

PRELIMINARY REPORT ON THE FULGOROMORPHA (HEMIPTERA) FAUNA OF KEMALIYE (ERZİNCAN) WITH A NEW RECORD FOR TURKEY

Emine Demir* and Ali Demirsoy**

* Gazi University, Faculty of Science & Arts, Department of Biology, 06500 Teknikokullar Ankara, Turkey. E-mail: eminedemird@yahoo.com.

** Hacettepe University, Faculty of Science, Department of Biology, Beytepe Ankara, Turkey. E-mail: demirsoy@hacettepe.edu.tr

[Demir, E. 2009. Preliminary report on the Fulgoromorpha (Hemiptera) fauna of Kemaliye (Erzincan) with a new record for Turkey. Munis Entomology & Zoology, 4 (1): 280-286]

ABSTRACT: In this study, 227 samples of Fulgoromorpha species collected from Kemaliye (Erzincan) region in east Turkey during field studies in the years 2006-2007 are examined 29 species belonging to 9 families are found to be distributed in the region. Among these, 12 species belong to the Family Cixiidae, 5 species to Delphacidae, 1 species to Meenoplidae, 1 species to Derbidae, 1 species to Dictyopharidae, 5 species to Tettigometridae, 1 species to Calicelidae, 2 species to Issidae and 1 species to Ricaniidae. Distribution of these species in Turkey and their host plants are given along with their locality records. 27 of these examined species are new records for Kemaliye, 20 are new records for Erzincan, 7 are new records for East Anatolien and *Tettigometra laeta* Herrich-Schäffer, 1835 is a new record for Turkey's fauna.

KEY WORDS: Hemiptera, Fulgoromorpha, fauna, new record, Turkey.

Kemaliye is a district where the Fırat River passes through the middle of it placed in South Erzincan in East Anatolia. It is between $38^{\circ} 15' - 39^{\circ} 0'$ east longitude and $39^{\circ} 30' - 39^{\circ} 0'$ north latitude. It has different properties than the general structure of the East Anatolian Region in terms of flora and fauna because of having local climatological regions.

In the study of Lodos and Kalkandelen (1980-1988) in Turkey Auchenorrhyncha list 14 Fulgoromorph records from Erzincan and 2 records from Kemaliye were given. In the result of scanning present literature it is seen that there is not any record from related region except Lodos and Kalkandelen.

With this study the determination of fauna of the Kemaliye region is given by analysing collected specimens.

MATERIAL AND METHODS

Field studies were carried out in the years 2006 and 2007. 227 adult Fulgoromorpha specimens were collected and analyzed. Samples were collected by sweeping the herbaceous plants with a wood shaft net. The host plants of samples collected from only one species of herbaceous plant, tree or bush by wood shaft net were determined. Hemipterans, which were found in the wood shaft net after sweeping the plants, were vacuumed with an aspirator. The samples in the aspirator were then

killed in ethyl acetate in a jar and put in standard envelopes. These samples were brought to the lab in envelopes and prepared according to standard methods to produce museum material.

RESULTS

It was found that there were 29 species of Fulgoromorpha suborder in the study area. Along with their distribution in Turkey and the plants found to be their host, the examined materials of these species are given as a list, below.

Suborder: Fulgoromorpha Evans, 1946

Family: Cixiidae Spinola, 1839

Subfamily: Cixiinae Spinola, 1839

Tribe: Cixiini Spinola, 1839

Cixius (Ceratocixius) pallipes Fieber, 1876

Distribution in Turkey: Adıyaman, Afyon, Ankara, Antalya, Artvin, Aydın, Balıkesir, Çanakkale, Diyarbakır, Erzincan (Bahçeli Village), Erzurum, Gaziantep, Giresun, Gümüşhane, Hakkari, Yüksekova, İzmir, Konya, Kütahya, Malatya, Mardin, Muğla, Ordu, Urfa (Lodos & Kalkandelen, 1980a; Dlabola, 1981; Demir, 2007a). **Materials:** Kemaliye: Yuva Village, 03.06.2007, 1♂, 970 m, Yeşilyayla Village (Subaşı), 04.06.2007, 2♂♂, 1350 m, Kekikpınarı Village (Köprü), 06.07.2006, 1♀, 1320 m.

