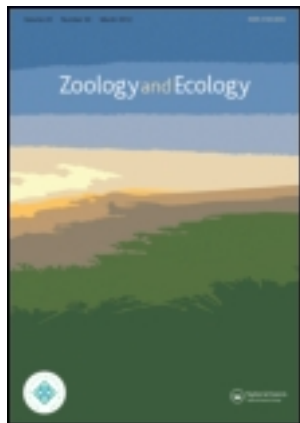


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RESEARCH ARTICLE

Faunal records of leaf-beetles (Coleoptera: Chrysomelidae) in Estonia

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The current article presents the faunal data on 21 leaf-beetle species from Estonia. Five species of them, *Cryptocephalus bameuli* Duhaldeborde, 1999, *Phyllotreta dilatata* Thomson, 1866, *Longitarsus noricus* Leonardi, 1976, *L. ferrugineus* (Foudras, 1860), and *Psylliodes crambicola* Lohse, 1953, are reported for the first time for the local fauna. The faunal data on some sibling species of leaf-beetles in Estonia are given.

Straipsnyje pateikiami faunistiniai duomenys apie 21 lapgraužių rūšį iš Estijos. Penkios iš jų – *Cryptocephalus bameuli* Duhaldeborde, 1999, *Phyllotreta dilatata* Thomson, 1866, *Longitarsus noricus* Leonardi, 1976, *L. ferrugineus* (Foudras, 1860) ir *Psylliodes crambicola* Lohse, 1953 – vietinėje faunoje užregistruotos pirmą kartą. Pateikiami faunistiniai duomenys apie kai kurias lapgraužių rūšis antrininkes Estijoje.

Keywords: Coleoptera; Chrysomelidae; Estonia; fauna; new records

Introduction

Leaf-beetles, represented by 30000–50000 species, are one of the largest families of the order Coleoptera worldwide (Bieńkowski 2004; Brovdij 1985; Jolivet 1988). They are phytophagous: imagines mostly occur on leaves and flowers; larvae mostly feed on leaves and roots, occasionally larvae are saprophagous. Some species of leaf-beetles are considered to be dangerous pests of agricultural plants (Kryzhanovskij 1974; Lopatin and Nesterova 2005).

The first information on Chrysomelidae in Estonia was published by Fischer (1778, 1784, 1791), Gimmerthal (1829), Seidlitz (1875, 1891), Sintenis (1900), Rathlef (1905, 1921). However, for many species the exact localities were not mentioned in these works, or the authors merely confined themselves to the historical province of Livonia (at the present time it is the southern part of Estonia and northern part of Latvia). One of the most important works on Estonian leaf-beetles is the monograph *Eesti hüppikpoilased: Chrysomelidae, Halticinae* (Flea beetles of Estonia: Chrysomelidae, Halticinae) (Haberman 1962). In this review, 17 genera and 88 species of flea beetles are mentioned for the local fauna. A recent list of Estonian leaf-beetles is given in the catalogue (Silfverberg 2004) where 258 species of Chrysomelidae s. l. are mentioned.

In this article the faunal data on five new and 16 insufficiently known leaf-beetle species in Estonia are presented. The aim of the current study is to improve our knowledge on the fauna and bionomy of Chrysomelidae in Estonia.

Material and methods

The examined material is deposited in the collections of Estonian University of Life Sciences, Institute of Agricultural and Environmental Sciences, Department of Zoology (IZBE-1, Tartu, Estonia); Estonian University of Life Sciences, Institute of Agricultural and Environmental Sciences, Department of Plant Protection (IZBE-2, Tartu, Estonia); and University of Tartu, Museum of Zoology (TUZ, Tartu, Estonia).

The following identification guides were used for determination of specimens: Bieńkowski (2004), Čížek and Doguet (2008), Lopatin and Nesterova (2005) and Warchałowski (2003).

Results and discussion

During the study of Chrysomelidae of Estonian fauna, the material in the above-mentioned collections was reviewed. Faunal data on 21 leaf-beetle species are presented. Five

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species of them, *Cryptocephalus bameuli* Duhaldeborde, 1999, *Phyllotreta dilatata* Thomson, 1866, *Longitarsus noricus* Leonardi, 1976, *L. ferrugineus* (Foudras, 1860), and *Psylliodes crambicola* Lohse, 1953, are mentioned from Estonia for the first time. The list of Chrysomelidae s. l. of Estonian fauna has been supplemented and now includes 268 species. However, the number of recorded species of leaf-beetles in Estonia is smaller than in other countries of the Eastern Baltic region (Lithuania or Latvia) (Tamutis, Tamutė and Ferenca 2011; A. Bukejs, unpublished data) and Fennoscandia (Silfverberg 2004). This indicates a need for a more detailed study of the Chrysomelidae fauna of Estonia.

