

# ON LATVIAN CHRYSOMELINAE (COLEOPTERA: CHRYSOMELIDAE): 1. GENUS *PHRATORA* CHEVROLAT, 1836

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**Abstract.** Faunal data on 5 species of the genus *Phratora* Chevrolat, 1836 are presented. A total of 637 specimens of this genus were reviewed. Bibliographic information on this genus in Latvia is summarised for the first time. The annotated list including 6 species and the illustrated key of Latvian *Phratora* Chevrolat, 1836 are given.

**Key words:** Coleoptera, Chrysomelidae, *Phratora*, Latvia, fauna, identification key

## INTRODUCTION

There are approximately 20 species of the genus *Phratora* Chevrolat, 1836 known in the Holarctic region (Lopatin & Nesterova 2005). Of them, 6 species are known from eastern (Bieńkowski 2004) and northern Europe (Silfverberg 2004).

Two subgenera and 6 species of *Phratora* are known in Latvia (Telnov *et al.* 1997; Telnov 2004): the subgenus *Chaetocerooides* Strand, 1935 (with one species) and *Phratora* s. str. (with five species). Each of the adjacent territories, Belarus (Lopatin & Nesterova 2005), Estonia (Silfverberg 2004), Lithuania (Pileckis & Monsevičius 1997; Silfverberg 2004), St. Petersburg and the Leningrad province (Romantsov 2007), accounts for five species of this genus. The first information on leaf-beetles of the genus *Phratora* in Latvia was published at the end of the 18<sup>th</sup> century (Fischer 1778, 1784, 1791). Subsequently, more than 25 works have been published. Faunal data can also be found in the following articles: Heyden 1903; Pūtele 1974, 1981a; Barševskis 1993; Telnov 2002; Bukejs & Telnov 2007. The imagoes and larvae of the genus *Phratora* Chevrolat, 1836 feed on the foliage of trees and shrubs (*Salix*, *Populus*, *Betula*). Females lay eggs on leaves. Pupation takes place in soil (Bieńkowski 2004). In Latvia, *Ph. vulgatissima* (Linnaeus, 1758) and *Ph. vitellinae* (Linnaeus, 1758) are reported as pests of willow (*Salix*) (Brammanis 1940; Rupais 1959; Pūtele 1982, 1984).

The aim of the current work is to summarise data on the genus *Phratora* in Latvia. The bibliographic information on this leaf-beetle genus in Latvia is summarised for the first time. New faunal data on 5 species are presented. The article also presents the annotated list and the illustrated key of Latvian species. Altogether, 6 species of *Phratora* are reported for Latvia.

## MATERIAL AND METHODS

A total of 637 specimens were reviewed in this investigation, representing 5 species of the genus *Phratora*. The reviewed material is stored in the collection of the Daugavpils University Institute of Systematic Biology (DUBC), Daugavpils, Latvia, and the Institute of Biology of the University of Latvia (Salaspils, Latvia), and in the private collections of V. Pūtele (Salaspils, Latvia) and the author (Daugavpils, Latvia).

The following identification keys were used for identification of specimens: Bieńkowski 2004; Lopatin and Nesterova 2005; Mohr 1966; Warchałowski 2003. We follow the systematics suggested by Silfverberg (2004). An interactive on-line manual (Borowiec 2004) was used for nomenclature and synonymy.

Host plants are listed citing the monograph of Lopatin and Nesterova (2005). The general distribution of species is given according to Bieńkowski (2004), Borowiec (2004), Hayashi *et al.* (1984); Lopatin (1977, 1986), Lopatin and Kulenova (1986), Lopatin and Nesterova (2005), Medvedev (1992), Medvedev and Dubeshko (1992) and Warchałowski (2003).

Classification of chorotypes follows as suggested by Taglianti *et al.* (1999). The transcript of chorotypes codes: OLA – Holarctic, ASE – Asiatic-European, SIE – Sibero-European, TUE – Turano-European.

The following information is given for each species: scientific name and 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, phenology (Latvian data only; III, IV, VI, VII, VIII, IX, X – months from March to October, respectively; given in parentheses – ten-day period), general distribution of species and the chorotype code.

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

The photographs were taken using a *Zeiss Stereo Discovery VI2* stereomicroscope and an *AxioCam* digital camera.

## RESULTS AND DISCUSSION

During the current research, the occurrence of 5 species of *Phratora* was confirmed for the Latvian fauna. One species, *Ph. polaris* (Schneider, 1886), was not confirmed during this research and its occurrence in the Latvian fauna needs confirmation. Overall, the list of Latvian species of this genus includes 6 species.

Analysis of the chorotypes of Latvian species of the genus *Phratora* reveals that species with wide distribution predominate: Holarctic – 1 species [*Ph. vulgatissima* (Linnaeus, 1758)], Asiatic-European – 2 species [*Ph. laticollis* (Suffrian, 1851), *Ph. vitellinae* (Linnaeus, 1758)], Sibero-European – 2 species [*Ph. atrovirens* (Cornelius, 1857), *Ph. polaris* (Schneider, 1886)] and Turano-European – 1 species [*Ph. tibialis* (Suffrian, 1851)].

### List of *Phratora* Chevrolat, 1836 of the Latvian fauna

#### Chrysomelidae

#### Chrysomelinae Latreille, 1802

#### *Phratora* Chevrolat, 1836

syn.: *Phyllodecta* Kirby, 1837

subgenus *Chaetoceroides* Strand, 1935

syn.: *Chaetocera* Weise, 1884 non Agassiz, 1846

#### *Ph. vulgatissima* (Linnaeus, 1758)

**References:** Fischer 1778 (*Chrysomela vulgatissima* L.); Groschke 1805 (*Chrysomela vulgatissima*); Precht 1818 (*Galleruca*); Ulanowski 1883 (*Phyllodecta*); Seidlitz 1872–1875, 1887–1891; Sintenis 1900; Rathlef 1905 (*Phyllodecta*); Brammanis 1940 (*Phyllodecta*); Danka 1950; Pūtele 1974, 1980, 1981a, b, 1982, 1984 (*Phyllodecta*); Stiprais 1977; Barševskis 1988, 1993, 2002; Barševskis & Savenkovs 1991; Barševskis *et al.* 1992; Telnov *et al.* 1997; Telnov 2004; Bukejs and Telnov 2007.

**Examined material:** 163 specimens: Aizkraukle d.: Rīteri, 14 June 2006 (5, leg. A. Barševskis); Balvi d.: Kuprava, 19 May 1991 (1, leg. A. Barševskis); Baus-

