

**THE MEGALOPODIDAE AND ORSODACNIDAE OF
TURKEY (COLEOPTERA: CHRYSOMELOIDEA) WITH
ZOOGEOGRAPHICAL REMARKS AND A NEW RECORD,
ZEUGOPHORA SCUTELLARIS SUFFRIAN, 1840**

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ABSTRACT: The families Megalopodidae and Orsodacnidae fauna of Turkey are investigated. For each taxon, the paper also includes zoogeographical remarks and chorotype information. *Zeugophora scutellaris* Suffrian, 1840 is the first record for Turkey. Some remarks on modern systematics of Chrysomeloidea are also given.

KEY WORDS: Megalopodidae, Orsodacnidae, new record, Coleoptera, Turkey, Zoogeography.

The leaf beetles (or Chrysomelidae, Orsodacnidae and Megalopodidae) are placed in the superfamily Chrysomeloidea, which also covers Vesperidae, Oxypeltidae, Disteniidae and Cerambycidae (Lawrence et al., 1999).

The family Chrysomelidae is one of the largest families of organisms. It comprises an estimated 33 000 described species, with possibly another 10 000 undescribed. The family is almost exclusively herbivorous and species are found globally in all terrestrial and freshwater habitats where plants exist.

According to Reid (2006), application of modern systematics, recognising inclusive groups from single ancestors, and an evaluation of relative rank commensurate with other beetle groups, has resulted in break up of the traditional Chrysomelidae into three families: Megalopodidae, Orsodacnidae and Chrysomelidae (Kuschel & May, 1990; Reid, 1995). This relatively new concept of Chrysomelidae includes the traditionally isolated family Bruchidae as the subfamily Bruchinae. A further revision of the family has recognised an additional subfamily, Spilopyrinae (Reid, 2000). The Chrysomelidae now comprise 11 subfamilies (Reid, 2000), one of which has had a name change for nomenclatural reasons (Staines, 2002). The numerous objections to this system are not based on any systematic approach and the classification has been widely adopted (for example in the North American checklist by Riley et al., 2003).

Information in the present text is given in following order:

The data, Other names, Material examined, Range and Zoogeographical remarks under the title for each species is given.

Other names. In these parts, as possible as the whole other names including all infraspecific names are provided.

Material examined. Material examined covers the original record for Turkey. The material is deposited in Gazi University (Ankara, Turkey).

Previous records in Turkey. These parts include previous records that have been given by various authors in different literatures.

Range. In these parts, the whole distribution area in the world is provided for each taxon.

Zoogeographical remarks. In these parts, general distribution range is given in Turkey chiefly. The present zoogeographical characterization is based on the chorotype classification of Anatolian fauna, recently proposed by Vigna Taglianti et al. (1999). In the text, one chorotype description identified for each taxon is given as soon as possible.

Family MEGALOPODIDAE Latreille, 1802

The family Megalopodidae is relatively small, with three subfamilies and approximately 30 genera and more than 400 species worldwide (Monrós, 1960; Seeno & Wilcox, 1982; Kuschel & May, 1996).

The subfamily Megalopodinae is the largest group within the family Megalopodidae. There are some 25 genera, mostly tropical in distribution.

The subfamily Zeugophorinae comprise a single genus, *Zeugophora* Kunze, 1818 with about 70 world species (Reid, 1989). According to Lopatin (1977), the genus *Zeugophora* comprises some 40 species distributed in Holarctic, Oriental and Ethiopian regions.

The subfamily Palophaginae include 2 genera with 4 world species (Kuschel & May 1990). Palophaginae are mainly Australian.

The family Megalopodidae has had a complex taxonomic history. Traditionally, it was considered to be a single subfamily in the Chrysomelidae, named Megalopodinae (often misspelled Megalopinae). With recognition of Zeugophorinae for a group of small species with leaf-mining larvae the group was split. Several authors noted the similarity of the above subfamilies with Cerambycoidea. Recognition as a separate family was proposed by Kuschel & May (1990), who erected a third subfamily, Palophaginae. Systematic analysis has confirmed the distant relationship between Chrysomelidae and Megalopodidae (Reid, 1995).

