

# DATA ON SPECIES OF MEGALOPODIDAE AND ORSODACNIDAE (COLEOPTERA: CHRYSOMELOIDEA) IN LATVIAN FAUNA

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Faunal and ecological information on Megalopodidae and Orsodacnidae of Latvian fauna are presented. 133 specimens were processed. The bibliographical information on these families are summarized for the first time. An annotated list of Latvian species is given, including 5 species of Megalopodidae and 1 species of Orsodacnidae.

Key words: Coleoptera, Chrysomeloidea, Megalopodidae, Orsodacnidae, fauna, bibliography, Latvia.

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## INTRODUCTION

After Lawrence & Newton (1995) superfamily Chrysomeloidea consist of 4 families: Cerambycidae Latreille, 1802, Megalopodidae Latreille, 1802, Orsodacnidae Thomson, 1859 and Chrysomelidae Latreille, 1802 (including seed beetles as subfamily Bruchinae Latreille, 1802). Some authors include two groups Megalopodidae and Orsodacnidae as subfamilies into family Chrysomelidae (Bieńkowski 2004; Lopatin & Nesterova 2005; Warchałowski 2003).

There are 5 species of genus *Zeugophora* Kunze, 1818 (Megalopodidae) and two species of genus *Orsodacne* Latreille, 1802 (Orsodacnidae) known in Eastern Europe (Bieńkowski 2004). Silfverberg (2004) in his enumeration of Fennoscandian, Danian and Baltic beetles species indicated 4

species of *Zeugophora* (*Z. flavicollis* (Marsham, 1802) is mentioned as synonym of *Z. frontalis* Suffrian, 1840) and one species of *Orsodacne*.

For Latvian fauna were reported four and one species accordingly (Telnov 2004). In adjacent territories the number of recorded species from these genera slightly varies: in Belarus – 5 species of *Zeugophora* and one species of *Orsodacne* (Lopatin, Nesterova 2005), in Estonia – 3 and 1 species accordingly (Silfverberg 2004), in Lithuania – 4 and 1 species (Silfverberg 2004), in St.-Petersburg and Leningrad region (western Russia) – 3 and 1 species (Romantsov 2007).

The first data on these families in Latvia were published in the 19<sup>th</sup> century: on *Orsodacne* – in Fleischer (1829), on *Zeugophora* – in Kawall (1866). Subsequently, more than 20 other works

were published. Scarce faunal records on these groups in Latvia can also be found in following other articles (Heyden 1903; Lindberg 1932; Šmits 1962; Pūtele 1974, 1980; Stiprais 1977; Barševskis 1988, 1993, 2001; Rūtenberga 1992; Bukejs, Telnov 2007). The most recent lists of Latvian Cassidinae can be found respectively in the published catalogues of Latvian Coleoptera (Telnov et al. 1997; Telnov 2004).

Imago of *Zeugophora* feed on leaves of *Salix* and *Populus*; larvae develop within leaf mines and pupate in the soil. Imago of *Orsodacne* feed on pollen (Bieńkowski 2004).

The aim of this work is to summarize information on Megalopodidae and Orsodacnidae in Latvia. The faunal data on five species are presented. The bibliographical information on these families in Latvia are summarized for the first time. In the article also the annotated list of Latvian species, including 5 species of Megalopodidae and 1 species of Orsodacnidae, is published.

## MATERIAL AND METHODS

133 specimens were processed in the investigation, representing five species of Megalopodidae and one species of Orsodacnidae. The material reviewed in the current work is stored in the collection of Daugavpils University Institute of Systematic Biology (DUBC) and the private collection of author.

The following identification keys have been used for determination of specimens: Bieńkowski 2004, Lopatin and Nesterova 2005, Mohr 1966, Warchałowski 2003. We follow the systematics suggested by Lawrence, Newton (1995) and Silfverberg (2004). The monograph of Lopatin & Nesterova (2005) was used for the nomenclature and synonymy.

Host plants are listed citing the monograph of Lopatin & Nesterova (2005). The general distribution of species is given according to Bieńkowski (2004), Borowiec (2004), Lopatin 1986,

Lopatin & Kulenova 1986, Lopatin & Nesterova (2005), Medvedev (1992), Medvedev & Dubeshko (1992) and Warchałowski (2003).