Cixius (Ceratocixius) remotus Edwards, 1888

Distribution in Turkey: Adana, Ankara, Antalya, Erzurum, Konya (Kalkandelen, 1988; Demir, 2007a, 2007b). **Materials:** Kemaliye: Sarıççek (Subatan), 11.06.2006, 1♂, 8♀♀, 1890 m, Salihli Village (Opposite of Dump), 09.07.2006, 1♀, 1500 m, Sarıççek (Subatan), 02.06.2007, 5♂♂, 5♀♀, 1890 m.

Tachycixius bidentifer Dlabola, 1971

Distribution in Turkey: Adana, Gaziantep, Hakkari, İçel, Kahramanmaraş, Mardin (Dlabola, 1971; Kalkandelen, 1988). **Materials:** Kemaliye: Yeşilyayla Village (Subaşı), 04.06.2007, 1♀, 1350 m.

Tribe: Duiliini

Duilius fasciata (Horvath, 1894)

Distribution in Turkey: Çankırı, Erzincan (Kalkandelen, 1989). **Materials:** Kemaliye: Yeşilyamaç Village (Geşo Pass), 08.07.2006, 1♂, 1670 m.

Duilius seticulosus (Lethierry, 1874)

Distribution in Turkey: Antalya, Erzincan (Ilıç), Kahramanmaraş, Nevşehir (Kalkandelen, 1989; Lodos & Kalkandelen, 1980; Demir, 2007a). **Materials:** Kemaliye: Rabat River (Tunceli border), 03.07.2007, 3♂♂, 1♀ on *Tamarix*.

Tribe: Pentastirini Emeljanov, 1971

Pentastiridius (s. str.) leporinus (Linnaeus, 1761)

= *latifrons* Walker, 1851 = *pallens* Germar, 1818 = *pallida* Herrich-Schäffer, 1835.

Distribution in Turkey: Adana, Ağrı, Ankara, Antalya, Aydın, Bitlis, Çankırı, Diyarbakır, Erzurum, Hatya, İçel, Kars, Konya, Kahramanmaraş, Mardin, Nevşehir, Niğde (Fahringer, 1922; Lodos & Kalkandelen, 1980; Kalkandelen, 1990; Demir, 2007a). **Materials:** Kemaliye: Yuva Village, 03.06.2007, 3♂♂, 3♀♀, 970 m.

Setapius barajus (Dlabola, 1957)

Distribution in Turkey: Adana, Ağrı, Ankara, Bursa, Denizli, Diyarbakır, Elazığ, Erzincan (Bahçeli Village), Erzurum, Gümüşhane, İçel, İzmir, Iğdır, Malatya, Mardin, Muş, Nevşehir, Samsun, Sinop, Siirt, Sivas, Uşak (Linnavuori, 1965; Lodos & Kalkandelen, 1980a; Dlabola, 1981; Kalkandelen, 1990). **Materials:** Kemaliye: Rabat River (Tunceli border), 03.07.2007, 1♂, Salihli Village (Opposite of Dump), 09.07.2006, 1♂, 2♀, 1500 m.

Reptalus (s. str.) horridus (Linnavuori, 1962)

= *zercanus* Dlabola, 1965.

Distribution in Turkey: Adana, Ankara, Antalya, İzmir (Kalkandelen, 1994; Demir, 2007a, 2007b). **Materials:** Kemaliye: Sarıçiçek (Mazman Well), 07.07.2006, 2♂♂, 1♀, 1690 m, Yeşilyamaç Village (Geşo Pass), 08.07.2006, 1♂, 1670 m, Yuva Village, 08.07.2006, 1♂, 930 m.

