

# CONTRIBUTION TO THE KNOWLEDGE OF THE CEUTORHYNCHITAE (COLEOPTERA CURCULIONIDAE) OF LATVIA

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## Abstract

Materials of the supertribe Ceutorhynchitae Gistel, 1848 of the Latvian fauna were studied in beetle collections of the Baltic region. As a result, faunistic data were obtained for ten species from eight genera that were considered very rare. Detailed information on these species in Latvia is given, including references, host plants, phenology and general distribution. Three species *Pelenomus quadrituberculatus* (Fabricius, 1787), *Ceutorhynchus cakilis* (Hansen, 1917) and *Datonychus melanostictus* (Marsham, 1802) are the new records for Latvia.

Key words: fauna, new records, Baltic region.

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## INTRODUCTION

Weevils (Coleoptera: Curculionidae) are a comparatively well-studied group of beetles in Latvia. As a result of previous studies, 384 Curculionidae species (excluding Scolytinae) were registered in the fauna of Latvia. However, analysis of the overall distribution of weevil species and their host plants allows us to predict 42 more species in the fauna of Latvia. Ceutorhynchitae with 86 species and 33 genera is the most widely represented supertribe of weevils in Latvia, also 15 more species of this supertribe are expected to be found in Latvia (Balalaikins 2012). The first

mention of the occurrence of species of the supertribe in Latvia was published at the beginning of the 19<sup>th</sup> century (Precht 1818). Subsequently, a number of articles, books and catalogues have been published in which Ceutorhynchitae species were mentioned. Recently, there are few articles devoted to this group of weevils in Latvia, mainly focusing on agricultural pests (Petrova et al. 2006, Grantiņa et al. 2011). Meanwhile, some faunistic works also include species of Ceutorhynchitae (Telnov et al. 2005, 2006, Vorst et al. 2007). The aim of this study is to provide a short overview of several rare, new and poorly known species of Latvian fauna.

## MATERIAL AND METHODS

The study examined coleopterological material deposited in the following collections: DUBC, collection of Daugavpils University Institute of Life Sciences and Technology (Daugavpils, Latvia), LUBI, entomological collection of Latvian University Institute of Biology (Salaspils, Latvia), LDM, collection of Latvian Natural History Museum (Riga, Latvia), TUZ, collection of Museum of Zoology, University of Tartu, (Tartu, Estonia), and Kaunas T. Ivanauskas zoological museum collection (Kaunas, Lithuania). The study selected and published data on the rarer and more interesting species found in collections. The following keys were used for species identification: Dieckmann 1972, Egorov et al. 1996, Hoffmann 1954, Lohse 1983, Smreczynski 1974. In this study, we follow the systematics, nomenclature and synonymy suggested by Alonso-Zarazaga et al. (2017) and Colonnelli (2004). The general distribution of species and host plants are presented in the following papers: Dieckmann 1974, Hoffmann 1954, Legalov 2010, Lohse 1983, Smreczynski 1974. The classification of chorotypes is in accordance with the classification proposed by Vigna-Taglianti et al. (1999) and Gorodkov (1984). The chorotype codes used stand for: ASE – Asiatic-European, CAE – Central Asiatic-European, CEM – Central Asiatic – Mediterranean, CEU – Central European, EUR – European, PAL – Palaearctic, WPA – West-Palaearctic. The following information is given for each species: scientific name & author, available bibliographical sources for Latvia, approved faunal data (number of collected or observed specimens is mentioned in parentheses), host plants, phenology (Latvian data only; IV, VI, VII, VIII, IX, – months from March to September respectively), general distribution of species inclusive the chorotype code.

The acronyms used in the list of species is as follows: C – central, d. – district, E – East, N – North, NP – Nature Park, NPT – Nature protected territory, S – South, W – West.

