

**CONTRIBUTIONS TO THE KNOWLEDGE OF TURKISH
AUCHENORRHYNCHA (HOMOPTERA) WITH A NEW
RECORD, *PENTASTIRIDIUS NANUS* (IVANOFF, 1885)**

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ABSTRACT: In this study, 1690 adult Auchenorrhyncha specimens that are collected during the field studies in Kızılcahamam (Turkey: Ankara) in Central Anatolia during the months May-September of 1997 are examined. 101 species belonging to 11 families are found to be distributed in the region. Among these, 7 species belong to Cixidae, 5 species to Delphacidae, 1 species to Meenoplidae, 10 species to Cercopidae, 2 species to Membracidae, and 59 species to Cicadellidae. Habitat descriptions of all detected species are presented with which plant they are collected from and collection records of distribution in Turkey. 70 of these examined species are new records for Kızılcahamam, 16 are new records for Ankara and *Setapius nanus* Ivanoff, 1885 is a new record for Turkey.

KEY WORDS: Homoptera, Auchenorrhyncha, fauna, Kızılcahamam, Turkey.

The first faunistic records of this order are given by Fahringer (1922), Haupt (1930), Kerville (1939) and Zachvatkin (1937, 1946). However, the first comprehensive study on Auchenorrhynches of Turkey is executed by the Czech scientist, Dlabola in 1957 during a scientific trip to Turkey. Dlabola has given numerous faunistic records and has defined species from Turkey that are new to the scientific world in this study and in his other studies in the following years (1957, 1963, 1971, 1971b, 1974, 1974b, 1977, 1979, 1979b, 1980, 1980b, 1081, 1981b, 1982, 1983, 1984, 1984b, 1985, 1985b, 1995). Linnavuori (1965), Asche (1982), Remane and Hoch (1985), Dworakowska (1969, 1970, 1970b, 1970c, 1971, 1972, 1976, 1982) gave records from Turkey in their studies. Among Turkish scientists, Kalkandelen (1972, 1974, 1974b, 1980, 1985, 1987, 1988, 1989, 1989b, 1990, 1993, 1994, 2000) and Kartal (1978, 1978b, 1980, 1981, 1983, 1985, 1985b, 1986, 1987, 1988) published many studies on this subject. Lodos and Kalkandelen produced a faunistic list of Turkey's Auchenorrhyncha species and published it as 27 papers in a series (1980, 1980b, 1980c, 1981, 1981b, 1981c, 1981d, 1982, 1982b, 1983, 1983b, 1983c, 1984, 1984b, 1984c, 1984d, 1985, 1985b, 1985c, 1986, 1986b, 1986c, 1987, 1987b, 1987c, 1987d, 1988). In the following years, Zeybekoğlu, who is a student of Kartal, and his team (1992, 1994, 1994b, 1997, 1998, 2000, 2001, 2001b), Güçlü and Özbek (1994, 1994b, 1995, 1995b), Başpınar and Uygun (1991, 1991b, 1991c, 1992, 1992b), Meyer-Arndt (1988, 1991),

Boulard (1979, 1993) gave Auchenorrhyncha records from Turkey and identified some new species. Auchenorrhyncha fauna of Turkey is represented by 764 species belonging to 15 families according to the available literature.

Although Auchenorrhyncha is a rich sub-order, the number of Auchenorrhyncha species in Turkey has not yet been determined. The studies mentioned above cover certain parts of Turkey and do not include adequate faunistic records for many regions of this country due to the lack of elaborate studies in those regions. The ample detection of the fauna of Turkey necessitates local studies in detail. Kızılcahamam is particularly important not only for being a transition between steppe and forest vegetations and therefore having an interesting fauna structure, but also for its richness in the number of species. Because of these characteristics and since its fauna is poorly known, Kızılcahamam is chosen as the study site.

MATERIALS AND METHODS

Examined material comprises 1690 adult samples of Auchenorrhyncha that are collected from the county of Kızılcahamam and its surroundings by the author. During the sampling, the site is regularly visited. From May 1997 until the end of September 1997, field studies are held at least once a week in the study site (40° 25', 40° 41' North, 32° 35', 32° 48' East) covering Işıkdığı mountain to the northeast of Kızılcahamam and Soğuksu National Park to the west of the county. Samples are collected specifically from habitats differing in vegetation. The selected habitats were 1065-1740m above sea level. The field studies are held during daytime. Samples are collected by sweeping the atrap over the herbaceous plants. Therefore, it could not be detected which specimen is collected from which plant. Only for trees and shrubs, each specimen collected by atrap is attributed to the plant species. Auchenorrhynches are selected among the specimens of many other groups in the atrap, with the use of an aspirator. The specimens in the aspirator are later killed in jars containing ethyl acetate and placed in envelopes, which are prepared prior to the field trip, by assigning a record id number in the field. The collected specimens are prepared according to the standard methods and classified in collection boxes and are currently in the collection of the author.

Family: CIXIIDAE SPINOLA, 1839

Cixius pallipes Fieber, 1876

Materials: Güvem, SW Demirciköy, 1250 m, 28.05.1997, 1 female. It has been collected from *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Adıyaman, Afyon, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Çanakkale, Çankırı, Diyarbakır, Düzce, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hakkari, Iğdır, İzmir, Karaman, Kırşehir, Konya, Kütahya, Kahramanmaraş, Malatya, Mardin,

Muğla, Ordu, Sakarya, Samsun, Tokat, Şanlıurfa, Yozgat (Lodos & Kalkandelen, 1980; Dlabola, 1981; Kalkandelen, 1988). **Remarks:** New for Kızılcahamam.

***Tachycixius desertorum* (Fieber, 1876)**

Materials: Işıkdığı, Karagöl, 1600 m, 11.07.1997, 1 female. It has been collected from weeds in *Pinus nigra* forest.

Distribution in Turkey: Adıyaman, Ankara, Antalya, Artvin, Diyarbakır, Edirne, Eskişehir, Gaziantep, Hakkari, İçel, İzmir, Kastamonu, Konya, Manisa, Mardin, Muğla, Nevşehir, Sinop, Uşak (Lodos & Kalkandelen, 1980; Kalkandelen, 1988). **Remarks:** New for Kızılcahamam.

***Pentastiridius nanus* (Ivanoff, 1885)**

Materials: Soğuksu, 1300 m, 20.07.1997, 7 males 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: This species is the first record in Turkey. **Remarks:** New for Turkey.

***Reptalus panzeri* (Löw, 1883)**

Materials: Soğuksu, 1300 m, 20.07.1997, 1 female. It has been collected from *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Çankırı (Kalkandelen, 1994). **Remarks:** New for Kızılcahamam.

***Hyalesthes ponticorum* Hoch & Remane, 1985**

Materials: Soğuksu, 1100 m, 03.08.1997, 2 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Çankırı, Çorum, Erzincan, Konya, Van (Hoch & Remane, 1985; Kalkandelen, 2000). **Remarks:** Known to Kızılcahamam.

***Hyalesthes philesakis* Hoch & Remane, 1985**

Materials: Soğuksu, 1300 m, 20.07.1997 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Kırşehir (Kalkandelen, 2000). **Remarks:** New for Kızılcahamam.