Reptalus (s. str.) melanochaetus (Fieber, 1876)

Distribution in Turkey: Ankara, Artvin, Aydın, Bilecik, Diyarbakır, Edirne, Erzurum, Giresun, Hatay, Isparta, İzmir, İstanbul, Kırklareli, Kırşehir, Muğla, Tekirdağ (Linnvuori, 1965; Lodos & Kalkandelen, 1980a; Kalkandelen, 1994). **Materials:** Kemaliye: Sarıçiçek (Mazman Well), 07.07.2006, 5♂♂, 1690 m, Kabataş Village (İkisü Place), 03.06.2007, 1♀, 1550 m.

Hyalesthes luteipes Fieber, 1879

Distribution in Turkey: Ankara, Antalya, Aydın, Çorum, Diyarbakır, İçel, İstanbul, Kayseri, Kırşehir, Konya, Kahramanmaraş, Karaman, Nevşehir, Yozgat, Zonguldak (Linnvuori, 1965; Lodos & Kalkandelen, 1980a; Dlabola, 1981; Hoch & Remane, 1985; Kalkandelen, 2000; Demir, 2007a). **Materials:** Kemaliye: Yeşilyamaç Village (Geşo Pass), 08.07.2006, 1♂, 2♀, 1670 m.

Hyalesthes mlokosiewiczzi Signoret, 1879

Distribution in Turkey: Adana, Adıyaman, Afyon, Ankara, Antalya, Aydın, Bilecik, Burdur, Çankırı, Diyarbakır, Gaziantep, Isparta, İzmir, Kahramanmaraş, Kilis, Malatya, Mardin, Muğla, Siirt, Şırnak, Tokat, Urfa (Lodos & Kalkandelen, 1980a; Dlabola, 1981; Kalkandelen, 2000; Demir, 2007a). **Materials:** Kemaliye: Yuva Village, 03.06.2007, 1♂, 970 m, Kekikpınar Village, 06.07.2006, 1♂, 1070 m, Kirkgöz, 08.07.2006, 1♀, 1300 m on *Salix*, Yuva Village, 08.07.2006, 1♀, 930 m.

Hyalesthes obsoletus Signoret, 1865

= *albolimbatus* Kirschbaum, 1868.

Distribution in Turkey: Adıyaman, Afyon, Ağrı, Ankara, Antalya, Aydın, Balıkesir, Bolu, Burdur, Çanakkale, Çankırı, Çorum, Diyarbakır, Düzce, Elazığ, Erzincan (Bahçelik Village, Demirpınar), Erzurum, Eskişehir, Gaziantep, Giresun, Hakkari, Iğdır, Isparta, İçel, İstanbul, Kahramanmaraş, Kars, Konya, Malatya, Manisa, Mardin, Muğla, Nevşehir, Ordu, Rize, Sakarya, Sinop, Sivas, Tokat, Trabzon, Urfa, Van (Fahringer, 1922; Lodos & Kalkandelen, 1980a; Dlabola, 1981; Hoch & Remane, 1985; Kalkandelen, 2000; Demir, 2007a). **Materials:** Sarıçiçek (Subatan), 07.07.2006, 4♂♂, 1♀, 1890 m.

Family: Delphacidae Leach, 1815**Subfamily: Kelisiinae*****Kelisia ribauti*** Wagner, 1938

= *guttula* auct.

Distribution in Turkey: Ankara, Antalya, Bitlis, Diyarbakır, Erzurum, Hakkari, Sinop, Van (Lodos & Kalkandelen, 1980b; Güçlü, 1996; Demir, 2007a). **Materials:** Kemaliye: Kabataş Village (İkisü Place), 03.06.2007, 3♂♂, 1♀, 1550 m.

Subfamily: Delphacinae Leach, 1815**Tribe: Delphacini Leach, 1815*****Dicranotropis (Leimonodite) beckeri*** Fieber 1866

Distribution in Turkey: Ankara (Asche, 1982; Demir, 2007a). **Materials:** Kemaliye: Yeşilyayla Village (Hinsoy), 04.06.2007, 13♂♂, 18♀♀, 1500 m, Yeşilyayla Village (Subaşı),

04.06.2007, 1♀, 1350 m, Sarıçiçek (Mazman Well), 02.06.2007, 1♂, 2♀♀, 1650 m, Çanakçı Village, 02.06.2007, 2♂♂, 3♀♀, 1400 m.