## RESULTS AND DISCUSSION

Faunistic data on the 10 most rare and interesting species of the supertribe Ceutorhynchitae in the fauna of Latvia are summarised in this article. Three species *Pelenomus quadrituberculatus* (Fabricius, 1787), *Ceutorhynchus cakilis* (Hansen, 1917) and *Datonychus melanostictus* (Marsham, 1802) are presented for the Latvian fauna for the first time. According to this study, the list of Ceutorhynchitae of the Latvian fauna as a whole currently includes 89 species. Among them, 19 species are listed on the basis of old bibliographic data, and further confirmation of their occurrence in the local fauna is required. There are 86 known species in Estonia (Silfverberg 2010) and 92 species in Lithuania (Tamutis et al. 2011). Certainly, although these numbers are relatively close, there are a number of species that are predictable for the Latvian fauna. For instance, Balalajkins (2012) lists another 14 species as predicted for the Latvian fauna. This article provides a brief addition to the overall view of the Latvian Ceutorhynchitae, but there is insufficient data for a comprehensive review of the supertribe at this time. Only further faunistic studies, including focused collecting of material, will provide a comprehensive understanding of the occurrence of the supertribe Ceutorhynchitae, as well as other beetle taxa, in Latvia.

### Species list

#### Ceutorhynchitae Gistel, 1848

##### *Pelenomus* Thomson, 1859

=*Phytobius* auct. nec Schönherr, 1833

##### *Pelenomus quadrituberculatus* (Fabricius, 1787)

**References:** Balalajkins 2012 (mentioned as expected species).

**Examined material:** 2 specimens: Daugavpils d.: Ilgas, *Silene* NPT, 7 June 1994 (1, leg. A. Barševskis); Daugavpils d., Stropi, 22 May 2010 (1, leg. A. Bukejs).

**Host plants:** *Polygonum* (Polygonaceae).

**Phenology:** VI.

**General distribution:** Europe, Caucasus, Turkey, Siberia, Central Asia (Kazakhstan, Turkmenistan), East Asia (China, Russian Far East, Japan, Mongolia) [ASE].

**Note:** The first records for the fauna of Latvia.

### *Ceutorhynchus* Germar, 1824

#### *Ceutorhynchus assimilis* Paykull, 1792

=*pleurostigma* (Marsham, 1802)

=*alauda* (Fabricius 1792)

**References:** Fleischer 1829, Seidlitz 1872–1875 (*C. pleurostigma* and *C. assimilis*), 1887–1891 (*C. pleurostigma* and *C. assimilis*), Rathlef 1905 (*C. pleurostigma* and *C. assimilis*), Lindberg 1932, Ozols 1963, Varzinska, Milenders 1981, Telnov et al. 1997 (*C. pleurostigma* and *C. assimilis*), Telnov 2004 (*C. pleurostigma* and *C. assimilis*).

**Examined material:** 2 specimens: Daugavpils d.: Ilgas, Silene NPT, 18 June 1995 (1, leg. A. Barševskis); Daugavpils d.: Ilgas, Silene NPT, 26 June 1997 (1, leg. A. Barševskis).

**Host plants:** *Berteroa*, *Brassica*, *Bunias*, *Cakile*, *Capsella*, *Erysimum*, *Myagrum*, *Rorippa*, *Raphanus*, *Sinapis*, *Sisymbrium*, *Thlaspi* (Cruciferae).

**Phenology:** VII–VIII.

**General distribution:** Europe, Turkey, N Africa (Algeria, Morocco), W and C Siberia, Central Asia (Iran, Kazakhstan) [CEM]. Has been introduced to N America.

**Note:** Data about occurrence of this species is scarce.

#### *Ceutorhynchus cakilis* Hansen, 1917

**References:** Balalaikins 2012 (mentioned as expected species).

**Examined material:** 2 specimens: Limbaži d.: Salacgrīva, 27 July 2007 (1, near the sea, leg. A. Barševskis); Ventspils d.: Jūrkalne, 16 July 2005 (1, leg. A. Barševskis).