Classification of chorotypes follows as suggested by Taglianti *et al.* (1999). The transcript of chorotypes codes: SIE – Sibero-European, CAE – Centralasiatic-European.

The following information is given for each species: scientific name & author, published bibliographic sources for Latvia, faunal data (locality, collecting date, number of collected specimens in oval brackets, information on the habitat and the collector's name), host plants, general distribution of species and the chorotype code.

Explanations of used abbreviations: d. – district (system of administrative districts used in Latvia from 1991 to 2008), env. – environ, PNT – protected nature territory, syn. – synonym, S – South, N – North, E – East, W – West.

## RESULTS AND DISCUSSION

During the current research, occurrence of five species of *Zeugophora* and one species of *Orsodacne* were confirmed for Latvia.

Analysis of the distribution of the species of the families Megalopodidae and Orsodacnidae in the fauna of Latvia reveals that the range of chorotypes is rather narrow: Centralasiatic-European – one species (*Zeugophora scutellaris*), Sibero-European – five species (*Z. subspinosa*, *Z. turneri*, *Z. frontalis*, *Z. flavicollis* and *Orsodacne cerasi*).

## LIST OF SPECIES

### CHRYSOMELOIDEA

#### MEGALOPODIDAE LATREILLE, 1802

#### ZEUGOPHORINAE BÖVING, CRAIGHEAD, 1931

#### *Zeugophora* KUNZE, 1818

syn.: *Auchenia* Thunberg, 1792

**Z. scutellaris Suffrian, 1840**

**References:** Šmits 1962; Pūtele 1980, 1981a, 1981b, 1984; Barševskis 1993, 2002.

**Examined material:** 5 exx: Cēsis d.: Taurkalnes parish, Brežģa kalns (hill), 03.VII.2006 (1, leg. A.Barševskis, U.Valainis, A.Pankjāns); Daugavpils d.: Arņeņi house, 1 km NW Randene, 15.V.1986 (1, leg. A.Barševskis); Ļubesti env., Rīga-Kraslava beltway, 11.V.2008 (1, clearing, leg. A.Barševskis); Krāslava d.: Šķeltova, 04.VII.1993 (1, leg. A.Barševskis); Talsi d.: Slītere National Park, Zilie kalni (hills), 22.VIII.2008 (1, leg. A.Barševskis).

**Host plants:** *Populus tremulae*, *P.nigra*.

**General distribution:** Europe, W Siberia, Altay, Sayans, Kazakhstan, Kyrgyzstan, Tadjikistan; introduced also to N America. [CAE]

**Note:** Rare and insufficiently known species, registred from few localities (Šmits 1962; Pūtele 1981a; Barševskis 1993, Barševskis 2002). In the catalogue “Enumeratio nova Coleopterorum Fennoscandiae, Daniae et Baltiae”, this species is mentioned for Denmark, Finland, Latvia, Lithuania, Karelia, Norway and Sweden (Silfverberg 2004); known also from Belarus (Lopatin, Nesterova 2005).

**Z. subspinosa (Fabricius, 1781)**

**References:** Kawall 1866; Seidlitz 1872-1875, 1887-1891; Rathlef 1905; Trauberga 1957; Pūtele 1974, 1980, 1981a, 1981b, 1984; Barševskis 1988, 1993, 2002; Telnov *et al.* 1997; Telnov 2004; Bukejs, Telnov 2007.