Chloriana unicolor (Herrich-Schaffaer, 1835)

= *canariensis* Lindberg, 1954 = *edwardsi* Le Quesne, 1960 = *oranensis* Matsumura, 1910

Distribution in Turkey: Ankara, Erzurum (Lodos & Kalkandelen, 1980b; Güçlü, 1996).

Materials: Kemaliye: Rabat River (Tunceli border), 03.07.2007, 4♂♂, 1♀.

Laodelphax striatellus (Fallen, 1826)

= *akashiensis* Matsumura, 1900 = *devastans* Matsumura, 1900 = *fimbriata* Rey, 1894 = *giffuensis* Matsumura, 1900 = *haupti* Lindberg, 1936 = *lateralis* Fieber, 1879 = *maikoensis* Matsumura, 1900 = *minonensis* Matsumura, 1900 = *nipponica* Matsumura, 1900 = *niveopicta* Haupt, 1927 = *reyana* Metcalf, 1943.

Distribution in Turkey: Adıyaman, Ankara, Antalya, Diyarbakır, Erzincan, Erzurum, Iğdır, İçel, İzmir, Kahramanmaraş, Malatya, Muğla, Nevşehir, Niğde, Ordu, Rize, Şırnak (Lodos & Kalkandelen, 1980b; Dlabola, 1981; Güçlü, 1996; Demir, 2007a). **Materials:** Kemaliye: Sarıçiçek (Subatan), 02.06.2007, 2♀♀, 1890 m, Yeşilyamaç Village (Geşo Pass), 11.06.2006, 1♂, 1689 m.

Toya propinqua (Fieber, 1866)

= *cataniae* Matsumura, 1910 = *hamatula* Kirschbaum, 1868 = *marshalli* Scott, 1873 = *shirozui* Ishihara, 1949 = *subfusca* Muir, 1919 = *terminalis* Van Duzee, 1907 = *tuckeri* Van Duzee, 1912.

Distribution in Turkey: Adana, Afyon, Amasya, Ankara, Antalya, Aydın, Çanakkale, Denizli, Diyarbakır, Erzurum, Gaziantep, Hatay, Kastamonu, Mardin, Mersin, Muğla, Ordu, Samsun, Siirt, Sinop (Linnavuori, 1965; Lodos & Kalkandelen, 1980b; Güçlü, 1996; Demir, 2007a). **Materials:** Kemaliye: Kabataş Village (Pınarbaşı Well), 25.09.2006, 1♀, 1640 m, Munzur Mountain (Doymuş Top), 04.06.2007, 1♂, 2350 m.

Family: Meenoplidae Fieber, 1872

Subfamily: Meenoplinae Fieber, 1872

Meenoplus albosignatus Fieber, 1866

Distribution in Turkey: Adıyaman, Ankara, Antalya, Bolu, Hakkari, Malatya, Mardin, Muş (Linnavuori, 1965; Lodos & Kalkandelen, 1980c; Demir, 2007a). **Materials:** Kemaliye: Kocaçimen Village (Silk Road), 04.07.2007, 3 ♂♀, 1300 m on *Quercus*, Ocak Village, 06.07.2006, 6♂♀, 1480 m, Ocak Village-Kuşak Village, 10.06.2006, 2♂♀, 1025 m on *Quercus*, Yeşilyamaç Village (Geşo Park), 11.06.2006, 1♂♀, 1320 m on *Salix*.

Family: Derbidae Spinola, 1839

Subfamily: Derbinae Spinola, 1839

Tribe: Cenchreini

Malenia bosnica (Horvath, 1907)

Distribution in Turkey: Mardin (Lodos & Kalkandelen, 1980c). **Materials:** Kemaliye: Yuva Village, 03.06.2007, 1♀, 970 m, Başpınar (Konsar Village), 04.06.2007, 1♂, 1468 m, Kuşak Village (Dere), 06.07.2006, 1♂, 1070 m on *Salix*.