ka d.: Bauska Nature Park, 56°24'10"N 24°10'41"E, 3 May 2008 (3, leg. A. Pankjāns); Daugavpils d.: Bebrene, 27 March 2005 (1, leg. E. Rudāns), 30 April 2006 (1, leg. E. Rudāns); Butiški, 25 July 2008 (1, valley of the Daugava River, leg. A. Bukejs); Daugavpils, Cietoksnis, 25 June 2009 (1, bank of the Daugava River, leg. A. Bukejs); Elerne, 31 May 2007 (5, bank of the Daugava River, leg. M. Murd); Ilgas, Silene Nature Park, 27 June 1989 (1, leg. A. Barševskis), 10 July 1989 (1, leg. A. Barševskis), 29 April – 10 July 2000 (1, leg. L. Ņikitina), June–July 2000 (2, leg. I. Haka & G. Hļebnaja), 18 May 2005 (1, leg. A. Barševskis), 30 June 2005 (3, leg. A. Barševskis), 10 May 2006 (3, leg. A. Barševskis), 5–10 June 2006 (1, leg. M. Verdenfelde); Liksna, 30 April 1994 (1, leg. R. Cibuļskis), 21 August 1994 (2, leg. R. Cibuļskis); Ļubesti env., Rīga-Krāslava beltway, 17 May 2007 (1, leg. A. Barševskis, K. Barševska); Naujene, 55°54'44" N 26°49'28"E, 29 April 2008 (5, valley of the Daugava River, leg. A. Pankjāns, U. Valainis); Naujenes parish, 2 km S Rudāni, 30 October 1996 (6, leg. A. Barševskis); Slutiški, 55°55'01"N 26°53'19"E, 29 April 2008 (1, bank of the Putānu River, leg. A. Pankjāns, U. Valainis); Vabole, August 1993 (1, leg. R. Cibuļskis), 24 August 1994 (1, leg. R. Cibuļskis), 21 October 1995 (2, leg. R. Cibuļskis), 27 December 1996 (1, leg. R. Cibuļskis); Vecpils, 55°54'710"N 26°43'515"E, 9 May 2008 (2, valley of the Daugava River, leg. U. Valainis); Višķi, 1 February 1987 (6, leg. A. Barševskis), 29 February 1989 (1, leg. A. Barševskis), 1 March 1987 (1, leg. A. Barševskis), 22 March 1987 (1, leg. A. Barševskis); Gulbene d.: Lake Ušurs env., 8 June 2005 (4, along marsh, leg. A. Barševskis); Jēkabpils d.: Dignāja, 1 August 2005 (4, leg. A. Barševskis); Duna-va, 1 June 2002 (1, leg. A. Barševskis), 3 July 2005 (5, bank of the Daugava River, leg. A. Barševskis), 16 April 2006 (1, leg. A. Barševskis), 10–18 June 2006 (6, leg. K. Barševska), 1–8 July 2006 (1, leg. K. Barševska, A. Barševskis), 20–31 July 2006 (1, leg. K. Barševska), 11–13 August 2006 (1, leg. A. Barševskis), 13 May 2007 (7, leg. K. Barševska, A. Barševskis), 23–30 June 2007 (1, leg. K. Barševska), 1 June 2008 (2, leg. A. Barševskis), 15–23 July 2008 (1, leg. K. Barševska), 23 July 2008 (10, leg. A. Barševskis), 22 March 2009 (4, leg. A. Barševskis), 25 April 2009 (7, leg. A. Barševskis); Jēkabpils, 13 May 2006 (2, leg. K. Barševska, A. Barševskis); Vandāni, 26 June 2009 (1, bank of the Daugava River, on *Salix*, leg. M. Balalaikins); Krāslava d.: Asūne, 26 July 1998 (2, leg. I. Plotka); Peipiņi, 4 km W of Škeltova, 28 August 1989 (1, leg. A. Barševskis); Piedruja, 28 May 1991 (2, dry meadow, leg. A. Barševskis); Kuldīga d.: Alsunga, Augšuzava PNT, 28 August 2005 (1, leg. A. Barševskis, A. Bukejs, U. Valainis); Madona d.: Ošupe env., 2.5 km NE Lake Lubāns, 56°50'03"N

26°56'05"E, 06 July 2008 (1, wet meadow and bank of the Aiviekste River, leg. M. Balalaikins, A. Bukejs); Preiļi d.: Jersika, Kurpnieki house, 9 April 2006 (1, leg. A. Barševskis), 14 April 2006 (8, leg. A. Barševskis), 15 April 2006 (1, leg. A. Barševskis), 4 May 2006 (1, leg. K. Barševska), 26–28 May 2006 (1, leg. K. Barševska), 6–7 June 2006 (1, leg. A. Barševskis, K. Barševska), 15 May 2007 (1, leg. A. Barševskis), 22–25 June 2007 (1, leg. A. Barševskis), 21 July 2007 (1, leg. A. Barševskis), 28 April 2009 (3, leg. A. Barševskis, K. Barševska); Līvāni, 30 May 2005 (2, leg. A. Barševskis); Rēzekne d.: Īdeņa, Nagļi env., 8 September 2007 (1, bank of Lake Lubāns, leg. A. Bukejs, M. Balalaikins); Gaigalava env., bank of Lake Lubāns near the Aiviekste River, 8 September 2007 (1, leg. A. Bukejs, M. Balalaikins); Talsi d.: Ances PNT forests and bogs, 27 June 2006 (2, leg. A. Barševskis); Mazirbe, 10 July 2004 (1, seashore, dunes, leg. A. Barševskis), 24 July 2004 (1, leg. A. Barševskis); Slītere National Park, Zilie Kalni (hills) and Davida Pļavas (meadows), 11 June 2005 (1, leg. A. Barševskis); Tukums d.: Ķemeri National Park, 26 June 2006 (3, leg. A. Pankjāns, A. Barševskis, U. Valainis); Pūre, 6 August 2002 (4, leg. A. Barševskis); Valka d.: Liepniekvalka, 10 July 2004 (1, leg. A. Barševskis, R. Cibuļskis); Ventspils d.: Moricsala Isl., Moricsala Nature Park, June 2003 (2, leg. U. Valainis), September 2003 (1, leg. U. Valainis).

**Host plants:** mostly on *Salix*, rarely on *Populus* and *Betula*.

**Phenology:** III (3), IV, V, VI, VII, VIII, IX, X.

**General distribution:** Europe, Caucasus, Siberia, Kazakhstan, Mongolia, Far East of Russia, N America. [OLA]

**Note:** Very common.

subgenus *Phratora* s. str.

*Ph. laticollis* (Suffrian, 1851)

syn.: *cavifrons* Thomson, 1866

**References:** Rathlef 1921 (*Phyllodecta*); Lindberg 1932 (*Phyllodecta*); Pūtele 1974, 1980, 1981a, b, 1984 (*Phyllodecta*); Stiprais 1977; Barševskis 1993; Telnov *et al.* 1997; Telnov 2002, 2004; Bukejs and Telnov 2007.

**Examined material:** 128 specimens: Aizkraukle d.: Aizkraukle, 4 May 1995 (1, clearing, leg. A. Barševskis); Alstiķe, 4 July 2004 (2, leg. A. Barševskis); Rīteri, 14 June 2006 (2, leg. A. Barševskis), 20 June 2006 (4, leg. A. Barševskis); Sērene, Krieviņi house, 56°35'51"N 25°08'25"E, 19 July 2007 (12, leg. A. Barševskis, U. Valainis, A. Pankjāns, A. Soldāns); Skrīveri, 20 June 2006 (2, bank of the Daugava River, leg. A. Barševskis); Balvi d.: Kuprava, 26 August 1994 (1, leg. A. Barševskis); Daugavpils d.: Bebrene, 1 August 2005 (1, leg. E. Rudāns), 25 October 2005 (6, leg. E. Rudāns),