***Hyalesthes yozgaticus* Hoch & Remane, 1985**

Materials: Soğuksu, 1300 m, 20.07.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Yozgat (Hoch & Remane, 1985). **Remarks:** New for Ankara.

Family: DELPHACIDAE LEACH, 1815

***Stenocranus minutus* (Fabricius, 1787)**

Materials: Güvem, Sey Hamamı, 1080 m, 14.05.1997, 3 females 2 males, Soğuksu, 1100 m, 13.09.1997, 1 male. It has been collected from weeds in orchards and *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Bitlis (Lodos & Kalkandelen, 1980b; Güçlü, 1996). **Remarks:** New for Kızılcahamam.

***Eurya lineata* (Perris, 1857)**

Materials: Soğuksu, 1100 m, 07.06.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Kars (Lodos & Kalkandelen, 1980b). **Remarks:** New for Ankara and Middle Anatolia.

***Eurybregma nigrolineata* Scott, 1875**

Materials: Sey Hamamı, 1080 m, 14.05.1997, 7 males 10 female. It has been collected from weeds in orchards.

Distribution in Turkey: Konya (Lodos & Kalkandelen, 1980b). **Remarks:** New for Ankara.

***Muirodelphax aubei* (Perris, 1857)**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 2 males, Işıkdığı, Yukarı Çanlı, 1400 m, 11.07.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Erzurum, İzmır (Lodos & Kalkandelen, 1980b; Güçlü, 1996). **Remarks:** New for Kızılcahamam.

***Javesella dubia* (Kirschbaum, 1868)**

Materials: Soğuksu, 1100 m, 13.09.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Erzurum (Lodos & Kalkandelen, 1980b; Güçlü, 1996). **Remarks:** New for Kızılcahamam.

Family: MEENOPLIDAE FIEBER, 1872***Meenoplus albosignatus* Fieber, 1866**

Materials: Soğuksu, 1100 m, 03.08.1997, 1 male 1 female, 20.07.1997 1 female. It has been collected from *Quercus* and *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Adıyaman, Ankara, Bolu, Hakkari, Mardin, Muş (Linnav., 1965; Lodos & Kalkandelen, 1980c). **Remarks:** New for Kızılcahamam.

Family: DERBIDAE SPINOLA, 1839***Malenia turanica* Anufriev, 1966**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 2 females. It has been collected from weeds in orchards.

Distribution in Turkey: Ankara, Antalya, Muğla (Lodos & Kalkandelen, 1988). **Remarks:** New for Kızılcahamam.

Family: DICTYOPHARIDAE SPINOLA, 1839***Dictyophara multireticulata* Mulsat et Rey, 1855**

Materials: Işıkdığı, Aköz Köyü, 1150 m, 30.08.1997, 1 female. It has been collected from *Populus* trees.

Distribution in Turkey: Denizli, Van (Lodos & Kalkandelen, 1980c). **Remarks:** New for Ankara.

Family: TETTIGOMETRIDAE GERMAR, 1821***Tettigometra (Mitricephalus) macrocephalus* (Fieber, 1865)**

Materials: Güvem, Eyrekkaya Barajı, 1260, m, 14.05.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Sakarya, Van (Lodos & Kalkandelen, 1980c). **Remarks:** New for Ankara.

Tettigometra (Hystrigonia) hexaspina (Kolenati, 1857)

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 female, 30.08.1997, 1 female. It has been collected from weeds and *Populus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ağrı, Ankara, Edirne, Gaziantep, Giresun, Isparta, Tekirdağ, Urfa (Dlabola, 1957; Lodos & Kalkandelen, 1980c). **Remarks:** New for Kızılcahamam.

Tettigometra (s.str.) eremi Lindberg, 1948

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 1 male 4 females, Yasin Köyü, 1500 m, 11.07.1997, 5 males 4 females, Soğuksu, 1300 m, 20.07.1997, 1 female. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Aydın, Burdur, Çanakkale, İzmir, Kayseri, Kocaeli, Kütahya, Manisa, Sivas, Uşak (Lodos & Kalkandelen, 1980c(21, 67)). **Remarks:** New for Kızılcahamam.

Tettigometra (s.str.) obliqua (Panzer, 1799)

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 4 males 7 females, Salin Köyü, 1300 m, 30.08.1997, 3 females, Yasin Köyü, 1400 m, 11.07.1997, 7 males 4 females. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara, Adıyaman, Ağrı, Bilecik, Bolu, Burdur, Çanakkale, Çankırı, Çorum, Diyarbakır, Edirne, Elazığ, İstanbul, İzmir, Mardin, Nevşehir, Sivas, Tekirdağ, Urfa (Dlabola, 1957; Linnavuori, 1965; Lodos & Kalkandelen, 1980c). **Remarks:** New for Kızılcahamam.

Tettigometra (s.str.) sordida Fieber, 1865

Materials: Güvem, Yenimahalle, 1250 m, 05.07.1997, 1 male, Aköz Köyü, 1150 m, 30.08.1997, 3 females, Salin Köyü, 1300 m, 30.08.1997, 1 male 2 females, Soğuksu, 1510 m, 28.05.1997 1 female. It has been collected from weeds and *Populus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara (Lodos & Kalkandelen, 1980c). **Remarks:** New for Kızılcahamam.

Tettigometra (s.str.) sulphurea Mulsant et Rey, 1855

Materials: Soğuksu, 1300 m, 20.07.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara, Artvin, Aydın, Bilecik, Bursa, Diyarbakır, Elazığ, İzmir, Kütahya, Nevşehir, Sakarya, Urfa, Uşak, Van (Dlabola, 1957; Lodos & Kalkandelen, 1980c). **Remarks:** New for Kızılcahamam.

Tettigometra (s.str.) vitellina Fieber, 1865

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Van (Lodos & Kalkandelen, 1980c). **Remarks:** New for Kızılcahamam.

Tettigometra (Metroplaca) baranii (Signoret, 1866)

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 6 males 11 females, Salin Köyü, 1300 m, 30.08.1997, 2 females, Yasin Köyü, 1400 m, 11.07.1997, 2 males 1 female, Yukarı Çanlı, 1400 m, 11.07.1997, 1 female. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Mardin (Lodos & Kalkandelen, 1980c). **Remarks:** New for Kızılcahamam.

***Tettigometra (Metroplaca) longicornis* (Signoret, 1866)**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 3 females, Yasin Köyü, 1500 m, 11.07.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Sivas (Dlab., 1957, 1981). **Remarks:** New for Kızılcahamam.

Family: ISSIDAE SPINOLA, 1839***Mycterodus rostratulus* Emeljanov, 1964**

Materials: Güvem, Salin Köyü, 1300 m, 14.06.1997, 1 male, Yukarı Çanlı, 1400 m, 14.06.1997, 1 male, Güvem, 1100 m, 14.06.1997, 1 female, Soğuksu, 1100 m, 07.06.1997, 1 male 1 female, 1250 m, 28.05.1997, 2 females, 1300 m, 25.05.1995, 1 female, 1510 m, 28.05.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Yozgat (Lodos & Kalkandelen, 1981a; Kartal, 1985). **Remarks:** New for Kızılcahamam.