Family: Dictyopharidae Spinola, 1839

Subfamily: Dictyopharinae Spinola, 1839

Dictyophara (Euthremma) multireticulata Mulsant et Rey, 1855

= *heydenii* Kirschbaum, 1868 = *curvata* Matsumura, 1910 = *nemourensis* Matsumura, 1910 = *oertzeni* Matsumura, 1910.

Distribution in Turkey: Ankara, Antalya, Denizli, Van (Lodos & Kalkandelen, 1980c; Demir, 2006, 2007a). **Materials:** Kemaliye: Ocak Village, 06.07.2006, 2♂♂, 1480 m, Kırkgöz, 08.07.2006, 1♂, 1300 m.

Family: Tettigometridae Germar, 1821

Tettigometra (Hystrigonia) hexaspina Kolenati, 1857

= *callosa* Signoret, 1866 = *hispidula* Fieber, 1865

Distribution in Turkey: Ağrı, Ankara, Antalya, Gaziantep, Giresun, Isparta, Tekirdağ, Urfa (Lodos & Kalkandelen, 1980c; Demir, 2007a). **Materials:** Kemaliye: Ocak Village-Kuşak Village, 10.06.2006, 3♂♀, 1025 m.

Tettigometra (Mitricephalus) leucophaea (Preysler 1792)

= *obliqua* Panzer, 1799

Distribution in Turkey: Adıyaman, Ağrı, Ankara, Antalya, Bilecik, Bolu, Burdur, Çanakkale, Çankırı, Çorum, Diyarbakır, Elazığ, İstanbul, İzmir, Mardin, Nevşehir, Sivas, Tekirdağ, Urfa (Linnavuori, 1965; Lodos & Kalkandelen, 1980c; Demir, 2007a). **Materials:** Kemaliye: Sarıççek (Subatan), 04.07.2007, 3♂♀, 1890 m, Karanlık Canyon (Venkağ Top), 09.07.2006, 1♂♀, 1400-1680 m.

Tettigometra laeta Herrich-Schäffer, 1835

= *lepida* Fieber, 1876

Distribution in Turkey: This species is the first record in Turkey. **Materials:** Kemaliye: Sarıççek (Subatan), 11.06.2006, 1♂♀, 1890 m, Karanlık Canyon (Venkağ Top), 09.07.2006, 1♂♀, 1400-1680 m, Sarıççek (Subatan), 07.07.2006, 1♂♀, 1890 m, Salihli Village (Opposite of Dump), 09.07.2006, 2♂♀, 1500 m, Başpınar (Konsar Village), 04.06.2007, 1♂♀, 1468 m.

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

Distribution in Turkey: Antalya, Artvin, Aydın, Bilecik, Bursa, Diyarbakır, Elazığ, İzmir, Kütahya, Nevşehir, Sakarya, Urfa, Uşak, Van (Lodos & Kalkandelen, 1980c; Demir, 2007a). **Materials:** Kemaliye: Rabat River (Tunceli border), 03.07.2007, 1♀ on *Fraxinus*, Salihli Village (Opposite of Dump), 09.07.2006, 1♂, 1500 m.

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

= *dorsalis* Latreille, 1804

Distribution in Turkey: Adana, Adıyaman, Ankara, Antalya, Diyarbakır, Elazığ, Erzincan (Kemaliye), Gaziantep, Hatay, Iğdır, Mardin, Tunceli, Urfa, Van (Lodos & Kalkandelen, 1980c; Demir, 2007a). **Materials:** Salihli Village (Opposite of Dump), 09.07.2006, 1♂, 1500 m.