The family Megalopodidae are represented by 4 genera in Palaearctic region as *Colobaspis* Fairmaire, 1894; *Clytraxeloma* Kraatz, 1879; *Temnaspis* Lacordaire, 1845 and *Zeugophora* Kunze, 1818. In Turkey, it is represented only by 3 species of 2 genera as *Temnaspis nigropunctata* (Pic, 1896) and *Zeugophora subspinosa* (Fabricius, 1781) and *Zeugophora scutellaris* Suffrian, 1840 (new to Turkey). However, it is impossible to say that the fauna of Turkey investigated.

Turkish Megalopodidae are examined as follows:

Subfamily ZEUGOPHORINAE Böving & Craighead, 1931**Genus *Zeugophora* Kunze, 1818*****Zeugophora scutellaris* Suffrian, 1840 (New to Turkey)**

Other names: *frontalis* Suffrian, 1840.

Material examined: Konya prov.: entry of Ereğli, 1010 m, 02.06.2001, leg. H. Özdikmen, 1 specimen.

Range: Europe, Siberia (Winkler, 1924-1932); European Russia, Siberia, Eastern Kazakhstan, Kirgizia, Tadzhikistan, Central Europe (Lopatin, 1977); Widely distributed in Europe and Asia from Belgium and East France to Middle Asia (Warchalowski, 2003); Central Europe from East France, East Europe, Central Asia (Borowiec, 2006).

Zoogeographical remarks: New to Turkey. Probably it rather widely distributed in Turkey. This species has the Sibero-European chorotype.

***Zeugophora subspinosa* (Fabricius, 1781)**

Other names: Absent.

Previous records in Turkey: İstanbul prov.: Belgrad forest (Medvedev, 1975).

Range: Europe (Winkler, 1924-1932); Distributed in West, Central and North Europe, from England and Pyrenees to West Siberia (Warchalowski, 2003); Central and North Europe west to Pyrenees, West Siberia (Borowiec, 2006).

Zoogeographical remarks: Known species only from a single record for Turkish fauna. Probably it distributed in North Turkey. This species has the Sibero-European chorotype.

Subfamily MEGALOPODINAE Latreille, 1802**Genus *Tennaspis* Lacordaire, 1845*****Tennaspis nigropunctata* (Pic, 1896)**

Other names: *quadrimaculata* Reitter, 1908;

Previous records in Turkey: South Turkey (Warchalowski, 2003; Borowiec, 2006).

Range: Syria (Winkler, 1924-1932); Distributed in South Turkey and Syria (Warchalowski, 2003); Syria, South Turkey (Borowiec, 2006).

Zoogeographical remarks: Known species for Turkish fauna. Probably it only distributed in South Turkey. This species has the SW-Asiatic (Syro-Anatolian) chorotype.

Family ORSODACNIDAE Thomson, 1859

The family Orsodacnidae are also a small family of leaf beetles, previously included as a subfamily within the Chrysomelidae. The family has two subfamily as Aulacoscelidinae and Orsodacninae.

The subfamily Aulacoscelidinae (sometimes misspelled Aulacoscelinae) is a small, uncommonly-encountered group presently

classified within the family Orsodacnidae, historically placed as a subfamily of Chrysomelidae, or sometimes classified as a separate family Aulacoscelidae. There are approximately 19 species, mostly Neotropical in distribution. It includes two genera as *Aulacoscelis* Duponchel & Chevrolat in d'Orbigny, 1842 and *Janbechynea* Monrós, 1953.

The genus *Orsodacne* is the sole member of the subfamily Orsodacninae, containing four Holarctic species.

The family Orsodacnidae are represented only by one genus in Palaearctic region as *Orsodacne* Latreille, 1802. In Turkey, it is represented only by 3 species of single genus as *Orsodacne cerasi* (Linnaeus, 1758); *Orsodacne humeralis* Latreille, 1804 and *Orsodacne variabilis* Baly, 1877. Nevertheless, it is impossible to say that the fauna of Turkey is fully investigated.