18 February 2006 (1, leg. E. Rudāns), 15 June 2006 (1, leg. E. Rudāns), 22 June 2006 (1, leg. E. Rudāns), 25 June 2006 (1, leg. E. Rudāns); Daugavpils, Krīži, 30 July 2001 (1, leg. G. Lociks); Līksna, 23 April 1994 (1, leg. R. Cibuļskis); Ļubesti env., Daugavpils beltway env., 25 July 2005 (1, leg. A. Barševskis), 15 June 2006 (1, leg. A. Barševskis), 16 June 2008 (3, forest on continental dunes, leg. A. Barševskis); Ilgas, Silene Nature Park, 15 June 1988 (1, leg. A. Barševskis), 1 July 1989 (1, leg. A. Barševskis), 3 July 1989 (1, leg. A. Barševskis), 20 July 1989 (1, leg. A. Barševskis), 10 July 1992 (1, leg. A. Barševskis), 9 July 1993 (2, leg. A. Barševskis), 1 June 1994 (1, leg. A. Barševskis), 29 April – 10 July 2000 (1, leg. L. Ņikitina), 9 June 2001 (1, leg. G. Lociks), 14 June 2001 (1, leg. G. Lociks), 13 September 2001 (1, leg. G. Lociks), 27–28 June 2005 (2, leg. A. Barševskis), 8 July 2005 (1, leg. A. Barševskis), July 2005 (1, clearing, leg. A. Barševskis), 7 September 2005 (1, leg. A. Barševskis), 5–10 June 2006 (3, leg. M. Verdenfelde), 19–22 June 2006 (1, leg. E. Rudāns); Ņīcgale, 10 March 2007 (1, leg. A. Barševskis); Slutiški, 14 June 1989 (1, leg. A. Barševskis); Stropi, 8 June 2008 (1, leg. A. Bukejs); Vabole, August 1993 (1, leg. R. Cibuļskis); Jēkabpils d.: Asare, 5 July 2000 (1, leg. I. Leiskina), 25 July 2001 (1, leg. I. Leiskina), 10 August 2001 (2, leg. I. Leiskina); Dunava, 16 July 1991 (1, leg. A. Barševskis); Jēkabpils, 16–17 August 2008 (1, aerodrome, leg. M. Balalaikins); Klucānu & Priekulānu PNT, 29 August 2005 (1, leg. A. Barševskis); Leimaņi, 19 km S Jēkabpils, 14 August 2001 (1, leg. I. Leiskina); Rubeņi, 22 March 1997 (1, leg. I. Leiskina), 31 March 1997 (1, leg. I. Leiskina), 30 July 1997 (1, leg. I. Leiskina), 25 March 2000 (1, leg. I. Leiskina), 8 July 2000 (1, leg. I. Leiskina); Viesīte, 8 August 2008 (1, clearing, leg. A. Barševskis); Zasa, 19 June 2000 (3, leg. I. Leiskina); Gulbene d.: Lejasciems, June 2004 (1, burning, leg. A. Barševskis), May 2005 (1, leg. A. Barševskis), 8 June 2005 (1, pine forest, leg. A. Barševskis), 30 September 2005 (1, forest, leg. A. Barševskis, A. Bukejs, J. Laizāns); Lake Ušurs env., 8 June 2005 (1, along marsh, leg. A. Barševskis); Krāslava d.: Baltica, 24 May 1990 (1, leg. A. Barševskis); Tartaks, 14 June 1989 (1, leg. A. Barševskis); Kuldīga d.: Skrunda, 5 September 2008 (5, leg. R. Orlovskis, A. Barševskis); Madona d.: Krustkalni Nature Reserve, 56°43'34"N 26°07'29"E, June 2005 (1, forest, leg. A. Barševskis, J. Laizāns), August 2005 (3, leg. A. Bukejs, A. Barševskis, J. Laizāns), 17 July 2007 (3, leg. A. Barševskis); Ogre d.: Birzgale parish, Robežnieki, 30 May 2006 (1, leg. E. Rudāns); Ņega River confluence with the Daugava River, 29 June 2006 (2, leg. A. Barševskis); Preiļi d.: Jersika, Kurpnieki house, 24 June 2005 (1,

leg. A. Barševskis), 4 May 2006 (1, leg. A. Barševskis), 31 May 2008 (2, leg. A. Barševskis); Līvāni, 30 May 2005 (2, leg. A. Barševskis); Rēzekne d.: Lake Zolvas env., Zolva vill., 12 June 2008 (3, leg. A. Barševskis, U. Valainis); Puša, 27 May 2002 (1, leg. A. Barševskis); Rēzekne, 27 April 1990 (1, leg. A. Barševskis); Rīga d.: Bajāri, 28 June 2008 (5, clearing, leg. A. Barševskis); Baldone, 20 August 2008 (2, leg. A. Barševskis); Mālpils, 16 August 2008 (1, leg. A. Barševskis); Talsi d.: Pūnas, 11 July 2004 (1, leg. A. Barševskis); Valka d.: Mežole, 10 June 2006 (1, leg. J. Donis); Ventspils d.: Moricsala Isl., Moricsala Nature Reserve, 29 May 2006 (1, leg. E. Rudāns).

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

**Phenology:** IV, V, VI, VII, VIII, IX, X.

**General distribution:** Europe, Asia Minor, Caucasus, Siberia, Kazakhstan, Mongolia, N China, Korea, Far East of Russia, Japan. [ASE]

**Note:** Hitherto, this species in Latvia was known only from 8 localities (Lindberg 1932; Pūtele 1974, 1981a; Stiprais 1977; Barševskis 1993; Telnov 2002; Bukejs & Telnov 2007).

***Ph. tibialis*** (Suffrian, 1851)

syn.: *viennensis* Weise, 1882

**References:** Seidlitz 1872–1875, 1887–1891 (*Phratora viennensis* Schrank.); Heyden 1903 (*Phyllodecta*); Rathlef 1905 (*Phyllodecta*); Pūtele 1974, 1980a, 1981a, b, 1984 (*Phyllodecta*); Stiprais 1977; Barševskis 1993, 2002; Telnov *et al.* 1997; Telnov 2004; Bukejs & Telnov 2007.

**Examined material:** 17 specimens: Aizkraukle d.: Rīteri, 21 June 2006 (1, leg. A. Barševskis); Daugavpils d.: Butiški, 26 May 2008 (1, bank of the Daugava River, leg. A. Bukejs); Elerne, Murauki house, 24 May 2007 (2, leg. U. Valainis); Līksna, 25 September 1993 (1, leg. R. Cibulskis); Stropi, 23 June 2009 (1, leg. A. Bukejs); Vabole, 5 August 1994 (1, leg. R. Cibulskis), 25 August 1994 (1, leg. R. Cibulskis); Naujenes parish, 2 km S Rudāni, 30 October 1996 (1, leg. A. Barševskis); Jēkabpils d.: 6 km NW Vandāni, Vimbaru forest, 12 August 2008 (1, leg. M. Balalaikins); Krāslava d.: Indrica, 24 May 1990 (1, leg. A. Barševskis); Piedruja, July 1988 (1, bank of the Daugava River, leg. A. Barševskis), 23 May 1990 (1, leg. A. Barševskis), 4 April 1991 (1, dry meadow, leg. A. Barševskis); 4.5 km SE Varnaviči, Robeždaugava house, 23 May 1990 (1, leg. A. Barševskis); Preiļi d.: Jersika, Kurpnieki house, 15 July 2006 (1, leg. K. Barševska); Valmiera d.: Kauguru parish, forest near the Gauja River, 3 July 2006 (1, leg. A. Barševskis, U. Valainis, A. Pankjāns).

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

**Phenology:** V, VI, VII, VIII.

**General distribution:** Europe, Caucasus, Kazakhstan. [TUE]

**Note:** Rather infrequent.

***Ph. atrovirens*** (Cornelius, 1857)

**References:** Rathlef 1921 (*Phyllodecta*); Lindberg 1932 (*Phyllodecta*); Priedītis & Pūtele 1976; Pūtele 1974, 1980, 1981a, b, 1982, 1984 (*Phyllodecta*); Stiprais 1977; Barševskis 1993, 2002; Telnov *et al.* 1997; Telnov 2004; Bukejs & Telnov 2007.

**Examined material:** 23 specimens: Aizkraukle d.: Rīteri, 21 May 2006 (1, leg. A. Barševskis); Daugavpils d.: Butiški, 26 May 2008 (1, bank of the Daugava River, leg. A. Bukejs); Elerne, Murauki house, 24 May 2007 (2, leg. U. Valainis); Līksna, 25 September 1993 (1, leg. R. Cibulskis); Stropi, 23 June 2009 (1, leg. A. Bukejs); Vabole, 5 August 1994 (1, leg. R. Cibulskis), 25 August 1994 (1, leg. R. Cibulskis); Naujenes parish, 2 km S Rudāni, 30 October 1996 (1, leg. A. Barševskis); Jēkabpils d.: 6 km NW Vandāni, Vimbaru forest, 12 August 2008 (1, leg. M. Balalaikins); Krāslava d.: Indrica, 24 May 1990 (1, leg. A. Barševskis); Piedruja, July 1988 (1, bank of the Daugava River, leg. A. Barševskis), 23 May 1990 (1, leg. A. Barševskis), 4 April 1991 (1, dry meadow, leg. A. Barševskis); 4.5 km SE Varnaviči, Robeždaugava house, 23 May 1990 (1, leg. A. Barševskis); Preiļi d.: Jersika, Kurpnieki house, 15 July 2006 (1, leg. K. Barševska); Valmiera d.: Kauguru parish, forest near the Gauja River, 3 July 2006 (1, leg. A. Barševskis, U. Valainis, A. Pankjāns).