List of species

Chrysomelidae Latreille, 1802

Criocerinae Latreille, 1804

Oulema erichsonii Suffrian, 1841

Material examined: Harjumaa distr., Metsa railway station, 17 June 1953 (1, leg. J. Miländer) [IZBE-1]; Pärnumaa distr., Kanaküla, 7 June 1964 (1, leg. J. Miländer) [IZBE-1].

Oulema septentrionis Weise, 1880

Material examined: Võrumaa distr., Misso, 26 June 1940 (1, leg. J. Miländer) [IZBE-1].

Notes: previously the species was considered a synonym of *O. erichsonii* Suffrian, 1841. A true specimen of *O. septentrionis* was determined after examination of male genitalia. Differences between these sibling species are well described by Wanntorp (2009) and Bukejs (2010).

Oulema melanopus (Linnaeus, 1758)

Material examined: Hiiumaa distr., Jausa, 13 June 1972 (1, leg. J. Miländer) [IZBE-1], 19 June 1972 (1, leg. J. Miländer) [IZBE-1], 24 June 1972 (1, leg. J. Miländer) [IZBE-1]; Hiiumaa distr., Märjakaasiku, 25 May 1972 (5, leg. J. Miländer) [IZBE-1]; Harjumaa distr., Saku, 19 June 1992 (1, leg. E. Mäe) [TUZ]; Harjumaa distr., Valingu, 17 August 1980 (1, leg. J. Miländer) [IZBE-1]; Lääne-Virumaa distr., Kohala, 2 May 1992 (1, leg. E. Mäe) [TUZ]; Lääne-Virumaa distr., Palmse, 6 June 1991 (1, leg. J. Luig) [TUZ]; Lääne-Virumaa distr., 2 km SW Tamsalu, 23 August 1991 (1, leg. A. Tamm) [TUZ]; Raplamaa distr., Vängla env., Veskimägi, 26 August 1943 (1, leg. J. Miländer) [IZBE-1]; Saaremaa distr., Kuusnõmme, 9 August 1932 (1, leg. A. Määr) [IZBE-1]; Tartumaa distr., Peedu, 25 March 1981 (1, leg. R. Kuresso) [TUZ]; Tartumaa distr., Raadi, 15 April 1931 (1, leg. anonymous) [IZBE-2], 15 May 1932 (1, leg. anonymous) [IZBE-2]; Valgamaa distr., Koikküla, Koiva River, 2 June 1968 (1, leg. E. Merivee) [IZBE-1]; Võrumaa distr., Ähijärve, 23 September 1955 (1, leg. J. Miländer) [IZBE-1]; Võrumaa distr., Linnamäe, 1931 (1, leg. anonymous) [IZBE-2].

Note: actual faunal data on this species from Estonia was absent. There is a sibling species *O. duftschmidi* (Redtenbacher, 1874) which differs only in the shape of flagellum (Bukejs and Ferenca 2010; Lopatin and Nesterova 2005; Warchałowski 2003).

Clytrinae Kirby, 1837

Smaragdina affinis (Illiger, 1794)

Material examined: Tartumaa distr., Tartu, Vapramäe, 10 June 1985 (1, leg. A. Tamm) [TUZ].

Note: recently recorded species in Estonia (Süda 2009); it is known from two localities only.

Cryptocephalinae Gyllenhal, 1813

Cryptocephalus hypochoeridis (Linnaeus, 1758)

Material examined: Lääne-Virumaa distr., Kuura, 11 June 1989 (1, leg. J. Luig) [TUZ].

Cryptocephalus solivagus Leonardi & Sassi, 2001

Material examined: Harjumaa distr., Voose, 6 August 1943 (1, leg. J. Miländer) [IZBE-1]; Ida-Virumaa distr., Kuru, 23 June 1990 (1, leg. T. Kesküla) [TUZ]; Järvamaa distr., Tõravere, 14 July 1940 (1, leg. J. Miländer) [IZBE-1]; Lääne-Virumaa distr., Kohala, 12 June 1993 (1, leg. E. Mäe) [TUZ], 17 June 1994 (1, leg. E. Mäe) [TUZ], 15 July 1996 (1, leg. E. Mäe) [TUZ]; Lääne-Virumaa distr., Savalduma, 14 July 1992 (1, leg. A. Tamm) [TUZ]; Tartumaa distr., Vellavere, 4 July 1991 (1, leg. TU Biol. 1) [TUZ]; Saaremaa distr., Kuusnõmme, June 1931 (1, leg. A. Jüris) [IZBE-1]; Valgamaa distr., Koikküla, 27 June 1964 (1, leg. E. Merivee) [IZBE-1]; Viljandimaa distr., Tipu, 28 June 1987 (1, leg. J. Luig) [TUZ].