**Host plants:** *Cakile*, *Crambe* (Cruciferae).

**Phenology:** VII.

**General distribution:** Central Europe [CEU].

**Note:** The first records for the fauna of Latvia.

### *Oprohinus* Reitter, 1916

#### *Oprohinus suturalis* Fabricius, 1775

**References:** Barševskis 1996 (*Ceutorhynchus suturalis*); Barševskis 1997, 2002, Telnov et al. 1997, Telnov 2004.

**Host plants:** *Allium* (Liliaceae).

**Phenology:** V.

**Examined material:** 1 specimen: Daugavpils d.: Stropi, 22 May 2010 (1, leg. A. Bukejs).

**General distribution:** Europe, Turkey, N Africa (Algeria), Western Asia (Syria), Central Asia (W Kazakhstan) [WPA].

**Note:** Data about occurrence of this species is scarce.

### *Calosirus* Thomson, 1859

#### *Calosirus apicalis* Gyllenhal, 1827

**References:** Telnov et al. 2006.

**Examined material:** 1 specimen: Preiļi d.: Aglona, 17 August 2011 (1, leg. M. Balalaikins).

**Host plants:** *Anthriscus*, *Apium*, *Heracleum* (Umbelliferae).

**Phenology:** V.

**General distribution:** Europe [EUR].

**Note:** Data about occurrence of this species is scarce.

### *Datonychus* Wagner, 1944

#### *Datonychus arquata* Herbst, 1795

**References:** Silfverberg 2010 (*Ceutorhynchus arquatus*).

**Examined material:** 9 specimens: Preiļi d.: Jersika, Kurpnieki house, 2 May 2008 (1, leg. A. Barševskis); Daugavpils d., Naujēne, Vasarģe-lišķi, Bondaru glen, Nature park ‘Daugavpils loki’, 55°54’55N, 26°48’50E, 29 April 2008 (4 leg. A. Pankjāns, U. Valainis); Ventspils d., Morigsala Nat. Reserve, 14 May 2004 (1 leg. A. Barševskis); Daugavpils d., Vecsaliena, Mārkalne river, Lejzemnieki, 21 May 2008 (1 leg. A. Pankjāns); Daugavpils d., Dvietes paliene, Zamečkas castle mound, 18 June 2010 (1 leg. M. Balalajkins, A. Bukejs); Daugavpils d., Butišķi, Valley of river Daugava, 26 May 2008 (1 leg. A. Bukejs).

**Host plants:** *Lycopus* (Labiatae).

**Phenology:** V.

**General distribution:** Europe, Caucasus, N Africa (Algeria), Central Asia (Kazakhstan, Turkmenistan), W Siberia, East Asia (Russian Far East) [PAL].

**Note:** Data about occurrence of this species is scarce.

#### *Datonychus melanostictus* Marsham, 1802

**References:** Balalajkins 2012 (mentioned as expected species).

**Examined material:** 1 specimen: Daugavpils d., Elerne, bank of Daugava river, 55°55’05’’N, 26°41’18’’E, 19 June 2009 (1, leg. M. Nitcis).

**Host plants:** *Mentha* (Labiatae).

**Phenology:** VI.

**General distribution:** Europe, Caucasus, Turkey, N Africa (Algeria, Morocco), Western Asia (Jordan, Syria), Central Asia (Kazakhstan, Kirgizstan, Turkmenistan, Uzbekistan) [CEM].

**Note:** The first records for the fauna of Latvia.

#### *Mogulones Reitter, 1916*

#### *Mogulones javetii* Gerhardt, 1867

**References:** Seidlitz 1887–1891, Rathlef 1905, Telnov 2004.

**Examined material:** 1 specimen: Daugavpils d., Mežciems, 27 June 1992 (1, unknown leg.).

**Host plants:** *Anchusa* (Boraginaceae).

**Phenology:** VI.

**General distribution:** Europe, Turkey [EUR].

**Note:** Data about occurrence of this species is scarce.

#### *Coeliodinus Dieckmann, 1972*

#### *Coeliodinus rubicundus* (Herbst, 1795)

= *Coeliodes rubicundus* (Herbst, 1795)

**References:** Seidlitz 1872–1875, 1887–1891, Rathlef 1905, Varzinska & Milenders 1981, Barševskis 1993, 1997, 2002, Telnov et al. 1997, Telnov 2004.

**Examined material:** 4 specimens: Rīga d.: Slokas Lake, 6 June 1974 (1, leg. Z. Spuris); Daugavpils d., Ilgas, Silene NPT, 6 June 1994 (1, leg. A. Barševskis); Daugavpils d., Ilgas, Silene NPT, 31 May 1994 (1, leg. A. Barševskis); Daugavpils d., Ilgas, Silene NPT, 31 May 1996 (1, leg. A. Barševskis).