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

**Phenology:** IV, V, VI, VII, VIII, IX, X.

**General distribution:** C and E Europe, Siberia, Mongolia, Far East of Russia. [SIE]

**Note:** Rather infrequent.

***Ph. polaris*** (Schneider, 1886)

**References:** Pūtele 1974, 1980, 1981a, b, 1982, 1984 (*Phyllodecta*); Telnov *et al.* 1997; Telnov 2004.

**Examined material:** Not confirmed by the author. Some earlier records of this species by V. Pūtele (three specimens without labels in the collection of V. Pūtele) were based on misidentifications. Probably, other reports on this species by V. Pūtele (Pūtele 1974, 1981a) were also based on misidentifications.

**Host plants:** *Salix*, *Betula*.

**Phenology:** V, VI (after Pūtele 1974, 1981a).

**General distribution:** Fennoscandia, north part of W Siberia, E Siberia, Mongolia, Far East of Russia. [SIE]

**Note:** The species is known only from two localities in C and NW Latvia (Pūtele 1974, 1981a). In Slītere National Park (NW Latvia), Pūtele (1981a) mentioned

this species as common along roadsides and ditches on *Salix nigra* L., *S. cinerea* L. and *S. fragilis* L. The occurrence of this species in the Latvian fauna is doubtful and needs further confirmation. According to the catalogue of Silfverberg (2004), it is mentioned for Finland, Karelia, Latvia, Norway and Sweden. This species is also known from the Leningrad province (Romantsov 2007).

**Ph. vitellinae** (Linnaeus, 1758)

syn.: *angusticollis* Motschulsky, 1860; *latipennis* Motschulsky, 1860

**References:** Fischer 1784 (*Chrysomela vitellinae* L.); Fischer 1791 (*Chrysomela vitellinae* L.); Precht 1818 (*Galleruca vitellinae* L.); Ulanowski 1883 (*Phyllodecta*); Seidlitz 1872–1875, 1887–1891; Sintenis 1900; Rathlef 1905 (*Phyllodecta*); Brammanis 1940 (*Phyllodecta*); Danka 1950; Trauberga 1957 (*Phyllodecta*); Rupais 1959 (*Phyllodecta*); Pūtele 1974, 1980, 1981a, b, 1982, 1984 (*Phyllodecta*); Stiprais 1977; Barševskis 1988, 1993, 2002; Telnov *et al.* 1997; Telnov 2004; Bukejs & Telnov 2007; Spunģis 2008.

**Examined material:** 306 specimens: Aizkraukle d.: Aizkraukle, 6 August 2002 (5, leg. A. Barševskis); 6 km N Aizkraukle, Aizkraukles purvs (bog) PNT, 1 July 2008 (5, leg. A. Bukejs & A. Pankjāns), 6 August 2008 (3, leg. A. Bukejs, M. Balalaikins); Ērberģe, 12 August 2008 (1, leg. A. Barševskis); Rīteri, 14 June 2006 (1, leg. A. Barševskis); Skrīveri, 20 June 2006 (4, bank of the Daugava River, leg. A. Barševskis); Valle, 12 August 2008 (5, leg. A. Barševskis); Balvi d.: Medņeva, 27 July 1992 (1, leg. A. Barševskis); Viļaka, 27 July 1992 (5, leg. A. Barševskis); Cēsis d.: Dzērbene, 03 July 2006 (2, leg. A. Barševskis, U. Valainis, A. Pankjāns); Daugavpils d.: Bebrene, 27 May 2006 (1, leg. E. Rudāns), 13 June 2006 (2, leg. E. Rudāns), 24 June 2006 (5, leg. E. Rudāns), 28 October 2006 (1, leg. E. Rudāns); Butiški, 26 May 2008 (3, valley of the Daugava River, leg. A. Bukejs), 1 July 2009 (8, leg. A. Bukejs, M. Balalaikins); Daugavpils, 8 July 1991 (2, xeric habitat, leg. A. Barševskis), 9 July 1991 (2, xeric habitat, leg. A. Barševskis), Daugavpils, Mežciems, 1 June 2008 (2, leg. A. Bukejs), Daugavpils, Ruģeļi, 15 July 1991 (1, leg. A. Barševskis); Demene, 17 May 1994 (3, leg. A. Barševskis); Elerne, Muravki house, 24 May 2007 (1, leg. U. Valainis); Ilgas, Silene Nature Park, 1989 (1, leg. A. Barševskis), 5 July 1995 (1, leg. A. Barševskis), 29 April – 10 July 2000 (2, leg. L. Ņikitina), June–July 2000 (1, leg. I. Haka & G. Hļebnaja), 6 June 2001 (1, leg. G. Lociks), 6–15 June 2004 (1, leg. A. Barševskis), 28–30 June 2004 (1, leg. A. Barševskis), 17 July 2005 (1, leg. A. Barševskis); Līksna, 5 April 1994 (2, leg. R. Cibulskis), 22 April 1994 (1, leg. R. Cibulskis), 6 May 1995 (1, leg. R. Cibulskis); Ļubeste, 16 June 2006 (1, leg. U. Valainis); Ļubeste env.,

Daugavpils beltway env., 24 June 1991 (3, leg. A. Barševskis), 1 July 1991 (3, leg. A. Barševskis), 15 June 2006 (5, leg. A. Barševskis); Šarlote, 11 May 2008 (3, leg. K. Aksjuta); Silene, 3 July 1992 (1, leg. A. Barševskis); Slutišķi, 1 July 1995 (1, valley of the Daugava River, leg. A. Barševskis); Stropi, 28 June 1992 (3, leg. A. Barševskis), 12 July 2008 (1, dry meadow, leg. A. Bukejs), 10 August 2009 (2, on *Salix*, leg. A. Bukejs); Vabole, 1993 (2, leg. M. Jukšs), August 1993 (1, leg. R. Cibulskis), 21 October 1995 (1, leg. R. Cibulskis), 6 April 1996 (1, leg. R. Cibulskis); Višķi, 13 May 1985 (1, leg. A. Barševskis); Gulbene d.: Lejasciems, 3 September 2004 (1, leg. A. Barševskis, U. Valainis); Lake Ušūrs env., 3 September 2004 (19, leg. A. Barševskis, U. Valainis), 8 June 2005 (1, leg. A. Barševskis); Jēkabpils d.: Asare, 6 July 2001 (1, leg. I. Leiskina); Dignāja, 28 July 1999 (2, leg. I. Leiskina); Dunava, 11–12 August 1998 (2, leg. A. Barševskis), 18 July 2000 (1, leg. I. Leiskina), 3–5 June 2007 (2, leg. K. Barševska), 25 June 2008 (1, clearing, leg. A. Barševskis); Jēkabpils, Nereta road, 8 August 2008 (4, leg. A. Barševskis); Leimaņi, 15 km S Jēkabpils, 14 August 2001 (2, leg. I. Leiskina); Rubeņi, 12 April 1997 (2, leg. I. Leiskina), 30 May 1997 (1, leg. I. Leiskina), 10 July 1997 (1, leg. I. Leiskina), 17 July 1997 (1, leg. I. Leiskina), 17 August 1997 (1, leg. I. Leiskina), 28 August 1997 (1, leg. I. Leiskina), 7 July 1999 (1, leg. I. Leiskina), 14 July 1999 (1, leg. I. Leiskina), 28 June 2000 (1, leg. I. Leiskina), 5 July 2001 (1, leg. I. Leiskina); 6 km NW Vandāni, Vimbaru forest, 12 August 2008 (3, leg. M. Balalaikins); Zasa, 20 June 1992 (1, leg. A. Barševskis), 10 July 1998 (2, leg. I. Leiskina), 15 July 1998 (1, leg. I. Leiskina), 28 July 1998 (1, leg. I. Leiskina), 7 April 1999 (1, leg. I. Leiskina), 19 June 2000 (1, leg. I. Leiskina), 15 August 2000 (1, leg. I. Leiskina); Krāslava d.: Grāveri, 16 July 1989 (1, leg. A. Barševskis); Krāslava, 5 June 1989 (2, leg. A. Barševskis); Piedruja, 23 May 1990 (1, leg. A. Barševskis), 23 September 1990 (1, leg. A. Barševskis), 28 May 1991 (2, dry meadow, leg. A. Barševskis); Sauleskalns (hill), ~10 km N Krāslava, 4 May 2008 (1, leg. K. Barševska, A. Barševskis); Šķeltova, Barševskis house, 29 July 1989 (1, leg. A. Barševskis), 16 August 1990 (1, leg. A. Barševskis), 8 April 2006 (1, leg. A. Barševskis), 28 June 2008 (3, leg. A. Barševskis); Kuldīga d.: Alsunga, Augšūzava PNT, 28 August 2005 (8, leg. A. Barševskis, A. Bukejs, U. Valainis); Ludza d.: Salnava, 24 July 1999 (3, leg. I. Leiskina); Madona d.: Lake Lubāns PNT, Ezernieki houses, 21 August 2008 (1, leg. A. Barševskis); Ošupe env., 2.5 km NE Lake Lubāns, 56°50'03"N 26°56'05"E, 6 July 2008 (12, wet meadow and bank of the Aiviekste River, leg. M. Balalaikins, A. Bukejs); Ogre d.: Ķegums, left bank of the Daugava River, 11 July 2006 (1, leg. A. Barševskis); Lēdmane, 17 August 2008 (1,