Family: Caliscelidae

Subfamily: Caliscelinae

Tribe: Caliscelini

Peltonotellus punctifrons Horváth 1895

= *melichari* Horvath, 1897

Distribution in Turkey: Ankara, Kırşehir, Yozgat (Dlabola, 1957; Kartal, 1985; Demir, 2007b). **Materials:** Kemaliye: Sarıççek (Subatan), 04.07.2007, 1♂, 1890 m, Karanlık Canyon (Venkağ Top), 09.07.2006, 1♀, 1400-1680 m.

Family: Issidae Spinola, 1839

Subfamily: Issinae Spinola, 1839

Tribe: Issini

Scorlupella discolor (Germar, 1821)

Distribution in Turkey: Ankara, Yozgat (Dlabola., 1957; Kartal, 1985; Demir, 2006). **Materials:** Kemaliye: Sarıççek (Mazman Well), 02.06.2007, 2♂♂, 3♀♀, 1650 m, Kabataş Village (İkisü Place), 03.06.2007, 1♀, 1550 m.

Scorlupella montana (Becker, 1865)

= *arundinis* Becker, 1865

Distribution in Turkey: Ankara, Erzincan, Kars, Yozgat (Lodos & Kalkandelen, 1981a; Kartal, 1985; Demir, 2006). **Materials:** Kemaliye: Yeşilyayla Village (Hinsoy), 04.06.2007, 21♀♀, 1500 m, Sarıççek (Subatan), 02.06.2007, 1♀, 1890 m, Sarıççek (Mazman Well), 02.06.2007, 18♀♀, 1650 m, Sarıççek (Subatan), 11.06.2006, 8♀♀, 1890 m, Sarıççek (Subatan), 11.06.2006, 13♀♀, 1890 m, Sarıççek (Mazman Well), 04.07.2007, 3♀♀, 1650 m,

Sarıççek (Mazman Well), 07.07.2006, 1♀, 1690 m, Karanlık Canyon (Venkağ Top), 09.07.2006, 1♀, 1400-1680 m, Sarıççek (Subatan), 07.07.2006, 2♀♀, 1890 m.

Family: Ricaniidae Amyot et Serville, 1843

Ricania ayla Dlabola, 1983

Distribution in Turkey: Elazığ, Muğla, Muş (Dlabola, 1983). **Materials:** Kemaliye: Yuva Village, 23.09.2006, 1♀, 970 m on *Ficus carica*.

* This study was supported by TUBITAK (The Project number: CAYDAG-105Y016). The present work includes only the Fulgoromorpha (Hemiptera) part of the project.

LITERATURE CITED

Asche, M. 1982. Beiträge zur Delphaciden-Fauna der Türkei (Anatolien) (Homoptera Cicadina Delphacidae). Marburger Entomologische Publikationen 1(7): 71-98.

Demir, E. 2006. Contributions to the knowledge of Turkish Auchenorrhyncha (Homoptera) with a new record, *Pentastiridius nanus* (Ivanov, 1885). Munis entomology and zoology 1(1): 97-122.

Demir, E. 2007a. Contributions to the Knowledge of Turkish Auchenorrhyncha (Homoptera, Fulgoromorpha and Cicadomorpha, excl. Cicadellidae) with a new record, *Setapius klapperichianus* Dlabola, 1988. Munis entomology and zoology, 2(1), 39-58.

Demir, E. 2007b. Auchenorrhyncha (Homoptera) data from Ankara with two new records to Turkey, Munis entomology and zoology, 2(2), 481-492.

Dlabola, J. 1957. Results of the Zoological Expedition of the National Museum in Prague to Turkey 20. Homoptera, Auchenorrhyncha. Acta Entomologica Musei Nationalis Pragae 31(469): 19-68.

Dlabola, J. 1971. Taxonomische und chorologische Erzangungen zur türkischen und iranischen Zikadenfauna (Homoptera, Auchenorrhyncha). Acta faunistica entomologica Musei Nationalis Pragae 14(163): 115-138.

Dlabola, J. 1981. Ergebnisse der Tschechoslowakisch-Iranischen Entomologischen Expeditionen nach dem Iran (1970 und 1973). Acta Entomologica Musei Nationalis Pragae 40: 127-311.