***Scorlupella discolor* (Germar, 1821)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 4 females 18 males, 1150 m, 28.05.1997, 2 females 2 males, Belpınar, 1300 m, 05.07.1997, 10 females 10 males, Salin Köyü, 1300 m, 14.06.1997, 11 females 5 males, Yenimahalle, 1250 m, 05.07.1997, 9 females 10 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Yozgat (Dlabola, 1957; Kartal, 1985). **Remarks:** New for Kızılcahamam.

***Scorlupella montana* (Becker, 1865)**

Materials: Güvem, 1100 m, 14.06.1997, 1 female, Soğuksu, 1300 m, 07.06.1997, 53 females, 20.07.1997, 7 females. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Erzincan, Kars, Yozgat (Lodos & Kalkandelen, 1981a; Kartal, 1985). **Remarks:** New for Kızılcahamam.

***Tshurtshurnella peloponica* Dlabola, 1979**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 3 males 5 females, 30.08.1997, 1 female, Salin Köyü, 1300 m, 30.08.1997, 5 males 8 females, Soğuksu, 1100 m, 03.08.1997, 1 male, 1300 m, 20.07.1997, 4 males 7 females. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara (Lodos & Kalkandelen, 1988). **Remarks:** Known to Kızılcahamam.

***Kervillea parvissima* (Dlabola, 1957)**

Materials: Soğuksu, 1300 m, 07.06.1997, 1 female, Güvem, Aköz Köyü, 1150 m, 28.05.1997, 5 females 9 males, Belpınar, 1300 m, 05.07.1997, 4 females 5 males, Salin Köyü, 1300 m, 14.06.1997, 1 female 4 male, Yenimahalle, 1250 m, 05.07.1997, 1 female 1 male, Yukarı Çanlı, 1400 m, 14.06.1997, 2 males, SW Demirciköy, 1250 m, 28.05.1997, 3 females, Yasin Köyü, 1500 m, 11.07.1997, 2 females, Yukarı Çanlı, 1540 m, 14.06.1997, 10 females 9 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara (Lodos & Kalkandelen, 1981a). **Remarks:** New for Kızılcahamam and endemic to Turkey.

Family: CICADIDAE LEACH, 1815***Cicadetta tibialis* (Panzer, 1788)**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 4 males 2 females. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Artvin, Çorum (Lodos & Kalkandelen, 1981b). **Remarks:** New for Kızılcahamam.

Family: CERCOPIDAE LEACH,1815***Cercopis intermedia* Kirschbaum,1868**

Material: Güvem, Belpınar, 1300 m, 05.07.1997, 1 female, Sey Hamamı, 1080 m, 11.07.1997, 1 female, Yukarı Çanlı, 1540 m, 14.06.1997, 1 female, Yasin Köyü, 1500 m, 11.07.1997, 1 male, Güvem, 1100 m, 14.05.1997, 1 male 1 female, 28.05.1997, 1 male 3 females, Soğuksu, 1100 m, 07.06.1997, 1 male, 1150 m, 25.05.1997, 5 females 6 males, 1300 m, 25.05.1997, 3 males 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adıyaman, Amasya, Ankara, Artvin, Bitlis, Çanakkale, Diyarbakır, Elazığ, Eskişehir, Gaziantep, Giresun, Hakkari, Hatay, Isparta, İzmir, Kayseri, Konya, Kütahya, Kastamonu, Maraş, Mardin, Niğde, Rize, Samsun, Sinop, Trabzon, Urfa, Uşak (Lodos & Kalkandelen , 1981c; Kartal et. al., 1994). **Remarks:** New for Kızılcahamam.

***Lepyronia coleoptrata* (Linnaeus,1758)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 female 1 male, Belpınar, 1300 m, 05.07.1997, 1 male, Salin Köyü, 1300 m, 14.06.1997, 1 female 5 males, Sey Hamamı, 1080 m, 11.07.1997, 3 females 2 males, Aköz Köyü, 1150 m, 30.08.1997, 1 female, Güvem, 1100 m, 14.06.1997, 1 male, Soğuksu, 1100 m, 13.09.1997, 2 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Afyon, Ankara, Artvin, Aydın, Bilecik, Bursa, Çanakkale, Çankırı, Çorum, Diyarbakır, Edirne, Erzincan, Gümüşhane, İzmir, Kars, Kütahya, Manisa, Mardin, Muğla, Muş, Sakarya, Samsun, Sinop, Tokat (Lodos & Kalkandelen, 1981c; Kartal et. al., 1994; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Neophilaenus albipennis* (Fabricius,1798)**

Materials: Işıkdığı, Salin Köyü, 1300 m, 30.08.1997, 1 male 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Kırklareli (Lodos & Kalkandelen, 1981c). **Remarks:** New for Ankara and Middle Anatolia.

***Neophilaenus campestris* (Fallen,1805)**

Materials: Soğuksu, 1100 m, 03.08.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Adıyaman, Ankara, Artvin, Bitlis, Bursa, Çanakkale, Eskişehir, Giresun, Hatay, İzmir, Kırklareli, Kütahya, Manisa, Muğla, Nevşehir, Samsun, Siirt, Sinop, Trabzon, Van (Linnvuori, 1965; Lodos & Kalkandelen, 1981c). **Remarks:** New for Kızılcahamam.

***Neophilaenus lineatus* (Linnaeus,1758)**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 2 females, Aköz Köyü, 1150 m, 30.08.1997, 2 females, Karagöl, 1600 m, 11.07.1997, 1 male, Soğuksu, 1100 m, 03.08.1997, 1 female, 13.09.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Afyon, Ankara, Erzincan, İzmir, Nevşehir, Van (Lodos & Kalkandelen, 1981c; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Neophilaenus minor* (Kirschbaum,1868)**

Materials: Işıkdığı, Salin Köyü, 1300 m, 30.08.1997, 1 male, Soğuksu, 1100 m, 07.06.1997, 1 male, 1300 m, 20.07.1997, 3 females 2 males. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Konya (Dlabola, 1957; Demir, 2004).

Remarks: New for Kızılcahamam.

***Aphrophora alni* (Fallen,1805)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male, Sey Hamamı, 1080 m, 11.07.1997, 9 males 7 females, Yenimahalle, 1250 m, 09.08.1997, 3 males 2 females, Aköz Köyü, 1150 m, 20.08.1997, 5 males 3 females, 30.08.1997, 1 male, Soğuksu, 1100 m, 03.08.1997, 5 males 5 females, 20.07.1997, 2 males, 13.09.1997, 1 male. It has been collected from weeds and *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Afyon, Ankara, Artvin, Aydın, Balıkesir, Bitlis, Bolu, Çanakkale, Çorum, Diyarbakır, Erzincan, Erzurum, Giresun, İstanbul, İzmir, Kayseri, Kırklareli, Konya, Kütahya, Mardin, Muğla, Manisa, Ordu, Rize, Samsun, Sinop, Tekirdağ, Trabzon, Yozgat (Linnvuori, 1965; Lodos & Kalkandelen, 1981c; Kartal et. al., 1994; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Aphrophora corticea* Germar,1821**

Materials: Soğuksu, 1100 m, 03.08.1997, 1 male 1 female. It has been collected from *Pinus nigra* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Afyon, Aydın, Bilecik, Çanakkale, Isparta, Kütahya, Muğla, Tokat (Lodos & Kalkandelen, 1981c). **Remarks:** New for Ankara.