Note: insufficiently known species. It differs from a sibling species *C. hypochoeridis* by the shape of sclerites of endophallus (Bukejs and Barševskis 2008; Lopatin and Nesterova 2005; Warchałowski 2003).

Cryptocephalus quadripustulatus Gyllenhal, 1813

Material examined: Harjumaa distr., Tallinn, Pääsküla, 18 June 1975 (2, leg. J. Miländer) [IZBE-1].

Cryptocephalus bameuli Duhaldeborde, 1999

Material examined: Harjumaa distr., Iru, 7 May 1950 (5, leg. J. Miländer) [IZBE-1], 7 June 1950 (7, leg. J. Miländer) [IZBE-1]; Harjumaa distr., Vääna, 15 June 1943 (1, leg. J. Miländer) [IZBE-1]; Läänemaa distr., Puhtu, 21 June 1953 (2, leg. J. Miländer) [IZBE-1].

Note: new species for the Estonian fauna. After the division of *Cryptocephalus flavipes* Fabricius, 1781 sensu lato into two separate species and description of a new sibling species *C. bameuli*, all earlier published data on this taxon need to be redetermined or confirmed.

Cryptocephalus frontalis Marsham, 1802

Material examined: Hiiumaa distr., Lake Tihu, 4 July 1969 (1, leg. J. Miländer) [IZBE-1].

Chrysomelinae Latreille, 1802*Gonioctena intermedia* (Heliösen, 1913)

Material examined: Harjumaa distr., Klooga, 26 May 1935 (1, leg. J. Miländer) [IZBE-1]; Harjumaa distr., Niitvälja, 29 April 1964 (3, leg. J. Miländer) [IZBE-1]; Harjumaa distr., Rannamõisa, 12 May 1963 (1, leg. J. Miländer) [IZBE-1]; Harjumaa distr., Saku, 27 May 1993 (2, leg. E. Mäe) [TUZ], 28 May 1994 (2, leg. E. Mäe) [TUZ]; Harjumaa distr., Tallinn, Õismäe, 23 June 1942 (1, leg. J. Miländer) [IZBE-1]; Harjumaa distr., Vääna, 24 June 1942 (1, leg. J. Miländer) [IZBE-1]; Lääne-Virumaa distr., Kohala, 1 June 1993 (1, leg. E. Mäe) [TUZ], 5 June 1991 (1, leg. E. Mäe) [TUZ]; Lääne-Virumaa distr., Nurme, 29 May 1992 (2, leg. E. Mäe) [TUZ]; Lääne-Virumaa distr., Palmse, 6 June 1991 (5, leg. J. Luig) [TUZ]; Raplamaa distr., Velise, 22 April 1964 (1, leg. J. Miländer) [IZBE-1]; Saaremaa distr., Koimla, 18 May 1990 (2, leg. A. Tamm) [TUZ]; Tartumaa distr., Tähtvere forest, 17 March 1991 (4, leg. V. Nagimõis) [TUZ]; Tartumaa distr., Vapramäe, 29 May 1991 (2, leg. A. Tamm) [TUZ]; Valgamaa distr., Otepää, Käärniku, 3 June 1991 (1, leg. A. Tamm) [TUZ].

Note: actual faunal data on this species from Estonia was absent. There is a sibling species *G. quinquepunctata* (Fabricius, 1787) which differs only in the shape of flagellum (Bukejs and Telnov 2010; Lopatin and Nesterova 2005; Warchałowski 2003).

