. **Distribution in Turkey:** Afyon, Aksaray, Ankara, Antalya, Aydın, Balıkesir, Bolu, Burdur, Bursa, Denizli, Erzurum, Gümüşhane, Isparta, İzmir, Konya, Manisa, Sinop, Sivas, Trabzon, Toros Mountains (Guéorguiev, 1981; Darılmaz & Kiyak, 2006a; Erman et. al., 2007). **Distribution in the world:** **E:** AB AL AR AU BE BH BU BY CR CZ DE EN FI FR GB GE GG GR HU IR IT LA LT LU MA MC MD NL NR PL PT RU (NT ST) SK SL SP SV SZ UK YU **N:** AG MO TU **A:** AF CH (XIN YUN) IN IQ IS JO KA KI KZ MG PA RU (ES WS) SY TM TR UZ **ORR** (Nilsson, 2003).

## **Family Hydrophilidae**

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

**Materials:** Trabzon: 4 males, T7, 24.07.2005; 1 male, T14, 28.07.2005; 1 male, T20, 01.08.2005; 2 females, T20, 30.08.2005; 1 male, T20, 15.07.2006; 3 females, T28, 01.08.2005; 2 males, T12, 11.07.2006; 2 males, T13, 13.07.2006; 2 females, T29, 11.07.2006; 2 males, T26, 22.07.2006.

**Phenology:** July, August. **Distribution in Turkey:** Ankara, Erzurum (D'Orchymont, 1932; İncekara et al., 2003). **Distribution in the world:** **E:** AB AR AU BE BU BY CR CT CZ DE EN FI FR GB GE GR HU IT LA LT NL NR NT PL PT RO SK SL SP SV ST SZ UK YU **A:** ES FE JA KZ WS (Hansen, 2004).

### **\*\**Anacaena limbata* (Fabricius, 1792)**

**Materials:** Trabzon: 2 males, T20, 30.08.2005; 2 males, T3, 31.08.2005, 2 females, 2 males, T29, 31.08.2006.

**Phenology:** August. **Distribution in Turkey:** Ankara (Henegouwen, 1986). **Distribution in the world:** **E:** AR AU BE BH BU BY CT CZ DE FI FR GB GE GR HU IR IT LA NL NT PL PT RO SK SP ST SV SZ UK YU **A:** FE IS KZ SY TR WS **NAR** (Hansen, 2004).

### **\*\**Helochares (s.str.) lividus* (Forster, 1771)**

**Materials:** Trabzon: 8 females, 5 males, T20, 01.08.2005; 4 males, T20, 26.08.2005; 16 females, 4 males, T20, 30.08.2005; 3 females, 3 males, T20, 15.07.2006; 1 male, T27, 20.06.2006; 8 females, T13, 13.07.2006; 1 male, T25, 22.07.2006; 4 females, 4 males, T26, 22.07.2006.

**Phenology:** June-August. **Distribution in Turkey:** Aksaray (Darılmaz & Kiyak, 2006b). **Distribution in the world:** **E:** AU BH BU CZ FR GB GE GR HU IT NL PL PT SL SP SZ **N:** AG MO TU **A:** SY (Hansen, 2004). **Remarks:** The first record of *Helochares lividus* in Turkey was given by Darılmaz & Kiyak (2006b). In this study the second record is given for Turkey. Also this species is a new record for the Hydrophilidae fauna of the Black Sea Region.

### ***Laccobius (Dimorpholaccobius) bipunctatus* (Fabricius, 1775)**

**Materials:** Trabzon: 1 male, T14, 28.07.2005; 4 females, 2 males, T20, 30.08.2005; 2 females, 3 males, T30, 01.09.2005; 1 male, T19, 12.07.2006; 5 males, T23, 12.07.2006.

**Phenology:** July-September. **Distribution in Turkey:** Afyon, Artvin, Bolu, Erzurum, Kastamonu, Rize, Trabzon (Gentili & Chiesa, 1975; Gentili, 1981; 2000). **Distribution in the world:** **E:** AL AR AU BE BH BU BY CR CZ DE EN FI FR GB GE GR HU IR IT LA LT MC NL NR NT PL PT RO SK SL SP SV SZ UK YU **N:** MO TU **A:** KZ TM TR (Hansen, 2004).