***Aphrophora salicina* (Goeze,1778)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male 2 females. Sey Hamamı, 1080 m, 11.07.1997, 6 males 13 females. Yenimahalle, 1250 m, 09.08.1997, 4 males 3 females, Aköz Köyü, 1150 m, 30.08.1997, 1 female, Soğuksu, 1100 m, 03.08.1997, 10 males 12 females, 20.07.1997, 1 female. It has been collected from weeds and *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Balıkesir, Çanakkale, Giresun, Gümüşhane, Kırklareli, Kütahya (Lodos & Kalkandelen, 1981c; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Philaenus spumarius* (Linnaeus,1758)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male 2 females, Sey Hamamı, 1080 m, 11.07.1997, 6 males 13 females, Yenimahalle, 1250 m, 09.08.1997, 4 males 3 females, Aköz Köyü, 1150 m, 30.08.1997, 1 female, Soğuksu, 1100 m, 03.08.1997, 10 males 12 females, 20.07.1997, 1 female. It has been collected from weeds and *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ağrı, Amasya, Ankara, Artvin, Aydın, Balıkesir, Bilecik, Bitlis, Bolu, Bursa, Çanakkale, Elazığ, Erzincan, Erzurum, Giresun, Gümüşhane, Hakkari, İzmir, Kars, Kırklareli, Kocaeli, Kütahya, Malatya, Manisa, Mardin, Muğla, Ordu, Rize, Samsun, Siirt, Sinop, Tekirdağ, Trabzon, Tokat, Van (Linnvuori, 1965; Lodos & Kalkandelen, 1981c; Kartal et. al., 1994; Demir, 2004). **Remarks:** New for Kızılcahamam.

Family: MEMBRACIDAE RAFINESQUE,1815

***Gargara genistae* (Fabricius,1775)**

Materials. Işıkdığı, Salin Köyü, 1300 m, 30.08.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Aydın, Balıkesir, Çorum, Erzurum, İzmir, Muğla (Lodos & Kalkandelen, 1981c). **Remarks:** New for Kızılcahamam.

***Centrotus cornutus* (Linnaeus,1758)**

Materials: Soğuksu, 1100 m, 06.06.1998, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Artvin, Aydın, Bilecik, Bursa, Çorum, Denizli, Erzincan, Edirne, Giresun, İzmir, Kocaeli, Kütahya, Kırklareli, Ordu, Sakarya, Tekirdağ (Lodos & Kalkandelen, 1981c). **Remarks:** New for Ankara.

Family: CICADELLIDAE LATREILLE,1825***Utecha trivialis* (Germar,1821)**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 1 female 1 male, Aköz Köyü, 1150 m, 30.08.1997, 2 females, Soğuksu, 1300 m, 20.07.1997, 1 female 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ağrı, Ankara, Bilecik, Çanakkale, Çorum, Denizli, Elazığ, Gümüşhane, İzmir, Kastamonu, Manisa, Mardin, Muğla, Rize, Sinop, Sivas, Urfa (Lodos & Kalkandelen, 1981d). **Remarks:** Known to Kızılcahamam.

***Macropsis cerea* (Germar,1837)**

Materials: Soğuksu, 1100 m, 03.08.1997, 1 female. It has been collected from *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Erzurum, Gümüşhane (Lodos & Kalkandelen, 1981d). **Remarks:** New for Ankara and Middle Anatolia.

***Macropsis graminea* (Fabricius,1798)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male 2 females, 30.08.1997, 2 females, Salin Köyü, 1300 m, 30.08.1997, 1 female, Soğuksu, 1100 m, 03.08.1997, 10 males 61 females, 20.07.1997, 2 females. It has been collected from *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Adıyaman, Ağrı, Ankara, Bitlis, Çanakkale, Diyarbakır, Edirne, Elazığ, Eskişehir, Gümüşhane, Kırklareli, Konya, Kütahya, Manisa, Tokat, Trabzon, Tunceli, Van (Lodos & Kalkandelen, 1981d). **Remarks:** New for Kızılcahamam.

***Macropsis megerlei* (Fieber,1868)**

Materials: Soğuksu, 1100 m, 03.08.1997, 1 female. It has been collected from *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Bolu, Çankırı (Lodos & Kalkandelen, 1981d). **Remarks:** New for Ankara.

***Hephathus nanus* (Herrich-Schäffer,1835)**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Çankırı, Çorum, Kırklareli, Kütahya (Lodos & Kalkandelen, 1981d). **Remarks:** New for Ankara.

***Anaceratagallia ribauti* Ossionnilsson,1938**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 female, Belpınar, 1300 m, 05.07.1997, 11 females 1 male, Sey Hamamı, 1080 m, 11.07.1997, 1 male, Yenimahalle, 1250 m, 09.08.1997, 1 female, Yasin Köyü, 1500 m, 11.07.1997, 1 female, Yukarı Çanlı, 1400 m, 11.07.1997, 2 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Balıkesir, Çankırı, Malatya, Mardin, Samsun (Lodos & Kalkandelen, 1981d). **Remarks:** New for Kızılcahamam.

***Dryodurgades anaticus* Dlabola, 1957**

Materials: Işıkdagi, Salin Köyü, 1300 m, 30.08.1997, 1 female, Soğuksu, 1100 m, 13.09.1997, 1 male 4 females, 1300 m, 07.06.1997, 1 male, 25.05.1997, 1 male 1 female. It has been collected from weeds and *Juniperus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara (Dlabola, 1957; Demir, 2004a).

Remarks: New for Kızılcahamam.

***Rhytidodus boluicus* Dlabola, 1970**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 1 male. It has been collected from weeds under *Populus* trees.

Distribution in Turkey: Adana, Ankara, Çankırı, Diyarbakır, Erzurum, İzmir, Kayseri, Manisa (Lodos & Kalkandelen, 1982a; Güçlü & Özbek, 1994a).

Remarks: New for Kızılcahamam.

***Idiocerus lituratus* (Fallen, 1806)**

Materials: Soğuksu, 1100 m, 03.08.1997, 1 female. It has been collected from *Salix caprea* in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara (Dlabola, 1957). **Remarks:** New for Kızılcahamam.

***Idiocerus stigmatalis* Lewis, 1834**

Materials: Işıkdagi, Aköz Köyü, 1150 m, 30.08.1997, 7 females 2 males, Soğuksu, 1100 m, 03.08.1997, 2 females, 20.07.1997, 1 female. It has been collected from *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ağrı, Trabzon (Lodos & Kalkandelen, 1982a).

Remarks: New for Ankara and Middle Anatolia.