Gonioctena pallida (Linnaeus, 1758)

Material examined: Harjumaa distr., Riisipere, 31 May 1995 (3, leg. E. Mäe) [TUZ]; Lääne-Virumaa distr., Kohala, 1 June 1979 (8, leg. E. Mäe) [TUZ], 20 May 1992 (2, leg. E. Mäe) [TUZ], 26 May 1992 (1, leg. E. Mäe) [TUZ], 15 May 1994 (3, leg. E. Mäe) [TUZ], 17 June 1994 (1, leg. E. Mäe) [TUZ], 1 June 1995 (1, leg. E. Mäe) [TUZ], 15 July 1995 (1, leg. E. Mäe) [TUZ]; Lääne-Virumaa distr., Nurme, 13 June 1991 (1, leg. E. Mäe) [TUZ], 14 June 1991 (1, leg. E. Mäe) [TUZ]; Lääne-Virumaa distr., Sämi, 19 June 1991 (1, leg. E. Mäe) [TUZ]; Lääne-Virumaa distr., Varudi, 21 May 1993 (1, leg. E. Mäe) [TUZ].

Alticinae Newman, 1835*Phyllotreta tetrastigma* (Comolli, 1837)

Material examined: Harjumaa distr., Tallinn, Suhkrumägi (at the present time, Maarjamägi), 27 May 1937 (1, leg. J. Miländer) [IZBE-1]; Lääne-Virumaa distr., Kohala, 26 May 1979 (1, leg. E. Mäe) [TUZ], 30 May 1993 (2, leg. E. Mäe) [TUZ]; Raplamaa distr., Vängla env., Veskimägi, 23 April 1949 (1, leg. J. Miländer) [IZBE-1].

Phyllotreta dilatata Thomson, 1866

Material examined: Harjumaa distr., Aegvidu env., Mustjõe, 19 August 1957 (1, leg. J. Miländer) [IZBE-1]; Harjumaa distr., Tallinn, Suhkrumägi [at the present time, Maarjamägi], 16 June 1939 (3, leg. J. Miländer) [IZBE-1], 26 May 1937 (2, leg. J. Miländer) [IZBE-1]; Lääne-Virumaa distr., Kohala, 30 May 1993 (1, leg. E. Mäe) [TUZ].

Note: new species for Estonian fauna.

Phyllotreta flexuosa (Illiger, 1794)

Material examined: Harjumaa distr., Tallinn, Suhkrumägi [at the present time, Maarjamägi], 26 May 1937 (1, leg. J. Miländer) [IZBE-1].

Phyllotreta nigripes (Fabricius, 1775)

Material examined: Tartumaa distr., Tartu, Raadi, 9 May 1932 (1, leg. anonymous) [IZBE-2], 6 June 1932 (1, leg. anonymous) [IZBE-2], 15 July 1932 (3, leg. anonymous) [IZBE-2].

Longitarsus noricus Leonardi, 1976

Material examined: Tartumaa distr., Tartu, Raadi, Park, 13 July 1932 (4, leg. anonymous) [IZBE-2].

Note: new species for Estonian fauna.

Longitarsus ferrugineus (Foudras, 1860)

Material examined: Tartumaa distr., Tartu, Raadi, 12 September 1933 (2, on *Mentha piperita*, leg. anonymous) [IZBE-2], 27 September 1933 (1, on *Mentha piperita*, leg. anonymous) [IZBE-2].

Note: new species for Estonian fauna.

Longitarsus gracilis Kutschera, 1864

Material examined: Tartumaa distr., Tartu, Raadi, 28 August 1929 (1, leg. anonymous) [IZBE-2].

Longitarsus nasturtii (Fabricius, 1792)

Material examined: Tartu, Raadi, 15 May 1932 (4, leg. anonymous) [IZBE-2].

Psylliodes cuprea (Koch, 1803)

Material examined: Harjumaa distr., Tallinn, 6 September 1929 (2, leg. anonymous) [IZBE-2], 25 May 1931 (2, leg. anonymous) [IZBE-2]; Saaremaa distr., Ruhnu island, Pastoraat, 23 July 1932 (9, leg. anonymous) [IZBE-2]; Saaremaa distr., Ruhnu island, Küla vill., 24 July 1932 (2, leg. anonymous) [IZBE-2]; Tartumaa distr., Tartu, Raadi, 15 July 1932 (1, on *Reseda odorata*, leg. anonymous) [IZBE-2].

Psylliodes crambicola Lohse, 1953

Material examined: Saaremaa distr., Vilsandi Isl., 5 August 1934 (1, on *Crambe maritima*, leg. P. Rammul) [IZBE-2].

Note: new species for Estonian fauna.