**Host plants:** *Betula* (Betulaceae).

**Phenology:** V–VIII.

**General distribution:** Europe, Caucasus, W Siberia, Central Asia (Kazakhstan) [CAE].

**Note:** Data about occurrence of this species is scarce.

#### *Pelenomus Thomson, 1859*

#### *Pelenomus quadricorniger* Colonnelli, 1986

= *quadricornis* (Gyllenhal, 1813 nec Paykull, 1792)

**References:** Fleischer 1829, Rathlef 1905, Barševskis 1997, Telnov et al. 1997, Telnov 2004.

**Examined material:** 3 specimens: Daugavpils d.: Peipiņi, 27 August 1989 (1, leg. A. Barševskis), Višķi, 11 June 1989 (1, leg. A. Barševskis), 15 August 1990 (1, leg. A. Barševskis).

**Host plants:** *Polygonum* (Polygonaceae).

**Phenology:** VIII.

**General distribution:** Europe, Siberia, Western Asia (Syria), Central Asia (Kirgizstan, Turkmenistan), East Asia (Japan, Russian Far East, Republic of Korea, Mongolia) [ASE].

**Note:** Data about occurrence of this species is scarce.

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## REFERENCES

- Alonso-Zarazaga M.A., Barrios H., Borovec R., Bouchard P., Caldara R., Colonnelli E., Gültekin L., Hlaváč P., Korotyaev B., Lyal C.H.C., Machado A., Merregalli M., Pierotti H., Ren L., Sánchez-Ruiz M., Sforzi A., Silfverberg H., Skuhrovec J., Trýzna M., Velázquez de Castro A.J., Yunakov N.N. 2017. Cooperative catalogue of Palaearctic Coleoptera Curculionoidea. Monografias electrónicas S.E.A. 8: 1 – 729.
- Balalaikins M. 2012. Curculionidae (except Scolytinae and Platypodinae) in Latvian fauna, taxonomical structure, biogeography and forecasted species. *Acta Biologica Universitatis Daugavpiliensis* 12(4): 67 – 83.
- Barševskis A. 1993. The Beetles of Eastern Latvia. Saule, Daugavpils. 221 pp. (In Latvian; abstract in English).
- Barševskis A. 1996. Latvijas faunai jaunas un retas vaboļu (Coleoptera) sugas (New and rare species of Coleoptera in the fauna of Latvia). *Daba un muzejs* 6: 16 – 18. (In Latvian).
- Barševskis A. 1997. The materials on the weevils (Coleoptera: Curculionidae) the fauna of Latvia and check-list of species. *Acta Coleopterologica Latvica* 1(1): 1 – 54. (In Latvian; abstract in English).
- Barševskis A. 2002. Beetles (Coleoptera). In: Fauna, flora and vegetation of Silene Nature Park, ed. Barševskis A., Savenkovs N., Evarts-Bunders P., Daniele I., Pētersons G., Pilāts V., Zviedre E., Pilāte D., Kalniņš M., Vilks K., Poppels A. Baltic Institute of Coleopterology, Daugavpils. Pp. 37 – 60 (In Latvian).
- Colonnelli E. 2004. Catalogue of Ceutorhynchinae of the world, with a key to genera (Insecta: Coleoptera: Curculionidae). Argania editio, Barcelona. 124 pp.
- Dieckmann L. 1972. Beiträge zur Insektenfauna der DDR: Coleoptera Curculionidae (Ceutorhynchinae). *Beiträge zur Entomologie* 22(1/2): 3 – 128.
- Egorov A.B., Zherikhin V.V., Korotyaev B.A. 1996. Family Curculionidae – weevils. In: Ler P.A., ed. Keys to the insects of the Russian Far East. V. 3(3). Dal. nauka, Vladivostok. Pp. 249 – 311. (In Russian).
- Fleischer J. 1829. Beitrag zur Fauna der Ostseeprovinzen. Verzeichnis derjenigen Käfer, die soweit mir bekannt ist, als einheimische bis hierzu noch nicht aufgeführt sind. *Die Quatember, Kurländische Gesellschaft für Literatur und Kunst* 1(2): 9 – 19.
- Gorodkov K.B. 1984. (Ranges types of insects of tundra and forests zones of European Part of USSR). In: Scarlato, O.A. and Gorodkov, K.B. (eds.) Provisional atlas of the insects of the European Part of the USSR. 3–20 (maps 179 – 221). Nauka, Leningrad. (In Russian).