Dlabola, J. 1983. Ergebnisse der Tschechoslovakisch-Iranischen Entomologischen Expeditionen 1970 und 1973 nach dem Iran. Acta Entomologica Musei Nationalis Pragae 41: 91-97.

Fahringer, J. 1922. Eine Rhynchotenausbeute aus der Türkei, Kleinasien und den benachbarten Gebieten. Konowia 1: 296-307.

Güçlü, Ş. 1996. Studies on Delphacidae (Hom., Auchenorrhyncha) from Turkey. Turkish Journal of Zoology 20: 407-411.

Hoch, H. & Remane, R. 1985. Evolution und Speziation der Zikaden-Gattung *Hyalesthes* Signoret, 1865 (Homoptera, Auchenorrhyncha, Fulgoroidea, Cixiidae). Marburger Entomologische Publikationen 2(2): 1-427.

Kalkandelen, A. 1988. Türkiye Cixiidae (Homoptera) türleri üzerinde taksonomik çalışmalar-II, *Bitki Koruma Bül.*, 28(3-4), 113-140.

- Kalkandelen, A.** 1989. Türkiye Cixiidae (Homoptera) türleri üzerinde çalışmalar-III, *Bitki Koruma Bült.*, 29(1-2), 1-17.
- Kalkandelen, A.** 1990. Türkiye Cixiidae (Homoptera) türleri üzerinde taksonomik çalışmalar-V, *Bitki Koruma Bült.*, 30(1-4), 3-27.
- Kalkandelen, A.** 1994. Türkiye Cixiidae (Homoptera) türleri üzerindeki taksonomik çalışmalar-VII, *Bitki Koruma Bült.*, 34(1-2), 1-21.
- Kalkandelen, A.** 2000. Türkiye Cixiidae (Homoptera) türleri üzerindeki taksonomik çalışmalar-VIII, *Bitki Koruma Bült.*, 40(3-4), 91-123.
- Kartal, V.** 1985. Türkiye Yukarı Kızılırmak Havzasındaki Issidae (Homoptera, Auchenorrhyncha) Familyası Türlerinin Taksonomik Yönden İncelenmesi. *Doğa A2*: 64-77.
- Linnavuori, R.** 1965. Studies on the South and East-Mediterranean Hemipterous fauna. *Acta Entomologica Fennica, Helsinki* 21: 1-70.
- Lodos, N. & Kalkandelen, A.** 1980a. Preliminary list of Auchenorrhyncha with notes on distribution and importance of species in Turkey I. Family Cixiidae Spinola. *Türkiye Bitki Koruma Dergisi* 4(1): 15-27.
- Lodos, N. & Kalkandelen, A.** 1980b. Preliminary list of Auchenorrhyncha with notes on distribution and importance of species in Turkey II. Family Delpacidae Leach. *Türkiye Bitki Koruma Dergisi* 4(2): 103-117.
- Lodos, N. & Kalkandelen, A.** 1980c. Preliminary list of Auchenorrhyncha with notes on distribution and importance of species in Turkey III. Families Meenoplidae, Derbidae, Achilidae, Dictyopharidae and Tettigometridae. *Türkiye Bitki Koruma Dergisi* 4(3): 161-178.
- Lodos, N. & Kalkandelen, A.** 1981a. Preliminary list of Auchenorrhyncha with notes on distribution and importance of species in Turkey IV. Family Issidae Spinola. *Türkiye Bitki Koruma Dergisi* 5(1): 5-21.
- Lodos, N. & Kalkandelen, A.** 1981b. Preliminary list of Auchenorrhyncha with notes on distribution and importance of species in Turkey V. Families Flatidae, Ricaniidae and Cicadidae. *Türkiye Bitki Koruma Dergisi* 5(2): 67-82.
- Lodos, N. & Kalkandelen, A.** 1988. Preliminary list of Auchenorrhyncha with notes on distribution and importance of Turkey XXVII. (Addenda and Corrigenda). *Türkiye Entomoloji Dergisi* 12(1): 11-22.