***Tremulicerus mesopyrrhus* (Kirschbaum, 1868)**

Materials: Işıkdagi, Aköz Köyü, 1150 m, 30.08.1997, 1 male. It has been collected from *Populus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara, Bitlis, Çankırı, Erzurum, Gümüşhane, İzmir, Konya, Manisa, Van (Lodos & Kalkandelen, 1982a; Güçlü & Özbek, 1994a). **Remarks:** New for Kızılcahamam.

***Populicerus populi* (Linnaeus, 1761)**

Materials: Işıkdagi, Yasin Köyü, 1500 m, 11.07.1997, 1 male 1 female. It has been collected from *Populus tremula* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Rize (Lodos & Kalkandelen, 1982a; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Batracomorphus irroratus* Lewis, 1834**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 14 females 2 males, Işıkdagi, Yasin Köyü, 1500 m, 11.07.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adıyaman, Ankara, Burdur, Diyarbakır, Kayseri, Nevşehir, Tekirdağ, Van (Lodos & Kalkandelen, 1982b; Demir, 2004).

Remarks: New for Kızılcahamam.

***Penthimia nigra* (Goeze, 1778)**

Materials: Güvem, Aköz Köyü, 1150 m, 28.05.1997, 2 females, Soğuksu, 1100 m, 03.08.1997, 1 female. It has been collected from *Rosa canina* and *Populus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Antalya, Bilecik, Isparta, İzmir, Kırşehir, Nevşehir, Tekirdağ, Trabzon (Lodos & Kalkandelen, 1982b). **Remarks:** New for Kızılcahamam.

***Paradorydium paradoxum* (Herrich-Schäffer, 1837)**

Materials: Soğuksu, 1300 m, 07.06.1997, 4 females, 20.07.1997, 2 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Antalya, Diyarbakır (Lodos & Kalkandelen, 1982b; Demir, 2005). **Remarks:** New for Kızılcahamam.

***Eupelix cuspidata* (Fabricius, 1775)**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 2 males 1 female, Sey Hamamı, 1080 m, 11.07.1997, 1 male 1 female, Yenimahalle, 1250 m, 05.07.1997, 2 males, Karagöl, 1600 m, 11.07.1997, 1 male, Yasin Köyü, 1500 m, 11.07.1997, 1 female, Yukarı Çanlı, 1400 m, 11.07.1997, 8 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adıyaman, Afyon Ankara, Artvin, Çanakkale, Diyarbakır, Konya, Malatya, Mardin, Niğde, Urfa (Lodos & Kalkandelen, 1982b). **Remarks:** New for Kızılcahamam.

***Aphrodes angulaticeps* Emeljanov, 1964**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 2 males, Işıkdığı, Aköz Köyü, 1150 m, 30.08.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Elazığ, Kütahya (Lodos & Kalkandelen, 1982b). **Remarks:** New for Ankara.

***Aphrodes makarovi* Zachvatkin, 1948**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male 3 females, Sey Hamamı, 1080 m, 11.07.1997, 4 males, Yenimahalle, 1250 m, 05.07.1997, 1 male 2 females, Yasin Köyü, 1500 m, 11.07.1997, 2 males, Soğuksu, 1100 m, 13.09.1997, 3 females, 1300 m, 20.07.1997, 1 female. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Adana (Başpınar & Uygun, 1991). **Remarks:** New for Ankara.

***Alebra albostriella* (Fallen, 1826)**

Materials: Işıkdığı, Salin Köyü, 1300 m, 30.08.1997, 4 females 1 male, Soğuksu, 1100 m, 13.09.1997, 1 female. It has been collected from *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Artvin, Bolu, Çorum, Hatay, İzmir, Kayseri, Kırşehir, Ordu (Linnavuori, 1965; Lodos & Kalkandelen, 1983b). **Remarks:** New for Kızılcahamam.

***Micantulina stigmatipennis* (Mulsant et Rey, 1855)**

Materials: Güvem, 1100 m, 28.05.1997, 1 female. It has been collected from *Verbascum* in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Burdur, Isparta, İstanbul, İzmir, Manisa (Lodos & Kalkandelen, 1983b). **Remarks:** New for Kızılcahamam.

***Kybos candelabricus* Dlabola, 1958**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 female, 30.08.1997, 9 females 7 males, Yenimahalle, 1250 m, 09.08.1997, 1 female, Soğuksu, 1100 m, 03.08.1997, 10 females 3 males, 13.09.1997, 2 females, 20.07.1997, 2 females 1 male. It has been collected from *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Erzincan, Kırşehir, Nevşehir, Van, Yozgat (Linnavuori, 1965; Lodos & Kalkandelen, 1983c). **Remarks:** Known to Kızılcahamam.

***Linnavuoriana sexmaculata* (Hardy, 1850)**

Materials: Soğuksu, 1100 m, 03.08.1997, 1 male. It has been collected from *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Erzincan, Konya (Linnavuori, 1965; Lodos & Kalkandelen, 1984). **Remarks:** Known to Kızılcahamam.

***Ribautiana alces* (Ribaut, 1931)**

Materials: Işıkdığı, Aköz Köyü, 1150 m, 30.08.1997, 1 female, Salin Köyü, 1300 m, 30.08.1997, 1 male 2 females. It has been collected from *Quercus* and *Salix* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Kütahya (Dlabola, 1981). **Remarks:** New for Ankara.

***Eupteryx gyaurdagicus* Dlabola, 1957**

Materials: Güvem, Yenimahalle, 1250 m, 09.08.1997, female, Aköz Köyü, 1150 m, 30.08.1997, 1 female, Soğuksu, 1100 m, 13.09.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara, Bolu, Isparta, İzmir, Manisa, Nevşehir, Sinop (Dlabola, 1957; Lodos & Kalkandelen, 1984b; Kartal, 1983). **Remarks:** New for Kızılcahamam.

***Eupteryx taborskyi* Dlabola, 1957**

Materials: Güvem, Yenimahalle, 1250 m, 09.08.1997, 3 females, Soğuksu, 1100 m, 03.08.1997, 1 female 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Erzincan, Konya, Nevşehir, Sinop, Van, Yozgat (Lodos & Kalkandelen, 1984b). **Remarks:** New for Kızılcahamam.

***Kropka unipunctata* (Dlabola, 1957)**

Materials: Soğuksu, 1100 m, 06.06.1998, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Çorum, Gümüşhane, Kayseri, Sivas (Lodos & Kalkandelen, 1984c). **Remarks:** New for Kızılcahamam.

***Goniagnathus brevis* (Herrich-Schäffer, 1835)**

Materials: Güvem, Eyrekkaya barajı, 1260 m, 14.05.1997, 1 male, Işıkdığı, Salin Köyü, 1300 m, 30.08.1997, 2 females 1 male, Soğuksu, 1150 m, 25.05.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Amasya, Ankara, Antalya, Burdur, Diyarbakır, Manisa, Mardin, Niğde, Samsun, Sinop, Tokat (Kalkandelen, 1974; Lodos & Kalkandelen, 1985; Kartal & Zeybekoğlu, 1991; Zeybekoğlu, 1998; Demir, 2004b). **Remarks:** New for Kızılcahamam.