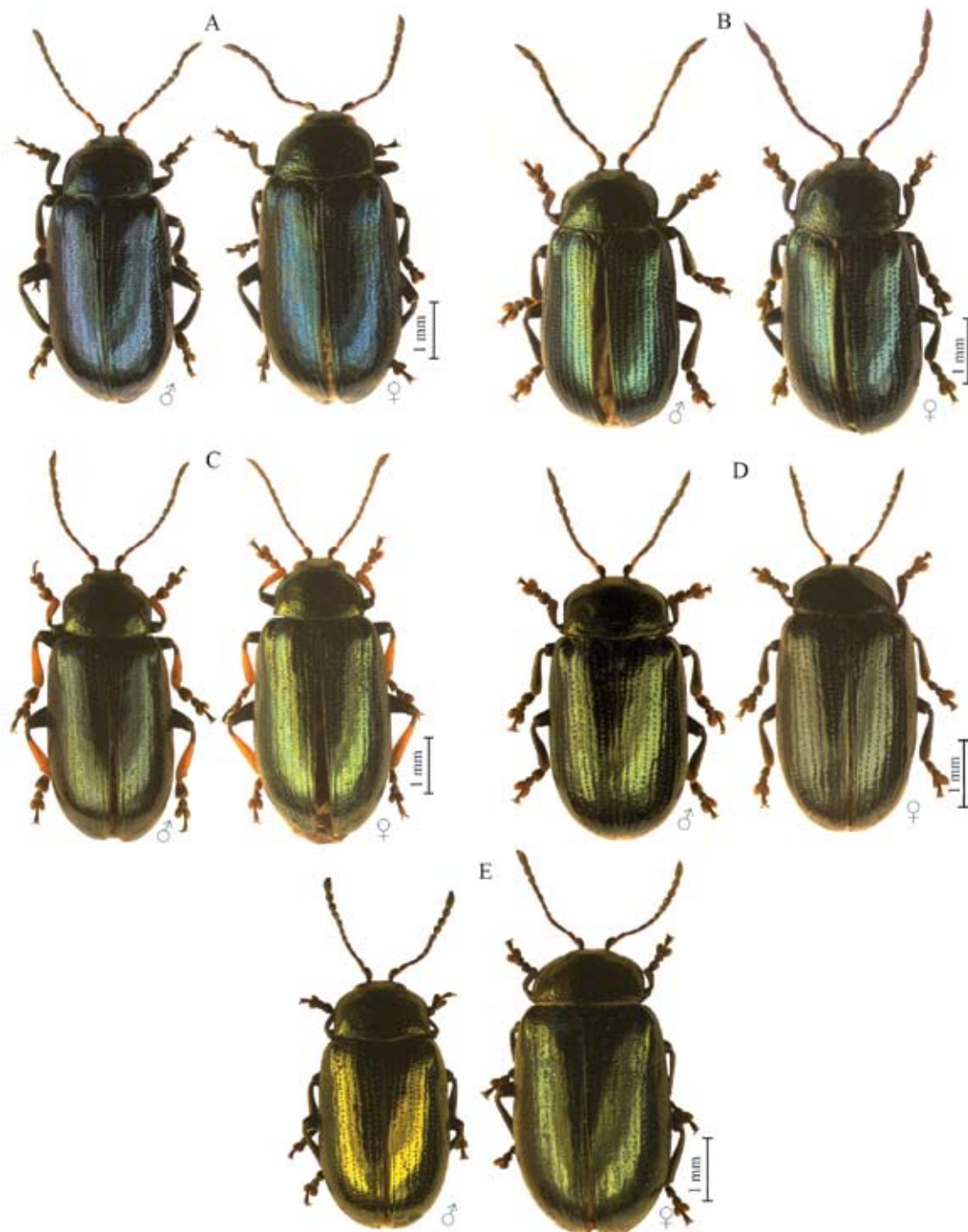


Figure 1. Habitus, male and female: A – *Ph. vulgatissima* (Linnaeus, 1758), B – *Ph. laticollis* (Suffrian, 1851), C – *Ph. tibialis* (Suffrian, 1851), D – *Ph. atrovirens* (Cornelius, 1857), E – *Ph. vitellinae* (Linnaeus, 1758).

leg. A. Barševskis); Preiļi d.: Pelēči, 24 June 1997 (1, leg. I. Jurkjāne); Jersika, Kurpnieki house, 56°14'10"N 26°11'63"E, 1992 (1, leg. A. Barševskis), 10 March 1992 (1, leg. A. Barševskis), 24 June 2005 (2, leg. A. Barševskis), 14 April 2006 (1, leg. A. Barševskis), 4 May 2006 (1, leg. A. Barševskis), 20 May 2006 (1, leg. K. Barševska), 26–28 May 2006 (3, leg. K. Barševska), 4 June 2006 (21, leg. K. Barševska), 23–24 June 2006

(1, leg. A. Barševskis, K. Barševska), 15 July 2006 (5, leg. K. Barševska), 7 August 2006 (5, leg. A. Barševskis), 18 August 2006 (1, leg. A. Barševskis), 10 July 2007 (4, leg. A. Barševskis, K. Barševska), 14 July 2007 (3, leg. A. Barševskis), 21 July 2007 (1, leg. A. Barševskis), 24 July 2007 (1, leg. A. Barševskis), 26 October 2007 (1, leg. A. Barševskis), 13 April 2008 (1, leg. A. Barševskis), 20 April 2008 (1, leg. A. Barševskis), 27 April 2008 (1,



leg. K. Barševska), 2 May 2008 (1, leg. A. Barševskis), 9 May 2008 (2, leg. A. Barševskis), 31 May 2008 (3, leg. A. Barševskis), 17 June 2008 (2, leg. A. Barševskis), 1 August 2008 (1, leg. A. Barševskis), 6 August 2008 (3, leg. K. Barševska); Rēzekne d.: Īdena env., 56°44'38"N 26°55'11"E, 6 June 2009 (1, bank of Lake Lubāns, leg. A. Bukejs, M. Balalaikins); Rēzekne, 21 May 1993 (2, leg. A. Barševskis); Rīga d.: Kūdra, 5 June 2006 (1, leg. A. Titovs), 13 June 2006 (2, leg. A. Titovs); Olaine, 30 June 2006 (1, leg. J. Donis); Talsi d.: Mazirbe, 5 June 2002 (1, leg. A. Barševskis), 29 June 2002 (1, leg. A. Barševskis), 5 August 2002 (2, leg. A. Barševskis); Sabile, 4 August 1998 (1, meadow, leg. A. Barševskis); Valmiera d.: Kauguru parish, forest near the Gauja River, 3 July 2006 (6, leg. A. Barševskis, U. Valainis, E. Rudāns); Ventspils d.: Blāzma, 57°21'12"N 22°04'47"E, 22 August 2008 (10, edge of forest and clearing, leg. A. Barševskis, U. Valainis, K. Aksjuta); Puze, 57°21'21"N 22°03'08"E, 29 July 2005 (4, leg. A. Barševskis); Usma vill., bank of Lake Usmas, 57°12'37" N 22°09'23"E, 28 June 2006 (1, leg. A. Barševskis, A. Pankjāns, U. Valainis),