- Grantiņa I., Apenīte I., Turka I. 2011. Commonly found species of Ceutorhynchus (Coleoptera: Curculionidae) on the oilseed rape in Latvia. *Acta Biologica Universitatis Daugavpiliensis* 11(2): 260 – 264.
- Hoffmann A. 1954. Coléoptères Curculionidae [Coleopteracurculionidae]. Deuxième Partie. *Faune de France* 59: 487 – 1208.
- Legalov A.A. 2010. Annotated checklist of species of superfamily Curculionoidea (Coleoptera) from Asian part of the Russia. *Amurskii Zoologicheskii Zhurnal* 2(2) 93 – 132.
- Lindberg H. 1932. Käfer, gesammelt in Lettland 1931. *Folia zoologica et hydrobiologica* 4(2): 163 – 166.
- Lohse G.A. 1983. 28. Unterfamilie: Ceutorhynchinae. Pp. 180 – 253. In: Freude H., Harde K.W., Lohse G.A. (eds.) *Die Käfer Mitteleuropas*. Bd. 11. Goecke & Evers, Krefeld. 340 S.
- Ozols E. 1963. Lauksaimniecības entomoloģija. 2. izd. (Agricultural entomology. 2 ed.). Latvian State Publishing House, Rīga. 512 pp. (In Latvian).
- Petrova V., Čudare Z., Cibulskis R. 2006. Predators and herbivores beetles (Coleoptera) naturally occurring on strawberry (Latvia). *Acta Biologica Universitatis Daugavpiliensis* 6(1–2): 155 – 159.
- 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). D. Müller, Riga. Pp. 1 – 39.
- Rathlef H. 1905. Coleoptera Baltica. Käfer-Verzeichnis der Ostseeprovinzen nach den Arbeiten von Ganglbauer und Reitter. C. Matthesen, Dorpat. Pp. 16+199.
- Seidlitz G. 1872–1875. Fauna Baltica. Die Käfer (Coleoptera) der Ostseeprovinzen Russlands. H. Laakmann, Dorpat. 4 + XLII + 142 + 560 pp.
- Seidlitz G. 1887–1891. Fauna Baltica. Die Käfer (Coleoptera) der Ostseeprovinzen Russlands. Zweite neu bearbeitete Auflage mit 1 Tafel. Hartungsche Verlagsdruckerei, Königsberg. 12 + LVI + 192 + 818 pp.
- Silfverberg H. 2010. Enumeratio renovata Coleopterorum Fennoscandiae, Daniae et Baltiae. *Sahlbergia* 16(2): 1 – 144.
- Smreczynski St. 1974. Klucze do oznaczania owadów Polski. XIX (98e). Ryjkowce – Curculionidae. Podrodzina – Curculioninae. Plemiona: Barini, Coryssomerini, Ceutorhynchini. Panstowe Wydawnictwo Naukowe, Warszawa. 180 pp.
- Tamutis V., Tamutė B., Ferenca R. 2011. A catalogue of Lithuanian beetles (Insecta, Coleoptera). *ZooKeys* 121: 1 – 494.
- Telnov D. 2004. Check-List of Latvian Beetles (Insecta: Coleoptera). Second Edition. In: Telnov D. (ed.) *Compendium of Latvian Coleoptera, vol. 1*. Pertovskis & Co, Rīga. Pp. 1 – 114.
- Telnov D., Barševskis A., Savich F., Kovalevsky F., Berdnikov S., Doronin M., Cibulskis R., Ratniece D. 1997. Check-List of Latvian Beetles (Insecta: Coleoptera). *Mitteilungen des Internationalen Entomologischen Vereins*, Supplement V. Pp. 1 – 140.
- Telnov D., Fägerström Ch., Gailis J., Kalniņš M., Piterāns U., Vilks K. 2006. Contributions to the Knowledge of Latvian Coleoptera. 5. *Latvijas Entomologs* 43: 78 – 125.
- Telnov D., Gailis J., Kalniņš M., Napolov A., Piterāns U., Vilks K., Whitehead P.F. 2005. Contributions to the Knowledge of Latvian Coleoptera. 4. *Latvijas Entomologs* 42: 18 – 47.

- Varzinska R., Milenders G. 1981. Dažas faunistiskas ziņas par smecerniekiem Moricsalās dabas rezervātā zāļu stāvā. *Latvijas Entomologs* 24: 18 – 31. (In Latvian).
- Vigna-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., 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.
- Vorst O., Van Ee G., Huijbregts H., Van Nieuwenhuijzen A. 2007. On some smaller Latvian Coleoptera. *Latvijas Entomologs* 44: 15 – 25.

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