***Neoaliturus fenestratus* (Herrich-Schäffer, 1834)**

Materials: Güvem, Yukarı Çanlı, 1400 m, 14.06.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ağrı, Amasya, Ankara, Çorum, Diyarbakır, Erzurum, Giresun, İçel, İzmir, Mardin, Nevşehir, Ordu, Samsun, Sinop, Tokat,

Urfa, Van (Kalkandelen, 1974; Lodos & Kalkandelen, 1985; Kartal & Zeybekoğlu, 1991; Zeybekoğlu, 1998). **Remarks:** Known to Kızılcahamam.

***Neoaliturus guttulatus* (Kirschbaum,1868)**

Materials: Güvem, Sey Hamamı, 1080 m, 14.05.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Diyarbakır, İzmir, Konya, Nevşehir, Tokat, Urfa (Kalkandelen, 1974; Lodos & Kalkandelen, 1985). **Remarks:** New for Kızılcahamam.

***Balclutha punctata* (Fabricius,1775)**

Materials: Güvem, Aköz Köyü, 1150 m, 28.05.1997, 1 female 1 male, SW Demirciköy, 1250 m, 28.05.1997, 1 female, Salin Köyü, 1300 m, 14.06.1997, 1 female, Sey Hamamı, 1080 m, 11.07.1997, 4 females 1 male, 14.05.1997, 1 male, Karagöl, 1600 m, 11.07.1997, 2 females 1 male; Kızılcahamam Güvem 1100m. 14.06.1997 1female; Soğuksu 1100m. 07.06.1997 1 female, Soğuksu, 1150 m, 25.05.1997, 1 female 3 males, Güvem, 1100 m, 28.05.1997, 3 females. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adıyaman, Amasya, Ankara, Artvin, Bitlis, Bolu, Diyarbakır, Erzincan, Erzurum, Giresun, Hakkari, Isparta, Ordu, Rize, Samsun, Sinop, Trabzon (Lodos & Kalkandelen, 1985b; Kartal & Zeybekoğlu, 1991; Zeybekoğlu, 1998; Kartal & Zeybekoğlu-Dur, 2001). **Remarks:** New for Kızılcahamam.

***Macrosteles laevis* (Ribaut,1927)**

Materials: Güvem, 1100 m, 28.05.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Amasya, Ankara, Artvin, Burdur, Giresun, Hakkari, Konya, Nevşehir, Ordu, Rize, Samsun, Sinop, Tokat, Trabzon (Kalkandelen, 1974; Kartal & Zeybekoğlu, 1991; Zeybekoğlu, 1993; Kartal & Zeybekoğlu-Dur, 2001; Zeybekoğlu, 1998). **Remarks:** New for Kızılcahamam.

***Macrosteles sexnotatus* (Fallen,1806)**

Materials: Güvem, Yenimahalle, 1250 m, 09.08.1997, 2 females, Güvem, 1100 m, 28.05.1997 34 females 27 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adıyaman, Ağrı, Amasya, Ankara, Artvin, Bolu, Çankırı, Diyarbakır, Düzce, Erzurum, Giresun, Hakkari, İzmir, Konya, Nevşehir, Ordu, Rize, Samsun, Sinop, Tokat, Trabzon, Van (Kalkandelen, 1974; Lodos & Kalkandelen, 1985b; Zeybekoğlu, 1993; Kartal & Zeybekoğlu-Dur, 2001; Zeybekoğlu, 1998). **Remarks:** New for Kızılcahamam.

***Doratura stylata* (Boheman,1847)**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 1 female 3 males, Karagöl, 1600 m, 11.07.1997, 1 male, Yukarı Çanlı, 1400 m, 11.07.1997, 1 male, Soğuksu, 1300 m, 20.07.1997, 12 females 17 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Amasya, Ankara, Gümüşhane, Kars, Ordu, Samsun, Sinop, Tokat, Van (Kalkandelen, 1974; Lodos & Kalkandelen, 1985c; Kartal & Zeybekoğlu, 1991; Zeybekoğlu, 1998; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Fieberiella septentrionalis* Wagner, 1963**

Materials: Işıkdığı, Aköz Köyü, 1150 m, 30.08.1997, 1 male, Salin Köyü, 1300 m, 30.08.1997, 1 male, Soğuksu, 1100 m, 13.09.1997, 1 male 1 female. It has been collected from *Quercus*, *Populus* and *Juniperus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Antalya, Artvin, Bursa, Malatya, Sakarya (Lodos & Kalkandelen, 1986). **Remarks:** New for Ankara.

***Platymetopius henribauti* Dlabola, 1961**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male, Soğuksu, 1300 m, 20.07.1997, 1 male. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Konya (Kalkandelen, 1974; Lodos & Kalkandelen, 1986b). **Remarks:** New for Kızılcahamam.

***Anoplotettix fuscovenosus* (Ferrari, 1882)**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 3 females 1 male, Işıkdığı, Yasin Köyü, 1500 m, 11.07.1997, 2 males, Soğuksu, 1300 m, 20.07.1997, 1 female. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Bursa, Çorum, Edirne, İzmir, Kırklareli, Manisa, Rize, Sakarya, Samsun, Sinop, Tokat (Lodos & Kalkandelen, 1986b; Kartal & Zeybekoğlu, 1991; Zeybekoğlu, 1998). **Remarks:** New for Kızılcahamam.

***Allygus mixtus* (Fabricius, 1794)**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 1 male 1 female, Yukarı Çanlı, 1400 m, 11.07.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara, Konya (Kartal, 1981; Lodos & Kalkandelen, 1986c). **Remarks:** Known to Kızılcahamam.

***Allygidius ecbatanicus* Logvinenko, 1979**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Karaman, Konya (Kartal & Zeybekoğlu, 1994b). **Remarks:** New for Kızılcahamam.

***Phlepsius intricatus* (Herrich-Schaffer, 1838)**

Materials: Işıkdığı, Salin Köyü, 1300 m, 30.08.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Amasya, Bolu, Çanakkale, Diyarbakır, Isparta, İzmir, Kars, Kırşehir, Malatya, Mardin, Muğla, Nevşehir, Samsun, Trabzon (Linnavuori, 1965; Kalkandelen, 1974; Lodos & Kalkandelen, 1986c; Kartal & Zeybekoğlu, 1991; Zeybekoğlu, 1998). **Remarks:** New for Kızılcahamam.

***Selenocephalus obsoletus* (Germar, 1817)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male 1 female, Belpınar, 1300 m, 05.07.1997, 6 males 3 females, Sey Hamamı, 1080 m, 11.07.1997, 3 males 2 females, Işıkdığı, Salin Köyü, 1300 m, 30.08.1997, 4 females, Yasin Köyü, 1500 m, 11.07.1997, 7 males 4 females, Yukarı Çanlı, 1400 m, 11.07.1997, 1 male, Soğuksu, 1100 m, 13.09.1997, 3 females, 1300 m, 20.07.1997, 1 male 1 female. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Amasya, Ankara, Balıkesir, Bilecik, Bolu, Bursa, Çanakkale, Çankırı, Edirne, Eskişehir, Giresun, Kırklareli, Kocaeli, Malatya, Ordu, Rize, Samsun, Sinop, Sivas, Tekirdağ, Tokat, Trabzon, Zonguldak

(Linnavuori, 1965; Lodos & Kalkandelen, 1986c; Kartal & Zeybekoğlu, 1991; Zeybekoğlu, 2000). **Remarks:** Known to Kızılcahamam.