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References

- Bienkowski, A.O. 2004. *Leaf-beetles (Coleoptera: Chrysomelidae) of the Eastern Europe. New key to subfamilies, genera and species*. Moscow: Mikron-print.
- Brovdiv, V.M. 1985. Главные направления и этапы эволюции трофических связей жуков-листоедов (Coleoptera, Chrysomelidae) фауны СССР. *Энтомологическое обозрение* 64 (2): 285–94 [The main trends and stages in the evolution of trophic links of the leaf beetle fauna (Coleoptera, Chrysomelidae)]. *Entomology Reviews* 64, no. 2: 285–94.
- Bukejs, A. 2010. Leaf-beetles *Oulema septentrionis* (Weise, 1880) and *O. erichsonii* (Suffrian, 1841) (Coleoptera: Chrysomelidae) in Latvian fauna. *Baltic Journal of Coleopterology* 10, no. 1: 65–9.
- Bukejs, A., and A. Barševskis. 2008. New leaf-beetle species, *Cryptocephalus solivagus* Leonardi & Sassi, 2001 (Coleoptera: Chrysomelidae) in the Lithuanian fauna. *Acta Zoologica Lituonica* 18, no. 4: 267–69.
- Bukejs, A., and R. Ferenc. 2010. The first record of *Oulema duftschmidi* (Redtenbacher, 1874) (Coleoptera: Chrysomelidae) in the Lithuanian fauna. *Acta Zoologica Lituonica* 20, no. 4: 229–31.
- Bukejs, A., and D. Telnov. 2010. On Latvian Chrysomelinae (Coleoptera: Chrysomelidae): 3. Genus *Gonioctena* Chevrolat, 1836. *Acta Zoologica Lituonica* 20, no. 2: 119–32.
- Čížek, P. and S. Doguet. 2008. *Klíč k určování dřepčičků (Coleoptera: Chrysomelidae: Alticinae) Česka a Slovenska*. Městské muzeum nové město nad metují.
- Fischer, J.B. 1778. *Versuch einer Naturgeschichte von Livland*. 1 Auflage. Leipzig.
- Fischer, J.B. 1784. Zusätze zu seinem 'Versuch einer Naturgeschichte von Livland'. In *Anmerkungen zur physischen Erdbeschreibung von Kurland, nebst J.B. Fischers Zusätzen zu einem Versuch einer Naturgeschichte von Livland*, ed. J. J. Febers. Riga.
- Fischer, J.B. 1791. *Versuch einer Naturgeschichte von Livland*. 2. Auflage. Königsberg.
- Gimmerthal, B. 1829. *Catalogus Coleopterorum Livoniae*. Riga.
- Haberman, H. 1962. *Eesti hüpkopilased: Chrysomelidae, Halticinae*. Tartu: Eesti NSV Teaduste Akadeemia, Zoologia ja Botaanika Instituut.
- Jolivet, P. 1988. Food habits and food selection of Chrysomelidae. Bionomic and Evolutionary Perspectives. In *Biology of Chrysomelidae*, ed. P. Jolivet, E. Petitpierre, and T.H. Hsiao, 1–24. Dordrecht: the Netherlands: Kluwer Academic Publishers.
- Kryzhanovskij, O.L., ed. 1974. *Насекомые и клещи – вредители сельскохозяйственных культур*. II. Жесткокрылые: есткокрылые. [Insects and ticks – the pests of agricultural cultures. II. Coleoptera.] Leningrad: Nauka.
- Lopatin, I.K., and O.L. Nesterova. 2005. *Insecta of Byelarus: Leaf-Beetles (Coleoptera, Chrysomelidae)* [in Russian, English abstract]. Minsk: Tehnoprint.
- 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, no. 2/4: 53–65.
- 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 Ostseeprovinzen Russlands. Zweite neu bearbeitete Auflage mit 1 Tafel*. 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 Jurjeff (Dorpat)* 12, no. 2: 173–98.
- Süda, I. 2009. New woodland beetle species (Coleoptera) in Estonian fauna. *Forestry Studies* 50: 98–114.
- Tamutis, V., B. Tamutė, and R. Ferenc. 2011. A catalogue of Lithuanian beetles (Insecta, Coleoptera). *ZooKeys* 121: 1–494.
- Wanntorp, H.-E. 2009. Swedish leaf beetles: *Oulema septentrionis* (Weise, 1880) and *Cryptocephalus bameuli* Duhaldeborde, 1999, two newly identified species in the Nordic fauna (Coleoptera, Chrysomelidae). *Entomologisk Tidskrift* 130, no. 1: 37–42.
- Warchałowski, A. 2003. *The leaf-beetles (Chrysomelidae) of Europe and the Mediterranean region*. Warszawa: Natura optima dux Foundation.