19 July 2007 (1, leg. A. Barševskis, A. Pankjāns, U. Valainis, A. Soldāns).

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

**Phenology:** IV, V, VI, VII, VIII, IX, X.

**General distribution:** Europe, Asia Minor, Caucasus, Siberia, N and E Kazakhstan, Mongolia, Far East of Russia, N China, Korea. [ASE]

**Note:** Very common.

**An illustrated key to the Latvian species of the genus *Phratora* (after Bienkowski 2004 with modification)**

The authentic identification of species requires the examination of the aedeagus of the male or the vaginal sternite and the vaginal palpi of the female.

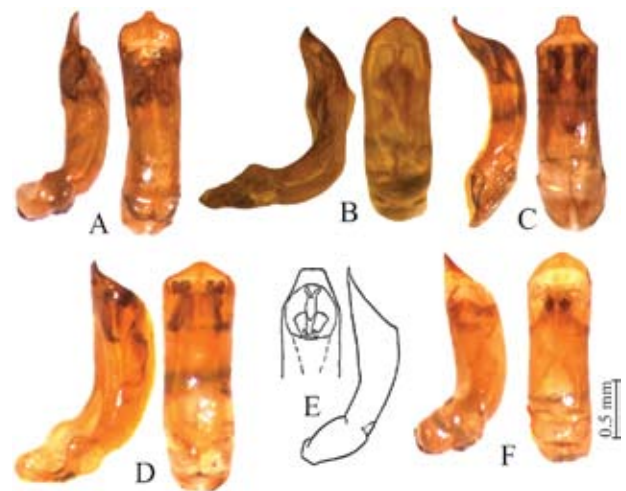
1(2) Base of pronotum very finely margined. 4<sup>th</sup>–6<sup>th</sup> antennomeres with numerous long setae beneath (Fig. 2A). Subgenus *Chaetoceroides* Strand, 1935. Dark blue or bluish-green. Aedeagus (Fig. 3A). Vaginal sternite and vaginal palpi (Fig. 4A). Claws with large denticle (Fig. 2C). Body length 4.0–5.6 mm. General view (Fig. 1A) ..... *Ph. vulgatissima* (L., 1758)

2(1) Base of pronotum not margined. 4<sup>th</sup>–6<sup>th</sup> antennomeres with only a few setae near apex as on other antennomeres (Fig. 2B). Subgenus *Phratora* s. str.

3(4) Frons and vertex with deep depression broadened anteriorly along their entire length. Dark blue or bluish-green. Aedeagus (Fig. 3B). Vaginal sternite and vaginal palpi (Fig. 3B). Claws with relatively large



**Figure 2.** Antennae and claws: A and C – *Ph. vulgatissima* (Linnaeus, 1758), B and H – *Ph. vitellinae* (Linnaeus, 1758), D – *Ph. laticollis* (Suffrian, 1851), E – *Ph. tibialis* (Suffrian, 1851), F – *Ph. atrovirens* (Cornelius, 1857), G – *Ph. polaris* (Schneider, 1886) (after Bienkowski 2004).



**Figure 3.** Aedeagus, lateral and dorsal aspects: A – *Ph. vulgatissima* (Linnaeus, 1758), B – *Ph. laticollis* (Suffrian, 1851), C – *Ph. tibialis* (Suffrian, 1851), D – *Ph. atrovirens* (Cornelius, 1857), E – *Ph. polaris* (Schneider, 1886) (after Bienkowski 2004), F – *Ph. vitellinae* (Linnaeus, 1758).

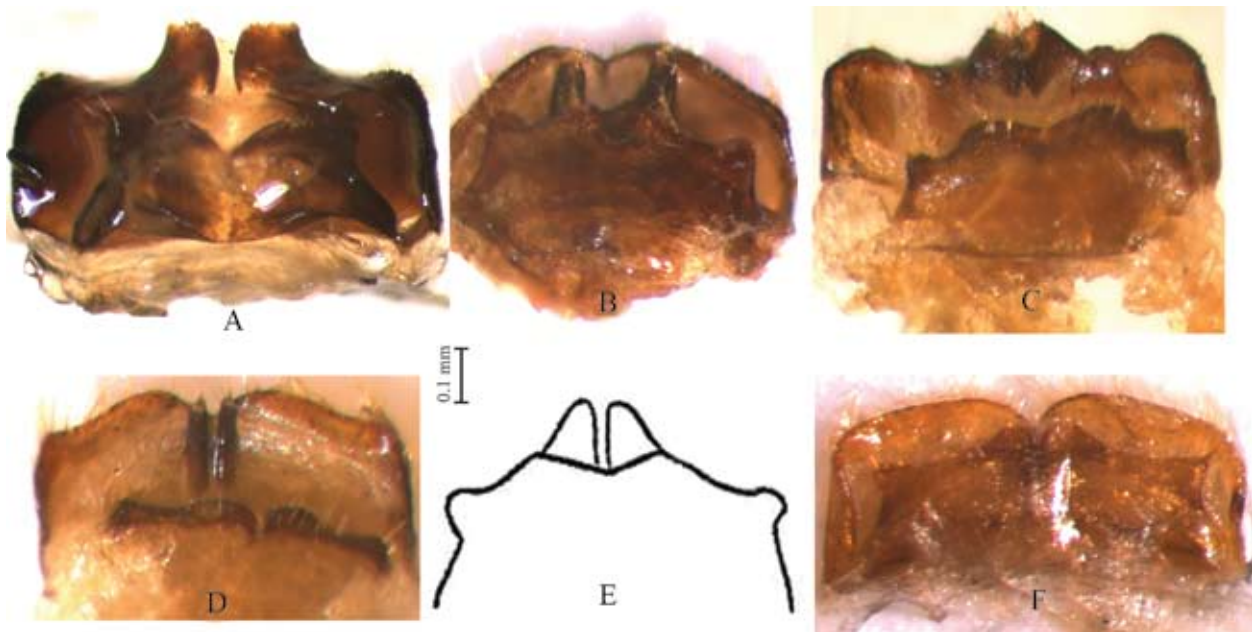


Figure 4. Vaginal sternite and vaginal palpi: A – *Ph. vulgatissima* (Linnaeus, 1758), B – *Ph. laticollis* (Suffrian, 1851), C – *Ph. tibialis* (Suffrian, 1851), D – *Ph. atrovirens* (Cornelius, 1857), E – *Ph. polaris* (Schneider, 1886) (after Bieńkowski 2004), F – *Ph. vitellinae* (Linnaeus, 1758).

denticle (Fig. 2D). Body length 3.5–5.0 mm. General view (Fig. 1B). ..... ***Ph. laticollis* (Sffr., 1851)**

4(3) Frons only slightly depressed anteriorly, its posterior half and vertex weakly convex.

5(8) Claws with small denticle (Figs 2E, F).

6(7) Apex of aedeagus trapeziform with concave lateral side (Fig. 3C). Vaginal sternite with posterior border oblique at sides and broadly emarginate medially; vaginal palpi short, broad, rounded at apex (Fig. 4C). Green, bronze, dark blue or bluish-violet; tarsi and tibiae rufous or dark metallic. Larger, body length 4.7–5.9 mm. General view (Fig. 1C). ..... ***Ph. tibialis* (Sffr., 1851)**

7(6) Aedeagus with triangularly rounded apex (Fig. 3D). Posterior border of vaginal sternite almost straight; vaginal palpi narrow, elongate (Fig. 4D). Dark blue or dark bronze. Smaller, body length 3.3–4.5 mm. General view (Fig. 1D) ..... ***Ph. atrovirens* (Corn., 1857)**

8(5) Claws with large denticle (Figs 2F, G).