### ***Laccobius (Dimorpholaccobius) simulatrix* d'Orchymont, 1932**

**Materials:** Trabzon: 3 males, T29, 11.07.2006; 7 males, T24, 17.07.2006.

**Phenology:** July. **Distribution in Turkey:** Ağrı, Aksaray, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Bitlis, Bolu, Bursa, Çanakkale, Çorum, Denizli, Edirne, Erzincan,

Erzurum, Hakkâri, Iğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Kars, Kayseri, Kırklareli, Manisa, Muğla, Niğde, Osmaniye, Rize, Samsun, Sivas, Trabzon, Van (Gentili & Chiesa, 1975; Gentili, 1981; 2000; Darılmaz & Kıyak, 2006a; Kıyak et al., 2006b). **Distribution in the world:** E: AB AU BH BU CR CZ FR GG GR HU IT MC PL RO SK TR UK (Krym) YU A: AF IN KZ TM TR (Hansen, 2004).

***Laccobius (Dimorpholaccobius) obscuratus aegaeus* Gentili, 1974**

**Materials:** Trabzon: 1 male, T2, 28.07.2005; 1 female, 2 males, T20, 01.08.2005; 2 males, T20, 19.06.2006; 4 males, T20, 15.07.2006; 1 male, T31, 05.08.2005; 2 males, T32, 19.06.2006; 1 females, 5 males, T10, 22.06.2006; 7 females, 5 males, T11, 22.06.2006; 7 females, 4 males, T23, 12.07.2006; 11 males, T33, 13.07.2006. ; 1 male, T26, 22.07.2006.

**Phenology:** June, July, August. **Distribution in Turkey:** Adana, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Bitlis, Bolu, Burdur, Bursa, Çanakkale, Çorum, Denizli, Erzincan, Erzurum, Gümüşhane, Isparta, İstanbul, İzmir, İzmit, Kastamonu, Kırklareli, Konya, Manisa, İçel, Muğla, Niğde, Ordu, Osmaniye, Rize, Sinop, Trabzon, Van (Gentili, 1981; 2000). **Distribution in the world:** E: GR TR UK (Krym) A: TR (Hansen, 2004).

**\**Laccobius (Dimorpholaccobius) striatulus* (Fabricius, 1801)**

**Materials:** Trabzon: 1 male, T1, 26.07.2005; 4 females, 2 males, T31, 05.08.2005; 1 female, 2 males, T34, 06.08.2005; 1 male, T20, 26.08.2005; 5 males, T20, 15.07.2006; 6 females, 1 male, T3, 31.08.2005; 2 males, T32, 19.06.2006; 2 males, T9, 20.06.2006; 9 males, T27, 20.06.2006; 3 females, T5, 11.07.2006; 1 male, T29, 11.07.2006; 3 females, T12, 11.07.2006; 5 males, T12, 18.07.2006; 10 females, 8 males, T12, 01.09.2006; 6 females, 1 male, T13, 13.07.2006; 13 females, 3 males, T25, 22.07.2007; 3 males, T10, 01.09.2006.

**Phenology:** June-September. **Distribution in Turkey:** Adapazarı, Ankara, Antalya, Artvin, Bayburt, Bitlis, Bolu, Bursa, Çanakkale, Erzincan, Erzurum, Eskişehir, Gümüşhane, Hatay, Isparta, İstanbul, İzmir, İzmit, Kütahya, Konya, Malatya, Manisa, Muğla, Ordu, Sivas, Van (Gentili, 1981; 2000). **Distribution in the world:** E: AL AR AU BE BH BU BY CR CT CZ DE EN FI FR GB GE GG GR HU IR LA MC NL NR NT PL PT RO SK SL SP ST SV SZ TR UK YU A: KI KZ TR UZ (Hansen, 2004).

***Laccobius (Microlaccobius) gracilis gracilis* Motchoulsky, 1855**

**Materials:** Trabzon: 1 male, T31, 05.08.2005; 2 males, T32, 13.07.2006.

**Phenology:** July, August. **Distribution in Turkey:** Adana (Toros Mountains), Adıyaman, Ankara, Antalya, Artvin, Aydın, Bayburt, Balıkesir, Bilecik, Bingöl, Bitlis, Bolu, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Erzincan, Erzurum, Gaziantep, Giresun, Hakkari, Isparta, İstanbul, İzmir, Kars, Kastamonu, Kayseri, Manisa, Mardin, İçel, Muğla, Muş, Niğde, Ordu, Rize, Sinop, Sivas, Trabzon, Van (Gentili&Chiesa 1975; Gentili, 1981, 2000). **Distribution in the world:** E: AL AU BE BH BU CR CZ FR GE GG GR HU IT PT RO SK SL SP ST SZ TR UK YU N: AG LB MO TU A: IN IS TR (Hansen, 2004).