***Selenocephalus stenopterus* Signoret, 1880**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male, Soğuksu, 1100 m, 03.08.1997, 2 males. It has been collected from weeds and *Quercus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara, Antalya, Aydın, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Isparta, İzmir, Kayseri, Kırşehir, Konya, Manisa, Samsun, Sinop, Tokat, Yozgat (Linnavuori, 1965; Kalkandelen, 1974; Lodos & Kalkandelen, 1986c; Kartal & Zeybekoğlu, 1991). **Remarks:** Known to Kızılcahamam.

***Hardya anatolica* Zachvatkin, 1946**

Materials: Güvem, Belpınar, 1300 m, 05.07.1997, 2 males, Eyrekkaya Barajı, 1260 m, 14.05.1997, 1 female, Keçikaya-İşıkdığı, 1200 m, 14.05.1997, 1 female, Sey Hamamı, 1080 m, 11.07.1997, 7 females 4 males, Yenimahalle, 1250 m, 05.07.1997, 1 male, İşıkdığı, Aköz Köyü, 1150 m, 30.08.1997, 2 males, Salin Köyü, 1300 m, 30.08.1997, 3 males, Yasin Köyü, 1500 m, 11.07.1997, 1 male 5 females, Yukarı Çanlı, 1400 m, 11.07.1997, 3 males 1 female, Soğuksu, 1100 m, 13.09.1997, 7 males 7 females, 1150 m, 25.05.1997, 2 females 1 male, 1250 m, 25.05.1997, 1 female, 1300 m, 07.06.1997, 2 females 7 males, 20.07.1997, 3 males 1 female, 1510 m, 28.05.1997, 1 male 2 females, 1740 m, 28.05.1997, 2 females 1 male. It has been collected from weeds, *Quercus*, *Populus* and *Juniperus* trees in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Adıyaman, Antalya, Bolu, Elazığ, Erzincan, Isparta, İzmir, Karaman, Kayseri, Kırşehir, Nevşehir, Ordu (Zachvatkin, 1946; Linnavuori, 1965; Kalkandelen, 1974; Lodos & Kalkandelen, 1987; Demir, 2004). **Remarks:** Known to Kızılcahamam.

***Eohardya fraudulenta* (Horvath, 1903)**

Materials: İşıkdığı, Aköz Köyü, 1150 m, 30.08.1997, 1 male, Salin Köyü, 1300 m, 30.08.1997, 1 male 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, İstanbul (Zachvatkin, 1946; Kalkandelen, 1974; Lodos & Kalkandelen, 1987). **Remarks:** New for Kızılcahamam.

***Stenometopiellus angorensis* Zachvatkin, 1946**

Materials: Soğuksu, 1100 m, 07.06.1997, 3 females 3 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ağrı, Ankara, Bitlis, Diyarbakır, Erzincan, Erzurum, Hakkari, Iğdır, Kars, Konya, Malatya, Nevşehir, Urfa, Van (Zachvatkin, 1946; Kalkandelen, 1974; Lodos & Kalkandelen, 1987; Kartal, Zeybekoğlu & Dursun, 2001). **Remarks:** New for Kızılcahamam.

***Rhopalopyx vitripennis lalahani* (Kalkandelen, 1972)**

Materials: İşıkdığı, Karagöl, 1600 m, 11.07.1997, 3 females, Yasin Köyü, 1500 m, 11.07.1997, 1 female, Güvem, 1100 m, 14.06.1997, 2 females 2 males, Soğuksu, 1300 m, 07.06.1997, 7 females 10 males, 20.07.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Konya (Kalkandelen, 1974; Lodos & Kalkandelen, 1987). **Remarks:** New for Kızılcahamam.

***Mocydia aegae* Abdul-Nour, 1988**

Materials: Güvem, Sey Hamamı, 1080 m, 14.05.1997, 1 female, Salin Köyü, 1300 m, 30.08.1997, 1 female 2 male, Soğuksu, 1100 m, 07.06.1997, 2 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Sinop (Kalkandelen, 1974; Abdu-Nour, 1988). **Remarks:** New for Kızılcahamam.

***Mocydiopsis parvicauda* Ribaut, 1939**

Materials: Güvem, Sey Hamamı, 1080 m, 14.05.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Isparta, Nevşehir, Samsun (Kalkandelen, 1974, Lodos & Kalkandelen, 1987 designated as *monticola*; Kartal & Zeybekoğlu, 1991). **Remarks:** New for Kızılcahamam.

***Handianus procerus* (Herrich-Schäffer, 1835)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male, Belpınar, 1300 m, 05.07.1997, 44 males 26 females, Sey Hamamı, 1080 m, 11.07.1997, 1 female, Yenimahalle, 1250 m, 05.07.1997, 2 females, Salin Köyü, 1300 m, 30.08.1997, 2 males 4 females, Yasin Köyü, 1500 m, 11.07.1997, 14 males 23 females. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Afyon, Ağrı, Ankara, Antalya, Bitlis, Erzurum, Isparta, İzmir, Kırıkkale, Konya, Malatya, Nevşehir, Niğde, Urfa, Van, Zonguldak (Kalkandelen, 1974; Lodos & Kalkandelen, 1987b). **Remarks:** New for Kızılcahamam.

***Conosanus obsoletus* (Kirschbaum, 1858)**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 1 female 2 males, Aköz Köyü, 1150 m, 30.08.1997, 1 female 1 male, 20.08.1997, 8 females, Salin Köyü, 1300 m, 30.08.1997, 1 female, Soğuksu, 1100 m, 13.09.1997, 1 male, 1300 m, 20.07.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara, Aydın, Balıkesir, Bolu, Düzce, İzmir, Kırşehir, Niğde (Gedau de Kerville, 1939; Kalkandelen, 1974; Lodos & Kalkandelen, 1987b; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Euscelis incisus* (Kirschbaum, 1858)**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 1 male, 14.05.1997, 14 females 3 males, Yenimahalle, 1250 m, 05.07.1997, 1 male, Aköz Köyü, 1150 m, 30.08.1997, 4 females 2 males, Yukarı Çanlı, 1400 m, 11.07.1997, 1 male, Güvem, 1100 m, 14.05.1997, 3 females, 28.05.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Burdur, Eskişehir, Isparta, Kayseri, Kocaeli (Kalkandelen, 1974; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Artianus manderstjernii* (Kirschbaum, 1868)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 1 male 5 females, Belpınar, 1300 m, 05.07.1997, 12 males 5 females, Sey Hamamı, 1080 m, 11.07.1997, 6 males 5 females, Yenimahalle, 1250 m, 05.07.1997, 30 males 15 females, Aköz Köyü, 1150 m, 30.08.1997, 1 male, Salin Köyü, 1300 m, 30.08.1997, 2 males 2 females, Yukarı Çanlı, 1400 m, 11.07.1997, 11 males 8 females, Soğuksu, 1300 m, 20.07.1997, 7 males 6 females, Yasin Köyü, 1500 m, 11.07.1997, 1 male 2 females. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ağrı, Ankara, Balıkesir, Çankırı, Diyarbakır, Gaziantep, İzmir, Kırklareli, Urfa, Van, Zonguldak (Kalkandelen, 1974; Lodos & Kalkandelen, 1987b; Demir, 2004). **Remarks:** Known to Kızılcahamam.