9(10) Apex of aedeagus trapeziform (Fig. 3E). Vaginal sternite with posterior border oblique at sides and broadly emarginate medially (Fig. 4E). Blue, bronze, bronze-green, blackish-bronze or black; legs dark metallic throughout or with tibiae rufous. Body length 3.8–4.6 mm. .... ***Ph. polaris* (Schneid., 1886)**

10(9) Apex of aedeagus widely rounded (Fig. 3F). Vaginal sternite with almost straight posterior bor-

der (Fig. 4F). Blue, bronze-green or bluish-green. Body length 3.5–5.1 mm. General view (Fig. 1E) ..... ***Ph. vitellinae* (L., 1758)**

#### ACKNOWLEDGEMENTS

The author is grateful to the colleagues Vitalij Alekseev (Kaliningrad, Russia), Kristina Aksjuta, Arvīds Barševskis, Raimonds Cibulskis, Marina Janovska, Ainārs Pankjāns, Arvis Soldāns, Uldis Valainis (Daugavpils University Institute of Systematic Biology, Daugavpils, Latvia), Maksims Balalaikins (Rēzekne, Latvia), Katrīna Barševska, Iveta Leiskina (Daugavpils, Latvia) and the students of Daugavpils University for the presented material.

Special thanks are given to Andrzej Bieńkowski (Moscow, Russia) for his valuable comments and to Pavel Romantsov (St. Petersburg, Russia) for constructive advice.

#### REFERENCES

- Barševskis, A. 1988. Faunal investigations on beetles in various habitats of the south-eastern part of Latvia. In: *Ecological education in secondary and high schools*, pp. 63–75. Daugavpils: DPI. [Баршевскис, А. 1988. Фаунистические исследования жуков юго-восточной части Латвии в различных биотопах.



- В кн.: *Экологическое воспитание в средней и высшей школе*, сс. 63–75. Даугавпилс: ДПИ.]
- Barševskis, A. 1993. *The Beetles of Eastern Latvia*. Saule: Daugavpils (in Latvian, English summary).
- Barševskis, A. and Savenkovs, N. 1991. Peculiarities of the beetles fauna on dry meadows in Piedruja. In: *Kultūrvides veidošanas problēmas Daugavas ielejā*, pp. 40–42. Daugavpils (in Latvian).
- Barševskis, A., Spuriņš, G. and Oga, A. 1992. Riču ezera salu vaboļu fauna. *LDPAB DPU org. IB 2*: 11 (in Latvian)
- Barševskis, A. 2002. Vaboļu kārta (Coleoptera). In: A. Barševskis, N. Savenkovs, P. Everts-Bunders, I. Daniele, G. Pētersons, V. Pilāts, E. Zviedre, D. Pilāte, M. Kalniņš, K. Vilks and A. Poppels (eds) *Silenes dabas parka fauna, flora un veģetācija*, pp. 37–60. Daugavpils: Baltijas Koleopteroloģijas institūts (in Latvian).
- Bieńkowski, A. O. 2004. *Leaf-beetles (Coleoptera: Chrysomelidae) of the Eastern Europe. New key to subfamilies, genera and species*. Moscow: Mikron-print.
- Borowiec, L. 2004. The Leaf Beetles (Chrysomelidae) of Europe and the Mediterranean Subregion (Checklist and Iconography). <http://www.biol.uni.wroc.pl/cassidae/European%20Chrysomelidae/index.htm>. Last modification: 18 September 2008.
- Brammanis, L. 1940. Latvijas mežu kaitēkļu apskats. *Mežkopja darbs un zinātne* 1–2 (1940): 257–340 (in Latvian, German summary).
- Bukejs, A. and Telnov, D. 2007. Materials about the fauna of beetles (Insecta: Coleoptera) of Naujene rural municipality (Daugavpils district, Latvia). Part 2. *Acta Biologica Universitatis Daugavpiliensis* 7 (2): 191–208.
- Danka, L. 1950. *Derīgas un kaitīgas vaboles*. Rīga: Latvijas Valsts Izdevniecība (in Latvian).
- Fischer, J. B. 1778. *Versuch einer Naturgeschichte von Livland. 1 Auflage*. Leipzig: Johann Immanuel Breitkopf.
- Fischer, J. B. 1784. Zusätze zu seinem 'Versuch einer Naturgeschichte von Livland'. In: J. J. Febers (ed.) *Anmerkungen zur physischen Erdbeschreibung von Kurland, nebst J. B. Fischers Zusätzen zu einem Versuch einer Naturgeschichte von Livland*, pp. XVI+305. Riga.
- Fischer, J. B. 1791. *Versuch einer Naturgeschichte von Livland. 2. Auflage*. Königsberg: Friedrich Nicolobius.
- Groschke, J. 1805. Merkwürdigkeiten aus dem Tierreich. In: E. Derschau and P. Keyserlingk (eds) *Beschreibungen der Provinz Kurland*, pp. 119–176. Mitau.
- Hayashi, M., Morimoto, K. and Kimoto, Sh. (eds) 1984. *The Coleoptera of Japan in Color*. Volume IV. Japan: Hoikusha Publishing Co. (in Japanese).
- Heyden, L. 1903. Beiträge zur Coleopteren-Fauna der nordwestlichen Teile Russlands. *Korrespondenzblatt des Naturforschervereins zu Riga* 46: 18–35.
- Lindberg, H. 1932. Käfer, gesammelt in Lettland 1931. *Folia zoologica et hydrobiologica* 4 (2): 163–166.
- Lopatin, I. K. 1977. *Leaf-beetles (Chrysomelidae) of Central Asia and Kazakhstan*. Leningrad: Nauka. [Лопатин, И. К. 1977. *Жуки-листоеды (Chrysomelidae) Средней Азии и Казахстана*. Ленинград: Наука.]
- Lopatin, I. K. 1986. *Leaf-beetles of Belarus and eastern Baltia*. Minsk: Vishejschaja shkola. [Лопатин, И. К. 1986. *Жуки-листоеды фауны Белоруссии и Прибалтики: Определитель*. Минск: Вышэйшая школа.]
- Lopatin, I. K. and Kulenova, K. Z. 1986. *Leaf-beetles (Coleoptera, Chrysomelidae) of Kazakhstan*. Alma-Ata: Nauka. [Лопатин, И. К., Куленова, К. З. 1986. *Жуки-листоеды (Coleoptera, Chrysomelidae) Казахстана: Определитель*. Алма-Ата: Наука.]
- Lopatin, I. K. and Nesterova, O. L. 2005. *Insecta of Byelarus: Leaf-Beetles (Coleoptera, Chrysomelidae)*. Minsk: Technoprint (in Russian, English summary).
- Medvedev, L. N. 1992. Leaf beetles – Chrysomelidae. In: *Keys to Insects of Far East of SSSR. 3. Coleoptera 2*, pp. 533–602. Sankt-Petersburg: Nauka. [Медведев, Л. Н. 1992. Листоеды – Chrysomelidae. В кн.: *Определитель насекомых Дальнего Востока СССР. Том 3. Жесткокрылые или жуки. Часть 2*, сс. 533–602. Санкт-Петербург: Наука.]
- Medvedev, L. N. and Dubeshko, L. N. 1992. *Keys to leaf-beetles of Siberia*. Irkutsk: University of Irkutsk. [Медведев, Л. Н., Дубешко, Л. Н. 1992. *Определитель листоедов Сибири*. Иркутск: изд-во Иркутского университета.]
- Mohr, K. H. 1966. Chrysomelidae. In: H. Freude, K. Harde and G. Lohse (eds) *Die Käfer Mitteleuropas. Band 9, Cerambycidae und Chrysomelidae*, pp. 95–280. Krefeld: Goecke & Evers.
- Pileckis, S. and Monsevičius, V. 1997. *Fauna of Lithuania: Beetles 2*. Vilnius: Publishing House of Encyclopaedias and Scientific Literature. [Pileckis, S., Monsevičius, V. 1997. *Lietuvos Fauna. Vabalai 2*. Vilnius: Mokslo ir enciklopedijų leidybos institutas.]
- Precht, K. 1818. *Verzeichnis der bis jetzt, vornehmlich in der Umgegend von Riga und im Rigischen Kreise bekannt gewordenen und systematisch bestimmten käferartigen Insecten (Coleoptera Linnaei, Eleutherata Fabricii)*. Riga: D. Müller.
- Priedītis, A. and Pūtele, V. 1976. Leaf-beetles (Coleoptera, Chrysomelidae) in agrocenoses of apple in Zemgale plain of Latvia. *Abstracts of reports of the scientific practical conference 'Ways of implementation of progressive methods for the protection of agricultural plants, 28–30 June 1976'*: 96–98. Rīga: Rīga Polytechnical Institute Press. [Приедитис, А., Путеле, В. 1976. *Тезисы докладов научно-практической конференции „Пути внедрения прогрессивных методов защиты растений в с. х. производство 28–30 июня 1976 г.“*: 96–98. Рига: Типогр. РПИ.]