Turkish Orsodacnidae are examined as follows:

Subfamily ORSODACNINAE Thomson, 1859

Genus *Orsodacne* Latreille, 1802

***Orsodacne cerasi* (Linnaeus, 1758)**

Names: *cantharoides* Fabricius, 1775; *chlorotica* Olivier, 1791; *fulvicollis* Fabricius, 1792; *melanura* Fabricius, 1793; *glabrata* Panzer, 1795; *glabrata* Fabricius, 1798; *limbata* Olivier, 1808; *lineola* Lacordaire, 1845; *duftschmidi* Weise, 1891; *horvathi* Laczo, 1912; *lacordairei* Pic, 1913; *theresae* Pic, 1913; *limbatipennis* Pic, 1913; *baudii* Pic, 1913; *bohemica* Roubal, 1914; *suturalis* Jacobson, 1922.

Previous records in Turkey: Anatolia (Warchalowski, 2003; Borowiec, 2006).

Range: Europe (Winkler, 1924-1932); Distributed from England and South France to West Siberia, known also from South Scandinavia and Asia Minor (Warchalowski, 2003); Europe north to England and South Sweden, west to West France, south to North Italy, Asia Minor, Caucasus, West Siberia. (Borowiec, 2006).

Zoogeographical remarks: Known species for Turkish fauna. Probably it distributed in especially North Turkey. This species has the Sibero-European chorotype.

***Orsodacne humeralis* Latreille, 1804**

Names: *lineola* Panzer, 1795; *nigriceps* Latreille, 1807; *nigricollis* Olivier, 1808; *marginella* Duftschmid, 1825; *picipennis* Duftschmid, 1825; *coerulescens* Duftschmid, 1825; *violacea* Chevrolat, 1844; *nematoides* Lacordaire, 1845; *mespili* Lacordaire, 1845; *croatica* Weise, 1883; *ruficollis* Pic, 1894; *flava* Csiki, 1899; *marginata* Csiki, 1899; *brancsiki* Laczo, 1909; *kraatzii* Pic, 1913; *hispanica* Pic, 1913; *delagrangei* Pic, 1913; *syriaca* Pic, 1913.

Previous records in Turkey: Ankara prov.: Kızılcahamam, Soğuksu National and Southeastern Turkey as *Orsodacne lineola* Panzer, 1795 (Medvedev, 1970); Anatolia (Warchalowski, 1976, 2003; Gruev, 2004; Borowiec, 2006).

Range: Europe, Syria (Winkler, 1924-1932); Distributed in France, South part of Middle Europe, Italy, Balkan Peninsula and Asia Minor (Warchalowski, 2003; Gruev, 2004; Borowiec, 2006).

Zoogeographical remarks: Known species for Turkish fauna. Probably it rather widely distributed in Turkey. This species has the Europeo-Mediterranean chorotype. As widely adopted by most authors, *Crioceris lineola* Panzer, 1795 is a synonym of *O. humeralis* Latreille, 1804. Nevertheless, according to some authors (e.g. Audisio, 2005) *Orsodacne lineola* (Panzer, 1795) is a separate species.

***Orsodacne variabilis* Baly, 1877**

Names: *merkli* Pic, 1909.

Material examined: Aydın prov.: 15.05.1964, leg. A. Demirtola, 1 specimen; İzmir prov.: Bornova, 09.07.1968, leg. N. Aysor, 1 specimen.

Previous records in Turkey: South Turkey (Warchalowski, 2003; Borowiec, 2006).

Range: Kurdistan (Winkler, 1924-1932); Described from Kurdistan (Warchalowski, 2003); Southeastern Turkey, Northwest Iran (Borowiec, 2006).

Zoogeographical remarks: Known species for Turkish fauna. It described from Southeastern Turkey. Probably it rather widely distributed in Southeastern and Eastern Turkey. This species has the SW-Asiatic (Irano-Anatolian) chorotype.

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