**Examined material:** 31 exx: Aizkraukle d.: Rīteri, 21.VI.2006 (1, leg. A.Barševskis); Daugavpils d.: Eglaine, 15.V.1988 (1, leg. A.Barševskis); Līksna, 27.V.1995 (4, leg. R.Cibuļskis); Ilgas, Silene Nature Park, 04.VI.1991 (1, leg. A.Barševskis), 1991 (1, leg. A.Barševskis), 02.IX.1993 (1, leg. A.Barševskis), 02.VI.1994 (1, leg. A.Barševskis), 06.VI.1994 (1, leg. A.Barševskis), 13.VI.1994 (1, leg. A.Barševskis), 02.VII.1994 (1, leg. A.Barševskis), 07.VI.1996 (1, leg. A.Barševskis), 11.VI.1996 (1, leg. A.Barševskis), 18.VI.1996 (1, leg. A.Barševskis), 26.VI.1996 (1, leg. A.Barševskis), 28.VI.1996 (1, leg. A.Barševskis), 03.VII.1996 (1, leg. A.Barševskis), 25-30.V.1998 (1, leg. A.Barševskis), 06.VI.2001 (1, leg. G.Lociks); Stropi, 28.V.2007 (1, meadow near Lake Lielais

Stropu, leg. A.Bukejs), 02.VII.2008 (1, clearing, leg. A.Bukejs); Krāslava d.: Indrica, 29.V.1991 (1, leg. A.Barševskis); Piedruja, 23.V.1990 (1, leg. A.Barševskis); Šķeltova, 26.VII.1995 (1, leg. A.Barševskis), 23.VII.1996 (1, leg. A.Barševskis), 24.VI.1996 (1, leg. A.Barševskis), 24.VII.1996 (1, leg. A.Barševskis); Valmiera d.: Sprosti house, 57°34'58"N 25°20'15"E, 21.VIII.2006 (2, leg. A.Pankjāns).

**Host plants:** *Populus*, *Salix*.

**General distribution:** Europe, Siberia, Russian Far East, Kazakhstan, Mongolia. [SIE]

**Z. turneri Power, 1863**

syn.: *rufotestacea* Kraatz, 1871

**References:** Seidlitz 1887-1891; Rathlef 1905; Pūtele 1980, 1981b, 1984; Barševskis 1993, 2002; Telnov *et al.* 1997; Telnov 2004.

**Examined material:** 1 ex.: Krāslava d.: Šķeltova, 30.IX.1990 (1, leg. A.Barševskis).

**Host plants:** *Populus*.

**General distribution:** Europe, Siberia, Altay, Mongolia. [SIE]

**Note:** Very rare species in Latvia, known only from three localities.

**Z. frontalis Suffrian, 1840**

**References:** Telnov *et al.* 1997; Barševskis 2001, 2002; Telnov 2004.

**Examined material:** 2 exx: Krāslava d.: Izvalta, 19.VIII.1987 (1, leg. A.Barševskis); Šķeltova, 30.IX.1990 (1, leg. A.Barševskis).

**Host plants:** *Populus*.

**General distribution:** Europe, Siberia. [SIE]

**Note:** Rare and insufficiently known species, registred from four localities.

**Z. flavicollis (Marsham, 1802)**

**References:** Ulanowski 1883; Šmits 1962; Pūtele 1974, 1980, 1981a, 1981b, 1984; Barševskis 1992, 1993; Barševskis, Savenkovs 1992; Telnov *et al.* 1997; Telnov 2004.

**Examined material:** 33 exx: Aizkraukle d.: Aizkraukle, 21.VI.1995 (1, clearing, leg. A.Barševskis); Balvi d.: Viļaka, 27.VII.1992 (5, leg. A.Barševskis); Daugavpils d.: Daugavpils E env., 26.VIII.1989 (1, leg. A.Barševskis); Līksna, 16.VII.1994 (3, leg. R.Cibuļskis); Ilgas, Silene Nature Park, 19.VI.1993 (1, leg. A.Barševskis),