***Arocephalus longiceps* (Kirschbaum,1868)**

Materials: Güvem, Aköz Köyü, 1150 m, 28.05.1997, 1 female 1 male, SW Demirciköy, 1250 m, 28.05.1997, 1 male, Sey Hamamı, 1080 m, 14.05.1997, 1 male, Yukarı Çanlı, 1540 m, 14.06.1997, 1 female, Salin Köyü, 1300 m, 30.08.1997, 1 female, Soğuksu, 1100 m, 07.06.1997, 2 females 4 males, 25.05.1997, 2 females 2 males, 1150 m, 25.05.1997, 3 females 4 males, 1200 m, 25.05.1997, 4 females 5 males, 1300 m, 07.06.1997, 2 females, 25.05.1997, 1 female 1 male, 1510 m, 28.05.1997, 1 male, 1740 m, 28.05.1997, 5 females 2 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Bolu, Erzincan, Hakkari, İzmir, Konya (Lodos & Kalkandelen, 1987c; Kartal & Zeybekoğlu-Dur, 2001). **Remarks:** New for Kızılcahamam.

***Psammotettix alienus* (Dahlbom,1850)**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Amasya, Ankara, Balıkesir, Bursa, Diyarbakır, Erzincan, Hakkari, Iğdır, Kastamonu, Konya, Mardin, Muş, Nevşehir, Sakarya, Samsun, Siirt, Sinop, Uşak, Van, Yozgat (Kalkandelen, 1974; Lodos & Kalkandelen, 1987c; Kartal & Zeybekoğlu, 1991; Kartal & Zeybekoğlu-Dur, 2001; Demir, 2004). **Remarks:** Known to Kızılcahamam.

***Psammotettix cephalotes* (Herrich-Schäffer,1834)**

Materials: Güvem, Demirciköy SW, 1250 m, 28.05.1997, 1 male, Işıkdagi, Aköz Köyü, 1150 m, 30.08.1997, 2 males, Güvem, 1100 m, 28.05.1997, 4 males. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Isparta, Konya, Erzincan, Van (Kalkandelen, 1974; Lodos & Kalkandelen, 1987c; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Psammotettix provincialis* (Ribaut,1925)**

Materials: Güvem, Demirciköy SW, 1250 m, 28.05.1997, 1 male, Sey Hamamı, 1080 m, 11.07.1997, 2 males, Işıkdagi, Karagöl, 1600 m, 11.07.1997, 1 male, Güvem, 1100 m, 28.05.1997, 1 male, Soğuksu, 1150 m, 25.05.1997, 1 male, 1740 m, 28.05.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Adana, Ankara, Antalya, Bolu, Çankırı, Diyarbakır, Erzurum, İstanbul, İzmir, Kayseri, Konya, Nevşehir, Sakarya, Samsun, Van (Kalkandelen, 1974; Lodos & Kalkandelen, 1987c; Kartal & Zeybekoğlu, 1991). **Remarks:** New for Kızılcahamam.

***Ebarrius cognatus* (Fieber,1869)**

Materials: Güvem, Keçikaya-Işıkdagi, 1200 m, 14.05.1997, 7 females 1 male, Soğuksu, 1200 m, 25.05.1997, 1 female, 1300 m, 07.06.1997, 2 females, 25.05.1997, 1 female 1 male, 1510 m, 28.05.1997, 1 female, 1740 m, 28.05.1997, 1 female 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Bolu, Çankırı, Erzincan, Kars, Niğde, Van (Kalkandelen, 1974; Lodos & Kalkandelen, 1987d). **Remarks:** Known to Kızılcahamam.

***Diplocolenus bekiri* Kalkandelen,1974**

Materials: Güvem, Sey Hamamı, 1080 m, 11.07.1997, 12 females 17 males, Yenimahalle, 1250 m, 05.07.1997, 2 females 1 male, Yukarı Çanlı, 1400 m, 14.06.1997, 1 female, Aköz Köyü, 1150 m, 30.08.1997, 1 male, Yukarı Çanlı, 1400 m, 11.07.1997, 2 females, Güvem,

1100 m, 14.06.1997, 2 females 3 males, Soğuksu, 1300 m, 07.06.1997, 1 male. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Samsun (Kalkandelen, 1974; Lodos & Kalkandelen, 1987d; Kartal & Zeybekoğlu, 1991; Demir, 2004). **Remarks:** New for Kızılcahamam and endemic to Turkey.

***Rhoanans hypochlorus* (Fieber, 1869)**

Materials: Güvem, Aköz Köyü, 1150 m, 09.08.1997, 8 females. Belpınar, 1300 m, 05.07.1997, 3 females 1 male, Işıklıdağı, Karagöl, 1600 m, 11.07.1997, 2 males, Yasin Köyü, 1400 m, 11.07.1997, 1 male, Yukarı Çanlı, 1400 m, 11.07.1997, 1 male, Soğuksu, 1300 m, 20.07.1997, 6 females. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Bitlis, Erzurum, Eskişehir, Iğdır, Kars, Van (Kalkandelen, 1974; Lodos & Kalkandelen, 1987d; Demir, 2004). **Remarks:** New for Kızılcahamam.

***Mocuellus foxi* Kalkandelen, 1972**

Materials: Soğuksu, 1300 m, 20.07.1997, 1 female. It has been collected from weeds in *Pinus-Quercus* forest.

Distribution in Turkey: Ankara, Yozgat (Kalkandelen, 1974; Lodos & Kalkandelen, 1987d). **Remarks:** New for Kızılcahamam and endemic to Turkey.

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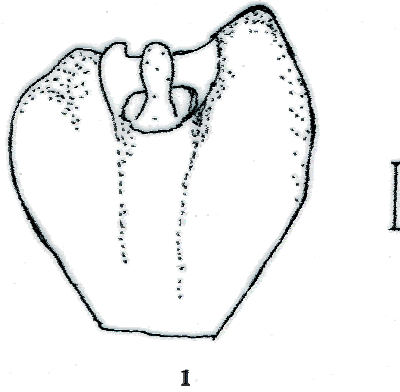


Fig. 1. Anal tube of male genitalia of *Pentastiridius nanus*. (Scale: 0.1 mm).

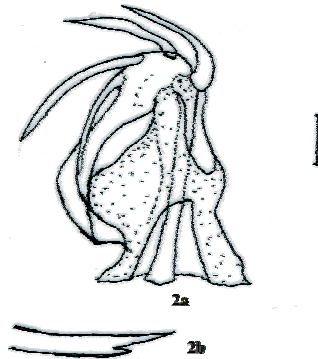


Fig. 2. Male genitalia of *Pentastiridius nanus*. 2a. Aedeagus latero-ventral view. 2b. Apex of flagellum. (Scale: 0.1 mm).