**Family Helophoridae**

**\*\**Helophorus (Eutrichelophorus) micans* Falderman, 1835**

**Materials:** Trabzon: 1 male, T27, 20.06.2006.

**Phenology:** June. **Distribution in Turkey:** Aksaray, Balıkesir, Burdur, Diyarbakır, Erzurum, Hatay, İzmir, Tuz Lake, Van Lake (Angus, 1988; Darılmaz & Kıyak, 2006a). **Distribution in the world:** E: AB AR AU BU CZ GR PL SK ST "Transcaucasus" A: AF CY IN IQ IS PA TD TR UZ (Hansen, 2004).

**\**Helophorus (Rhopalohelophorus) brevipalpis brevipalpis* Bedel, 1881**

**Materials:** Trabzon: 3 females, 2 males, T16, 21.06.2006.

**Phenology:** June. **Distribution in Turkey:** Aksaray, Ankara, Antalya, Artvin, Bursa, İstanbul, İzmir, Kahramanmaraş, Kırklareli, Muğla, Niğde, Samsun, Sinop, Tuz Lake, Van, Van Lake (Angus, 1988, 1992; Darılmaz & Kiyak, 2006a). **Distribution in the world: E:** AB AR AU BH BU BY CR CT CZ DE EN FA FI FR GB GE GG GR HU IR IT LA LT MD NL NR NT PL SK SP ST SV SZ TR UK YU **A:** CY IN IQ IS LE SY TR NAR (Hansen, 2004).

**\**Helophorus (Rhopalohelophorus) obscurus* Mulsant, 1844**

**Materials:** Trabzon: 23 females, 11 males, T20, 19.06.2006.

**Phenology:** June. **Distribution in Turkey:** Artvin, Bolu, Bursa, Erzincan, Erzurum, İstanbul, Kırklareli, Sinop (Angus, 1988; İncekara, et. al., 2004). **Distribution in the world: E:** AU CZ DE FR GB GE GR IR IT NL PL PT SK SP ST SV TR UK "Transcaucasus" **A:** TR (Hansen, 2004).

## RESULTS

In freshwater habitats of Trabzon Province, 26 aquatic beetle species (Coleoptera: Gyrinidae, Noteridae, Dytiscidae, Hydrophilidae and Helophoridae) belonging to 16 genera and five families were recorded at 34 sites. Of these, the species *Gyrinus distinctus*, *Noterus clavicornis*, *Ilybius fuliginosus fuliginosus*, *Hydroporus palustris*, *Stictotarsus griseostriatus*, *Laccophilus hyalinus hyalinus*, *Coelostoma orbiculare*, *Anacaena limbata*, *Helochares lividus* and *Helophorus micans* are recorded from the Black Sea Region of Turkey for the first time.

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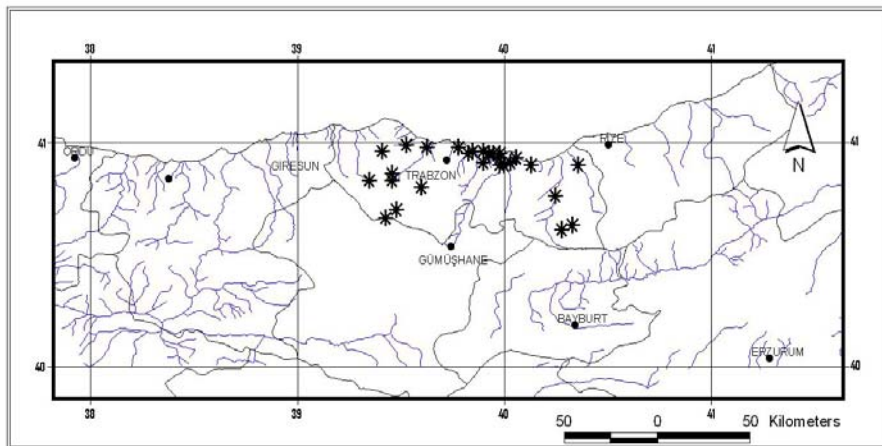
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Map 1. Research areas and collecting locality (\*).