- Pūtele, V. 1974. Leaf-beetles (Coleoptera, Chrysomelidae) discovered in the surroundings of Jelgava city. In: *Briefreports of a scientific conference on the protection of plants. Saku, 2–4 1974* (2): 55–58. Tallinn. [Путеле, В. О. 1974. Листоеды (Coleoptera, Chrysomelidae), выявленные в окрестностях города Елгава. В кн.: *Краткие доклады научной конференции по защите растений, Саку, 2–4 1974 г., ч. 2*: 55–58. Таллин.]
- Pūtele, V. 1980. Lapgraužu (Coleoptera, Chrysomelidae) faunas pētījumi Slīteres valsts dabas rezervātā. *Slīteres rezervāta 1. zinātniski praktiskā konference, referātu tēzes*: 18–21. Slītere.
- Pūtele, V. 1981a. Studies on leaf-beetles (Coleoptera, Chrysomelidae) fauna of the Slītere State Nature Reserve. *Latvijas Lauksaimniecības akadēmijas raksti* 188: 12–19 (in Russian).
- Pūtele, V. 1981b. Studies on leaf-beetles fauna of the Slītere State Nature Reserve: reports. *Mežsaimniecība un mežrūpniecība* 3: 42–44. [Pūtele, V. 1981. Lapgraužu faunas pētījumi Slīteres rezervātā: referātu krājums. *Mežsaimniecība un mežrūpniecība* 3: 42–44.]
- Pūtele, V. O. 1982. Pested leaf-beetles (Coleoptera, Chrysomelidae) of the Latvian SSR. *Works of the Academy of Sciences of the Latvian SSR* 200: 28–33. [Путеле, В. О. 1982. Вредные листоеды (Coleoptera, Chrysomelidae) Латвийской ССР. *Труды Латвийской сельскохозяйственной академии* 200 (*Борьба с вредителями и болезнями картофеля, плодовоовощных и полевых культур*): 28–33.]
- Pūtele, V. 1984. Leaf-beetles – pests of tree cultures in the Slītere State Nature Reserve. *Latvijas Lauksaimniecības akadēmijas raksti* 213: 9–15 (in Russian).
- Rathlef, H. 1905. *Coleoptera Baltica. Käfer-Verzeichnis der Ostseeprovinzen nach den Arbeiten von Ganglbauer und Reitter*. Dorpat: C. Mattiesen.
- Rathlef, H. 1921. Supplementum zu den Coleoptera Baltica. *Sitzungsberichte der Naturforscher-Gesellschaft bei der Universität Dorpat* 25 (2/4): 53–65.
- Romantsov, P. V. 2007. A review of leaf beetles (Coleoptera, Chrysomelidae) of St. Petersburg and Leningrad province. *Entomological Reviews* LXXXVI (2): 306–336. [Романцов, П. В. 2007. Обзор жуков-листоедов (Coleoptera, Chrysomelidae) Санкт-Петербурга и Ленинградской области. *Энтомологическое обозрение* LXXXVI (2): 306–336.]
- Rupais, A. 1959. *Dekoratīvo koku un krumu kaiteklī*. Rīga: Latvijas PSR Zinātņu Akadēmijas izdevniecība (in Latvian).
- Seidlitz, G. 1872–1875. *Fauna Baltica. Die Käfer (Coleoptera) der Ostseeprovinzen Russlands*. Dorpat: H. Laakmann.
- Seidlitz, G. 1887–1891. *Fauna Baltica. Die Käfer (Coleoptera) der deutschen Ostseeprovinzen Russlands. 2 Auflage*. Königsberg: Hartungsche Verlagsdruckerei.
- Silfverberg, H. 2004. Enumeratio nova Coleopterorum Fennoscandiae, Daniae et Baltiae. *Sahlbergia* 9: 1–111.
- Sintenis, F. 1900. Forstinsecten der Ostseeprovinzen. *Sitzungsberichte der Naturforscher-Gesellschaft bei der Universität Dorpat*: 173–198.
- Spuņģis, V. 2008. *Fauna and ecology of terrestrial invertebrates in raised bogs in Latvia*. Rīga: Pertovskis & Co.
- Stiprais, M. 1977. Faunistic data on the Chrysomelidae in Latvia. *Latvijas Entomologs* 20: 14–23 (in Latvian, German summary).
- Taglianti, V. A., Audisio, P. A., Biondi, M., Bologna, M. A., Carpaneto, G. M., De Biase, A., Fattorini, S., Piattella, E., Sindaco, R., Venchi, A. and Zapparoli, M. 1999. A proposal for a chorotype classification of the Near East fauna, in the framework of the Western Palearctic region. *Biogeographia* XX: 31–59.
- Telnov, D. 2002. To the knowledge of Latvian Coleoptera. 2. *Latvijas Entomologs* 39: 16–19.
- Telnov, D. 2004. Check-List of Latvian Beetles (Insecta: Coleoptera). Second Edition. In: D. Telnov (ed.) *Compendium of Latvian Coleoptera* 1: 1–114. Rīga: Pertovskis & Co.
- Telnov, D., Barševskis, A., Savich, F., Kovalevsky, F., Berdnikov, S., Doronin, M., Cibulskis, R. and Ratniece, D. 1997. Check-List of Latvian Beetles (Insecta: Coleoptera). *Mitteilungen des Internationalen Entomologischen Vereins*, Supplement V: 1–140.
- Trauberga, O. 1957. Coleoptera – vaboles. In: *Latvijas PSR dzīvnieku noteicējs* 1: 455–592. Rīga: Latvijas Valsts izdevniecība (in Latvian).
- Ulanowski, A. 1883. Z fauny coleopterologicznej Inflant Polskich. *Sprawozdanie Komisji Fizyjograficznej* 18: 1–60.
- Warchałowski, A. 2003. *The leaf-beetles (Chrysomelidae) of Europe and the Mediterranean region*. Warszawa: Natura optima dux Foundation.

**APIE LATVIJOS LAPGRAUŽIUS (COLEOPTERA: CHRYSOMELIDAE): 1. GENTIS PHRATORA CHEVROLAT, 1836**

A. Bukejs

**SANTRAUKA**

Straipsnyje aprašomos penkios Latvijos lapgraužių rūšys, priklausančios *Phratora* Chevrolat, 1836 genčiai. Iš viso buvo ištirti 637 šios genties individai. Pirmą kartą apibendrinta bibliografinė medžiaga apie šios genties lapgraužius Latvijoje. Pateiktas *Phratora* genties rūšių Latvijoje anototas sąrašas ir iliustruotas jų apibūdinimo raktas.

Received: 6 August 2009

Accepted: 4 November 2009