02.VII.1993 (1, leg. A.Barševskis), 04.VII.1993 (1, leg. A.Barševskis), 05.VII.1993 (1, leg. A.Barševskis), 04.VII.1994 (1, leg. A.Barševskis), 05.VII.1994 (1, leg. A.Barševskis), 12.VII.1994 (1, leg. A.Barševskis), 17.VII.2005 (1, leg. A.Barševskis), 02.VIII.2009 (3, leg. A.Barševskis); Stropi, 12.VII.2008 (1, dry meadow, leg. A.Bukejs); Jēkabpils d.: Asare, 06.VII.2001 (1, leg. I.Leiskina); Dunava, 24.VII.1994 (1, leg. A.Barševskis); Zasa, 15.VIII.2000 (1, leg. I.Leiskina); Krāslava d.: Šķeltova, 04.VII.1993 (1, leg. A.Barševskis); Jūrmala: Kūdra, 20.VII.2008 (1, leg. A.Titovs); Madona d.: Ošupe env., 2.5 km NE Lake Lubāns, 56°50'03"N 26°56'05"E, 06.VII.2008 (1, wet meadow and bank of Aiviekste River, leg. M.Balalajkins, A.Bukejs); Preiļi d.: Jersika, Kurpnieki house, 10.VII.2007 (1, leg. A.Barševskis, K.Barševska), 21.VII.2007 (1, leg. A.Barševskis), 25.VII.2008 (1, leg. A.Barševskis); Ventspils d.: Blāzma, 22.VIII.2008 (1, clearing, leg. U.Valainis, K.Aksjuta, A.Barševskis); Muižnieki, 57°28'20"N 21°43'19"E, 29.VII.2005 (1, leg. A.Barševskis, A.Bukejs, U.Valainis).

**Host plants:** *Populus tremulae*, *Salix*.

**General distribution:** Europe, Siberia, Russian Far East. [SIE]

#### ORSODACNIDAE THOMSON, 1859

#### ORSODACNINAE THOMSON, 1859

#### *Orsodacne* LATREILLE, 1802

#### *O. cerasi* (LINNAEUS, 1758)

syn.: *chlorotica* (Olivier, 1791); *fulvicollis* (Fabricius, 1793); *glabrata* (Fabricius, 1795)

**References:** Fleischer 1829; Seidlitz 1872-1875, 1887-1891; Heyden 1903; Rathlef 1905; Lindberg 1932; Trauberga 1957; Stiprais 1977; Barševskis 1988, 1993, 2002; Rūtenberga 1992; Telnov *et al.* 1997; Telnov 2004.

**Examined material:** 61 exx: Aizkraukle d.: Aizkraukles purvs (bog) PNT, 6 km N Aizkraukle, 01.VII.2008 (1, leg. A.Pankjāns); Daugavpils d.: Naujene, 26.V.1986 (1, leg. A.Barševskis), 13.VI.1986 (3, leg. A.Barševskis), 13.VI.1989 (6, leg. A.Barševskis), 29.IV.2008 (2, valley of Daugava River, leg. A.Pankjāns, U.Valainis); Pilskalne, 08.V.1992 (1, leg. A.Barševskis), 29.V.1993 (8, leg. A.Barševskis); Šedere, Straumēni house, 22.VII.2007 (3, at rhubarb

flowerhead, leg. M.Murd), 01-03.V.2008 (5, leg. M.Janovska), 13.V.2008 (1, leg. M.Janovska), 18.V.2008 (1, leg. M.Janovska); Silene Nature Park, Ilgas, 11-20.VI.2002 (6, leg. A.Barševskis), VIII.2002 (3, leg. A.Barševskis); Jēkabpils d.: Aknīste, 04.V.1991 (1, riverbank, leg. anonymous); Liepāja d.: Vīgra, 13.V.1998 (1, leg. N.Savenkovs); Talsi d.: Kaļķupe, Puiškalns, Kaļķupe PNT, 02.VI.2009 (3, leg. A.Barševskis); Slītere, Slītere National Park, VI.2002 (6, leg. A.Barševskis), 27.VI.2006 (1, leg. A.Barševskis); Zilie Kalni (hills) and Davida Pļavas (meadows), Slītere National Park, 06.VI.2002 (2, leg. A.Barševskis), 30.V.2006 (2, leg. A.Barševskis), 06.VI.2002 (1, leg. A.Barševskis), 12.VI.2005 (1, leg. A.Barševskis), 27.VI.2006 (2, leg. A.Barševskis, U.Valainis, A.Pankjāns).

**Host plants:** Rosaceae (*Rosa*, *Padum avium*). In the literature (Bienkowski 2004), Apiaceae, *Acer*, *Syringa* and *Populus* are also mentioned as host plants.

**General distribution:** Europe, Asia Minor, W Siberia (eastwards to Lake Baikal). [SIE]

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